

# PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Jacobucci 32S-203**

Surface Location: Jacobucci 1N67W32S Pad Sec.32-T1N-R67W  
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone  
 Ground Elevation: 5059.0

| +N/-S                                 | +E/-W | Northing   | Easting    | Latitude  | Longitude   | Slot |
|---------------------------------------|-------|------------|------------|-----------|-------------|------|
| 0.0                                   | 0.0   | 1245852.86 | 3164878.07 | 40.006750 | -104.911410 |      |
| RKB - 15' WELL @ 5074.0ft (RKB - 15') |       |            |            |           |             |      |

## WELLBORE TARGET DETAILS

| Name                            | TVD    | +N/-S   | +E/-W | Shape |
|---------------------------------|--------|---------|-------|-------|
| SHL 2338'FSL & 1840'FEL, Sec.32 | 1.0    | 0.0     | 0.0   | Point |
| BHL 500'FSL & 2200'FEL, Sec.5   | 7614.0 | -6928.7 | 67.3  | Point |



Azimuths to True North  
 Magnetic North: 8.46°  
 Magnetic Field  
 Strength: 52558.0snT  
 Dip Angle: 66.59°  
 Date: 10/8/2014  
 Model: IGRF2010

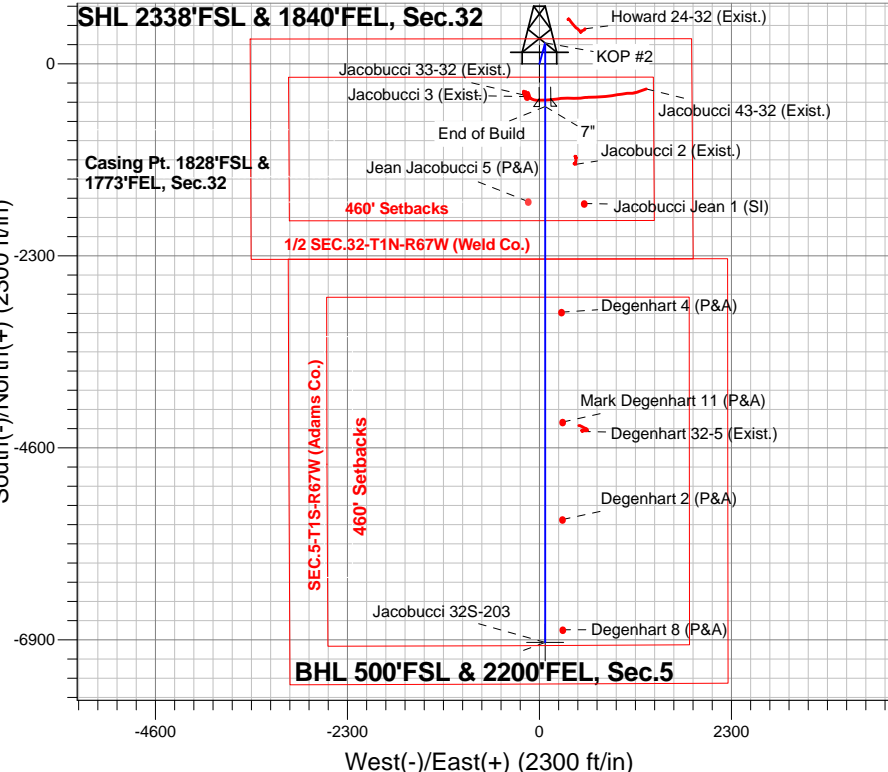
## ANNOTATIONS

| TVD    | MD     | Annotation   |
|--------|--------|--------------|
| 2000.0 | 2000.0 | KOP          |
| 6836.6 | 6852.3 | KOP #2       |
| 7600.6 | 8050.7 | End of Build |

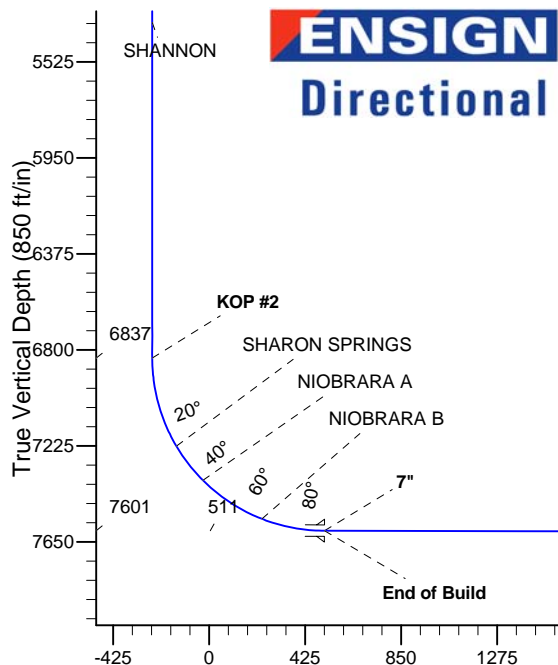
Jacobucci 1N67W32S Pad Sec.32-T1N-R67W  
 Jacobucci 32S-203  
 Plan #2 (10-8-14)  
 10:16, October 17 2014

## SHL 2338'FSL & 1840'FEL, Sec.32

South(-)/North(+) (2300 ft/in)



## BHL 500'FSL & 2200'FEL, Sec.5



## SECTION DETAILS

| Sec | MD      | Inc   | Azi    | TVD    | +N/-S   | +E/-W | DLeg | TFace  | Target | VSec                          |
|-----|---------|-------|--------|--------|---------|-------|------|--------|--------|-------------------------------|
| 1   | 0.0     | 0.00  | 0.00   | 0.0    | 0.0     | 0.0   | 0.00 | 0.00   | 0.0    |                               |
| 2   | 2000.0  | 0.00  | 0.00   | 2000.0 | 0.0     | 0.0   | 0.00 | 0.00   | 0.0    |                               |
| 3   | 2365.3  | 7.31  | 14.94  | 2364.3 | 22.5    | 6.0   | 2.00 | 14.94  | -22.4  |                               |
| 4   | 4050.3  | 7.31  | 14.94  | 4035.7 | 229.5   | 61.3  | 0.00 | 0.00   | -228.9 |                               |
| 5   | 4415.7  | 0.00  | 0.00   | 4400.0 | 252.0   | 67.3  | 2.00 | 180.00 | -251.3 |                               |
| 6   | 6852.3  | 0.00  | 0.00   | 6836.6 | 252.0   | 67.3  | 0.00 | 0.00   | -251.3 |                               |
| 7   | 8050.7  | 89.88 | 180.00 | 7600.6 | -510.3  | 67.3  | 7.50 | 180.00 | 511.0  |                               |
| 8   | 14469.1 | 89.88 | 180.00 | 7614.0 | -6928.7 | 67.3  | 0.00 | 0.00   | 6929.0 | BHL 500'FSL & 2200'FEL, Sec.5 |

## BHL 500'FSL & 2200'FEL, Sec.5

Vertical Section at 179.44° (850 ft/in)



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.32-T1N-R67W**

**Jacobucci 1N67W32S Pad Sec.32-T1N-R67W**

**Jacobucci 32S-203**

**Wellbore #1**

**Plan: Plan #2 (10-8-14)**

## **Standard Planning Report**

**16 October, 2014**

|                  |                                           |                                     |                             |
|------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Database:</b> | Landmark                                  | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Company:</b>  | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Project:</b>  | SEC.32-T1N-R67W                           | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site:</b>     | Jacobucci 1N67W32S Pad Sec.32-T1N-R67W    | <b>North Reference:</b>             | True                        |
| <b>Well:</b>     | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Wellbore:</b> | Wellbore #1                               |                                     |                             |
| <b>Design:</b>   | Plan #2 (10-8-14)                         |                                     |                             |

|                    |                                  |                      |                             |
|--------------------|----------------------------------|----------------------|-----------------------------|
| <b>Project</b>     | SEC.32-T1N-R67W, Weld County, CO |                      |                             |
| <b>Map System:</b> | US State Plane 1983              | <b>System Datum:</b> | Mean Sea Level              |
| <b>Geo Datum:</b>  | North American Datum 1983        |                      | Using Well Reference Point  |
| <b>Map Zone:</b>   | Colorado Northern Zone           |                      | Using geodetic scale factor |

|                       |  |  |          |  |  |                                        |  |  |                |  |  |                   |  |  |             |  |  |
|-----------------------|--|--|----------|--|--|----------------------------------------|--|--|----------------|--|--|-------------------|--|--|-------------|--|--|
| Site                  |  |  |          |  |  | Jacobucci 1N67W32S Pad Sec.32-T1N-R67W |  |  |                |  |  |                   |  |  |             |  |  |
| Site Position:        |  |  |          |  |  | Northing:                              |  |  | 1,245,853.29ft |  |  | Latitude:         |  |  | 40.006750   |  |  |
| From:                 |  |  | Lat/Long |  |  | Easting:                               |  |  | 3,164,939.70ft |  |  | Longitude:        |  |  | -104.911190 |  |  |
| Position Uncertainty: |  |  | 0.0 ft   |  |  | Slot Radius:                           |  |  | "              |  |  | Grid Convergence: |  |  | 0.38 °      |  |  |

| Well                 | Jacobucci 32S-203 |          |                     |                 |               |             |
|----------------------|-------------------|----------|---------------------|-----------------|---------------|-------------|
| Well Position        | +N/-S             | 0.0 ft   | Northing:           | 1,245,852.86 ft | Latitude:     | 40.006750   |
|                      | +E/-W             | -61.6 ft | Easting:            | 3,164,878.07 ft | Longitude:    | -104.911410 |
| Position Uncertainty |                   | 0.0 ft   | Wellhead Elevation: | ft              | Ground Level: | 5,059.0 ft  |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | Wellbore #1       |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | IGRF2010          | 10/8/2014          | 8.46                   | 66.60                | 52,558                     |

|                          |                              |                   |                      |                      |
|--------------------------|------------------------------|-------------------|----------------------|----------------------|
| <b>Design</b>            | Plan #2 (10-8-14)            |                   |                      |                      |
| <b>Audit Notes:</b>      |                              |                   |                      |                      |
| <b>Version:</b>          | <b>Phase:</b>                | PROTOTYPE         | <b>Tie On Depth:</b> | 0.0                  |
| <b>Vertical Section:</b> | <b>Depth From (TVD) (ft)</b> | <b>+N/-S (ft)</b> | <b>+E/-W (ft)</b>    | <b>Direction (°)</b> |
|                          | 0.0                          | 0.0               | 0.0                  | 179.44               |

| <b>Plan Sections</b> |                 |             |                     |            |            |                       |                      |                     |         |                   |
|----------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|----------------------|---------------------|---------|-------------------|
| Measured Depth (ft)  | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) | TFO (°) | Target            |
| 0.0                  | 0.00            | 0.00        | 0.0                 | 0.0        | 0.0        | 0.00                  | 0.00                 | 0.00                | 0.00    |                   |
| 2,000.0              | 0.00            | 0.00        | 2,000.0             | 0.0        | 0.0        | 0.00                  | 0.00                 | 0.00                | 0.00    |                   |
| 2,365.3              | 7.31            | 14.94       | 2,364.3             | 22.5       | 6.0        | 2.00                  | 2.00                 | 0.00                | 14.94   |                   |
| 4,050.3              | 7.31            | 14.94       | 4,035.7             | 229.5      | 61.3       | 0.00                  | 0.00                 | 0.00                | 0.00    |                   |
| 4,415.7              | 0.00            | 0.00        | 4,400.0             | 252.0      | 67.3       | 2.00                  | -2.00                | 0.00                | 180.00  |                   |
| 6,852.3              | 0.00            | 0.00        | 6,836.6             | 252.0      | 67.3       | 0.00                  | 0.00                 | 0.00                | 0.00    |                   |
| 8,050.7              | 89.88           | 180.00      | 7,600.6             | -510.3     | 67.3       | 7.50                  | 7.50                 | 0.00                | 180.00  |                   |
| 14,469.1             | 89.88           | 180.00      | 7,614.0             | -6,928.7   | 67.3       | 0.00                  | 0.00                 | 0.00                | 0.00    | BHL 500'FSL & 22C |

|                  |                                           |                                     |                             |
|------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Database:</b> | Landmark                                  | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Company:</b>  | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Project:</b>  | SEC.32-T1N-R67W                           | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site:</b>     | Jacobucci 1N67W32S Pad                    | <b>North Reference:</b>             | True                        |
|                  | Sec.32-T1N-R67W                           |                                     |                             |
| <b>Well:</b>     | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Wellbore:</b> | Wellbore #1                               |                                     |                             |
| <b>Design:</b>   | Plan #2 (10-8-14)                         |                                     |                             |

| Planned Survey      |                 |             |                     |            |            |                       |                       |                      |                     |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 0.0                 | 0.00            | 0.00        | 0.0                 | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| 100.0               | 0.00            | 0.00        | 100.0               | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| 200.0               | 0.00            | 0.00        | 200.0               | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| 300.0               | 0.00            | 0.00        | 300.0               | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| 400.0               | 0.00            | 0.00        | 400.0               | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| 500.0               | 0.00            | 0.00        | 500.0               | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| 600.0               | 0.00            | 0.00        | 600.0               | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| 700.0               | 0.00            | 0.00        | 700.0               | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| 800.0               | 0.00            | 0.00        | 800.0               | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| 900.0               | 0.00            | 0.00        | 900.0               | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| 1,000.0             | 0.00            | 0.00        | 1,000.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| 1,100.0             | 0.00            | 0.00        | 1,100.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| 1,200.0             | 0.00            | 0.00        | 1,200.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| 1,300.0             | 0.00            | 0.00        | 1,300.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| 1,400.0             | 0.00            | 0.00        | 1,400.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| 1,500.0             | 0.00            | 0.00        | 1,500.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| 1,600.0             | 0.00            | 0.00        | 1,600.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| 1,700.0             | 0.00            | 0.00        | 1,700.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| 1,800.0             | 0.00            | 0.00        | 1,800.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| 1,900.0             | 0.00            | 0.00        | 1,900.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| 2,000.0             | 0.00            | 0.00        | 2,000.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| <b>KOP</b>          |                 |             |                     |            |            |                       |                       |                      |                     |
| 2,100.0             | 2.00            | 14.94       | 2,100.0             | 1.7        | 0.4        | -1.7                  | 2.00                  | 2.00                 | 0.00                |
| 2,200.0             | 4.00            | 14.94       | 2,199.8             | 6.7        | 1.8        | -6.7                  | 2.00                  | 2.00                 | 0.00                |
| 2,300.0             | 6.00            | 14.94       | 2,299.5             | 15.2       | 4.0        | -15.1                 | 2.00                  | 2.00                 | 0.00                |
| 2,365.3             | 7.31            | 14.94       | 2,364.3             | 22.5       | 6.0        | -22.4                 | 2.00                  | 2.00                 | 0.00                |
| 2,400.0             | 7.31            | 14.94       | 2,398.7             | 26.7       | 7.1        | -26.7                 | 0.00                  | 0.00                 | 0.00                |
| 2,500.0             | 7.31            | 14.94       | 2,497.9             | 39.0       | 10.4       | -38.9                 | 0.00                  | 0.00                 | 0.00                |
| 2,600.0             | 7.31            | 14.94       | 2,597.1             | 51.3       | 13.7       | -51.2                 | 0.00                  | 0.00                 | 0.00                |
| 2,700.0             | 7.31            | 14.94       | 2,696.3             | 63.6       | 17.0       | -63.4                 | 0.00                  | 0.00                 | 0.00                |
| 2,800.0             | 7.31            | 14.94       | 2,795.5             | 75.9       | 20.3       | -75.7                 | 0.00                  | 0.00                 | 0.00                |
| 2,900.0             | 7.31            | 14.94       | 2,894.7             | 88.2       | 23.5       | -87.9                 | 0.00                  | 0.00                 | 0.00                |
| 3,000.0             | 7.31            | 14.94       | 2,993.9             | 100.5      | 26.8       | -100.2                | 0.00                  | 0.00                 | 0.00                |
| 3,100.0             | 7.31            | 14.94       | 3,093.0             | 112.8      | 30.1       | -112.5                | 0.00                  | 0.00                 | 0.00                |
| 3,200.0             | 7.31            | 14.94       | 3,192.2             | 125.0      | 33.4       | -124.7                | 0.00                  | 0.00                 | 0.00                |
| 3,300.0             | 7.31            | 14.94       | 3,291.4             | 137.3      | 36.6       | -137.0                | 0.00                  | 0.00                 | 0.00                |
| 3,400.0             | 7.31            | 14.94       | 3,390.6             | 149.6      | 39.9       | -149.2                | 0.00                  | 0.00                 | 0.00                |
| 3,500.0             | 7.31            | 14.94       | 3,489.8             | 161.9      | 43.2       | -161.5                | 0.00                  | 0.00                 | 0.00                |
| 3,600.0             | 7.31            | 14.94       | 3,589.0             | 174.2      | 46.5       | -173.7                | 0.00                  | 0.00                 | 0.00                |
| 3,700.0             | 7.31            | 14.94       | 3,688.2             | 186.5      | 49.8       | -186.0                | 0.00                  | 0.00                 | 0.00                |
| 3,800.0             | 7.31            | 14.94       | 3,787.4             | 198.8      | 53.0       | -198.2                | 0.00                  | 0.00                 | 0.00                |
| 3,900.0             | 7.31            | 14.94       | 3,886.5             | 211.1      | 56.3       | -210.5                | 0.00                  | 0.00                 | 0.00                |
| 4,000.0             | 7.31            | 14.94       | 3,985.7             | 223.3      | 59.6       | -222.8                | 0.00                  | 0.00                 | 0.00                |
| 4,050.3             | 7.31            | 14.94       | 4,035.7             | 229.5      | 61.3       | -228.9                | 0.00                  | 0.00                 | 0.00                |
| 4,100.0             | 6.31            | 14.94       | 4,085.0             | 235.2      | 62.8       | -234.6                | 2.00                  | -2.00                | 0.00                |
| 4,200.0             | 4.31            | 14.94       | 4,184.5             | 244.2      | 65.2       | -243.5                | 2.00                  | -2.00                | 0.00                |
| 4,300.0             | 2.31            | 14.94       | 4,284.4             | 249.7      | 66.6       | -249.1                | 2.00                  | -2.00                | 0.00                |
| 4,400.0             | 0.31            | 14.94       | 4,384.3             | 252.0      | 67.2       | -251.3                | 2.00                  | -2.00                | 0.00                |
| 4,415.7             | 0.00            | 0.00        | 4,400.0             | 252.0      | 67.3       | -251.3                | 2.00                  | -2.00                | 0.00                |
| 4,500.0             | 0.00            | 0.00        | 4,484.3             | 252.0      | 67.3       | -251.3                | 0.00                  | 0.00                 | 0.00                |
| 4,515.7             | 0.00            | 0.00        | 4,500.0             | 252.0      | 67.3       | -251.3                | 0.00                  | 0.00                 | 0.00                |
| <b>PARKMAN</b>      |                 |             |                     |            |            |                       |                       |                      |                     |

|                  |                                           |                                     |                             |
|------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Database:</b> | Landmark                                  | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Company:</b>  | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Project:</b>  | SEC.32-T1N-R67W                           | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site:</b>     | Jacobucci 1N67W32S Pad                    | <b>North Reference:</b>             | True                        |
| <b>Well:</b>     | Sec.32-T1N-R67W                           | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Wellbore:</b> | Jacobucci 32S-203                         |                                     |                             |
| <b>Design:</b>   | Wellbore #1                               |                                     |                             |
|                  | Plan #2 (10-8-14)                         |                                     |                             |

| Planned Survey           |                 |             |                     |            |            |                       |                       |                      |                     |
|--------------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| Measured Depth (ft)      | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 4,600.0                  | 0.00            | 0.00        | 4,584.3             | 252.0      | 67.3       | -251.3                | 0.00                  | 0.00                 | 0.00                |
| 4,700.0                  | 0.00            | 0.00        | 4,684.3             | 252.0      | 67.3       | -251.3                | 0.00                  | 0.00                 | 0.00                |
| 4,800.0                  | 0.00            | 0.00        | 4,784.3             | 252.0      | 67.3       | -251.3                | 0.00                  | 0.00                 | 0.00                |
| 4,900.0                  | 0.00            | 0.00        | 4,884.3             | 252.0      | 67.3       | -251.3                | 0.00                  | 0.00                 | 0.00                |
| 4,915.7                  | 0.00            | 0.00        | 4,900.0             | 252.0      | 67.3       | -251.3                | 0.00                  | 0.00                 | 0.00                |
| <b>SUSSEX</b>            |                 |             |                     |            |            |                       |                       |                      |                     |
| 5,000.0                  | 0.00            | 0.00        | 4,984.3             | 252.0      | 67.3       | -251.3                | 0.00                  | 0.00                 | 0.00                |
| 5,100.0                  | 0.00            | 0.00        | 5,084.3             | 252.0      | 67.3       | -251.3                | 0.00                  | 0.00                 | 0.00                |
| 5,200.0                  | 0.00            | 0.00        | 5,184.3             | 252.0      | 67.3       | -251.3                | 0.00                  | 0.00                 | 0.00                |
| 5,300.0                  | 0.00            | 0.00        | 5,284.3             | 252.0      | 67.3       | -251.3                | 0.00                  | 0.00                 | 0.00                |
| 5,365.7                  | 0.00            | 0.00        | 5,350.0             | 252.0      | 67.3       | -251.3                | 0.00                  | 0.00                 | 0.00                |
| <b>SHANNON</b>           |                 |             |                     |            |            |                       |                       |                      |                     |
| 5,400.0                  | 0.00            | 0.00        | 5,384.3             | 252.0      | 67.3       | -251.3                | 0.00                  | 0.00                 | 0.00                |
| 5,500.0                  | 0.00            | 0.00        | 5,484.3             | 252.0      | 67.3       | -251.3                | 0.00                  | 0.00                 | 0.00                |
| 5,600.0                  | 0.00            | 0.00        | 5,584.3             | 252.0      | 67.3       | -251.3                | 0.00                  | 0.00                 | 0.00                |
| 5,700.0                  | 0.00            | 0.00        | 5,684.3             | 252.0      | 67.3       | -251.3                | 0.00                  | 0.00                 | 0.00                |
| 5,800.0                  | 0.00            | 0.00        | 5,784.3             | 252.0      | 67.3       | -251.3                | 0.00                  | 0.00                 | 0.00                |
| 5,900.0                  | 0.00            | 0.00        | 5,884.3             | 252.0      | 67.3       | -251.3                | 0.00                  | 0.00                 | 0.00                |
| 6,000.0                  | 0.00            | 0.00        | 5,984.3             | 252.0      | 67.3       | -251.3                | 0.00                  | 0.00                 | 0.00                |
| 6,100.0                  | 0.00            | 0.00        | 6,084.3             | 252.0      | 67.3       | -251.3                | 0.00                  | 0.00                 | 0.00                |
| 6,200.0                  | 0.00            | 0.00        | 6,184.3             | 252.0      | 67.3       | -251.3                | 0.00                  | 0.00                 | 0.00                |
| 6,300.0                  | 0.00            | 0.00        | 6,284.3             | 252.0      | 67.3       | -251.3                | 0.00                  | 0.00                 | 0.00                |
| 6,400.0                  | 0.00            | 0.00        | 6,384.3             | 252.0      | 67.3       | -251.3                | 0.00                  | 0.00                 | 0.00                |
| 6,500.0                  | 0.00            | 0.00        | 6,484.3             | 252.0      | 67.3       | -251.3                | 0.00                  | 0.00                 | 0.00                |
| 6,600.0                  | 0.00            | 0.00        | 6,584.3             | 252.0      | 67.3       | -251.3                | 0.00                  | 0.00                 | 0.00                |
| 6,700.0                  | 0.00            | 0.00        | 6,684.3             | 252.0      | 67.3       | -251.3                | 0.00                  | 0.00                 | 0.00                |
| 6,800.0                  | 0.00            | 0.00        | 6,784.3             | 252.0      | 67.3       | -251.3                | 0.00                  | 0.00                 | 0.00                |
| 6,852.3                  | 0.00            | 0.00        | 6,836.6             | 252.0      | 67.3       | -251.3                | 0.00                  | 0.00                 | 0.00                |
| <b>KOP #2</b>            |                 |             |                     |            |            |                       |                       |                      |                     |
| 6,900.0                  | 3.58            | 180.00      | 6,884.3             | 250.5      | 67.3       | -249.8                | 7.50                  | 7.50                 | 0.00                |
| 7,000.0                  | 11.08           | 180.00      | 6,983.4             | 237.8      | 67.3       | -237.1                | 7.50                  | 7.50                 | 0.00                |
| 7,100.0                  | 18.58           | 180.00      | 7,080.0             | 212.2      | 67.3       | -211.5                | 7.50                  | 7.50                 | 0.00                |
| 7,200.0                  | 26.08           | 180.00      | 7,172.5             | 174.2      | 67.3       | -173.6                | 7.50                  | 7.50                 | 0.00                |
| 7,260.9                  | 30.64           | 180.00      | 7,226.0             | 145.3      | 67.3       | -144.7                | 7.50                  | 7.50                 | 0.00                |
| <b>SHARON SPRINGS</b>    |                 |             |                     |            |            |                       |                       |                      |                     |
| 7,300.0                  | 33.58           | 180.00      | 7,259.1             | 124.5      | 67.3       | -123.9                | 7.50                  | 7.50                 | 0.00                |
| 7,400.0                  | 41.08           | 180.00      | 7,338.6             | 63.9       | 67.3       | -63.3                 | 7.50                  | 7.50                 | 0.00                |
| 7,452.6                  | 45.02           | 180.00      | 7,377.0             | 28.1       | 67.3       | -27.4                 | 7.50                  | 7.50                 | 0.00                |
| <b>NIORARA A</b>         |                 |             |                     |            |            |                       |                       |                      |                     |
| 7,500.0                  | 48.58           | 180.00      | 7,409.5             | -6.5       | 67.3       | 7.2                   | 7.50                  | 7.50                 | 0.00                |
| 7,600.0                  | 56.08           | 180.00      | 7,470.5             | -85.6      | 67.3       | 86.3                  | 7.50                  | 7.50                 | 0.00                |
| 7,700.0                  | 63.58           | 180.00      | 7,520.8             | -172.0     | 67.3       | 172.7                 | 7.50                  | 7.50                 | 0.00                |
| 7,767.2                  | 68.62           | 180.00      | 7,548.0             | -233.5     | 67.3       | 234.1                 | 7.50                  | 7.50                 | 0.00                |
| <b>NIORARA B</b>         |                 |             |                     |            |            |                       |                       |                      |                     |
| 7,800.0                  | 71.08           | 180.00      | 7,559.3             | -264.2     | 67.3       | 264.9                 | 7.50                  | 7.50                 | 0.00                |
| 7,900.0                  | 78.58           | 180.00      | 7,585.4             | -360.7     | 67.3       | 361.3                 | 7.50                  | 7.50                 | 0.00                |
| 8,000.0                  | 86.08           | 180.00      | 7,598.8             | -459.7     | 67.3       | 460.3                 | 7.50                  | 7.50                 | 0.00                |
| 8,050.7                  | 89.88           | 180.00      | 7,600.6             | -510.4     | 67.3       | 511.0                 | 7.50                  | 7.50                 | 0.00                |
| <b>End of Build - 7"</b> |                 |             |                     |            |            |                       |                       |                      |                     |
| 8,100.0                  | 89.88           | 180.00      | 7,600.7             | -559.7     | 67.3       | 560.3                 | 0.00                  | 0.00                 | 0.00                |
| 8,200.0                  | 89.88           | 180.00      | 7,600.9             | -659.7     | 67.3       | 660.3                 | 0.00                  | 0.00                 | 0.00                |
| 8,300.0                  | 89.88           | 180.00      | 7,601.1             | -759.7     | 67.3       | 760.3                 | 0.00                  | 0.00                 | 0.00                |

|                  |                                           |                                     |                             |
|------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Database:</b> | Landmark                                  | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Company:</b>  | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Project:</b>  | SEC.32-T1N-R67W                           | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site:</b>     | Jacobucci 1N67W32S Pad                    | <b>North Reference:</b>             | True                        |
|                  | Sec.32-T1N-R67W                           |                                     |                             |
| <b>Well:</b>     | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Wellbore:</b> | Wellbore #1                               |                                     |                             |
| <b>Design:</b>   | Plan #2 (10-8-14)                         |                                     |                             |

| Planned Survey      |                 |             |                     |            |            |                       |                       |                      |                     |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 8,400.0             | 89.88           | 180.00      | 7,601.3             | -859.7     | 67.3       | 860.3                 | 0.00                  | 0.00                 | 0.00                |
| 8,500.0             | 89.88           | 180.00      | 7,601.5             | -959.7     | 67.3       | 960.3                 | 0.00                  | 0.00                 | 0.00                |
| 8,600.0             | 89.88           | 180.00      | 7,601.7             | -1,059.7   | 67.3       | 1,060.3               | 0.00                  | 0.00                 | 0.00                |
| 8,700.0             | 89.88           | 180.00      | 7,601.9             | -1,159.7   | 67.3       | 1,160.3               | 0.00                  | 0.00                 | 0.00                |
| 8,800.0             | 89.88           | 180.00      | 7,602.1             | -1,259.7   | 67.3       | 1,260.3               | 0.00                  | 0.00                 | 0.00                |
| 8,900.0             | 89.88           | 180.00      | 7,602.3             | -1,359.7   | 67.3       | 1,360.3               | 0.00                  | 0.00                 | 0.00                |
| 9,000.0             | 89.88           | 180.00      | 7,602.5             | -1,459.7   | 67.3       | 1,460.2               | 0.00                  | 0.00                 | 0.00                |
| 9,100.0             | 89.88           | 180.00      | 7,602.8             | -1,559.7   | 67.3       | 1,560.2               | 0.00                  | 0.00                 | 0.00                |
| 9,200.0             | 89.88           | 180.00      | 7,603.0             | -1,659.7   | 67.3       | 1,660.2               | 0.00                  | 0.00                 | 0.00                |
| 9,300.0             | 89.88           | 180.00      | 7,603.2             | -1,759.7   | 67.3       | 1,760.2               | 0.00                  | 0.00                 | 0.00                |
| 9,400.0             | 89.88           | 180.00      | 7,603.4             | -1,859.7   | 67.3       | 1,860.2               | 0.00                  | 0.00                 | 0.00                |
| 9,500.0             | 89.88           | 180.00      | 7,603.6             | -1,959.7   | 67.3       | 1,960.2               | 0.00                  | 0.00                 | 0.00                |
| 9,600.0             | 89.88           | 180.00      | 7,603.8             | -2,059.7   | 67.3       | 2,060.2               | 0.00                  | 0.00                 | 0.00                |
| 9,700.0             | 89.88           | 180.00      | 7,604.0             | -2,159.7   | 67.3       | 2,160.2               | 0.00                  | 0.00                 | 0.00                |
| 9,800.0             | 89.88           | 180.00      | 7,604.2             | -2,259.7   | 67.3       | 2,260.2               | 0.00                  | 0.00                 | 0.00                |
| 9,900.0             | 89.88           | 180.00      | 7,604.4             | -2,359.7   | 67.3       | 2,360.2               | 0.00                  | 0.00                 | 0.00                |
| 10,000.0            | 89.88           | 180.00      | 7,604.6             | -2,459.7   | 67.3       | 2,460.2               | 0.00                  | 0.00                 | 0.00                |
| 10,100.0            | 89.88           | 180.00      | 7,604.8             | -2,559.7   | 67.3       | 2,560.2               | 0.00                  | 0.00                 | 0.00                |
| 10,200.0            | 89.88           | 180.00      | 7,605.1             | -2,659.7   | 67.3       | 2,660.2               | 0.00                  | 0.00                 | 0.00                |
| 10,300.0            | 89.88           | 180.00      | 7,605.3             | -2,759.7   | 67.3       | 2,760.2               | 0.00                  | 0.00                 | 0.00                |
| 10,400.0            | 89.88           | 180.00      | 7,605.5             | -2,859.7   | 67.3       | 2,860.2               | 0.00                  | 0.00                 | 0.00                |
| 10,500.0            | 89.88           | 180.00      | 7,605.7             | -2,959.7   | 67.3       | 2,960.2               | 0.00                  | 0.00                 | 0.00                |
| 10,600.0            | 89.88           | 180.00      | 7,605.9             | -3,059.7   | 67.3       | 3,060.2               | 0.00                  | 0.00                 | 0.00                |
| 10,700.0            | 89.88           | 180.00      | 7,606.1             | -3,159.7   | 67.3       | 3,160.2               | 0.00                  | 0.00                 | 0.00                |
| 10,800.0            | 89.88           | 180.00      | 7,606.3             | -3,259.7   | 67.3       | 3,260.2               | 0.00                  | 0.00                 | 0.00                |
| 10,900.0            | 89.88           | 180.00      | 7,606.5             | -3,359.7   | 67.3       | 3,360.2               | 0.00                  | 0.00                 | 0.00                |
| 11,000.0            | 89.88           | 180.00      | 7,606.7             | -3,459.7   | 67.3       | 3,460.2               | 0.00                  | 0.00                 | 0.00                |
| 11,100.0            | 89.88           | 180.00      | 7,606.9             | -3,559.7   | 67.3       | 3,560.1               | 0.00                  | 0.00                 | 0.00                |
| 11,200.0            | 89.88           | 180.00      | 7,607.2             | -3,659.7   | 67.3       | 3,660.1               | 0.00                  | 0.00                 | 0.00                |
| 11,300.0            | 89.88           | 180.00      | 7,607.4             | -3,759.7   | 67.3       | 3,760.1               | 0.00                  | 0.00                 | 0.00                |
| 11,400.0            | 89.88           | 180.00      | 7,607.6             | -3,859.7   | 67.3       | 3,860.1               | 0.00                  | 0.00                 | 0.00                |
| 11,500.0            | 89.88           | 180.00      | 7,607.8             | -3,959.7   | 67.3       | 3,960.1               | 0.00                  | 0.00                 | 0.00                |
| 11,600.0            | 89.88           | 180.00      | 7,608.0             | -4,059.7   | 67.3       | 4,060.1               | 0.00                  | 0.00                 | 0.00                |
| 11,700.0            | 89.88           | 180.00      | 7,608.2             | -4,159.7   | 67.3       | 4,160.1               | 0.00                  | 0.00                 | 0.00                |
| 11,800.0            | 89.88           | 180.00      | 7,608.4             | -4,259.7   | 67.3       | 4,260.1               | 0.00                  | 0.00                 | 0.00                |
| 11,900.0            | 89.88           | 180.00      | 7,608.6             | -4,359.7   | 67.3       | 4,360.1               | 0.00                  | 0.00                 | 0.00                |
| 12,000.0            | 89.88           | 180.00      | 7,608.8             | -4,459.7   | 67.3       | 4,460.1               | 0.00                  | 0.00                 | 0.00                |
| 12,100.0            | 89.88           | 180.00      | 7,609.0             | -4,559.7   | 67.3       | 4,560.1               | 0.00                  | 0.00                 | 0.00                |
| 12,200.0            | 89.88           | 180.00      | 7,609.2             | -4,659.7   | 67.3       | 4,660.1               | 0.00                  | 0.00                 | 0.00                |
| 12,300.0            | 89.88           | 180.00      | 7,609.5             | -4,759.7   | 67.3       | 4,760.1               | 0.00                  | 0.00                 | 0.00                |
| 12,400.0            | 89.88           | 180.00      | 7,609.7             | -4,859.7   | 67.3       | 4,860.1               | 0.00                  | 0.00                 | 0.00                |
| 12,500.0            | 89.88           | 180.00      | 7,609.9             | -4,959.7   | 67.3       | 4,960.1               | 0.00                  | 0.00                 | 0.00                |
| 12,600.0            | 89.88           | 180.00      | 7,610.1             | -5,059.7   | 67.3       | 5,060.1               | 0.00                  | 0.00                 | 0.00                |
| 12,700.0            | 89.88           | 180.00      | 7,610.3             | -5,159.7   | 67.3       | 5,160.1               | 0.00                  | 0.00                 | 0.00                |
| 12,800.0            | 89.88           | 180.00      | 7,610.5             | -5,259.7   | 67.3       | 5,260.1               | 0.00                  | 0.00                 | 0.00                |
| 12,900.0            | 89.88           | 180.00      | 7,610.7             | -5,359.7   | 67.3       | 5,360.1               | 0.00                  | 0.00                 | 0.00                |
| 13,000.0            | 89.88           | 180.00      | 7,610.9             | -5,459.7   | 67.3       | 5,460.1               | 0.00                  | 0.00                 | 0.00                |
| 13,100.0            | 89.88           | 180.00      | 7,611.1             | -5,559.7   | 67.3       | 5,560.0               | 0.00                  | 0.00                 | 0.00                |
| 13,200.0            | 89.88           | 180.00      | 7,611.3             | -5,659.7   | 67.3       | 5,660.0               | 0.00                  | 0.00                 | 0.00                |
| 13,300.0            | 89.88           | 180.00      | 7,611.6             | -5,759.7   | 67.3       | 5,760.0               | 0.00                  | 0.00                 | 0.00                |
| 13,400.0            | 89.88           | 180.00      | 7,611.8             | -5,859.7   | 67.3       | 5,860.0               | 0.00                  | 0.00                 | 0.00                |
| 13,500.0            | 89.88           | 180.00      | 7,612.0             | -5,959.7   | 67.3       | 5,960.0               | 0.00                  | 0.00                 | 0.00                |

|                  |                                           |                                     |                             |
|------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Database:</b> | Landmark                                  | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Company:</b>  | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Project:</b>  | SEC.32-T1N-R67W                           | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site:</b>     | Jacobucci 1N67W32S Pad                    | <b>North Reference:</b>             | True                        |
|                  | Sec.32-T1N-R67W                           |                                     |                             |
| <b>Well:</b>     | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Wellbore:</b> | Wellbore #1                               |                                     |                             |
| <b>Design:</b>   | Plan #2 (10-8-14)                         |                                     |                             |

| Planned Survey      |                 |             |                     |            |            |                       |                       |                      |                     |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 13,600.0            | 89.88           | 180.00      | 7,612.2             | -6,059.7   | 67.3       | 6,060.0               | 0.00                  | 0.00                 | 0.00                |
| 13,700.0            | 89.88           | 180.00      | 7,612.4             | -6,159.7   | 67.3       | 6,160.0               | 0.00                  | 0.00                 | 0.00                |
| 13,800.0            | 89.88           | 180.00      | 7,612.6             | -6,259.7   | 67.3       | 6,260.0               | 0.00                  | 0.00                 | 0.00                |
| 13,900.0            | 89.88           | 180.00      | 7,612.8             | -6,359.7   | 67.3       | 6,360.0               | 0.00                  | 0.00                 | 0.00                |
| 14,000.0            | 89.88           | 180.00      | 7,613.0             | -6,459.7   | 67.3       | 6,460.0               | 0.00                  | 0.00                 | 0.00                |
| 14,100.0            | 89.88           | 180.00      | 7,613.2             | -6,559.7   | 67.3       | 6,560.0               | 0.00                  | 0.00                 | 0.00                |
| 14,200.0            | 89.88           | 180.00      | 7,613.4             | -6,659.7   | 67.3       | 6,660.0               | 0.00                  | 0.00                 | 0.00                |
| 14,300.0            | 89.88           | 180.00      | 7,613.6             | -6,759.7   | 67.3       | 6,760.0               | 0.00                  | 0.00                 | 0.00                |
| 14,400.0            | 89.88           | 180.00      | 7,613.9             | -6,859.7   | 67.3       | 6,860.0               | 0.00                  | 0.00                 | 0.00                |
| 14,469.1            | 89.88           | 180.00      | 7,614.0             | -6,928.7   | 67.3       | 6,929.0               | 0.00                  | 0.00                 | 0.00                |

| Targets                   |               |              |          |            |            |               |              |           |             |
|---------------------------|---------------|--------------|----------|------------|------------|---------------|--------------|-----------|-------------|
| Target Name               | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) | Latitude  | Longitude   |
| - hit/miss target         |               |              |          |            |            |               |              |           |             |
| - Shape                   |               |              |          |            |            |               |              |           |             |
| SHL 2338'FSL & 1840'      | 0.00          | 0.00         | 1.0      | 0.0        | 0.0        | 1,245,852.88  | 3,164,878.07 | 40.006750 | -104.911410 |
| - plan hits target center |               |              |          |            |            |               |              |           |             |
| - Point                   |               |              |          |            |            |               |              |           |             |
| BHL 500'FSL & 2200'       | 0.00          | 0.00         | 7,614.0  | -6,928.7   | 67.3       | 1,238,924.99  | 3,164,991.31 | 39.987730 | -104.911170 |
| - plan hits target center |               |              |          |            |            |               |              |           |             |
| - Point                   |               |              |          |            |            |               |              |           |             |

| Casing Points       |                     |      |                     |                   |  |
|---------------------|---------------------|------|---------------------|-------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name | Casing Diameter (") | Hole Diameter (") |  |
| 8,050.7             | 7,600.6             | 7"   | 7                   | 7-1/2             |  |

| Formations          |                     |                |           |         |                   |
|---------------------|---------------------|----------------|-----------|---------|-------------------|
| Measured Depth (ft) | Vertical Depth (ft) | Name           | Lithology | Dip (°) | Dip Direction (°) |
| 4,515.7             | 4,500.0             | PARKMAN        |           | 0.00    |                   |
| 4,915.7             | 4,900.0             | SUSSEX         |           | 0.00    |                   |
| 5,365.7             | 5,350.0             | SHANNON        |           | 0.00    |                   |
| 7,260.9             | 7,226.0             | SHARON SPRINGS |           | 0.00    |                   |
| 7,452.6             | 7,377.0             | NIOBRARA A     |           | 0.00    |                   |
| 7,767.2             | 7,548.0             | NIOBRARA B     |           | 0.00    |                   |
|                     | 7,682.0             | NIOBRARA C     |           | 0.00    |                   |
|                     | 7,818.0             | FT HAYS        |           | 0.00    |                   |
|                     | 7,839.0             | CODELL         |           | 0.00    |                   |

|                  |                                           |                                     |                             |
|------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Database:</b> | Landmark                                  | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Company:</b>  | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Project:</b>  | SEC.32-T1N-R67W                           | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site:</b>     | Jacobucci 1N67W32S Pad                    | <b>North Reference:</b>             | True                        |
|                  | Sec.32-T1N-R67W                           |                                     |                             |
| <b>Well:</b>     | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Wellbore:</b> | Wellbore #1                               |                                     |                             |
| <b>Design:</b>   | Plan #2 (10-8-14)                         |                                     |                             |

| Plan Annotations    |                     |                   |            |              |  |
|---------------------|---------------------|-------------------|------------|--------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates |            |              |  |
|                     |                     | +N/-S (ft)        | +E/-W (ft) | Comment      |  |
| 2,000.0             | 2,000.0             | 0.0               | 0.0        | KOP          |  |
| 6,852.3             | 6,836.6             | 252.0             | 67.3       | KOP #2       |  |
| 8,050.7             | 7,600.6             | -510.4            | 67.3       | End of Build |  |





# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.32-T1N-R67W**

**Jacobucci 1N67W32S Pad Sec.32-T1N-R67W**

**Jacobucci 32S-203**

**Wellbore #1**

**Plan #2 (10-8-14)**

## **Anticollision Report**

**16 October, 2014**



|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad Sec.32-T1N-R67W    | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

|                                     |                                                                     |
|-------------------------------------|---------------------------------------------------------------------|
| <b>Reference</b>                    | Plan #2 (10-8-14)                                                   |
| <b>Filter type:</b>                 | NO GLOBAL FILTER: Using user defined selection & filtering criteria |
| <b>Interpolation Method:</b>        | MD Interval 100.0ft                                                 |
| <b>Depth Range:</b>                 | Unlimited                                                           |
| <b>Results Limited by:</b>          | Maximum center-center distance of 10,000.0ft                        |
| <b>Warning Levels Evaluated at:</b> | 2.00 Sigma                                                          |
| <b>Error Model:</b>                 | ISCWSA                                                              |
| <b>Scan Method:</b>                 | Closest Approach 3D                                                 |
| <b>Error Surface:</b>               | Elliptical Conic                                                    |

| Survey Tool Program |            | Date                            | 10/16/2014 |                |  |
|---------------------|------------|---------------------------------|------------|----------------|--|
| From<br>(ft)        | To<br>(ft) | Survey (Wellbore)               | Tool Name  | Description    |  |
| 0.0                 | 14,469.1   | Plan #2 (10-8-14) (Wellbore #1) | MWD        | MWD - Standard |  |

| Summary                                              |                               |                            |                               |                                |                   |                 |
|------------------------------------------------------|-------------------------------|----------------------------|-------------------------------|--------------------------------|-------------------|-----------------|
| Site Name                                            | Reference Measured Depth (ft) | Offset Measured Depth (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Separation Factor | Warning         |
| Offset Well - Wellbore - Design                      |                               |                            |                               |                                |                   |                 |
| Existings Sec.32-T1N-R67W                            |                               |                            |                               |                                |                   |                 |
| Degenhart 2 (P&A) - Wellbore #1 - Wellbore #1        | 12,997.7                      | 7,682.9                    | 206.5                         | -53.7                          | 0.794             | Level 1, CC     |
| Degenhart 2 (P&A) - Wellbore #1 - Wellbore #1        | 13,000.0                      | 7,682.9                    | 206.5                         | -53.8                          | 0.793             | Level 1, ES, SF |
| Degenhart 32-5 (Exist.) - Wellbore #1 - Wellbore #1  | 11,929.9                      | 7,663.4                    | 441.2                         | 340.9                          | 4.399             | CC, ES          |
| Degenhart 32-5 (Exist.) - Wellbore #1 - Wellbore #1  | 12,000.0                      | 7,665.9                    | 446.7                         | 345.1                          | 4.396             | SF              |
| Degenhart 4 (P&A) - Wellbore #1 - Wellbore #1        | 5,400.0                       | 5,201.0                    | 3,238.4                       | 3,122.4                        | 27.917            | SF              |
| Degenhart 4 (P&A) - Wellbore #1 - Wellbore #1        | 10,508.5                      | 5,201.0                    | 2,444.5                       | 2,411.6                        | 74.231            | CC, ES          |
| Degenhart 8 (P&A) - Wellbore #1 - Wellbore #1        | 14,311.2                      | 5,220.0                    | 2,489.7                       | 2,428.5                        | 40.664            | CC, ES          |
| Degenhart 8 (P&A) - Wellbore #1 - Wellbore #1        | 14,469.1                      | 5,220.0                    | 2,494.7                       | 2,432.3                        | 39.984            | SF              |
| Howard 24-32 (Exist.) - Wellbore #1 - Wellbore #1    | 4,359.0                       | 4,343.8                    | 401.7                         | 382.5                          | 20.924            | CC, ES          |
| Howard 24-32 (Exist.) - Wellbore #1 - Wellbore #1    | 6,900.0                       | 6,895.0                    | 448.4                         | 418.0                          | 14.764            | SF              |
| Jacobucci 2 (Exist.) - Wellbore #1 - Wellbore #1     | 8,735.9                       | 7,625.8                    | 346.5                         | 303.1                          | 7.985             | CC, ES          |
| Jacobucci 2 (Exist.) - Wellbore #1 - Wellbore #1     | 8,800.0                       | 7,625.8                    | 352.4                         | 308.0                          | 7.936             | SF              |
| Jacobucci 3 (Exist.) - Wellbore #1 - Wellbore #1     | 2,000.0                       | 1,995.0                    | 420.5                         | 376.2                          | 9.496             | CC              |
| Jacobucci 3 (Exist.) - Wellbore #1 - Wellbore #1     | 2,100.0                       | 2,095.0                    | 422.2                         | 375.8                          | 9.084             | ES              |
| Jacobucci 3 (Exist.) - Wellbore #1 - Wellbore #1     | 5,200.0                       | 5,104.0                    | 684.7                         | 571.1                          | 6.030             | SF              |
| Jacobucci 33-32 (Exist.) - Wellbore #1 - Wellbore #1 | 7,895.1                       | 7,586.0                    | 251.1                         | 219.6                          | 7.976             | CC, ES          |
| Jacobucci 33-32 (Exist.) - Wellbore #1 - Wellbore #1 | 7,900.0                       | 7,587.0                    | 251.1                         | 219.6                          | 7.969             | SF              |
| Jacobucci 43-32 (Exist.) - Wellbore #1 - Wellbore #1 | 0.0                           | 0.0                        | 367.9                         |                                |                   |                 |
| Jacobucci 43-32 (Exist.) - Wellbore #1 - Wellbore #1 | 100.0                         | 95.7                       | 368.0                         | 367.8                          | 1,644.950         | ES              |
| Jacobucci 43-32 (Exist.) - Wellbore #1 - Wellbore #1 | 8,400.0                       | 7,706.4                    | 1,276.9                       | 1,235.6                        | 30.934            | SF              |
| Jacobucci Jean 1 (SI) - Wellbore #1 - Wellbore #1    | 9,212.4                       | 7,622.0                    | 470.6                         | 281.5                          | 2.488             | CC, ES, SF      |
| Jean Jacobucci 5 (P&A) - Wellbore #1 - Wellbore #1   | 2,000.0                       | 1,999.0                    | 1,652.8                       | 1,608.5                        | 37.257            | CC              |
| Jean Jacobucci 5 (P&A) - Wellbore #1 - Wellbore #1   | 2,100.0                       | 2,099.0                    | 1,654.6                       | 1,608.0                        | 35.536            | ES              |
| Jean Jacobucci 5 (P&A) - Wellbore #1 - Wellbore #1   | 5,200.0                       | 5,100.0                    | 1,911.9                       | 1,798.4                        | 16.848            | SF              |
| Mark Degenhart 11 (P&A) - Wellbore #1 - Wellbore #1  | 5,500.0                       | 5,151.0                    | 4,564.4                       | 4,449.2                        | 39.617            | SF              |
| Mark Degenhart 11 (P&A) - Wellbore #1 - Wellbore #1  | 11,826.7                      | 5,151.0                    | 2,514.2                       | 2,471.5                        | 58.941            | CC, ES          |
| Jacobucci 1N67W32S Pad Sec.32-T1N-R67W               |                               |                            |                               |                                |                   |                 |
| Jacobucci 32S-303 - Wellbore #1 - Plan #1 (10-8-14)  | 1,200.0                       | 1,200.0                    | 58.8                          | 53.7                           | 11.380            | CC, ES          |
| Jacobucci 32S-303 - Wellbore #1 - Plan #1 (10-8-14)  | 14,469.1                      | 14,603.6                   | 672.8                         | 406.3                          | 2.525             | SF              |
| Jacobucci 32S-343 - Wellbore #1 - Plan #2 (10-8-14)  | 1,600.0                       | 1,600.0                    | 28.0                          | 21.0                           | 4.020             | CC, ES          |
| Jacobucci 32S-343 - Wellbore #1 - Plan #2 (10-8-14)  | 14,469.1                      | 14,584.7                   | 357.0                         | 97.9                           | 1.378             | Level 3, SF     |
| Jacobucci 32S-423 - Wellbore #1 - Plan #2 (10-8-14)  | 1,400.0                       | 1,400.0                    | 28.0                          | 21.9                           | 4.616             | CC, ES          |
| Jacobucci 32S-423 - Wellbore #1 - Plan #2 (10-8-14)  | 14,469.1                      | 14,712.8                   | 534.1                         | 291.7                          | 2.204             | SF              |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Site Error: | 0.0 ft |
|------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|---------|--------------------|--------|
| Survey Program: 8097-UNKNOWN |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Well Error: | 0.0 ft |
| Reference                    |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Offset                       |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Semi Major Axis              |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Distance                     |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Measured Depth (ft)          | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |                    |        |
| 0.0                          | 0.0                 | 72.0                | 72.0                | 0.0            | 1.4         | 177.13                | -5,457.4                          | 273.8      | 5,464.2              | 5,462.8               | 1.44                    | 3,794.083         |         |                    |        |
| 100.0                        | 100.0               | 172.0               | 172.0               | 0.1            | 3.4         | 177.13                | -5,457.4                          | 273.8      | 5,464.2              | 5,460.7               | 3.55                    | 1,538.103         |         |                    |        |
| 200.0                        | 200.0               | 272.0               | 272.0               | 0.3            | 5.4         | 177.13                | -5,457.4                          | 273.8      | 5,464.2              | 5,458.5               | 5.78                    | 945.804           |         |                    |        |
| 300.0                        | 300.0               | 372.0               | 372.0               | 0.6            | 7.4         | 177.13                | -5,457.4                          | 273.8      | 5,464.2              | 5,456.2               | 8.00                    | 682.849           |         |                    |        |
| 400.0                        | 400.0               | 472.0               | 472.0               | 0.8            | 9.4         | 177.13                | -5,457.4                          | 273.8      | 5,464.2              | 5,454.0               | 10.23                   | 534.301           |         |                    |        |
| 500.0                        | 500.0               | 572.0               | 572.0               | 1.0            | 11.4        | 177.13                | -5,457.4                          | 273.8      | 5,464.2              | 5,451.8               | 12.45                   | 438.837           |         |                    |        |
| 600.0                        | 600.0               | 672.0               | 672.0               | 1.2            | 13.4        | 177.13                | -5,457.4                          | 273.8      | 5,464.2              | 5,449.6               | 14.68                   | 372.314           |         |                    |        |
| 700.0                        | 700.0               | 772.0               | 772.0               | 1.5            | 15.4        | 177.13                | -5,457.4                          | 273.8      | 5,464.2              | 5,447.3               | 16.90                   | 323.305           |         |                    |        |
| 800.0                        | 800.0               | 872.0               | 872.0               | 1.7            | 17.4        | 177.13                | -5,457.4                          | 273.8      | 5,464.2              | 5,445.1               | 19.13                   | 285.698           |         |                    |        |
| 900.0                        | 900.0               | 972.0               | 972.0               | 1.9            | 19.4        | 177.13                | -5,457.4                          | 273.8      | 5,464.2              | 5,442.9               | 21.35                   | 255.928           |         |                    |        |
| 1,000.0                      | 1,000.0             | 1,072.0             | 1,072.0             | 2.1            | 21.4        | 177.13                | -5,457.4                          | 273.8      | 5,464.2              | 5,440.7               | 23.58                   | 231.776           |         |                    |        |
| 1,100.0                      | 1,100.0             | 1,172.0             | 1,172.0             | 2.4            | 23.4        | 177.13                | -5,457.4                          | 273.8      | 5,464.2              | 5,438.4               | 25.80                   | 211.790           |         |                    |        |
| 1,200.0                      | 1,200.0             | 1,272.0             | 1,272.0             | 2.6            | 25.4        | 177.13                | -5,457.4                          | 273.8      | 5,464.2              | 5,436.2               | 28.02                   | 194.977           |         |                    |        |
| 1,300.0                      | 1,300.0             | 1,372.0             | 1,372.0             | 2.8            | 27.4        | 177.13                | -5,457.4                          | 273.8      | 5,464.2              | 5,434.0               | 30.25                   | 180.637           |         |                    |        |
| 1,400.0                      | 1,400.0             | 1,472.0             | 1,472.0             | 3.0            | 29.4        | 177.13                | -5,457.4                          | 273.8      | 5,464.2              | 5,431.8               | 32.47                   | 168.262           |         |                    |        |
| 1,500.0                      | 1,500.0             | 1,572.0             | 1,572.0             | 3.3            | 31.4        | 177.13                | -5,457.4                          | 273.8      | 5,464.2              | 5,429.5               | 34.70                   | 157.474           |         |                    |        |
| 1,600.0                      | 1,600.0             | 1,672.0             | 1,672.0             | 3.5            | 33.4        | 177.13                | -5,457.4                          | 273.8      | 5,464.2              | 5,427.3               | 36.92                   | 147.986           |         |                    |        |
| 1,700.0                      | 1,700.0             | 1,772.0             | 1,772.0             | 3.7            | 35.4        | 177.13                | -5,457.4                          | 273.8      | 5,464.2              | 5,425.1               | 39.15                   | 139.576           |         |                    |        |
| 1,800.0                      | 1,800.0             | 1,872.0             | 1,872.0             | 3.9            | 37.4        | 177.13                | -5,457.4                          | 273.8      | 5,464.2              | 5,422.9               | 41.37                   | 132.071           |         |                    |        |
| 1,900.0                      | 1,900.0             | 1,972.0             | 1,972.0             | 4.2            | 39.4        | 177.13                | -5,457.4                          | 273.8      | 5,464.2              | 5,420.6               | 43.60                   | 125.331           |         |                    |        |
| 2,000.0                      | 2,000.0             | 2,072.0             | 2,072.0             | 4.4            | 41.4        | 177.13                | -5,457.4                          | 273.8      | 5,464.2              | 5,418.4               | 45.82                   | 119.246           |         |                    |        |
| 2,100.0                      | 2,100.0             | 2,172.0             | 2,172.0             | 4.6            | 43.4        | 162.18                | -5,457.4                          | 273.8      | 5,465.9              | 5,417.9               | 48.02                   | 113.823           |         |                    |        |
| 2,200.0                      | 2,199.8             | 2,271.8             | 2,271.8             | 4.8            | 45.4        | 162.17                | -5,457.4                          | 273.8      | 5,470.9              | 5,420.7               | 50.16                   | 109.070           |         |                    |        |
| 2,300.0                      | 2,299.5             | 2,371.5             | 2,371.5             | 5.1            | 47.4        | 162.14                | -5,457.4                          | 273.8      | 5,479.2              | 5,426.9               | 52.23                   | 104.905           |         |                    |        |
| 2,400.0                      | 2,398.7             | 2,470.7             | 2,470.7             | 5.3            | 49.4        | 162.14                | -5,457.4                          | 273.8      | 5,490.6              | 5,436.3               | 54.30                   | 101.110           |         |                    |        |
| 2,500.0                      | 2,497.9             | 2,569.9             | 2,569.9             | 5.5            | 51.4        | 162.18                | -5,457.4                          | 273.8      | 5,502.7              | 5,446.2               | 56.50                   | 97.392            |         |                    |        |
| 2,600.0                      | 2,597.1             | 2,669.1             | 2,669.1             | 5.8            | 53.4        | 162.22                | -5,457.4                          | 273.8      | 5,514.8              | 5,456.1               | 58.70                   | 93.949            |         |                    |        |
| 2,700.0                      | 2,696.3             | 2,768.3             | 2,768.3             | 6.0            | 55.4        | 162.26                | -5,457.4                          | 273.8      | 5,526.9              | 5,466.0               | 60.90                   | 90.753            |         |                    |        |
| 2,800.0                      | 2,795.5             | 2,867.5             | 2,867.5             | 6.3            | 57.3        | 162.30                | -5,457.4                          | 273.8      | 5,539.1              | 5,476.0               | 63.10                   | 87.778            |         |                    |        |
| 2,900.0                      | 2,894.7             | 2,966.7             | 2,966.7             | 6.6            | 59.3        | 162.34                | -5,457.4                          | 273.8      | 5,551.2              | 5,485.9               | 65.31                   | 85.001            |         |                    |        |
| 3,000.0                      | 2,993.9             | 3,065.9             | 3,065.9             | 6.8            | 61.3        | 162.38                | -5,457.4                          | 273.8      | 5,563.3              | 5,495.8               | 67.51                   | 82.405            |         |                    |        |
| 3,100.0                      | 3,093.0             | 3,165.0             | 3,165.0             | 7.1            | 63.3        | 162.42                | -5,457.4                          | 273.8      | 5,575.4              | 5,505.7               | 69.72                   | 79.972            |         |                    |        |
| 3,200.0                      | 3,192.2             | 3,264.2             | 3,264.2             | 7.4            | 65.3        | 162.46                | -5,457.4                          | 273.8      | 5,587.6              | 5,515.7               | 71.92                   | 77.687            |         |                    |        |
| 3,300.0                      | 3,291.4             | 3,363.4             | 3,363.4             | 7.7            | 67.3        | 162.50                | -5,457.4                          | 273.8      | 5,599.7              | 5,525.6               | 74.13                   | 75.537            |         |                    |        |
| 3,400.0                      | 3,390.6             | 3,462.6             | 3,462.6             | 8.0            | 69.3        | 162.54                | -5,457.4                          | 273.8      | 5,611.9              | 5,535.5               | 76.34                   | 73.511            |         |                    |        |
| 3,500.0                      | 3,489.8             | 3,561.8             | 3,561.8             | 8.2            | 71.2        | 162.58                | -5,457.4                          | 273.8      | 5,624.0              | 5,545.4               | 78.55                   | 71.598            |         |                    |        |
| 3,600.0                      | 3,589.0             | 3,661.0             | 3,661.0             | 8.5            | 73.2        | 162.61                | -5,457.4                          | 273.8      | 5,636.1              | 5,555.4               | 80.76                   | 69.790            |         |                    |        |
| 3,700.0                      | 3,688.2             | 3,760.2             | 3,760.2             | 8.8            | 75.2        | 162.65                | -5,457.4                          | 273.8      | 5,648.3              | 5,565.3               | 82.97                   | 68.077            |         |                    |        |
| 3,800.0                      | 3,787.4             | 3,859.4             | 3,859.4             | 9.1            | 77.2        | 162.69                | -5,457.4                          | 273.8      | 5,660.4              | 5,575.3               | 85.18                   | 66.453            |         |                    |        |
| 3,900.0                      | 3,886.5             | 3,958.5             | 3,958.5             | 9.4            | 79.2        | 162.73                | -5,457.4                          | 273.8      | 5,672.6              | 5,585.2               | 87.39                   | 64.911            |         |                    |        |
| 4,000.0                      | 3,985.7             | 4,057.7             | 4,057.7             | 9.7            | 81.2        | 162.77                | -5,457.4                          | 273.8      | 5,684.7              | 5,595.1               | 89.60                   | 63.445            |         |                    |        |
| 4,100.0                      | 4,085.0             | 4,157.0             | 4,157.0             | 10.0           | 83.1        | 162.84                | -5,457.4                          | 273.8      | 5,696.5              | 5,604.5               | 91.96                   | 61.944            |         |                    |        |
| 4,200.0                      | 4,184.5             | 4,256.5             | 4,256.5             | 10.2           | 85.1        | 162.92                | -5,457.4                          | 273.8      | 5,705.3              | 5,611.0               | 94.38                   | 60.449            |         |                    |        |
| 4,300.0                      | 4,284.4             | 4,356.4             | 4,356.4             | 10.4           | 87.1        | 162.97                | -5,457.4                          | 273.8      | 5,710.9              | 5,614.2               | 96.71                   | 59.052            |         |                    |        |
| 4,400.0                      | 4,384.3             | 4,456.3             | 4,456.3             | 10.6           | 89.1        | 162.99                | -5,457.4                          | 273.8      | 5,713.1              | 5,614.1               | 98.93                   | 57.746            |         |                    |        |
| 4,500.0                      | 4,484.3             | 4,556.3             | 4,556.3             | 10.8           | 91.1        | 177.93                | -5,457.4                          | 273.8      | 5,713.1              | 5,612.0               | 101.12                  | 56.496            |         |                    |        |
| 4,600.0                      | 4,584.3             | 4,656.3             | 4,656.3             | 11.0           | 93.1        | 177.93                | -5,457.4                          | 273.8      | 5,713.1              | 5,609.8               | 103.34                  | 55.284            |         |                    |        |
| 4,700.0                      | 4,684.3             | 4,756.3             | 4,756.3             | 11.2           | 95.1        | 177.93                | -5,457.4                          | 273.8      | 5,713.1              | 5,607.5               | 105.56                  | 54.122            |         |                    |        |
| 4,800.0                      | 4,784.3             | 4,856.3             | 4,856.3             | 11.4           | 97.1        | 177.93                | -5,457.4                          | 273.8      | 5,713.1              | 5,605.3               | 107.78                  | 53.008            |         |                    |        |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Site Error: | 0.0 ft |
|------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|---------|--------------------|--------|
| Survey Program: 8097-UNKNOWN |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Well Error: | 0.0 ft |
| Reference                    |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Offset                       |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Semi Major Axis              |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Distance                     |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Measured Depth (ft)          | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |                    |        |
| 4,900.0                      | 4,884.3             | 4,956.3             | 4,956.3             | 11.6           | 99.1        | 177.93                | -5,457.4                          | 273.8      | 5,713.1              | 5,603.1               | 110.00                  | 51.938            |         |                    |        |
| 5,000.0                      | 4,984.3             | 5,056.3             | 5,056.3             | 11.8           | 101.1       | 177.93                | -5,457.4                          | 273.8      | 5,713.1              | 5,600.9               | 112.22                  | 50.911            |         |                    |        |
| 5,100.0                      | 5,084.3             | 5,156.3             | 5,156.3             | 12.0           | 103.1       | 177.93                | -5,457.4                          | 273.8      | 5,713.1              | 5,598.7               | 114.44                  | 49.924            |         |                    |        |
| 5,200.0                      | 5,184.3             | 5,256.3             | 5,256.3             | 12.2           | 105.1       | 177.93                | -5,457.4                          | 273.8      | 5,713.1              | 5,596.4               | 116.66                  | 48.974            |         |                    |        |
| 5,300.0                      | 5,284.3             | 5,356.3             | 5,356.3             | 12.4           | 107.1       | 177.93                | -5,457.4                          | 273.8      | 5,713.1              | 5,594.2               | 118.88                  | 48.060            |         |                    |        |
| 5,400.0                      | 5,384.3             | 5,456.3             | 5,456.3             | 12.6           | 109.1       | 177.93                | -5,457.4                          | 273.8      | 5,713.1              | 5,592.0               | 121.10                  | 47.178            |         |                    |        |
| 5,500.0                      | 5,484.3             | 5,556.3             | 5,556.3             | 12.8           | 111.1       | 177.93                | -5,457.4                          | 273.8      | 5,713.1              | 5,589.8               | 123.32                  | 46.329            |         |                    |        |
| 5,600.0                      | 5,584.3             | 5,656.3             | 5,656.3             | 13.0           | 113.1       | 177.93                | -5,457.4                          | 273.8      | 5,713.1              | 5,587.6               | 125.54                  | 45.510            |         |                    |        |
| 5,700.0                      | 5,684.3             | 5,756.3             | 5,756.3             | 13.2           | 115.1       | 177.93                | -5,457.4                          | 273.8      | 5,713.1              | 5,585.3               | 127.76                  | 44.719            |         |                    |        |
| 5,800.0                      | 5,784.3             | 5,856.3             | 5,856.3             | 13.4           | 117.1       | 177.93                | -5,457.4                          | 273.8      | 5,713.1              | 5,583.1               | 129.98                  | 43.955            |         |                    |        |
| 5,900.0                      | 5,884.3             | 5,956.3             | 5,956.3             | 13.6           | 119.1       | 177.93                | -5,457.4                          | 273.8      | 5,713.1              | 5,580.9               | 132.20                  | 43.216            |         |                    |        |
| 6,000.0                      | 5,984.3             | 6,056.3             | 6,056.3             | 13.9           | 121.1       | 177.93                | -5,457.4                          | 273.8      | 5,713.1              | 5,578.7               | 134.42                  | 42.502            |         |                    |        |
| 6,100.0                      | 6,084.3             | 6,156.3             | 6,156.3             | 14.1           | 123.1       | 177.93                | -5,457.4                          | 273.8      | 5,713.1              | 5,576.5               | 136.64                  | 41.811            |         |                    |        |
| 6,200.0                      | 6,184.3             | 6,256.3             | 6,256.3             | 14.3           | 125.1       | 177.93                | -5,457.4                          | 273.8      | 5,713.1              | 5,574.2               | 138.86                  | 41.143            |         |                    |        |
| 6,300.0                      | 6,284.3             | 6,356.3             | 6,356.3             | 14.5           | 127.1       | 177.93                | -5,457.4                          | 273.8      | 5,713.1              | 5,572.0               | 141.08                  | 40.495            |         |                    |        |
| 6,400.0                      | 6,384.3             | 6,456.3             | 6,456.3             | 14.7           | 129.1       | 177.93                | -5,457.4                          | 273.8      | 5,713.1              | 5,569.8               | 143.30                  | 39.867            |         |                    |        |
| 6,500.0                      | 6,484.3             | 6,556.3             | 6,556.3             | 14.9           | 131.1       | 177.93                | -5,457.4                          | 273.8      | 5,713.1              | 5,567.6               | 145.52                  | 39.259            |         |                    |        |
| 6,600.0                      | 6,584.3             | 6,656.3             | 6,656.3             | 15.1           | 133.1       | 177.93                | -5,457.4                          | 273.8      | 5,713.1              | 5,565.4               | 147.75                  | 38.668            |         |                    |        |
| 6,700.0                      | 6,684.3             | 6,756.3             | 6,756.3             | 15.3           | 135.1       | 177.93                | -5,457.4                          | 273.8      | 5,713.1              | 5,563.1               | 149.97                  | 38.095            |         |                    |        |
| 6,800.0                      | 6,784.3             | 6,856.3             | 6,856.3             | 15.6           | 137.1       | 177.93                | -5,457.4                          | 273.8      | 5,713.1              | 5,560.9               | 152.19                  | 37.539            |         |                    |        |
| 6,900.0                      | 6,884.3             | 6,956.3             | 6,956.3             | 15.7           | 139.1       | -2.08                 | -5,457.4                          | 273.8      | 5,711.6              | 5,557.5               | 154.08                  | 37.070            |         |                    |        |
| 7,000.0                      | 6,983.4             | 7,055.4             | 7,055.4             | 15.9           | 141.1       | -2.12                 | -5,457.4                          | 273.8      | 5,698.9              | 5,545.3               | 153.61                  | 37.101            |         |                    |        |
| 7,100.0                      | 7,080.0             | 7,152.0             | 7,152.0             | 15.9           | 143.0       | -2.20                 | -5,457.4                          | 273.8      | 5,673.3              | 5,522.9               | 150.42                  | 37.717            |         |                    |        |
| 7,200.0                      | 7,172.5             | 7,244.5             | 7,244.5             | 15.9           | 144.9       | -2.34                 | -5,457.4                          | 273.8      | 5,635.4              | 5,490.9               | 144.49                  | 39.001            |         |                    |        |
| 7,300.0                      | 7,259.1             | 7,331.1             | 7,331.1             | 16.0           | 146.6       | -2.54                 | -5,457.4                          | 273.8      | 5,585.7              | 5,449.8               | 135.89                  | 41.105            |         |                    |        |
| 7,400.0                      | 7,338.6             | 7,410.6             | 7,410.6             | 16.0           | 148.2       | -2.84                 | -5,457.4                          | 273.8      | 5,525.1              | 5,400.4               | 124.73                  | 44.295            |         |                    |        |
| 7,500.0                      | 7,409.5             | 7,481.5             | 7,481.5             | 16.1           | 149.6       | -3.28                 | -5,457.4                          | 273.8      | 5,454.7              | 5,343.5               | 111.27                  | 49.025            |         |                    |        |
| 7,600.0                      | 7,470.5             | 7,542.5             | 7,542.5             | 16.4           | 150.9       | -3.94                 | -5,457.4                          | 273.8      | 5,375.7              | 5,279.9               | 95.85                   | 56.086            |         |                    |        |
| 7,700.0                      | 7,520.8             | 7,592.8             | 7,592.8             | 16.8           | 151.9       | -5.02                 | -5,457.4                          | 273.8      | 5,289.4              | 5,210.3               | 79.10                   | 66.871            |         |                    |        |
| 7,800.0                      | 7,559.3             | 7,631.3             | 7,631.3             | 17.4           | 152.6       | -6.99                 | -5,457.4                          | 273.8      | 5,197.2              | 5,134.7               | 62.51                   | 83.144            |         |                    |        |
| 7,900.0                      | 7,585.4             | 7,657.4             | 7,657.4             | 18.2           | 153.1       | -11.56                | -5,457.4                          | 273.8      | 5,100.9              | 5,048.1               | 52.75                   | 96.692            |         |                    |        |
| 8,000.0                      | 7,598.8             | 7,670.8             | 7,670.8             | 19.1           | 153.4       | -31.14                | -5,457.4                          | 273.8      | 5,001.9              | 4,909.2               | 92.75                   | 53.929            |         |                    |        |
| 8,100.0                      | 7,600.7             | 7,672.7             | 7,672.7             | 20.1           | 153.5       | -87.16                | -5,457.4                          | 273.8      | 4,902.1              | 4,728.7               | 173.34                  | 28.280            |         |                    |        |
| 8,200.0                      | 7,600.9             | 7,672.9             | 7,672.9             | 21.3           | 153.5       | -87.21                | -5,457.4                          | 273.8      | 4,802.1              | 4,627.6               | 174.51                  | 27.518            |         |                    |        |
| 8,300.0                      | 7,601.1             | 7,673.1             | 7,673.1             | 22.5           | 153.5       | -87.27                | -5,457.4                          | 273.8      | 4,702.2              | 4,526.5               | 175.78                  | 26.751            |         |                    |        |
| 8,400.0                      | 7,601.3             | 7,673.3             | 7,673.3             | 23.9           | 153.5       | -87.33                | -5,457.4                          | 273.8      | 4,602.3              | 4,425.2               | 177.13                  | 25.982            |         |                    |        |
| 8,500.0                      | 7,601.5             | 7,673.5             | 7,673.5             | 25.3           | 153.5       | -87.39                | -5,457.4                          | 273.8      | 4,502.4              | 4,323.9               | 178.56                  | 25.215            |         |                    |        |
| 8,600.0                      | 7,601.7             | 7,673.7             | 7,673.7             | 26.8           | 153.5       | -87.45                | -5,457.4                          | 273.8      | 4,402.5              | 4,222.5               | 180.05                  | 24.451            |         |                    |        |
| 8,700.0                      | 7,601.9             | 7,673.9             | 7,673.9             | 28.3           | 153.5       | -87.50                | -5,457.4                          | 273.8      | 4,302.7              | 4,121.1               | 181.60                  | 23.693            |         |                    |        |
| 8,800.0                      | 7,602.1             | 7,674.1             | 7,674.1             | 29.9           | 153.5       | -87.56                | -5,457.4                          | 273.8      | 4,202.8              | 4,019.6               | 183.19                  | 22.943            |         |                    |        |
| 8,900.0                      | 7,602.3             | 7,674.3             | 7,674.3             | 31.5           | 153.5       | -87.62                | -5,457.4                          | 273.8      | 4,102.9              | 3,918.1               | 184.81                  | 22.200            |         |                    |        |
| 9,000.0                      | 7,602.5             | 7,674.5             | 7,674.5             | 33.1           | 153.5       | -87.68                | -5,457.4                          | 273.8      | 4,003.0              | 3,816.6               | 186.47                  | 21.468            |         |                    |        |
| 9,100.0                      | 7,602.8             | 7,674.8             | 7,674.8             | 34.8           | 153.5       | -87.74                | -5,457.4                          | 273.8      | 3,903.2              | 3,715.0               | 188.15                  | 20.745            |         |                    |        |
| 9,200.0                      | 7,603.0             | 7,675.0             | 7,675.0             | 36.5           | 153.5       | -87.79                | -5,457.4                          | 273.8      | 3,803.3              | 3,613.5               | 189.86                  | 20.032            |         |                    |        |
| 9,300.0                      | 7,603.2             | 7,675.2             | 7,675.2             | 38.2           | 153.5       | -87.85                | -5,457.4                          | 273.8      | 3,703.5              | 3,511.9               | 191.59                  | 19.330            |         |                    |        |
| 9,400.0                      | 7,603.4             | 7,675.4             | 7,675.4             | 40.0           | 153.5       | -87.91                | -5,457.4                          | 273.8      | 3,603.6              | 3,410.3               | 193.34                  | 18.639            |         |                    |        |
| 9,500.0                      | 7,603.6             | 7,675.6             | 7,675.6             | 41.7           | 153.5       | -87.97                | -5,457.4                          | 273.8      | 3,503.8              | 3,308.7               | 195.10                  | 17.959            |         |                    |        |
| 9,600.0                      | 7,603.8             | 7,675.8             | 7,675.8             | 43.5           | 153.5       | -88.03                | -5,457.4                          | 273.8      | 3,404.0              | 3,207.1               | 196.87                  | 17.290            |         |                    |        |
| 9,700.0                      | 7,604.0             | 7,676.0             | 7,676.0             | 45.2           | 153.5       | -88.08                | -5,457.4                          | 273.8      | 3,304.2              | 3,105.5               | 198.66                  | 16.632            |         |                    |        |
| 9,800.0                      | 7,604.2             | 7,676.2             | 7,676.2             | 47.0           | 153.5       | -88.14                | -5,457.4                          | 273.8      | 3,204.4              | 3,003.9               | 200.46                  | 15.985            |         |                    |        |
| 9,900.0                      | 7,604.4             | 7,676.4             | 7,676.4             | 48.8           | 153.5       | -88.20                | -5,457.4                          | 273.8      | 3,104.6              | 2,902.3               | 202.27                  | 15.349            |         |                    |        |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                       |         | Offset Site Error: | 0.0 ft |
|------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-----------------------|---------|--------------------|--------|
| Survey Program: 8097-UNKNOWN |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                       |         | Offset Well Error: | 0.0 ft |
| Reference                    |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                       |         |                    |        |
| Offset                       |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                       |         |                    |        |
| Semi Major Axis              |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                       |         |                    |        |
| Distance                     |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                       |         |                    |        |
| Measured Depth (ft)          | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor     | Warning |                    |        |
| 10,000.0                     | 7,604.6             | 7,676.6             | 7,676.6             | 50.6           | 153.5       | -88.26                | -5,457.4                          | 273.8      | 3,004.8              | 2,800.7               | 204.08                  | 14.723                |         |                    |        |
| 10,100.0                     | 7,604.8             | 7,676.8             | 7,676.8             | 52.5           | 153.5       | -88.32                | -5,457.4                          | 273.8      | 2,905.1              | 2,699.1               | 205.91                  | 14.108                |         |                    |        |
| 10,200.0                     | 7,605.1             | 7,677.1             | 7,677.1             | 54.3           | 153.5       | -88.37                | -5,457.4                          | 273.8      | 2,805.3              | 2,597.6               | 207.74                  | 13.504                |         |                    |        |
| 10,300.0                     | 7,605.3             | 7,677.3             | 7,677.3             | 56.1           | 153.5       | -88.43                | -5,457.4                          | 273.8      | 2,705.6              | 2,496.0               | 209.58                  | 12.910                |         |                    |        |
| 10,400.0                     | 7,605.5             | 7,677.5             | 7,677.5             | 57.9           | 153.5       | -88.49                | -5,457.4                          | 273.8      | 2,605.9              | 2,394.5               | 211.42                  | 12.326                |         |                    |        |
| 10,500.0                     | 7,605.7             | 7,677.7             | 7,677.7             | 59.8           | 153.6       | -88.55                | -5,457.4                          | 273.8      | 2,506.2              | 2,293.0               | 213.27                  | 11.752                |         |                    |        |
| 10,600.0                     | 7,605.9             | 7,677.9             | 7,677.9             | 61.6           | 153.6       | -88.61                | -5,457.4                          | 273.8      | 2,406.6              | 2,191.5               | 215.12                  | 11.187                |         |                    |        |
| 10,700.0                     | 7,606.1             | 7,678.1             | 7,678.1             | 63.5           | 153.6       | -88.67                | -5,457.4                          | 273.8      | 2,307.0              | 2,090.0               | 216.97                  | 10.632                |         |                    |        |
| 10,800.0                     | 7,606.3             | 7,678.3             | 7,678.3             | 65.3           | 153.6       | -88.72                | -5,457.4                          | 273.8      | 2,207.4              | 1,988.6               | 218.83                  | 10.087                |         |                    |        |
| 10,900.0                     | 7,606.5             | 7,678.5             | 7,678.5             | 67.2           | 153.6       | -88.78                | -5,457.4                          | 273.8      | 2,107.8              | 1,887.2               | 220.70                  | 9.551                 |         |                    |        |
| 11,000.0                     | 7,606.7             | 7,678.7             | 7,678.7             | 69.0           | 153.6       | -88.84                | -5,457.4                          | 273.8      | 2,008.4              | 1,785.8               | 222.56                  | 9.024                 |         |                    |        |
| 11,100.0                     | 7,606.9             | 7,678.9             | 7,678.9             | 70.9           | 153.6       | -88.90                | -5,457.4                          | 273.8      | 1,908.9              | 1,684.5               | 224.43                  | 8.506                 |         |                    |        |
| 11,200.0                     | 7,607.2             | 7,679.2             | 7,679.2             | 72.8           | 153.6       | -88.96                | -5,457.4                          | 273.8      | 1,809.5              | 1,583.2               | 226.30                  | 7.996                 |         |                    |        |
| 11,300.0                     | 7,607.4             | 7,679.4             | 7,679.4             | 74.6           | 153.6       | -89.01                | -5,457.4                          | 273.8      | 1,710.2              | 1,482.0               | 228.18                  | 7.495                 |         |                    |        |
| 11,400.0                     | 7,607.6             | 7,679.6             | 7,679.6             | 76.5           | 153.6       | -89.07                | -5,457.4                          | 273.8      | 1,611.0              | 1,380.9               | 230.05                  | 7.003                 |         |                    |        |
| 11,500.0                     | 7,607.8             | 7,679.8             | 7,679.8             | 78.4           | 153.6       | -89.13                | -5,457.4                          | 273.8      | 1,511.9              | 1,279.9               | 231.93                  | 6.519                 |         |                    |        |
| 11,600.0                     | 7,608.0             | 7,680.0             | 7,680.0             | 80.2           | 153.6       | -89.19                | -5,457.4                          | 273.8      | 1,412.9              | 1,179.1               | 233.81                  | 6.043                 |         |                    |        |
| 11,700.0                     | 7,608.2             | 7,680.2             | 7,680.2             | 82.1           | 153.6       | -89.25                | -5,457.4                          | 273.8      | 1,314.0              | 1,078.3               | 235.70                  | 5.575                 |         |                    |        |
| 11,800.0                     | 7,608.4             | 7,680.4             | 7,680.4             | 84.0           | 153.6       | -89.30                | -5,457.4                          | 273.8      | 1,215.4              | 977.8                 | 237.58                  | 5.116                 |         |                    |        |
| 11,900.0                     | 7,608.6             | 7,680.6             | 7,680.6             | 85.9           | 153.6       | -89.36                | -5,457.4                          | 273.8      | 1,117.0              | 877.5                 | 239.47                  | 4.664                 |         |                    |        |
| 12,000.0                     | 7,608.8             | 7,680.8             | 7,680.8             | 87.7           | 153.6       | -89.42                | -5,457.4                          | 273.8      | 1,018.9              | 777.5                 | 241.35                  | 4.221                 |         |                    |        |
| 12,100.0                     | 7,609.0             | 7,681.0             | 7,681.0             | 89.6           | 153.6       | -89.48                | -5,457.4                          | 273.8      | 921.2                | 677.9                 | 243.24                  | 3.787                 |         |                    |        |
| 12,200.0                     | 7,609.2             | 7,681.2             | 7,681.2             | 91.5           | 153.6       | -89.54                | -5,457.4                          | 273.8      | 824.0                | 578.9                 | 245.13                  | 3.362                 |         |                    |        |
| 12,300.0                     | 7,609.5             | 7,681.5             | 7,681.5             | 93.4           | 153.6       | -89.59                | -5,457.4                          | 273.8      | 727.6                | 480.6                 | 247.02                  | 2.946                 |         |                    |        |
| 12,400.0                     | 7,609.7             | 7,681.7             | 7,681.7             | 95.3           | 153.6       | -89.65                | -5,457.4                          | 273.8      | 632.4                | 383.5                 | 248.91                  | 2.541                 |         |                    |        |
| 12,500.0                     | 7,609.9             | 7,681.9             | 7,681.9             | 97.2           | 153.6       | -89.71                | -5,457.4                          | 273.8      | 538.9                | 288.0                 | 250.80                  | 2.149                 |         |                    |        |
| 12,600.0                     | 7,610.1             | 7,682.1             | 7,682.1             | 99.1           | 153.6       | -89.77                | -5,457.4                          | 273.8      | 448.1                | 195.4                 | 252.70                  | 1.773                 |         |                    |        |
| 12,700.0                     | 7,610.3             | 7,682.3             | 7,682.3             | 100.9          | 153.6       | -89.83                | -5,457.4                          | 273.8      | 362.3                | 107.7                 | 254.59                  | 1.423 Level 3         |         |                    |        |
| 12,800.0                     | 7,610.5             | 7,682.5             | 7,682.5             | 102.8          | 153.7       | -89.89                | -5,457.4                          | 273.8      | 285.9                | 29.4                  | 256.48                  | 1.115 Level 2         |         |                    |        |
| 12,900.0                     | 7,610.7             | 7,682.7             | 7,682.7             | 104.7          | 153.7       | -89.94                | -5,457.4                          | 273.8      | 228.5                | -29.9                 | 258.38                  | 0.884 Level 1         |         |                    |        |
| 12,997.7                     | 7,610.9             | 7,682.9             | 7,682.9             | 106.6          | 153.7       | -90.00                | -5,457.4                          | 273.8      | 206.5                | -53.7                 | 260.23                  | 0.794 Level 1, CC     |         |                    |        |
| 13,000.0                     | 7,610.9             | 7,682.9             | 7,682.9             | 106.6          | 153.7       | -90.00                | -5,457.4                          | 273.8      | 206.5                | -53.8                 | 260.27                  | 0.793 Level 1, ES, SF |         |                    |        |
| 13,100.0                     | 7,611.1             | 7,683.1             | 7,683.1             | 108.5          | 153.7       | -90.06                | -5,457.4                          | 273.8      | 230.4                | -31.7                 | 262.17                  | 0.879 Level 1         |         |                    |        |
| 13,200.0                     | 7,611.3             | 7,683.3             | 7,683.3             | 110.4          | 153.7       | -90.12                | -5,457.4                          | 273.8      | 289.1                | 25.0                  | 264.07                  | 1.095 Level 2         |         |                    |        |
| 13,300.0                     | 7,611.6             | 7,683.6             | 7,683.6             | 112.3          | 153.7       | -90.18                | -5,457.4                          | 273.8      | 366.1                | 100.1                 | 265.97                  | 1.376 Level 3         |         |                    |        |
| 13,400.0                     | 7,611.8             | 7,683.8             | 7,683.8             | 114.2          | 153.7       | -90.23                | -5,457.4                          | 273.8      | 452.2                | 184.3                 | 267.86                  | 1.688                 |         |                    |        |
| 13,500.0                     | 7,612.0             | 7,684.0             | 7,684.0             | 116.1          | 153.7       | -90.29                | -5,457.4                          | 273.8      | 543.1                | 273.3                 | 269.76                  | 2.013                 |         |                    |        |
| 13,600.0                     | 7,612.2             | 7,684.2             | 7,684.2             | 118.0          | 153.7       | -90.35                | -5,457.4                          | 273.8      | 636.7                | 365.0                 | 271.66                  | 2.344                 |         |                    |        |
| 13,700.0                     | 7,612.4             | 7,684.4             | 7,684.4             | 119.9          | 153.7       | -90.41                | -5,457.4                          | 273.8      | 732.0                | 458.5                 | 273.56                  | 2.676                 |         |                    |        |
| 13,800.0                     | 7,612.6             | 7,684.6             | 7,684.6             | 121.8          | 153.7       | -90.47                | -5,457.4                          | 273.8      | 828.4                | 553.0                 | 275.46                  | 3.007                 |         |                    |        |
| 13,900.0                     | 7,612.8             | 7,684.8             | 7,684.8             | 123.7          | 153.7       | -90.52                | -5,457.4                          | 273.8      | 925.6                | 648.3                 | 277.36                  | 3.337                 |         |                    |        |
| 14,000.0                     | 7,613.0             | 7,685.0             | 7,685.0             | 125.6          | 153.7       | -90.58                | -5,457.4                          | 273.8      | 1,023.3              | 744.1                 | 279.26                  | 3.664                 |         |                    |        |
| 14,100.0                     | 7,613.2             | 7,685.2             | 7,685.2             | 127.5          | 153.7       | -90.64                | -5,457.4                          | 273.8      | 1,121.5              | 840.3                 | 281.16                  | 3.989                 |         |                    |        |
| 14,200.0                     | 7,613.4             | 7,685.4             | 7,685.4             | 129.4          | 153.7       | -90.70                | -5,457.4                          | 273.8      | 1,219.9              | 936.8                 | 283.06                  | 4.310                 |         |                    |        |
| 14,300.0                     | 7,613.6             | 7,685.6             | 7,685.6             | 131.3          | 153.7       | -90.76                | -5,457.4                          | 273.8      | 1,318.6              | 1,033.6               | 284.96                  | 4.627                 |         |                    |        |
| 14,400.0                     | 7,613.9             | 7,685.9             | 7,685.9             | 133.2          | 153.7       | -90.81                | -5,457.4                          | 273.8      | 1,417.4              | 1,130.6               | 286.86                  | 4.941                 |         |                    |        |
| 14,469.1                     | 7,614.0             | 7,686.0             | 7,686.0             | 134.5          | 153.7       | -90.85                | -5,457.4                          | 273.8      | 1,485.8              | 1,197.6               | 288.17                  | 5.156                 |         |                    |        |

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                  |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Site Error: | 0.0 ft |
|--------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|---------|--------------------|--------|
| Survey Program: 100-NS-GYRO-MS |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Well Error: | 0.0 ft |
| Reference                      |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Offset                         |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Semi Major Axis                |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Distance                       |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Measured Depth (ft)            | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |                    |        |
| 0.0                            | 0.0                 | 55.6                | 55.6                | 0.0            | 0.1         | 173.80                | -4,331.4                          | 470.8      | 4,356.9              | 4,356.8               | 0.07                    | N/A               |         |                    |        |
| 100.0                          | 100.0               | 153.3               | 153.3               | 0.1            | 0.3         | 173.79                | -4,331.4                          | 471.2      | 4,357.0              | 4,356.6               | 0.39                    | N/A               |         |                    |        |
| 200.0                          | 200.0               | 246.3               | 246.3               | 0.3            | 0.5         | 173.78                | -4,331.5                          | 471.9      | 4,357.2              | 4,356.3               | 0.86                    | 5,082.103         |         |                    |        |
| 300.0                          | 300.0               | 336.9               | 336.8               | 0.6            | 0.8         | 173.76                | -4,331.7                          | 473.6      | 4,357.6              | 4,356.3               | 1.32                    | 3,294.648         |         |                    |        |
| 400.0                          | 400.0               | 430.7               | 430.6               | 0.8            | 1.0         | 173.73                | -4,332.0                          | 476.3      | 4,358.2              | 4,356.4               | 1.80                    | 2,425.481         |         |                    |        |
| 500.0                          | 500.0               | 500.0               | 499.9               | 1.0            | 1.2         | 173.69                | -4,332.2                          | 478.8      | 4,359.0              | 4,356.8               | 2.21                    | 1,975.790         |         |                    |        |
| 600.0                          | 600.0               | 580.4               | 580.2               | 1.2            | 1.4         | 173.65                | -4,332.9                          | 482.3      | 4,360.4              | 4,357.8               | 2.65                    | 1,648.511         |         |                    |        |
| 700.0                          | 700.0               | 661.0               | 660.7               | 1.5            | 1.6         | 173.60                | -4,334.2                          | 486.5      | 4,362.5              | 4,359.4               | 3.08                    | 1,414.423         |         |                    |        |
| 800.0                          | 800.0               | 757.7               | 757.3               | 1.7            | 1.9         | 173.53                | -4,335.9                          | 491.6      | 4,364.8              | 4,361.3               | 3.57                    | 1,224.135         |         |                    |        |
| 900.0                          | 900.0               | 855.8               | 855.2               | 1.9            | 2.1         | 173.48                | -4,337.6                          | 496.0      | 4,367.1              | 4,363.1               | 4.05                    | 1,078.485         |         |                    |        |
| 1,000.0                        | 1,000.0             | 938.9               | 938.3               | 2.1            | 2.4         | 173.43                | -4,339.3                          | 499.6      | 4,369.7              | 4,365.2               | 4.49                    | 972.579           |         |                    |        |
| 1,100.0                        | 1,100.0             | 1,015.6             | 1,014.8             | 2.4            | 2.6         | 173.39                | -4,341.3                          | 503.3      | 4,372.7              | 4,367.8               | 4.92                    | 888.884           |         |                    |        |
| 1,200.0                        | 1,200.0             | 1,104.6             | 1,103.6             | 2.6            | 2.8         | 173.33                | -4,343.8                          | 508.2      | 4,376.1              | 4,370.8               | 5.38                    | 813.563           |         |                    |        |
| 1,300.0                        | 1,300.0             | 1,200.0             | 1,198.8             | 2.8            | 3.1         | 173.26                | -4,346.5                          | 513.9      | 4,379.7              | 4,373.9               | 5.86                    | 747.810           |         |                    |        |
| 1,400.0                        | 1,400.0             | 1,289.5             | 1,288.1             | 3.0            | 3.3         | 173.19                | -4,349.3                          | 519.3      | 4,383.5              | 4,377.2               | 6.32                    | 693.703           |         |                    |        |
| 1,500.0                        | 1,500.0             | 1,384.9             | 1,383.3             | 3.3            | 3.6         | 173.12                | -4,352.3                          | 525.4      | 4,387.5              | 4,380.7               | 6.80                    | 645.420           |         |                    |        |
| 1,600.0                        | 1,600.0             | 1,501.7             | 1,499.8             | 3.5            | 3.9         | 173.03                | -4,356.0                          | 532.6      | 4,391.3              | 4,384.0               | 7.33                    | 598.807           |         |                    |        |
| 1,700.0                        | 1,700.0             | 1,601.9             | 1,599.8             | 3.7            | 4.1         | 172.96                | -4,358.9                          | 538.3      | 4,394.9              | 4,387.1               | 7.82                    | 561.685           |         |                    |        |
| 1,800.0                        | 1,800.0             | 1,700.1             | 1,697.8             | 3.9            | 4.4         | 172.90                | -4,361.9                          | 543.6      | 4,398.6              | 4,390.3               | 8.31                    | 529.322           |         |                    |        |
| 1,900.0                        | 1,900.0             | 1,832.2             | 1,829.7             | 4.2            | 4.8         | 172.82                | -4,365.4                          | 550.2      | 4,401.8              | 4,392.9               | 8.89                    | 495.409           |         |                    |        |
| 2,000.0                        | 2,000.0             | 1,942.9             | 1,940.3             | 4.4            | 5.0         | 172.76                | -4,367.9                          | 554.9      | 4,404.6              | 4,395.2               | 9.40                    | 468.390           |         |                    |        |
| 2,100.0                        | 2,100.0             | 2,060.8             | 2,058.1             | 4.6            | 5.4         | 157.75                | -4,370.4                          | 559.1      | 4,408.8              | 4,398.9               | 9.95                    | 443.308           |         |                    |        |
| 2,200.0                        | 2,199.8             | 2,218.7             | 2,215.9             | 4.8            | 5.8         | 157.69                | -4,372.5                          | 563.2      | 4,415.3              | 4,404.7               | 10.57                   | 417.816           |         |                    |        |
| 2,300.0                        | 2,299.5             | 2,332.8             | 2,330.0             | 5.1            | 6.1         | 157.64                | -4,373.1                          | 565.2      | 4,424.1              | 4,413.0               | 11.06                   | 399.903           |         |                    |        |
| 2,400.0                        | 2,398.7             | 2,423.1             | 2,420.3             | 5.3            | 6.3         | 157.62                | -4,373.5                          | 566.7      | 4,435.9              | 4,424.4               | 11.50                   | 385.697           |         |                    |        |
| 2,500.0                        | 2,497.9             | 2,500.0             | 2,497.2             | 5.5            | 6.5         | 157.65                | -4,374.3                          | 568.2      | 4,448.8              | 4,436.9               | 11.93                   | 372.860           |         |                    |        |
| 2,600.0                        | 2,597.1             | 2,572.3             | 2,569.5             | 5.8            | 6.7         | 157.68                | -4,375.3                          | 569.7      | 4,462.3              | 4,449.9               | 12.35                   | 361.359           |         |                    |        |
| 2,700.0                        | 2,696.3             | 2,643.0             | 2,640.1             | 6.0            | 6.9         | 157.71                | -4,376.7                          | 571.0      | 4,476.3              | 4,463.5               | 12.76                   | 350.895           |         |                    |        |
| 2,800.0                        | 2,795.5             | 2,700.0             | 2,697.1             | 6.3            | 7.0         | 157.74                | -4,378.3                          | 572.0      | 4,491.0              | 4,477.8               | 13.13                   | 342.060           |         |                    |        |
| 2,900.0                        | 2,894.7             | 2,785.3             | 2,782.3             | 6.6            | 7.2         | 157.78                | -4,381.2                          | 573.1      | 4,506.3              | 4,492.7               | 13.55                   | 332.549           |         |                    |        |
| 3,000.0                        | 2,993.9             | 3,003.8             | 3,000.8             | 6.8            | 7.6         | 157.93                | -4,387.2                          | 572.9      | 4,521.1              | 4,506.9               | 14.14                   | 319.837           |         |                    |        |
| 3,100.0                        | 3,093.0             | 3,135.5             | 3,132.4             | 7.1            | 7.7         | 158.02                | -4,388.3                          | 571.7      | 4,533.6              | 4,519.1               | 14.47                   | 313.325           |         |                    |        |
| 3,200.0                        | 3,192.2             | 3,236.6             | 3,233.5             | 7.4            | 7.7         | 158.10                | -4,388.8                          | 570.6      | 4,545.8              | 4,531.0               | 14.76                   | 307.934           |         |                    |        |
| 3,300.0                        | 3,291.4             | 3,323.0             | 3,319.9             | 7.7            | 7.8         | 158.17                | -4,389.4                          | 569.4      | 4,558.1              | 4,543.0               | 15.05                   | 302.809           |         |                    |        |
| 3,400.0                        | 3,390.6             | 3,400.0             | 3,396.9             | 8.0            | 7.8         | 158.23                | -4,390.2                          | 568.2      | 4,570.8              | 4,555.4               | 15.35                   | 297.744           |         |                    |        |
| 3,500.0                        | 3,489.8             | 3,492.3             | 3,489.2             | 8.2            | 7.9         | 158.31                | -4,391.5                          | 566.5      | 4,583.8              | 4,568.1               | 15.68                   | 292.301           |         |                    |        |
| 3,600.0                        | 3,589.0             | 3,582.1             | 3,578.9             | 8.5            | 8.0         | 158.38                | -4,393.0                          | 564.8      | 4,597.0              | 4,581.0               | 16.02                   | 286.933           |         |                    |        |
| 3,700.0                        | 3,688.2             | 3,739.6             | 3,736.3             | 8.8            | 8.2         | 158.53                | -4,394.9                          | 560.7      | 4,609.8              | 4,593.4               | 16.40                   | 281.077           |         |                    |        |
| 3,800.0                        | 3,787.4             | 3,867.2             | 3,863.9             | 9.1            | 8.2         | 158.66                | -4,395.2                          | 556.2      | 4,621.5              | 4,604.8               | 16.72                   | 276.400           |         |                    |        |
| 3,900.0                        | 3,886.5             | 3,978.0             | 3,974.6             | 9.4            | 8.3         | 158.77                | -4,395.0                          | 552.7      | 4,632.8              | 4,615.8               | 17.03                   | 272.061           |         |                    |        |
| 4,000.0                        | 3,985.7             | 4,092.3             | 4,088.8             | 9.7            | 8.4         | 158.87                | -4,394.4                          | 549.7      | 4,643.9              | 4,626.6               | 17.34                   | 267.837           |         |                    |        |
| 4,100.0                        | 4,085.0             | 4,243.7             | 4,240.2             | 10.0           | 8.4         | 159.01                | -4,392.4                          | 547.4      | 4,653.9              | 4,636.2               | 17.67                   | 263.305           |         |                    |        |
| 4,200.0                        | 4,184.5             | 4,300.0             | 4,296.5             | 10.2           | 8.5         | 159.09                | -4,391.1                          | 546.9      | 4,660.6              | 4,642.7               | 17.93                   | 259.980           |         |                    |        |
| 4,300.0                        | 4,284.4             | 4,367.9             | 4,364.5             | 10.4           | 8.5         | 159.14                | -4,390.2                          | 546.3      | 4,664.7              | 4,646.6               | 18.19                   | 256.398           |         |                    |        |
| 4,400.0                        | 4,384.3             | 4,400.0             | 4,396.5             | 10.6           | 8.6         | 159.17                | -4,390.3                          | 546.0      | 4,667.1              | 4,648.7               | 18.40                   | 253.628           |         |                    |        |
| 4,500.0                        | 4,484.3             | 4,482.7             | 4,479.2             | 10.8           | 8.7         | 174.12                | -4,391.1                          | 545.1      | 4,668.1              | 4,649.4               | 18.72                   | 249.357           |         |                    |        |
| 4,600.0                        | 4,584.3             | 4,572.2             | 4,568.7             | 11.0           | 8.9         | 174.14                | -4,392.7                          | 543.7      | 4,669.6              | 4,650.6               | 19.09                   | 244.611           |         |                    |        |
| 4,700.0                        | 4,684.3             | 4,762.0             | 4,758.4             | 11.2           | 9.1         | 174.20                | -4,394.9                          | 539.1      | 4,670.8              | 4,651.2               | 19.58                   | 238.528           |         |                    |        |
| 4,800.0                        | 4,784.3             | 4,908.7             | 4,905.0             | 11.4           | 9.3         | 174.26                | -4,393.9                          | 534.1      | 4,669.7              | 4,649.7               | 19.96                   | 233.983           |         |                    |        |
| 4,900.0                        | 4,884.3             | 5,016.3             | 5,012.5             | 11.6           | 9.4         | 174.31                | -4,392.7                          | 530.0      | 4,668.2              | 4,647.9               | 20.29                   | 230.062           |         |                    |        |
| 5,000.0                        | 4,984.3             | 5,100.0             | 5,096.2             | 11.8           | 9.5         | 174.35                | -4,392.0                          | 526.6      | 4,666.9              | 4,646.3               | 20.61                   | 226.488           |         |                    |        |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                  |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Site Error: | 0.0 ft |
|--------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|---------|--------------------|--------|
| Survey Program: 100-NS-GYRO-MS |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Well Error: | 0.0 ft |
| Reference                      |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Offset                         |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Semi Major Axis                |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Distance                       |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Measured Depth (ft)            | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |                    |        |
| 5,100.0                        | 5,084.3             | 5,164.3             | 5,160.4             | 12.0           | 9.6         | 174.38                | -4,391.7                          | 524.1      | 4,666.2              | 4,645.3               | 20.91                   | 223.152           |         |                    |        |
| 5,200.0                        | 5,184.3             | 5,284.2             | 5,280.3             | 12.2           | 9.7         | 174.43                | -4,391.8                          | 519.9      | 4,665.9              | 4,644.6               | 21.29                   | 219.131           |         |                    |        |
| 5,300.0                        | 5,284.3             | 5,438.5             | 5,434.4             | 12.4           | 9.9         | 174.48                | -4,389.4                          | 515.7      | 4,663.9              | 4,642.2               | 21.70                   | 214.933           |         |                    |        |
| 5,400.0                        | 5,384.3             | 5,500.0             | 5,496.0             | 12.6           | 10.0        | 174.49                | -4,388.6                          | 514.6      | 4,662.4              | 4,640.4               | 21.99                   | 212.009           |         |                    |        |
| 5,500.0                        | 5,484.3             | 5,577.0             | 5,572.9             | 12.8           | 10.1        | 174.50                | -4,388.1                          | 513.9      | 4,661.6              | 4,639.3               | 22.30                   | 209.002           |         |                    |        |
| 5,582.9                        | 5,567.3             | 5,630.3             | 5,626.3             | 13.0           | 10.2        | 174.50                | -4,387.9                          | 513.7      | 4,661.3              | 4,638.7               | 22.56                   | 206.574           |         |                    |        |
| 5,600.0                        | 5,584.3             | 5,639.6             | 5,635.5             | 13.0           | 10.2        | 174.50                | -4,387.9                          | 513.7      | 4,661.3              | 4,638.7               | 22.62                   | 206.091           |         |                    |        |
| 5,700.0                        | 5,684.3             | 5,700.0             | 5,695.9             | 13.2           | 10.3        | 174.50                | -4,388.3                          | 514.0      | 4,662.0              | 4,639.0               | 22.94                   | 203.239           |         |                    |        |
| 5,800.0                        | 5,784.3             | 5,777.6             | 5,773.5             | 13.4           | 10.5        | 174.49                | -4,389.3                          | 514.8      | 4,663.3              | 4,640.0               | 23.33                   | 199.906           |         |                    |        |
| 5,900.0                        | 5,884.3             | 5,944.7             | 5,940.6             | 13.6           | 10.8        | 174.49                | -4,390.6                          | 515.2      | 4,664.2              | 4,640.3               | 23.88                   | 195.303           |         |                    |        |
| 6,000.0                        | 5,984.3             | 6,057.8             | 6,053.7             | 13.9           | 11.0        | 174.50                | -4,390.5                          | 514.3      | 4,664.0              | 4,639.7               | 24.29                   | 192.047           |         |                    |        |
| 6,093.4                        | 6,077.7             | 6,140.8             | 6,136.7             | 14.1           | 11.1        | 174.51                | -4,390.5                          | 513.4      | 4,663.8              | 4,639.2               | 24.63                   | 189.380           |         |                    |        |
| 6,100.0                        | 6,084.3             | 6,146.2             | 6,142.1             | 14.1           | 11.1        | 174.51                | -4,390.5                          | 513.3      | 4,663.8              | 4,639.2               | 24.65                   | 189.196           |         |                    |        |
| 6,200.0                        | 6,184.3             | 6,230.1             | 6,226.0             | 14.3           | 11.3        | 174.52                | -4,390.7                          | 512.4      | 4,664.1              | 4,639.0               | 25.02                   | 186.379           |         |                    |        |
| 6,300.0                        | 6,284.3             | 6,323.1             | 6,319.0             | 14.5           | 11.5        | 174.53                | -4,391.3                          | 511.7      | 4,664.5              | 4,639.1               | 25.43                   | 183.392           |         |                    |        |
| 6,400.0                        | 6,384.3             | 6,433.9             | 6,429.8             | 14.7           | 11.7        | 174.54                | -4,391.7                          | 511.4      | 4,664.9              | 4,639.0               | 25.90                   | 180.142           |         |                    |        |
| 6,500.0                        | 6,484.3             | 6,544.9             | 6,540.8             | 14.9           | 11.9        | 174.54                | -4,392.0                          | 511.1      | 4,665.1              | 4,638.8               | 26.34                   | 177.104           |         |                    |        |
| 6,600.0                        | 6,584.3             | 6,649.0             | 6,644.9             | 15.1           | 12.1        | 174.54                | -4,392.0                          | 510.8      | 4,665.1              | 4,638.3               | 26.75                   | 174.396           |         |                    |        |
| 6,620.0                        | 6,604.4             | 6,667.5             | 6,663.4             | 15.2           | 12.2        | 174.55                | -4,392.0                          | 510.7      | 4,665.1              | 4,638.3               | 26.83                   | 173.895           |         |                    |        |
| 6,700.0                        | 6,684.3             | 6,736.5             | 6,732.4             | 15.3           | 12.3        | 174.55                | -4,392.0                          | 510.6      | 4,665.2              | 4,638.0               | 27.14                   | 171.910           |         |                    |        |
| 6,800.0                        | 6,784.3             | 6,823.2             | 6,819.1             | 15.6           | 12.5        | 174.55                | -4,392.4                          | 510.6      | 4,665.6              | 4,638.0               | 27.54                   | 169.417           |         |                    |        |
| 6,900.0                        | 6,884.3             | 6,923.9             | 6,919.8             | 15.7           | 12.7        | -5.47                 | -4,392.8                          | 511.0      | 4,664.6              | 4,636.7               | 27.90                   | 167.211           |         |                    |        |
| 7,000.0                        | 6,983.4             | 7,016.5             | 7,012.4             | 15.9           | 12.9        | -5.58                 | -4,393.4                          | 511.5      | 4,652.5              | 4,624.7               | 27.82                   | 167.209           |         |                    |        |
| 7,100.0                        | 7,080.0             | 7,136.2             | 7,132.1             | 15.9           | 13.1        | -5.82                 | -4,393.8                          | 512.2      | 4,627.5              | 4,600.1               | 27.39                   | 168.966           |         |                    |        |
| 7,200.0                        | 7,172.5             | 7,310.0             | 7,305.9             | 15.9           | 13.3        | -6.25                 | -4,392.6                          | 513.3      | 4,589.1              | 4,562.6               | 26.58                   | 172.674           |         |                    |        |
| 7,300.0                        | 7,259.1             | 7,397.4             | 7,393.3             | 16.0           | 13.4        | -6.82                 | -4,391.2                          | 512.5      | 4,538.2              | 4,513.0               | 25.30                   | 179.393           |         |                    |        |
| 7,400.0                        | 7,338.6             | 7,500.0             | 7,495.8             | 16.0           | 13.6        | -7.66                 | -4,388.6                          | 510.1      | 4,475.6              | 4,451.8               | 23.77                   | 188.248           |         |                    |        |
| 7,500.0                        | 7,409.5             | 7,541.5             | 7,537.3             | 16.1           | 13.6        | -8.82                 | -4,387.6                          | 508.9      | 4,403.8              | 4,381.8               | 22.03                   | 199.874           |         |                    |        |
| 7,600.0                        | 7,470.5             | 7,558.9             | 7,554.7             | 16.4           | 13.7        | -10.51                | -4,387.4                          | 508.6      | 4,324.5              | 4,304.2               | 20.25                   | 213.520           |         |                    |        |
| 7,700.0                        | 7,520.8             | 7,600.0             | 7,595.8             | 16.8           | 13.7        | -13.32                | -4,387.7                          | 508.0      | 4,238.7              | 4,219.9               | 18.80                   | 225.490           |         |                    |        |
| 7,800.0                        | 7,559.3             | 7,600.0             | 7,595.8             | 17.4           | 13.7        | -17.98                | -4,387.7                          | 508.0      | 4,147.1              | 4,128.9               | 18.15                   | 228.465           |         |                    |        |
| 7,900.0                        | 7,585.4             | 7,600.0             | 7,595.8             | 18.2           | 13.7        | -27.54                | -4,387.7                          | 508.0      | 4,051.4              | 4,031.5               | 19.87                   | 203.920           |         |                    |        |
| 8,000.0                        | 7,598.8             | 7,600.0             | 7,595.8             | 19.1           | 13.7        | -53.14                | -4,387.7                          | 508.0      | 3,953.2              | 3,925.4               | 27.73                   | 142.575           |         |                    |        |
| 8,100.0                        | 7,600.7             | 7,600.0             | 7,595.8             | 20.1           | 13.7        | -80.73                | -4,387.7                          | 508.0      | 3,853.9              | 3,820.4               | 33.49                   | 115.062           |         |                    |        |
| 8,200.0                        | 7,600.9             | 7,600.0             | 7,595.8             | 21.3           | 13.7        | -80.73                | -4,387.7                          | 508.0      | 3,754.6              | 3,719.9               | 34.64                   | 108.404           |         |                    |        |
| 8,300.0                        | 7,601.1             | 7,600.0             | 7,595.8             | 22.5           | 13.7        | -80.73                | -4,387.7                          | 508.0      | 3,655.3              | 3,619.4               | 35.88                   | 101.878           |         |                    |        |
| 8,400.0                        | 7,601.3             | 7,600.0             | 7,595.8             | 23.9           | 13.7        | -80.73                | -4,387.7                          | 508.0      | 3,556.1              | 3,518.9               | 37.21                   | 95.569            |         |                    |        |
| 8,500.0                        | 7,601.5             | 7,600.0             | 7,595.8             | 25.3           | 13.7        | -80.73                | -4,387.7                          | 508.0      | 3,456.9              | 3,418.3               | 38.61                   | 89.528            |         |                    |        |
| 8,600.0                        | 7,601.7             | 7,600.0             | 7,595.8             | 26.8           | 13.7        | -80.73                | -4,387.7                          | 508.0      | 3,357.8              | 3,317.7               | 40.08                   | 83.783            |         |                    |        |
| 8,700.0                        | 7,601.9             | 7,600.0             | 7,595.8             | 28.3           | 13.7        | -80.73                | -4,387.7                          | 508.0      | 3,258.7              | 3,217.1               | 41.59                   | 78.348            |         |                    |        |
| 8,800.0                        | 7,602.1             | 7,600.0             | 7,595.8             | 29.9           | 13.7        | -80.73                | -4,387.7                          | 508.0      | 3,159.6              | 3,116.5               | 43.15                   | 73.221            |         |                    |        |
| 8,900.0                        | 7,602.3             | 7,600.0             | 7,595.8             | 31.5           | 13.7        | -80.73                | -4,387.7                          | 508.0      | 3,060.7              | 3,015.9               | 44.75                   | 68.398            |         |                    |        |
| 9,000.0                        | 7,602.5             | 7,600.0             | 7,595.8             | 33.1           | 13.7        | -80.73                | -4,387.7                          | 508.0      | 2,961.8              | 2,915.4               | 46.38                   | 63.864            |         |                    |        |
| 9,100.0                        | 7,602.8             | 7,600.0             | 7,595.8             | 34.8           | 13.7        | -80.73                | -4,387.7                          | 508.0      | 2,863.0              | 2,814.9               | 48.03                   | 59.605            |         |                    |        |
| 9,200.0                        | 7,603.0             | 7,600.0             | 7,595.8             | 36.5           | 13.7        | -80.73                | -4,387.7                          | 508.0      | 2,764.2              | 2,714.5               | 49.71                   | 55.606            |         |                    |        |
| 9,300.0                        | 7,603.2             | 7,600.0             | 7,595.8             | 38.2           | 13.7        | -80.73                | -4,387.7                          | 508.0      | 2,665.6              | 2,614.2               | 51.41                   | 51.850            |         |                    |        |
| 9,400.0                        | 7,603.4             | 7,600.0             | 7,595.8             | 40.0           | 13.7        | -80.73                | -4,387.7                          | 508.0      | 2,567.1              | 2,513.9               | 53.13                   | 48.320            |         |                    |        |
| 9,500.0                        | 7,603.6             | 7,600.0             | 7,595.8             | 41.7           | 13.7        | -80.73                | -4,387.7                          | 508.0      | 2,468.7              | 2,413.8               | 54.86                   | 45.000            |         |                    |        |
| 9,600.0                        | 7,603.8             | 7,600.0             | 7,595.8             | 43.5           | 13.7        | -80.73                | -4,387.7                          | 508.0      | 2,370.4              | 2,313.8               | 56.61                   | 41.876            |         |                    |        |
| 9,700.0                        | 7,604.0             | 7,600.0             | 7,595.8             | 45.2           | 13.7        | -80.73                | -4,387.7                          | 508.0      | 2,272.2              | 2,213.9               | 58.36                   | 38.933            |         |                    |        |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                  |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Site Error: | 0.0 ft |
|--------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|---------|--------------------|--------|
| Survey Program: 100-NS-GYRO-MS |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Well Error: | 0.0 ft |
| Reference                      |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Offset                         |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Semi Major Axis                |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Distance                       |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Measured Depth (ft)            | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |                    |        |
| 9,800.0                        | 7,604.2             | 7,600.0             | 7,595.8             | 47.0           | 13.7        | -80.73                | -4,387.7                          | 508.0      | 2,174.3              | 2,114.1               | 60.13                   | 36.158            |         |                    |        |
| 9,900.0                        | 7,604.4             | 7,600.0             | 7,595.8             | 48.8           | 13.7        | -80.73                | -4,387.7                          | 508.0      | 2,076.5              | 2,014.6               | 61.91                   | 33.541            |         |                    |        |
| 10,000.0                       | 7,604.6             | 7,600.0             | 7,595.8             | 50.6           | 13.7        | -80.73                | -4,387.7                          | 508.0      | 1,979.0              | 1,915.3               | 63.70                   | 31.069            |         |                    |        |
| 10,100.0                       | 7,604.8             | 7,600.0             | 7,595.8             | 52.5           | 13.7        | -80.73                | -4,387.7                          | 508.0      | 1,881.7              | 1,816.2               | 65.49                   | 28.732            |         |                    |        |
| 10,200.0                       | 7,605.1             | 7,622.5             | 7,618.3             | 54.3           | 13.8        | -83.60                | -4,388.2                          | 507.9      | 1,784.4              | 1,716.7               | 67.72                   | 26.351            |         |                    |        |
| 10,300.0                       | 7,605.3             | 7,624.1             | 7,619.9             | 56.1           | 13.8        | -83.81                | -4,388.3                          | 507.9      | 1,687.8              | 1,618.2               | 69.56                   | 24.263            |         |                    |        |
| 10,400.0                       | 7,605.5             | 7,625.8             | 7,621.6             | 57.9           | 13.8        | -84.03                | -4,388.3                          | 507.9      | 1,591.5              | 1,520.1               | 71.41                   | 22.286            |         |                    |        |
| 10,500.0                       | 7,605.7             | 7,627.6             | 7,623.3             | 59.8           | 13.8        | -84.25                | -4,388.4                          | 507.9      | 1,495.7              | 1,422.4               | 73.27                   | 20.413            |         |                    |        |
| 10,600.0                       | 7,605.9             | 7,629.4             | 7,625.1             | 61.6           | 13.8        | -84.49                | -4,388.4                          | 507.9      | 1,400.5              | 1,325.4               | 75.13                   | 18.640            |         |                    |        |
| 10,700.0                       | 7,606.1             | 7,631.3             | 7,627.0             | 63.5           | 13.8        | -84.73                | -4,388.5                          | 507.9      | 1,306.0              | 1,229.0               | 77.00                   | 16.960            |         |                    |        |
| 10,800.0                       | 7,606.3             | 7,633.3             | 7,629.0             | 65.3           | 13.8        | -84.98                | -4,388.5                          | 507.9      | 1,212.4              | 1,133.5               | 78.88                   | 15.370            |         |                    |        |
| 10,900.0                       | 7,606.5             | 7,635.3             | 7,631.1             | 67.2           | 13.8        | -85.25                | -4,388.6                          | 508.0      | 1,119.9              | 1,039.1               | 80.76                   | 13.867            |         |                    |        |
| 11,000.0                       | 7,606.7             | 7,637.5             | 7,633.2             | 69.0           | 13.8        | -85.53                | -4,388.7                          | 508.0      | 1,028.8              | 946.1                 | 82.64                   | 12.449            |         |                    |        |
| 11,100.0                       | 7,606.9             | 7,639.7             | 7,635.5             | 70.9           | 13.8        | -85.82                | -4,388.7                          | 508.0      | 939.4                | 854.9                 | 84.53                   | 11.114            |         |                    |        |
| 11,200.0                       | 7,607.2             | 7,642.1             | 7,637.8             | 72.8           | 13.8        | -86.13                | -4,388.8                          | 508.0      | 852.5                | 766.1                 | 86.42                   | 9.865             |         |                    |        |
| 11,300.0                       | 7,607.4             | 7,644.6             | 7,640.3             | 74.6           | 13.8        | -86.45                | -4,388.9                          | 508.0      | 768.7                | 680.4                 | 88.31                   | 8.704             |         |                    |        |
| 11,400.0                       | 7,607.6             | 7,647.2             | 7,642.9             | 76.5           | 13.8        | -86.78                | -4,389.0                          | 508.1      | 689.3                | 599.0                 | 90.21                   | 7.641             |         |                    |        |
| 11,500.0                       | 7,607.8             | 7,649.9             | 7,645.6             | 78.4           | 13.8        | -87.14                | -4,389.1                          | 508.1      | 615.8                | 523.7                 | 92.11                   | 6.686             |         |                    |        |
| 11,600.0                       | 7,608.0             | 7,652.8             | 7,648.5             | 80.2           | 13.8        | -87.51                | -4,389.2                          | 508.1      | 550.7                | 456.7                 | 94.01                   | 5.858             |         |                    |        |
| 11,700.0                       | 7,608.2             | 7,655.8             | 7,651.5             | 82.1           | 13.9        | -87.90                | -4,389.3                          | 508.2      | 497.4                | 401.5                 | 95.91                   | 5.186             |         |                    |        |
| 11,800.0                       | 7,608.4             | 7,659.0             | 7,654.7             | 84.0           | 13.9        | -88.31                | -4,389.4                          | 508.2      | 459.9                | 362.1                 | 97.81                   | 4.702             |         |                    |        |
| 11,900.0                       | 7,608.6             | 7,662.3             | 7,658.1             | 85.9           | 13.9        | -88.75                | -4,389.6                          | 508.3      | 442.2                | 342.5                 | 99.71                   | 4.435             |         |                    |        |
| 11,929.9                       | 7,608.7             | 7,663.4             | 7,659.1             | 86.4           | 13.9        | -88.89                | -4,389.6                          | 508.3      | 441.2                | 340.9                 | 100.28                  | 4.399 CC, ES      |         |                    |        |
| 12,000.0                       | 7,608.8             | 7,665.9             | 7,661.6             | 87.7           | 13.9        | -89.21                | -4,389.7                          | 508.4      | 446.7                | 345.1                 | 101.61                  | 4.396 SF          |         |                    |        |
| 12,100.0                       | 7,609.0             | 7,669.7             | 7,665.4             | 89.6           | 13.9        | -89.70                | -4,389.9                          | 508.5      | 472.8                | 369.3                 | 103.50                  | 4.568             |         |                    |        |
| 12,200.0                       | 7,609.2             | 7,673.7             | 7,669.4             | 91.5           | 13.9        | -90.22                | -4,390.0                          | 508.6      | 517.2                | 411.8                 | 105.39                  | 4.907             |         |                    |        |
| 12,300.0                       | 7,609.5             | 7,677.9             | 7,673.6             | 93.4           | 13.9        | -90.77                | -4,390.2                          | 508.7      | 575.6                | 468.4                 | 107.27                  | 5.366             |         |                    |        |
| 12,400.0                       | 7,609.7             | 7,682.5             | 7,678.2             | 95.3           | 13.9        | -91.36                | -4,390.4                          | 508.8      | 644.4                | 535.2                 | 109.15                  | 5.904             |         |                    |        |
| 12,500.0                       | 7,609.9             | 7,687.3             | 7,683.0             | 97.2           | 13.9        | -91.99                | -4,390.6                          | 508.9      | 720.4                | 609.4                 | 111.01                  | 6.490             |         |                    |        |
| 12,600.0                       | 7,610.1             | 7,692.5             | 7,688.2             | 99.1           | 13.9        | -92.65                | -4,390.9                          | 509.1      | 801.8                | 688.9                 | 112.86                  | 7.104             |         |                    |        |
| 12,700.0                       | 7,610.3             | 7,698.0             | 7,693.7             | 100.9          | 13.9        | -93.37                | -4,391.2                          | 509.3      | 886.9                | 772.2                 | 114.69                  | 7.733             |         |                    |        |
| 12,800.0                       | 7,610.5             | 7,703.4             | 7,699.1             | 102.8          | 14.0        | -94.06                | -4,391.5                          | 509.5      | 974.8                | 858.3                 | 116.51                  | 8.367             |         |                    |        |
| 12,900.0                       | 7,610.7             | 7,708.4             | 7,704.1             | 104.7          | 14.0        | -94.70                | -4,391.7                          | 509.6      | 1,064.8              | 946.5                 | 118.32                  | 9.000             |         |                    |        |
| 13,000.0                       | 7,610.9             | 7,713.3             | 7,709.0             | 106.6          | 14.0        | -95.33                | -4,392.0                          | 509.8      | 1,156.4              | 1,036.3               | 120.11                  | 9.628             |         |                    |        |
| 13,100.0                       | 7,611.1             | 7,718.1             | 7,713.7             | 108.5          | 14.0        | -95.94                | -4,392.2                          | 510.0      | 1,249.3              | 1,127.4               | 121.89                  | 10.249            |         |                    |        |
| 13,200.0                       | 7,611.3             | 7,722.7             | 7,718.4             | 110.4          | 14.0        | -96.53                | -4,392.4                          | 510.1      | 1,343.2              | 1,219.6               | 123.67                  | 10.862            |         |                    |        |
| 13,300.0                       | 7,611.6             | 7,727.3             | 7,722.9             | 112.3          | 14.0        | -97.10                | -4,392.7                          | 510.3      | 1,437.9              | 1,312.5               | 125.43                  | 11.464            |         |                    |        |
| 13,400.0                       | 7,611.8             | 7,731.7             | 7,727.3             | 114.2          | 14.0        | -97.66                | -4,392.9                          | 510.4      | 1,533.3              | 1,406.1               | 127.18                  | 12.056            |         |                    |        |
| 13,500.0                       | 7,612.0             | 7,736.0             | 7,731.6             | 116.1          | 14.0        | -98.21                | -4,393.1                          | 510.5      | 1,629.2              | 1,500.3               | 128.92                  | 12.637            |         |                    |        |
| 13,600.0                       | 7,612.2             | 7,740.2             | 7,735.8             | 118.0          | 14.0        | -98.73                | -4,393.3                          | 510.7      | 1,725.6              | 1,594.9               | 130.65                  | 13.207            |         |                    |        |
| 13,700.0                       | 7,612.4             | 7,744.3             | 7,739.9             | 119.9          | 14.0        | -99.25                | -4,393.5                          | 510.8      | 1,822.3              | 1,689.9               | 132.38                  | 13.766            |         |                    |        |
| 13,800.0                       | 7,612.6             | 7,748.3             | 7,743.9             | 121.8          | 14.0        | -99.75                | -4,393.7                          | 510.9      | 1,919.4              | 1,785.3               | 134.09                  | 14.314            |         |                    |        |
| 13,900.0                       | 7,612.8             | 7,752.2             | 7,747.8             | 123.7          | 14.1        | -100.23               | -4,393.8                          | 511.0      | 2,016.7              | 1,880.9               | 135.80                  | 14.850            |         |                    |        |
| 14,000.0                       | 7,613.0             | 7,756.0             | 7,751.6             | 125.6          | 14.1        | -100.71               | -4,394.0                          | 511.1      | 2,114.3              | 1,976.8               | 137.50                  | 15.377            |         |                    |        |
| 14,100.0                       | 7,613.2             | 7,759.8             | 7,755.4             | 127.5          | 14.1        | -101.17               | -4,394.2                          | 511.2      | 2,212.1              | 2,072.9               | 139.19                  | 15.892            |         |                    |        |
| 14,200.0                       | 7,613.4             | 7,763.4             | 7,759.0             | 129.4          | 14.1        | -101.62               | -4,394.3                          | 511.3      | 2,310.1              | 2,169.2               | 140.88                  | 16.398            |         |                    |        |
| 14,300.0                       | 7,613.6             | 7,767.0             | 7,762.5             | 131.3          | 14.1        | -102.05               | -4,394.5                          | 511.4      | 2,408.2              | 2,265.6               | 142.56                  | 16.893            |         |                    |        |
| 14,400.0                       | 7,613.9             | 7,770.5             | 7,766.0             | 133.2          | 14.1        | -102.48               | -4,394.6                          | 511.5      | 2,506.5              | 2,362.2               | 144.23                  | 17.379            |         |                    |        |
| 14,469.1                       | 7,614.0             | 7,772.8             | 7,768.4             | 134.5          | 14.1        | -102.77               | -4,394.7                          | 511.6      | 2,574.4              | 2,429.0               | 145.38                  | 17.708            |         |                    |        |



|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Existings Sec.32-T1N-R67W - Degenhart 4 (P&A) - Wellbore #1 - Wellbore #1 |         | Offset Site Error: 0.0 ft |  |
|------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|---------------------------------------------------------------------------|---------|---------------------------|--|
| Survey Program: 5201-UNKNOWN |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Well Error: 0.0 ft                                                 |         |                           |  |
| Reference                    |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                   |                                                                           | Warning |                           |  |
| Measured Depth (ft)          | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor |                                                                           |         |                           |  |
| 0.0                          | 0.0                 | 32.0                | 32.0                | 0.0             | 0.6         | 174.95                | -2,973.3                          | 262.5      | 2,984.9              | 2,984.2               | 0.64                    | 4,662.402         |                                                                           |         |                           |  |
| 100.0                        | 100.0               | 132.0               | 132.0               | 0.1             | 2.6         | 174.95                | -2,973.3                          | 262.5      | 2,984.9              | 2,982.1               | 2.75                    | 1,084.389         |                                                                           |         |                           |  |
| 200.0                        | 200.0               | 232.0               | 232.0               | 0.3             | 4.6         | 174.95                | -2,973.3                          | 262.5      | 2,984.9              | 2,979.9               | 4.98                    | 599.691           |                                                                           |         |                           |  |
| 300.0                        | 300.0               | 332.0               | 332.0               | 0.6             | 6.6         | 174.95                | -2,973.3                          | 262.5      | 2,984.9              | 2,977.7               | 7.20                    | 414.443           |                                                                           |         |                           |  |
| 400.0                        | 400.0               | 432.0               | 432.0               | 0.8             | 8.6         | 174.95                | -2,973.3                          | 262.5      | 2,984.9              | 2,975.4               | 9.43                    | 316.634           |                                                                           |         |                           |  |
| 500.0                        | 500.0               | 532.0               | 532.0               | 1.0             | 10.6        | 174.95                | -2,973.3                          | 262.5      | 2,984.9              | 2,973.2               | 11.65                   | 256.176           |                                                                           |         |                           |  |
| 600.0                        | 600.0               | 632.0               | 632.0               | 1.2             | 12.6        | 174.95                | -2,973.3                          | 262.5      | 2,984.9              | 2,971.0               | 13.88                   | 215.104           |                                                                           |         |                           |  |
| 700.0                        | 700.0               | 732.0               | 732.0               | 1.5             | 14.6        | 174.95                | -2,973.3                          | 262.5      | 2,984.9              | 2,968.8               | 16.10                   | 185.382           |                                                                           |         |                           |  |
| 800.0                        | 800.0               | 832.0               | 832.0               | 1.7             | 16.6        | 174.95                | -2,973.3                          | 262.5      | 2,984.9              | 2,966.5               | 18.33                   | 162.877           |                                                                           |         |                           |  |
| 900.0                        | 900.0               | 932.0               | 932.0               | 1.9             | 18.6        | 174.95                | -2,973.3                          | 262.5      | 2,984.9              | 2,964.3               | 20.55                   | 145.244           |                                                                           |         |                           |  |
| 1,000.0                      | 1,000.0             | 1,032.0             | 1,032.0             | 2.1             | 20.6        | 174.95                | -2,973.3                          | 262.5      | 2,984.9              | 2,962.1               | 22.78                   | 131.056           |                                                                           |         |                           |  |
| 1,100.0                      | 1,100.0             | 1,132.0             | 1,132.0             | 2.4             | 22.6        | 174.95                | -2,973.3                          | 262.5      | 2,984.9              | 2,959.9               | 25.00                   | 119.394           |                                                                           |         |                           |  |
| 1,200.0                      | 1,200.0             | 1,232.0             | 1,232.0             | 2.6             | 24.6        | 174.95                | -2,973.3                          | 262.5      | 2,984.9              | 2,957.6               | 27.22                   | 109.637           |                                                                           |         |                           |  |
| 1,300.0                      | 1,300.0             | 1,332.0             | 1,332.0             | 2.8             | 26.6        | 174.95                | -2,973.3                          | 262.5      | 2,984.9              | 2,955.4               | 29.45                   | 101.355           |                                                                           |         |                           |  |
| 1,400.0                      | 1,400.0             | 1,432.0             | 1,432.0             | 3.0             | 28.6        | 174.95                | -2,973.3                          | 262.5      | 2,984.9              | 2,953.2               | 31.67                   | 94.236            |                                                                           |         |                           |  |
| 1,500.0                      | 1,500.0             | 1,532.0             | 1,532.0             | 3.3             | 30.6        | 174.95                | -2,973.3                          | 262.5      | 2,984.9              | 2,951.0               | 33.90                   | 88.051            |                                                                           |         |                           |  |
| 1,600.0                      | 1,600.0             | 1,632.0             | 1,632.0             | 3.5             | 32.6        | 174.95                | -2,973.3                          | 262.5      | 2,984.9              | 2,948.7               | 36.12                   | 82.628            |                                                                           |         |                           |  |
| 1,700.0                      | 1,700.0             | 1,732.0             | 1,732.0             | 3.7             | 34.6        | 174.95                | -2,973.3                          | 262.5      | 2,984.9              | 2,946.5               | 38.35                   | 77.835            |                                                                           |         |                           |  |
| 1,800.0                      | 1,800.0             | 1,832.0             | 1,832.0             | 3.9             | 36.6        | 174.95                | -2,973.3                          | 262.5      | 2,984.9              | 2,944.3               | 40.57                   | 73.567            |                                                                           |         |                           |  |
| 1,900.0                      | 1,900.0             | 1,932.0             | 1,932.0             | 4.2             | 38.6        | 174.95                | -2,973.3                          | 262.5      | 2,984.9              | 2,942.1               | 42.80                   | 69.743            |                                                                           |         |                           |  |
| 2,000.0                      | 2,000.0             | 2,032.0             | 2,032.0             | 4.4             | 40.6        | 174.95                | -2,973.3                          | 262.5      | 2,984.9              | 2,939.8               | 45.02                   | 66.296            |                                                                           |         |                           |  |
| 2,100.0                      | 2,100.0             | 2,132.0             | 2,132.0             | 4.6             | 42.6        | 160.01                | -2,973.3                          | 262.5      | 2,986.5              | 2,939.3               | 47.22                   | 63.244            |                                                                           |         |                           |  |
| 2,200.0                      | 2,199.8             | 2,231.8             | 2,231.8             | 4.8             | 44.6        | 160.01                | -2,973.3                          | 262.5      | 2,991.4              | 2,942.1               | 49.36                   | 60.600            |                                                                           |         |                           |  |
| 2,300.0                      | 2,299.5             | 2,331.5             | 2,331.5             | 5.1             | 46.6        | 160.01                | -2,973.3                          | 262.5      | 2,999.6              | 2,948.2               | 51.44                   | 58.313            |                                                                           |         |                           |  |
| 2,400.0                      | 2,398.7             | 2,430.7             | 2,430.7             | 5.3             | 48.6        | 160.04                | -2,973.3                          | 262.5      | 3,010.9              | 2,957.4               | 53.52                   | 56.258            |                                                                           |         |                           |  |
| 2,500.0                      | 2,497.9             | 2,529.9             | 2,529.9             | 5.5             | 50.6        | 160.12                | -2,973.3                          | 262.5      | 3,022.9              | 2,967.1               | 55.72                   | 54.254            |                                                                           |         |                           |  |
| 2,600.0                      | 2,597.1             | 2,629.1             | 2,629.1             | 5.8             | 52.6        | 160.21                | -2,973.3                          | 262.5      | 3,034.8              | 2,976.9               | 57.92                   | 52.400            |                                                                           |         |                           |  |
| 2,700.0                      | 2,696.3             | 2,728.3             | 2,728.3             | 6.0             | 54.6        | 160.29                | -2,973.3                          | 262.5      | 3,046.8              | 2,986.7               | 60.12                   | 50.680            |                                                                           |         |                           |  |
| 2,800.0                      | 2,795.5             | 2,827.5             | 2,827.5             | 6.3             | 56.5        | 160.37                | -2,973.3                          | 262.5      | 3,058.8              | 2,996.5               | 62.32                   | 49.081            |                                                                           |         |                           |  |
| 2,900.0                      | 2,894.7             | 2,926.7             | 2,926.7             | 6.6             | 58.5        | 160.45                | -2,973.3                          | 262.5      | 3,070.8              | 3,006.3               | 64.53                   | 47.590            |                                                                           |         |                           |  |
| 3,000.0                      | 2,993.9             | 3,025.9             | 3,025.9             | 6.8             | 60.5        | 160.53                | -2,973.3                          | 262.5      | 3,082.8              | 3,016.1               | 66.73                   | 46.196            |                                                                           |         |                           |  |
| 3,100.0                      | 3,093.0             | 3,125.0             | 3,125.0             | 7.1             | 62.5        | 160.60                | -2,973.3                          | 262.5      | 3,094.8              | 3,025.8               | 68.94                   | 44.892            |                                                                           |         |                           |  |
| 3,200.0                      | 3,192.2             | 3,224.2             | 3,224.2             | 7.4             | 64.5        | 160.68                | -2,973.3                          | 262.5      | 3,106.8              | 3,035.7               | 71.15                   | 43.668            |                                                                           |         |                           |  |
| 3,300.0                      | 3,291.4             | 3,323.4             | 3,323.4             | 7.7             | 66.5        | 160.76                | -2,973.3                          | 262.5      | 3,118.8              | 3,045.5               | 73.35                   | 42.517            |                                                                           |         |                           |  |
| 3,400.0                      | 3,390.6             | 3,422.6             | 3,422.6             | 8.0             | 68.5        | 160.84                | -2,973.3                          | 262.5      | 3,130.8              | 3,055.3               | 75.56                   | 41.433            |                                                                           |         |                           |  |
| 3,500.0                      | 3,489.8             | 3,521.8             | 3,521.8             | 8.2             | 70.4        | 160.91                | -2,973.3                          | 262.5      | 3,142.9              | 3,065.1               | 77.77                   | 40.410            |                                                                           |         |                           |  |
| 3,600.0                      | 3,589.0             | 3,621.0             | 3,621.0             | 8.5             | 72.4        | 160.99                | -2,973.3                          | 262.5      | 3,154.9              | 3,074.9               | 79.98                   | 39.444            |                                                                           |         |                           |  |
| 3,700.0                      | 3,688.2             | 3,720.2             | 3,720.2             | 8.8             | 74.4        | 161.06                | -2,973.3                          | 262.5      | 3,166.9              | 3,084.7               | 82.19                   | 38.529            |                                                                           |         |                           |  |
| 3,800.0                      | 3,787.4             | 3,819.4             | 3,819.4             | 9.1             | 76.4        | 161.14                | -2,973.3                          | 262.5      | 3,179.0              | 3,094.6               | 84.41                   | 37.663            |                                                                           |         |                           |  |
| 3,900.0                      | 3,886.5             | 3,918.5             | 3,918.5             | 9.4             | 78.4        | 161.21                | -2,973.3                          | 262.5      | 3,191.0              | 3,104.4               | 86.62                   | 36.840            |                                                                           |         |                           |  |
| 4,000.0                      | 3,985.7             | 4,017.7             | 4,017.7             | 9.7             | 80.4        | 161.28                | -2,973.3                          | 262.5      | 3,203.1              | 3,114.2               | 88.83                   | 36.058            |                                                                           |         |                           |  |
| 4,100.0                      | 4,085.0             | 4,117.0             | 4,117.0             | 10.0            | 82.3        | 161.39                | -2,973.3                          | 262.5      | 3,214.7              | 3,123.5               | 91.19                   | 35.254            |                                                                           |         |                           |  |
| 4,200.0                      | 4,184.5             | 4,216.5             | 4,216.5             | 10.2            | 84.3        | 161.50                | -2,973.3                          | 262.5      | 3,223.5              | 3,129.9               | 93.60                   | 34.439            |                                                                           |         |                           |  |
| 4,300.0                      | 4,284.4             | 4,316.4             | 4,316.4             | 10.4            | 86.3        | 161.57                | -2,973.3                          | 262.5      | 3,229.0              | 3,133.1               | 95.92                   | 33.662            |                                                                           |         |                           |  |
| 4,400.0                      | 4,384.3             | 4,416.3             | 4,416.3             | 10.6            | 88.3        | 161.59                | -2,973.3                          | 262.5      | 3,231.2              | 3,133.0               | 98.15                   | 32.921            |                                                                           |         |                           |  |
| 4,500.0                      | 4,484.3             | 4,516.3             | 4,516.3             | 10.8            | 90.3        | 176.54                | -2,973.3                          | 262.5      | 3,231.2              | 3,130.9               | 100.34                  | 32.204            |                                                                           |         |                           |  |
| 4,600.0                      | 4,584.3             | 4,616.3             | 4,616.3             | 11.0            | 92.3        | 176.54                | -2,973.3                          | 262.5      | 3,231.2              | 3,128.6               | 102.55                  | 31.507            |                                                                           |         |                           |  |
| 4,700.0                      | 4,684.3             | 4,716.3             | 4,716.3             | 11.2            | 94.3        | 176.54                | -2,973.3                          | 262.5      | 3,231.2              | 3,126.4               | 104.77                  | 30.840            |                                                                           |         |                           |  |
| 4,800.0                      | 4,784.3             | 4,816.3             | 4,816.3             | 11.4            | 96.3        | 176.54                | -2,973.3                          | 262.5      | 3,231.2              | 3,124.2               | 106.99                  | 30.201            |                                                                           |         |                           |  |
| 4,900.0                      | 4,884.3             | 4,916.3             | 4,916.3             | 11.6            | 98.3        | 176.54                | -2,973.3                          | 262.5      | 3,231.2              | 3,122.0               | 109.21                  | 29.587            |                                                                           |         |                           |  |
| 5,000.0                      | 4,984.3             | 5,016.3             | 5,016.3             | 11.8            | 100.3       | 176.54                | -2,973.3                          | 262.5      | 3,231.2              | 3,119.8               | 111.43                  | 28.998            |                                                                           |         |                           |  |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Existings Sec.32-T1N-R67W - Degenhart 4 (P&A) - Wellbore #1 - Wellbore #1 |  | Offset Site Error: 0.0 ft |  |
|------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|---------------------------------------------------------------------------|--|---------------------------|--|
| Survey Program: 5201-UNKNOWN |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Well Error: 0.0 ft                                                 |  |                           |  |
| Reference                    |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                   |                                                                           |  |                           |  |
| Measured Depth (ft)          | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning                                                                   |  |                           |  |
| 5,100.0                      | 5,084.3             | 5,116.3             | 5,116.3             | 12.0            | 102.3       | 176.54                | -2,973.3                          | 262.5      | 3,231.2              | 3,117.6               | 113.65                  | 28.432            |                                                                           |  |                           |  |
| 5,160.6                      | 5,145.0             | 5,177.0             | 5,177.0             | 12.1            | 103.5       | 176.54                | -2,973.3                          | 262.5      | 3,231.2              | 3,116.2               | 114.99                  | 28.099            |                                                                           |  |                           |  |
| 5,200.0                      | 5,184.3             | 5,201.0             | 5,201.0             | 12.2            | 104.0       | 176.54                | -2,973.3                          | 262.5      | 3,231.2              | 3,115.7               | 115.56                  | 27.962            |                                                                           |  |                           |  |
| 5,300.0                      | 5,284.3             | 5,201.0             | 5,201.0             | 12.4            | 104.0       | 176.54                | -2,973.3                          | 262.5      | 3,233.3              | 3,117.5               | 115.78                  | 27.926            |                                                                           |  |                           |  |
| 5,400.0                      | 5,384.3             | 5,201.0             | 5,201.0             | 12.6            | 104.0       | 176.54                | -2,973.3                          | 262.5      | 3,238.4              | 3,122.4               | 116.00                  | 27.917 SF         |                                                                           |  |                           |  |
| 5,500.0                      | 5,484.3             | 5,201.0             | 5,201.0             | 12.8            | 104.0       | 176.54                | -2,973.3                          | 262.5      | 3,246.6              | 3,130.3               | 116.22                  | 27.935            |                                                                           |  |                           |  |
| 5,600.0                      | 5,584.3             | 5,201.0             | 5,201.0             | 13.0            | 104.0       | 176.54                | -2,973.3                          | 262.5      | 3,257.8              | 3,141.3               | 116.44                  | 27.978            |                                                                           |  |                           |  |
| 5,700.0                      | 5,684.3             | 5,201.0             | 5,201.0             | 13.2            | 104.0       | 176.54                | -2,973.3                          | 262.5      | 3,272.0              | 3,155.4               | 116.66                  | 28.048            |                                                                           |  |                           |  |
| 5,800.0                      | 5,784.3             | 5,201.0             | 5,201.0             | 13.4            | 104.0       | 176.54                | -2,973.3                          | 262.5      | 3,289.3              | 3,172.4               | 116.88                  | 28.142            |                                                                           |  |                           |  |
| 5,900.0                      | 5,884.3             | 5,201.0             | 5,201.0             | 13.6            | 104.0       | 176.54                | -2,973.3                          | 262.5      | 3,309.4              | 3,192.3               | 117.10                  | 28.261            |                                                                           |  |                           |  |
| 6,000.0                      | 5,984.3             | 5,201.0             | 5,201.0             | 13.9            | 104.0       | 176.54                | -2,973.3                          | 262.5      | 3,332.5              | 3,215.2               | 117.32                  | 28.405            |                                                                           |  |                           |  |
| 6,100.0                      | 6,084.3             | 5,201.0             | 5,201.0             | 14.1            | 104.0       | 176.54                | -2,973.3                          | 262.5      | 3,358.4              | 3,240.8               | 117.54                  | 28.571            |                                                                           |  |                           |  |
| 6,200.0                      | 6,184.3             | 5,201.0             | 5,201.0             | 14.3            | 104.0       | 176.54                | -2,973.3                          | 262.5      | 3,387.0              | 3,269.2               | 117.76                  | 28.761            |                                                                           |  |                           |  |
| 6,300.0                      | 6,284.3             | 5,201.0             | 5,201.0             | 14.5            | 104.0       | 176.54                | -2,973.3                          | 262.5      | 3,418.3              | 3,300.3               | 117.98                  | 28.972            |                                                                           |  |                           |  |
| 6,400.0                      | 6,384.3             | 5,201.0             | 5,201.0             | 14.7            | 104.0       | 176.54                | -2,973.3                          | 262.5      | 3,452.2              | 3,334.0               | 118.21                  | 29.205            |                                                                           |  |                           |  |
| 6,500.0                      | 6,484.3             | 5,201.0             | 5,201.0             | 14.9            | 104.0       | 176.54                | -2,973.3                          | 262.5      | 3,488.7              | 3,370.2               | 118.43                  | 29.458            |                                                                           |  |                           |  |
| 6,600.0                      | 6,584.3             | 5,201.0             | 5,201.0             | 15.1            | 104.0       | 176.54                | -2,973.3                          | 262.5      | 3,527.6              | 3,408.9               | 118.65                  | 29.731            |                                                                           |  |                           |  |
| 6,700.0                      | 6,684.3             | 5,201.0             | 5,201.0             | 15.3            | 104.0       | 176.54                | -2,973.3                          | 262.5      | 3,568.9              | 3,450.0               | 118.87                  | 30.023            |                                                                           |  |                           |  |
| 6,800.0                      | 6,784.3             | 5,201.0             | 5,201.0             | 15.6            | 104.0       | 176.54                | -2,973.3                          | 262.5      | 3,612.5              | 3,493.4               | 119.09                  | 30.334            |                                                                           |  |                           |  |
| 6,900.0                      | 6,884.3             | 5,201.0             | 5,201.0             | 15.7            | 104.0       | -3.36                 | -2,973.3                          | 262.5      | 3,657.0              | 3,537.9               | 119.05                  | 30.719            |                                                                           |  |                           |  |
| 7,000.0                      | 6,983.4             | 5,201.0             | 5,201.0             | 15.9            | 104.0       | -3.19                 | -2,973.3                          | 262.5      | 3,693.4              | 3,576.2               | 117.22                  | 31.509            |                                                                           |  |                           |  |
| 7,100.0                      | 7,080.0             | 5,201.0             | 5,201.0             | 15.9            | 104.0       | -3.08                 | -2,973.3                          | 262.5      | 3,719.9              | 3,606.4               | 113.44                  | 32.791            |                                                                           |  |                           |  |
| 7,200.0                      | 7,172.5             | 5,201.0             | 5,201.0             | 15.9            | 104.0       | -3.01                 | -2,973.3                          | 262.5      | 3,736.2              | 3,628.4               | 107.80                  | 34.659            |                                                                           |  |                           |  |
| 7,300.0                      | 7,259.1             | 5,201.0             | 5,201.0             | 16.0            | 104.0       | -2.99                 | -2,973.3                          | 262.5      | 3,742.1              | 3,641.7               | 100.40                  | 37.273            |                                                                           |  |                           |  |
| 7,400.0                      | 7,338.6             | 5,201.0             | 5,201.0             | 16.0            | 104.0       | -3.01                 | -2,973.3                          | 262.5      | 3,737.6              | 3,646.2               | 91.40                   | 40.893            |                                                                           |  |                           |  |
| 7,500.0                      | 7,409.5             | 5,201.0             | 5,201.0             | 16.1            | 104.0       | -3.07                 | -2,973.3                          | 262.5      | 3,722.8              | 3,641.8               | 81.01                   | 45.957            |                                                                           |  |                           |  |
| 7,600.0                      | 7,470.5             | 5,201.0             | 5,201.0             | 16.4            | 104.0       | -3.17                 | -2,973.3                          | 262.5      | 3,697.8              | 3,628.4               | 69.46                   | 53.237            |                                                                           |  |                           |  |
| 7,700.0                      | 7,520.8             | 5,201.0             | 5,201.0             | 16.8            | 104.0       | -3.33                 | -2,973.3                          | 262.5      | 3,662.8              | 3,605.7               | 57.05                   | 64.203            |                                                                           |  |                           |  |
| 7,800.0                      | 7,559.3             | 5,201.0             | 5,201.0             | 17.4            | 104.0       | -3.56                 | -2,973.3                          | 262.5      | 3,618.1              | 3,574.0               | 44.14                   | 81.961            |                                                                           |  |                           |  |
| 7,900.0                      | 7,585.4             | 5,201.0             | 5,201.0             | 18.2            | 104.0       | -3.87                 | -2,973.3                          | 262.5      | 3,564.1              | 3,532.9               | 31.28                   | 113.942           |                                                                           |  |                           |  |
| 8,000.0                      | 7,598.8             | 5,201.0             | 5,201.0             | 19.1            | 104.0       | -4.30                 | -2,973.3                          | 262.5      | 3,501.4              | 3,481.3               | 20.15                   | 173.737           |                                                                           |  |                           |  |
| 8,100.0                      | 7,600.7             | 5,201.0             | 5,201.0             | 20.1            | 104.0       | -4.58                 | -2,973.3                          | 262.5      | 3,431.7              | 3,413.5               | 18.27                   | 187.855           |                                                                           |  |                           |  |
| 8,200.0                      | 7,600.9             | 5,201.0             | 5,201.0             | 21.3            | 104.0       | -4.58                 | -2,973.3                          | 262.5      | 3,362.3              | 3,343.6               | 18.67                   | 180.093           |                                                                           |  |                           |  |
| 8,300.0                      | 7,601.1             | 5,201.0             | 5,201.0             | 22.5            | 104.0       | -4.58                 | -2,973.3                          | 262.5      | 3,294.4              | 3,275.3               | 19.11                   | 172.408           |                                                                           |  |                           |  |
| 8,400.0                      | 7,601.3             | 5,201.0             | 5,201.0             | 23.9            | 104.0       | -4.58                 | -2,973.3                          | 262.5      | 3,228.2              | 3,208.7               | 19.58                   | 164.879           |                                                                           |  |                           |  |
| 8,500.0                      | 7,601.5             | 5,201.0             | 5,201.0             | 25.3            | 104.0       | -4.58                 | -2,973.3                          | 262.5      | 3,163.8              | 3,143.8               | 20.08                   | 157.567           |                                                                           |  |                           |  |
| 8,600.0                      | 7,601.7             | 5,201.0             | 5,201.0             | 26.8            | 104.0       | -4.58                 | -2,973.3                          | 262.5      | 3,101.3              | 3,080.7               | 20.60                   | 150.519           |                                                                           |  |                           |  |
| 8,700.0                      | 7,601.9             | 5,201.0             | 5,201.0             | 28.3            | 104.0       | -4.58                 | -2,973.3                          | 262.5      | 3,040.8              | 3,019.7               | 21.15                   | 143.766           |                                                                           |  |                           |  |
| 8,800.0                      | 7,602.1             | 5,201.0             | 5,201.0             | 29.9            | 104.0       | -4.58                 | -2,973.3                          | 262.5      | 2,982.4              | 2,960.7               | 21.72                   | 137.328           |                                                                           |  |                           |  |
| 8,900.0                      | 7,602.3             | 5,201.0             | 5,201.0             | 31.5            | 104.0       | -4.58                 | -2,973.3                          | 262.5      | 2,926.3              | 2,904.0               | 22.30                   | 131.219           |                                                                           |  |                           |  |
| 9,000.0                      | 7,602.5             | 5,201.0             | 5,201.0             | 33.1            | 104.0       | -4.58                 | -2,973.3                          | 262.5      | 2,872.5              | 2,849.6               | 22.90                   | 125.444           |                                                                           |  |                           |  |
| 9,100.0                      | 7,602.8             | 5,201.0             | 5,201.0             | 34.8            | 104.0       | -4.58                 | -2,973.3                          | 262.5      | 2,821.3              | 2,797.8               | 23.51                   | 120.002           |                                                                           |  |                           |  |
| 9,200.0                      | 7,603.0             | 5,201.0             | 5,201.0             | 36.5            | 104.0       | -4.58                 | -2,973.3                          | 262.5      | 2,772.7              | 2,748.6               | 24.13                   | 114.891           |                                                                           |  |                           |  |
| 9,300.0                      | 7,603.2             | 5,201.0             | 5,201.0             | 38.2            | 104.0       | -4.58                 | -2,973.3                          | 262.5      | 2,726.9              | 2,702.2               | 24.77                   | 110.105           |                                                                           |  |                           |  |
| 9,400.0                      | 7,603.4             | 5,201.0             | 5,201.0             | 40.0            | 104.0       | -4.58                 | -2,973.3                          | 262.5      | 2,684.1              | 2,658.7               | 25.41                   | 105.635           |                                                                           |  |                           |  |
| 9,500.0                      | 7,603.6             | 5,201.0             | 5,201.0             | 41.7            | 104.0       | -4.58                 | -2,973.3                          | 262.5      | 2,644.4              | 2,618.3               | 26.06                   | 101.473           |                                                                           |  |                           |  |
| 9,600.0                      | 7,603.8             | 5,201.0             | 5,201.0             | 43.5            | 104.0       | -4.58                 | -2,973.3                          | 262.5      | 2,607.9              | 2,581.2               | 26.72                   | 97.607            |                                                                           |  |                           |  |
| 9,700.0                      | 7,604.0             | 5,201.0             | 5,201.0             | 45.2            | 104.0       | -4.58                 | -2,973.3                          | 262.5      | 2,574.8              | 2,547.4               | 27.38                   | 94.028            |                                                                           |  |                           |  |
| 9,800.0                      | 7,604.2             | 5,201.0             | 5,201.0             | 47.0            | 104.0       | -4.58                 | -2,973.3                          | 262.5      | 2,545.1              | 2,517.1               | 28.05                   | 90.724            |                                                                           |  |                           |  |
| 9,900.0                      | 7,604.4             | 5,201.0             | 5,201.0             | 48.8            | 104.0       | -4.58                 | -2,973.3                          | 262.5      | 2,519.1              | 2,490.4               | 28.73                   | 87.685            |                                                                           |  |                           |  |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                |                |                |                |                 |        |                   |                        |            |                 |                  |                    |                   | Existings Sec.32-T1N-R67W - Degenhart 4 (P&A) - Wellbore #1 - Wellbore #1 |         | Offset Site Error: |  | 0.0 ft |
|------------------------------|----------------|----------------|----------------|-----------------|--------|-------------------|------------------------|------------|-----------------|------------------|--------------------|-------------------|---------------------------------------------------------------------------|---------|--------------------|--|--------|
| Survey Program: 5201-UNKNOWN |                |                |                |                 |        |                   |                        |            |                 |                  |                    |                   | Offset Well Error:                                                        |         | 0.0 ft             |  |        |
| Reference                    |                | Offset         |                | Semi Major Axis |        |                   | Distance               |            |                 |                  |                    |                   |                                                                           | Warning |                    |  |        |
| Measured Depth               | Vertical Depth | Measured Depth | Vertical Depth | Reference       | Offset | Highside Toolface | Offset Wellbore Centre |            | Between Centres | Between Ellipses | Minimum Separation | Separation Factor |                                                                           |         |                    |  |        |
| (ft)                         | (ft)           | (ft)           | (ft)           | (ft)            | (ft)   | (°)               | +N/-S (ft)             | +E/-W (ft) | (ft)            | (ft)             | (ft)               |                   |                                                                           |         |                    |  |        |
| 10,000.0                     | 7,604.6        | 5,201.0        | 5,201.0        | 50.6            | 104.0  | -4.58             | -2,973.3               | 262.5      | 2,496.9         | 2,467.4          | 29.41              | 84.898            |                                                                           |         |                    |  |        |
| 10,100.0                     | 7,604.8        | 5,201.0        | 5,201.0        | 52.5            | 104.0  | -4.58             | -2,973.3               | 262.5      | 2,478.4         | 2,448.3          | 30.10              | 82.353            |                                                                           |         |                    |  |        |
| 10,200.0                     | 7,605.1        | 5,201.0        | 5,201.0        | 54.3            | 104.0  | -4.58             | -2,973.3               | 262.5      | 2,463.9         | 2,433.1          | 30.78              | 80.039            |                                                                           |         |                    |  |        |
| 10,300.0                     | 7,605.3        | 5,201.0        | 5,201.0        | 56.1            | 104.0  | -4.58             | -2,973.3               | 262.5      | 2,453.4         | 2,421.9          | 31.48              | 77.943            |                                                                           |         |                    |  |        |
| 10,400.0                     | 7,605.5        | 5,201.0        | 5,201.0        | 57.9            | 104.0  | -4.58             | -2,973.3               | 262.5      | 2,446.9         | 2,414.8          | 32.17              | 76.056            |                                                                           |         |                    |  |        |
| 10,500.0                     | 7,605.7        | 5,201.0        | 5,201.0        | 59.8            | 104.0  | -4.58             | -2,973.3               | 262.5      | 2,444.5         | 2,411.7          | 32.87              | 74.366            |                                                                           |         |                    |  |        |
| 10,508.5                     | 7,605.7        | 5,201.0        | 5,201.0        | 59.9            | 104.0  | -4.58             | -2,973.3               | 262.5      | 2,444.5         | 2,411.6          | 32.93              | 74.231 CC, ES     |                                                                           |         |                    |  |        |
| 10,600.0                     | 7,605.9        | 5,201.0        | 5,201.0        | 61.6            | 104.0  | -4.58             | -2,973.3               | 262.5      | 2,446.2         | 2,412.7          | 33.57              | 72.863            |                                                                           |         |                    |  |        |
| 10,700.0                     | 7,606.1        | 5,201.0        | 5,201.0        | 63.5            | 104.0  | -4.58             | -2,973.3               | 262.5      | 2,452.0         | 2,417.7          | 34.28              | 71.534            |                                                                           |         |                    |  |        |
| 10,800.0                     | 7,606.3        | 5,201.0        | 5,201.0        | 65.3            | 104.0  | -4.58             | -2,973.3               | 262.5      | 2,461.8         | 2,426.9          | 34.98              | 70.370            |                                                                           |         |                    |  |        |
| 10,900.0                     | 7,606.5        | 5,201.0        | 5,201.0        | 67.2            | 104.0  | -4.58             | -2,973.3               | 262.5      | 2,475.7         | 2,440.0          | 35.69              | 69.361            |                                                                           |         |                    |  |        |
| 11,000.0                     | 7,606.7        | 5,201.0        | 5,201.0        | 69.0            | 104.0  | -4.58             | -2,973.3               | 262.5      | 2,493.4         | 2,457.0          | 36.40              | 68.495            |                                                                           |         |                    |  |        |
| 11,100.0                     | 7,606.9        | 5,201.0        | 5,201.0        | 70.9            | 104.0  | -4.58             | -2,973.3               | 262.5      | 2,515.1         | 2,477.9          | 37.12              | 67.762            |                                                                           |         |                    |  |        |
| 11,200.0                     | 7,607.2        | 5,201.0        | 5,201.0        | 72.8            | 104.0  | -4.58             | -2,973.3               | 262.5      | 2,540.4         | 2,502.6          | 37.83              | 67.154            |                                                                           |         |                    |  |        |
| 11,300.0                     | 7,607.4        | 5,201.0        | 5,201.0        | 74.6            | 104.0  | -4.58             | -2,973.3               | 262.5      | 2,569.5         | 2,530.9          | 38.55              | 66.660            |                                                                           |         |                    |  |        |
| 11,400.0                     | 7,607.6        | 5,201.0        | 5,201.0        | 76.5            | 104.0  | -4.58             | -2,973.3               | 262.5      | 2,602.0         | 2,562.7          | 39.26              | 66.270            |                                                                           |         |                    |  |        |
| 11,500.0                     | 7,607.8        | 5,201.0        | 5,201.0        | 78.4            | 104.0  | -4.58             | -2,973.3               | 262.5      | 2,637.9         | 2,598.0          | 39.98              | 65.978            |                                                                           |         |                    |  |        |
| 11,600.0                     | 7,608.0        | 5,201.0        | 5,201.0        | 80.2            | 104.0  | -4.58             | -2,973.3               | 262.5      | 2,677.1         | 2,636.4          | 40.70              | 65.774            |                                                                           |         |                    |  |        |
| 11,700.0                     | 7,608.2        | 5,201.0        | 5,201.0        | 82.1            | 104.0  | -4.58             | -2,973.3               | 262.5      | 2,719.4         | 2,678.0          | 41.42              | 65.650            |                                                                           |         |                    |  |        |
| 11,800.0                     | 7,608.4        | 5,201.0        | 5,201.0        | 84.0            | 104.0  | -4.58             | -2,973.3               | 262.5      | 2,764.7         | 2,722.6          | 42.15              | 65.599            |                                                                           |         |                    |  |        |
| 11,900.0                     | 7,608.6        | 5,201.0        | 5,201.0        | 85.9            | 104.0  | -4.58             | -2,973.3               | 262.5      | 2,812.8         | 2,769.9          | 42.87              | 65.614            |                                                                           |         |                    |  |        |
| 12,000.0                     | 7,608.8        | 5,201.0        | 5,201.0        | 87.7            | 104.0  | -4.58             | -2,973.3               | 262.5      | 2,863.6         | 2,820.0          | 43.59              | 65.689            |                                                                           |         |                    |  |        |
| 12,100.0                     | 7,609.0        | 5,201.0        | 5,201.0        | 89.6            | 104.0  | -4.58             | -2,973.3               | 262.5      | 2,916.9         | 2,872.6          | 44.32              | 65.817            |                                                                           |         |                    |  |        |
| 12,200.0                     | 7,609.2        | 5,201.0        | 5,201.0        | 91.5            | 104.0  | -4.58             | -2,973.3               | 262.5      | 2,972.7         | 2,927.6          | 45.04              | 65.994            |                                                                           |         |                    |  |        |
| 12,300.0                     | 7,609.5        | 5,201.0        | 5,201.0        | 93.4            | 104.0  | -4.58             | -2,973.3               | 262.5      | 3,030.7         | 2,984.9          | 45.77              | 66.213            |                                                                           |         |                    |  |        |
| 12,400.0                     | 7,609.7        | 5,201.0        | 5,201.0        | 95.3            | 104.0  | -4.58             | -2,973.3               | 262.5      | 3,090.8         | 3,044.3          | 46.50              | 66.470            |                                                                           |         |                    |  |        |
| 12,500.0                     | 7,609.9        | 5,201.0        | 5,201.0        | 97.2            | 104.0  | -4.58             | -2,973.3               | 262.5      | 3,153.0         | 3,105.8          | 47.23              | 66.762            |                                                                           |         |                    |  |        |
| 12,600.0                     | 7,610.1        | 5,201.0        | 5,201.0        | 99.1            | 104.0  | -4.58             | -2,973.3               | 262.5      | 3,217.1         | 3,169.2          | 47.96              | 67.083            |                                                                           |         |                    |  |        |
| 12,700.0                     | 7,610.3        | 5,201.0        | 5,201.0        | 100.9           | 104.0  | -4.58             | -2,973.3               | 262.5      | 3,283.0         | 3,234.3          | 48.69              | 67.431            |                                                                           |         |                    |  |        |
| 12,800.0                     | 7,610.5        | 5,201.0        | 5,201.0        | 102.8           | 104.0  | -4.58             | -2,973.3               | 262.5      | 3,350.6         | 3,301.2          | 49.42              | 67.802            |                                                                           |         |                    |  |        |
| 12,900.0                     | 7,610.7        | 5,201.0        | 5,201.0        | 104.7           | 104.0  | -4.58             | -2,973.3               | 262.5      | 3,419.8         | 3,369.6          | 50.15              | 68.193            |                                                                           |         |                    |  |        |
| 13,000.0                     | 7,610.9        | 5,201.0        | 5,201.0        | 106.6           | 104.0  | -4.58             | -2,973.3               | 262.5      | 3,490.4         | 3,439.5          | 50.88              | 68.601            |                                                                           |         |                    |  |        |
| 13,100.0                     | 7,611.1        | 5,201.0        | 5,201.0        | 108.5           | 104.0  | -4.58             | -2,973.3               | 262.5      | 3,562.5         | 3,510.9          | 51.61              | 69.024            |                                                                           |         |                    |  |        |
| 13,200.0                     | 7,611.3        | 5,201.0        | 5,201.0        | 110.4           | 104.0  | -4.58             | -2,973.3               | 262.5      | 3,635.9         | 3,583.5          | 52.35              | 69.460            |                                                                           |         |                    |  |        |
| 13,300.0                     | 7,611.6        | 5,201.0        | 5,201.0        | 112.3           | 104.0  | -4.58             | -2,973.3               | 262.5      | 3,710.5         | 3,657.4          | 53.08              | 69.907            |                                                                           |         |                    |  |        |
| 13,400.0                     | 7,611.8        | 5,201.0        | 5,201.0        | 114.2           | 104.0  | -4.58             | -2,973.3               | 262.5      | 3,786.3         | 3,732.5          | 53.81              | 70.362            |                                                                           |         |                    |  |        |
| 13,500.0                     | 7,612.0        | 5,201.0        | 5,201.0        | 116.1           | 104.0  | -4.58             | -2,973.3               | 262.5      | 3,863.2         | 3,808.7          | 54.55              | 70.825            |                                                                           |         |                    |  |        |
| 13,600.0                     | 7,612.2        | 5,201.0        | 5,201.0        | 118.0           | 104.0  | -4.58             | -2,973.3               | 262.5      | 3,941.2         | 3,885.9          | 55.28              | 71.294            |                                                                           |         |                    |  |        |
| 13,700.0                     | 7,612.4        | 5,201.0        | 5,201.0        | 119.9           | 104.0  | -4.58             | -2,973.3               | 262.5      | 4,020.1         | 3,964.1          | 56.02              | 71.768            |                                                                           |         |                    |  |        |
| 13,800.0                     | 7,612.6        | 5,201.0        | 5,201.0        | 121.8           | 104.0  | -4.58             | -2,973.3               | 262.5      | 4,099.9         | 4,043.2          | 56.75              | 72.245            |                                                                           |         |                    |  |        |
| 13,900.0                     | 7,612.8        | 5,201.0        | 5,201.0        | 123.7           | 104.0  | -4.58             | -2,973.3               | 262.5      | 4,180.6         | 4,123.2          | 57.49              | 72.724            |                                                                           |         |                    |  |        |
| 14,000.0                     | 7,613.0        | 5,201.0        | 5,201.0        | 125.6           | 104.0  | -4.58             | -2,973.3               | 262.5      | 4,262.2         | 4,203.9          | 58.22              | 73.205            |                                                                           |         |                    |  |        |
| 14,100.0                     | 7,613.2        | 5,201.0        | 5,201.0        | 127.5           | 104.0  | -4.58             | -2,973.3               | 262.5      | 4,344.5         | 4,285.5          | 58.96              | 73.687            |                                                                           |         |                    |  |        |
| 14,200.0                     | 7,613.4        | 5,201.0        | 5,201.0        | 129.4           | 104.0  | -4.58             | -2,973.3               | 262.5      | 4,427.5         | 4,367.8          | 59.69              | 74.169            |                                                                           |         |                    |  |        |
| 14,300.0                     | 7,613.6        | 5,201.0        | 5,201.0        | 131.3           | 104.0  | -4.58             | -2,973.3               | 262.5      | 4,511.2         | 4,450.8          | 60.43              | 74.650            |                                                                           |         |                    |  |        |
| 14,400.0                     | 7,613.9        | 5,201.0        | 5,201.0        | 133.2           | 104.0  | -4.58             | -2,973.3               | 262.5      | 4,595.6         | 4,534.4          | 61.17              | 75.129            |                                                                           |         |                    |  |        |
| 14,469.1                     | 7,614.0        | 5,201.0        | 5,201.0        | 134.5           | 104.0  | -4.58             | -2,973.3               | 262.5      | 4,654.2         | 4,592.5          | 61.68              | 75.459            |                                                                           |         |                    |  |        |

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   | Offset Site Error: | 0.0 ft |
|------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|--------|
| Survey Program: 5220-UNKNOWN |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   | Offset Well Error: | 0.0 ft |
| Reference                    |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |                    |        |
| Offset                       |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |                    |        |
| Semi Major Axis              |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |                    |        |
| Distance                     |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |                    |        |
| Measured Depth (ft)          | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning            |        |
| 0.0                          | 0.0                 | 87.0                | 87.0                | 0.0            | 1.7         | 177.64                | -6,776.1                          | 279.4      | 6,781.8              | 6,780.1               | 1.74                    | 3,897.171         |                    |        |
| 100.0                        | 100.0               | 187.0               | 187.0               | 0.1            | 3.7         | 177.64                | -6,776.1                          | 279.4      | 6,781.8              | 6,778.0               | 3.85                    | 1,760.340         |                    |        |
| 200.0                        | 200.0               | 287.0               | 287.0               | 0.3            | 5.7         | 177.64                | -6,776.1                          | 279.4      | 6,781.8              | 6,775.8               | 6.08                    | 1,115.923         |                    |        |
| 300.0                        | 300.0               | 387.0               | 387.0               | 0.6            | 7.7         | 177.64                | -6,776.1                          | 279.4      | 6,781.8              | 6,773.5               | 8.30                    | 816.883           |                    |        |
| 400.0                        | 400.0               | 487.0               | 487.0               | 0.8            | 9.7         | 177.64                | -6,776.1                          | 279.4      | 6,781.8              | 6,771.3               | 10.53                   | 644.242           |                    |        |
| 500.0                        | 500.0               | 587.0               | 587.0               | 1.0            | 11.7        | 177.64                | -6,776.1                          | 279.4      | 6,781.8              | 6,769.1               | 12.75                   | 531.842           |                    |        |
| 600.0                        | 600.0               | 687.0               | 687.0               | 1.2            | 13.7        | 177.64                | -6,776.1                          | 279.4      | 6,781.8              | 6,766.9               | 14.98                   | 452.836           |                    |        |
| 700.0                        | 700.0               | 787.0               | 787.0               | 1.5            | 15.7        | 177.64                | -6,776.1                          | 279.4      | 6,781.8              | 6,764.6               | 17.20                   | 394.267           |                    |        |
| 800.0                        | 800.0               | 887.0               | 887.0               | 1.7            | 17.7        | 177.64                | -6,776.1                          | 279.4      | 6,781.8              | 6,762.4               | 19.43                   | 349.113           |                    |        |
| 900.0                        | 900.0               | 987.0               | 987.0               | 1.9            | 19.7        | 177.64                | -6,776.1                          | 279.4      | 6,781.8              | 6,760.2               | 21.65                   | 313.239           |                    |        |
| 1,000.0                      | 1,000.0             | 1,087.0             | 1,087.0             | 2.1            | 21.7        | 177.64                | -6,776.1                          | 279.4      | 6,781.8              | 6,758.0               | 23.88                   | 284.051           |                    |        |
| 1,100.0                      | 1,100.0             | 1,187.0             | 1,187.0             | 2.4            | 23.7        | 177.64                | -6,776.1                          | 279.4      | 6,781.8              | 6,755.7               | 26.10                   | 259.839           |                    |        |
| 1,200.0                      | 1,200.0             | 1,287.0             | 1,287.0             | 2.6            | 25.7        | 177.64                | -6,776.1                          | 279.4      | 6,781.8              | 6,753.5               | 28.32                   | 239.430           |                    |        |
| 1,300.0                      | 1,300.0             | 1,387.0             | 1,387.0             | 2.8            | 27.7        | 177.64                | -6,776.1                          | 279.4      | 6,781.8              | 6,751.3               | 30.55                   | 221.994           |                    |        |
| 1,400.0                      | 1,400.0             | 1,487.0             | 1,487.0             | 3.0            | 29.7        | 177.64                | -6,776.1                          | 279.4      | 6,781.8              | 6,749.1               | 32.77                   | 206.925           |                    |        |
| 1,500.0                      | 1,500.0             | 1,587.0             | 1,587.0             | 3.3            | 31.7        | 177.64                | -6,776.1                          | 279.4      | 6,781.8              | 6,746.8               | 35.00                   | 193.771           |                    |        |
| 1,600.0                      | 1,600.0             | 1,687.0             | 1,687.0             | 3.5            | 33.7        | 177.64                | -6,776.1                          | 279.4      | 6,781.8              | 6,744.6               | 37.22                   | 182.190           |                    |        |
| 1,700.0                      | 1,700.0             | 1,787.0             | 1,787.0             | 3.7            | 35.7        | 177.64                | -6,776.1                          | 279.4      | 6,781.8              | 6,742.4               | 39.45                   | 171.915           |                    |        |
| 1,800.0                      | 1,800.0             | 1,887.0             | 1,887.0             | 3.9            | 37.7        | 177.64                | -6,776.1                          | 279.4      | 6,781.8              | 6,740.2               | 41.67                   | 162.737           |                    |        |
| 1,900.0                      | 1,900.0             | 1,987.0             | 1,987.0             | 4.2            | 39.7        | 177.64                | -6,776.1                          | 279.4      | 6,781.8              | 6,737.9               | 43.90                   | 154.490           |                    |        |
| 2,000.0                      | 2,000.0             | 2,087.0             | 2,087.0             | 4.4            | 41.7        | 177.64                | -6,776.1                          | 279.4      | 6,781.8              | 6,735.7               | 46.12                   | 147.038           |                    |        |
| 2,100.0                      | 2,100.0             | 2,187.0             | 2,187.0             | 4.6            | 43.7        | 162.69                | -6,776.1                          | 279.4      | 6,783.5              | 6,735.2               | 48.32                   | 140.385           |                    |        |
| 2,200.0                      | 2,199.8             | 2,286.8             | 2,286.8             | 4.8            | 45.7        | 162.67                | -6,776.1                          | 279.4      | 6,788.5              | 6,738.0               | 50.46                   | 134.538           |                    |        |
| 2,300.0                      | 2,299.5             | 2,386.5             | 2,386.5             | 5.1            | 47.7        | 162.65                | -6,776.1                          | 279.4      | 6,796.8              | 6,744.3               | 52.53                   | 129.398           |                    |        |
| 2,400.0                      | 2,398.7             | 2,485.7             | 2,485.7             | 5.3            | 49.7        | 162.63                | -6,776.1                          | 279.4      | 6,808.3              | 6,753.7               | 54.60                   | 124.696           |                    |        |
| 2,500.0                      | 2,497.9             | 2,584.9             | 2,584.9             | 5.5            | 51.7        | 162.67                | -6,776.1                          | 279.4      | 6,820.4              | 6,763.6               | 56.80                   | 120.086           |                    |        |
| 2,600.0                      | 2,597.1             | 2,684.1             | 2,684.1             | 5.8            | 53.7        | 162.70                | -6,776.1                          | 279.4      | 6,832.6              | 6,773.6               | 59.00                   | 115.816           |                    |        |
| 2,700.0                      | 2,696.3             | 2,783.3             | 2,783.3             | 6.0            | 55.7        | 162.73                | -6,776.1                          | 279.4      | 6,844.7              | 6,783.5               | 61.20                   | 111.849           |                    |        |
| 2,800.0                      | 2,795.5             | 2,882.5             | 2,882.5             | 6.3            | 57.6        | 162.76                | -6,776.1                          | 279.4      | 6,856.9              | 6,793.5               | 63.40                   | 108.155           |                    |        |
| 2,900.0                      | 2,894.7             | 2,981.7             | 2,981.7             | 6.6            | 59.6        | 162.79                | -6,776.1                          | 279.4      | 6,869.0              | 6,803.4               | 65.60                   | 104.708           |                    |        |
| 3,000.0                      | 2,993.9             | 3,080.9             | 3,080.9             | 6.8            | 61.6        | 162.82                | -6,776.1                          | 279.4      | 6,881.2              | 6,813.4               | 67.81                   | 101.483           |                    |        |
| 3,100.0                      | 3,093.0             | 3,180.0             | 3,180.0             | 7.1            | 63.6        | 162.85                | -6,776.1                          | 279.4      | 6,893.3              | 6,823.3               | 70.01                   | 98.459            |                    |        |
| 3,200.0                      | 3,192.2             | 3,279.2             | 3,279.2             | 7.4            | 65.6        | 162.89                | -6,776.1                          | 279.4      | 6,905.5              | 6,833.3               | 72.22                   | 95.620            |                    |        |
| 3,300.0                      | 3,291.4             | 3,378.4             | 3,378.4             | 7.7            | 67.6        | 162.92                | -6,776.1                          | 279.4      | 6,917.7              | 6,843.2               | 74.43                   | 92.947            |                    |        |
| 3,400.0                      | 3,390.6             | 3,477.6             | 3,477.6             | 8.0            | 69.6        | 162.95                | -6,776.1                          | 279.4      | 6,929.8              | 6,853.2               | 76.63                   | 90.428            |                    |        |
| 3,500.0                      | 3,489.8             | 3,576.8             | 3,576.8             | 8.2            | 71.5        | 162.98                | -6,776.1                          | 279.4      | 6,942.0              | 6,863.2               | 78.84                   | 88.049            |                    |        |
| 3,600.0                      | 3,589.0             | 3,676.0             | 3,676.0             | 8.5            | 73.5        | 163.01                | -6,776.1                          | 279.4      | 6,954.2              | 6,873.1               | 81.05                   | 85.799            |                    |        |
| 3,700.0                      | 3,688.2             | 3,775.2             | 3,775.2             | 8.8            | 75.5        | 163.04                | -6,776.1                          | 279.4      | 6,966.3              | 6,883.1               | 83.26                   | 83.668            |                    |        |
| 3,800.0                      | 3,787.4             | 3,874.4             | 3,874.4             | 9.1            | 77.5        | 163.07                | -6,776.1                          | 279.4      | 6,978.5              | 6,893.1               | 85.47                   | 81.647            |                    |        |
| 3,900.0                      | 3,886.5             | 3,973.5             | 3,973.5             | 9.4            | 79.5        | 163.10                | -6,776.1                          | 279.4      | 6,990.7              | 6,903.0               | 87.68                   | 79.727            |                    |        |
| 4,000.0                      | 3,985.7             | 4,072.7             | 4,072.7             | 9.7            | 81.5        | 163.13                | -6,776.1                          | 279.4      | 7,002.9              | 6,913.0               | 89.89                   | 77.901            |                    |        |
| 4,100.0                      | 4,085.0             | 4,172.0             | 4,172.0             | 10.0           | 83.4        | 163.19                | -6,776.1                          | 279.4      | 7,014.6              | 6,922.4               | 92.26                   | 76.035            |                    |        |
| 4,200.0                      | 4,184.5             | 4,271.5             | 4,271.5             | 10.2           | 85.4        | 163.27                | -6,776.1                          | 279.4      | 7,023.5              | 6,928.8               | 94.68                   | 74.184            |                    |        |
| 4,300.0                      | 4,284.4             | 4,371.4             | 4,371.4             | 10.4           | 87.4        | 163.31                | -6,776.1                          | 279.4      | 7,029.1              | 6,932.0               | 97.01                   | 72.460            |                    |        |
| 4,400.0                      | 4,384.3             | 4,471.3             | 4,471.3             | 10.6           | 89.4        | 163.33                | -6,776.1                          | 279.4      | 7,031.2              | 6,932.0               | 99.23                   | 70.857            |                    |        |
| 4,500.0                      | 4,484.3             | 4,571.3             | 4,571.3             | 10.8           | 91.4        | 178.27                | -6,776.1                          | 279.4      | 7,031.3              | 6,929.9               | 101.42                  | 69.328            |                    |        |
| 4,600.0                      | 4,584.3             | 4,671.3             | 4,671.3             | 11.0           | 93.4        | 178.27                | -6,776.1                          | 279.4      | 7,031.3              | 6,927.6               | 103.64                  | 67.844            |                    |        |
| 4,700.0                      | 4,684.3             | 4,771.3             | 4,771.3             | 11.2           | 95.4        | 178.27                | -6,776.1                          | 279.4      | 7,031.3              | 6,925.4               | 105.86                  | 66.423            |                    |        |
| 4,800.0                      | 4,784.3             | 4,871.3             | 4,871.3             | 11.4           | 97.4        | 178.27                | -6,776.1                          | 279.4      | 7,031.3              | 6,923.2               | 108.08                  | 65.059            |                    |        |
| 4,900.0                      | 4,884.3             | 4,971.3             | 4,971.3             | 11.6           | 99.4        | 178.27                | -6,776.1                          | 279.4      | 7,031.3              | 6,921.0               | 110.29                  | 63.750            |                    |        |
| 5,000.0                      | 4,984.3             | 5,071.3             | 5,071.3             | 11.8           | 101.4       | 178.27                | -6,776.1                          | 279.4      | 7,031.3              | 6,918.8               | 112.51                  | 62.493            |                    |        |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                |                     | Existings Sec.32-T1N-R67W - Degenhart 8 (P&A) - Wellbore #1 - Wellbore #1 |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Site Error: |                    | 0.0 ft |        |
|------------------------------|---------------------|---------------------------------------------------------------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|--------------------|--------|--------|
| Survey Program: 5220-UNKNOWN |                     |                                                                           |                     |                 |             |                       |                                   |            |                      |                       |                         |                   |                    | Offset Well Error: |        | 0.0 ft |
| Reference                    |                     | Offset                                                                    |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                   |                    | Warning            |        |        |
| Measured Depth (ft)          | Vertical Depth (ft) | Measured Depth (ft)                                                       | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor |                    |                    |        |        |
| 5,100.0                      | 5,084.3             | 5,171.3                                                                   | 5,171.3             | 12.0            | 103.4       | 178.27                | -6,776.1                          | 279.4      | 7,031.3              | 6,916.6               | 114.73                  | 61.284            |                    |                    |        |        |
| 5,131.5                      | 5,115.8             | 5,202.8                                                                   | 5,202.8             | 12.1            | 104.1       | 178.27                | -6,776.1                          | 279.4      | 7,031.3              | 6,915.9               | 115.43                  | 60.913            |                    |                    |        |        |
| 5,200.0                      | 5,184.3             | 5,220.0                                                                   | 5,220.0             | 12.2            | 104.4       | 178.27                | -6,776.1                          | 279.4      | 7,031.5              | 6,915.5               | 115.93                  | 60.655            |                    |                    |        |        |
| 5,300.0                      | 5,284.3             | 5,220.0                                                                   | 5,220.0             | 12.4            | 104.4       | 178.27                | -6,776.1                          | 279.4      | 7,032.9              | 6,916.8               | 116.15                  | 60.552            |                    |                    |        |        |
| 5,400.0                      | 5,384.3             | 5,220.0                                                                   | 5,220.0             | 12.6            | 104.4       | 178.27                | -6,776.1                          | 279.4      | 7,035.8              | 6,919.4               | 116.37                  | 60.462            |                    |                    |        |        |
| 5,500.0                      | 5,484.3             | 5,220.0                                                                   | 5,220.0             | 12.8            | 104.4       | 178.27                | -6,776.1                          | 279.4      | 7,040.1              | 6,923.5               | 116.59                  | 60.385            |                    |                    |        |        |
| 5,600.0                      | 5,584.3             | 5,220.0                                                                   | 5,220.0             | 13.0            | 104.4       | 178.27                | -6,776.1                          | 279.4      | 7,045.8              | 6,929.0               | 116.81                  | 60.320            |                    |                    |        |        |
| 5,700.0                      | 5,684.3             | 5,220.0                                                                   | 5,220.0             | 13.2            | 104.4       | 178.27                | -6,776.1                          | 279.4      | 7,052.9              | 6,935.8               | 117.03                  | 60.267            |                    |                    |        |        |
| 5,800.0                      | 5,784.3             | 5,220.0                                                                   | 5,220.0             | 13.4            | 104.4       | 178.27                | -6,776.1                          | 279.4      | 7,061.4              | 6,944.1               | 117.25                  | 60.226            |                    |                    |        |        |
| 5,900.0                      | 5,884.3             | 5,220.0                                                                   | 5,220.0             | 13.6            | 104.4       | 178.27                | -6,776.1                          | 279.4      | 7,071.3              | 6,953.8               | 117.47                  | 60.197            |                    |                    |        |        |
| 6,000.0                      | 5,984.3             | 5,220.0                                                                   | 5,220.0             | 13.9            | 104.4       | 178.27                | -6,776.1                          | 279.4      | 7,082.6              | 6,965.0               | 117.69                  | 60.181            |                    |                    |        |        |
| 6,100.0                      | 6,084.3             | 5,220.0                                                                   | 5,220.0             | 14.1            | 104.4       | 178.27                | -6,776.1                          | 279.4      | 7,095.4              | 6,977.4               | 117.91                  | 60.176            |                    |                    |        |        |
| 6,200.0                      | 6,184.3             | 5,220.0                                                                   | 5,220.0             | 14.3            | 104.4       | 178.27                | -6,776.1                          | 279.4      | 7,109.5              | 6,991.3               | 118.13                  | 60.182            |                    |                    |        |        |
| 6,300.0                      | 6,284.3             | 5,220.0                                                                   | 5,220.0             | 14.5            | 104.4       | 178.27                | -6,776.1                          | 279.4      | 7,124.9              | 7,006.6               | 118.35                  | 60.201            |                    |                    |        |        |
| 6,400.0                      | 6,384.3             | 5,220.0                                                                   | 5,220.0             | 14.7            | 104.4       | 178.27                | -6,776.1                          | 279.4      | 7,141.8              | 7,023.2               | 118.57                  | 60.230            |                    |                    |        |        |
| 6,500.0                      | 6,484.3             | 5,220.0                                                                   | 5,220.0             | 14.9            | 104.4       | 178.27                | -6,776.1                          | 279.4      | 7,160.0              | 7,041.2               | 118.80                  | 60.271            |                    |                    |        |        |
| 6,600.0                      | 6,584.3             | 5,220.0                                                                   | 5,220.0             | 15.1            | 104.4       | 178.27                | -6,776.1                          | 279.4      | 7,179.5              | 7,060.5               | 119.02                  | 60.323            |                    |                    |        |        |
| 6,700.0                      | 6,684.3             | 5,220.0                                                                   | 5,220.0             | 15.3            | 104.4       | 178.27                | -6,776.1                          | 279.4      | 7,200.4              | 7,081.2               | 119.24                  | 60.386            |                    |                    |        |        |
| 6,800.0                      | 6,784.3             | 5,220.0                                                                   | 5,220.0             | 15.6            | 104.4       | 178.27                | -6,776.1                          | 279.4      | 7,222.6              | 7,103.1               | 119.46                  | 60.460            |                    |                    |        |        |
| 6,900.0                      | 6,884.3             | 5,220.0                                                                   | 5,220.0             | 15.7            | 104.4       | -1.71                 | -6,776.1                          | 279.4      | 7,244.7              | 7,125.2               | 119.41                  | 60.668            |                    |                    |        |        |
| 7,000.0                      | 6,983.4             | 5,220.0                                                                   | 5,220.0             | 15.9            | 104.4       | -1.68                 | -6,776.1                          | 279.4      | 7,256.9              | 7,139.4               | 117.58                  | 61.721            |                    |                    |        |        |
| 7,100.0                      | 7,080.0             | 5,220.0                                                                   | 5,220.0             | 15.9            | 104.4       | -1.68                 | -6,776.1                          | 279.4      | 7,257.5              | 7,143.8               | 113.78                  | 63.785            |                    |                    |        |        |
| 7,200.0                      | 7,172.5             | 5,220.0                                                                   | 5,220.0             | 15.9            | 104.4       | -1.70                 | -6,776.1                          | 279.4      | 7,246.5              | 7,138.3               | 108.11                  | 67.030            |                    |                    |        |        |
| 7,300.0                      | 7,259.1             | 5,220.0                                                                   | 5,220.0             | 16.0            | 104.4       | -1.75                 | -6,776.1                          | 279.4      | 7,223.8              | 7,123.2               | 100.67                  | 71.757            |                    |                    |        |        |
| 7,400.0                      | 7,338.6             | 5,220.0                                                                   | 5,220.0             | 16.0            | 104.4       | -1.84                 | -6,776.1                          | 279.4      | 7,189.9              | 7,098.3               | 91.63                   | 78.470            |                    |                    |        |        |
| 7,500.0                      | 7,409.5             | 5,220.0                                                                   | 5,220.0             | 16.1            | 104.4       | -1.96                 | -6,776.1                          | 279.4      | 7,145.2              | 7,064.0               | 81.17                   | 88.024            |                    |                    |        |        |
| 7,600.0                      | 7,470.5             | 5,220.0                                                                   | 5,220.0             | 16.4            | 104.4       | -2.14                 | -6,776.1                          | 279.4      | 7,090.2              | 7,020.7               | 69.55                   | 101.943           |                    |                    |        |        |
| 7,700.0                      | 7,520.8             | 5,220.0                                                                   | 5,220.0             | 16.8            | 104.4       | -2.39                 | -6,776.1                          | 279.4      | 7,025.7              | 6,968.6               | 57.05                   | 123.148           |                    |                    |        |        |
| 7,800.0                      | 7,559.3             | 5,220.0                                                                   | 5,220.0             | 17.4            | 104.4       | -2.76                 | -6,776.1                          | 279.4      | 6,952.4              | 6,908.4               | 44.03                   | 157.896           |                    |                    |        |        |
| 7,900.0                      | 7,585.4             | 5,220.0                                                                   | 5,220.0             | 18.2            | 104.4       | -3.30                 | -6,776.1                          | 279.4      | 6,871.5              | 6,840.4               | 31.04                   | 221.355           |                    |                    |        |        |
| 8,000.0                      | 7,598.8             | 5,220.0                                                                   | 5,220.0             | 19.1            | 104.4       | -4.20                 | -6,776.1                          | 279.4      | 6,783.9              | 6,763.9               | 20.05                   | 338.421           |                    |                    |        |        |
| 8,100.0                      | 7,600.7             | 5,220.0                                                                   | 5,220.0             | 20.1            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 6,691.7              | 6,672.8               | 18.87                   | 354.633           |                    |                    |        |        |
| 8,200.0                      | 7,600.9             | 5,220.0                                                                   | 5,220.0             | 21.3            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 6,598.9              | 6,579.7               | 19.27                   | 342.405           |                    |                    |        |        |
| 8,300.0                      | 7,601.1             | 5,220.0                                                                   | 5,220.0             | 22.5            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 6,506.4              | 6,486.7               | 19.71                   | 330.069           |                    |                    |        |        |
| 8,400.0                      | 7,601.3             | 5,220.0                                                                   | 5,220.0             | 23.9            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 6,414.2              | 6,394.0               | 20.18                   | 317.770           |                    |                    |        |        |
| 8,500.0                      | 7,601.5             | 5,220.0                                                                   | 5,220.0             | 25.3            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 6,322.1              | 6,301.4               | 20.69                   | 305.620           |                    |                    |        |        |
| 8,600.0                      | 7,601.7             | 5,220.0                                                                   | 5,220.0             | 26.8            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 6,230.3              | 6,209.1               | 21.21                   | 293.708           |                    |                    |        |        |
| 8,700.0                      | 7,601.9             | 5,220.0                                                                   | 5,220.0             | 28.3            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 6,138.8              | 6,117.0               | 21.76                   | 282.098           |                    |                    |        |        |
| 8,800.0                      | 7,602.1             | 5,220.0                                                                   | 5,220.0             | 29.9            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 6,047.5              | 6,025.2               | 22.33                   | 270.835           |                    |                    |        |        |
| 8,900.0                      | 7,602.3             | 5,220.0                                                                   | 5,220.0             | 31.5            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 5,956.5              | 5,933.6               | 22.91                   | 259.951           |                    |                    |        |        |
| 9,000.0                      | 7,602.5             | 5,220.0                                                                   | 5,220.0             | 33.1            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 5,865.8              | 5,842.3               | 23.51                   | 249.461           |                    |                    |        |        |
| 9,100.0                      | 7,602.8             | 5,220.0                                                                   | 5,220.0             | 34.8            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 5,775.4              | 5,751.3               | 24.13                   | 239.375           |                    |                    |        |        |
| 9,200.0                      | 7,603.0             | 5,220.0                                                                   | 5,220.0             | 36.5            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 5,685.4              | 5,660.6               | 24.75                   | 229.694           |                    |                    |        |        |
| 9,300.0                      | 7,603.2             | 5,220.0                                                                   | 5,220.0             | 38.2            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 5,595.6              | 5,570.3               | 25.39                   | 220.413           |                    |                    |        |        |
| 9,400.0                      | 7,603.4             | 5,220.0                                                                   | 5,220.0             | 40.0            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 5,506.3              | 5,480.2               | 26.03                   | 211.523           |                    |                    |        |        |
| 9,500.0                      | 7,603.6             | 5,220.0                                                                   | 5,220.0             | 41.7            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 5,417.3              | 5,390.6               | 26.68                   | 203.015           |                    |                    |        |        |
| 9,600.0                      | 7,603.8             | 5,220.0                                                                   | 5,220.0             | 43.5            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 5,328.6              | 5,301.3               | 27.34                   | 194.875           |                    |                    |        |        |
| 9,700.0                      | 7,604.0             | 5,220.0                                                                   | 5,220.0             | 45.2            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 5,240.4              | 5,212.4               | 28.01                   | 187.089           |                    |                    |        |        |
| 9,800.0                      | 7,604.2             | 5,220.0                                                                   | 5,220.0             | 47.0            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 5,152.7              | 5,124.0               | 28.68                   | 179.643           |                    |                    |        |        |
| 9,900.0                      | 7,604.4             | 5,220.0                                                                   | 5,220.0             | 48.8            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 5,065.3              | 5,036.0               | 29.36                   | 172.523           |                    |                    |        |        |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                                                             |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Site Error: | 0.0 ft |
|---------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|---------|--------------------|--------|
| Survey Program: 5220-UNKNOWN                                              |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Well Error: | 0.0 ft |
| Existings Sec.32-T1N-R67W - Degenhart 8 (P&A) - Wellbore #1 - Wellbore #1 |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Reference                                                                 |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                   |         |                    |        |
| Measured Depth (ft)                                                       | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |                    |        |
| 10,000.0                                                                  | 7,604.6             | 5,220.0             | 5,220.0             | 50.6            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 4,978.5              | 4,948.5               | 30.04                   | 165.713           |         |                    |        |
| 10,100.0                                                                  | 7,604.8             | 5,220.0             | 5,220.0             | 52.5            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 4,892.2              | 4,861.4               | 30.73                   | 159.199           |         |                    |        |
| 10,200.0                                                                  | 7,605.1             | 5,220.0             | 5,220.0             | 54.3            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 4,806.4              | 4,774.9               | 31.42                   | 152.968           |         |                    |        |
| 10,300.0                                                                  | 7,605.3             | 5,220.0             | 5,220.0             | 56.1            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 4,721.1              | 4,689.0               | 32.12                   | 147.006           |         |                    |        |
| 10,400.0                                                                  | 7,605.5             | 5,220.0             | 5,220.0             | 57.9            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 4,636.4              | 4,603.6               | 32.81                   | 141.299           |         |                    |        |
| 10,500.0                                                                  | 7,605.7             | 5,220.0             | 5,220.0             | 59.8            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 4,552.4              | 4,518.9               | 33.51                   | 135.837           |         |                    |        |
| 10,600.0                                                                  | 7,605.9             | 5,220.0             | 5,220.0             | 61.6            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 4,469.0              | 4,434.8               | 34.22                   | 130.608           |         |                    |        |
| 10,700.0                                                                  | 7,606.1             | 5,220.0             | 5,220.0             | 63.5            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 4,386.3              | 4,351.4               | 34.92                   | 125.599           |         |                    |        |
| 10,800.0                                                                  | 7,606.3             | 5,220.0             | 5,220.0             | 65.3            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 4,304.4              | 4,268.7               | 35.63                   | 120.802           |         |                    |        |
| 10,900.0                                                                  | 7,606.5             | 5,220.0             | 5,220.0             | 67.2            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 4,223.2              | 4,186.8               | 36.34                   | 116.207           |         |                    |        |
| 11,000.0                                                                  | 7,606.7             | 5,220.0             | 5,220.0             | 69.0            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 4,142.8              | 4,105.8               | 37.05                   | 111.803           |         |                    |        |
| 11,100.0                                                                  | 7,606.9             | 5,220.0             | 5,220.0             | 70.9            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 4,063.3              | 4,025.6               | 37.77                   | 107.584           |         |                    |        |
| 11,200.0                                                                  | 7,607.2             | 5,220.0             | 5,220.0             | 72.8            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 3,984.8              | 3,946.3               | 38.49                   | 103.541           |         |                    |        |
| 11,300.0                                                                  | 7,607.4             | 5,220.0             | 5,220.0             | 74.6            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 3,907.2              | 3,868.0               | 39.20                   | 99.667            |         |                    |        |
| 11,400.0                                                                  | 7,607.6             | 5,220.0             | 5,220.0             | 76.5            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 3,830.7              | 3,790.7               | 39.92                   | 95.954            |         |                    |        |
| 11,500.0                                                                  | 7,607.8             | 5,220.0             | 5,220.0             | 78.4            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 3,755.2              | 3,714.6               | 40.64                   | 92.397            |         |                    |        |
| 11,600.0                                                                  | 7,608.0             | 5,220.0             | 5,220.0             | 80.2            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 3,681.0              | 3,639.6               | 41.36                   | 88.989            |         |                    |        |
| 11,700.0                                                                  | 7,608.2             | 5,220.0             | 5,220.0             | 82.1            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 3,608.0              | 3,565.9               | 42.09                   | 85.725            |         |                    |        |
| 11,800.0                                                                  | 7,608.4             | 5,220.0             | 5,220.0             | 84.0            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 3,536.2              | 3,493.4               | 42.81                   | 82.600            |         |                    |        |
| 11,900.0                                                                  | 7,608.6             | 5,220.0             | 5,220.0             | 85.9            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 3,465.9              | 3,422.4               | 43.54                   | 79.610            |         |                    |        |
| 12,000.0                                                                  | 7,608.8             | 5,220.0             | 5,220.0             | 87.7            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 3,397.1              | 3,352.9               | 44.26                   | 76.749            |         |                    |        |
| 12,100.0                                                                  | 7,609.0             | 5,220.0             | 5,220.0             | 89.6            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 3,329.9              | 3,284.9               | 44.99                   | 74.014            |         |                    |        |
| 12,200.0                                                                  | 7,609.2             | 5,220.0             | 5,220.0             | 91.5            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 3,264.4              | 3,218.6               | 45.72                   | 71.402            |         |                    |        |
| 12,300.0                                                                  | 7,609.5             | 5,220.0             | 5,220.0             | 93.4            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 3,200.6              | 3,154.1               | 46.45                   | 68.909            |         |                    |        |
| 12,400.0                                                                  | 7,609.7             | 5,220.0             | 5,220.0             | 95.3            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 3,138.7              | 3,091.5               | 47.18                   | 66.531            |         |                    |        |
| 12,500.0                                                                  | 7,609.9             | 5,220.0             | 5,220.0             | 97.2            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 3,078.9              | 3,030.9               | 47.91                   | 64.267            |         |                    |        |
| 12,600.0                                                                  | 7,610.1             | 5,220.0             | 5,220.0             | 99.1            | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 3,021.1              | 2,972.5               | 48.64                   | 62.114            |         |                    |        |
| 12,700.0                                                                  | 7,610.3             | 5,220.0             | 5,220.0             | 100.9           | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 2,965.6              | 2,916.2               | 49.37                   | 60.069            |         |                    |        |
| 12,800.0                                                                  | 7,610.5             | 5,220.0             | 5,220.0             | 102.8           | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 2,912.5              | 2,862.4               | 50.10                   | 58.131            |         |                    |        |
| 12,900.0                                                                  | 7,610.7             | 5,220.0             | 5,220.0             | 104.7           | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 2,861.9              | 2,811.0               | 50.83                   | 56.297            |         |                    |        |
| 13,000.0                                                                  | 7,610.9             | 5,220.0             | 5,220.0             | 106.6           | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 2,813.9              | 2,762.3               | 51.57                   | 54.567            |         |                    |        |
| 13,100.0                                                                  | 7,611.1             | 5,220.0             | 5,220.0             | 108.5           | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 2,768.7              | 2,716.4               | 52.30                   | 52.937            |         |                    |        |
| 13,200.0                                                                  | 7,611.3             | 5,220.0             | 5,220.0             | 110.4           | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 2,726.5              | 2,673.4               | 53.04                   | 51.407            |         |                    |        |
| 13,300.0                                                                  | 7,611.6             | 5,220.0             | 5,220.0             | 112.3           | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 2,687.3              | 2,633.5               | 53.77                   | 49.975            |         |                    |        |
| 13,400.0                                                                  | 7,611.8             | 5,220.0             | 5,220.0             | 114.2           | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 2,651.2              | 2,596.7               | 54.51                   | 48.640            |         |                    |        |
| 13,500.0                                                                  | 7,612.0             | 5,220.0             | 5,220.0             | 116.1           | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 2,618.6              | 2,563.3               | 55.24                   | 47.401            |         |                    |        |
| 13,600.0                                                                  | 7,612.2             | 5,220.0             | 5,220.0             | 118.0           | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 2,589.3              | 2,533.3               | 55.98                   | 46.255            |         |                    |        |
| 13,700.0                                                                  | 7,612.4             | 5,220.0             | 5,220.0             | 119.9           | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 2,563.7              | 2,506.9               | 56.72                   | 45.202            |         |                    |        |
| 13,800.0                                                                  | 7,612.6             | 5,220.0             | 5,220.0             | 121.8           | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 2,541.7              | 2,484.2               | 57.45                   | 44.239            |         |                    |        |
| 13,900.0                                                                  | 7,612.8             | 5,220.0             | 5,220.0             | 123.7           | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 2,523.5              | 2,465.3               | 58.19                   | 43.365            |         |                    |        |
| 14,000.0                                                                  | 7,613.0             | 5,220.0             | 5,220.0             | 125.6           | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 2,509.1              | 2,450.2               | 58.93                   | 42.579            |         |                    |        |
| 14,100.0                                                                  | 7,613.2             | 5,220.0             | 5,220.0             | 127.5           | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 2,498.7              | 2,439.0               | 59.67                   | 41.877            |         |                    |        |
| 14,200.0                                                                  | 7,613.4             | 5,220.0             | 5,220.0             | 129.4           | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 2,492.2              | 2,431.8               | 60.41                   | 41.258            |         |                    |        |
| 14,300.0                                                                  | 7,613.6             | 5,220.0             | 5,220.0             | 131.3           | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 2,489.8              | 2,428.6               | 61.14                   | 40.720            |         |                    |        |
| 14,311.2                                                                  | 7,613.7             | 5,220.0             | 5,220.0             | 131.5           | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 2,489.7              | 2,428.5               | 61.23                   | 40.664 CC, ES     |         |                    |        |
| 14,400.0                                                                  | 7,613.9             | 5,220.0             | 5,220.0             | 133.2           | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 2,491.3              | 2,429.4               | 61.88                   | 40.259            |         |                    |        |
| 14,469.1                                                                  | 7,614.0             | 5,220.0             | 5,220.0             | 134.5           | 104.4       | -4.89                 | -6,776.1                          | 279.4      | 2,494.7              | 2,432.3               | 62.39                   | 39.984 SF         |         |                    |        |

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                                                                |                     |                     |                     |                                |                             |                       |                                   |                                   |                               |                                |                         |                   | Offset Site Error: | 0.0 ft |
|------------------------------------------------------------------------------|---------------------|---------------------|---------------------|--------------------------------|-----------------------------|-----------------------|-----------------------------------|-----------------------------------|-------------------------------|--------------------------------|-------------------------|-------------------|--------------------|--------|
| Survey Program: 15-MWD                                                       |                     |                     |                     |                                |                             |                       |                                   |                                   |                               |                                |                         |                   | Offset Well Error: | 0.0 ft |
| Reference                                                                    |                     |                     |                     |                                |                             |                       |                                   |                                   |                               |                                |                         |                   |                    |        |
| Existing Sec.32-T1N-R67W - Howard 24-32 (Exist.) - Wellbore #1 - Wellbore #1 |                     |                     |                     |                                |                             |                       |                                   |                                   |                               |                                |                         |                   |                    |        |
| Measured Depth (ft)                                                          | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Semi Major Axis Reference (ft) | Semi Major Axis Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | Offset Wellbore Centre +E/-W (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning            |        |
| 0.0                                                                          | 0.0                 | 2.0                 | 2.0                 | 0.0                            | 0.0                         | 33.00                 | 539.1                             | 350.2                             | 642.9                         |                                |                         |                   |                    |        |
| 100.0                                                                        | 100.0               | 104.7               | 104.7               | 0.1                            | 0.2                         | 33.00                 | 539.0                             | 350.0                             | 642.7                         | 642.4                          | 0.33                    | 1,941.356         |                    |        |
| 200.0                                                                        | 200.0               | 206.0               | 206.0               | 0.3                            | 0.4                         | 32.99                 | 538.6                             | 349.6                             | 642.1                         | 641.3                          | 0.77                    | 829.005           |                    |        |
| 300.0                                                                        | 300.0               | 306.9               | 306.9               | 0.6                            | 0.6                         | 33.01                 | 537.9                             | 349.5                             | 641.4                         | 640.2                          | 1.21                    | 530.079           |                    |        |
| 400.0                                                                        | 400.0               | 405.0               | 405.0               | 0.8                            | 0.9                         | 33.04                 | 537.1                             | 349.3                             | 640.7                         | 639.1                          | 1.64                    | 391.330           |                    |        |
| 495.6                                                                        | 495.6               | 497.6               | 497.6               | 1.0                            | 1.0                         | 33.06                 | 536.9                             | 349.4                             | 640.5                         | 638.5                          | 2.04                    | 314.193           |                    |        |
| 500.0                                                                        | 500.0               | 501.9               | 501.9               | 1.0                            | 1.0                         | 33.05                 | 536.9                             | 349.4                             | 640.5                         | 638.5                          | 2.06                    | 311.377           |                    |        |
| 600.0                                                                        | 600.0               | 602.1               | 602.1               | 1.2                            | 1.3                         | 33.05                 | 536.9                             | 349.3                             | 640.6                         | 638.1                          | 2.49                    | 257.456           |                    |        |
| 700.0                                                                        | 700.0               | 703.3               | 703.2               | 1.5                            | 1.5                         | 33.17                 | 536.1                             | 350.4                             | 640.5                         | 637.6                          | 2.93                    | 218.808           |                    |        |
| 800.0                                                                        | 800.0               | 805.1               | 805.1               | 1.7                            | 1.7                         | 33.34                 | 534.8                             | 351.8                             | 640.1                         | 636.7                          | 3.37                    | 189.830           |                    |        |
| 900.0                                                                        | 900.0               | 905.8               | 905.8               | 1.9                            | 1.9                         | 33.49                 | 533.4                             | 353.0                             | 639.6                         | 635.8                          | 3.81                    | 167.962           |                    |        |
| 1,000.0                                                                      | 1,000.0             | 1,006.0             | 1,005.9             | 2.1                            | 2.1                         | 33.52                 | 532.7                             | 352.8                             | 638.9                         | 634.7                          | 4.24                    | 150.762           |                    |        |
| 1,100.0                                                                      | 1,100.0             | 1,104.2             | 1,104.2             | 2.4                            | 2.3                         | 33.51                 | 532.3                             | 352.5                             | 638.5                         | 633.8                          | 4.66                    | 136.890           |                    |        |
| 1,200.0                                                                      | 1,200.0             | 1,202.2             | 1,202.1             | 2.6                            | 2.5                         | 33.46                 | 532.5                             | 351.9                             | 638.3                         | 633.2                          | 5.09                    | 125.381           |                    |        |
| 1,209.5                                                                      | 1,209.5             | 1,211.5             | 1,211.5             | 2.6                            | 2.5                         | 33.45                 | 532.6                             | 351.8                             | 638.3                         | 633.2                          | 5.13                    | 124.380           |                    |        |
| 1,300.0                                                                      | 1,300.0             | 1,300.9             | 1,300.8             | 2.8                            | 2.7                         | 33.36                 | 533.2                             | 351.1                             | 638.4                         | 632.8                          | 5.52                    | 115.587           |                    |        |
| 1,400.0                                                                      | 1,400.0             | 1,402.5             | 1,402.4             | 3.0                            | 2.9                         | 33.24                 | 534.0                             | 350.0                             | 638.4                         | 632.5                          | 5.96                    | 107.105           |                    |        |
| 1,500.0                                                                      | 1,500.0             | 1,505.9             | 1,505.8             | 3.3                            | 3.1                         | 33.11                 | 534.5                             | 348.6                             | 638.2                         | 631.8                          | 6.40                    | 99.646            |                    |        |
| 1,600.0                                                                      | 1,600.0             | 1,610.6             | 1,610.5             | 3.5                            | 3.4                         | 32.99                 | 534.3                             | 346.9                             | 637.1                         | 630.2                          | 6.85                    | 92.977            |                    |        |
| 1,700.0                                                                      | 1,700.0             | 1,708.1             | 1,707.9             | 3.7                            | 3.6                         | 32.88                 | 534.0                             | 345.1                             | 635.8                         | 628.5                          | 7.28                    | 87.313            |                    |        |
| 1,800.0                                                                      | 1,800.0             | 1,804.3             | 1,804.2             | 3.9                            | 3.8                         | 32.87                 | 533.6                             | 344.8                             | 635.3                         | 627.6                          | 7.71                    | 82.430            |                    |        |
| 1,900.0                                                                      | 1,900.0             | 1,903.6             | 1,903.5             | 4.2                            | 4.0                         | 32.84                 | 533.5                             | 344.4                             | 635.0                         | 626.9                          | 8.14                    | 78.008            |                    |        |
| 2,000.0                                                                      | 2,000.0             | 2,003.0             | 2,002.9             | 4.4                            | 4.2                         | 32.80                 | 533.6                             | 343.8                             | 634.8                         | 626.2                          | 8.58                    | 74.012            |                    |        |
| 2,100.0                                                                      | 2,100.0             | 2,103.7             | 2,103.6             | 4.6                            | 4.4                         | 17.86                 | 533.8                             | 343.2                             | 633.0                         | 624.0                          | 9.01                    | 70.271            |                    |        |
| 2,200.0                                                                      | 2,199.8             | 2,202.9             | 2,202.8             | 4.8                            | 4.6                         | 17.99                 | 533.9                             | 342.7                             | 627.8                         | 618.4                          | 9.42                    | 66.612            |                    |        |
| 2,300.0                                                                      | 2,299.5             | 2,303.4             | 2,303.3             | 5.1                            | 4.8                         | 18.24                 | 534.0                             | 342.1                             | 619.3                         | 609.4                          | 9.84                    | 62.937            |                    |        |
| 2,400.0                                                                      | 2,398.7             | 2,402.2             | 2,402.1             | 5.3                            | 5.0                         | 18.58                 | 534.1                             | 341.4                             | 607.6                         | 597.4                          | 10.25                   | 59.271            |                    |        |
| 2,500.0                                                                      | 2,497.9             | 2,500.4             | 2,500.3             | 5.5                            | 5.2                         | 18.95                 | 534.1                             | 341.2                             | 595.4                         | 584.7                          | 10.68                   | 55.760            |                    |        |
| 2,600.0                                                                      | 2,597.1             | 2,600.0             | 2,599.9             | 5.8                            | 5.4                         | 19.39                 | 533.9                             | 341.5                             | 583.4                         | 572.2                          | 11.11                   | 52.507            |                    |        |
| 2,700.0                                                                      | 2,696.3             | 2,700.9             | 2,700.7             | 6.0                            | 5.6                         | 19.95                 | 532.9                             | 342.3                             | 571.1                         | 559.5                          | 11.55                   | 49.448            |                    |        |
| 2,800.0                                                                      | 2,795.5             | 2,797.5             | 2,797.4             | 6.3                            | 5.8                         | 20.53                 | 531.9                             | 343.4                             | 558.9                         | 546.9                          | 11.98                   | 46.644            |                    |        |
| 2,900.0                                                                      | 2,894.7             | 2,894.8             | 2,894.6             | 6.6                            | 6.1                         | 21.11                 | 531.4                             | 344.4                             | 547.2                         | 534.8                          | 12.42                   | 44.056            |                    |        |
| 3,000.0                                                                      | 2,993.9             | 2,991.5             | 2,991.3             | 6.8                            | 6.3                         | 21.68                 | 531.3                             | 345.5                             | 535.9                         | 523.1                          | 12.86                   | 41.671            |                    |        |
| 3,100.0                                                                      | 3,093.0             | 3,086.8             | 3,086.6             | 7.1                            | 6.5                         | 22.24                 | 531.9                             | 346.7                             | 525.3                         | 512.0                          | 13.30                   | 39.498            |                    |        |
| 3,200.0                                                                      | 3,192.2             | 3,184.9             | 3,184.8             | 7.4                            | 6.7                         | 22.81                 | 533.0                             | 348.0                             | 515.3                         | 501.6                          | 13.75                   | 37.479            |                    |        |
| 3,300.0                                                                      | 3,291.4             | 3,284.2             | 3,283.9             | 7.7                            | 6.9                         | 23.37                 | 534.5                             | 349.2                             | 505.5                         | 491.3                          | 14.20                   | 35.591            |                    |        |
| 3,400.0                                                                      | 3,390.6             | 3,384.4             | 3,384.2             | 8.0                            | 7.1                         | 23.90                 | 536.2                             | 349.9                             | 495.6                         | 481.0                          | 14.66                   | 33.810            |                    |        |
| 3,500.0                                                                      | 3,489.8             | 3,494.0             | 3,493.8             | 8.2                            | 7.3                         | 24.48                 | 537.4                             | 349.9                             | 484.8                         | 469.7                          | 15.13                   | 32.034            |                    |        |
| 3,600.0                                                                      | 3,589.0             | 3,590.5             | 3,590.3             | 8.5                            | 7.5                         | 25.09                 | 537.4                             | 349.7                             | 473.1                         | 457.6                          | 15.58                   | 30.364            |                    |        |
| 3,700.0                                                                      | 3,688.2             | 3,692.0             | 3,691.7             | 8.8                            | 7.7                         | 26.20                 | 535.1                             | 352.2                             | 461.5                         | 445.5                          | 16.04                   | 28.765            |                    |        |
| 3,800.0                                                                      | 3,787.4             | 3,791.8             | 3,791.2             | 9.1                            | 7.9                         | 27.86                 | 529.9                             | 357.5                             | 449.8                         | 433.3                          | 16.51                   | 27.238            |                    |        |
| 3,900.0                                                                      | 3,886.5             | 3,894.0             | 3,892.9             | 9.4                            | 8.2                         | 30.05                 | 522.2                             | 364.7                             | 438.1                         | 421.1                          | 17.01                   | 25.761            |                    |        |
| 4,000.0                                                                      | 3,985.7             | 3,996.3             | 3,994.4             | 9.7                            | 8.4                         | 32.53                 | 512.7                             | 372.0                             | 425.8                         | 408.3                          | 17.51                   | 24.314            |                    |        |
| 4,100.0                                                                      | 4,085.0             | 4,092.6             | 4,090.0             | 10.0                           | 8.6                         | 34.98                 | 503.0                             | 378.9                             | 414.3                         | 396.2                          | 18.02                   | 22.990            |                    |        |
| 4,200.0                                                                      | 4,184.5             | 4,191.4             | 4,188.1             | 10.2                           | 8.8                         | 37.38                 | 493.0                             | 386.4                             | 406.3                         | 387.9                          | 18.50                   | 21.969            |                    |        |
| 4,300.0                                                                      | 4,284.4             | 4,285.1             | 4,280.9             | 10.4                           | 9.0                         | 39.48                 | 483.8                             | 393.7                             | 402.2                         | 383.3                          | 18.94                   | 21.235            |                    |        |
| 4,359.0                                                                      | 4,343.3             | 4,343.8             | 4,339.3             | 10.5                           | 9.2                         | 40.64                 | 478.5                             | 398.5                             | 401.7                         | 382.5                          | 19.20                   | 20.924 CC, ES     |                    |        |
| 4,400.0                                                                      | 4,384.3             | 4,385.3             | 4,380.4             | 10.6                           | 9.3                         | 41.40                 | 474.7                             | 401.8                             | 401.9                         | 382.6                          | 19.38                   | 20.743            |                    |        |
| 4,500.0                                                                      | 4,484.3             | 4,485.9             | 4,480.2             | 10.8                           | 9.5                         | 58.22                 | 464.4                             | 410.1                             | 403.3                         | 383.5                          | 19.83                   | 20.334            |                    |        |
| 4,600.0                                                                      | 4,584.3             | 4,582.9             | 4,576.2             | 11.0                           | 9.8                         | 60.15                 | 453.7                             | 418.7                             | 405.4                         | 385.1                          | 20.32                   | 19.953            |                    |        |
| 4,700.0                                                                      | 4,684.3             | 4,679.7             | 4,672.0             | 11.2                           | 10.0                        | 61.97                 | 443.7                             | 427.4                             | 408.2                         | 387.4                          | 20.79                   | 19.634            |                    |        |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                                                                |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Site Error: | 0.0 ft |
|------------------------------------------------------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|---------|--------------------|--------|
| Survey Program: 15-MWD                                                       |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Well Error: | 0.0 ft |
| Reference                                                                    |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Existing Sec.32-T1N-R67W - Howard 24-32 (Exist.) - Wellbore #1 - Wellbore #1 |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Semi Major Axis                                                              |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Distance                                                                     |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Measured Depth (ft)                                                          | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |                    |        |
| 4,800.0                                                                      | 4,784.3             | 4,773.3             | 4,764.9             | 11.4           | 10.3        | 63.54                 | 435.6                             | 436.2      | 412.6                | 391.4                 | 21.25                   | 19.415            |         |                    |        |
| 4,900.0                                                                      | 4,884.3             | 4,869.2             | 4,860.1             | 11.6           | 10.5        | 65.05                 | 428.2                             | 445.9      | 418.5                | 396.7                 | 21.72                   | 19.264            |         |                    |        |
| 5,000.0                                                                      | 4,984.3             | 4,969.6             | 4,959.6             | 11.8           | 10.8        | 66.62                 | 420.3                             | 456.5      | 424.9                | 402.7                 | 22.20                   | 19.138            |         |                    |        |
| 5,100.0                                                                      | 5,084.3             | 5,073.9             | 5,062.9             | 12.0           | 11.0        | 68.28                 | 411.2                             | 466.9      | 430.8                | 408.1                 | 22.69                   | 18.983            |         |                    |        |
| 5,200.0                                                                      | 5,184.3             | 5,177.0             | 5,165.2             | 12.2           | 11.3        | 69.86                 | 401.9                             | 476.0      | 435.9                | 412.7                 | 23.18                   | 18.807            |         |                    |        |
| 5,300.0                                                                      | 5,284.3             | 5,281.0             | 5,268.6             | 12.4           | 11.6        | 71.18                 | 394.0                             | 483.8      | 440.4                | 416.8                 | 23.65                   | 18.620            |         |                    |        |
| 5,400.0                                                                      | 5,384.3             | 5,391.5             | 5,378.8             | 12.6           | 11.8        | 72.23                 | 387.3                             | 489.3      | 443.2                | 419.1                 | 24.13                   | 18.369            |         |                    |        |
| 5,500.0                                                                      | 5,484.3             | 5,496.2             | 5,483.4             | 12.8           | 12.1        | 72.75                 | 383.7                             | 491.5      | 444.2                | 419.6                 | 24.57                   | 18.075            |         |                    |        |
| 5,600.0                                                                      | 5,584.3             | 5,598.1             | 5,585.3             | 13.0           | 12.3        | 72.92                 | 382.7                             | 492.4      | 444.7                | 419.7                 | 25.00                   | 17.790            |         |                    |        |
| 5,700.0                                                                      | 5,684.3             | 5,699.7             | 5,686.9             | 13.2           | 12.5        | 72.94                 | 382.5                             | 492.4      | 444.7                | 419.3                 | 25.42                   | 17.498            |         |                    |        |
| 5,800.0                                                                      | 5,784.3             | 5,799.8             | 5,787.0             | 13.4           | 12.7        | 72.99                 | 382.1                             | 492.3      | 444.5                | 418.7                 | 25.83                   | 17.210            |         |                    |        |
| 5,837.9                                                                      | 5,822.3             | 5,837.2             | 5,824.4             | 13.5           | 12.8        | 73.01                 | 381.9                             | 492.4      | 444.5                | 418.5                 | 25.99                   | 17.105            |         |                    |        |
| 5,900.0                                                                      | 5,884.3             | 5,899.0             | 5,886.2             | 13.6           | 12.9        | 73.06                 | 381.5                             | 492.5      | 444.5                | 418.3                 | 26.24                   | 16.938            |         |                    |        |
| 6,000.0                                                                      | 5,984.3             | 5,998.9             | 5,986.1             | 13.9           | 13.1        | 73.13                 | 381.1                             | 492.8      | 444.7                | 418.0                 | 26.66                   | 16.678            |         |                    |        |
| 6,100.0                                                                      | 6,084.3             | 6,099.3             | 6,086.4             | 14.1           | 13.3        | 73.14                 | 380.9                             | 492.8      | 444.7                | 417.6                 | 27.08                   | 16.421            |         |                    |        |
| 6,200.0                                                                      | 6,184.3             | 6,199.5             | 6,186.7             | 14.3           | 13.5        | 73.13                 | 381.0                             | 492.7      | 444.6                | 417.1                 | 27.50                   | 16.170            |         |                    |        |
| 6,300.0                                                                      | 6,284.3             | 6,299.5             | 6,286.7             | 14.5           | 13.7        | 73.09                 | 381.3                             | 492.6      | 444.5                | 416.6                 | 27.91                   | 15.926            |         |                    |        |
| 6,332.7                                                                      | 6,317.0             | 6,331.9             | 6,319.0             | 14.6           | 13.8        | 73.08                 | 381.4                             | 492.5      | 444.5                | 416.5                 | 28.05                   | 15.849            |         |                    |        |
| 6,400.0                                                                      | 6,384.3             | 6,398.5             | 6,385.7             | 14.7           | 13.9        | 73.05                 | 381.6                             | 492.5      | 444.6                | 416.3                 | 28.33                   | 15.695            |         |                    |        |
| 6,500.0                                                                      | 6,484.3             | 6,497.9             | 6,485.0             | 14.9           | 14.1        | 73.01                 | 382.0                             | 492.6      | 444.8                | 416.1                 | 28.74                   | 15.476            |         |                    |        |
| 6,600.0                                                                      | 6,584.3             | 6,596.7             | 6,583.8             | 15.1           | 14.3        | 72.91                 | 382.8                             | 492.8      | 445.2                | 416.0                 | 29.16                   | 15.270            |         |                    |        |
| 6,700.0                                                                      | 6,684.3             | 6,694.1             | 6,681.3             | 15.3           | 14.5        | 72.79                 | 383.9                             | 493.3      | 446.0                | 416.5                 | 29.57                   | 15.086            |         |                    |        |
| 6,800.0                                                                      | 6,784.3             | 6,795.1             | 6,782.2             | 15.6           | 14.7        | 72.69                 | 385.0                             | 494.1      | 447.1                | 417.1                 | 29.98                   | 14.911            |         |                    |        |
| 6,900.0                                                                      | 6,884.3             | 6,895.0             | 6,882.1             | 15.7           | 14.9        | -107.46               | 385.5                             | 494.8      | 448.4                | 418.0                 | 30.37                   | 14.764 SF         |         |                    |        |
| 7,000.0                                                                      | 6,983.4             | 6,993.7             | 6,980.9             | 15.9           | 15.1        | -108.62               | 385.8                             | 495.8      | 453.4                | 422.8                 | 30.63                   | 14.803            |         |                    |        |
| 7,100.0                                                                      | 7,080.0             | 7,091.0             | 7,078.1             | 15.9           | 15.3        | -110.81               | 385.7                             | 496.8      | 463.3                | 432.5                 | 30.78                   | 15.053            |         |                    |        |
| 7,200.0                                                                      | 7,172.5             | 7,182.5             | 7,169.6             | 15.9           | 15.5        | -113.54               | 385.4                             | 497.8      | 479.6                | 448.8                 | 30.78                   | 15.580            |         |                    |        |
| 7,300.0                                                                      | 7,259.1             | 7,267.7             | 7,254.9             | 16.0           | 15.6        | -116.33               | 385.1                             | 499.1      | 504.4                | 473.8                 | 30.65                   | 16.458            |         |                    |        |
| 7,400.0                                                                      | 7,338.6             | 7,344.1             | 7,331.2             | 16.0           | 15.8        | -118.65               | 385.8                             | 500.0      | 539.4                | 509.0                 | 30.41                   | 17.737            |         |                    |        |
| 7,500.0                                                                      | 7,409.5             | 7,410.3             | 7,397.4             | 16.1           | 15.9        | -119.96               | 387.1                             | 500.7      | 585.6                | 555.4                 | 30.18                   | 19.403            |         |                    |        |
| 7,600.0                                                                      | 7,470.5             | 7,465.9             | 7,452.9             | 16.4           | 16.1        | -119.78               | 388.6                             | 501.3      | 643.2                | 613.0                 | 30.16                   | 21.323            |         |                    |        |
| 7,700.0                                                                      | 7,520.8             | 7,509.9             | 7,497.0             | 16.8           | 16.1        | -117.58               | 390.0                             | 501.9      | 710.9                | 680.3                 | 30.59                   | 23.239            |         |                    |        |
| 7,800.0                                                                      | 7,559.3             | 7,542.3             | 7,529.4             | 17.4           | 16.2        | -112.73               | 391.1                             | 502.5      | 787.3                | 755.7                 | 31.68                   | 24.856            |         |                    |        |
| 7,900.0                                                                      | 7,585.4             | 7,563.3             | 7,550.3             | 18.2           | 16.2        | -104.49               | 391.8                             | 503.0      | 870.3                | 837.0                 | 33.38                   | 26.076            |         |                    |        |
| 8,000.0                                                                      | 7,598.8             | 7,572.5             | 7,559.5             | 19.1           | 16.3        | -92.24                | 392.1                             | 503.2      | 957.8                | 922.7                 | 35.09                   | 27.300            |         |                    |        |
| 8,100.0                                                                      | 7,600.7             | 7,571.1             | 7,558.1             | 20.1           | 16.3        | -84.43                | 392.1                             | 503.2      | 1,047.8              | 1,011.7               | 36.07                   | 29.052            |         |                    |        |
| 8,200.0                                                                      | 7,600.9             | 7,568.2             | 7,555.2             | 21.3           | 16.3        | -84.05                | 392.0                             | 503.1      | 1,139.4              | 1,102.2               | 37.19                   | 30.633            |         |                    |        |
| 8,300.0                                                                      | 7,601.1             | 7,565.3             | 7,552.3             | 22.5           | 16.3        | -83.67                | 391.9                             | 503.0      | 1,232.3              | 1,193.9               | 38.42                   | 32.071            |         |                    |        |
| 8,400.0                                                                      | 7,601.3             | 7,562.4             | 7,549.4             | 23.9           | 16.2        | -83.29                | 391.8                             | 503.0      | 1,326.2              | 1,286.5               | 39.74                   | 33.375            |         |                    |        |
| 8,500.0                                                                      | 7,601.5             | 7,559.5             | 7,546.5             | 25.3           | 16.2        | -82.91                | 391.7                             | 502.9      | 1,421.0              | 1,379.9               | 41.12                   | 34.557            |         |                    |        |
| 8,600.0                                                                      | 7,601.7             | 7,556.6             | 7,543.6             | 26.8           | 16.2        | -82.53                | 391.6                             | 502.8      | 1,516.4              | 1,473.8               | 42.56                   | 35.629            |         |                    |        |
| 8,700.0                                                                      | 7,601.9             | 7,553.6             | 7,540.6             | 28.3           | 16.2        | -82.15                | 391.5                             | 502.7      | 1,612.4              | 1,568.3               | 44.05                   | 36.603            |         |                    |        |
| 8,800.0                                                                      | 7,602.1             | 7,550.7             | 7,537.7             | 29.9           | 16.2        | -81.77                | 391.4                             | 502.7      | 1,708.8              | 1,663.2               | 45.58                   | 37.490            |         |                    |        |
| 8,900.0                                                                      | 7,602.3             | 7,547.8             | 7,534.8             | 31.5           | 16.2        | -81.39                | 391.3                             | 502.6      | 1,805.6              | 1,758.5               | 47.14                   | 38.302            |         |                    |        |
| 9,000.0                                                                      | 7,602.5             | 7,544.8             | 7,531.8             | 33.1           | 16.2        | -81.01                | 391.2                             | 502.5      | 1,902.7              | 1,854.0               | 48.73                   | 39.046            |         |                    |        |
| 9,100.0                                                                      | 7,602.8             | 7,541.9             | 7,528.9             | 34.8           | 16.2        | -80.63                | 391.1                             | 502.5      | 2,000.2              | 1,949.8               | 50.34                   | 39.731            |         |                    |        |
| 9,200.0                                                                      | 7,603.0             | 7,538.9             | 7,525.9             | 36.5           | 16.2        | -80.25                | 391.0                             | 502.4      | 2,097.8              | 2,045.8               | 51.97                   | 40.363            |         |                    |        |
| 9,300.0                                                                      | 7,603.2             | 7,536.0             | 7,523.0             | 38.2           | 16.2        | -79.87                | 390.9                             | 502.3      | 2,195.7              | 2,142.0               | 53.62                   | 40.950            |         |                    |        |
| 9,400.0                                                                      | 7,603.4             | 7,533.0             | 7,520.0             | 40.0           | 16.2        | -79.50                | 390.8                             | 502.3      | 2,293.7              | 2,238.4               | 55.28                   | 41.495            |         |                    |        |
| 9,500.0                                                                      | 7,603.6             | 7,530.0             | 7,517.0             | 41.7           | 16.2        | -79.12                | 390.7                             | 502.2      | 2,391.9              | 2,335.0               | 56.94                   | 42.004            |         |                    |        |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                                                                |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Site Error: | 0.0 ft |
|------------------------------------------------------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|---------|--------------------|--------|
| Survey Program: 15-MWD                                                       |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Well Error: | 0.0 ft |
| Reference                                                                    |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Existing Sec.32-T1N-R67W - Howard 24-32 (Exist.) - Wellbore #1 - Wellbore #1 |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Semi Major Axis                                                              |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Distance                                                                     |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Measured Depth (ft)                                                          | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |                    |        |
| 9,600.0                                                                      | 7,603.8             | 7,527.0             | 7,514.1             | 43.5           | 16.2        | -78.74                | 390.6                             | 502.2      | 2,490.2              | 2,431.6               | 58.62                   | 42.481            |         |                    |        |
| 9,700.0                                                                      | 7,604.0             | 7,524.0             | 7,511.1             | 45.2           | 16.2        | -78.36                | 390.5                             | 502.1      | 2,588.7              | 2,528.4               | 60.30                   | 42.929            |         |                    |        |
| 9,800.0                                                                      | 7,604.2             | 7,521.1             | 7,508.1             | 47.0           | 16.2        | -77.98                | 390.4                             | 502.0      | 2,687.3              | 2,625.3               | 61.99                   | 43.351            |         |                    |        |
| 9,900.0                                                                      | 7,604.4             | 7,518.1             | 7,505.1             | 48.8           | 16.2        | -77.60                | 390.3                             | 502.0      | 2,785.9              | 2,722.3               | 63.68                   | 43.750            |         |                    |        |
| 10,000.0                                                                     | 7,604.6             | 7,515.1             | 7,502.1             | 50.6           | 16.1        | -77.22                | 390.2                             | 501.9      | 2,884.7              | 2,819.3               | 65.37                   | 44.129            |         |                    |        |
| 10,100.0                                                                     | 7,604.8             | 7,512.1             | 7,499.1             | 52.5           | 16.1        | -76.85                | 390.1                             | 501.9      | 2,983.5              | 2,916.5               | 67.06                   | 44.489            |         |                    |        |
| 10,200.0                                                                     | 7,605.1             | 7,509.0             | 7,496.1             | 54.3           | 16.1        | -76.47                | 390.0                             | 501.9      | 3,082.4              | 3,013.7               | 68.75                   | 44.833            |         |                    |        |
| 10,300.0                                                                     | 7,605.3             | 7,506.0             | 7,493.1             | 56.1           | 16.1        | -76.09                | 389.9                             | 501.8      | 3,181.4              | 3,111.0               | 70.44                   | 45.162            |         |                    |        |
| 10,400.0                                                                     | 7,605.5             | 7,500.0             | 7,487.0             | 57.9           | 16.1        | -75.34                | 389.7                             | 501.7      | 3,280.5              | 3,208.4               | 72.03                   | 45.540            |         |                    |        |
| 10,500.0                                                                     | 7,605.7             | 7,500.0             | 7,487.0             | 59.8           | 16.1        | -75.34                | 389.7                             | 501.7      | 3,379.5              | 3,305.7               | 73.82                   | 45.780            |         |                    |        |
| 10,600.0                                                                     | 7,605.9             | 7,500.0             | 7,487.0             | 61.6           | 16.1        | -75.34                | 389.7                             | 501.7      | 3,478.7              | 3,403.1               | 75.61                   | 46.006            |         |                    |        |
| 10,700.0                                                                     | 7,606.1             | 7,500.0             | 7,487.0             | 63.5           | 16.1        | -75.34                | 389.7                             | 501.7      | 3,577.9              | 3,500.5               | 77.41                   | 46.220            |         |                    |        |
| 10,800.0                                                                     | 7,606.3             | 7,500.0             | 7,487.0             | 65.3           | 16.1        | -75.34                | 389.7                             | 501.7      | 3,677.1              | 3,597.9               | 79.21                   | 46.422            |         |                    |        |
| 10,900.0                                                                     | 7,606.5             | 7,500.0             | 7,487.0             | 67.2           | 16.1        | -75.34                | 389.7                             | 501.7      | 3,776.4              | 3,695.4               | 81.01                   | 46.614            |         |                    |        |
| 11,000.0                                                                     | 7,606.7             | 7,500.0             | 7,487.0             | 69.0           | 16.1        | -75.34                | 389.7                             | 501.7      | 3,875.7              | 3,792.9               | 82.82                   | 46.796            |         |                    |        |
| 11,100.0                                                                     | 7,606.9             | 7,500.0             | 7,487.0             | 70.9           | 16.1        | -75.34                | 389.7                             | 501.7      | 3,975.0              | 3,890.4               | 84.63                   | 46.970            |         |                    |        |
| 11,200.0                                                                     | 7,607.2             | 7,500.0             | 7,487.0             | 72.8           | 16.1        | -75.34                | 389.7                             | 501.7      | 4,074.4              | 3,988.0               | 86.44                   | 47.135            |         |                    |        |
| 11,300.0                                                                     | 7,607.4             | 7,500.0             | 7,487.0             | 74.6           | 16.1        | -75.34                | 389.7                             | 501.7      | 4,173.8              | 4,085.5               | 88.26                   | 47.292            |         |                    |        |
| 11,400.0                                                                     | 7,607.6             | 7,500.0             | 7,487.0             | 76.5           | 16.1        | -75.34                | 389.7                             | 501.7      | 4,273.2              | 4,183.2               | 90.07                   | 47.442            |         |                    |        |
| 11,500.0                                                                     | 7,607.8             | 7,500.0             | 7,487.0             | 78.4           | 16.1        | -75.34                | 389.7                             | 501.7      | 4,372.7              | 4,280.8               | 91.89                   | 47.585            |         |                    |        |
| 11,600.0                                                                     | 7,608.0             | 7,500.0             | 7,487.0             | 80.2           | 16.1        | -75.34                | 389.7                             | 501.7      | 4,472.2              | 4,378.5               | 93.71                   | 47.721            |         |                    |        |
| 11,700.0                                                                     | 7,608.2             | 7,475.0             | 7,462.1             | 82.1           | 16.1        | -72.29                | 388.8                             | 501.4      | 4,571.6              | 4,477.2               | 94.33                   | 48.465            |         |                    |        |
| 11,800.0                                                                     | 7,608.4             | 7,473.1             | 7,460.2             | 84.0           | 16.1        | -72.07                | 388.8                             | 501.4      | 4,671.1              | 4,575.1               | 96.03                   | 48.643            |         |                    |        |
| 11,900.0                                                                     | 7,608.6             | 7,471.3             | 7,458.3             | 85.9           | 16.1        | -71.85                | 388.7                             | 501.4      | 4,770.6              | 4,672.9               | 97.73                   | 48.815            |         |                    |        |
| 12,000.0                                                                     | 7,608.8             | 7,469.5             | 7,456.5             | 87.7           | 16.1        | -71.63                | 388.7                             | 501.3      | 4,870.2              | 4,770.7               | 99.43                   | 48.982            |         |                    |        |
| 12,100.0                                                                     | 7,609.0             | 7,467.7             | 7,454.7             | 89.6           | 16.1        | -71.42                | 388.6                             | 501.3      | 4,969.7              | 4,868.6               | 101.12                  | 49.145            |         |                    |        |
| 12,200.0                                                                     | 7,609.2             | 7,465.9             | 7,453.0             | 91.5           | 16.1        | -71.21                | 388.6                             | 501.3      | 5,069.3              | 4,966.5               | 102.82                  | 49.304            |         |                    |        |
| 12,300.0                                                                     | 7,609.5             | 7,464.2             | 7,451.2             | 93.4           | 16.0        | -71.00                | 388.5                             | 501.3      | 5,168.9              | 5,064.4               | 104.51                  | 49.458            |         |                    |        |
| 12,400.0                                                                     | 7,609.7             | 7,462.4             | 7,449.5             | 95.3           | 16.0        | -70.80                | 388.5                             | 501.3      | 5,268.5              | 5,162.3               | 106.20                  | 49.608            |         |                    |        |
| 12,500.0                                                                     | 7,609.9             | 7,460.7             | 7,447.8             | 97.2           | 16.0        | -70.60                | 388.4                             | 501.2      | 5,368.2              | 5,260.3               | 107.89                  | 49.755            |         |                    |        |
| 12,600.0                                                                     | 7,610.1             | 7,459.1             | 7,446.2             | 99.1           | 16.0        | -70.40                | 388.4                             | 501.2      | 5,467.8              | 5,358.2               | 109.58                  | 49.898            |         |                    |        |
| 12,700.0                                                                     | 7,610.3             | 7,457.4             | 7,444.5             | 100.9          | 16.0        | -70.21                | 388.3                             | 501.2      | 5,567.4              | 5,456.2               | 111.27                  | 50.038            |         |                    |        |
| 12,800.0                                                                     | 7,610.5             | 7,455.8             | 7,442.9             | 102.8          | 16.0        | -70.02                | 388.3                             | 501.2      | 5,667.1              | 5,554.2               | 112.95                  | 50.174            |         |                    |        |
| 12,900.0                                                                     | 7,610.7             | 7,454.2             | 7,441.3             | 104.7          | 16.0        | -69.83                | 388.2                             | 501.2      | 5,766.8              | 5,652.1               | 114.63                  | 50.307            |         |                    |        |
| 13,000.0                                                                     | 7,610.9             | 7,452.6             | 7,439.7             | 106.6          | 16.0        | -69.65                | 388.2                             | 501.1      | 5,866.5              | 5,750.1               | 116.31                  | 50.438            |         |                    |        |
| 13,100.0                                                                     | 7,611.1             | 7,451.1             | 7,438.2             | 108.5          | 16.0        | -69.47                | 388.1                             | 501.1      | 5,966.2              | 5,848.2               | 117.99                  | 50.565            |         |                    |        |
| 13,200.0                                                                     | 7,611.3             | 7,449.6             | 7,436.6             | 110.4          | 16.0        | -69.29                | 388.1                             | 501.1      | 6,065.9              | 5,946.2               | 119.67                  | 50.690            |         |                    |        |
| 13,300.0                                                                     | 7,611.6             | 7,448.1             | 7,435.1             | 112.3          | 16.0        | -69.11                | 388.0                             | 501.1      | 6,165.6              | 6,044.2               | 121.34                  | 50.812            |         |                    |        |
| 13,400.0                                                                     | 7,611.8             | 7,446.6             | 7,433.6             | 114.2          | 16.0        | -68.94                | 388.0                             | 501.1      | 6,265.3              | 6,142.3               | 123.01                  | 50.932            |         |                    |        |
| 13,500.0                                                                     | 7,612.0             | 7,445.1             | 7,432.2             | 116.1          | 16.0        | -68.77                | 388.0                             | 501.1      | 6,365.0              | 6,240.3               | 124.68                  | 51.049            |         |                    |        |
| 13,600.0                                                                     | 7,612.2             | 7,443.6             | 7,430.7             | 118.0          | 16.0        | -68.60                | 387.9                             | 501.0      | 6,464.8              | 6,338.4               | 126.35                  | 51.164            |         |                    |        |
| 13,700.0                                                                     | 7,612.4             | 7,442.2             | 7,429.3             | 119.9          | 16.0        | -68.44                | 387.9                             | 501.0      | 6,564.5              | 6,436.5               | 128.02                  | 51.277            |         |                    |        |
| 13,800.0                                                                     | 7,612.6             | 7,440.8             | 7,427.9             | 121.8          | 16.0        | -68.28                | 387.8                             | 501.0      | 6,664.2              | 6,534.6               | 129.69                  | 51.388            |         |                    |        |
| 13,900.0                                                                     | 7,612.8             | 7,439.4             | 7,426.5             | 123.7          | 16.0        | -68.12                | 387.8                             | 501.0      | 6,764.0              | 6,632.7               | 131.35                  | 51.496            |         |                    |        |
| 14,000.0                                                                     | 7,613.0             | 7,438.0             | 7,425.1             | 125.6          | 16.0        | -67.96                | 387.8                             | 501.0      | 6,863.8              | 6,730.8               | 133.01                  | 51.603            |         |                    |        |
| 14,100.0                                                                     | 7,613.2             | 7,436.7             | 7,423.7             | 127.5          | 16.0        | -67.81                | 387.7                             | 501.0      | 6,963.5              | 6,828.9               | 134.67                  | 51.708            |         |                    |        |
| 14,200.0                                                                     | 7,613.4             | 7,435.3             | 7,422.4             | 129.4          | 16.0        | -67.66                | 387.7                             | 500.9      | 7,063.3              | 6,927.0               | 136.33                  | 51.810            |         |                    |        |
| 14,300.0                                                                     | 7,613.6             | 7,434.0             | 7,421.1             | 131.3          | 16.0        | -67.51                | 387.7                             | 500.9      | 7,163.1              | 7,025.1               | 137.99                  | 51.911            |         |                    |        |
| 14,400.0                                                                     | 7,613.9             | 7,432.7             | 7,419.8             | 133.2          | 16.0        | -67.36                | 387.6                             | 500.9      | 7,262.9              | 7,123.2               | 139.64                  | 52.011            |         |                    |        |
| 14,469.1                                                                     | 7,614.0             | 7,431.8             | 7,418.9             | 134.5          | 16.0        | -67.26                | 387.6                             | 500.9      | 7,331.8              | 7,191.0               | 140.78                  | 52.078            |         |                    |        |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                  |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   | Offset Site Error: | 0.0 ft |
|--------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|--------|
| Survey Program: 100-NS-GYRO-MS |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   | Offset Well Error: | 0.0 ft |
| Reference                      |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |                    |        |
| Offset                         |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |                    |        |
| Semi Major Axis                |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |                    |        |
| Distance                       |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |                    |        |
| Measured Depth (ft)            | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning            |        |
| 0.0                            | 0.0                 | 23.0                | 23.0                | 0.0            | 0.0         | 158.47                | -1,122.0                          | 442.6      | 1,206.2              | 1,206.1               | 0.03                    | N/A               |                    |        |
| 100.0                          | 100.0               | 120.3               | 120.3               | 0.1            | 0.2         | 158.46                | -1,122.1                          | 443.0      | 1,206.4              | 1,206.1               | 0.30                    | 4,084.615         |                    |        |
| 200.0                          | 200.0               | 222.0               | 222.0               | 0.3            | 0.4         | 158.45                | -1,122.3                          | 443.2      | 1,206.6              | 1,205.9               | 0.76                    | 1,590.165         |                    |        |
| 300.0                          | 300.0               | 322.5               | 322.5               | 0.6            | 0.6         | 158.46                | -1,122.5                          | 443.0      | 1,206.8              | 1,205.6               | 1.17                    | 1,031.398         |                    |        |
| 400.0                          | 400.0               | 422.5               | 422.5               | 0.8            | 0.8         | 158.48                | -1,122.8                          | 442.7      | 1,206.9              | 1,205.3               | 1.58                    | 761.630           |                    |        |
| 500.0                          | 500.0               | 523.2               | 523.1               | 1.0            | 1.0         | 158.50                | -1,123.0                          | 442.4      | 1,207.0              | 1,205.0               | 2.03                    | 594.710           |                    |        |
| 600.0                          | 600.0               | 624.7               | 624.7               | 1.2            | 1.2         | 158.51                | -1,123.1                          | 442.2      | 1,207.0              | 1,204.5               | 2.46                    | 489.878           |                    |        |
| 700.0                          | 700.0               | 724.7               | 724.7               | 1.5            | 1.4         | 158.51                | -1,123.0                          | 442.1      | 1,206.9              | 1,204.0               | 2.87                    | 420.940           |                    |        |
| 732.3                          | 732.3               | 756.3               | 756.3               | 1.5            | 1.5         | 158.51                | -1,123.0                          | 442.1      | 1,206.9              | 1,203.9               | 2.99                    | 403.390           |                    |        |
| 800.0                          | 800.0               | 822.4               | 822.4               | 1.7            | 1.6         | 158.51                | -1,123.0                          | 442.1      | 1,206.9              | 1,203.7               | 3.26                    | 370.124           |                    |        |
| 900.0                          | 900.0               | 919.8               | 919.8               | 1.9            | 1.8         | 158.51                | -1,123.3                          | 442.2      | 1,207.2              | 1,203.5               | 3.68                    | 327.595           |                    |        |
| 1,000.0                        | 1,000.0             | 1,018.0             | 1,018.0             | 2.1            | 2.0         | 158.51                | -1,123.7                          | 442.3      | 1,207.6              | 1,203.5               | 4.13                    | 292.610           |                    |        |
| 1,100.0                        | 1,100.0             | 1,120.1             | 1,120.1             | 2.4            | 2.2         | 158.50                | -1,124.0                          | 442.7      | 1,208.1              | 1,203.5               | 4.55                    | 265.711           |                    |        |
| 1,200.0                        | 1,200.0             | 1,224.3             | 1,224.3             | 2.6            | 2.3         | 158.49                | -1,124.0                          | 443.0      | 1,208.2              | 1,203.3               | 4.92                    | 245.664           |                    |        |
| 1,300.0                        | 1,300.0             | 1,324.9             | 1,324.9             | 2.8            | 2.5         | 158.49                | -1,124.0                          | 443.0      | 1,208.1              | 1,202.8               | 5.27                    | 229.046           |                    |        |
| 1,351.9                        | 1,351.9             | 1,375.9             | 1,375.9             | 2.9            | 2.6         | 158.49                | -1,124.0                          | 442.9      | 1,208.1              | 1,202.6               | 5.48                    | 220.559           |                    |        |
| 1,400.0                        | 1,400.0             | 1,423.9             | 1,423.9             | 3.0            | 2.6         | 158.50                | -1,124.0                          | 442.8      | 1,208.1              | 1,202.4               | 5.68                    | 212.862           |                    |        |
| 1,500.0                        | 1,500.0             | 1,526.5             | 1,526.5             | 3.3            | 2.8         | 158.52                | -1,124.1                          | 442.4      | 1,208.0              | 1,201.9               | 6.10                    | 197.899           |                    |        |
| 1,600.0                        | 1,600.0             | 1,631.9             | 1,631.9             | 3.5            | 3.0         | 158.54                | -1,123.8                          | 441.8      | 1,207.6              | 1,201.1               | 6.52                    | 185.351           |                    |        |
| 1,700.0                        | 1,700.0             | 1,733.8             | 1,733.7             | 3.7            | 3.2         | 158.58                | -1,123.4                          | 440.8      | 1,206.8              | 1,199.9               | 6.92                    | 174.394           |                    |        |
| 1,800.0                        | 1,800.0             | 1,833.8             | 1,833.8             | 3.9            | 3.4         | 158.62                | -1,123.0                          | 439.6      | 1,206.0              | 1,198.7               | 7.34                    | 164.340           |                    |        |
| 1,900.0                        | 1,900.0             | 1,934.7             | 1,934.6             | 4.2            | 3.6         | 158.67                | -1,122.6                          | 438.4      | 1,205.2              | 1,197.4               | 7.76                    | 155.232           |                    |        |
| 2,000.0                        | 2,000.0             | 2,038.5             | 2,038.5             | 4.4            | 3.8         | 158.70                | -1,121.8                          | 437.4      | 1,204.1              | 1,195.9               | 8.19                    | 147.002           |                    |        |
| 2,044.4                        | 2,044.4             | 2,083.5             | 2,083.5             | 4.5            | 3.9         | 143.79                | -1,121.4                          | 436.8      | 1,203.9              | 1,195.5               | 8.38                    | 143.696           |                    |        |
| 2,100.0                        | 2,100.0             | 2,138.1             | 2,138.0             | 4.6            | 4.0         | 143.84                | -1,121.0                          | 436.1      | 1,204.3              | 1,195.7               | 8.61                    | 139.839           |                    |        |
| 2,200.0                        | 2,199.8             | 2,235.9             | 2,235.9             | 4.8            | 4.2         | 143.99                | -1,120.3                          | 435.0      | 1,207.5              | 1,198.5               | 9.03                    | 133.674           |                    |        |
| 2,300.0                        | 2,299.5             | 2,336.6             | 2,336.5             | 5.1            | 4.4         | 144.19                | -1,119.6                          | 434.0      | 1,213.5              | 1,204.1               | 9.45                    | 128.383           |                    |        |
| 2,400.0                        | 2,398.7             | 2,435.8             | 2,435.7             | 5.3            | 4.6         | 144.48                | -1,118.7                          | 433.2      | 1,222.2              | 1,212.3               | 9.87                    | 123.861           |                    |        |
| 2,500.0                        | 2,497.9             | 2,531.6             | 2,531.5             | 5.5            | 4.8         | 144.82                | -1,117.9                          | 432.8      | 1,231.7              | 1,221.4               | 10.28                   | 119.836           |                    |        |
| 2,600.0                        | 2,597.1             | 2,632.2             | 2,632.1             | 5.8            | 5.0         | 145.13                | -1,117.0                          | 433.0      | 1,241.3              | 1,230.6               | 10.67                   | 116.363           |                    |        |
| 2,700.0                        | 2,696.3             | 2,734.5             | 2,734.4             | 6.0            | 5.1         | 145.44                | -1,115.8                          | 433.4      | 1,250.8              | 1,239.7               | 11.05                   | 113.182           |                    |        |
| 2,800.0                        | 2,795.5             | 2,836.4             | 2,836.3             | 6.3            | 5.3         | 145.74                | -1,114.4                          | 433.6      | 1,260.1              | 1,248.6               | 11.46                   | 109.957           |                    |        |
| 2,900.0                        | 2,894.7             | 2,935.5             | 2,935.4             | 6.6            | 5.5         | 146.06                | -1,113.0                          | 433.3      | 1,269.2              | 1,257.3               | 11.90                   | 106.696           |                    |        |
| 3,000.0                        | 2,993.9             | 3,031.7             | 3,031.6             | 6.8            | 5.7         | 146.38                | -1,112.1                          | 432.6      | 1,278.7              | 1,266.4               | 12.35                   | 103.512           |                    |        |
| 3,100.0                        | 3,093.0             | 3,133.0             | 3,132.9             | 7.1            | 5.9         | 146.72                | -1,111.1                          | 431.7      | 1,288.2              | 1,275.4               | 12.83                   | 100.373           |                    |        |
| 3,200.0                        | 3,192.2             | 3,233.3             | 3,233.2             | 7.4            | 6.2         | 147.07                | -1,110.1                          | 430.7      | 1,297.6              | 1,284.3               | 13.32                   | 97.428            |                    |        |
| 3,300.0                        | 3,291.4             | 3,329.9             | 3,329.8             | 7.7            | 6.4         | 147.40                | -1,109.3                          | 429.4      | 1,307.1              | 1,293.3               | 13.80                   | 94.724            |                    |        |
| 3,400.0                        | 3,390.6             | 3,427.5             | 3,427.4             | 8.0            | 6.6         | 147.75                | -1,108.7                          | 428.0      | 1,316.9              | 1,302.6               | 14.29                   | 92.180            |                    |        |
| 3,500.0                        | 3,489.8             | 3,529.0             | 3,528.8             | 8.2            | 6.9         | 148.09                | -1,108.0                          | 426.7      | 1,326.6              | 1,311.8               | 14.78                   | 89.735            |                    |        |
| 3,600.0                        | 3,589.0             | 3,627.1             | 3,626.9             | 8.5            | 7.1         | 148.41                | -1,107.2                          | 425.4      | 1,336.3              | 1,321.0               | 15.27                   | 87.498            |                    |        |
| 3,700.0                        | 3,688.2             | 3,717.6             | 3,717.4             | 8.8            | 7.3         | 148.69                | -1,106.6                          | 425.0      | 1,346.4              | 1,330.7               | 15.72                   | 85.640            |                    |        |
| 3,800.0                        | 3,787.4             | 3,805.4             | 3,805.2             | 9.1            | 7.5         | 148.90                | -1,106.4                          | 425.7      | 1,357.4              | 1,341.3               | 16.10                   | 84.314            |                    |        |
| 3,900.0                        | 3,886.5             | 3,900.0             | 3,899.8             | 9.4            | 7.5         | 149.10                | -1,106.6                          | 427.3      | 1,368.9              | 1,352.5               | 16.42                   | 83.388            |                    |        |
| 4,000.0                        | 3,985.7             | 3,993.3             | 3,993.1             | 9.7            | 7.6         | 149.29                | -1,107.2                          | 428.9      | 1,380.9              | 1,364.2               | 16.74                   | 82.512            |                    |        |
| 4,100.0                        | 4,085.0             | 4,085.7             | 4,085.4             | 10.0           | 7.7         | 149.55                | -1,108.2                          | 430.2      | 1,392.9              | 1,375.9               | 17.06                   | 81.640            |                    |        |
| 4,200.0                        | 4,184.5             | 4,177.1             | 4,176.9             | 10.2           | 7.7         | 149.81                | -1,109.8                          | 431.2      | 1,402.9              | 1,385.6               | 17.36                   | 80.832            |                    |        |
| 4,300.0                        | 4,284.4             | 4,270.6             | 4,270.3             | 10.4           | 7.9         | 149.98                | -1,112.0                          | 432.1      | 1,410.4              | 1,392.8               | 17.64                   | 79.938            |                    |        |
| 4,400.0                        | 4,384.3             | 4,367.7             | 4,367.4             | 10.6           | 8.0         | 150.07                | -1,114.6                          | 433.0      | 1,415.2              | 1,397.3               | 17.93                   | 78.950            |                    |        |
| 4,500.0                        | 4,484.3             | 4,457.6             | 4,457.2             | 10.8           | 8.1         | 165.02                | -1,117.3                          | 433.7      | 1,418.4              | 1,400.2               | 18.23                   | 77.823            |                    |        |
| 4,600.0                        | 4,584.3             | 4,547.7             | 4,547.2             | 11.0           | 8.2         | 165.02                | -1,120.8                          | 434.5      | 1,422.4              | 1,403.9               | 18.56                   | 76.628            |                    |        |
| 4,700.0                        | 4,684.3             | 4,641.1             | 4,640.6             | 11.2           | 8.3         | 165.03                | -1,124.9                          | 435.5      | 1,426.9              | 1,408.0               | 18.91                   | 75.457            |                    |        |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                  |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Site Error: | 0.0ft |
|--------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|---------|--------------------|-------|
| Survey Program: 100-NS-GYRO-MS |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Well Error: | 0.0ft |
| Reference                      |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |       |
| Offset                         |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |       |
| Semi Major Axis                |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |       |
| Distance                       |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |       |
| Measured Depth (ft)            | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |                    |       |
| 4,800.0                        | 4,784.3             | 4,731.0             | 4,730.4             | 11.4           | 8.5         | 165.04                | -1,129.4                          | 436.3      | 1,432.0              | 1,412.7               | 19.26                   | 74.347            |         |                    |       |
| 4,900.0                        | 4,884.3             | 4,818.4             | 4,817.6             | 11.6           | 8.6         | 165.09                | -1,134.7                          | 436.5      | 1,437.9              | 1,418.3               | 19.62                   | 73.306            |         |                    |       |
| 5,000.0                        | 4,984.3             | 4,915.4             | 4,914.4             | 11.8           | 8.8         | 165.15                | -1,141.2                          | 436.6      | 1,444.3              | 1,424.3               | 19.99                   | 72.241            |         |                    |       |
| 5,100.0                        | 5,084.3             | 5,017.5             | 5,016.2             | 12.0           | 9.0         | 165.23                | -1,148.0                          | 436.4      | 1,450.8              | 1,430.4               | 20.39                   | 71.164            |         |                    |       |
| 5,200.0                        | 5,184.3             | 5,122.0             | 5,120.5             | 12.2           | 9.1         | 165.32                | -1,154.8                          | 435.9      | 1,457.0              | 1,436.2               | 20.79                   | 70.076            |         |                    |       |
| 5,300.0                        | 5,284.3             | 5,228.6             | 5,226.9             | 12.4           | 9.3         | 165.41                | -1,161.5                          | 435.3      | 1,462.9              | 1,441.6               | 21.21                   | 68.983            |         |                    |       |
| 5,400.0                        | 5,384.3             | 5,347.3             | 5,345.5             | 12.6           | 9.6         | 165.48                | -1,167.6                          | 434.9      | 1,467.8              | 1,446.1               | 21.65                   | 67.802            |         |                    |       |
| 5,500.0                        | 5,484.3             | 5,461.3             | 5,459.3             | 12.8           | 9.8         | 165.55                | -1,172.2                          | 434.2      | 1,471.5              | 1,449.4               | 22.09                   | 66.616            |         |                    |       |
| 5,600.0                        | 5,584.3             | 5,569.8             | 5,567.8             | 13.0           | 10.0        | 165.62                | -1,175.8                          | 433.3      | 1,474.5              | 1,452.0               | 22.53                   | 65.450            |         |                    |       |
| 5,700.0                        | 5,684.3             | 5,679.0             | 5,676.9             | 13.2           | 10.2        | 165.70                | -1,178.9                          | 432.1      | 1,477.0              | 1,454.0               | 22.98                   | 64.278            |         |                    |       |
| 5,800.0                        | 5,784.3             | 5,786.0             | 5,783.9             | 13.4           | 10.5        | 165.77                | -1,181.3                          | 430.6      | 1,478.9              | 1,455.4               | 23.43                   | 63.117            |         |                    |       |
| 5,900.0                        | 5,884.3             | 5,888.0             | 5,885.9             | 13.6           | 10.7        | 165.85                | -1,183.3                          | 429.2      | 1,480.4              | 1,456.5               | 23.88                   | 62.003            |         |                    |       |
| 6,000.0                        | 5,984.3             | 5,991.7             | 5,989.5             | 13.9           | 10.9        | 165.91                | -1,185.2                          | 427.9      | 1,481.8              | 1,457.5               | 24.33                   | 60.908            |         |                    |       |
| 6,100.0                        | 6,084.3             | 6,095.7             | 6,093.5             | 14.1           | 11.2        | 165.98                | -1,186.7                          | 426.6      | 1,483.0              | 1,458.2               | 24.78                   | 59.833            |         |                    |       |
| 6,200.0                        | 6,184.3             | 6,194.9             | 6,192.8             | 14.3           | 11.4        | 166.04                | -1,188.0                          | 425.3      | 1,484.0              | 1,458.7               | 25.23                   | 58.812            |         |                    |       |
| 6,300.0                        | 6,284.3             | 6,291.9             | 6,289.7             | 14.5           | 11.6        | 166.09                | -1,189.4                          | 424.4      | 1,485.1              | 1,459.5               | 25.67                   | 57.846            |         |                    |       |
| 6,400.0                        | 6,384.3             | 6,397.4             | 6,395.2             | 14.7           | 11.9        | 166.13                | -1,190.8                          | 423.6      | 1,486.2              | 1,460.1               | 26.14                   | 56.866            |         |                    |       |
| 6,500.0                        | 6,484.3             | 6,501.2             | 6,499.0             | 14.9           | 12.1        | 166.16                | -1,191.8                          | 422.8      | 1,487.0              | 1,460.4               | 26.60                   | 55.906            |         |                    |       |
| 6,600.0                        | 6,584.3             | 6,602.7             | 6,600.5             | 15.1           | 12.4        | 166.21                | -1,192.7                          | 421.8      | 1,487.5              | 1,460.5               | 27.06                   | 54.978            |         |                    |       |
| 6,700.0                        | 6,684.3             | 6,700.8             | 6,698.6             | 15.3           | 12.6        | 166.26                | -1,193.5                          | 420.8      | 1,488.1              | 1,460.6               | 27.51                   | 54.094            |         |                    |       |
| 6,800.0                        | 6,784.3             | 6,800.0             | 6,797.8             | 15.6           | 12.8        | 166.29                | -1,194.4                          | 420.0      | 1,488.8              | 1,460.9               | 27.97                   | 53.239            |         |                    |       |
| 6,900.0                        | 6,884.3             | 6,906.9             | 6,904.7             | 15.7           | 13.1        | -13.71                | -1,195.1                          | 419.3      | 1,487.9              | 1,459.5               | 28.36                   | 52.456            |         |                    |       |
| 7,000.0                        | 6,983.4             | 7,003.2             | 7,001.0             | 15.9           | 13.3        | -14.01                | -1,195.7                          | 418.4      | 1,475.8              | 1,447.5               | 28.34                   | 52.078            |         |                    |       |
| 7,100.0                        | 7,080.0             | 7,101.5             | 7,099.2             | 15.9           | 13.5        | -14.68                | -1,196.3                          | 417.4      | 1,451.4              | 1,423.4               | 27.93                   | 51.967            |         |                    |       |
| 7,200.0                        | 7,172.5             | 7,194.5             | 7,192.2             | 15.9           | 13.8        | -15.81                | -1,196.8                          | 416.5      | 1,414.8              | 1,387.7               | 27.15                   | 52.106            |         |                    |       |
| 7,300.0                        | 7,259.1             | 7,286.6             | 7,284.3             | 16.0           | 14.0        | -17.57                | -1,197.2                          | 415.6      | 1,366.8              | 1,340.7               | 26.09                   | 52.383            |         |                    |       |
| 7,400.0                        | 7,338.6             | 7,372.3             | 7,370.0             | 16.0           | 14.2        | -20.18                | -1,197.1                          | 414.8      | 1,308.1              | 1,283.2               | 24.87                   | 52.594            |         |                    |       |
| 7,500.0                        | 7,409.5             | 7,446.6             | 7,444.3             | 16.1           | 14.3        | -23.99                | -1,196.7                          | 414.1      | 1,239.7              | 1,216.0               | 23.74                   | 52.212            |         |                    |       |
| 7,600.0                        | 7,470.5             | 7,508.2             | 7,506.0             | 16.4           | 14.4        | -29.58                | -1,196.2                          | 413.7      | 1,163.4              | 1,140.2               | 23.19                   | 50.164            |         |                    |       |
| 7,700.0                        | 7,520.8             | 7,554.2             | 7,551.9             | 16.8           | 14.5        | -37.63                | -1,195.9                          | 413.6      | 1,080.9              | 1,057.0               | 23.87                   | 45.273            |         |                    |       |
| 7,800.0                        | 7,559.3             | 7,589.6             | 7,587.3             | 17.4           | 14.5        | -49.27                | -1,195.7                          | 413.6      | 993.7                | 967.3                 | 26.41                   | 37.627            |         |                    |       |
| 7,900.0                        | 7,585.4             | 7,612.7             | 7,610.4             | 18.2           | 14.5        | -64.61                | -1,195.6                          | 413.6      | 903.9                | 873.7                 | 30.23                   | 29.905            |         |                    |       |
| 8,000.0                        | 7,598.8             | 7,624.2             | 7,621.9             | 19.1           | 14.5        | -81.59                | -1,195.5                          | 413.7      | 813.3                | 780.0                 | 33.31                   | 24.413            |         |                    |       |
| 8,100.0                        | 7,600.7             | 7,625.7             | 7,623.4             | 20.1           | 14.6        | -89.57                | -1,195.5                          | 413.7      | 724.1                | 689.5                 | 34.64                   | 20.908            |         |                    |       |
| 8,200.0                        | 7,600.9             | 7,625.7             | 7,623.4             | 21.3           | 14.6        | -89.57                | -1,195.5                          | 413.7      | 638.1                | 602.3                 | 35.79                   | 17.830            |         |                    |       |
| 8,300.0                        | 7,601.1             | 7,625.7             | 7,623.4             | 22.5           | 14.6        | -89.58                | -1,195.5                          | 413.7      | 556.8                | 519.8                 | 37.05                   | 15.030            |         |                    |       |
| 8,400.0                        | 7,601.3             | 7,625.7             | 7,623.5             | 23.9           | 14.6        | -89.58                | -1,195.5                          | 413.7      | 482.5                | 444.2                 | 38.39                   | 12.569            |         |                    |       |
| 8,500.0                        | 7,601.5             | 7,625.8             | 7,623.5             | 25.3           | 14.6        | -89.58                | -1,195.5                          | 413.7      | 419.1                | 379.3                 | 39.81                   | 10.528            |         |                    |       |
| 8,600.0                        | 7,601.7             | 7,625.8             | 7,623.5             | 26.8           | 14.6        | -89.59                | -1,195.5                          | 413.7      | 372.2                | 330.9                 | 41.29                   | 9.013             |         |                    |       |
| 8,700.0                        | 7,601.9             | 7,625.8             | 7,623.5             | 28.3           | 14.6        | -89.59                | -1,195.5                          | 413.7      | 348.3                | 305.5                 | 42.83                   | 8.134             |         |                    |       |
| 8,735.9                        | 7,602.0             | 7,625.8             | 7,623.5             | 28.9           | 14.6        | -89.59                | -1,195.5                          | 413.7      | 346.5                | 303.1                 | 43.39                   | 7.985 CC, ES      |         |                    |       |
| 8,800.0                        | 7,602.1             | 7,625.8             | 7,623.6             | 29.9           | 14.6        | -89.60                | -1,195.5                          | 413.7      | 352.4                | 308.0                 | 44.40                   | 7.936 SF          |         |                    |       |
| 8,900.0                        | 7,602.3             | 7,625.9             | 7,623.6             | 31.5           | 14.6        | -89.60                | -1,195.5                          | 413.7      | 383.4                | 337.4                 | 46.02                   | 8.331             |         |                    |       |
| 9,000.0                        | 7,602.5             | 7,625.9             | 7,623.6             | 33.1           | 14.6        | -89.61                | -1,195.5                          | 413.7      | 435.7                | 388.0                 | 47.67                   | 9.141             |         |                    |       |
| 9,100.0                        | 7,602.8             | 7,625.9             | 7,623.6             | 34.8           | 14.6        | -89.61                | -1,195.5                          | 413.7      | 502.6                | 453.3                 | 49.34                   | 10.187            |         |                    |       |
| 9,200.0                        | 7,603.0             | 7,626.0             | 7,623.7             | 36.5           | 14.6        | -89.61                | -1,195.5                          | 413.7      | 579.2                | 528.2                 | 51.04                   | 11.349            |         |                    |       |
| 9,300.0                        | 7,603.2             | 7,626.0             | 7,623.7             | 38.2           | 14.6        | -89.62                | -1,195.5                          | 413.7      | 662.0                | 609.3                 | 52.76                   | 12.549            |         |                    |       |
| 9,400.0                        | 7,603.4             | 7,626.0             | 7,623.7             | 40.0           | 14.6        | -89.62                | -1,195.5                          | 413.7      | 749.1                | 694.6                 | 54.49                   | 13.746            |         |                    |       |
| 9,500.0                        | 7,603.6             | 7,626.0             | 7,623.8             | 41.7           | 14.6        | -89.63                | -1,195.5                          | 413.7      | 839.0                | 782.8                 | 56.25                   | 14.917            |         |                    |       |
| 9,600.0                        | 7,603.8             | 7,626.1             | 7,623.8             | 43.5           | 14.6        | -89.63                | -1,195.5                          | 413.7      | 931.0                | 873.0                 | 58.01                   | 16.049            |         |                    |       |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                  |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Site Error: | 0.0 ft |
|--------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|---------|--------------------|--------|
| Survey Program: 100-NS-GYRO-MS |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Well Error: | 0.0 ft |
| Reference                      |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Offset                         |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Semi Major Axis                |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Distance                       |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Measured Depth (ft)            | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |                    |        |
| 9,700.0                        | 7,604.0             | 7,626.1             | 7,623.8             | 45.2           | 14.6        | -89.64                | -1,195.5                          | 413.7      | 1,024.5              | 964.7                 | 59.79                   | 17.135            |         |                    |        |
| 9,800.0                        | 7,604.2             | 7,626.1             | 7,623.8             | 47.0           | 14.6        | -89.64                | -1,195.5                          | 413.7      | 1,119.1              | 1,057.6               | 61.58                   | 18.174            |         |                    |        |
| 9,900.0                        | 7,604.4             | 7,626.2             | 7,623.9             | 48.8           | 14.6        | -89.65                | -1,195.5                          | 413.7      | 1,214.6              | 1,151.2               | 63.38                   | 19.165            |         |                    |        |
| 10,000.0                       | 7,604.6             | 7,626.2             | 7,623.9             | 50.6           | 14.6        | -89.66                | -1,195.5                          | 413.7      | 1,310.8              | 1,245.6               | 65.18                   | 20.109            |         |                    |        |
| 10,100.0                       | 7,604.8             | 7,626.2             | 7,623.9             | 52.5           | 14.6        | -89.66                | -1,195.5                          | 413.7      | 1,407.5              | 1,340.5               | 67.00                   | 21.007            |         |                    |        |
| 10,200.0                       | 7,605.1             | 7,626.3             | 7,624.0             | 54.3           | 14.6        | -89.67                | -1,195.5                          | 413.7      | 1,504.6              | 1,435.8               | 68.82                   | 21.862            |         |                    |        |
| 10,300.0                       | 7,605.3             | 7,626.3             | 7,624.0             | 56.1           | 14.6        | -89.67                | -1,195.5                          | 413.7      | 1,602.1              | 1,531.4               | 70.65                   | 22.676            |         |                    |        |
| 10,400.0                       | 7,605.5             | 7,626.3             | 7,624.1             | 57.9           | 14.6        | -89.68                | -1,195.5                          | 413.7      | 1,699.8              | 1,627.3               | 72.48                   | 23.452            |         |                    |        |
| 10,500.0                       | 7,605.7             | 7,626.4             | 7,624.1             | 59.8           | 14.6        | -89.69                | -1,195.5                          | 413.7      | 1,797.8              | 1,723.5               | 74.32                   | 24.190            |         |                    |        |
| 10,600.0                       | 7,605.9             | 7,626.4             | 7,624.1             | 61.6           | 14.6        | -89.69                | -1,195.5                          | 413.7      | 1,896.1              | 1,819.9               | 76.16                   | 24.895            |         |                    |        |
| 10,700.0                       | 7,606.1             | 7,626.5             | 7,624.2             | 63.5           | 14.6        | -89.70                | -1,195.5                          | 413.7      | 1,994.5              | 1,916.5               | 78.01                   | 25.566            |         |                    |        |
| 10,800.0                       | 7,606.3             | 7,626.5             | 7,624.2             | 65.3           | 14.6        | -89.71                | -1,195.5                          | 413.7      | 2,093.0              | 2,013.2               | 79.86                   | 26.208            |         |                    |        |
| 10,900.0                       | 7,606.5             | 7,626.5             | 7,624.3             | 67.2           | 14.6        | -89.71                | -1,195.5                          | 413.7      | 2,191.7              | 2,110.0               | 81.72                   | 26.820            |         |                    |        |
| 11,000.0                       | 7,606.7             | 7,626.6             | 7,624.3             | 69.0           | 14.6        | -89.72                | -1,195.5                          | 413.7      | 2,290.5              | 2,206.9               | 83.58                   | 27.406            |         |                    |        |
| 11,100.0                       | 7,606.9             | 7,626.6             | 7,624.3             | 70.9           | 14.6        | -89.73                | -1,195.5                          | 413.7      | 2,389.4              | 2,304.0               | 85.44                   | 27.966            |         |                    |        |
| 11,200.0                       | 7,607.2             | 7,626.7             | 7,624.4             | 72.8           | 14.6        | -89.74                | -1,195.5                          | 413.7      | 2,488.4              | 2,401.1               | 87.30                   | 28.503            |         |                    |        |
| 11,300.0                       | 7,607.4             | 7,626.7             | 7,624.4             | 74.6           | 14.6        | -89.74                | -1,195.5                          | 413.7      | 2,587.4              | 2,498.3               | 89.17                   | 29.017            |         |                    |        |
| 11,400.0                       | 7,607.6             | 7,626.8             | 7,624.5             | 76.5           | 14.6        | -89.75                | -1,195.5                          | 413.7      | 2,686.6              | 2,595.5               | 91.04                   | 29.511            |         |                    |        |
| 11,500.0                       | 7,607.8             | 7,626.8             | 7,624.5             | 78.4           | 14.6        | -89.76                | -1,195.5                          | 413.7      | 2,785.8              | 2,692.9               | 92.91                   | 29.984            |         |                    |        |
| 11,600.0                       | 7,608.0             | 7,626.9             | 7,624.6             | 80.2           | 14.6        | -89.77                | -1,195.5                          | 413.7      | 2,885.0              | 2,790.2               | 94.78                   | 30.438            |         |                    |        |
| 11,700.0                       | 7,608.2             | 7,626.9             | 7,624.6             | 82.1           | 14.6        | -89.78                | -1,195.5                          | 413.7      | 2,984.3              | 2,887.7               | 96.66                   | 30.875            |         |                    |        |
| 11,800.0                       | 7,608.4             | 7,627.0             | 7,624.7             | 84.0           | 14.6        | -89.79                | -1,195.5                          | 413.7      | 3,083.7              | 2,985.1               | 98.54                   | 31.295            |         |                    |        |
| 11,900.0                       | 7,608.6             | 7,627.0             | 7,624.8             | 85.9           | 14.6        | -89.79                | -1,195.5                          | 413.7      | 3,183.1              | 3,082.6               | 100.41                  | 31.699            |         |                    |        |
| 12,000.0                       | 7,608.8             | 7,627.1             | 7,624.8             | 87.7           | 14.6        | -89.80                | -1,195.5                          | 413.7      | 3,282.5              | 3,180.2               | 102.29                  | 32.088            |         |                    |        |
| 12,100.0                       | 7,609.0             | 7,627.2             | 7,624.9             | 89.6           | 14.6        | -89.81                | -1,195.5                          | 413.7      | 3,381.9              | 3,277.8               | 104.18                  | 32.463            |         |                    |        |
| 12,200.0                       | 7,609.2             | 7,627.2             | 7,624.9             | 91.5           | 14.6        | -89.82                | -1,195.5                          | 413.7      | 3,481.4              | 3,375.4               | 106.06                  | 32.825            |         |                    |        |
| 12,300.0                       | 7,609.5             | 7,627.3             | 7,625.0             | 93.4           | 14.6        | -89.84                | -1,195.5                          | 413.7      | 3,580.9              | 3,473.0               | 107.94                  | 33.174            |         |                    |        |
| 12,400.0                       | 7,609.7             | 7,627.4             | 7,625.1             | 95.3           | 14.6        | -89.85                | -1,195.5                          | 413.7      | 3,680.5              | 3,570.7               | 109.83                  | 33.511            |         |                    |        |
| 12,500.0                       | 7,609.9             | 7,627.4             | 7,625.1             | 97.2           | 14.6        | -89.86                | -1,195.5                          | 413.7      | 3,780.1              | 3,668.3               | 111.72                  | 33.836            |         |                    |        |
| 12,600.0                       | 7,610.1             | 7,627.5             | 7,625.2             | 99.1           | 14.6        | -89.87                | -1,195.5                          | 413.7      | 3,879.6              | 3,766.0               | 113.61                  | 34.150            |         |                    |        |
| 12,700.0                       | 7,610.3             | 7,627.6             | 7,625.3             | 100.9          | 14.6        | -89.88                | -1,195.5                          | 413.7      | 3,979.3              | 3,863.8               | 115.49                  | 34.454            |         |                    |        |
| 12,800.0                       | 7,610.5             | 7,627.6             | 7,625.3             | 102.8          | 14.6        | -89.89                | -1,195.5                          | 413.7      | 4,078.9              | 3,961.5               | 117.38                  | 34.748            |         |                    |        |
| 12,900.0                       | 7,610.7             | 7,627.7             | 7,625.4             | 104.7          | 14.6        | -89.91                | -1,195.5                          | 413.7      | 4,178.5              | 4,059.3               | 119.28                  | 35.033            |         |                    |        |
| 13,000.0                       | 7,610.9             | 7,627.8             | 7,625.5             | 106.6          | 14.6        | -89.92                | -1,195.5                          | 413.7      | 4,278.2              | 4,157.0               | 121.17                  | 35.308            |         |                    |        |
| 13,100.0                       | 7,611.1             | 7,627.9             | 7,625.6             | 108.5          | 14.6        | -89.93                | -1,195.5                          | 413.7      | 4,377.9              | 4,254.8               | 123.06                  | 35.575            |         |                    |        |
| 13,200.0                       | 7,611.3             | 7,628.0             | 7,625.7             | 110.4          | 14.6        | -89.95                | -1,195.5                          | 413.7      | 4,477.6              | 4,352.6               | 124.95                  | 35.834            |         |                    |        |
| 13,300.0                       | 7,611.6             | 7,628.1             | 7,625.8             | 112.3          | 14.6        | -89.96                | -1,195.5                          | 413.7      | 4,577.3              | 4,450.4               | 126.85                  | 36.085            |         |                    |        |
| 13,400.0                       | 7,611.8             | 7,628.2             | 7,625.9             | 114.2          | 14.6        | -89.98                | -1,195.5                          | 413.7      | 4,677.0              | 4,548.3               | 128.74                  | 36.328            |         |                    |        |
| 13,500.0                       | 7,612.0             | 7,628.3             | 7,626.0             | 116.1          | 14.6        | -90.00                | -1,195.5                          | 413.7      | 4,776.7              | 4,646.1               | 130.64                  | 36.564            |         |                    |        |
| 13,600.0                       | 7,612.2             | 7,628.4             | 7,626.1             | 118.0          | 14.6        | -90.01                | -1,195.5                          | 413.7      | 4,876.5              | 4,743.9               | 132.53                  | 36.794            |         |                    |        |
| 13,700.0                       | 7,612.4             | 7,628.5             | 7,626.2             | 119.9          | 14.6        | -90.03                | -1,195.5                          | 413.7      | 4,976.2              | 4,841.8               | 134.43                  | 37.017            |         |                    |        |
| 13,800.0                       | 7,612.6             | 7,628.6             | 7,626.3             | 121.8          | 14.6        | -90.05                | -1,195.5                          | 413.7      | 5,076.0              | 4,939.7               | 136.33                  | 37.233            |         |                    |        |
| 13,900.0                       | 7,612.8             | 7,628.7             | 7,626.4             | 123.7          | 14.6        | -90.07                | -1,195.5                          | 413.7      | 5,175.8              | 5,037.5               | 138.23                  | 37.444            |         |                    |        |
| 14,000.0                       | 7,613.0             | 7,628.8             | 7,626.5             | 125.6          | 14.6        | -90.09                | -1,195.5                          | 413.8      | 5,275.5              | 5,135.4               | 140.13                  | 37.649            |         |                    |        |
| 14,100.0                       | 7,613.2             | 7,628.9             | 7,626.6             | 127.5          | 14.6        | -90.11                | -1,195.5                          | 413.8      | 5,375.3              | 5,233.3               | 142.02                  | 37.848            |         |                    |        |
| 14,200.0                       | 7,613.4             | 7,629.1             | 7,626.8             | 129.4          | 14.6        | -90.13                | -1,195.5                          | 413.8      | 5,475.1              | 5,331.2               | 143.92                  | 38.042            |         |                    |        |
| 14,300.0                       | 7,613.6             | 7,629.2             | 7,626.9             | 131.3          | 14.6        | -90.15                | -1,195.5                          | 413.8      | 5,574.9              | 5,429.1               | 145.82                  | 38.231            |         |                    |        |
| 14,400.0                       | 7,613.9             | 7,629.4             | 7,627.1             | 133.2          | 14.6        | -90.18                | -1,195.5                          | 413.8      | 5,674.7              | 5,527.0               | 147.72                  | 38.415            |         |                    |        |
| 14,469.1                       | 7,614.0             | 7,629.5             | 7,627.2             | 134.5          | 14.6        | -90.20                | -1,195.5                          | 413.8      | 5,743.7              | 5,594.6               | 149.04                  | 38.539            |         |                    |        |

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Site Error: | 0.0 ft |
|------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|---------|--------------------|--------|
| Survey Program: 5104-UNKNOWN |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Well Error: | 0.0 ft |
| Reference                    |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Offset                       |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Semi Major Axis              |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Distance                     |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Measured Depth (ft)          | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |                    |        |
| 0.0                          | 0.0                 | 0.0                 | 0.0                 | 0.0            | 0.0         | -159.32               | -393.4                            | -148.5     | 420.5                |                       |                         |                   |         |                    |        |
| 100.0                        | 100.0               | 95.0                | 95.0                | 0.1            | 1.9         | -159.32               | -393.4                            | -148.5     | 420.5                | 418.5                 | 2.01                    | 208.937           |         |                    |        |
| 200.0                        | 200.0               | 195.0               | 195.0               | 0.3            | 3.9         | -159.32               | -393.4                            | -148.5     | 420.5                | 416.3                 | 4.24                    | 99.237            |         |                    |        |
| 300.0                        | 300.0               | 295.0               | 295.0               | 0.6            | 5.9         | -159.32               | -393.4                            | -148.5     | 420.5                | 414.0                 | 6.46                    | 65.072            |         |                    |        |
| 400.0                        | 400.0               | 395.0               | 395.0               | 0.8            | 7.9         | -159.32               | -393.4                            | -148.5     | 420.5                | 411.8                 | 8.69                    | 48.407            |         |                    |        |
| 500.0                        | 500.0               | 495.0               | 495.0               | 1.0            | 9.9         | -159.32               | -393.4                            | -148.5     | 420.5                | 409.6                 | 10.91                   | 38.537            |         |                    |        |
| 600.0                        | 600.0               | 595.0               | 595.0               | 1.2            | 11.9        | -159.32               | -393.4                            | -148.5     | 420.5                | 407.4                 | 13.14                   | 32.010            |         |                    |        |
| 700.0                        | 700.0               | 695.0               | 695.0               | 1.5            | 13.9        | -159.32               | -393.4                            | -148.5     | 420.5                | 405.1                 | 15.36                   | 27.374            |         |                    |        |
| 800.0                        | 800.0               | 795.0               | 795.0               | 1.7            | 15.9        | -159.32               | -393.4                            | -148.5     | 420.5                | 402.9                 | 17.59                   | 23.911            |         |                    |        |
| 900.0                        | 900.0               | 895.0               | 895.0               | 1.9            | 17.9        | -159.32               | -393.4                            | -148.5     | 420.5                | 400.7                 | 19.81                   | 21.226            |         |                    |        |
| 1,000.0                      | 1,000.0             | 995.0               | 995.0               | 2.1            | 19.9        | -159.32               | -393.4                            | -148.5     | 420.5                | 398.5                 | 22.04                   | 19.083            |         |                    |        |
| 1,100.0                      | 1,100.0             | 1,095.0             | 1,095.0             | 2.4            | 21.9        | -159.32               | -393.4                            | -148.5     | 420.5                | 396.2                 | 24.26                   | 17.333            |         |                    |        |
| 1,200.0                      | 1,200.0             | 1,195.0             | 1,195.0             | 2.6            | 23.9        | -159.32               | -393.4                            | -148.5     | 420.5                | 394.0                 | 26.48                   | 15.877            |         |                    |        |
| 1,300.0                      | 1,300.0             | 1,295.0             | 1,295.0             | 2.8            | 25.9        | -159.32               | -393.4                            | -148.5     | 420.5                | 391.8                 | 28.71                   | 14.647            |         |                    |        |
| 1,400.0                      | 1,400.0             | 1,395.0             | 1,395.0             | 3.0            | 27.9        | -159.32               | -393.4                            | -148.5     | 420.5                | 389.6                 | 30.93                   | 13.593            |         |                    |        |
| 1,500.0                      | 1,500.0             | 1,495.0             | 1,495.0             | 3.3            | 29.9        | -159.32               | -393.4                            | -148.5     | 420.5                | 387.3                 | 33.16                   | 12.681            |         |                    |        |
| 1,600.0                      | 1,600.0             | 1,595.0             | 1,595.0             | 3.5            | 31.9        | -159.32               | -393.4                            | -148.5     | 420.5                | 385.1                 | 35.38                   | 11.884            |         |                    |        |
| 1,700.0                      | 1,700.0             | 1,695.0             | 1,695.0             | 3.7            | 33.9        | -159.32               | -393.4                            | -148.5     | 420.5                | 382.9                 | 37.61                   | 11.181            |         |                    |        |
| 1,800.0                      | 1,800.0             | 1,795.0             | 1,795.0             | 3.9            | 35.9        | -159.32               | -393.4                            | -148.5     | 420.5                | 380.7                 | 39.83                   | 10.556            |         |                    |        |
| 1,900.0                      | 1,900.0             | 1,895.0             | 1,895.0             | 4.2            | 37.9        | -159.32               | -393.4                            | -148.5     | 420.5                | 378.4                 | 42.06                   | 9.998             |         |                    |        |
| 2,000.0                      | 2,000.0             | 1,995.0             | 1,995.0             | 4.4            | 39.9        | -159.32               | -393.4                            | -148.5     | 420.5                | 376.2                 | 44.28                   | 9.496 CC          |         |                    |        |
| 2,100.0                      | 2,100.0             | 2,095.0             | 2,095.0             | 4.6            | 41.9        | -174.29               | -393.4                            | -148.5     | 422.2                | 375.8                 | 46.48                   | 9.084 ES          |         |                    |        |
| 2,200.0                      | 2,199.8             | 2,194.8             | 2,194.8             | 4.8            | 43.9        | -174.35               | -393.4                            | -148.5     | 427.4                | 378.8                 | 48.61                   | 8.793             |         |                    |        |
| 2,300.0                      | 2,299.5             | 2,294.5             | 2,294.5             | 5.1            | 45.9        | -174.44               | -393.4                            | -148.5     | 436.1                | 385.4                 | 50.67                   | 8.607             |         |                    |        |
| 2,400.0                      | 2,398.7             | 2,393.7             | 2,393.7             | 5.3            | 47.9        | -174.58               | -393.4                            | -148.5     | 448.0                | 395.3                 | 52.74                   | 8.496             |         |                    |        |
| 2,500.0                      | 2,497.9             | 2,492.9             | 2,492.9             | 5.5            | 49.9        | -174.73               | -393.4                            | -148.5     | 460.7                | 405.8                 | 54.93                   | 8.387             |         |                    |        |
| 2,600.0                      | 2,597.1             | 2,592.1             | 2,592.1             | 5.8            | 51.8        | -174.87               | -393.4                            | -148.5     | 473.4                | 416.2                 | 57.12                   | 8.287             |         |                    |        |
| 2,700.0                      | 2,696.3             | 2,691.3             | 2,691.3             | 6.0            | 53.8        | -175.00               | -393.4                            | -148.5     | 486.0                | 426.7                 | 59.32                   | 8.193             |         |                    |        |
| 2,800.0                      | 2,795.5             | 2,790.5             | 2,790.5             | 6.3            | 55.8        | -175.13               | -393.4                            | -148.5     | 498.7                | 437.2                 | 61.52                   | 8.107             |         |                    |        |
| 2,900.0                      | 2,894.7             | 2,889.7             | 2,889.7             | 6.6            | 57.8        | -175.25               | -393.4                            | -148.5     | 511.4                | 447.7                 | 63.72                   | 8.026             |         |                    |        |
| 3,000.0                      | 2,993.9             | 2,988.9             | 2,988.9             | 6.8            | 59.8        | -175.36               | -393.4                            | -148.5     | 524.1                | 458.1                 | 65.92                   | 7.950             |         |                    |        |
| 3,100.0                      | 3,093.0             | 3,088.0             | 3,088.0             | 7.1            | 61.8        | -175.47               | -393.4                            | -148.5     | 536.7                | 468.6                 | 68.12                   | 7.880             |         |                    |        |
| 3,200.0                      | 3,192.2             | 3,187.2             | 3,187.2             | 7.4            | 63.7        | -175.58               | -393.4                            | -148.5     | 549.4                | 479.1                 | 70.32                   | 7.813             |         |                    |        |
| 3,300.0                      | 3,291.4             | 3,286.4             | 3,286.4             | 7.7            | 65.7        | -175.68               | -393.4                            | -148.5     | 562.1                | 489.6                 | 72.52                   | 7.751             |         |                    |        |
| 3,400.0                      | 3,390.6             | 3,385.6             | 3,385.6             | 8.0            | 67.7        | -175.77               | -393.4                            | -148.5     | 574.8                | 500.1                 | 74.72                   | 7.693             |         |                    |        |
| 3,500.0                      | 3,489.8             | 3,484.8             | 3,484.8             | 8.2            | 69.7        | -175.87               | -393.4                            | -148.5     | 587.5                | 510.5                 | 76.92                   | 7.637             |         |                    |        |
| 3,600.0                      | 3,589.0             | 3,584.0             | 3,584.0             | 8.5            | 71.7        | -175.95               | -393.4                            | -148.5     | 600.2                | 521.0                 | 79.13                   | 7.585             |         |                    |        |
| 3,700.0                      | 3,688.2             | 3,683.2             | 3,683.2             | 8.8            | 73.7        | -176.04               | -393.4                            | -148.5     | 612.8                | 531.5                 | 81.33                   | 7.535             |         |                    |        |
| 3,800.0                      | 3,787.4             | 3,782.4             | 3,782.4             | 9.1            | 75.6        | -176.12               | -393.4                            | -148.5     | 625.5                | 542.0                 | 83.53                   | 7.488             |         |                    |        |
| 3,900.0                      | 3,886.5             | 3,881.5             | 3,881.5             | 9.4            | 77.6        | -176.19               | -393.4                            | -148.5     | 638.2                | 552.5                 | 85.74                   | 7.444             |         |                    |        |
| 4,000.0                      | 3,985.7             | 3,980.7             | 3,980.7             | 9.7            | 79.6        | -176.27               | -393.4                            | -148.5     | 650.9                | 563.0                 | 87.94                   | 7.402             |         |                    |        |
| 4,100.0                      | 4,085.0             | 4,080.0             | 4,080.0             | 10.0           | 81.6        | -176.35               | -393.4                            | -148.5     | 663.2                | 572.9                 | 90.31                   | 7.344             |         |                    |        |
| 4,200.0                      | 4,184.5             | 4,179.5             | 4,179.5             | 10.2           | 83.6        | -176.41               | -393.4                            | -148.5     | 672.4                | 579.7                 | 92.74                   | 7.250             |         |                    |        |
| 4,300.0                      | 4,284.4             | 4,279.4             | 4,279.4             | 10.4           | 85.6        | -176.45               | -393.4                            | -148.5     | 678.2                | 583.1                 | 95.08                   | 7.133             |         |                    |        |
| 4,400.0                      | 4,384.3             | 4,379.3             | 4,379.3             | 10.6           | 87.6        | -176.46               | -393.4                            | -148.5     | 680.5                | 583.2                 | 97.31                   | 6.993             |         |                    |        |
| 4,500.0                      | 4,484.3             | 4,479.3             | 4,479.3             | 10.8           | 89.6        | -161.52               | -393.4                            | -148.5     | 680.5                | 581.0                 | 99.50                   | 6.839             |         |                    |        |
| 4,600.0                      | 4,584.3             | 4,579.3             | 4,579.3             | 11.0           | 91.6        | -161.52               | -393.4                            | -148.5     | 680.5                | 578.8                 | 101.72                  | 6.690             |         |                    |        |
| 4,700.0                      | 4,684.3             | 4,679.3             | 4,679.3             | 11.2           | 93.6        | -161.52               | -393.4                            | -148.5     | 680.5                | 576.6                 | 103.94                  | 6.547             |         |                    |        |
| 4,800.0                      | 4,784.3             | 4,779.3             | 4,779.3             | 11.4           | 95.6        | -161.52               | -393.4                            | -148.5     | 680.5                | 574.4                 | 106.16                  | 6.410             |         |                    |        |
| 4,900.0                      | 4,884.3             | 4,879.3             | 4,879.3             | 11.6           | 97.6        | -161.52               | -393.4                            | -148.5     | 680.5                | 572.1                 | 108.38                  | 6.279             |         |                    |        |
| 5,000.0                      | 4,984.3             | 4,979.3             | 4,979.3             | 11.8           | 99.6        | -161.52               | -393.4                            | -148.5     | 680.5                | 569.9                 | 110.60                  | 6.153             |         |                    |        |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Existings Sec.32-T1N-R67W - Jacobucci 3 (Exist.) - Wellbore #1 - Wellbore #1 |  | Offset Site Error: 0.0 ft |  |
|------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|------------------------------------------------------------------------------|--|---------------------------|--|
| Survey Program: 5104-UNKNOWN |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Well Error: 0.0 ft                                                    |  |                           |  |
| Reference                    |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                   | Warning                                                                      |  |                           |  |
| Measured Depth (ft)          | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor |                                                                              |  |                           |  |
| 5,100.0                      | 5,084.3             | 5,079.3             | 5,079.3             | 12.0            | 101.6       | -161.52               | -393.4                            | -148.5     | 680.5                | 567.7                 | 112.82                  | 6.032             | 6.030 SF                                                                     |  |                           |  |
| 5,200.0                      | 5,184.3             | 5,104.0             | 5,104.0             | 12.2            | 102.1       | -161.52               | -393.4                            | -148.5     | 684.7                | 571.1                 | 113.54                  | 6.030             |                                                                              |  |                           |  |
| 5,300.0                      | 5,284.3             | 5,104.0             | 5,104.0             | 12.4            | 102.1       | -161.52               | -393.4                            | -148.5     | 702.7                | 589.0                 | 113.76                  | 6.178             |                                                                              |  |                           |  |
| 5,400.0                      | 5,384.3             | 5,104.0             | 5,104.0             | 12.6            | 102.1       | -161.52               | -393.4                            | -148.5     | 734.1                | 620.1                 | 113.98                  | 6.441             |                                                                              |  |                           |  |
| 5,500.0                      | 5,484.3             | 5,104.0             | 5,104.0             | 12.8            | 102.1       | -161.52               | -393.4                            | -148.5     | 777.2                | 663.0                 | 114.20                  | 6.805             |                                                                              |  |                           |  |
| 5,600.0                      | 5,584.3             | 5,104.0             | 5,104.0             | 13.0            | 102.1       | -161.52               | -393.4                            | -148.5     | 830.1                | 715.7                 | 114.42                  | 7.255             |                                                                              |  |                           |  |
| 5,700.0                      | 5,684.3             | 5,104.0             | 5,104.0             | 13.2            | 102.1       | -161.52               | -393.4                            | -148.5     | 891.1                | 776.5                 | 114.64                  | 7.773             |                                                                              |  |                           |  |
| 5,800.0                      | 5,784.3             | 5,104.0             | 5,104.0             | 13.4            | 102.1       | -161.52               | -393.4                            | -148.5     | 958.7                | 843.9                 | 114.86                  | 8.347             |                                                                              |  |                           |  |
| 5,900.0                      | 5,884.3             | 5,104.0             | 5,104.0             | 13.6            | 102.1       | -161.52               | -393.4                            | -148.5     | 1,031.6              | 916.5                 | 115.08                  | 8.964             |                                                                              |  |                           |  |
| 6,000.0                      | 5,984.3             | 5,104.0             | 5,104.0             | 13.9            | 102.1       | -161.52               | -393.4                            | -148.5     | 1,108.7              | 993.4                 | 115.31                  | 9.616             |                                                                              |  |                           |  |
| 6,100.0                      | 6,084.3             | 5,104.0             | 5,104.0             | 14.1            | 102.1       | -161.52               | -393.4                            | -148.5     | 1,189.3              | 1,073.8               | 115.53                  | 10.294            |                                                                              |  |                           |  |
| 6,200.0                      | 6,184.3             | 5,104.0             | 5,104.0             | 14.3            | 102.1       | -161.52               | -393.4                            | -148.5     | 1,272.6              | 1,156.8               | 115.75                  | 10.994            |                                                                              |  |                           |  |
| 6,300.0                      | 6,284.3             | 5,104.0             | 5,104.0             | 14.5            | 102.1       | -161.52               | -393.4                            | -148.5     | 1,358.1              | 1,242.2               | 115.97                  | 11.711            |                                                                              |  |                           |  |
| 6,400.0                      | 6,384.3             | 5,104.0             | 5,104.0             | 14.7            | 102.1       | -161.52               | -393.4                            | -148.5     | 1,445.5              | 1,329.3               | 116.19                  | 12.441            |                                                                              |  |                           |  |
| 6,500.0                      | 6,484.3             | 5,104.0             | 5,104.0             | 14.9            | 102.1       | -161.52               | -393.4                            | -148.5     | 1,534.5              | 1,418.1               | 116.42                  | 13.181            |                                                                              |  |                           |  |
| 6,600.0                      | 6,584.3             | 5,104.0             | 5,104.0             | 15.1            | 102.1       | -161.52               | -393.4                            | -148.5     | 1,624.7              | 1,508.1               | 116.64                  | 13.929            |                                                                              |  |                           |  |
| 6,700.0                      | 6,684.3             | 5,104.0             | 5,104.0             | 15.3            | 102.1       | -161.52               | -393.4                            | -148.5     | 1,716.0              | 1,599.2               | 116.86                  | 14.684            |                                                                              |  |                           |  |
| 6,800.0                      | 6,784.3             | 5,104.0             | 5,104.0             | 15.6            | 102.1       | -161.52               | -393.4                            | -148.5     | 1,808.3              | 1,691.2               | 117.08                  | 15.444            |                                                                              |  |                           |  |
| 6,900.0                      | 6,884.3             | 5,104.0             | 5,104.0             | 15.7            | 102.1       | 15.98                 | -393.4                            | -148.5     | 1,900.8              | 1,783.7               | 117.06                  | 16.238            |                                                                              |  |                           |  |
| 7,000.0                      | 6,983.4             | 5,104.0             | 5,104.0             | 15.9            | 102.1       | 12.42                 | -393.4                            | -148.5     | 1,989.6              | 1,874.2               | 115.34                  | 17.249            |                                                                              |  |                           |  |
| 7,100.0                      | 7,080.0             | 5,104.0             | 5,104.0             | 15.9            | 102.1       | 10.17                 | -393.4                            | -148.5     | 2,073.2              | 1,961.5               | 111.72                  | 18.557            |                                                                              |  |                           |  |
| 7,200.0                      | 7,172.5             | 5,104.0             | 5,104.0             | 15.9            | 102.1       | 8.66                  | -393.4                            | -148.5     | 2,151.0              | 2,044.7               | 106.25                  | 20.244            |                                                                              |  |                           |  |
| 7,300.0                      | 7,259.1             | 5,104.0             | 5,104.0             | 16.0            | 102.1       | 7.58                  | -393.4                            | -148.5     | 2,222.1              | 2,123.1               | 99.05                   | 22.435            |                                                                              |  |                           |  |
| 7,400.0                      | 7,338.6             | 5,104.0             | 5,104.0             | 16.0            | 102.1       | 6.80                  | -393.4                            | -148.5     | 2,286.2              | 2,196.0               | 90.27                   | 25.326            |                                                                              |  |                           |  |
| 7,500.0                      | 7,409.5             | 5,104.0             | 5,104.0             | 16.1            | 102.1       | 6.21                  | -393.4                            | -148.5     | 2,342.7              | 2,262.6               | 80.12                   | 29.241            |                                                                              |  |                           |  |
| 7,600.0                      | 7,470.5             | 5,104.0             | 5,104.0             | 16.4            | 102.1       | 5.78                  | -393.4                            | -148.5     | 2,391.3              | 2,322.4               | 68.84                   | 34.738            |                                                                              |  |                           |  |
| 7,700.0                      | 7,520.8             | 5,104.0             | 5,104.0             | 16.8            | 102.1       | 5.46                  | -393.4                            | -148.5     | 2,431.5              | 2,374.8               | 56.72                   | 42.869            |                                                                              |  |                           |  |
| 7,800.0                      | 7,559.3             | 5,104.0             | 5,104.0             | 17.4            | 102.1       | 5.22                  | -393.4                            | -148.5     | 2,463.1              | 2,419.0               | 44.13                   | 55.813            |                                                                              |  |                           |  |
| 7,900.0                      | 7,585.4             | 5,104.0             | 5,104.0             | 18.2            | 102.1       | 5.07                  | -393.4                            | -148.5     | 2,486.0              | 2,454.4               | 31.62                   | 78.615            |                                                                              |  |                           |  |
| 8,000.0                      | 7,598.8             | 5,104.0             | 5,104.0             | 19.1            | 102.1       | 4.97                  | -393.4                            | -148.5     | 2,500.0              | 2,479.1               | 20.83                   | 120.017           |                                                                              |  |                           |  |
| 8,100.0                      | 7,600.7             | 5,104.0             | 5,104.0             | 20.1            | 102.1       | 4.95                  | -393.4                            | -148.5     | 2,506.5              | 2,487.8               | 18.71                   | 133.988           |                                                                              |  |                           |  |
| 8,200.0                      | 7,600.9             | 5,104.0             | 5,104.0             | 21.3            | 102.1       | 4.95                  | -393.4                            | -148.5     | 2,515.3              | 2,496.2               | 19.11                   | 131.645           |                                                                              |  |                           |  |
| 8,300.0                      | 7,601.1             | 5,104.0             | 5,104.0             | 22.5            | 102.1       | 4.95                  | -393.4                            | -148.5     | 2,528.1              | 2,508.5               | 19.54                   | 129.352           |                                                                              |  |                           |  |
| 8,400.0                      | 7,601.3             | 5,104.0             | 5,104.0             | 23.9            | 102.1       | 4.95                  | -393.4                            | -148.5     | 2,544.7              | 2,524.7               | 20.01                   | 127.142           |                                                                              |  |                           |  |
| 8,500.0                      | 7,601.5             | 5,104.0             | 5,104.0             | 25.3            | 102.1       | 4.95                  | -393.4                            | -148.5     | 2,565.1              | 2,544.6               | 20.51                   | 125.042           |                                                                              |  |                           |  |
| 8,600.0                      | 7,601.7             | 5,104.0             | 5,104.0             | 26.8            | 102.1       | 4.95                  | -393.4                            | -148.5     | 2,589.2              | 2,568.2               | 21.04                   | 123.068           |                                                                              |  |                           |  |
| 8,700.0                      | 7,601.9             | 5,104.0             | 5,104.0             | 28.3            | 102.1       | 4.95                  | -393.4                            | -148.5     | 2,616.9              | 2,595.3               | 21.59                   | 121.232           |                                                                              |  |                           |  |
| 8,800.0                      | 7,602.1             | 5,104.0             | 5,104.0             | 29.9            | 102.1       | 4.95                  | -393.4                            | -148.5     | 2,648.1              | 2,626.0               | 22.15                   | 119.539           |                                                                              |  |                           |  |
| 8,900.0                      | 7,602.3             | 5,104.0             | 5,104.0             | 31.5            | 102.1       | 4.95                  | -393.4                            | -148.5     | 2,682.7              | 2,660.0               | 22.74                   | 117.989           |                                                                              |  |                           |  |
| 9,000.0                      | 7,602.5             | 5,104.0             | 5,104.0             | 33.1            | 102.1       | 4.95                  | -393.4                            | -148.5     | 2,720.5              | 2,697.2               | 23.34                   | 116.579           |                                                                              |  |                           |  |
| 9,100.0                      | 7,602.8             | 5,104.0             | 5,104.0             | 34.8            | 102.1       | 4.95                  | -393.4                            | -148.5     | 2,761.4              | 2,737.5               | 23.95                   | 115.306           |                                                                              |  |                           |  |
| 9,200.0                      | 7,603.0             | 5,104.0             | 5,104.0             | 36.5            | 102.1       | 4.95                  | -393.4                            | -148.5     | 2,805.3              | 2,780.7               | 24.57                   | 114.163           |                                                                              |  |                           |  |
| 9,300.0                      | 7,603.2             | 5,104.0             | 5,104.0             | 38.2            | 102.1       | 4.95                  | -393.4                            | -148.5     | 2,852.0              | 2,826.8               | 25.21                   | 113.141           |                                                                              |  |                           |  |
| 9,400.0                      | 7,603.4             | 5,104.0             | 5,104.0             | 40.0            | 102.1       | 4.95                  | -393.4                            | -148.5     | 2,901.4              | 2,875.6               | 25.85                   | 112.234           |                                                                              |  |                           |  |
| 9,500.0                      | 7,603.6             | 5,104.0             | 5,104.0             | 41.7            | 102.1       | 4.95                  | -393.4                            | -148.5     | 2,953.4              | 2,926.9               | 26.50                   | 111.433           |                                                                              |  |                           |  |
| 9,600.0                      | 7,603.8             | 5,104.0             | 5,104.0             | 43.5            | 102.1       | 4.95                  | -393.4                            | -148.5     | 3,007.8              | 2,980.7               | 27.16                   | 110.730           |                                                                              |  |                           |  |
| 9,700.0                      | 7,604.0             | 5,104.0             | 5,104.0             | 45.2            | 102.1       | 4.95                  | -393.4                            | -148.5     | 3,064.5              | 3,036.7               | 27.83                   | 110.116           |                                                                              |  |                           |  |
| 9,800.0                      | 7,604.2             | 5,104.0             | 5,104.0             | 47.0            | 102.1       | 4.95                  | -393.4                            | -148.5     | 3,123.4              | 3,094.9               | 28.50                   | 109.585           |                                                                              |  |                           |  |
| 9,900.0                      | 7,604.4             | 5,104.0             | 5,104.0             | 48.8            | 102.1       | 4.95                  | -393.4                            | -148.5     | 3,184.3              | 3,155.1               | 29.18                   | 109.128           |                                                                              |  |                           |  |
| 10,000.0                     | 7,604.6             | 5,104.0             | 5,104.0             | 50.6            | 102.1       | 4.95                  | -393.4                            | -148.5     | 3,247.2              | 3,217.3               | 29.86                   | 108.740           |                                                                              |  |                           |  |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                |                |                |                |                 |        |                   |                        |            |                 |                  |                    |                   | Existings Sec.32-T1N-R67W - Jacobucci 3 (Exist.) - Wellbore #1 - Wellbore #1 |         | Offset Site Error: 0.0 ft |  |
|------------------------------|----------------|----------------|----------------|-----------------|--------|-------------------|------------------------|------------|-----------------|------------------|--------------------|-------------------|------------------------------------------------------------------------------|---------|---------------------------|--|
| Survey Program: 5104-UNKNOWN |                |                |                |                 |        |                   |                        |            |                 |                  |                    |                   | Offset Well Error: 0.0 ft                                                    |         |                           |  |
| Reference                    |                | Offset         |                | Semi Major Axis |        |                   | Distance               |            |                 |                  |                    |                   |                                                                              | Warning |                           |  |
| Measured Depth               | Vertical Depth | Measured Depth | Vertical Depth | Reference       | Offset | Highside Toolface | Offset Wellbore Centre |            | Between Centres | Between Ellipses | Minimum Separation | Separation Factor |                                                                              |         |                           |  |
| (ft)                         | (ft)           | (ft)           | (ft)           | (ft)            | (ft)   | (°)               | +N/-S (ft)             | +E/-W (ft) | (ft)            | (ft)             | (ft)               |                   |                                                                              |         |                           |  |
| 10,100.0                     | 7,604.8        | 5,104.0        | 5,104.0        | 52.5            | 102.1  | 4.95              | -393.4                 | -148.5     | 3,311.9         | 3,281.3          | 30.55              | 108.413           |                                                                              |         |                           |  |
| 10,200.0                     | 7,605.1        | 5,104.0        | 5,104.0        | 54.3            | 102.1  | 4.95              | -393.4                 | -148.5     | 3,378.3         | 3,347.0          | 31.24              | 108.142           |                                                                              |         |                           |  |
| 10,300.0                     | 7,605.3        | 5,104.0        | 5,104.0        | 56.1            | 102.1  | 4.95              | -393.4                 | -148.5     | 3,446.3         | 3,414.4          | 31.93              | 107.921           |                                                                              |         |                           |  |
| 10,400.0                     | 7,605.5        | 5,104.0        | 5,104.0        | 57.9            | 102.1  | 4.95              | -393.4                 | -148.5     | 3,515.9         | 3,483.2          | 32.63              | 107.745           |                                                                              |         |                           |  |
| 10,500.0                     | 7,605.7        | 5,104.0        | 5,104.0        | 59.8            | 102.1  | 4.95              | -393.4                 | -148.5     | 3,586.9         | 3,553.5          | 33.33              | 107.610           |                                                                              |         |                           |  |
| 10,600.0                     | 7,605.9        | 5,104.0        | 5,104.0        | 61.6            | 102.1  | 4.95              | -393.4                 | -148.5     | 3,659.2         | 3,625.2          | 34.04              | 107.512           |                                                                              |         |                           |  |
| 10,700.0                     | 7,606.1        | 5,104.0        | 5,104.0        | 63.5            | 102.1  | 4.95              | -393.4                 | -148.5     | 3,732.9         | 3,698.1          | 34.74              | 107.447           |                                                                              |         |                           |  |
| 10,800.0                     | 7,606.3        | 5,104.0        | 5,104.0        | 65.3            | 102.1  | 4.95              | -393.4                 | -148.5     | 3,807.7         | 3,772.2          | 35.45              | 107.411           |                                                                              |         |                           |  |
| 10,900.0                     | 7,606.5        | 5,104.0        | 5,104.0        | 67.2            | 102.1  | 4.95              | -393.4                 | -148.5     | 3,883.7         | 3,847.5          | 36.16              | 107.401           |                                                                              |         |                           |  |
| 11,000.0                     | 7,606.7        | 5,104.0        | 5,104.0        | 69.0            | 102.1  | 4.95              | -393.4                 | -148.5     | 3,960.7         | 3,923.8          | 36.87              | 107.415           |                                                                              |         |                           |  |
| 11,100.0                     | 7,606.9        | 5,104.0        | 5,104.0        | 70.9            | 102.1  | 4.95              | -393.4                 | -148.5     | 4,038.7         | 4,001.1          | 37.59              | 107.450           |                                                                              |         |                           |  |
| 11,200.0                     | 7,607.2        | 5,104.0        | 5,104.0        | 72.8            | 102.1  | 4.95              | -393.4                 | -148.5     | 4,117.7         | 4,079.4          | 38.30              | 107.504           |                                                                              |         |                           |  |
| 11,300.0                     | 7,607.4        | 5,104.0        | 5,104.0        | 74.6            | 102.1  | 4.95              | -393.4                 | -148.5     | 4,197.6         | 4,158.6          | 39.02              | 107.574           |                                                                              |         |                           |  |
| 11,400.0                     | 7,607.6        | 5,104.0        | 5,104.0        | 76.5            | 102.1  | 4.95              | -393.4                 | -148.5     | 4,278.3         | 4,238.6          | 39.74              | 107.659           |                                                                              |         |                           |  |
| 11,500.0                     | 7,607.8        | 5,104.0        | 5,104.0        | 78.4            | 102.1  | 4.95              | -393.4                 | -148.5     | 4,359.9         | 4,319.4          | 40.46              | 107.757           |                                                                              |         |                           |  |
| 11,600.0                     | 7,608.0        | 5,104.0        | 5,104.0        | 80.2            | 102.1  | 4.95              | -393.4                 | -148.5     | 4,442.2         | 4,401.0          | 41.18              | 107.866           |                                                                              |         |                           |  |
| 11,700.0                     | 7,608.2        | 5,104.0        | 5,104.0        | 82.1            | 102.1  | 4.95              | -393.4                 | -148.5     | 4,525.2         | 4,483.3          | 41.91              | 107.986           |                                                                              |         |                           |  |
| 11,800.0                     | 7,608.4        | 5,104.0        | 5,104.0        | 84.0            | 102.1  | 4.95              | -393.4                 | -148.5     | 4,608.8         | 4,566.2          | 42.63              | 108.115           |                                                                              |         |                           |  |
| 11,900.0                     | 7,608.6        | 5,104.0        | 5,104.0        | 85.9            | 102.1  | 4.95              | -393.4                 | -148.5     | 4,693.2         | 4,649.8          | 43.35              | 108.251           |                                                                              |         |                           |  |
| 12,000.0                     | 7,608.8        | 5,104.0        | 5,104.0        | 87.7            | 102.1  | 4.95              | -393.4                 | -148.5     | 4,778.1         | 4,734.0          | 44.08              | 108.394           |                                                                              |         |                           |  |
| 12,100.0                     | 7,609.0        | 5,104.0        | 5,104.0        | 89.6            | 102.1  | 4.95              | -393.4                 | -148.5     | 4,863.6         | 4,818.8          | 44.81              | 108.543           |                                                                              |         |                           |  |
| 12,200.0                     | 7,609.2        | 5,104.0        | 5,104.0        | 91.5            | 102.1  | 4.95              | -393.4                 | -148.5     | 4,949.6         | 4,904.1          | 45.54              | 108.698           |                                                                              |         |                           |  |
| 12,300.0                     | 7,609.5        | 5,104.0        | 5,104.0        | 93.4            | 102.1  | 4.95              | -393.4                 | -148.5     | 5,036.2         | 4,989.9          | 46.26              | 108.856           |                                                                              |         |                           |  |
| 12,400.0                     | 7,609.7        | 5,104.0        | 5,104.0        | 95.3            | 102.1  | 4.95              | -393.4                 | -148.5     | 5,123.2         | 5,076.2          | 46.99              | 109.018           |                                                                              |         |                           |  |
| 12,500.0                     | 7,609.9        | 5,104.0        | 5,104.0        | 97.2            | 102.1  | 4.95              | -393.4                 | -148.5     | 5,210.7         | 5,163.0          | 47.72              | 109.184           |                                                                              |         |                           |  |
| 12,600.0                     | 7,610.1        | 5,104.0        | 5,104.0        | 99.1            | 102.1  | 4.95              | -393.4                 | -148.5     | 5,298.7         | 5,250.2          | 48.46              | 109.352           |                                                                              |         |                           |  |
| 12,700.0                     | 7,610.3        | 5,104.0        | 5,104.0        | 100.9           | 102.1  | 4.95              | -393.4                 | -148.5     | 5,387.0         | 5,337.8          | 49.19              | 109.522           |                                                                              |         |                           |  |
| 12,800.0                     | 7,610.5        | 5,104.0        | 5,104.0        | 102.8           | 102.1  | 4.95              | -393.4                 | -148.5     | 5,475.8         | 5,425.9          | 49.92              | 109.693           |                                                                              |         |                           |  |
| 12,900.0                     | 7,610.7        | 5,104.0        | 5,104.0        | 104.7           | 102.1  | 4.95              | -393.4                 | -148.5     | 5,564.9         | 5,514.3          | 50.65              | 109.866           |                                                                              |         |                           |  |
| 13,000.0                     | 7,610.9        | 5,104.0        | 5,104.0        | 106.6           | 102.1  | 4.95              | -393.4                 | -148.5     | 5,654.5         | 5,603.1          | 51.39              | 110.040           |                                                                              |         |                           |  |
| 13,100.0                     | 7,611.1        | 5,104.0        | 5,104.0        | 108.5           | 102.1  | 4.95              | -393.4                 | -148.5     | 5,744.3         | 5,692.2          | 52.12              | 110.215           |                                                                              |         |                           |  |
| 13,200.0                     | 7,611.3        | 5,104.0        | 5,104.0        | 110.4           | 102.1  | 4.95              | -393.4                 | -148.5     | 5,834.5         | 5,781.7          | 52.85              | 110.390           |                                                                              |         |                           |  |
| 13,300.0                     | 7,611.6        | 5,104.0        | 5,104.0        | 112.3           | 102.1  | 4.95              | -393.4                 | -148.5     | 5,925.0         | 5,871.4          | 53.59              | 110.565           |                                                                              |         |                           |  |
| 13,400.0                     | 7,611.8        | 5,104.0        | 5,104.0        | 114.2           | 102.1  | 4.95              | -393.4                 | -148.5     | 6,015.8         | 5,961.5          | 54.32              | 110.739           |                                                                              |         |                           |  |
| 13,500.0                     | 7,612.0        | 5,104.0        | 5,104.0        | 116.1           | 102.1  | 4.95              | -393.4                 | -148.5     | 6,106.9         | 6,051.9          | 55.06              | 110.914           |                                                                              |         |                           |  |
| 13,600.0                     | 7,612.2        | 5,104.0        | 5,104.0        | 118.0           | 102.1  | 4.95              | -393.4                 | -148.5     | 6,198.3         | 6,142.5          | 55.80              | 111.088           |                                                                              |         |                           |  |
| 13,700.0                     | 7,612.4        | 5,104.0        | 5,104.0        | 119.9           | 102.1  | 4.95              | -393.4                 | -148.5     | 6,289.9         | 6,233.4          | 56.53              | 111.261           |                                                                              |         |                           |  |
| 13,800.0                     | 7,612.6        | 5,104.0        | 5,104.0        | 121.8           | 102.1  | 4.95              | -393.4                 | -148.5     | 6,381.8         | 6,324.5          | 57.27              | 111.434           |                                                                              |         |                           |  |
| 13,900.0                     | 7,612.8        | 5,104.0        | 5,104.0        | 123.7           | 102.1  | 4.95              | -393.4                 | -148.5     | 6,473.9         | 6,415.9          | 58.01              | 111.606           |                                                                              |         |                           |  |
| 14,000.0                     | 7,613.0        | 5,104.0        | 5,104.0        | 125.6           | 102.1  | 4.95              | -393.4                 | -148.5     | 6,566.3         | 6,507.5          | 58.74              | 111.776           |                                                                              |         |                           |  |
| 14,100.0                     | 7,613.2        | 5,104.0        | 5,104.0        | 127.5           | 102.1  | 4.95              | -393.4                 | -148.5     | 6,658.8         | 6,599.4          | 59.48              | 111.946           |                                                                              |         |                           |  |
| 14,200.0                     | 7,613.4        | 5,104.0        | 5,104.0        | 129.4           | 102.1  | 4.95              | -393.4                 | -148.5     | 6,751.6         | 6,691.4          | 60.22              | 112.114           |                                                                              |         |                           |  |
| 14,300.0                     | 7,613.6        | 5,104.0        | 5,104.0        | 131.3           | 102.1  | 4.95              | -393.4                 | -148.5     | 6,844.6         | 6,783.7          | 60.96              | 112.281           |                                                                              |         |                           |  |
| 14,400.0                     | 7,613.9        | 5,104.0        | 5,104.0        | 133.2           | 102.1  | 4.95              | -393.4                 | -148.5     | 6,937.8         | 6,876.1          | 61.70              | 112.446           |                                                                              |         |                           |  |
| 14,469.1                     | 7,614.0        | 5,104.0        | 5,104.0        | 134.5           | 102.1  | 4.95              | -393.4                 | -148.5     | 7,002.3         | 6,940.1          | 62.21              | 112.560           |                                                                              |         |                           |  |

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                  |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Site Error: | 0.0 ft |
|--------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|---------|--------------------|--------|
| Survey Program: 100-NS-GYRO-MS |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Well Error: | 0.0 ft |
| Reference                      |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Offset                         |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Semi Major Axis                |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Distance                       |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Measured Depth (ft)            | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |                    |        |
| 0.0                            | 0.0                 | 0.0                 | 0.0                 | 0.0            | 0.0         | -155.39               | -342.4                            | -156.9     | 376.7                |                       |                         |                   |         |                    |        |
| 100.0                          | 100.0               | 96.3                | 96.3                | 0.1            | 0.1         | -155.36               | -342.4                            | -157.1     | 376.7                | 376.5                 | 0.24                    | 1,568.475         |         |                    |        |
| 200.0                          | 200.0               | 197.5               | 197.5               | 0.3            | 0.4         | -155.31               | -342.3                            | -157.4     | 376.8                | 376.1                 | 0.69                    | 545.514           |         |                    |        |
| 296.6                          | 296.6               | 293.6               | 293.6               | 0.6            | 0.6         | -155.28               | -342.2                            | -157.6     | 376.7                | 375.6                 | 1.14                    | 329.993           |         |                    |        |
| 300.0                          | 300.0               | 297.0               | 297.0               | 0.6            | 0.6         | -155.27               | -342.2                            | -157.6     | 376.7                | 375.6                 | 1.16                    | 325.451           |         |                    |        |
| 400.0                          | 400.0               | 398.4               | 398.4               | 0.8            | 0.8         | -155.23               | -341.9                            | -157.8     | 376.5                | 374.9                 | 1.61                    | 233.338           |         |                    |        |
| 500.0                          | 500.0               | 498.5               | 498.5               | 1.0            | 1.1         | -155.19               | -341.4                            | -157.9     | 376.2                | 374.1                 | 2.07                    | 181.523           |         |                    |        |
| 600.0                          | 600.0               | 600.0               | 600.0               | 1.2            | 1.3         | -155.13               | -340.7                            | -157.9     | 375.6                | 373.0                 | 2.55                    | 147.444           |         |                    |        |
| 700.0                          | 700.0               | 699.0               | 699.0               | 1.5            | 1.5         | -155.10               | -340.1                            | -157.8     | 374.9                | 371.9                 | 3.00                    | 124.859           |         |                    |        |
| 800.0                          | 800.0               | 798.7               | 798.7               | 1.7            | 1.8         | -155.07               | -339.5                            | -157.8     | 374.4                | 370.9                 | 3.47                    | 107.788           |         |                    |        |
| 900.0                          | 900.0               | 899.6               | 899.6               | 1.9            | 2.0         | -155.04               | -338.9                            | -157.8     | 373.8                | 369.9                 | 3.95                    | 94.695            |         |                    |        |
| 1,000.0                        | 1,000.0             | 997.6               | 997.6               | 2.1            | 2.3         | -155.03               | -338.5                            | -157.6     | 373.4                | 369.0                 | 4.41                    | 84.584            |         |                    |        |
| 1,100.0                        | 1,100.0             | 1,098.5             | 1,098.5             | 2.4            | 2.5         | -154.99               | -338.2                            | -157.7     | 373.1                | 368.2                 | 4.90                    | 76.123            |         |                    |        |
| 1,200.0                        | 1,200.0             | 1,197.5             | 1,197.5             | 2.6            | 2.8         | -154.91               | -337.7                            | -158.1     | 372.9                | 367.5                 | 5.37                    | 69.406            |         |                    |        |
| 1,253.2                        | 1,253.2             | 1,250.2             | 1,250.2             | 2.7            | 2.9         | -154.86               | -337.5                            | -158.4     | 372.9                | 367.2                 | 5.61                    | 66.450            |         |                    |        |
| 1,300.0                        | 1,300.0             | 1,296.6             | 1,296.6             | 2.8            | 3.0         | -154.79               | -337.4                            | -158.8     | 372.9                | 367.1                 | 5.82                    | 64.068            |         |                    |        |
| 1,400.0                        | 1,400.0             | 1,397.4             | 1,397.3             | 3.0            | 3.2         | -154.61               | -336.9                            | -159.9     | 372.9                | 366.6                 | 6.27                    | 59.453            |         |                    |        |
| 1,422.2                        | 1,422.2             | 1,419.3             | 1,419.2             | 3.1            | 3.3         | -154.57               | -336.7                            | -160.1     | 372.9                | 366.5                 | 6.37                    | 58.529            |         |                    |        |
| 1,500.0                        | 1,500.0             | 1,495.6             | 1,495.6             | 3.3            | 3.5         | -154.41               | -336.4                            | -161.1     | 373.0                | 366.3                 | 6.72                    | 55.545            |         |                    |        |
| 1,600.0                        | 1,600.0             | 1,596.8             | 1,596.7             | 3.5            | 3.7         | -154.17               | -336.0                            | -162.6     | 373.3                | 366.1                 | 7.17                    | 52.077            |         |                    |        |
| 1,700.0                        | 1,700.0             | 1,695.4             | 1,695.4             | 3.7            | 3.9         | -153.93               | -335.5                            | -164.2     | 373.5                | 365.9                 | 7.62                    | 49.025            |         |                    |        |
| 1,800.0                        | 1,800.0             | 1,796.3             | 1,796.2             | 3.9            | 4.1         | -153.66               | -335.0                            | -165.9     | 373.8                | 365.8                 | 8.08                    | 46.285            |         |                    |        |
| 1,900.0                        | 1,900.0             | 1,895.2             | 1,895.2             | 4.2            | 4.4         | -153.38               | -334.5                            | -167.6     | 374.2                | 365.7                 | 8.54                    | 43.841            |         |                    |        |
| 2,000.0                        | 2,000.0             | 1,995.3             | 1,995.2             | 4.4            | 4.6         | -153.08               | -334.1                            | -169.6     | 374.7                | 365.7                 | 9.00                    | 41.649            |         |                    |        |
| 2,100.0                        | 2,100.0             | 2,096.1             | 2,096.0             | 4.6            | 4.9         | -167.73               | -333.4                            | -171.8     | 376.8                | 367.3                 | 9.46                    | 39.813            |         |                    |        |
| 2,200.0                        | 2,199.8             | 2,195.1             | 2,194.9             | 4.8            | 5.1         | -167.56               | -332.8                            | -173.8     | 382.2                | 372.3                 | 9.92                    | 38.550            |         |                    |        |
| 2,300.0                        | 2,299.5             | 2,294.8             | 2,294.6             | 5.1            | 5.4         | -167.45               | -332.1                            | -176.1     | 391.3                | 380.9                 | 10.36                   | 37.770            |         |                    |        |
| 2,400.0                        | 2,398.7             | 2,396.2             | 2,396.0             | 5.3            | 5.6         | -167.41               | -331.1                            | -178.6     | 403.2                | 392.4                 | 10.82                   | 37.273            |         |                    |        |
| 2,500.0                        | 2,497.9             | 2,496.4             | 2,496.2             | 5.5            | 5.9         | -167.46               | -329.8                            | -180.7     | 415.4                | 404.1                 | 11.30                   | 36.750            |         |                    |        |
| 2,600.0                        | 2,597.1             | 2,595.1             | 2,594.8             | 5.8            | 6.1         | -167.54               | -328.6                            | -182.5     | 427.6                | 415.8                 | 11.79                   | 36.270            |         |                    |        |
| 2,700.0                        | 2,696.3             | 2,695.2             | 2,694.9             | 6.0            | 6.4         | -167.58               | -327.3                            | -184.5     | 439.8                | 427.5                 | 12.28                   | 35.811            |         |                    |        |
| 2,800.0                        | 2,795.5             | 2,793.3             | 2,793.0             | 6.3            | 6.7         | -167.65               | -326.1                            | -186.3     | 451.9                | 439.2                 | 12.77                   | 35.398            |         |                    |        |
| 2,900.0                        | 2,894.7             | 2,889.5             | 2,889.2             | 6.6            | 6.9         | -167.78               | -325.6                            | -187.8     | 464.6                | 451.3                 | 13.24                   | 35.098            |         |                    |        |
| 3,000.0                        | 2,993.9             | 2,987.1             | 2,986.7             | 6.8            | 7.1         | -167.97               | -325.7                            | -189.1     | 477.7                | 464.0                 | 13.68                   | 34.909            |         |                    |        |
| 3,100.0                        | 3,093.0             | 3,086.9             | 3,086.6             | 7.1            | 7.3         | -168.18               | -326.0                            | -190.2     | 491.0                | 476.9                 | 14.12                   | 34.775            |         |                    |        |
| 3,200.0                        | 3,192.2             | 3,184.6             | 3,184.2             | 7.4            | 7.5         | -168.42               | -326.6                            | -190.9     | 504.2                | 489.7                 | 14.52                   | 34.733            |         |                    |        |
| 3,300.0                        | 3,291.4             | 3,283.8             | 3,283.4             | 7.7            | 7.6         | -168.68               | -327.3                            | -191.6     | 517.7                | 502.8                 | 14.90                   | 34.750            |         |                    |        |
| 3,400.0                        | 3,390.6             | 3,380.6             | 3,380.2             | 8.0            | 7.7         | -168.96               | -328.4                            | -191.9     | 531.3                | 516.1                 | 15.24                   | 34.875            |         |                    |        |
| 3,500.0                        | 3,489.8             | 3,476.2             | 3,475.8             | 8.2            | 7.8         | -169.33               | -330.4                            | -191.6     | 545.5                | 530.0                 | 15.53                   | 35.129            |         |                    |        |
| 3,600.0                        | 3,589.0             | 3,574.7             | 3,574.3             | 8.5            | 7.8         | -169.71               | -332.8                            | -191.3     | 560.1                | 544.3                 | 15.83                   | 35.392            |         |                    |        |
| 3,700.0                        | 3,688.2             | 3,675.8             | 3,675.3             | 8.8            | 7.9         | -170.05               | -335.1                            | -191.1     | 574.6                | 558.4                 | 16.14                   | 35.609            |         |                    |        |
| 3,800.0                        | 3,787.4             | 3,777.3             | 3,776.8             | 9.1            | 8.0         | -170.36               | -336.8                            | -190.9     | 588.6                | 572.1                 | 16.45                   | 35.779            |         |                    |        |
| 3,900.0                        | 3,886.5             | 3,877.9             | 3,877.4             | 9.4            | 8.1         | -170.66               | -338.3                            | -190.5     | 602.3                | 585.5                 | 16.76                   | 35.930            |         |                    |        |
| 4,000.0                        | 3,985.7             | 3,977.8             | 3,977.4             | 9.7            | 8.1         | -170.96               | -339.6                            | -189.9     | 615.7                | 598.7                 | 17.07                   | 36.080            |         |                    |        |
| 4,100.0                        | 4,085.0             | 4,076.6             | 4,076.1             | 10.0           | 8.2         | -171.25               | -340.8                            | -189.2     | 628.8                | 611.4                 | 17.38                   | 36.172            |         |                    |        |
| 4,200.0                        | 4,184.5             | 4,176.5             | 4,176.0             | 10.2           | 8.3         | -171.53               | -342.2                            | -188.4     | 638.8                | 621.2                 | 17.67                   | 36.150            |         |                    |        |
| 4,300.0                        | 4,284.4             | 4,275.9             | 4,275.4             | 10.4           | 8.4         | -171.72               | -343.4                            | -187.7     | 645.4                | 627.5                 | 17.95                   | 35.965            |         |                    |        |
| 4,400.0                        | 4,384.3             | 4,371.2             | 4,370.7             | 10.6           | 8.5         | -171.89               | -345.1                            | -186.8     | 648.9                | 630.7                 | 18.20                   | 35.645            |         |                    |        |
| 4,500.0                        | 4,484.3             | 4,467.9             | 4,467.3             | 10.8           | 8.6         | -157.10               | -347.5                            | -185.9     | 650.9                | 632.4                 | 18.50                   | 35.185            |         |                    |        |
| 4,600.0                        | 4,584.3             | 4,564.8             | 4,564.2             | 11.0           | 8.7         | -157.26               | -350.3                            | -185.2     | 653.3                | 634.4                 | 18.84                   | 34.679            |         |                    |        |
| 4,700.0                        | 4,684.3             | 4,673.6             | 4,672.9             | 11.2           | 8.8         | -157.48               | -353.5                            | -183.8     | 655.6                | 636.4                 | 19.18                   | 34.174            |         |                    |        |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                  |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Site Error: | 0.0 ft |
|--------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|---------|--------------------|--------|
| Survey Program: 100-NS-GYRO-MS |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Well Error: | 0.0 ft |
| Reference                      |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Offset                         |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Semi Major Axis                |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Distance                       |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Measured Depth (ft)            | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |                    |        |
| 4,800.0                        | 4,784.3             | 4,784.3             | 4,783.5             | 11.4           | 8.9         | -157.75               | -355.1                            | -181.1     | 656.0                | 636.5                 | 19.51                   | 33.626            |         |                    |        |
| 4,900.0                        | 4,884.3             | 4,886.1             | 4,885.3             | 11.6           | 9.0         | -157.95               | -355.5                            | -178.8     | 655.4                | 635.6                 | 19.82                   | 33.070            |         |                    |        |
| 5,000.0                        | 4,984.3             | 4,984.7             | 4,984.0             | 11.8           | 9.1         | -158.10               | -355.6                            | -177.0     | 654.9                | 634.8                 | 20.13                   | 32.526            |         |                    |        |
| 5,100.0                        | 5,084.3             | 5,085.4             | 5,084.6             | 12.0           | 9.2         | -158.24               | -355.8                            | -175.4     | 654.5                | 634.0                 | 20.46                   | 31.991            |         |                    |        |
| 5,200.0                        | 5,184.3             | 5,184.3             | 5,183.5             | 12.2           | 9.3         | -158.34               | -355.9                            | -174.1     | 654.0                | 633.2                 | 20.79                   | 31.464            |         |                    |        |
| 5,273.5                        | 5,257.9             | 5,255.7             | 5,254.9             | 12.3           | 9.4         | -158.39               | -355.9                            | -173.5     | 653.9                | 632.8                 | 21.04                   | 31.085            |         |                    |        |
| 5,300.0                        | 5,284.3             | 5,281.2             | 5,280.4             | 12.4           | 9.4         | -158.41               | -356.0                            | -173.4     | 653.9                | 632.8                 | 21.13                   | 30.953            |         |                    |        |
| 5,400.0                        | 5,384.3             | 5,380.5             | 5,379.7             | 12.6           | 9.6         | -158.45               | -356.4                            | -173.0     | 654.1                | 632.7                 | 21.48                   | 30.452            |         |                    |        |
| 5,500.0                        | 5,484.3             | 5,482.0             | 5,481.2             | 12.8           | 9.7         | -158.51               | -356.8                            | -172.4     | 654.3                | 632.5                 | 21.84                   | 29.959            |         |                    |        |
| 5,600.0                        | 5,584.3             | 5,582.6             | 5,581.8             | 13.0           | 9.9         | -158.57               | -357.0                            | -171.8     | 654.3                | 632.1                 | 22.20                   | 29.477            |         |                    |        |
| 5,645.8                        | 5,630.1             | 5,627.9             | 5,627.1             | 13.1           | 9.9         | -158.58               | -357.1                            | -171.7     | 654.2                | 631.9                 | 22.36                   | 29.254            |         |                    |        |
| 5,700.0                        | 5,684.3             | 5,681.1             | 5,680.3             | 13.2           | 10.0        | -158.59               | -357.1                            | -171.5     | 654.3                | 631.7                 | 22.57                   | 28.993            |         |                    |        |
| 5,800.0                        | 5,784.3             | 5,780.5             | 5,779.7             | 13.4           | 10.2        | -158.61               | -357.4                            | -171.4     | 654.5                | 631.5                 | 22.96                   | 28.511            |         |                    |        |
| 5,900.0                        | 5,884.3             | 5,880.8             | 5,880.0             | 13.6           | 10.3        | -158.64               | -357.8                            | -171.2     | 654.7                | 631.4                 | 23.34                   | 28.047            |         |                    |        |
| 6,000.0                        | 5,984.3             | 5,983.3             | 5,982.5             | 13.9           | 10.5        | -158.67               | -357.9                            | -170.9     | 654.8                | 631.1                 | 23.72                   | 27.601            |         |                    |        |
| 6,100.0                        | 6,084.3             | 6,083.0             | 6,082.2             | 14.1           | 10.6        | -158.69               | -357.8                            | -170.6     | 654.6                | 630.5                 | 24.09                   | 27.174            |         |                    |        |
| 6,200.0                        | 6,184.3             | 6,183.1             | 6,182.3             | 14.3           | 10.8        | -158.70               | -357.7                            | -170.5     | 654.5                | 630.0                 | 24.46                   | 26.759            |         |                    |        |
| 6,300.0                        | 6,284.3             | 6,282.8             | 6,282.0             | 14.5           | 10.9        | -158.71               | -357.7                            | -170.3     | 654.3                | 629.5                 | 24.83                   | 26.351            |         |                    |        |
| 6,400.0                        | 6,384.3             | 6,385.4             | 6,384.6             | 14.7           | 11.1        | -158.70               | -357.4                            | -170.3     | 654.1                | 628.8                 | 25.22                   | 25.936            |         |                    |        |
| 6,500.0                        | 6,484.3             | 6,487.0             | 6,486.2             | 14.9           | 11.3        | -158.63               | -356.5                            | -170.9     | 653.4                | 627.8                 | 25.62                   | 25.507            |         |                    |        |
| 6,600.0                        | 6,584.3             | 6,587.4             | 6,586.6             | 15.1           | 11.5        | -158.48               | -355.1                            | -172.1     | 652.6                | 626.6                 | 26.02                   | 25.080            |         |                    |        |
| 6,700.0                        | 6,684.3             | 6,682.9             | 6,682.1             | 15.3           | 11.6        | -158.33               | -354.0                            | -173.6     | 652.1                | 625.7                 | 26.42                   | 24.679            |         |                    |        |
| 6,800.0                        | 6,784.3             | 6,784.0             | 6,783.2             | 15.6           | 11.8        | -158.19               | -353.3                            | -175.0     | 652.0                | 625.2                 | 26.84                   | 24.292            |         |                    |        |
| 6,900.0                        | 6,884.3             | 6,880.4             | 6,879.6             | 15.7           | 12.0        | 21.98                 | -352.9                            | -175.9     | 650.6                | 623.4                 | 27.17                   | 23.940            |         |                    |        |
| 7,000.0                        | 6,983.4             | 6,979.7             | 6,978.8             | 15.9           | 12.2        | 22.88                 | -352.6                            | -177.4     | 639.1                | 611.9                 | 27.16                   | 23.532            |         |                    |        |
| 7,100.0                        | 7,080.0             | 7,074.1             | 7,073.2             | 15.9           | 12.4        | 24.68                 | -352.3                            | -179.2     | 615.9                | 589.1                 | 26.83                   | 22.957            |         |                    |        |
| 7,200.0                        | 7,172.5             | 7,164.1             | 7,163.2             | 15.9           | 12.6        | 27.55                 | -352.3                            | -180.9     | 582.1                | 555.9                 | 26.28                   | 22.152            |         |                    |        |
| 7,300.0                        | 7,259.1             | 7,250.2             | 7,249.2             | 16.0           | 12.8        | 31.91                 | -352.6                            | -182.7     | 538.7                | 513.0                 | 25.69                   | 20.967            |         |                    |        |
| 7,400.0                        | 7,338.6             | 7,330.1             | 7,329.2             | 16.0           | 12.9        | 38.28                 | -353.0                            | -184.1     | 486.9                | 461.5                 | 25.39                   | 19.176            |         |                    |        |
| 7,500.0                        | 7,409.5             | 7,402.1             | 7,401.1             | 16.1           | 13.1        | 47.20                 | -353.6                            | -185.0     | 429.1                | 403.3                 | 25.82                   | 16.618            |         |                    |        |
| 7,600.0                        | 7,470.5             | 7,467.5             | 7,466.5             | 16.4           | 13.2        | 59.16                 | -354.1                            | -185.1     | 368.5                | 341.2                 | 27.27                   | 13.512            |         |                    |        |
| 7,700.0                        | 7,520.8             | 7,520.2             | 7,519.2             | 16.8           | 13.3        | 72.40                 | -354.6                            | -184.7     | 311.1                | 281.9                 | 29.17                   | 10.666            |         |                    |        |
| 7,800.0                        | 7,559.3             | 7,559.7             | 7,558.7             | 17.4           | 13.3        | 83.85                 | -354.9                            | -184.2     | 267.3                | 236.7                 | 30.60                   | 8.735             |         |                    |        |
| 7,895.1                        | 7,584.5             | 7,586.0             | 7,585.0             | 18.1           | 13.4        | 90.83                 | -355.2                            | -183.8     | 251.1                | 219.6                 | 31.48                   | 7.976 CC, ES      |         |                    |        |
| 7,900.0                        | 7,585.4             | 7,587.0             | 7,586.1             | 18.2           | 13.4        | 91.06                 | -355.2                            | -183.8     | 251.1                | 219.6                 | 31.51                   | 7.969 SF          |         |                    |        |
| 8,000.0                        | 7,598.8             | 7,601.6             | 7,600.6             | 19.1           | 13.4        | 92.73                 | -355.3                            | -183.6     | 271.7                | 239.3                 | 32.42                   | 8.382             |         |                    |        |
| 8,100.0                        | 7,600.7             | 7,604.6             | 7,603.6             | 20.1           | 13.4        | 91.45                 | -355.4                            | -183.5     | 323.5                | 290.0                 | 33.47                   | 9.665             |         |                    |        |
| 8,200.0                        | 7,600.9             | 7,605.9             | 7,604.9             | 21.3           | 13.4        | 91.76                 | -355.4                            | -183.5     | 394.4                | 359.7                 | 34.63                   | 11.389            |         |                    |        |
| 8,300.0                        | 7,601.1             | 7,607.3             | 7,606.3             | 22.5           | 13.4        | 92.07                 | -355.4                            | -183.5     | 475.8                | 439.9                 | 35.88                   | 13.260            |         |                    |        |
| 8,400.0                        | 7,601.3             | 7,608.7             | 7,607.7             | 23.9           | 13.4        | 92.39                 | -355.4                            | -183.5     | 563.2                | 526.0                 | 37.22                   | 15.131            |         |                    |        |
| 8,500.0                        | 7,601.5             | 7,610.1             | 7,609.1             | 25.3           | 13.4        | 92.71                 | -355.4                            | -183.5     | 654.3                | 615.6                 | 38.64                   | 16.934            |         |                    |        |
| 8,600.0                        | 7,601.7             | 7,611.5             | 7,610.5             | 26.8           | 13.4        | 93.03                 | -355.5                            | -183.4     | 747.6                | 707.5                 | 40.11                   | 18.639            |         |                    |        |
| 8,700.0                        | 7,601.9             | 7,612.9             | 7,612.0             | 28.3           | 13.4        | 93.36                 | -355.5                            | -183.4     | 842.5                | 800.8                 | 41.63                   | 20.236            |         |                    |        |
| 8,800.0                        | 7,602.1             | 7,614.4             | 7,613.4             | 29.9           | 13.4        | 93.70                 | -355.5                            | -183.4     | 938.4                | 895.2                 | 43.20                   | 21.723            |         |                    |        |
| 8,900.0                        | 7,602.3             | 7,615.9             | 7,614.9             | 31.5           | 13.4        | 94.04                 | -355.5                            | -183.4     | 1,035.1              | 990.3                 | 44.80                   | 23.105            |         |                    |        |
| 9,000.0                        | 7,602.5             | 7,617.4             | 7,616.4             | 33.1           | 13.4        | 94.38                 | -355.5                            | -183.4     | 1,132.3              | 1,085.9               | 46.43                   | 24.389            |         |                    |        |
| 9,100.0                        | 7,602.8             | 7,618.9             | 7,618.0             | 34.8           | 13.4        | 94.73                 | -355.6                            | -183.3     | 1,230.0              | 1,182.0               | 48.08                   | 25.582            |         |                    |        |
| 9,200.0                        | 7,603.0             | 7,620.5             | 7,619.5             | 36.5           | 13.4        | 95.09                 | -355.6                            | -183.3     | 1,328.1              | 1,278.3               | 49.76                   | 26.692            |         |                    |        |
| 9,300.0                        | 7,603.2             | 7,622.1             | 7,621.1             | 38.2           | 13.4        | 95.44                 | -355.6                            | -183.3     | 1,426.4              | 1,375.0               | 51.45                   | 27.725            |         |                    |        |
| 9,400.0                        | 7,603.4             | 7,623.7             | 7,622.7             | 40.0           | 13.4        | 95.81                 | -355.6                            | -183.3     | 1,524.9              | 1,471.8               | 53.15                   | 28.689            |         |                    |        |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                  |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Site Error: | 0.0 ft |
|--------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|---------|--------------------|--------|
| Survey Program: 100-NS-GYRO-MS |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Well Error: | 0.0 ft |
| Reference                      |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Offset                         |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Semi Major Axis                |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Distance                       |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Measured Depth (ft)            | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |                    |        |
| 9,500.0                        | 7,603.6             | 7,625.3             | 7,624.3             | 41.7           | 13.4        | 96.18                 | -355.6                            | -183.3     | 1,623.6              | 1,568.8               | 54.87                   | 29.591            |         |                    |        |
| 9,600.0                        | 7,603.8             | 7,627.0             | 7,626.0             | 43.5           | 13.4        | 96.55                 | -355.7                            | -183.2     | 1,722.5              | 1,665.9               | 56.60                   | 30.435            |         |                    |        |
| 9,700.0                        | 7,604.0             | 7,628.7             | 7,627.7             | 45.2           | 13.4        | 96.93                 | -355.7                            | -183.2     | 1,821.5              | 1,763.2               | 58.33                   | 31.227            |         |                    |        |
| 9,800.0                        | 7,604.2             | 7,630.4             | 7,629.4             | 47.0           | 13.4        | 97.32                 | -355.7                            | -183.2     | 1,920.6              | 1,860.5               | 60.07                   | 31.973            |         |                    |        |
| 9,900.0                        | 7,604.4             | 7,632.1             | 7,631.1             | 48.8           | 13.4        | 97.71                 | -355.7                            | -183.2     | 2,019.7              | 1,957.9               | 61.81                   | 32.676            |         |                    |        |
| 10,000.0                       | 7,604.6             | 7,633.9             | 7,632.9             | 50.6           | 13.4        | 98.10                 | -355.7                            | -183.2     | 2,119.0              | 2,055.4               | 63.56                   | 33.340            |         |                    |        |
| 10,100.0                       | 7,604.8             | 7,635.6             | 7,634.7             | 52.5           | 13.4        | 98.50                 | -355.8                            | -183.1     | 2,218.3              | 2,153.0               | 65.30                   | 33.969            |         |                    |        |
| 10,200.0                       | 7,605.1             | 7,637.5             | 7,636.5             | 54.3           | 13.4        | 98.91                 | -355.8                            | -183.1     | 2,317.7              | 2,250.6               | 67.05                   | 34.566            |         |                    |        |
| 10,300.0                       | 7,605.3             | 7,639.3             | 7,638.3             | 56.1           | 13.4        | 99.32                 | -355.8                            | -183.1     | 2,417.1              | 2,348.3               | 68.80                   | 35.134            |         |                    |        |
| 10,400.0                       | 7,605.5             | 7,641.2             | 7,640.2             | 57.9           | 13.5        | 99.74                 | -355.8                            | -183.1     | 2,516.6              | 2,446.0               | 70.54                   | 35.675            |         |                    |        |
| 10,500.0                       | 7,605.7             | 7,643.1             | 7,642.1             | 59.8           | 13.5        | 100.16                | -355.9                            | -183.1     | 2,616.1              | 2,543.8               | 72.28                   | 36.193            |         |                    |        |
| 10,600.0                       | 7,605.9             | 7,645.0             | 7,644.0             | 61.6           | 13.5        | 100.59                | -355.9                            | -183.0     | 2,715.6              | 2,641.6               | 74.02                   | 36.688            |         |                    |        |
| 10,700.0                       | 7,606.1             | 7,647.0             | 7,646.0             | 63.5           | 13.5        | 101.03                | -355.9                            | -183.0     | 2,815.2              | 2,739.5               | 75.75                   | 37.164            |         |                    |        |
| 10,800.0                       | 7,606.3             | 7,649.0             | 7,648.0             | 65.3           | 13.5        | 101.47                | -356.0                            | -183.0     | 2,914.8              | 2,837.3               | 77.48                   | 37.621            |         |                    |        |
| 10,900.0                       | 7,606.5             | 7,651.0             | 7,650.1             | 67.2           | 13.5        | 101.92                | -356.0                            | -183.0     | 3,014.4              | 2,935.2               | 79.20                   | 38.062            |         |                    |        |
| 11,000.0                       | 7,606.7             | 7,653.1             | 7,652.1             | 69.0           | 13.5        | 102.37                | -356.0                            | -183.0     | 3,114.1              | 3,033.2               | 80.91                   | 38.488            |         |                    |        |
| 11,100.0                       | 7,606.9             | 7,655.2             | 7,654.2             | 70.9           | 13.5        | 102.83                | -356.1                            | -183.0     | 3,213.8              | 3,131.1               | 82.61                   | 38.901            |         |                    |        |
| 11,200.0                       | 7,607.2             | 7,657.4             | 7,656.4             | 72.8           | 13.5        | 103.30                | -356.1                            | -182.9     | 3,313.4              | 3,229.1               | 84.31                   | 39.301            |         |                    |        |
| 11,300.0                       | 7,607.4             | 7,659.5             | 7,658.6             | 74.6           | 13.5        | 103.77                | -356.1                            | -182.9     | 3,413.2              | 3,327.2               | 85.99                   | 39.691            |         |                    |        |
| 11,400.0                       | 7,607.6             | 7,661.8             | 7,660.8             | 76.5           | 13.5        | 104.25                | -356.2                            | -182.9     | 3,512.9              | 3,425.2               | 87.67                   | 40.071            |         |                    |        |
| 11,500.0                       | 7,607.8             | 7,664.0             | 7,663.0             | 78.4           | 13.5        | 104.74                | -356.2                            | -182.9     | 3,612.6              | 3,523.3               | 89.33                   | 40.441            |         |                    |        |
| 11,600.0                       | 7,608.0             | 7,666.3             | 7,665.3             | 80.2           | 13.5        | 105.23                | -356.2                            | -182.9     | 3,712.4              | 3,621.4               | 90.98                   | 40.805            |         |                    |        |
| 11,700.0                       | 7,608.2             | 7,668.7             | 7,667.7             | 82.1           | 13.5        | 105.73                | -356.3                            | -182.8     | 3,812.1              | 3,719.5               | 92.62                   | 41.161            |         |                    |        |
| 11,800.0                       | 7,608.4             | 7,671.1             | 7,670.1             | 84.0           | 13.5        | 106.24                | -356.3                            | -182.8     | 3,911.9              | 3,817.7               | 94.24                   | 41.511            |         |                    |        |
| 11,900.0                       | 7,608.6             | 7,673.5             | 7,672.5             | 85.9           | 13.5        | 106.75                | -356.3                            | -182.8     | 4,011.7              | 3,915.8               | 95.84                   | 41.856            |         |                    |        |
| 12,000.0                       | 7,608.8             | 7,676.0             | 7,675.0             | 87.7           | 13.5        | 107.27                | -356.4                            | -182.8     | 4,111.5              | 4,014.0               | 97.43                   | 42.197            |         |                    |        |
| 12,100.0                       | 7,609.0             | 7,678.5             | 7,677.5             | 89.6           | 13.5        | 107.80                | -356.4                            | -182.8     | 4,211.3              | 4,112.3               | 99.01                   | 42.534            |         |                    |        |
| 12,200.0                       | 7,609.2             | 7,681.1             | 7,680.1             | 91.5           | 13.5        | 108.33                | -356.5                            | -182.8     | 4,311.1              | 4,210.5               | 100.56                  | 42.869            |         |                    |        |
| 12,300.0                       | 7,609.5             | 7,683.7             | 7,682.7             | 93.4           | 13.5        | 108.87                | -356.5                            | -182.8     | 4,410.9              | 4,308.8               | 102.10                  | 43.201            |         |                    |        |
| 12,400.0                       | 7,609.7             | 7,686.4             | 7,685.4             | 95.3           | 13.5        | 109.42                | -356.6                            | -182.7     | 4,510.7              | 4,407.1               | 103.62                  | 43.531            |         |                    |        |
| 12,500.0                       | 7,609.9             | 7,689.1             | 7,688.1             | 97.2           | 13.5        | 109.98                | -356.6                            | -182.7     | 4,610.6              | 4,505.4               | 105.12                  | 43.861            |         |                    |        |
| 12,600.0                       | 7,610.1             | 7,691.9             | 7,690.9             | 99.1           | 13.5        | 110.54                | -356.6                            | -182.7     | 4,710.4              | 4,603.8               | 106.59                  | 44.191            |         |                    |        |
| 12,700.0                       | 7,610.3             | 7,694.7             | 7,693.7             | 100.9          | 13.5        | 111.11                | -356.7                            | -182.7     | 4,810.2              | 4,702.2               | 108.05                  | 44.520            |         |                    |        |
| 12,800.0                       | 7,610.5             | 7,697.6             | 7,696.6             | 102.8          | 13.5        | 111.68                | -356.8                            | -182.7     | 4,910.1              | 4,800.6               | 109.48                  | 44.851            |         |                    |        |
| 12,900.0                       | 7,610.7             | 7,700.5             | 7,699.5             | 104.7          | 13.5        | 112.25                | -356.8                            | -182.7     | 5,009.9              | 4,899.0               | 110.89                  | 45.179            |         |                    |        |
| 13,000.0                       | 7,610.9             | 7,703.0             | 7,702.0             | 106.6          | 13.5        | 112.75                | -356.8                            | -182.7     | 5,109.8              | 4,997.5               | 112.33                  | 45.488            |         |                    |        |
| 13,100.0                       | 7,611.1             | 7,705.6             | 7,704.6             | 108.5          | 13.6        | 113.24                | -356.9                            | -182.7     | 5,209.7              | 5,095.9               | 113.76                  | 45.796            |         |                    |        |
| 13,200.0                       | 7,611.3             | 7,708.2             | 7,707.2             | 110.4          | 13.6        | 113.75                | -356.9                            | -182.7     | 5,309.5              | 5,194.4               | 115.16                  | 46.104            |         |                    |        |
| 13,300.0                       | 7,611.6             | 7,710.8             | 7,709.8             | 112.3          | 13.6        | 114.25                | -357.0                            | -182.6     | 5,409.4              | 5,292.8               | 116.55                  | 46.412            |         |                    |        |
| 13,400.0                       | 7,611.8             | 7,713.4             | 7,712.4             | 114.2          | 13.6        | 114.75                | -357.0                            | -182.6     | 5,509.3              | 5,391.3               | 117.92                  | 46.721            |         |                    |        |
| 13,500.0                       | 7,612.0             | 7,716.1             | 7,715.1             | 116.1          | 13.6        | 115.26                | -357.1                            | -182.6     | 5,609.1              | 5,489.9               | 119.27                  | 47.030            |         |                    |        |
| 13,600.0                       | 7,612.2             | 7,718.8             | 7,717.8             | 118.0          | 13.6        | 115.76                | -357.1                            | -182.6     | 5,709.0              | 5,588.4               | 120.60                  | 47.340            |         |                    |        |
| 13,700.0                       | 7,612.4             | 7,721.6             | 7,720.6             | 119.9          | 13.6        | 116.27                | -357.2                            | -182.6     | 5,808.9              | 5,687.0               | 121.90                  | 47.651            |         |                    |        |
| 13,800.0                       | 7,612.6             | 7,724.3             | 7,723.4             | 121.8          | 13.6        | 116.78                | -357.2                            | -182.6     | 5,908.8              | 5,785.6               | 123.19                  | 47.964            |         |                    |        |
| 13,900.0                       | 7,612.8             | 7,727.1             | 7,726.2             | 123.7          | 13.6        | 117.29                | -357.3                            | -182.6     | 6,008.7              | 5,884.2               | 124.46                  | 48.278            |         |                    |        |
| 14,000.0                       | 7,613.0             | 7,730.0             | 7,729.0             | 125.6          | 13.6        | 117.80                | -357.4                            | -182.6     | 6,108.6              | 5,982.9               | 125.71                  | 48.594            |         |                    |        |
| 14,100.0                       | 7,613.2             | 7,732.9             | 7,731.9             | 127.5          | 13.6        | 118.32                | -357.4                            | -182.6     | 6,208.5              | 6,081.5               | 126.93                  | 48.913            |         |                    |        |
| 14,200.0                       | 7,613.4             | 7,735.8             | 7,734.8             | 129.4          | 13.6        | 118.83                | -357.5                            | -182.6     | 6,308.4              | 6,180.2               | 128.13                  | 49.233            |         |                    |        |
| 14,300.0                       | 7,613.6             | 7,738.7             | 7,737.7             | 131.3          | 13.6        | 119.35                | -357.5                            | -182.6     | 6,408.3              | 6,278.9               | 129.31                  | 49.556            |         |                    |        |
| 14,400.0                       | 7,613.9             | 7,741.7             | 7,740.7             | 133.2          | 13.6        | 119.86                | -357.6                            | -182.6     | 6,508.2              | 6,377.7               | 130.47                  | 49.882            |         |                    |        |
| 14,469.1                       | 7,614.0             | 7,743.7             | 7,742.7             | 134.5          | 13.6        | 120.22                | -357.6                            | -182.6     | 6,577.2              | 6,445.9               | 131.26                  | 50.109            |         |                    |        |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

|                                                                                                       |                |                 |                |           |        |                   |                        |            |                 |                  |                    |                    |         |
|-------------------------------------------------------------------------------------------------------|----------------|-----------------|----------------|-----------|--------|-------------------|------------------------|------------|-----------------|------------------|--------------------|--------------------|---------|
| <b>Offset Design</b> Existings Sec.32-T1N-R67W - Jacobucci 33-32 (Exist.) - Wellbore #1 - Wellbore #1 |                |                 |                |           |        |                   |                        |            |                 |                  |                    |                    |         |
| Survey Program: 100-NS-GYRO-MS                                                                        |                |                 |                |           |        |                   |                        |            |                 |                  |                    | Offset Site Error: | 0.0 ft  |
|                                                                                                       |                |                 |                |           |        |                   |                        |            |                 |                  |                    | Offset Well Error: | 0.0 ft  |
| Reference                                                                                             | Offset         | Semi Major Axis |                | Distance  |        |                   |                        |            |                 |                  |                    |                    |         |
| Measured Depth                                                                                        | Vertical Depth | Measured Depth  | Vertical Depth | Reference | Offset | Highside Toolface | Offset Wellbore Centre |            | Between Centres | Between Ellipses | Minimum Separation | Separation Factor  | Warning |
| (ft)                                                                                                  | (ft)           | (ft)            | (ft)           | (ft)      | (ft)   | (°)               | +N/-S (ft)             | +E/-W (ft) | (ft)            | (ft)             | (ft)               |                    |         |

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                                                                    |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Site Error: | 0.0 ft |
|----------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|---------|--------------------|--------|
| Survey Program: 1105-MWD                                                         |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Well Error: | 0.0 ft |
| Existings Sec.32-T1N-R67W - Jacobucci 43-32 (Exist.) - Wellbore #1 - Wellbore #1 |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Reference                                                                        |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                   |         |                    |        |
| Measured Depth (ft)                                                              | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |                    |        |
| 0.0                                                                              | 0.0                 | 0.0                 | 0.0                 | 0.0             | 0.0         | -158.56               | -342.4                            | -134.5     | 367.9                |                       |                         |                   |         |                    |        |
| 100.0                                                                            | 100.0               | 95.7                | 95.7                | 0.1             | 0.1         | -158.58               | -342.6                            | -134.4     | 368.0                | 367.8                 | 0.22                    | 1,644.950 ES      |         |                    |        |
| 200.0                                                                            | 200.0               | 194.3               | 194.3               | 0.3             | 0.2         | -158.66               | -343.3                            | -134.1     | 368.6                | 368.0                 | 0.56                    | 654.600           |         |                    |        |
| 300.0                                                                            | 300.0               | 292.9               | 292.9               | 0.6             | 0.4         | -158.78               | -344.4                            | -133.7     | 369.5                | 368.6                 | 0.90                    | 409.494           |         |                    |        |
| 400.0                                                                            | 400.0               | 391.5               | 391.5               | 0.8             | 0.5         | -158.96               | -346.0                            | -133.1     | 370.8                | 369.6                 | 1.24                    | 298.661           |         |                    |        |
| 500.0                                                                            | 500.0               | 490.1               | 490.1               | 1.0             | 0.6         | -159.18               | -348.1                            | -132.3     | 372.5                | 370.9                 | 1.58                    | 235.649           |         |                    |        |
| 600.0                                                                            | 600.0               | 588.7               | 588.6               | 1.2             | 0.7         | -159.46               | -350.6                            | -131.4     | 374.5                | 372.6                 | 1.92                    | 195.109           |         |                    |        |
| 700.0                                                                            | 700.0               | 687.2               | 687.1               | 1.5             | 0.9         | -159.77               | -353.6                            | -130.3     | 377.0                | 374.7                 | 2.26                    | 166.920           |         |                    |        |
| 800.0                                                                            | 800.0               | 785.7               | 785.5               | 1.7             | 1.0         | -160.13               | -357.0                            | -129.0     | 379.8                | 377.2                 | 2.60                    | 146.246           |         |                    |        |
| 900.0                                                                            | 900.0               | 884.2               | 883.9               | 1.9             | 1.1         | -160.54               | -360.9                            | -127.5     | 383.0                | 380.1                 | 2.94                    | 130.485           |         |                    |        |
| 1,000.0                                                                          | 1,000.0             | 982.6               | 982.2               | 2.1             | 1.2         | -160.98               | -365.3                            | -125.9     | 386.6                | 383.4                 | 3.27                    | 118.114           |         |                    |        |
| 1,100.0                                                                          | 1,100.0             | 1,081.0             | 1,080.4             | 2.4             | 1.4         | -161.46               | -370.1                            | -124.1     | 390.7                | 387.1                 | 3.61                    | 108.179           |         |                    |        |
| 1,200.0                                                                          | 1,200.0             | 1,180.5             | 1,179.8             | 2.6             | 1.6         | -161.95               | -375.2                            | -122.3     | 395.0                | 391.0                 | 4.02                    | 98.220            |         |                    |        |
| 1,300.0                                                                          | 1,300.0             | 1,280.4             | 1,279.6             | 2.8             | 1.8         | -162.39               | -380.3                            | -120.7     | 399.4                | 394.9                 | 4.46                    | 89.635            |         |                    |        |
| 1,400.0                                                                          | 1,400.0             | 1,380.8             | 1,379.8             | 3.0             | 2.0         | -162.77               | -385.3                            | -119.5     | 403.7                | 398.9                 | 4.89                    | 82.621            |         |                    |        |
| 1,500.0                                                                          | 1,500.0             | 1,482.6             | 1,481.5             | 3.3             | 2.2         | -163.11               | -389.9                            | -118.4     | 407.8                | 402.5                 | 5.31                    | 76.814            |         |                    |        |
| 1,600.0                                                                          | 1,600.0             | 1,584.4             | 1,583.3             | 3.5             | 2.4         | -163.43               | -394.0                            | -117.3     | 411.3                | 405.6                 | 5.73                    | 71.780            |         |                    |        |
| 1,700.0                                                                          | 1,700.0             | 1,685.4             | 1,684.2             | 3.7             | 2.6         | -163.70               | -397.7                            | -116.3     | 414.5                | 408.4                 | 6.16                    | 67.329            |         |                    |        |
| 1,800.0                                                                          | 1,800.0             | 1,786.1             | 1,784.8             | 3.9             | 2.8         | -163.91               | -401.0                            | -115.7     | 417.5                | 411.0                 | 6.58                    | 63.412            |         |                    |        |
| 1,900.0                                                                          | 1,900.0             | 1,886.4             | 1,885.0             | 4.2             | 3.0         | -164.07               | -404.1                            | -115.3     | 420.4                | 413.4                 | 7.01                    | 59.937            |         |                    |        |
| 2,000.0                                                                          | 2,000.0             | 1,990.4             | 1,989.0             | 4.4             | 3.2         | -164.20               | -407.1                            | -115.2     | 423.2                | 415.7                 | 7.46                    | 56.753            |         |                    |        |
| 2,100.0                                                                          | 2,100.0             | 2,090.3             | 2,088.9             | 4.6             | 3.5         | -179.40               | -409.1                            | -113.8     | 426.5                | 418.5                 | 7.92                    | 53.838            |         |                    |        |
| 2,200.0                                                                          | 2,199.8             | 2,188.4             | 2,186.7             | 4.8             | 3.7         | 179.71                | -412.3                            | -107.8     | 433.2                | 424.9                 | 8.35                    | 51.868            |         |                    |        |
| 2,300.0                                                                          | 2,299.5             | 2,287.6             | 2,285.4             | 5.1             | 3.9         | 178.49                | -417.0                            | -99.3      | 444.5                | 435.7                 | 8.79                    | 50.572            |         |                    |        |
| 2,400.0                                                                          | 2,398.7             | 2,388.9             | 2,386.2             | 5.3             | 4.2         | 177.23                | -421.8                            | -89.8      | 459.0                | 449.8                 | 9.24                    | 49.688            |         |                    |        |
| 2,500.0                                                                          | 2,497.9             | 2,489.7             | 2,486.0             | 5.5             | 4.4         | 175.63                | -426.5                            | -76.9      | 473.7                | 464.0                 | 9.73                    | 48.711            |         |                    |        |
| 2,600.0                                                                          | 2,597.1             | 2,588.7             | 2,583.5             | 5.8             | 4.7         | 173.69                | -431.3                            | -60.2      | 488.3                | 478.1                 | 10.24                   | 47.706            |         |                    |        |
| 2,700.0                                                                          | 2,696.3             | 2,704.6             | 2,696.8             | 6.0             | 5.1         | 171.06                | -435.4                            | -36.1      | 501.8                | 491.0                 | 10.83                   | 46.345            |         |                    |        |
| 2,800.0                                                                          | 2,795.5             | 2,815.7             | 2,804.9             | 6.3             | 5.5         | 168.44                | -435.4                            | -10.5      | 512.3                | 500.9                 | 11.43                   | 44.803            |         |                    |        |
| 2,900.0                                                                          | 2,894.7             | 2,915.2             | 2,901.3             | 6.6             | 5.9         | 166.01                | -434.3                            | 14.2       | 522.6                | 510.6                 | 12.04                   | 43.396            |         |                    |        |
| 3,000.0                                                                          | 2,993.9             | 3,007.8             | 2,990.5             | 6.8             | 6.3         | 163.66                | -433.0                            | 38.6       | 533.6                | 521.0                 | 12.65                   | 42.169            |         |                    |        |
| 3,100.0                                                                          | 3,093.0             | 3,105.2             | 3,083.8             | 7.1             | 6.7         | 161.03                | -432.6                            | 66.9       | 546.7                | 533.3                 | 13.33                   | 41.024            |         |                    |        |
| 3,200.0                                                                          | 3,192.2             | 3,207.9             | 3,181.5             | 7.4             | 7.2         | 158.18                | -430.7                            | 98.4       | 559.6                | 545.6                 | 14.03                   | 39.881            |         |                    |        |
| 3,300.0                                                                          | 3,291.4             | 3,306.1             | 3,275.3             | 7.7             | 7.7         | 155.70                | -428.4                            | 127.4      | 573.1                | 558.4                 | 14.70                   | 38.998            |         |                    |        |
| 3,400.0                                                                          | 3,390.6             | 3,404.7             | 3,369.5             | 8.0             | 8.1         | 153.32                | -425.8                            | 156.5      | 587.3                | 572.0                 | 15.39                   | 38.171            |         |                    |        |
| 3,500.0                                                                          | 3,489.8             | 3,499.8             | 3,460.0             | 8.2             | 8.6         | 151.02                | -422.8                            | 185.5      | 602.3                | 586.2                 | 16.10                   | 37.416            |         |                    |        |
| 3,600.0                                                                          | 3,589.0             | 3,592.9             | 3,548.4             | 8.5             | 9.1         | 148.84                | -419.9                            | 214.4      | 618.6                | 601.8                 | 16.80                   | 36.827            |         |                    |        |
| 3,700.0                                                                          | 3,688.2             | 3,692.5             | 3,642.9             | 8.8             | 9.7         | 146.57                | -416.9                            | 245.9      | 635.9                | 618.3                 | 17.55                   | 36.227            |         |                    |        |
| 3,800.0                                                                          | 3,787.4             | 3,794.9             | 3,740.2             | 9.1             | 10.3        | 144.39                | -412.7                            | 277.5      | 652.9                | 634.6                 | 18.30                   | 35.684            |         |                    |        |
| 3,900.0                                                                          | 3,886.5             | 3,885.6             | 3,826.7             | 9.4             | 10.8        | 142.64                | -409.3                            | 304.6      | 670.6                | 651.7                 | 18.96                   | 35.363            |         |                    |        |
| 4,000.0                                                                          | 3,985.7             | 3,964.0             | 3,901.9             | 9.7             | 11.2        | 141.39                | -408.6                            | 326.6      | 690.8                | 671.2                 | 19.56                   | 35.312            |         |                    |        |
| 4,100.0                                                                          | 4,085.0             | 4,045.8             | 3,980.3             | 10.0            | 11.6        | 140.30                | -410.2                            | 350.2      | 713.8                | 693.6                 | 20.20                   | 35.333            |         |                    |        |
| 4,200.0                                                                          | 4,184.5             | 4,152.3             | 4,081.9             | 10.2            | 12.2        | 138.80                | -411.1                            | 381.7      | 734.5                | 713.6                 | 20.91                   | 35.123            |         |                    |        |
| 4,300.0                                                                          | 4,284.4             | 4,248.8             | 4,174.5             | 10.4            | 12.7        | 137.45                | -411.9                            | 409.0      | 752.6                | 731.1                 | 21.52                   | 34.966            |         |                    |        |
| 4,400.0                                                                          | 4,384.3             | 4,343.9             | 4,265.6             | 10.6            | 13.3        | 135.98                | -412.6                            | 436.3      | 769.0                | 746.8                 | 22.11                   | 34.778            |         |                    |        |
| 4,500.0                                                                          | 4,484.3             | 4,457.4             | 4,373.8             | 10.8            | 13.9        | 148.65                | -410.3                            | 470.7      | 783.0                | 760.2                 | 22.77                   | 34.381            |         |                    |        |
| 4,600.0                                                                          | 4,584.3             | 4,537.9             | 4,449.7             | 11.0            | 14.4        | 146.91                | -407.5                            | 497.1      | 798.2                | 774.8                 | 23.33                   | 34.213            |         |                    |        |
| 4,700.0                                                                          | 4,684.3             | 4,641.6             | 4,547.7             | 11.2            | 15.1        | 144.76                | -404.4                            | 530.9      | 814.7                | 790.7                 | 23.95                   | 34.019            |         |                    |        |
| 4,800.0                                                                          | 4,784.3             | 4,736.5             | 4,637.8             | 11.4            | 15.6        | 142.95                | -401.6                            | 560.7      | 831.4                | 806.9                 | 24.51                   | 33.915            |         |                    |        |
| 4,900.0                                                                          | 4,884.3             | 4,835.7             | 4,732.3             | 11.6            | 16.2        | 141.22                | -399.6                            | 590.8      | 849.1                | 824.0                 | 25.07                   | 33.870            |         |                    |        |
| 5,000.0                                                                          | 4,984.3             | 4,915.4             | 4,808.4             | 11.8            | 16.7        | 139.98                | -399.2                            | 614.1      | 867.8                | 842.3                 | 25.54                   | 33.976            |         |                    |        |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design             |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Existings Sec.32-T1N-R67W - Jacobucci 43-32 (Exist.) - Wellbore #1 - Wellbore #1 |  | Offset Site Error: 0.0 ft |  |
|---------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|----------------------------------------------------------------------------------|--|---------------------------|--|
| Survey Program: 1105-MWDD |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Well Error: 0.0 ft                                                        |  |                           |  |
| Reference                 |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                   |                                                                                  |  |                           |  |
| Measured Depth (ft)       | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning                                                                          |  |                           |  |
| 5,100.0                   | 5,084.3             | 5,002.0             | 4,890.6             | 12.0            | 17.2        | 138.55                | -398.5                            | 641.7      | 888.5                | 862.5                 | 26.06                   | 34.100            |                                                                                  |  |                           |  |
| 5,200.0                   | 5,184.3             | 5,090.8             | 4,973.9             | 12.2            | 17.8        | 136.99                | -396.4                            | 672.1      | 910.7                | 884.1                 | 26.59                   | 34.253            |                                                                                  |  |                           |  |
| 5,300.0                   | 5,284.3             | 5,183.7             | 5,061.1             | 12.4            | 18.4        | 135.41                | -394.4                            | 704.4      | 934.0                | 906.9                 | 27.11                   | 34.447            |                                                                                  |  |                           |  |
| 5,400.0                   | 5,384.3             | 5,286.4             | 5,157.8             | 12.6            | 19.1        | 133.84                | -392.9                            | 738.8      | 957.6                | 929.9                 | 27.64                   | 34.638            |                                                                                  |  |                           |  |
| 5,500.0                   | 5,484.3             | 5,405.0             | 5,270.7             | 12.8            | 19.8        | 132.27                | -391.5                            | 775.1      | 979.6                | 951.4                 | 28.19                   | 34.743            |                                                                                  |  |                           |  |
| 5,600.0                   | 5,584.3             | 5,496.4             | 5,357.8             | 13.0            | 20.3        | 131.12                | -390.0                            | 802.6      | 1,001.4              | 972.7                 | 28.67                   | 34.928            |                                                                                  |  |                           |  |
| 5,700.0                   | 5,684.3             | 5,598.2             | 5,454.1             | 13.2            | 21.0        | 129.70                | -385.7                            | 835.4      | 1,023.8              | 994.6                 | 29.19                   | 35.076            |                                                                                  |  |                           |  |
| 5,800.0                   | 5,784.3             | 5,715.6             | 5,565.2             | 13.4            | 21.7        | 128.04                | -378.3                            | 872.7      | 1,045.4              | 1,015.6               | 29.74                   | 35.154            |                                                                                  |  |                           |  |
| 5,900.0                   | 5,884.3             | 5,793.5             | 5,639.3             | 13.6            | 22.2        | 127.08                | -374.6                            | 896.3      | 1,067.0              | 1,036.9               | 30.16                   | 35.377            |                                                                                  |  |                           |  |
| 6,000.0                   | 5,984.3             | 5,890.0             | 5,730.8             | 13.9            | 22.8        | 125.90                | -370.3                            | 926.8      | 1,090.3              | 1,059.7               | 30.64                   | 35.584            |                                                                                  |  |                           |  |
| 6,100.0                   | 6,084.3             | 5,996.5             | 5,832.3             | 14.1            | 23.4        | 124.73                | -365.8                            | 958.6      | 1,112.7              | 1,081.6               | 31.13                   | 35.746            |                                                                                  |  |                           |  |
| 6,200.0                   | 6,184.3             | 6,086.5             | 5,918.2             | 14.3            | 23.9        | 123.79                | -362.4                            | 985.2      | 1,135.5              | 1,103.9               | 31.57                   | 35.965            |                                                                                  |  |                           |  |
| 6,300.0                   | 6,284.3             | 6,206.4             | 6,032.7             | 14.5            | 24.6        | 122.55                | -356.2                            | 1,020.2    | 1,157.5              | 1,125.4               | 32.09                   | 36.073            |                                                                                  |  |                           |  |
| 6,400.0                   | 6,384.3             | 6,291.4             | 6,114.3             | 14.7            | 25.1        | 121.79                | -353.3                            | 1,043.8    | 1,179.5              | 1,147.0               | 32.51                   | 36.286            |                                                                                  |  |                           |  |
| 6,500.0                   | 6,484.3             | 6,390.2             | 6,209.3             | 14.9            | 25.6        | 121.02                | -351.6                            | 1,070.9    | 1,202.3              | 1,169.4               | 32.95                   | 36.484            |                                                                                  |  |                           |  |
| 6,600.0                   | 6,584.3             | 6,510.0             | 6,325.0             | 15.1            | 26.2        | 120.21                | -350.4                            | 1,101.9    | 1,224.4              | 1,191.0               | 33.44                   | 36.614            |                                                                                  |  |                           |  |
| 6,700.0                   | 6,684.3             | 6,723.1             | 6,533.5             | 15.3            | 27.1        | 118.97                | -344.7                            | 1,145.2    | 1,240.9              | 1,206.8               | 34.10                   | 36.390            |                                                                                  |  |                           |  |
| 6,800.0                   | 6,784.3             | 6,868.8             | 6,678.0             | 15.6            | 27.5        | 118.37                | -340.1                            | 1,163.8    | 1,250.5              | 1,215.9               | 34.58                   | 36.163            |                                                                                  |  |                           |  |
| 6,900.0                   | 6,884.3             | 7,004.8             | 6,813.2             | 15.7            | 27.9        | -62.02                | -335.8                            | 1,176.5    | 1,256.5              | 1,221.5               | 35.06                   | 35.842            |                                                                                  |  |                           |  |
| 7,000.0                   | 6,983.4             | 7,113.8             | 6,921.9             | 15.9            | 28.1        | -62.90                | -333.1                            | 1,184.0    | 1,255.5              | 1,220.3               | 35.18                   | 35.687            |                                                                                  |  |                           |  |
| 7,100.0                   | 7,080.0             | 7,209.6             | 7,017.6             | 15.9            | 28.3        | -64.57                | -331.0                            | 1,190.0    | 1,248.7              | 1,213.7               | 34.95                   | 35.725            |                                                                                  |  |                           |  |
| 7,200.0                   | 7,172.5             | 7,301.0             | 7,108.8             | 15.9            | 28.5        | -67.01                | -329.0                            | 1,195.8    | 1,237.2              | 1,202.7               | 34.52                   | 35.837            |                                                                                  |  |                           |  |
| 7,300.0                   | 7,259.1             | 7,386.4             | 7,194.0             | 16.0            | 28.6        | -70.09                | -327.2                            | 1,201.2    | 1,222.2              | 1,188.2               | 34.07                   | 35.879            |                                                                                  |  |                           |  |
| 7,400.0                   | 7,338.6             | 7,464.4             | 7,271.8             | 16.0            | 28.8        | -73.59                | -325.5                            | 1,206.2    | 1,205.3              | 1,171.6               | 33.74                   | 35.721            |                                                                                  |  |                           |  |
| 7,500.0                   | 7,409.5             | 7,533.6             | 7,340.8             | 16.1            | 28.9        | -77.22                | -324.0                            | 1,210.6    | 1,188.4              | 1,154.7               | 33.66                   | 35.306            |                                                                                  |  |                           |  |
| 7,600.0                   | 7,470.5             | 7,592.8             | 7,399.9             | 16.4            | 29.0        | -80.67                | -322.7                            | 1,214.3    | 1,173.3              | 1,139.4               | 33.83                   | 34.680            |                                                                                  |  |                           |  |
| 7,700.0                   | 7,520.8             | 7,641.0             | 7,448.0             | 16.8            | 29.1        | -83.60                | -321.7                            | 1,217.4    | 1,161.9              | 1,127.7               | 34.23                   | 33.949            |                                                                                  |  |                           |  |
| 7,800.0                   | 7,559.3             | 7,677.4             | 7,484.3             | 17.4            | 29.2        | -85.71                | -320.9                            | 1,219.7    | 1,156.1              | 1,121.2               | 34.81                   | 33.212            |                                                                                  |  |                           |  |
| 7,837.0                   | 7,570.4             | 7,687.8             | 7,494.7             | 17.7            | 29.2        | -86.24                | -320.6                            | 1,220.3    | 1,155.6              | 1,120.5               | 35.09                   | 32.933            |                                                                                  |  |                           |  |
| 7,900.0                   | 7,585.4             | 7,701.4             | 7,508.3             | 18.2            | 29.3        | -86.79                | -320.3                            | 1,221.2    | 1,157.0              | 1,121.5               | 35.57                   | 32.530            |                                                                                  |  |                           |  |
| 8,000.0                   | 7,598.8             | 7,712.6             | 7,519.4             | 19.1            | 29.3        | -86.70                | -320.1                            | 1,221.9    | 1,165.6              | 1,129.1               | 36.49                   | 31.941            |                                                                                  |  |                           |  |
| 8,100.0                   | 7,600.7             | 7,712.3             | 7,519.1             | 20.1            | 29.3        | -86.13                | -320.1                            | 1,221.9    | 1,181.8              | 1,144.3               | 37.54                   | 31.486            |                                                                                  |  |                           |  |
| 8,200.0                   | 7,600.9             | 7,710.4             | 7,517.2             | 21.3            | 29.3        | -86.04                | -320.1                            | 1,221.8    | 1,206.1              | 1,167.4               | 38.69                   | 31.177            |                                                                                  |  |                           |  |
| 8,300.0                   | 7,601.1             | 7,708.4             | 7,515.2             | 22.5            | 29.3        | -85.94                | -320.2                            | 1,221.6    | 1,238.0              | 1,198.0               | 39.94                   | 30.997            |                                                                                  |  |                           |  |
| 8,400.0                   | 7,601.3             | 7,706.4             | 7,513.3             | 23.9            | 29.3        | -85.84                | -320.2                            | 1,221.5    | 1,276.9              | 1,235.6               | 41.28                   | 30.934 SF         |                                                                                  |  |                           |  |
| 8,500.0                   | 7,601.5             | 7,704.5             | 7,511.3             | 25.3            | 29.3        | -85.75                | -320.3                            | 1,221.4    | 1,322.3              | 1,279.6               | 42.69                   | 30.972            |                                                                                  |  |                           |  |
| 8,600.0                   | 7,601.7             | 7,702.5             | 7,509.3             | 26.8            | 29.3        | -85.65                | -320.3                            | 1,221.3    | 1,373.4              | 1,329.3               | 44.17                   | 31.096            |                                                                                  |  |                           |  |
| 8,700.0                   | 7,601.9             | 7,700.5             | 7,507.4             | 28.3            | 29.2        | -85.55                | -320.4                            | 1,221.1    | 1,429.8              | 1,384.1               | 45.69                   | 31.290            |                                                                                  |  |                           |  |
| 8,800.0                   | 7,602.1             | 7,698.6             | 7,505.4             | 29.9            | 29.2        | -85.45                | -320.4                            | 1,221.0    | 1,490.7              | 1,443.4               | 47.26                   | 31.540            |                                                                                  |  |                           |  |
| 8,900.0                   | 7,602.3             | 7,696.6             | 7,503.5             | 31.5            | 29.2        | -85.36                | -320.4                            | 1,220.9    | 1,555.6              | 1,506.8               | 48.87                   | 31.832            |                                                                                  |  |                           |  |
| 9,000.0                   | 7,602.5             | 7,694.6             | 7,501.5             | 33.1            | 29.2        | -85.26                | -320.5                            | 1,220.8    | 1,624.2              | 1,573.7               | 50.51                   | 32.156            |                                                                                  |  |                           |  |
| 9,100.0                   | 7,602.8             | 7,692.7             | 7,499.5             | 34.8            | 29.2        | -85.16                | -320.5                            | 1,220.6    | 1,695.8              | 1,643.6               | 52.17                   | 32.503            |                                                                                  |  |                           |  |
| 9,200.0                   | 7,603.0             | 7,690.7             | 7,497.6             | 36.5            | 29.2        | -85.07                | -320.6                            | 1,220.5    | 1,770.2              | 1,716.4               | 53.86                   | 32.866            |                                                                                  |  |                           |  |
| 9,300.0                   | 7,603.2             | 7,688.8             | 7,495.6             | 38.2            | 29.2        | -84.97                | -320.6                            | 1,220.4    | 1,847.0              | 1,791.5               | 55.57                   | 33.238            |                                                                                  |  |                           |  |
| 9,400.0                   | 7,603.4             | 7,686.8             | 7,493.7             | 40.0            | 29.2        | -84.87                | -320.7                            | 1,220.3    | 1,926.0              | 1,868.7               | 57.30                   | 33.615            |                                                                                  |  |                           |  |
| 9,500.0                   | 7,603.6             | 7,684.8             | 7,491.7             | 41.7            | 29.2        | -84.77                | -320.7                            | 1,220.1    | 2,006.8              | 1,947.8               | 59.04                   | 33.993            |                                                                                  |  |                           |  |
| 9,600.0                   | 7,603.8             | 7,682.9             | 7,489.7             | 43.5            | 29.2        | -84.68                | -320.7                            | 1,220.0    | 2,089.3              | 2,028.5               | 60.79                   | 34.369            |                                                                                  |  |                           |  |
| 9,700.0                   | 7,604.0             | 7,680.9             | 7,487.8             | 45.2            | 29.2        | -84.58                | -320.8                            | 1,219.9    | 2,173.2              | 2,110.7               | 62.55                   | 34.741            |                                                                                  |  |                           |  |
| 9,800.0                   | 7,604.2             | 7,678.9             | 7,485.8             | 47.0            | 29.2        | -84.48                | -320.8                            | 1,219.8    | 2,258.5              | 2,194.1               | 64.33                   | 35.108            |                                                                                  |  |                           |  |
| 9,900.0                   | 7,604.4             | 7,677.0             | 7,483.9             | 48.8            | 29.2        | -84.39                | -320.9                            | 1,219.6    | 2,344.9              | 2,278.8               | 66.11                   | 35.467            |                                                                                  |  |                           |  |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design            |                |                |                |                 |        |                   |                        |            |                 |                  |                    |                   | Existings Sec.32-T1N-R67W - Jacobucci 43-32 (Exist.) - Wellbore #1 - Wellbore #1 |         | Offset Site Error: 0.0 ft |  |
|--------------------------|----------------|----------------|----------------|-----------------|--------|-------------------|------------------------|------------|-----------------|------------------|--------------------|-------------------|----------------------------------------------------------------------------------|---------|---------------------------|--|
| Survey Program: 1105-MWD |                |                |                |                 |        |                   |                        |            |                 |                  |                    |                   | Offset Well Error: 0.0 ft                                                        |         |                           |  |
| Reference                |                | Offset         |                | Semi Major Axis |        |                   | Distance               |            |                 |                  |                    |                   |                                                                                  | Warning |                           |  |
| Measured Depth           | Vertical Depth | Measured Depth | Vertical Depth | Reference       | Offset | Highside Toolface | Offset Wellbore Centre |            | Between Centres | Between Ellipses | Minimum Separation | Separation Factor |                                                                                  |         |                           |  |
| (ft)                     | (ft)           | (ft)           | (ft)           | (ft)            | (ft)   | (°)               | +N/-S (ft)             | +E/-W (ft) | (ft)            | (ft)             | (ft)               |                   |                                                                                  |         |                           |  |
| 10,000.0                 | 7,604.6        | 7,675.0        | 7,481.9        | 50.6            | 29.2   | -84.29            | -320.9                 | 1,219.5    | 2,432.3         | 2,364.4          | 67.91              | 35.820            |                                                                                  |         |                           |  |
| 10,100.0                 | 7,604.8        | 7,673.0        | 7,480.0        | 52.5            | 29.2   | -84.19            | -321.0                 | 1,219.4    | 2,520.7         | 2,451.0          | 69.70              | 36.163            |                                                                                  |         |                           |  |
| 10,200.0                 | 7,605.1        | 7,671.1        | 7,478.0        | 54.3            | 29.2   | -84.09            | -321.0                 | 1,219.3    | 2,610.0         | 2,538.4          | 71.51              | 36.498            |                                                                                  |         |                           |  |
| 10,300.0                 | 7,605.3        | 7,669.1        | 7,476.0        | 56.1            | 29.2   | -84.00            | -321.0                 | 1,219.1    | 2,699.9         | 2,626.6          | 73.32              | 36.824            |                                                                                  |         |                           |  |
| 10,400.0                 | 7,605.5        | 7,667.2        | 7,474.1        | 57.9            | 29.2   | -83.90            | -321.1                 | 1,219.0    | 2,790.6         | 2,715.5          | 75.14              | 37.141            |                                                                                  |         |                           |  |
| 10,500.0                 | 7,605.7        | 7,665.2        | 7,472.1        | 59.8            | 29.2   | -83.80            | -321.1                 | 1,218.9    | 2,881.9         | 2,804.9          | 76.96              | 37.449            |                                                                                  |         |                           |  |
| 10,600.0                 | 7,605.9        | 7,663.2        | 7,470.2        | 61.6            | 29.2   | -83.71            | -321.2                 | 1,218.8    | 2,973.7         | 2,894.9          | 78.78              | 37.748            |                                                                                  |         |                           |  |
| 10,700.0                 | 7,606.1        | 7,661.3        | 7,468.2        | 63.5            | 29.2   | -83.61            | -321.2                 | 1,218.6    | 3,066.1         | 2,985.4          | 80.61              | 38.038            |                                                                                  |         |                           |  |
| 10,800.0                 | 7,606.3        | 7,659.3        | 7,466.2        | 65.3            | 29.2   | -83.51            | -321.3                 | 1,218.5    | 3,158.9         | 3,076.4          | 82.44              | 38.319            |                                                                                  |         |                           |  |
| 10,900.0                 | 7,606.5        | 7,657.3        | 7,464.3        | 67.2            | 29.2   | -83.42            | -321.3                 | 1,218.4    | 3,252.1         | 3,167.8          | 84.27              | 38.592            |                                                                                  |         |                           |  |
| 11,000.0                 | 7,606.7        | 7,655.4        | 7,462.3        | 69.0            | 29.2   | -83.32            | -321.3                 | 1,218.3    | 3,345.7         | 3,259.6          | 86.10              | 38.856            |                                                                                  |         |                           |  |
| 11,100.0                 | 7,606.9        | 7,653.4        | 7,460.4        | 70.9            | 29.2   | -83.22            | -321.4                 | 1,218.1    | 3,439.7         | 3,351.8          | 87.94              | 39.113            |                                                                                  |         |                           |  |
| 11,200.0                 | 7,607.2        | 7,651.4        | 7,458.4        | 72.8            | 29.2   | -83.12            | -321.4                 | 1,218.0    | 3,534.0         | 3,444.2          | 89.78              | 39.362            |                                                                                  |         |                           |  |
| 11,300.0                 | 7,607.4        | 7,649.5        | 7,456.4        | 74.6            | 29.1   | -83.03            | -321.5                 | 1,217.9    | 3,628.6         | 3,537.0          | 91.62              | 39.604            |                                                                                  |         |                           |  |
| 11,400.0                 | 7,607.6        | 7,647.5        | 7,454.5        | 76.5            | 29.1   | -82.93            | -321.5                 | 1,217.8    | 3,723.5         | 3,630.1          | 93.47              | 39.838            |                                                                                  |         |                           |  |
| 11,500.0                 | 7,607.8        | 7,645.6        | 7,452.5        | 78.4            | 29.1   | -82.83            | -321.6                 | 1,217.7    | 3,818.7         | 3,723.4          | 95.31              | 40.066            |                                                                                  |         |                           |  |
| 11,600.0                 | 7,608.0        | 7,643.6        | 7,450.6        | 80.2            | 29.1   | -82.74            | -321.6                 | 1,217.5    | 3,914.1         | 3,816.9          | 97.16              | 40.287            |                                                                                  |         |                           |  |
| 11,700.0                 | 7,608.2        | 7,641.6        | 7,448.6        | 82.1            | 29.1   | -82.64            | -321.6                 | 1,217.4    | 4,009.7         | 3,910.7          | 99.00              | 40.501            |                                                                                  |         |                           |  |
| 11,800.0                 | 7,608.4        | 7,639.7        | 7,446.6        | 84.0            | 29.1   | -82.54            | -321.7                 | 1,217.3    | 4,105.5         | 4,004.7          | 100.85             | 40.710            |                                                                                  |         |                           |  |
| 11,900.0                 | 7,608.6        | 7,637.7        | 7,444.7        | 85.9            | 29.1   | -82.45            | -321.7                 | 1,217.2    | 4,201.6         | 4,098.9          | 102.70             | 40.912            |                                                                                  |         |                           |  |
| 12,000.0                 | 7,608.8        | 7,635.7        | 7,442.7        | 87.7            | 29.1   | -82.35            | -321.8                 | 1,217.0    | 4,297.8         | 4,193.2          | 104.55             | 41.109            |                                                                                  |         |                           |  |
| 12,100.0                 | 7,609.0        | 7,633.8        | 7,440.8        | 89.6            | 29.1   | -82.25            | -321.8                 | 1,216.9    | 4,394.1         | 4,287.7          | 106.40             | 41.300            |                                                                                  |         |                           |  |
| 12,200.0                 | 7,609.2        | 7,631.8        | 7,438.8        | 91.5            | 29.1   | -82.16            | -321.9                 | 1,216.8    | 4,490.7         | 4,382.4          | 108.24             | 41.486            |                                                                                  |         |                           |  |
| 12,300.0                 | 7,609.5        | 7,629.8        | 7,436.8        | 93.4            | 29.1   | -82.06            | -321.9                 | 1,216.7    | 4,587.3         | 4,477.2          | 110.09             | 41.667            |                                                                                  |         |                           |  |
| 12,400.0                 | 7,609.7        | 7,627.9        | 7,434.9        | 95.3            | 29.1   | -81.96            | -321.9                 | 1,216.5    | 4,684.1         | 4,572.2          | 111.94             | 41.843            |                                                                                  |         |                           |  |
| 12,500.0                 | 7,609.9        | 7,625.9        | 7,432.9        | 97.2            | 29.1   | -81.87            | -322.0                 | 1,216.4    | 4,781.1         | 4,667.3          | 113.79             | 42.015            |                                                                                  |         |                           |  |
| 12,600.0                 | 7,610.1        | 7,624.0        | 7,431.0        | 99.1            | 29.1   | -81.77            | -322.0                 | 1,216.3    | 4,878.2         | 4,762.5          | 115.65             | 42.182            |                                                                                  |         |                           |  |
| 12,700.0                 | 7,610.3        | 7,622.0        | 7,429.0        | 100.9           | 29.1   | -81.67            | -322.1                 | 1,216.2    | 4,975.3         | 4,857.8          | 117.50             | 42.345            |                                                                                  |         |                           |  |
| 12,800.0                 | 7,610.5        | 7,620.0        | 7,427.1        | 102.8           | 29.1   | -81.58            | -322.1                 | 1,216.0    | 5,072.6         | 4,953.3          | 119.35             | 42.504            |                                                                                  |         |                           |  |
| 12,900.0                 | 7,610.7        | 7,618.1        | 7,425.1        | 104.7           | 29.1   | -81.48            | -322.2                 | 1,215.9    | 5,170.0         | 5,048.8          | 121.20             | 42.659            |                                                                                  |         |                           |  |
| 13,000.0                 | 7,610.9        | 7,616.1        | 7,423.1        | 106.6           | 29.1   | -81.38            | -322.2                 | 1,215.8    | 5,267.5         | 5,144.5          | 123.05             | 42.810            |                                                                                  |         |                           |  |
| 13,100.0                 | 7,611.1        | 7,614.1        | 7,421.2        | 108.5           | 29.1   | -81.29            | -322.2                 | 1,215.7    | 5,365.1         | 5,240.2          | 124.89             | 42.957            |                                                                                  |         |                           |  |
| 13,200.0                 | 7,611.3        | 7,612.2        | 7,419.2        | 110.4           | 29.1   | -81.19            | -322.3                 | 1,215.5    | 5,462.8         | 5,336.0          | 126.74             | 43.101            |                                                                                  |         |                           |  |
| 13,300.0                 | 7,611.6        | 7,610.2        | 7,417.3        | 112.3           | 29.1   | -81.09            | -322.3                 | 1,215.4    | 5,560.5         | 5,431.9          | 128.59             | 43.241            |                                                                                  |         |                           |  |
| 13,400.0                 | 7,611.8        | 7,608.2        | 7,415.3        | 114.2           | 29.1   | -81.00            | -322.4                 | 1,215.3    | 5,658.4         | 5,527.9          | 130.44             | 43.379            |                                                                                  |         |                           |  |
| 13,500.0                 | 7,612.0        | 7,606.3        | 7,413.3        | 116.1           | 29.1   | -80.90            | -322.4                 | 1,215.2    | 5,756.3         | 5,624.0          | 132.29             | 43.513            |                                                                                  |         |                           |  |
| 13,600.0                 | 7,612.2        | 7,604.3        | 7,411.4        | 118.0           | 29.1   | -80.81            | -322.5                 | 1,215.0    | 5,854.2         | 5,720.1          | 134.14             | 43.644            |                                                                                  |         |                           |  |
| 13,700.0                 | 7,612.4        | 7,602.4        | 7,409.4        | 119.9           | 29.1   | -80.71            | -322.5                 | 1,214.9    | 5,952.3         | 5,816.3          | 135.98             | 43.772            |                                                                                  |         |                           |  |
| 13,800.0                 | 7,612.6        | 7,600.4        | 7,407.5        | 121.8           | 29.1   | -80.61            | -322.5                 | 1,214.8    | 6,050.4         | 5,912.5          | 137.83             | 43.898            |                                                                                  |         |                           |  |
| 13,900.0                 | 7,612.8        | 7,598.4        | 7,405.5        | 123.7           | 29.0   | -80.52            | -322.6                 | 1,214.7    | 6,148.5         | 6,008.9          | 139.67             | 44.021            |                                                                                  |         |                           |  |
| 14,000.0                 | 7,613.0        | 7,596.5        | 7,403.5        | 125.6           | 29.0   | -80.42            | -322.6                 | 1,214.5    | 6,246.8         | 6,105.2          | 141.52             | 44.141            |                                                                                  |         |                           |  |
| 14,100.0                 | 7,613.2        | 7,594.5        | 7,401.6        | 127.5           | 29.0   | -80.32            | -322.7                 | 1,214.4    | 6,345.0         | 6,201.7          | 143.36             | 44.259            |                                                                                  |         |                           |  |
| 14,200.0                 | 7,613.4        | 7,592.5        | 7,399.6        | 129.4           | 29.0   | -80.23            | -322.7                 | 1,214.3    | 6,443.4         | 6,298.2          | 145.21             | 44.374            |                                                                                  |         |                           |  |
| 14,300.0                 | 7,613.6        | 7,590.6        | 7,397.7        | 131.3           | 29.0   | -80.13            | -322.8                 | 1,214.2    | 6,541.8         | 6,394.7          | 147.05             | 44.487            |                                                                                  |         |                           |  |
| 14,400.0                 | 7,613.9        | 7,588.6        | 7,395.7        | 133.2           | 29.0   | -80.04            | -322.8                 | 1,214.0    | 6,640.2         | 6,491.3          | 148.89             | 44.598            |                                                                                  |         |                           |  |
| 14,469.1                 | 7,614.0        | 7,587.3        | 7,394.4        | 134.5           | 29.0   | -79.97            | -322.8                 | 1,214.0    | 6,708.2         | 6,558.0          | 150.16             | 44.673            |                                                                                  |         |                           |  |



|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   | Offset Site Error: | 0.0 ft |
|------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|--------|
| Survey Program: 8062-UNKNOWN |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   | Offset Well Error: | 0.0 ft |
| Reference                    |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |                    |        |
| Offset                       |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |                    |        |
| Semi Major Axis              |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |                    |        |
| Distance                     |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |                    |        |
| Measured Depth (ft)          | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning            |        |
| 0.0                          | 0.0                 | 19.0                | 19.0                | 0.0            | 0.4         | 162.17                | -1,672.1                          | 537.9      | 1,756.5              | 1,756.1               | 0.38                    | 4,619.833         |                    |        |
| 100.0                        | 100.0               | 119.0               | 119.0               | 0.1            | 2.4         | 162.17                | -1,672.1                          | 537.9      | 1,756.5              | 1,754.0               | 2.49                    | 704.675           |                    |        |
| 200.0                        | 200.0               | 219.0               | 219.0               | 0.3            | 4.4         | 162.17                | -1,672.1                          | 537.9      | 1,756.5              | 1,751.7               | 4.72                    | 372.341           |                    |        |
| 300.0                        | 300.0               | 319.0               | 319.0               | 0.6            | 6.4         | 162.17                | -1,672.1                          | 537.9      | 1,756.5              | 1,749.5               | 6.94                    | 253.015           |                    |        |
| 400.0                        | 400.0               | 419.0               | 419.0               | 0.8            | 8.4         | 162.17                | -1,672.1                          | 537.9      | 1,756.5              | 1,747.3               | 9.17                    | 191.609           |                    |        |
| 500.0                        | 500.0               | 519.0               | 519.0               | 1.0            | 10.4        | 162.17                | -1,672.1                          | 537.9      | 1,756.5              | 1,745.1               | 11.39                   | 154.188           |                    |        |
| 600.0                        | 600.0               | 619.0               | 619.0               | 1.2            | 12.4        | 162.17                | -1,672.1                          | 537.9      | 1,756.5              | 1,742.8               | 13.62                   | 128.996           |                    |        |
| 700.0                        | 700.0               | 719.0               | 719.0               | 1.5            | 14.4        | 162.17                | -1,672.1                          | 537.9      | 1,756.5              | 1,740.6               | 15.84                   | 110.879           |                    |        |
| 800.0                        | 800.0               | 819.0               | 819.0               | 1.7            | 16.4        | 162.17                | -1,672.1                          | 537.9      | 1,756.5              | 1,738.4               | 18.07                   | 97.225            |                    |        |
| 900.0                        | 900.0               | 919.0               | 919.0               | 1.9            | 18.4        | 162.17                | -1,672.1                          | 537.9      | 1,756.5              | 1,736.2               | 20.29                   | 86.565            |                    |        |
| 1,000.0                      | 1,000.0             | 1,019.0             | 1,019.0             | 2.1            | 20.4        | 162.17                | -1,672.1                          | 537.9      | 1,756.5              | 1,733.9               | 22.52                   | 78.011            |                    |        |
| 1,100.0                      | 1,100.0             | 1,119.0             | 1,119.0             | 2.4            | 22.4        | 162.17                | -1,672.1                          | 537.9      | 1,756.5              | 1,731.7               | 24.74                   | 70.996            |                    |        |
| 1,200.0                      | 1,200.0             | 1,219.0             | 1,219.0             | 2.6            | 24.4        | 162.17                | -1,672.1                          | 537.9      | 1,756.5              | 1,729.5               | 26.96                   | 65.138            |                    |        |
| 1,300.0                      | 1,300.0             | 1,319.0             | 1,319.0             | 2.8            | 26.4        | 162.17                | -1,672.1                          | 537.9      | 1,756.5              | 1,727.3               | 29.19                   | 60.174            |                    |        |
| 1,400.0                      | 1,400.0             | 1,419.0             | 1,419.0             | 3.0            | 28.4        | 162.17                | -1,672.1                          | 537.9      | 1,756.5              | 1,725.0               | 31.41                   | 55.912            |                    |        |
| 1,500.0                      | 1,500.0             | 1,519.0             | 1,519.0             | 3.3            | 30.4        | 162.17                | -1,672.1                          | 537.9      | 1,756.5              | 1,722.8               | 33.64                   | 52.215            |                    |        |
| 1,600.0                      | 1,600.0             | 1,619.0             | 1,619.0             | 3.5            | 32.4        | 162.17                | -1,672.1                          | 537.9      | 1,756.5              | 1,720.6               | 35.86                   | 48.975            |                    |        |
| 1,700.0                      | 1,700.0             | 1,719.0             | 1,719.0             | 3.7            | 34.4        | 162.17                | -1,672.1                          | 537.9      | 1,756.5              | 1,718.4               | 38.09                   | 46.115            |                    |        |
| 1,800.0                      | 1,800.0             | 1,819.0             | 1,819.0             | 3.9            | 36.4        | 162.17                | -1,672.1                          | 537.9      | 1,756.5              | 1,716.1               | 40.31                   | 43.570            |                    |        |
| 1,900.0                      | 1,900.0             | 1,919.0             | 1,919.0             | 4.2            | 38.4        | 162.17                | -1,672.1                          | 537.9      | 1,756.5              | 1,713.9               | 42.54                   | 41.291            |                    |        |
| 2,000.0                      | 2,000.0             | 2,019.0             | 2,019.0             | 4.4            | 40.4        | 162.17                | -1,672.1                          | 537.9      | 1,756.5              | 1,711.7               | 44.76                   | 39.239            |                    |        |
| 2,100.0                      | 2,100.0             | 2,119.0             | 2,119.0             | 4.6            | 42.4        | 147.24                | -1,672.1                          | 537.9      | 1,757.9              | 1,711.0               | 46.97                   | 37.429            |                    |        |
| 2,200.0                      | 2,199.8             | 2,218.8             | 2,218.8             | 4.8            | 44.4        | 147.28                | -1,672.1                          | 537.9      | 1,762.3              | 1,713.2               | 49.12                   | 35.875            |                    |        |
| 2,300.0                      | 2,299.5             | 2,318.5             | 2,318.5             | 5.1            | 46.4        | 147.36                | -1,672.1                          | 537.9      | 1,769.7              | 1,718.4               | 51.23                   | 34.544            |                    |        |
| 2,400.0                      | 2,398.7             | 2,417.7             | 2,417.7             | 5.3            | 48.4        | 147.50                | -1,672.1                          | 537.9      | 1,779.8              | 1,726.5               | 53.34                   | 33.369            |                    |        |
| 2,500.0                      | 2,497.9             | 2,516.9             | 2,516.9             | 5.5            | 50.3        | 147.71                | -1,672.1                          | 537.9      | 1,790.6              | 1,735.0               | 55.54                   | 32.240            |                    |        |
| 2,600.0                      | 2,597.1             | 2,616.1             | 2,616.1             | 5.8            | 52.3        | 147.93                | -1,672.1                          | 537.9      | 1,801.3              | 1,743.6               | 57.74                   | 31.195            |                    |        |
| 2,700.0                      | 2,696.3             | 2,715.3             | 2,715.3             | 6.0            | 54.3        | 148.14                | -1,672.1                          | 537.9      | 1,812.2              | 1,752.2               | 59.95                   | 30.227            |                    |        |
| 2,800.0                      | 2,795.5             | 2,814.5             | 2,814.5             | 6.3            | 56.3        | 148.35                | -1,672.1                          | 537.9      | 1,823.0              | 1,760.8               | 62.16                   | 29.327            |                    |        |
| 2,900.0                      | 2,894.7             | 2,913.7             | 2,913.7             | 6.6            | 58.3        | 148.56                | -1,672.1                          | 537.9      | 1,833.9              | 1,769.5               | 64.37                   | 28.488            |                    |        |
| 3,000.0                      | 2,993.9             | 3,012.9             | 3,012.9             | 6.8            | 60.3        | 148.77                | -1,672.1                          | 537.9      | 1,844.7              | 1,778.2               | 66.59                   | 27.704            |                    |        |
| 3,100.0                      | 3,093.0             | 3,112.0             | 3,112.0             | 7.1            | 62.2        | 148.97                | -1,672.1                          | 537.9      | 1,855.7              | 1,786.9               | 68.80                   | 26.971            |                    |        |
| 3,200.0                      | 3,192.2             | 3,211.2             | 3,211.2             | 7.4            | 64.2        | 149.17                | -1,672.1                          | 537.9      | 1,866.6              | 1,795.6               | 71.02                   | 26.283            |                    |        |
| 3,300.0                      | 3,291.4             | 3,310.4             | 3,310.4             | 7.7            | 66.2        | 149.37                | -1,672.1                          | 537.9      | 1,877.5              | 1,804.3               | 73.24                   | 25.637            |                    |        |
| 3,400.0                      | 3,390.6             | 3,409.6             | 3,409.6             | 8.0            | 68.2        | 149.57                | -1,672.1                          | 537.9      | 1,888.5              | 1,813.1               | 75.45                   | 25.029            |                    |        |
| 3,500.0                      | 3,489.8             | 3,508.8             | 3,508.8             | 8.2            | 70.2        | 149.76                | -1,672.1                          | 537.9      | 1,899.5              | 1,821.8               | 77.67                   | 24.456            |                    |        |
| 3,600.0                      | 3,589.0             | 3,608.0             | 3,608.0             | 8.5            | 72.2        | 149.95                | -1,672.1                          | 537.9      | 1,910.5              | 1,830.6               | 79.89                   | 23.914            |                    |        |
| 3,700.0                      | 3,688.2             | 3,707.2             | 3,707.2             | 8.8            | 74.1        | 150.14                | -1,672.1                          | 537.9      | 1,921.6              | 1,839.5               | 82.11                   | 23.403            |                    |        |
| 3,800.0                      | 3,787.4             | 3,806.4             | 3,806.4             | 9.1            | 76.1        | 150.33                | -1,672.1                          | 537.9      | 1,932.6              | 1,848.3               | 84.33                   | 22.918            |                    |        |
| 3,900.0                      | 3,886.5             | 3,905.5             | 3,905.5             | 9.4            | 78.1        | 150.51                | -1,672.1                          | 537.9      | 1,943.7              | 1,857.2               | 86.55                   | 22.458            |                    |        |
| 4,000.0                      | 3,985.7             | 4,004.7             | 4,004.7             | 9.7            | 80.1        | 150.70                | -1,672.1                          | 537.9      | 1,954.8              | 1,866.1               | 88.77                   | 22.021            |                    |        |
| 4,100.0                      | 4,085.0             | 4,104.0             | 4,104.0             | 10.0           | 82.1        | 150.92                | -1,672.1                          | 537.9      | 1,965.6              | 1,874.5               | 91.11                   | 21.573            |                    |        |
| 4,200.0                      | 4,184.5             | 4,203.5             | 4,203.5             | 10.2           | 84.1        | 151.13                | -1,672.1                          | 537.9      | 1,973.7              | 1,880.2               | 93.49                   | 21.111            |                    |        |
| 4,300.0                      | 4,284.4             | 4,303.4             | 4,303.4             | 10.4           | 86.1        | 151.26                | -1,672.1                          | 537.9      | 1,978.7              | 1,883.0               | 95.79                   | 20.656            |                    |        |
| 4,400.0                      | 4,384.3             | 4,403.3             | 4,403.3             | 10.6           | 88.1        | 151.31                | -1,672.1                          | 537.9      | 1,980.8              | 1,882.7               | 98.01                   | 20.210            |                    |        |
| 4,500.0                      | 4,484.3             | 4,503.3             | 4,503.3             | 10.8           | 90.1        | 166.25                | -1,672.1                          | 537.9      | 1,980.8              | 1,880.6               | 100.20                  | 19.769            |                    |        |
| 4,600.0                      | 4,584.3             | 4,603.3             | 4,603.3             | 11.0           | 92.1        | 166.25                | -1,672.1                          | 537.9      | 1,980.8              | 1,878.4               | 102.41                  | 19.342            |                    |        |
| 4,700.0                      | 4,684.3             | 4,703.3             | 4,703.3             | 11.2           | 94.1        | 166.25                | -1,672.1                          | 537.9      | 1,980.8              | 1,876.2               | 104.63                  | 18.932            |                    |        |
| 4,800.0                      | 4,784.3             | 4,803.3             | 4,803.3             | 11.4           | 96.1        | 166.25                | -1,672.1                          | 537.9      | 1,980.8              | 1,874.0               | 106.84                  | 18.539            |                    |        |
| 4,900.0                      | 4,884.3             | 4,903.3             | 4,903.3             | 11.6           | 98.1        | 166.25                | -1,672.1                          | 537.9      | 1,980.8              | 1,871.7               | 109.06                  | 18.163            |                    |        |
| 5,000.0                      | 4,984.3             | 5,003.3             | 5,003.3             | 11.8           | 100.1       | 166.25                | -1,672.1                          | 537.9      | 1,980.8              | 1,869.5               | 111.28                  | 17.801            |                    |        |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Site Error: | 0.0 ft |
|------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|---------|--------------------|--------|
| Survey Program: 8062-UNKNOWN |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Well Error: | 0.0 ft |
| Reference                    |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Offset                       |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Semi Major Axis              |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Distance                     |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Measured Depth (ft)          | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |                    |        |
| 5,100.0                      | 5,084.3             | 5,103.3             | 5,103.3             | 12.0           | 102.1       | 166.25                | -1,672.1                          | 537.9      | 1,980.8              | 1,867.3               | 113.49                  | 17.453            |         |                    |        |
| 5,200.0                      | 5,184.3             | 5,203.3             | 5,203.3             | 12.2           | 104.1       | 166.25                | -1,672.1                          | 537.9      | 1,980.8              | 1,865.1               | 115.71                  | 17.119            |         |                    |        |
| 5,300.0                      | 5,284.3             | 5,303.3             | 5,303.3             | 12.4           | 106.1       | 166.25                | -1,672.1                          | 537.9      | 1,980.8              | 1,862.9               | 117.93                  | 16.797            |         |                    |        |
| 5,400.0                      | 5,384.3             | 5,403.3             | 5,403.3             | 12.6           | 108.1       | 166.25                | -1,672.1                          | 537.9      | 1,980.8              | 1,860.6               | 120.15                  | 16.487            |         |                    |        |
| 5,500.0                      | 5,484.3             | 5,503.3             | 5,503.3             | 12.8           | 110.1       | 166.25                | -1,672.1                          | 537.9      | 1,980.8              | 1,858.4               | 122.36                  | 16.188            |         |                    |        |
| 5,600.0                      | 5,584.3             | 5,603.3             | 5,603.3             | 13.0           | 112.1       | 166.25                | -1,672.1                          | 537.9      | 1,980.8              | 1,856.2               | 124.58                  | 15.900            |         |                    |        |
| 5,700.0                      | 5,684.3             | 5,703.3             | 5,703.3             | 13.2           | 114.1       | 166.25                | -1,672.1                          | 537.9      | 1,980.8              | 1,854.0               | 126.80                  | 15.621            |         |                    |        |
| 5,800.0                      | 5,784.3             | 5,803.3             | 5,803.3             | 13.4           | 116.1       | 166.25                | -1,672.1                          | 537.9      | 1,980.8              | 1,851.8               | 129.02                  | 15.353            |         |                    |        |
| 5,900.0                      | 5,884.3             | 5,903.3             | 5,903.3             | 13.6           | 118.1       | 166.25                | -1,672.1                          | 537.9      | 1,980.8              | 1,849.6               | 131.24                  | 15.093            |         |                    |        |
| 6,000.0                      | 5,984.3             | 6,003.3             | 6,003.3             | 13.9           | 120.1       | 166.25                | -1,672.1                          | 537.9      | 1,980.8              | 1,847.3               | 133.46                  | 14.842            |         |                    |        |
| 6,100.0                      | 6,084.3             | 6,103.3             | 6,103.3             | 14.1           | 122.1       | 166.25                | -1,672.1                          | 537.9      | 1,980.8              | 1,845.1               | 135.68                  | 14.599            |         |                    |        |
| 6,200.0                      | 6,184.3             | 6,203.3             | 6,203.3             | 14.3           | 124.1       | 166.25                | -1,672.1                          | 537.9      | 1,980.8              | 1,842.9               | 137.90                  | 14.364            |         |                    |        |
| 6,300.0                      | 6,284.3             | 6,303.3             | 6,303.3             | 14.5           | 126.1       | 166.25                | -1,672.1                          | 537.9      | 1,980.8              | 1,840.7               | 140.12                  | 14.137            |         |                    |        |
| 6,400.0                      | 6,384.3             | 6,403.3             | 6,403.3             | 14.7           | 128.1       | 166.25                | -1,672.1                          | 537.9      | 1,980.8              | 1,838.5               | 142.33                  | 13.916            |         |                    |        |
| 6,500.0                      | 6,484.3             | 6,503.3             | 6,503.3             | 14.9           | 130.1       | 166.25                | -1,672.1                          | 537.9      | 1,980.8              | 1,836.2               | 144.55                  | 13.703            |         |                    |        |
| 6,600.0                      | 6,584.3             | 6,603.3             | 6,603.3             | 15.1           | 132.1       | 166.25                | -1,672.1                          | 537.9      | 1,980.8              | 1,834.0               | 146.77                  | 13.495            |         |                    |        |
| 6,700.0                      | 6,684.3             | 6,703.3             | 6,703.3             | 15.3           | 134.1       | 166.25                | -1,672.1                          | 537.9      | 1,980.8              | 1,831.8               | 149.00                  | 13.294            |         |                    |        |
| 6,800.0                      | 6,784.3             | 6,803.3             | 6,803.3             | 15.6           | 136.1       | 166.25                | -1,672.1                          | 537.9      | 1,980.8              | 1,829.6               | 151.22                  | 13.099            |         |                    |        |
| 6,900.0                      | 6,884.3             | 6,903.3             | 6,903.3             | 15.7           | 138.1       | -13.78                | -1,672.1                          | 537.9      | 1,979.3              | 1,826.2               | 153.12                  | 12.927            |         |                    |        |
| 7,000.0                      | 6,983.4             | 7,002.4             | 7,002.4             | 15.9           | 140.0       | -14.10                | -1,672.1                          | 537.9      | 1,967.0              | 1,814.1               | 152.82                  | 12.871            |         |                    |        |
| 7,100.0                      | 7,080.0             | 7,099.0             | 7,099.0             | 15.9           | 142.0       | -14.76                | -1,672.1                          | 537.9      | 1,942.1              | 1,792.1               | 150.03                  | 12.945            |         |                    |        |
| 7,200.0                      | 7,172.5             | 7,191.5             | 7,191.5             | 15.9           | 143.8       | -15.84                | -1,672.1                          | 537.9      | 1,905.3              | 1,760.5               | 144.85                  | 13.154            |         |                    |        |
| 7,300.0                      | 7,259.1             | 7,278.1             | 7,278.1             | 16.0           | 145.6       | -17.46                | -1,672.1                          | 537.9      | 1,857.2              | 1,719.6               | 137.60                  | 13.497            |         |                    |        |
| 7,400.0                      | 7,338.6             | 7,357.6             | 7,357.6             | 16.0           | 147.2       | -19.78                | -1,672.1                          | 537.9      | 1,798.7              | 1,669.7               | 128.99                  | 13.944            |         |                    |        |
| 7,500.0                      | 7,409.5             | 7,428.5             | 7,428.5             | 16.1           | 148.6       | -23.13                | -1,672.1                          | 537.9      | 1,730.8              | 1,610.3               | 120.41                  | 14.374            |         |                    |        |
| 7,600.0                      | 7,470.5             | 7,489.5             | 7,489.5             | 16.4           | 149.8       | -28.00                | -1,672.1                          | 537.9      | 1,654.8              | 1,540.3               | 114.52                  | 14.450            |         |                    |        |
| 7,700.0                      | 7,520.8             | 7,539.8             | 7,539.8             | 16.8           | 150.8       | -35.19                | -1,672.1                          | 537.9      | 1,572.1              | 1,456.4               | 115.71                  | 13.587            |         |                    |        |
| 7,800.0                      | 7,559.3             | 7,578.3             | 7,578.3             | 17.4           | 151.6       | -45.87                | -1,672.1                          | 537.9      | 1,484.4              | 1,356.1               | 128.35                  | 11.565            |         |                    |        |
| 7,900.0                      | 7,585.4             | 7,604.4             | 7,604.4             | 18.2           | 152.1       | -61.11                | -1,672.1                          | 537.9      | 1,393.3              | 1,242.7               | 150.56                  | 9.254             |         |                    |        |
| 8,000.0                      | 7,598.8             | 7,617.8             | 7,617.8             | 19.1           | 152.4       | -80.01                | -1,672.1                          | 537.9      | 1,300.5              | 1,131.6               | 168.93                  | 7.699             |         |                    |        |
| 8,100.0                      | 7,600.7             | 7,619.7             | 7,619.7             | 20.1           | 152.4       | -89.72                | -1,672.1                          | 537.9      | 1,207.9              | 1,035.4               | 172.48                  | 7.003             |         |                    |        |
| 8,200.0                      | 7,600.9             | 7,619.9             | 7,619.9             | 21.3           | 152.4       | -89.74                | -1,672.1                          | 537.9      | 1,116.5              | 942.8                 | 173.64                  | 6.430             |         |                    |        |
| 8,300.0                      | 7,601.1             | 7,620.1             | 7,620.1             | 22.5           | 152.4       | -89.77                | -1,672.1                          | 537.9      | 1,026.6              | 851.7                 | 174.90                  | 5.870             |         |                    |        |
| 8,400.0                      | 7,601.3             | 7,620.3             | 7,620.3             | 23.9           | 152.4       | -89.79                | -1,672.1                          | 537.9      | 938.9                | 762.6                 | 176.25                  | 5.327             |         |                    |        |
| 8,500.0                      | 7,601.5             | 7,620.5             | 7,620.5             | 25.3           | 152.4       | -89.82                | -1,672.1                          | 537.9      | 853.8                | 676.2                 | 177.67                  | 4.806             |         |                    |        |
| 8,600.0                      | 7,601.7             | 7,620.7             | 7,620.7             | 26.8           | 152.4       | -89.84                | -1,672.1                          | 537.9      | 772.4                | 593.2                 | 179.16                  | 4.311             |         |                    |        |
| 8,700.0                      | 7,601.9             | 7,620.9             | 7,620.9             | 28.3           | 152.4       | -89.87                | -1,672.1                          | 537.9      | 695.7                | 515.1                 | 180.70                  | 3.850             |         |                    |        |
| 8,800.0                      | 7,602.1             | 7,621.1             | 7,621.1             | 29.9           | 152.4       | -89.89                | -1,672.1                          | 537.9      | 625.8                | 443.5                 | 182.28                  | 3.433             |         |                    |        |
| 8,900.0                      | 7,602.3             | 7,621.3             | 7,621.3             | 31.5           | 152.4       | -89.92                | -1,672.1                          | 537.9      | 564.9                | 381.0                 | 183.90                  | 3.072             |         |                    |        |
| 9,000.0                      | 7,602.5             | 7,621.5             | 7,621.5             | 33.1           | 152.4       | -89.95                | -1,672.1                          | 537.9      | 516.4                | 330.8                 | 185.55                  | 2.783             |         |                    |        |
| 9,100.0                      | 7,602.8             | 7,621.8             | 7,621.8             | 34.8           | 152.4       | -89.97                | -1,672.1                          | 537.9      | 483.9                | 296.7                 | 187.23                  | 2.584             |         |                    |        |
| 9,200.0                      | 7,603.0             | 7,622.0             | 7,622.0             | 36.5           | 152.4       | -90.00                | -1,672.1                          | 537.9      | 470.8                | 281.9                 | 188.93                  | 2.492             |         |                    |        |
| 9,212.4                      | 7,603.0             | 7,622.0             | 7,622.0             | 36.7           | 152.4       | -90.00                | -1,672.1                          | 537.9      | 470.6                | 281.5                 | 189.14                  | 2.488 CC, ES, SF  |         |                    |        |
| 9,300.0                      | 7,603.2             | 7,622.2             | 7,622.2             | 38.2           | 152.4       | -90.02                | -1,672.1                          | 537.9      | 478.7                | 288.1                 | 190.65                  | 2.511             |         |                    |        |
| 9,400.0                      | 7,603.4             | 7,622.4             | 7,622.4             | 40.0           | 152.4       | -90.05                | -1,672.1                          | 537.9      | 506.7                | 314.3                 | 192.39                  | 2.633             |         |                    |        |
| 9,500.0                      | 7,603.6             | 7,622.6             | 7,622.6             | 41.7           | 152.5       | -90.07                | -1,672.1                          | 537.9      | 551.6                | 357.4                 | 194.15                  | 2.841             |         |                    |        |
| 9,600.0                      | 7,603.8             | 7,622.8             | 7,622.8             | 43.5           | 152.5       | -90.10                | -1,672.1                          | 537.9      | 609.7                | 413.8                 | 195.92                  | 3.112             |         |                    |        |
| 9,700.0                      | 7,604.0             | 7,623.0             | 7,623.0             | 45.2           | 152.5       | -90.12                | -1,672.1                          | 537.9      | 677.7                | 480.0                 | 197.70                  | 3.428             |         |                    |        |
| 9,800.0                      | 7,604.2             | 7,623.2             | 7,623.2             | 47.0           | 152.5       | -90.15                | -1,672.1                          | 537.9      | 752.8                | 553.4                 | 199.49                  | 3.774             |         |                    |        |
| 9,900.0                      | 7,604.4             | 7,623.4             | 7,623.4             | 48.8           | 152.5       | -90.18                | -1,672.1                          | 537.9      | 833.2                | 631.9                 | 201.29                  | 4.139             |         |                    |        |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                                                                |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Site Error: | 0.0 ft |
|------------------------------------------------------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|---------|--------------------|--------|
| Survey Program: 8062-UNKNOWN                                                 |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Well Error: | 0.0 ft |
| Reference                                                                    |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Existing Sec.32-T1N-R67W - Jacobucci Jean 1 (SI) - Wellbore #1 - Wellbore #1 |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Semi Major Axis                                                              |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Distance                                                                     |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Measured Depth (ft)                                                          | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |                    |        |
| 10,000.0                                                                     | 7,604.6             | 7,623.6             | 7,623.6             | 50.6           | 152.5       | -90.20                | -1,672.1                          | 537.9      | 917.5                | 714.4                 | 203.11                  | 4.517             |         |                    |        |
| 10,100.0                                                                     | 7,604.8             | 7,623.8             | 7,623.8             | 52.5           | 152.5       | -90.23                | -1,672.1                          | 537.9      | 1,004.7              | 799.7                 | 204.92                  | 4.903             |         |                    |        |
| 10,200.0                                                                     | 7,605.1             | 7,624.1             | 7,624.1             | 54.3           | 152.5       | -90.25                | -1,672.1                          | 537.9      | 1,094.0              | 887.3                 | 206.75                  | 5.291             |         |                    |        |
| 10,300.0                                                                     | 7,605.3             | 7,624.3             | 7,624.3             | 56.1           | 152.5       | -90.28                | -1,672.1                          | 537.9      | 1,185.1              | 976.5                 | 208.58                  | 5.682             |         |                    |        |
| 10,400.0                                                                     | 7,605.5             | 7,624.5             | 7,624.5             | 57.9           | 152.5       | -90.30                | -1,672.1                          | 537.9      | 1,277.5              | 1,067.0               | 210.42                  | 6.071             |         |                    |        |
| 10,500.0                                                                     | 7,605.7             | 7,624.7             | 7,624.7             | 59.8           | 152.5       | -90.33                | -1,672.1                          | 537.9      | 1,370.9              | 1,158.7               | 212.26                  | 6.459             |         |                    |        |
| 10,600.0                                                                     | 7,605.9             | 7,624.9             | 7,624.9             | 61.6           | 152.5       | -90.35                | -1,672.1                          | 537.9      | 1,465.2              | 1,251.1               | 214.11                  | 6.843             |         |                    |        |
| 10,700.0                                                                     | 7,606.1             | 7,625.1             | 7,625.1             | 63.5           | 152.5       | -90.38                | -1,672.1                          | 537.9      | 1,560.3              | 1,344.3               | 215.96                  | 7.225             |         |                    |        |
| 10,800.0                                                                     | 7,606.3             | 7,625.3             | 7,625.3             | 65.3           | 152.5       | -90.40                | -1,672.1                          | 537.9      | 1,655.9              | 1,438.1               | 217.81                  | 7.602             |         |                    |        |
| 10,900.0                                                                     | 7,606.5             | 7,625.5             | 7,625.5             | 67.2           | 152.5       | -90.43                | -1,672.1                          | 537.9      | 1,752.0              | 1,532.3               | 219.67                  | 7.976             |         |                    |        |
| 11,000.0                                                                     | 7,606.7             | 7,625.7             | 7,625.7             | 69.0           | 152.5       | -90.46                | -1,672.1                          | 537.9      | 1,848.5              | 1,627.0               | 221.53                  | 8.344             |         |                    |        |
| 11,100.0                                                                     | 7,606.9             | 7,625.9             | 7,625.9             | 70.9           | 152.5       | -90.48                | -1,672.1                          | 537.9      | 1,945.4              | 1,722.0               | 223.40                  | 8.708             |         |                    |        |
| 11,200.0                                                                     | 7,607.2             | 7,626.2             | 7,626.2             | 72.8           | 152.5       | -90.51                | -1,672.1                          | 537.9      | 2,042.6              | 1,817.3               | 225.26                  | 9.067             |         |                    |        |
| 11,300.0                                                                     | 7,607.4             | 7,626.4             | 7,626.4             | 74.6           | 152.5       | -90.53                | -1,672.1                          | 537.9      | 2,140.0              | 1,912.9               | 227.13                  | 9.422             |         |                    |        |
| 11,400.0                                                                     | 7,607.6             | 7,626.6             | 7,626.6             | 76.5           | 152.5       | -90.56                | -1,672.1                          | 537.9      | 2,237.6              | 2,008.6               | 229.01                  | 9.771             |         |                    |        |
| 11,500.0                                                                     | 7,607.8             | 7,626.8             | 7,626.8             | 78.4           | 152.5       | -90.58                | -1,672.1                          | 537.9      | 2,335.5              | 2,104.6               | 230.88                  | 10.116            |         |                    |        |
| 11,600.0                                                                     | 7,608.0             | 7,627.0             | 7,627.0             | 80.2           | 152.5       | -90.61                | -1,672.1                          | 537.9      | 2,433.5              | 2,200.8               | 232.76                  | 10.455            |         |                    |        |
| 11,700.0                                                                     | 7,608.2             | 7,627.2             | 7,627.2             | 82.1           | 152.5       | -90.63                | -1,672.1                          | 537.9      | 2,531.7              | 2,297.1               | 234.64                  | 10.790            |         |                    |        |
| 11,800.0                                                                     | 7,608.4             | 7,627.4             | 7,627.4             | 84.0           | 152.5       | -90.66                | -1,672.1                          | 537.9      | 2,630.0              | 2,393.5               | 236.52                  | 11.120            |         |                    |        |
| 11,900.0                                                                     | 7,608.6             | 7,627.6             | 7,627.6             | 85.9           | 152.6       | -90.69                | -1,672.1                          | 537.9      | 2,728.5              | 2,490.1               | 238.40                  | 11.445            |         |                    |        |
| 12,000.0                                                                     | 7,608.8             | 7,627.8             | 7,627.8             | 87.7           | 152.6       | -90.71                | -1,672.1                          | 537.9      | 2,827.0              | 2,586.8               | 240.28                  | 11.766            |         |                    |        |
| 12,100.0                                                                     | 7,609.0             | 7,628.0             | 7,628.0             | 89.6           | 152.6       | -90.74                | -1,672.1                          | 537.9      | 2,925.7              | 2,683.5               | 242.16                  | 12.081            |         |                    |        |
| 12,200.0                                                                     | 7,609.2             | 7,628.2             | 7,628.2             | 91.5           | 152.6       | -90.76                | -1,672.1                          | 537.9      | 3,024.4              | 2,780.4               | 244.05                  | 12.393            |         |                    |        |
| 12,300.0                                                                     | 7,609.5             | 7,628.5             | 7,628.5             | 93.4           | 152.6       | -90.79                | -1,672.1                          | 537.9      | 3,123.3              | 2,877.3               | 245.94                  | 12.699            |         |                    |        |
| 12,400.0                                                                     | 7,609.7             | 7,628.7             | 7,628.7             | 95.3           | 152.6       | -90.81                | -1,672.1                          | 537.9      | 3,222.1              | 2,974.3               | 247.83                  | 13.002            |         |                    |        |
| 12,500.0                                                                     | 7,609.9             | 7,628.9             | 7,628.9             | 97.2           | 152.6       | -90.84                | -1,672.1                          | 537.9      | 3,321.1              | 3,071.4               | 249.72                  | 13.300            |         |                    |        |
| 12,600.0                                                                     | 7,610.1             | 7,629.1             | 7,629.1             | 99.1           | 152.6       | -90.86                | -1,672.1                          | 537.9      | 3,420.1              | 3,168.5               | 251.61                  | 13.593            |         |                    |        |
| 12,700.0                                                                     | 7,610.3             | 7,629.3             | 7,629.3             | 100.9          | 152.6       | -90.89                | -1,672.1                          | 537.9      | 3,519.2              | 3,265.7               | 253.50                  | 13.883            |         |                    |        |
| 12,800.0                                                                     | 7,610.5             | 7,629.5             | 7,629.5             | 102.8          | 152.6       | -90.91                | -1,672.1                          | 537.9      | 3,618.3              | 3,362.9               | 255.39                  | 14.168            |         |                    |        |
| 12,900.0                                                                     | 7,610.7             | 7,629.7             | 7,629.7             | 104.7          | 152.6       | -90.94                | -1,672.1                          | 537.9      | 3,717.5              | 3,460.2               | 257.28                  | 14.449            |         |                    |        |
| 13,000.0                                                                     | 7,610.9             | 7,629.9             | 7,629.9             | 106.6          | 152.6       | -90.97                | -1,672.1                          | 537.9      | 3,816.7              | 3,557.5               | 259.18                  | 14.726            |         |                    |        |
| 13,100.0                                                                     | 7,611.1             | 7,630.1             | 7,630.1             | 108.5          | 152.6       | -90.99                | -1,672.1                          | 537.9      | 3,916.0              | 3,654.9               | 261.07                  | 15.000            |         |                    |        |
| 13,200.0                                                                     | 7,611.3             | 7,630.3             | 7,630.3             | 110.4          | 152.6       | -91.02                | -1,672.1                          | 537.9      | 4,015.3              | 3,752.3               | 262.97                  | 15.269            |         |                    |        |
| 13,300.0                                                                     | 7,611.6             | 7,630.6             | 7,630.6             | 112.3          | 152.6       | -91.04                | -1,672.1                          | 537.9      | 4,114.6              | 3,849.7               | 264.86                  | 15.535            |         |                    |        |
| 13,400.0                                                                     | 7,611.8             | 7,630.8             | 7,630.8             | 114.2          | 152.6       | -91.07                | -1,672.1                          | 537.9      | 4,214.0              | 3,947.2               | 266.76                  | 15.797            |         |                    |        |
| 13,500.0                                                                     | 7,612.0             | 7,631.0             | 7,631.0             | 116.1          | 152.6       | -91.09                | -1,672.1                          | 537.9      | 4,313.3              | 4,044.7               | 268.66                  | 16.055            |         |                    |        |
| 13,600.0                                                                     | 7,612.2             | 7,631.2             | 7,631.2             | 118.0          | 152.6       | -91.12                | -1,672.1                          | 537.9      | 4,412.8              | 4,142.2               | 270.55                  | 16.310            |         |                    |        |
| 13,700.0                                                                     | 7,612.4             | 7,631.4             | 7,631.4             | 119.9          | 152.6       | -91.14                | -1,672.1                          | 537.9      | 4,512.2              | 4,239.7               | 272.45                  | 16.561            |         |                    |        |
| 13,800.0                                                                     | 7,612.6             | 7,631.6             | 7,631.6             | 121.8          | 152.6       | -91.17                | -1,672.1                          | 537.9      | 4,611.7              | 4,337.3               | 274.35                  | 16.809            |         |                    |        |
| 13,900.0                                                                     | 7,612.8             | 7,631.8             | 7,631.8             | 123.7          | 152.6       | -91.20                | -1,672.1                          | 537.9      | 4,711.2              | 4,434.9               | 276.25                  | 17.054            |         |                    |        |
| 14,000.0                                                                     | 7,613.0             | 7,632.0             | 7,632.0             | 125.6          | 152.6       | -91.22                | -1,672.1                          | 537.9      | 4,810.7              | 4,532.5               | 278.15                  | 17.295            |         |                    |        |
| 14,100.0                                                                     | 7,613.2             | 7,632.2             | 7,632.2             | 127.5          | 152.6       | -91.25                | -1,672.1                          | 537.9      | 4,910.2              | 4,630.1               | 280.05                  | 17.533            |         |                    |        |
| 14,200.0                                                                     | 7,613.4             | 7,632.4             | 7,632.4             | 129.4          | 152.6       | -91.27                | -1,672.1                          | 537.9      | 5,009.7              | 4,727.8               | 281.95                  | 17.768            |         |                    |        |
| 14,300.0                                                                     | 7,613.6             | 7,632.6             | 7,632.6             | 131.3          | 152.7       | -91.30                | -1,672.1                          | 537.9      | 5,109.3              | 4,825.5               | 283.85                  | 18.000            |         |                    |        |
| 14,400.0                                                                     | 7,613.9             | 7,632.9             | 7,632.9             | 133.2          | 152.7       | -91.32                | -1,672.1                          | 537.9      | 5,208.9              | 4,923.1               | 285.75                  | 18.229            |         |                    |        |
| 14,469.1                                                                     | 7,614.0             | 7,633.0             | 7,633.0             | 134.5          | 152.7       | -91.34                | -1,672.1                          | 537.9      | 5,277.7              | 4,990.6               | 287.06                  | 18.385            |         |                    |        |

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad Sec.32-T1N-R67W    | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Existings Sec.32-T1N-R67W - Jean Jacobucci 5 (P&A) - Wellbore #1 - Wellbore #1 |  | Offset Site Error: 0.0 ft |  |
|------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|--------------------------------------------------------------------------------|--|---------------------------|--|
| Survey Program: 5100-UNKNOWN |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Well Error: 0.0 ft                                                      |  |                           |  |
| Reference                    |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                   |                                                                                |  |                           |  |
| Measured Depth (ft)          | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning                                                                        |  |                           |  |
| 0.0                          | 0.0                 | 0.0                 | 0.0                 | 0.0             | 0.0         | -175.30               | -1,647.3                          | -135.3     | 1,652.8              |                       |                         |                   |                                                                                |  |                           |  |
| 100.0                        | 100.0               | 99.0                | 99.0                | 0.1             | 2.0         | -175.30               | -1,647.3                          | -135.3     | 1,652.8              | 1,650.7               | 2.09                    | 789.859           |                                                                                |  |                           |  |
| 200.0                        | 200.0               | 199.0               | 199.0               | 0.3             | 4.0         | -175.30               | -1,647.3                          | -135.3     | 1,652.8              | 1,648.5               | 4.32                    | 382.838           |                                                                                |  |                           |  |
| 300.0                        | 300.0               | 299.0               | 299.0               | 0.6             | 6.0         | -175.30               | -1,647.3                          | -135.3     | 1,652.8              | 1,646.3               | 6.54                    | 252.647           |                                                                                |  |                           |  |
| 400.0                        | 400.0               | 399.0               | 399.0               | 0.8             | 8.0         | -175.30               | -1,647.3                          | -135.3     | 1,652.8              | 1,644.1               | 8.77                    | 188.533           |                                                                                |  |                           |  |
| 500.0                        | 500.0               | 499.0               | 499.0               | 1.0             | 10.0        | -175.30               | -1,647.3                          | -135.3     | 1,652.8              | 1,641.9               | 10.99                   | 150.373           |                                                                                |  |                           |  |
| 600.0                        | 600.0               | 599.0               | 599.0               | 1.2             | 12.0        | -175.30               | -1,647.3                          | -135.3     | 1,652.8              | 1,639.6               | 13.22                   | 125.060           |                                                                                |  |                           |  |
| 700.0                        | 700.0               | 699.0               | 699.0               | 1.5             | 14.0        | -175.30               | -1,647.3                          | -135.3     | 1,652.8              | 1,637.4               | 15.44                   | 107.041           |                                                                                |  |                           |  |
| 800.0                        | 800.0               | 799.0               | 799.0               | 1.7             | 16.0        | -175.30               | -1,647.3                          | -135.3     | 1,652.8              | 1,635.2               | 17.67                   | 93.561            |                                                                                |  |                           |  |
| 900.0                        | 900.0               | 899.0               | 899.0               | 1.9             | 18.0        | -175.30               | -1,647.3                          | -135.3     | 1,652.8              | 1,633.0               | 19.89                   | 83.096            |                                                                                |  |                           |  |
| 1,000.0                      | 1,000.0             | 999.0               | 999.0               | 2.1             | 20.0        | -175.30               | -1,647.3                          | -135.3     | 1,652.8              | 1,630.7               | 22.12                   | 74.737            |                                                                                |  |                           |  |
| 1,100.0                      | 1,100.0             | 1,099.0             | 1,099.0             | 2.4             | 22.0        | -175.30               | -1,647.3                          | -135.3     | 1,652.8              | 1,628.5               | 24.34                   | 67.906            |                                                                                |  |                           |  |
| 1,200.0                      | 1,200.0             | 1,199.0             | 1,199.0             | 2.6             | 24.0        | -175.30               | -1,647.3                          | -135.3     | 1,652.8              | 1,626.3               | 26.56                   | 62.219            |                                                                                |  |                           |  |
| 1,300.0                      | 1,300.0             | 1,299.0             | 1,299.0             | 2.8             | 26.0        | -175.30               | -1,647.3                          | -135.3     | 1,652.8              | 1,624.1               | 28.79                   | 57.411            |                                                                                |  |                           |  |
| 1,400.0                      | 1,400.0             | 1,399.0             | 1,399.0             | 3.0             | 28.0        | -175.30               | -1,647.3                          | -135.3     | 1,652.8              | 1,621.8               | 31.01                   | 53.293            |                                                                                |  |                           |  |
| 1,500.0                      | 1,500.0             | 1,499.0             | 1,499.0             | 3.3             | 30.0        | -175.30               | -1,647.3                          | -135.3     | 1,652.8              | 1,619.6               | 33.24                   | 49.726            |                                                                                |  |                           |  |
| 1,600.0                      | 1,600.0             | 1,599.0             | 1,599.0             | 3.5             | 32.0        | -175.30               | -1,647.3                          | -135.3     | 1,652.8              | 1,617.4               | 35.46                   | 46.606            |                                                                                |  |                           |  |
| 1,700.0                      | 1,700.0             | 1,699.0             | 1,699.0             | 3.7             | 34.0        | -175.30               | -1,647.3                          | -135.3     | 1,652.8              | 1,615.2               | 37.69                   | 43.855            |                                                                                |  |                           |  |
| 1,800.0                      | 1,800.0             | 1,799.0             | 1,799.0             | 3.9             | 36.0        | -175.30               | -1,647.3                          | -135.3     | 1,652.8              | 1,612.9               | 39.91                   | 41.411            |                                                                                |  |                           |  |
| 1,900.0                      | 1,900.0             | 1,899.0             | 1,899.0             | 4.2             | 38.0        | -175.30               | -1,647.3                          | -135.3     | 1,652.8              | 1,610.7               | 42.14                   | 39.224            |                                                                                |  |                           |  |
| 2,000.0                      | 2,000.0             | 1,999.0             | 1,999.0             | 4.4             | 40.0        | -175.30               | -1,647.3                          | -135.3     | 1,652.8              | 1,608.5               | 44.36                   | 37.257 CC         |                                                                                |  |                           |  |
| 2,100.0                      | 2,100.0             | 2,099.0             | 2,099.0             | 4.6             | 42.0        | 169.76                | -1,647.3                          | -135.3     | 1,654.6              | 1,608.0               | 46.56                   | 35.536 ES         |                                                                                |  |                           |  |
| 2,200.0                      | 2,199.8             | 2,198.8             | 2,198.8             | 4.8             | 44.0        | 169.77                | -1,647.3                          | -135.3     | 1,659.7              | 1,611.0               | 48.70                   | 34.084            |                                                                                |  |                           |  |
| 2,300.0                      | 2,299.5             | 2,298.5             | 2,298.5             | 5.1             | 46.0        | 169.79                | -1,647.3                          | -135.3     | 1,668.3              | 1,617.5               | 50.76                   | 32.867            |                                                                                |  |                           |  |
| 2,400.0                      | 2,398.7             | 2,397.7             | 2,397.7             | 5.3             | 48.0        | 169.84                | -1,647.3                          | -135.3     | 1,680.1              | 1,627.3               | 52.83                   | 31.804            |                                                                                |  |                           |  |
| 2,500.0                      | 2,497.9             | 2,496.9             | 2,496.9             | 5.5             | 49.9        | 169.92                | -1,647.3                          | -135.3     | 1,692.6              | 1,637.6               | 55.02                   | 30.763            |                                                                                |  |                           |  |
| 2,600.0                      | 2,597.1             | 2,596.1             | 2,596.1             | 5.8             | 51.9        | 169.99                | -1,647.3                          | -135.3     | 1,705.1              | 1,647.9               | 57.22                   | 29.801            |                                                                                |  |                           |  |
| 2,700.0                      | 2,696.3             | 2,695.3             | 2,695.3             | 6.0             | 53.9        | 170.07                | -1,647.3                          | -135.3     | 1,717.7              | 1,658.2               | 59.42                   | 28.909            |                                                                                |  |                           |  |
| 2,800.0                      | 2,795.5             | 2,794.5             | 2,794.5             | 6.3             | 55.9        | 170.14                | -1,647.3                          | -135.3     | 1,730.2              | 1,668.6               | 61.61                   | 28.081            |                                                                                |  |                           |  |
| 2,900.0                      | 2,894.7             | 2,893.7             | 2,893.7             | 6.6             | 57.9        | 170.21                | -1,647.3                          | -135.3     | 1,742.7              | 1,678.9               | 63.82                   | 27.309            |                                                                                |  |                           |  |
| 3,000.0                      | 2,993.9             | 2,992.9             | 2,992.9             | 6.8             | 59.9        | 170.28                | -1,647.3                          | -135.3     | 1,755.3              | 1,689.2               | 66.02                   | 26.588            |                                                                                |  |                           |  |
| 3,100.0                      | 3,093.0             | 3,092.0             | 3,092.0             | 7.1             | 61.8        | 170.35                | -1,647.3                          | -135.3     | 1,767.8              | 1,699.6               | 68.22                   | 25.914            |                                                                                |  |                           |  |
| 3,200.0                      | 3,192.2             | 3,191.2             | 3,191.2             | 7.4             | 63.8        | 170.42                | -1,647.3                          | -135.3     | 1,780.3              | 1,709.9               | 70.42                   | 25.282            |                                                                                |  |                           |  |
| 3,300.0                      | 3,291.4             | 3,290.4             | 3,290.4             | 7.7             | 65.8        | 170.49                | -1,647.3                          | -135.3     | 1,792.9              | 1,720.3               | 72.62                   | 24.687            |                                                                                |  |                           |  |
| 3,400.0                      | 3,390.6             | 3,389.6             | 3,389.6             | 8.0             | 67.8        | 170.55                | -1,647.3                          | -135.3     | 1,805.4              | 1,730.6               | 74.83                   | 24.128            |                                                                                |  |                           |  |
| 3,500.0                      | 3,489.8             | 3,488.8             | 3,488.8             | 8.2             | 69.8        | 170.62                | -1,647.3                          | -135.3     | 1,818.0              | 1,741.0               | 77.03                   | 23.601            |                                                                                |  |                           |  |
| 3,600.0                      | 3,589.0             | 3,588.0             | 3,588.0             | 8.5             | 71.8        | 170.68                | -1,647.3                          | -135.3     | 1,830.5              | 1,751.3               | 79.24                   | 23.102            |                                                                                |  |                           |  |
| 3,700.0                      | 3,688.2             | 3,687.2             | 3,687.2             | 8.8             | 73.7        | 170.75                | -1,647.3                          | -135.3     | 1,843.1              | 1,761.6               | 81.44                   | 22.631            |                                                                                |  |                           |  |
| 3,800.0                      | 3,787.4             | 3,786.4             | 3,786.4             | 9.1             | 75.7        | 170.81                | -1,647.3                          | -135.3     | 1,855.6              | 1,772.0               | 83.65                   | 22.184            |                                                                                |  |                           |  |
| 3,900.0                      | 3,886.5             | 3,885.5             | 3,885.5             | 9.4             | 77.7        | 170.87                | -1,647.3                          | -135.3     | 1,868.2              | 1,782.3               | 85.85                   | 21.761            |                                                                                |  |                           |  |
| 4,000.0                      | 3,985.7             | 3,984.7             | 3,984.7             | 9.7             | 79.7        | 170.93                | -1,647.3                          | -135.3     | 1,880.8              | 1,792.7               | 88.06                   | 21.358            |                                                                                |  |                           |  |
| 4,100.0                      | 4,085.0             | 4,084.0             | 4,084.0             | 10.0            | 81.7        | 171.01                | -1,647.3                          | -135.3     | 1,892.9              | 1,802.5               | 90.42                   | 20.934            |                                                                                |  |                           |  |
| 4,200.0                      | 4,184.5             | 4,183.5             | 4,183.5             | 10.2            | 83.7        | 171.08                | -1,647.3                          | -135.3     | 1,902.0              | 1,809.2               | 92.85                   | 20.485            |                                                                                |  |                           |  |
| 4,300.0                      | 4,284.4             | 4,283.4             | 4,283.4             | 10.4            | 85.7        | 171.13                | -1,647.3                          | -135.3     | 1,907.8              | 1,812.6               | 95.19                   | 20.042            |                                                                                |  |                           |  |
| 4,400.0                      | 4,384.3             | 4,383.3             | 4,383.3             | 10.6            | 87.7        | 171.15                | -1,647.3                          | -135.3     | 1,910.0              | 1,812.6               | 97.41                   | 19.607            |                                                                                |  |                           |  |
| 4,500.0                      | 4,484.3             | 4,483.3             | 4,483.3             | 10.8            | 89.7        | -173.91               | -1,647.3                          | -135.3     | 1,910.1              | 1,810.5               | 99.60                   | 19.177            |                                                                                |  |                           |  |
| 4,600.0                      | 4,584.3             | 4,583.3             | 4,583.3             | 11.0            | 91.7        | -173.91               | -1,647.3                          | -135.3     | 1,910.1              | 1,808.2               | 101.82                  | 18.759            |                                                                                |  |                           |  |
| 4,700.0                      | 4,684.3             | 4,683.3             | 4,683.3             | 11.2            | 93.7        | -173.91               | -1,647.3                          | -135.3     | 1,910.1              | 1,806.0               | 104.04                  | 18.358            |                                                                                |  |                           |  |
| 4,800.0                      | 4,784.3             | 4,783.3             | 4,783.3             | 11.4            | 95.7        | -173.91               | -1,647.3                          | -135.3     | 1,910.1              | 1,803.8               | 106.26                  | 17.975            |                                                                                |  |                           |  |
| 4,900.0                      | 4,884.3             | 4,883.3             | 4,883.3             | 11.6            | 97.7        | -173.91               | -1,647.3                          | -135.3     | 1,910.1              | 1,801.6               | 108.48                  | 17.607            |                                                                                |  |                           |  |
| 5,000.0                      | 4,984.3             | 4,983.3             | 4,983.3             | 11.8            | 99.7        | -173.91               | -1,647.3                          | -135.3     | 1,910.1              | 1,799.4               | 110.70                  | 17.254            |                                                                                |  |                           |  |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                |                     | Existings Sec.32-T1N-R67W - Jean Jacobucci 5 (P&A) - Wellbore #1 - Wellbore #1 |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Site Error: |                    | 0.0 ft |        |
|------------------------------|---------------------|--------------------------------------------------------------------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|--------------------|--------|--------|
| Survey Program: 5100-UNKNOWN |                     |                                                                                |                     |                 |             |                       |                                   |            |                      |                       |                         |                   |                    | Offset Well Error: |        | 0.0 ft |
| Reference                    |                     | Offset                                                                         |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                   |                    | Warning            |        |        |
| Measured Depth (ft)          | Vertical Depth (ft) | Measured Depth (ft)                                                            | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor |                    |                    |        |        |
| 5,100.0                      | 5,084.3             | 5,083.3                                                                        | 5,083.3             | 12.0            | 101.7       | -173.91               | -1,647.3                          | -135.3     | 1,910.1              | 1,797.1               | 112.92                  | 16.915            | 16.848 SF          |                    |        |        |
| 5,200.0                      | 5,184.3             | 5,100.0                                                                        | 5,100.0             | 12.2            | 102.0       | -173.91               | -1,647.3                          | -135.3     | 1,911.9              | 1,798.4               | 113.48                  | 16.848            |                    |                    |        |        |
| 5,300.0                      | 5,284.3             | 5,100.0                                                                        | 5,100.0             | 12.4            | 102.0       | -173.91               | -1,647.3                          | -135.3     | 1,918.8              | 1,805.1               | 113.70                  | 16.877            |                    |                    |        |        |
| 5,400.0                      | 5,384.3             | 5,100.0                                                                        | 5,100.0             | 12.6            | 102.0       | -173.91               | -1,647.3                          | -135.3     | 1,931.0              | 1,817.0               | 113.92                  | 16.950            |                    |                    |        |        |
| 5,500.0                      | 5,484.3             | 5,100.0                                                                        | 5,100.0             | 12.8            | 102.0       | -173.91               | -1,647.3                          | -135.3     | 1,948.2              | 1,834.0               | 114.14                  | 17.068            |                    |                    |        |        |
| 5,600.0                      | 5,584.3             | 5,100.0                                                                        | 5,100.0             | 13.0            | 102.0       | -173.91               | -1,647.3                          | -135.3     | 1,970.3              | 1,855.9               | 114.36                  | 17.228            |                    |                    |        |        |
| 5,700.0                      | 5,684.3             | 5,100.0                                                                        | 5,100.0             | 13.2            | 102.0       | -173.91               | -1,647.3                          | -135.3     | 1,997.2              | 1,882.6               | 114.58                  | 17.430            |                    |                    |        |        |
| 5,800.0                      | 5,784.3             | 5,100.0                                                                        | 5,100.0             | 13.4            | 102.0       | -173.91               | -1,647.3                          | -135.3     | 2,028.6              | 1,913.8               | 114.80                  | 17.670            |                    |                    |        |        |
| 5,900.0                      | 5,884.3             | 5,100.0                                                                        | 5,100.0             | 13.6            | 102.0       | -173.91               | -1,647.3                          | -135.3     | 2,064.5              | 1,949.4               | 115.03                  | 17.948            |                    |                    |        |        |
| 6,000.0                      | 5,984.3             | 5,100.0                                                                        | 5,100.0             | 13.9            | 102.0       | -173.91               | -1,647.3                          | -135.3     | 2,104.4              | 1,989.2               | 115.25                  | 18.260            |                    |                    |        |        |
| 6,100.0                      | 6,084.3             | 5,100.0                                                                        | 5,100.0             | 14.1            | 102.0       | -173.91               | -1,647.3                          | -135.3     | 2,148.3              | 2,032.9               | 115.47                  | 18.605            |                    |                    |        |        |
| 6,200.0                      | 6,184.3             | 5,100.0                                                                        | 5,100.0             | 14.3            | 102.0       | -173.91               | -1,647.3                          | -135.3     | 2,195.9              | 2,080.2               | 115.69                  | 18.981            |                    |                    |        |        |
| 6,300.0                      | 6,284.3             | 5,100.0                                                                        | 5,100.0             | 14.5            | 102.0       | -173.91               | -1,647.3                          | -135.3     | 2,246.9              | 2,131.0               | 115.91                  | 19.385            |                    |                    |        |        |
| 6,400.0                      | 6,384.3             | 5,100.0                                                                        | 5,100.0             | 14.7            | 102.0       | -173.91               | -1,647.3                          | -135.3     | 2,301.2              | 2,185.0               | 116.13                  | 19.814            |                    |                    |        |        |
| 6,500.0                      | 6,484.3             | 5,100.0                                                                        | 5,100.0             | 14.9            | 102.0       | -173.91               | -1,647.3                          | -135.3     | 2,358.4              | 2,242.0               | 116.36                  | 20.269            |                    |                    |        |        |
| 6,600.0                      | 6,584.3             | 5,100.0                                                                        | 5,100.0             | 15.1            | 102.0       | -173.91               | -1,647.3                          | -135.3     | 2,418.4              | 2,301.8               | 116.58                  | 20.745            |                    |                    |        |        |
| 6,700.0                      | 6,684.3             | 5,100.0                                                                        | 5,100.0             | 15.3            | 102.0       | -173.91               | -1,647.3                          | -135.3     | 2,481.0              | 2,364.2               | 116.80                  | 21.241            |                    |                    |        |        |
| 6,800.0                      | 6,784.3             | 5,100.0                                                                        | 5,100.0             | 15.6            | 102.0       | -173.91               | -1,647.3                          | -135.3     | 2,546.0              | 2,428.9               | 117.02                  | 21.756            |                    |                    |        |        |
| 6,900.0                      | 6,884.3             | 5,100.0                                                                        | 5,100.0             | 15.7            | 102.0       | 5.77                  | -1,647.3                          | -135.3     | 2,612.1              | 2,495.1               | 116.98                  | 22.328            |                    |                    |        |        |
| 7,000.0                      | 6,983.4             | 5,100.0                                                                        | 5,100.0             | 15.9            | 102.0       | 5.23                  | -1,647.3                          | -135.3     | 2,671.7              | 2,556.5               | 115.20                  | 23.191            |                    |                    |        |        |
| 7,100.0                      | 7,080.0             | 5,100.0                                                                        | 5,100.0             | 15.9            | 102.0       | 4.84                  | -1,647.3                          | -135.3     | 2,723.1              | 2,611.6               | 111.51                  | 24.419            |                    |                    |        |        |
| 7,200.0                      | 7,172.5             | 5,100.0                                                                        | 5,100.0             | 15.9            | 102.0       | 4.55                  | -1,647.3                          | -135.3     | 2,765.8              | 2,659.9               | 105.99                  | 26.095            |                    |                    |        |        |
| 7,300.0                      | 7,259.1             | 5,100.0                                                                        | 5,100.0             | 16.0            | 102.0       | 4.34                  | -1,647.3                          | -135.3     | 2,799.6              | 2,700.9               | 98.75                   | 28.352            |                    |                    |        |        |
| 7,400.0                      | 7,338.6             | 5,100.0                                                                        | 5,100.0             | 16.0            | 102.0       | 4.20                  | -1,647.3                          | -135.3     | 2,824.2              | 2,734.3               | 89.94                   | 31.402            |                    |                    |        |        |
| 7,500.0                      | 7,409.5             | 5,100.0                                                                        | 5,100.0             | 16.1            | 102.0       | 4.11                  | -1,647.3                          | -135.3     | 2,839.4              | 2,759.6               | 79.76                   | 35.601            |                    |                    |        |        |
| 7,600.0                      | 7,470.5             | 5,100.0                                                                        | 5,100.0             | 16.4            | 102.0       | 4.08                  | -1,647.3                          | -135.3     | 2,845.1              | 2,776.6               | 68.45                   | 41.566            |                    |                    |        |        |
| 7,700.0                      | 7,520.8             | 5,100.0                                                                        | 5,100.0             | 16.8            | 102.0       | 4.10                  | -1,647.3                          | -135.3     | 2,841.3              | 2,785.0               | 56.30                   | 50.468            |                    |                    |        |        |
| 7,800.0                      | 7,559.3             | 5,100.0                                                                        | 5,100.0             | 17.4            | 102.0       | 4.18                  | -1,647.3                          | -135.3     | 2,827.9              | 2,784.2               | 43.67                   | 64.757            |                    |                    |        |        |
| 7,900.0                      | 7,585.4             | 5,100.0                                                                        | 5,100.0             | 18.2            | 102.0       | 4.31                  | -1,647.3                          | -135.3     | 2,805.1              | 2,774.1               | 31.09                   | 90.234            |                    |                    |        |        |
| 8,000.0                      | 7,598.8             | 5,100.0                                                                        | 5,100.0             | 19.1            | 102.0       | 4.50                  | -1,647.3                          | -135.3     | 2,773.1              | 2,753.0               | 20.16                   | 137.534           |                    |                    |        |        |
| 8,100.0                      | 7,600.7             | 5,100.0                                                                        | 5,100.0             | 20.1            | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 2,733.5              | 2,715.4               | 18.12                   | 150.856           |                    |                    |        |        |
| 8,200.0                      | 7,600.9             | 5,100.0                                                                        | 5,100.0             | 21.3            | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 2,695.5              | 2,677.0               | 18.52                   | 145.554           |                    |                    |        |        |
| 8,300.0                      | 7,601.1             | 5,100.0                                                                        | 5,100.0             | 22.5            | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 2,660.7              | 2,641.7               | 18.96                   | 140.368           |                    |                    |        |        |
| 8,400.0                      | 7,601.3             | 5,100.0                                                                        | 5,100.0             | 23.9            | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 2,629.2              | 2,609.8               | 19.42                   | 135.359           |                    |                    |        |        |
| 8,500.0                      | 7,601.5             | 5,100.0                                                                        | 5,100.0             | 25.3            | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 2,601.2              | 2,581.3               | 19.92                   | 130.570           |                    |                    |        |        |
| 8,600.0                      | 7,601.7             | 5,100.0                                                                        | 5,100.0             | 26.8            | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 2,576.8              | 2,556.4               | 20.45                   | 126.033           |                    |                    |        |        |
| 8,700.0                      | 7,601.9             | 5,100.0                                                                        | 5,100.0             | 28.3            | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 2,556.1              | 2,535.1               | 20.99                   | 121.769           |                    |                    |        |        |
| 8,800.0                      | 7,602.1             | 5,100.0                                                                        | 5,100.0             | 29.9            | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 2,539.1              | 2,517.5               | 21.56                   | 117.789           |                    |                    |        |        |
| 8,900.0                      | 7,602.3             | 5,100.0                                                                        | 5,100.0             | 31.5            | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 2,526.0              | 2,503.8               | 22.14                   | 114.098           |                    |                    |        |        |
| 9,000.0                      | 7,602.5             | 5,100.0                                                                        | 5,100.0             | 33.1            | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 2,516.7              | 2,494.0               | 22.74                   | 110.694           |                    |                    |        |        |
| 9,100.0                      | 7,602.8             | 5,100.0                                                                        | 5,100.0             | 34.8            | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 2,511.5              | 2,488.1               | 23.35                   | 107.573           |                    |                    |        |        |
| 9,182.4                      | 7,602.9             | 5,100.0                                                                        | 5,100.0             | 36.2            | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 2,510.1              | 2,486.3               | 23.86                   | 105.204           |                    |                    |        |        |
| 9,200.0                      | 7,603.0             | 5,100.0                                                                        | 5,100.0             | 36.5            | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 2,510.2              | 2,486.2               | 23.97                   | 104.725           |                    |                    |        |        |
| 9,300.0                      | 7,603.2             | 5,100.0                                                                        | 5,100.0             | 38.2            | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 2,512.9              | 2,488.3               | 24.60                   | 102.141           |                    |                    |        |        |
| 9,400.0                      | 7,603.4             | 5,100.0                                                                        | 5,100.0             | 40.0            | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 2,519.5              | 2,494.3               | 25.24                   | 99.806            |                    |                    |        |        |
| 9,500.0                      | 7,603.6             | 5,100.0                                                                        | 5,100.0             | 41.7            | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 2,530.1              | 2,504.2               | 25.89                   | 97.709            |                    |                    |        |        |
| 9,600.0                      | 7,603.8             | 5,100.0                                                                        | 5,100.0             | 43.5            | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 2,544.6              | 2,518.1               | 26.55                   | 95.834            |                    |                    |        |        |
| 9,700.0                      | 7,604.0             | 5,100.0                                                                        | 5,100.0             | 45.2            | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 2,562.9              | 2,535.7               | 27.22                   | 94.167            |                    |                    |        |        |
| 9,800.0                      | 7,604.2             | 5,100.0                                                                        | 5,100.0             | 47.0            | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 2,585.0              | 2,557.1               | 27.89                   | 92.695            |                    |                    |        |        |
| 9,900.0                      | 7,604.4             | 5,100.0                                                                        | 5,100.0             | 48.8            | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 2,610.7              | 2,582.1               | 28.56                   | 91.402            |                    |                    |        |        |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Site Error: | 0.0 ft |
|------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|---------|--------------------|--------|
| Survey Program: 5100-UNKNOWN |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Well Error: | 0.0 ft |
| Reference                    |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Offset                       |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Semi Major Axis              |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Distance                     |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Measured Depth (ft)          | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |                    |        |
| 10,000.0                     | 7,604.6             | 5,100.0             | 5,100.0             | 50.6           | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 2,639.9              | 2,610.7               | 29.24                   | 90.275            |         |                    |        |
| 10,100.0                     | 7,604.8             | 5,100.0             | 5,100.0             | 52.5           | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 2,672.6              | 2,642.7               | 29.93                   | 89.300            |         |                    |        |
| 10,200.0                     | 7,605.1             | 5,100.0             | 5,100.0             | 54.3           | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 2,708.5              | 2,677.9               | 30.62                   | 88.466            |         |                    |        |
| 10,300.0                     | 7,605.3             | 5,100.0             | 5,100.0             | 56.1           | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 2,747.7              | 2,716.4               | 31.31                   | 87.759            |         |                    |        |
| 10,400.0                     | 7,605.5             | 5,100.0             | 5,100.0             | 57.9           | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 2,789.9              | 2,757.8               | 32.01                   | 87.169            |         |                    |        |
| 10,500.0                     | 7,605.7             | 5,100.0             | 5,100.0             | 59.8           | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 2,834.9              | 2,802.2               | 32.70                   | 86.685            |         |                    |        |
| 10,600.0                     | 7,605.9             | 5,100.0             | 5,100.0             | 61.6           | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 2,882.8              | 2,849.4               | 33.41                   | 86.296            |         |                    |        |
| 10,700.0                     | 7,606.1             | 5,100.0             | 5,100.0             | 63.5           | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 2,933.2              | 2,899.1               | 34.11                   | 85.995            |         |                    |        |
| 10,800.0                     | 7,606.3             | 5,100.0             | 5,100.0             | 65.3           | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 2,986.2              | 2,951.4               | 34.82                   | 85.771            |         |                    |        |
| 10,900.0                     | 7,606.5             | 5,100.0             | 5,100.0             | 67.2           | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 3,041.5              | 3,006.0               | 35.52                   | 85.618            |         |                    |        |
| 11,000.0                     | 7,606.7             | 5,100.0             | 5,100.0             | 69.0           | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 3,099.1              | 3,062.9               | 36.23                   | 85.528            |         |                    |        |
| 11,100.0                     | 7,606.9             | 5,100.0             | 5,100.0             | 70.9           | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 3,158.8              | 3,121.8               | 36.95                   | 85.494            |         |                    |        |
| 11,200.0                     | 7,607.2             | 5,100.0             | 5,100.0             | 72.8           | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 3,220.5              | 3,182.8               | 37.66                   | 85.511            |         |                    |        |
| 11,300.0                     | 7,607.4             | 5,100.0             | 5,100.0             | 74.6           | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 3,284.0              | 3,245.7               | 38.38                   | 85.573            |         |                    |        |
| 11,400.0                     | 7,607.6             | 5,100.0             | 5,100.0             | 76.5           | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 3,349.4              | 3,310.3               | 39.09                   | 85.675            |         |                    |        |
| 11,500.0                     | 7,607.8             | 5,100.0             | 5,100.0             | 78.4           | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 3,416.4              | 3,376.6               | 39.81                   | 85.812            |         |                    |        |
| 11,600.0                     | 7,608.0             | 5,100.0             | 5,100.0             | 80.2           | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 3,485.0              | 3,444.5               | 40.53                   | 85.981            |         |                    |        |
| 11,700.0                     | 7,608.2             | 5,100.0             | 5,100.0             | 82.1           | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 3,555.1              | 3,513.9               | 41.25                   | 86.177            |         |                    |        |
| 11,800.0                     | 7,608.4             | 5,100.0             | 5,100.0             | 84.0           | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 3,626.7              | 3,584.7               | 41.98                   | 86.398            |         |                    |        |
| 11,900.0                     | 7,608.6             | 5,100.0             | 5,100.0             | 85.9           | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 3,699.5              | 3,656.8               | 42.70                   | 86.640            |         |                    |        |
| 12,000.0                     | 7,608.8             | 5,100.0             | 5,100.0             | 87.7           | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 3,773.5              | 3,730.1               | 43.42                   | 86.901            |         |                    |        |
| 12,100.0                     | 7,609.0             | 5,100.0             | 5,100.0             | 89.6           | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 3,848.8              | 3,804.6               | 44.15                   | 87.178            |         |                    |        |
| 12,200.0                     | 7,609.2             | 5,100.0             | 5,100.0             | 91.5           | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 3,925.1              | 3,880.3               | 44.87                   | 87.469            |         |                    |        |
| 12,300.0                     | 7,609.5             | 5,100.0             | 5,100.0             | 93.4           | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 4,002.5              | 3,956.9               | 45.60                   | 87.771            |         |                    |        |
| 12,400.0                     | 7,609.7             | 5,100.0             | 5,100.0             | 95.3           | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 4,080.9              | 4,034.6               | 46.33                   | 88.085            |         |                    |        |
| 12,500.0                     | 7,609.9             | 5,100.0             | 5,100.0             | 97.2           | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 4,160.2              | 4,113.1               | 47.06                   | 88.406            |         |                    |        |
| 12,600.0                     | 7,610.1             | 5,100.0             | 5,100.0             | 99.1           | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 4,240.4              | 4,192.6               | 47.79                   | 88.735            |         |                    |        |
| 12,700.0                     | 7,610.3             | 5,100.0             | 5,100.0             | 100.9          | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 4,321.4              | 4,272.9               | 48.52                   | 89.070            |         |                    |        |
| 12,800.0                     | 7,610.5             | 5,100.0             | 5,100.0             | 102.8          | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 4,403.2              | 4,353.9               | 49.25                   | 89.410            |         |                    |        |
| 12,900.0                     | 7,610.7             | 5,100.0             | 5,100.0             | 104.7          | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 4,485.7              | 4,435.7               | 49.98                   | 89.754            |         |                    |        |
| 13,000.0                     | 7,610.9             | 5,100.0             | 5,100.0             | 106.6          | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 4,568.9              | 4,518.2               | 50.71                   | 90.100            |         |                    |        |
| 13,100.0                     | 7,611.1             | 5,100.0             | 5,100.0             | 108.5          | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 4,652.8              | 4,601.3               | 51.44                   | 90.449            |         |                    |        |
| 13,200.0                     | 7,611.3             | 5,100.0             | 5,100.0             | 110.4          | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 4,737.3              | 4,685.1               | 52.17                   | 90.798            |         |                    |        |
| 13,300.0                     | 7,611.6             | 5,100.0             | 5,100.0             | 112.3          | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 4,822.4              | 4,769.5               | 52.91                   | 91.149            |         |                    |        |
| 13,400.0                     | 7,611.8             | 5,100.0             | 5,100.0             | 114.2          | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 4,908.0              | 4,854.4               | 53.64                   | 91.499            |         |                    |        |
| 13,500.0                     | 7,612.0             | 5,100.0             | 5,100.0             | 116.1          | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 4,994.2              | 4,939.9               | 54.37                   | 91.850            |         |                    |        |
| 13,600.0                     | 7,612.2             | 5,100.0             | 5,100.0             | 118.0          | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 5,080.9              | 5,025.8               | 55.11                   | 92.199            |         |                    |        |
| 13,700.0                     | 7,612.4             | 5,100.0             | 5,100.0             | 119.9          | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 5,168.1              | 5,112.3               | 55.84                   | 92.547            |         |                    |        |
| 13,800.0                     | 7,612.6             | 5,100.0             | 5,100.0             | 121.8          | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 5,255.8              | 5,199.2               | 56.58                   | 92.894            |         |                    |        |
| 13,900.0                     | 7,612.8             | 5,100.0             | 5,100.0             | 123.7          | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 5,343.8              | 5,286.5               | 57.31                   | 93.239            |         |                    |        |
| 14,000.0                     | 7,613.0             | 5,100.0             | 5,100.0             | 125.6          | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 5,432.3              | 5,374.3               | 58.05                   | 93.581            |         |                    |        |
| 14,100.0                     | 7,613.2             | 5,100.0             | 5,100.0             | 127.5          | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 5,521.2              | 5,462.4               | 58.79                   | 93.921            |         |                    |        |
| 14,200.0                     | 7,613.4             | 5,100.0             | 5,100.0             | 129.4          | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 5,610.4              | 5,550.9               | 59.52                   | 94.259            |         |                    |        |
| 14,300.0                     | 7,613.6             | 5,100.0             | 5,100.0             | 131.3          | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 5,700.1              | 5,639.8               | 60.26                   | 94.593            |         |                    |        |
| 14,400.0                     | 7,613.9             | 5,100.0             | 5,100.0             | 133.2          | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 5,790.0              | 5,729.0               | 61.00                   | 94.925            |         |                    |        |
| 14,469.1                     | 7,614.0             | 5,100.0             | 5,100.0             | 134.5          | 102.0       | 4.63                  | -1,647.3                          | -135.3     | 5,852.3              | 5,790.8               | 61.50                   | 95.152            |         |                    |        |

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Site Error: | 0.0 ft |
|------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|---------|--------------------|--------|
| Survey Program: 5151-UNKNOWN |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Well Error: | 0.0 ft |
| Reference                    |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Offset                       |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Semi Major Axis              |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Distance                     |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Measured Depth (ft)          | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |                    |        |
| 0.0                          | 0.0                 | 48.0                | 48.0                | 0.0            | 1.0         | 176.31                | -4,291.7                          | 276.5      | 4,300.6              | 4,299.6               | 0.96                    | 4,478.818         |         |                    |        |
| 100.0                        | 100.0               | 148.0               | 148.0               | 0.1            | 3.0         | 176.31                | -4,291.7                          | 276.5      | 4,300.6              | 4,297.5               | 3.07                    | 1,399.656         |         |                    |        |
| 200.0                        | 200.0               | 248.0               | 248.0               | 0.3            | 5.0         | 176.31                | -4,291.7                          | 276.5      | 4,300.6              | 4,295.3               | 5.30                    | 811.833           |         |                    |        |
| 300.0                        | 300.0               | 348.0               | 348.0               | 0.6            | 7.0         | 176.31                | -4,291.7                          | 276.5      | 4,300.6              | 4,293.0               | 7.52                    | 571.722           |         |                    |        |
| 400.0                        | 400.0               | 448.0               | 448.0               | 0.8            | 9.0         | 176.31                | -4,291.7                          | 276.5      | 4,300.6              | 4,290.8               | 9.75                    | 441.224           |         |                    |        |
| 500.0                        | 500.0               | 548.0               | 548.0               | 1.0            | 11.0        | 176.31                | -4,291.7                          | 276.5      | 4,300.6              | 4,288.6               | 11.97                   | 359.229           |         |                    |        |
| 600.0                        | 600.0               | 648.0               | 648.0               | 1.2            | 13.0        | 176.31                | -4,291.7                          | 276.5      | 4,300.6              | 4,286.4               | 14.20                   | 302.933           |         |                    |        |
| 700.0                        | 700.0               | 748.0               | 748.0               | 1.5            | 15.0        | 176.31                | -4,291.7                          | 276.5      | 4,300.6              | 4,284.1               | 16.42                   | 261.891           |         |                    |        |
| 800.0                        | 800.0               | 848.0               | 848.0               | 1.7            | 17.0        | 176.31                | -4,291.7                          | 276.5      | 4,300.6              | 4,281.9               | 18.65                   | 230.643           |         |                    |        |
| 900.0                        | 900.0               | 948.0               | 948.0               | 1.9            | 19.0        | 176.31                | -4,291.7                          | 276.5      | 4,300.6              | 4,279.7               | 20.87                   | 206.057           |         |                    |        |
| 1,000.0                      | 1,000.0             | 1,048.0             | 1,048.0             | 2.1            | 21.0        | 176.31                | -4,291.7                          | 276.5      | 4,300.6              | 4,277.5               | 23.10                   | 186.208           |         |                    |        |
| 1,100.0                      | 1,100.0             | 1,148.0             | 1,148.0             | 2.4            | 23.0        | 176.31                | -4,291.7                          | 276.5      | 4,300.6              | 4,275.2               | 25.32                   | 169.847           |         |                    |        |
| 1,200.0                      | 1,200.0             | 1,248.0             | 1,248.0             | 2.6            | 25.0        | 176.31                | -4,291.7                          | 276.5      | 4,300.6              | 4,273.0               | 27.54                   | 156.128           |         |                    |        |
| 1,300.0                      | 1,300.0             | 1,348.0             | 1,348.0             | 2.8            | 27.0        | 176.31                | -4,291.7                          | 276.5      | 4,300.6              | 4,270.8               | 29.77                   | 144.461           |         |                    |        |
| 1,400.0                      | 1,400.0             | 1,448.0             | 1,448.0             | 3.0            | 29.0        | 176.31                | -4,291.7                          | 276.5      | 4,300.6              | 4,268.6               | 31.99                   | 134.415           |         |                    |        |
| 1,500.0                      | 1,500.0             | 1,548.0             | 1,548.0             | 3.3            | 31.0        | 176.31                | -4,291.7                          | 276.5      | 4,300.6              | 4,266.3               | 34.22                   | 125.676           |         |                    |        |
| 1,600.0                      | 1,600.0             | 1,648.0             | 1,648.0             | 3.5            | 33.0        | 176.31                | -4,291.7                          | 276.5      | 4,300.6              | 4,264.1               | 36.44                   | 118.004           |         |                    |        |
| 1,700.0                      | 1,700.0             | 1,748.0             | 1,748.0             | 3.7            | 35.0        | 176.31                | -4,291.7                          | 276.5      | 4,300.6              | 4,261.9               | 38.67                   | 111.215           |         |                    |        |
| 1,800.0                      | 1,800.0             | 1,848.0             | 1,848.0             | 3.9            | 37.0        | 176.31                | -4,291.7                          | 276.5      | 4,300.6              | 4,259.7               | 40.89                   | 105.165           |         |                    |        |
| 1,900.0                      | 1,900.0             | 1,948.0             | 1,948.0             | 4.2            | 39.0        | 176.31                | -4,291.7                          | 276.5      | 4,300.6              | 4,257.4               | 43.12                   | 99.738            |         |                    |        |
| 2,000.0                      | 2,000.0             | 2,048.0             | 2,048.0             | 4.4            | 41.0        | 176.31                | -4,291.7                          | 276.5      | 4,300.6              | 4,255.2               | 45.34                   | 94.845            |         |                    |        |
| 2,100.0                      | 2,100.0             | 2,148.0             | 2,148.0             | 4.6            | 43.0        | 161.37                | -4,291.7                          | 276.5      | 4,302.2              | 4,254.7               | 47.54                   | 90.494            |         |                    |        |
| 2,200.0                      | 2,199.8             | 2,247.8             | 2,247.8             | 4.8            | 45.0        | 161.36                | -4,291.7                          | 276.5      | 4,307.2              | 4,257.5               | 49.68                   | 86.696            |         |                    |        |
| 2,300.0                      | 2,299.5             | 2,347.5             | 2,347.5             | 5.1            | 46.9        | 161.34                | -4,291.7                          | 276.5      | 4,315.4              | 4,263.7               | 51.75                   | 83.383            |         |                    |        |
| 2,400.0                      | 2,398.7             | 2,446.7             | 2,446.7             | 5.3            | 48.9        | 161.35                | -4,291.7                          | 276.5      | 4,326.8              | 4,273.0               | 53.83                   | 80.378            |         |                    |        |
| 2,500.0                      | 2,497.9             | 2,545.9             | 2,545.9             | 5.5            | 50.9        | 161.40                | -4,291.7                          | 276.5      | 4,338.8              | 4,282.8               | 56.03                   | 77.441            |         |                    |        |
| 2,600.0                      | 2,597.1             | 2,645.1             | 2,645.1             | 5.8            | 52.9        | 161.45                | -4,291.7                          | 276.5      | 4,350.9              | 4,292.7               | 58.23                   | 74.722            |         |                    |        |
| 2,700.0                      | 2,696.3             | 2,744.3             | 2,744.3             | 6.0            | 54.9        | 161.51                | -4,291.7                          | 276.5      | 4,363.0              | 4,302.6               | 60.43                   | 72.200            |         |                    |        |
| 2,800.0                      | 2,795.5             | 2,843.5             | 2,843.5             | 6.3            | 56.9        | 161.56                | -4,291.7                          | 276.5      | 4,375.1              | 4,312.4               | 62.63                   | 69.854            |         |                    |        |
| 2,900.0                      | 2,894.7             | 2,942.7             | 2,942.7             | 6.6            | 58.9        | 161.61                | -4,291.7                          | 276.5      | 4,387.1              | 4,322.3               | 64.84                   | 67.665            |         |                    |        |
| 3,000.0                      | 2,993.9             | 3,041.9             | 3,041.9             | 6.8            | 60.8        | 161.66                | -4,291.7                          | 276.5      | 4,399.2              | 4,332.2               | 67.04                   | 65.620            |         |                    |        |
| 3,100.0                      | 3,093.0             | 3,141.0             | 3,141.0             | 7.1            | 62.8        | 161.72                | -4,291.7                          | 276.5      | 4,411.3              | 4,342.0               | 69.25                   | 63.704            |         |                    |        |
| 3,200.0                      | 3,192.2             | 3,240.2             | 3,240.2             | 7.4            | 64.8        | 161.77                | -4,291.7                          | 276.5      | 4,423.4              | 4,351.9               | 71.45                   | 61.905            |         |                    |        |
| 3,300.0                      | 3,291.4             | 3,339.4             | 3,339.4             | 7.7            | 66.8        | 161.82                | -4,291.7                          | 276.5      | 4,435.5              | 4,361.8               | 73.66                   | 60.214            |         |                    |        |
| 3,400.0                      | 3,390.6             | 3,438.6             | 3,438.6             | 8.0            | 68.8        | 161.87                | -4,291.7                          | 276.5      | 4,447.6              | 4,371.7               | 75.87                   | 58.620            |         |                    |        |
| 3,500.0                      | 3,489.8             | 3,537.8             | 3,537.8             | 8.2            | 70.8        | 161.92                | -4,291.7                          | 276.5      | 4,459.7              | 4,381.6               | 78.08                   | 57.117            |         |                    |        |
| 3,600.0                      | 3,589.0             | 3,637.0             | 3,637.0             | 8.5            | 72.7        | 161.97                | -4,291.7                          | 276.5      | 4,471.8              | 4,391.5               | 80.29                   | 55.695            |         |                    |        |
| 3,700.0                      | 3,688.2             | 3,736.2             | 3,736.2             | 8.8            | 74.7        | 162.02                | -4,291.7                          | 276.5      | 4,483.9              | 4,401.4               | 82.50                   | 54.350            |         |                    |        |
| 3,800.0                      | 3,787.4             | 3,835.4             | 3,835.4             | 9.1            | 76.7        | 162.07                | -4,291.7                          | 276.5      | 4,496.0              | 4,411.3               | 84.71                   | 53.074            |         |                    |        |
| 3,900.0                      | 3,886.5             | 3,934.5             | 3,934.5             | 9.4            | 78.7        | 162.12                | -4,291.7                          | 276.5      | 4,508.1              | 4,421.2               | 86.92                   | 51.863            |         |                    |        |
| 4,000.0                      | 3,985.7             | 4,033.7             | 4,033.7             | 9.7            | 80.7        | 162.17                | -4,291.7                          | 276.5      | 4,520.2              | 4,431.1               | 89.13                   | 50.712            |         |                    |        |
| 4,100.0                      | 4,085.0             | 4,133.0             | 4,133.0             | 10.0           | 82.7        | 162.25                | -4,291.7                          | 276.5      | 4,531.9              | 4,440.4               | 91.49                   | 49.533            |         |                    |        |
| 4,200.0                      | 4,184.5             | 4,232.5             | 4,232.5             | 10.2           | 84.7        | 162.34                | -4,291.7                          | 276.5      | 4,540.7              | 4,446.8               | 93.91                   | 48.352            |         |                    |        |
| 4,300.0                      | 4,284.4             | 4,332.4             | 4,332.4             | 10.4           | 86.6        | 162.40                | -4,291.7                          | 276.5      | 4,546.2              | 4,450.0               | 96.24                   | 47.241            |         |                    |        |
| 4,400.0                      | 4,384.3             | 4,432.3             | 4,432.3             | 10.6           | 88.6        | 162.42                | -4,291.7                          | 276.5      | 4,548.4              | 4,450.0               | 98.46                   | 46.196            |         |                    |        |
| 4,500.0                      | 4,484.3             | 4,532.3             | 4,532.3             | 10.8           | 90.6        | 177.36                | -4,291.7                          | 276.5      | 4,548.5              | 4,447.8               | 100.65                  | 45.192            |         |                    |        |
| 4,600.0                      | 4,584.3             | 4,632.3             | 4,632.3             | 11.0           | 92.6        | 177.36                | -4,291.7                          | 276.5      | 4,548.5              | 4,445.6               | 102.87                  | 44.217            |         |                    |        |
| 4,700.0                      | 4,684.3             | 4,732.3             | 4,732.3             | 11.2           | 94.6        | 177.36                | -4,291.7                          | 276.5      | 4,548.5              | 4,443.4               | 105.08                  | 43.284            |         |                    |        |
| 4,800.0                      | 4,784.3             | 4,832.3             | 4,832.3             | 11.4           | 96.6        | 177.36                | -4,291.7                          | 276.5      | 4,548.5              | 4,441.2               | 107.30                  | 42.389            |         |                    |        |
| 4,900.0                      | 4,884.3             | 4,932.3             | 4,932.3             | 11.6           | 98.6        | 177.36                | -4,291.7                          | 276.5      | 4,548.5              | 4,438.9               | 109.52                  | 41.530            |         |                    |        |
| 5,000.0                      | 4,984.3             | 5,032.3             | 5,032.3             | 11.8           | 100.6       | 177.36                | -4,291.7                          | 276.5      | 4,548.5              | 4,436.7               | 111.74                  | 40.705            |         |                    |        |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Site Error: | 0.0 ft |
|------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|---------|--------------------|--------|
| Survey Program: 5151-UNKNOWN |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Well Error: | 0.0 ft |
| Reference                    |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Semi Major Axis              |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Distance                     |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Measured Depth (ft)          | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |                    |        |
| 5,100.0                      | 5,084.3             | 5,132.3             | 5,132.3             | 12.0           | 102.6       | 177.36                | -4,291.7                          | 276.5      | 4,548.5              | 4,434.5               | 113.96                  | 39.913            |         |                    |        |
| 5,200.0                      | 5,184.3             | 5,151.0             | 5,151.0             | 12.2           | 103.0       | 177.36                | -4,291.7                          | 276.5      | 4,549.2              | 4,434.6               | 114.55                  | 39.712            |         |                    |        |
| 5,300.0                      | 5,284.3             | 5,151.0             | 5,151.0             | 12.4           | 103.0       | 177.36                | -4,291.7                          | 276.5      | 4,552.1              | 4,437.3               | 114.77                  | 39.662            |         |                    |        |
| 5,400.0                      | 5,384.3             | 5,151.0             | 5,151.0             | 12.6           | 103.0       | 177.36                | -4,291.7                          | 276.5      | 4,557.2              | 4,442.2               | 114.99                  | 39.630            |         |                    |        |
| 5,500.0                      | 5,484.3             | 5,151.0             | 5,151.0             | 12.8           | 103.0       | 177.36                | -4,291.7                          | 276.5      | 4,564.4              | 4,449.2               | 115.21                  | 39.617 SF         |         |                    |        |
| 5,600.0                      | 5,584.3             | 5,151.0             | 5,151.0             | 13.0           | 103.0       | 177.36                | -4,291.7                          | 276.5      | 4,573.9              | 4,458.4               | 115.43                  | 39.623            |         |                    |        |
| 5,700.0                      | 5,684.3             | 5,151.0             | 5,151.0             | 13.2           | 103.0       | 177.36                | -4,291.7                          | 276.5      | 4,585.5              | 4,469.8               | 115.65                  | 39.648            |         |                    |        |
| 5,800.0                      | 5,784.3             | 5,151.0             | 5,151.0             | 13.4           | 103.0       | 177.36                | -4,291.7                          | 276.5      | 4,599.2              | 4,483.3               | 115.87                  | 39.691            |         |                    |        |
| 5,900.0                      | 5,884.3             | 5,151.0             | 5,151.0             | 13.6           | 103.0       | 177.36                | -4,291.7                          | 276.5      | 4,615.1              | 4,499.0               | 116.09                  | 39.753            |         |                    |        |
| 6,000.0                      | 5,984.3             | 5,151.0             | 5,151.0             | 13.9           | 103.0       | 177.36                | -4,291.7                          | 276.5      | 4,633.1              | 4,516.8               | 116.32                  | 39.832            |         |                    |        |
| 6,100.0                      | 6,084.3             | 5,151.0             | 5,151.0             | 14.1           | 103.0       | 177.36                | -4,291.7                          | 276.5      | 4,653.1              | 4,536.6               | 116.54                  | 39.928            |         |                    |        |
| 6,200.0                      | 6,184.3             | 5,151.0             | 5,151.0             | 14.3           | 103.0       | 177.36                | -4,291.7                          | 276.5      | 4,675.2              | 4,558.5               | 116.76                  | 40.042            |         |                    |        |
| 6,300.0                      | 6,284.3             | 5,151.0             | 5,151.0             | 14.5           | 103.0       | 177.36                | -4,291.7                          | 276.5      | 4,699.4              | 4,582.4               | 116.98                  | 40.173            |         |                    |        |
| 6,400.0                      | 6,384.3             | 5,151.0             | 5,151.0             | 14.7           | 103.0       | 177.36                | -4,291.7                          | 276.5      | 4,725.5              | 4,608.3               | 117.20                  | 40.320            |         |                    |        |
| 6,500.0                      | 6,484.3             | 5,151.0             | 5,151.0             | 14.9           | 103.0       | 177.36                | -4,291.7                          | 276.5      | 4,753.6              | 4,636.2               | 117.42                  | 40.483            |         |                    |        |
| 6,600.0                      | 6,584.3             | 5,151.0             | 5,151.0             | 15.1           | 103.0       | 177.36                | -4,291.7                          | 276.5      | 4,783.6              | 4,666.0               | 117.64                  | 40.662            |         |                    |        |
| 6,700.0                      | 6,684.3             | 5,151.0             | 5,151.0             | 15.3           | 103.0       | 177.36                | -4,291.7                          | 276.5      | 4,815.5              | 4,697.7               | 117.86                  | 40.856            |         |                    |        |
| 6,800.0                      | 6,784.3             | 5,151.0             | 5,151.0             | 15.6           | 103.0       | 177.36                | -4,291.7                          | 276.5      | 4,849.3              | 4,731.2               | 118.09                  | 41.065            |         |                    |        |
| 6,900.0                      | 6,884.3             | 5,151.0             | 5,151.0             | 15.7           | 103.0       | -2.58                 | -4,291.7                          | 276.5      | 4,883.5              | 4,765.4               | 118.04                  | 41.370            |         |                    |        |
| 7,000.0                      | 6,983.4             | 5,151.0             | 5,151.0             | 15.9           | 103.0       | -2.49                 | -4,291.7                          | 276.5      | 4,908.7              | 4,792.5               | 116.23                  | 42.233            |         |                    |        |
| 7,100.0                      | 7,080.0             | 5,151.0             | 5,151.0             | 15.9           | 103.0       | -2.45                 | -4,291.7                          | 276.5      | 4,923.1              | 4,810.6               | 112.48                  | 43.767            |         |                    |        |
| 7,200.0                      | 7,172.5             | 5,151.0             | 5,151.0             | 15.9           | 103.0       | -2.44                 | -4,291.7                          | 276.5      | 4,926.5              | 4,819.6               | 106.88                  | 46.092            |         |                    |        |
| 7,300.0                      | 7,259.1             | 5,151.0             | 5,151.0             | 16.0           | 103.0       | -2.46                 | -4,291.7                          | 276.5      | 4,918.9              | 4,819.3               | 99.54                   | 49.415            |         |                    |        |
| 7,400.0                      | 7,338.6             | 5,151.0             | 5,151.0             | 16.0           | 103.0       | -2.52                 | -4,291.7                          | 276.5      | 4,900.3              | 4,809.7               | 90.62                   | 54.076            |         |                    |        |
| 7,500.0                      | 7,409.5             | 5,151.0             | 5,151.0             | 16.1           | 103.0       | -2.63                 | -4,291.7                          | 276.5      | 4,870.9              | 4,790.6               | 80.31                   | 60.654            |         |                    |        |
| 7,600.0                      | 7,470.5             | 5,151.0             | 5,151.0             | 16.4           | 103.0       | -2.78                 | -4,291.7                          | 276.5      | 4,831.1              | 4,762.3               | 68.85                   | 70.171            |         |                    |        |
| 7,700.0                      | 7,520.8             | 5,151.0             | 5,151.0             | 16.8           | 103.0       | -3.00                 | -4,291.7                          | 276.5      | 4,781.3              | 4,724.8               | 56.54                   | 84.571            |         |                    |        |
| 7,800.0                      | 7,559.3             | 5,151.0             | 5,151.0             | 17.4           | 103.0       | -3.30                 | -4,291.7                          | 276.5      | 4,722.0              | 4,678.3               | 43.73                   | 107.974           |         |                    |        |
| 7,900.0                      | 7,585.4             | 5,151.0             | 5,151.0             | 18.2           | 103.0       | -3.73                 | -4,291.7                          | 276.5      | 4,653.9              | 4,622.9               | 30.99                   | 150.181           |         |                    |        |
| 8,000.0                      | 7,598.8             | 5,151.0             | 5,151.0             | 19.1           | 103.0       | -4.35                 | -4,291.7                          | 276.5      | 4,577.8              | 4,557.7               | 20.12                   | 227.559           |         |                    |        |
| 8,100.0                      | 7,600.7             | 5,151.0             | 5,151.0             | 20.1           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 4,495.5              | 4,477.0               | 18.54                   | 242.420           |         |                    |        |
| 8,200.0                      | 7,600.9             | 5,151.0             | 5,151.0             | 21.3           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 4,413.0              | 4,394.0               | 18.95                   | 232.912           |         |                    |        |
| 8,300.0                      | 7,601.1             | 5,151.0             | 5,151.0             | 22.5           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 4,331.2              | 4,311.8               | 19.39                   | 223.412           |         |                    |        |
| 8,400.0                      | 7,601.3             | 5,151.0             | 5,151.0             | 23.9           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 4,250.1              | 4,230.3               | 19.86                   | 214.021           |         |                    |        |
| 8,500.0                      | 7,601.5             | 5,151.0             | 5,151.0             | 25.3           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 4,169.9              | 4,149.6               | 20.36                   | 204.818           |         |                    |        |
| 8,600.0                      | 7,601.7             | 5,151.0             | 5,151.0             | 26.8           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 4,090.6              | 4,069.7               | 20.89                   | 195.862           |         |                    |        |
| 8,700.0                      | 7,601.9             | 5,151.0             | 5,151.0             | 28.3           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 4,012.2              | 3,990.8               | 21.43                   | 187.196           |         |                    |        |
| 8,800.0                      | 7,602.1             | 5,151.0             | 5,151.0             | 29.9           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 3,934.8              | 3,912.8               | 22.00                   | 178.850           |         |                    |        |
| 8,900.0                      | 7,602.3             | 5,151.0             | 5,151.0             | 31.5           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 3,858.4              | 3,835.8               | 22.58                   | 170.840           |         |                    |        |
| 9,000.0                      | 7,602.5             | 5,151.0             | 5,151.0             | 33.1           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 3,783.1              | 3,759.9               | 23.18                   | 163.176           |         |                    |        |
| 9,100.0                      | 7,602.8             | 5,151.0             | 5,151.0             | 34.8           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 3,709.0              | 3,685.2               | 23.80                   | 155.861           |         |                    |        |
| 9,200.0                      | 7,603.0             | 5,151.0             | 5,151.0             | 36.5           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 3,636.1              | 3,611.6               | 24.42                   | 148.893           |         |                    |        |
| 9,300.0                      | 7,603.2             | 5,151.0             | 5,151.0             | 38.2           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 3,564.5              | 3,539.4               | 25.06                   | 142.266           |         |                    |        |
| 9,400.0                      | 7,603.4             | 5,151.0             | 5,151.0             | 40.0           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 3,494.3              | 3,468.6               | 25.70                   | 135.972           |         |                    |        |
| 9,500.0                      | 7,603.6             | 5,151.0             | 5,151.0             | 41.7           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 3,425.6              | 3,399.3               | 26.35                   | 130.001           |         |                    |        |
| 9,600.0                      | 7,603.8             | 5,151.0             | 5,151.0             | 43.5           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 3,358.5              | 3,331.5               | 27.01                   | 124.343           |         |                    |        |
| 9,700.0                      | 7,604.0             | 5,151.0             | 5,151.0             | 45.2           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 3,293.1              | 3,265.4               | 27.68                   | 118.987           |         |                    |        |
| 9,800.0                      | 7,604.2             | 5,151.0             | 5,151.0             | 47.0           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 3,229.4              | 3,201.0               | 28.35                   | 113.921           |         |                    |        |
| 9,900.0                      | 7,604.4             | 5,151.0             | 5,151.0             | 48.8           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 3,167.6              | 3,138.6               | 29.02                   | 109.135           |         |                    |        |
| 10,000.0                     | 7,604.6             | 5,151.0             | 5,151.0             | 50.6           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 3,107.8              | 3,078.1               | 29.71                   | 104.616           |         |                    |        |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design                                                                   |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Site Error: | 0.0 ft |
|---------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|---------|--------------------|--------|
| Survey Program: 5151-UNKNOWN                                                    |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   |         | Offset Well Error: | 0.0 ft |
| Existings Sec.32-T1N-R67W - Mark Degenhart 11 (P&A) - Wellbore #1 - Wellbore #1 |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   |         |                    |        |
| Reference                                                                       |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                   |         |                    |        |
| Measured Depth (ft)                                                             | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |                    |        |
| 10,100.0                                                                        | 7,604.8             | 5,151.0             | 5,151.0             | 52.5            | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 3,050.1              | 3,019.7               | 30.39                   | 100.356           |         |                    |        |
| 10,200.0                                                                        | 7,605.1             | 5,151.0             | 5,151.0             | 54.3            | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,994.6              | 2,963.5               | 31.08                   | 96.343            |         |                    |        |
| 10,300.0                                                                        | 7,605.3             | 5,151.0             | 5,151.0             | 56.1            | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,941.5              | 2,909.7               | 31.78                   | 92.567            |         |                    |        |
| 10,400.0                                                                        | 7,605.5             | 5,151.0             | 5,151.0             | 57.9            | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,890.8              | 2,858.3               | 32.47                   | 89.021            |         |                    |        |
| 10,500.0                                                                        | 7,605.7             | 5,151.0             | 5,151.0             | 59.8            | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,842.8              | 2,809.6               | 33.17                   | 85.695            |         |                    |        |
| 10,600.0                                                                        | 7,605.9             | 5,151.0             | 5,151.0             | 61.6            | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,797.5              | 2,763.6               | 33.88                   | 82.580            |         |                    |        |
| 10,700.0                                                                        | 7,606.1             | 5,151.0             | 5,151.0             | 63.5            | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,755.1              | 2,720.5               | 34.58                   | 79.670            |         |                    |        |
| 10,800.0                                                                        | 7,606.3             | 5,151.0             | 5,151.0             | 65.3            | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,715.8              | 2,680.5               | 35.29                   | 76.957            |         |                    |        |
| 10,900.0                                                                        | 7,606.5             | 5,151.0             | 5,151.0             | 67.2            | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,679.6              | 2,643.6               | 36.00                   | 74.434            |         |                    |        |
| 11,000.0                                                                        | 7,606.7             | 5,151.0             | 5,151.0             | 69.0            | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,646.6              | 2,609.9               | 36.71                   | 72.094            |         |                    |        |
| 11,100.0                                                                        | 7,606.9             | 5,151.0             | 5,151.0             | 70.9            | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,617.1              | 2,579.7               | 37.42                   | 69.930            |         |                    |        |
| 11,200.0                                                                        | 7,607.2             | 5,151.0             | 5,151.0             | 72.8            | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,591.1              | 2,553.0               | 38.14                   | 67.937            |         |                    |        |
| 11,300.0                                                                        | 7,607.4             | 5,151.0             | 5,151.0             | 74.6            | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,568.8              | 2,529.9               | 38.86                   | 66.108            |         |                    |        |
| 11,400.0                                                                        | 7,607.6             | 5,151.0             | 5,151.0             | 76.5            | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,550.2              | 2,510.6               | 39.58                   | 64.438            |         |                    |        |
| 11,500.0                                                                        | 7,607.8             | 5,151.0             | 5,151.0             | 78.4            | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,535.3              | 2,495.0               | 40.30                   | 62.919            |         |                    |        |
| 11,600.0                                                                        | 7,608.0             | 5,151.0             | 5,151.0             | 80.2            | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,524.4              | 2,483.4               | 41.02                   | 61.546            |         |                    |        |
| 11,700.0                                                                        | 7,608.2             | 5,151.0             | 5,151.0             | 82.1            | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,517.4              | 2,475.7               | 41.74                   | 60.313            |         |                    |        |
| 11,800.0                                                                        | 7,608.4             | 5,151.0             | 5,151.0             | 84.0            | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,514.3              | 2,471.9               | 42.46                   | 59.213            |         |                    |        |
| 11,826.7                                                                        | 7,608.5             | 5,151.0             | 5,151.0             | 84.5            | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,514.2              | 2,471.5               | 42.66                   | 58.941 CC, ES     |         |                    |        |
| 11,900.0                                                                        | 7,608.6             | 5,151.0             | 5,151.0             | 85.9            | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,515.3              | 2,472.1               | 43.19                   | 58.241            |         |                    |        |
| 12,000.0                                                                        | 7,608.8             | 5,151.0             | 5,151.0             | 87.7            | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,520.2              | 2,476.2               | 43.91                   | 57.391            |         |                    |        |
| 12,100.0                                                                        | 7,609.0             | 5,151.0             | 5,151.0             | 89.6            | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,529.0              | 2,484.4               | 44.64                   | 56.655            |         |                    |        |
| 12,200.0                                                                        | 7,609.2             | 5,151.0             | 5,151.0             | 91.5            | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,541.8              | 2,496.4               | 45.37                   | 56.027            |         |                    |        |
| 12,300.0                                                                        | 7,609.5             | 5,151.0             | 5,151.0             | 93.4            | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,558.4              | 2,512.3               | 46.09                   | 55.502            |         |                    |        |
| 12,400.0                                                                        | 7,609.7             | 5,151.0             | 5,151.0             | 95.3            | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,578.7              | 2,531.9               | 46.82                   | 55.073            |         |                    |        |
| 12,500.0                                                                        | 7,609.9             | 5,151.0             | 5,151.0             | 97.2            | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,602.8              | 2,555.2               | 47.55                   | 54.734            |         |                    |        |
| 12,600.0                                                                        | 7,610.1             | 5,151.0             | 5,151.0             | 99.1            | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,630.4              | 2,582.1               | 48.28                   | 54.479            |         |                    |        |
| 12,700.0                                                                        | 7,610.3             | 5,151.0             | 5,151.0             | 100.9           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,661.5              | 2,612.5               | 49.01                   | 54.301            |         |                    |        |
| 12,800.0                                                                        | 7,610.5             | 5,151.0             | 5,151.0             | 102.8           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,696.0              | 2,646.3               | 49.75                   | 54.195            |         |                    |        |
| 12,900.0                                                                        | 7,610.7             | 5,151.0             | 5,151.0             | 104.7           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,733.7              | 2,683.2               | 50.48                   | 54.156            |         |                    |        |
| 13,000.0                                                                        | 7,610.9             | 5,151.0             | 5,151.0             | 106.6           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,774.5              | 2,723.3               | 51.21                   | 54.177            |         |                    |        |
| 13,100.0                                                                        | 7,611.1             | 5,151.0             | 5,151.0             | 108.5           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,818.2              | 2,766.3               | 51.94                   | 54.255            |         |                    |        |
| 13,200.0                                                                        | 7,611.3             | 5,151.0             | 5,151.0             | 110.4           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,864.8              | 2,812.1               | 52.68                   | 54.383            |         |                    |        |
| 13,300.0                                                                        | 7,611.6             | 5,151.0             | 5,151.0             | 112.3           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,914.0              | 2,860.6               | 53.41                   | 54.557            |         |                    |        |
| 13,400.0                                                                        | 7,611.8             | 5,151.0             | 5,151.0             | 114.2           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 2,965.9              | 2,911.7               | 54.15                   | 54.774            |         |                    |        |
| 13,500.0                                                                        | 7,612.0             | 5,151.0             | 5,151.0             | 116.1           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 3,020.1              | 2,965.2               | 54.88                   | 55.028            |         |                    |        |
| 13,600.0                                                                        | 7,612.2             | 5,151.0             | 5,151.0             | 118.0           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 3,076.6              | 3,021.0               | 55.62                   | 55.317            |         |                    |        |
| 13,700.0                                                                        | 7,612.4             | 5,151.0             | 5,151.0             | 119.9           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 3,135.3              | 3,079.0               | 56.35                   | 55.636            |         |                    |        |
| 13,800.0                                                                        | 7,612.6             | 5,151.0             | 5,151.0             | 121.8           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 3,196.1              | 3,139.0               | 57.09                   | 55.983            |         |                    |        |
| 13,900.0                                                                        | 7,612.8             | 5,151.0             | 5,151.0             | 123.7           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 3,258.8              | 3,200.9               | 57.83                   | 56.354            |         |                    |        |
| 14,000.0                                                                        | 7,613.0             | 5,151.0             | 5,151.0             | 125.6           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 3,323.3              | 3,264.7               | 58.56                   | 56.746            |         |                    |        |
| 14,100.0                                                                        | 7,613.2             | 5,151.0             | 5,151.0             | 127.5           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 3,389.5              | 3,330.2               | 59.30                   | 57.157            |         |                    |        |
| 14,200.0                                                                        | 7,613.4             | 5,151.0             | 5,151.0             | 129.4           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 3,457.4              | 3,397.3               | 60.04                   | 57.585            |         |                    |        |
| 14,300.0                                                                        | 7,613.6             | 5,151.0             | 5,151.0             | 131.3           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 3,526.8              | 3,466.0               | 60.78                   | 58.028            |         |                    |        |
| 14,400.0                                                                        | 7,613.9             | 5,151.0             | 5,151.0             | 133.2           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 3,597.6              | 3,536.1               | 61.52                   | 58.483            |         |                    |        |
| 14,469.1                                                                        | 7,614.0             | 5,151.0             | 5,151.0             | 134.5           | 103.0       | -4.78                 | -4,291.7                          | 276.5      | 3,647.3              | 3,585.3               | 62.03                   | 58.804            |         |                    |        |

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad Sec.32-T1N-R67W    | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design         |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         | Offset Site Error: |         | 0.0 ft |
|-----------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|--------------------|---------|--------|
| Survey Program: 0-MWD |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         | Offset Well Error: |         | 0.0 ft |
| Reference             |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                    | Warning |        |
| Measured Depth (ft)   | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor  |         |        |
| 0.0                   | 0.0                 | 0.0                 | 0.0                 | 0.0             | 0.0         | 89.99                 | 0.0                               | 58.8       | 58.8                 |                       |                         |                    |         |        |
| 100.0                 | 100.0               | 100.0               | 100.0               | 0.1             | 0.1         | 89.99                 | 0.0                               | 58.8       | 58.8                 | 58.6                  | 0.22                    | 261.732            |         |        |
| 200.0                 | 200.0               | 200.0               | 200.0               | 0.3             | 0.3         | 89.99                 | 0.0                               | 58.8       | 58.8                 | 58.2                  | 0.67                    | 87.244             |         |        |
| 300.0                 | 300.0               | 300.0               | 300.0               | 0.6             | 0.6         | 89.99                 | 0.0                               | 58.8       | 58.8                 | 57.7                  | 1.12                    | 52.346             |         |        |
| 400.0                 | 400.0               | 400.0               | 400.0               | 0.8             | 0.8         | 89.99                 | 0.0                               | 58.8       | 58.8                 | 57.3                  | 1.57                    | 37.390             |         |        |
| 500.0                 | 500.0               | 500.0               | 500.0               | 1.0             | 1.0         | 89.99                 | 0.0                               | 58.8       | 58.8                 | 56.8                  | 2.02                    | 29.081             |         |        |
| 600.0                 | 600.0               | 600.0               | 600.0               | 1.2             | 1.2         | 89.99                 | 0.0                               | 58.8       | 58.8                 | 56.4                  | 2.47                    | 23.794             |         |        |
| 700.0                 | 700.0               | 700.0               | 700.0               | 1.5             | 1.5         | 89.99                 | 0.0                               | 58.8       | 58.8                 | 55.9                  | 2.92                    | 20.133             |         |        |
| 800.0                 | 800.0               | 800.0               | 800.0               | 1.7             | 1.7         | 89.99                 | 0.0                               | 58.8       | 58.8                 | 55.5                  | 3.37                    | 17.449             |         |        |
| 900.0                 | 900.0               | 900.0               | 900.0               | 1.9             | 1.9         | 89.99                 | 0.0                               | 58.8       | 58.8                 | 55.0                  | 3.82                    | 15.396             |         |        |
| 1,000.0               | 1,000.0             | 1,000.0             | 1,000.0             | 2.1             | 2.1         | 89.99                 | 0.0                               | 58.8       | 58.8                 | 54.6                  | 4.27                    | 13.775             |         |        |
| 1,100.0               | 1,100.0             | 1,100.0             | 1,100.0             | 2.4             | 2.4         | 89.99                 | 0.0                               | 58.8       | 58.8                 | 54.1                  | 4.72                    | 12.463             |         |        |
| 1,200.0               | 1,200.0             | 1,200.0             | 1,200.0             | 2.6             | 2.6         | 89.99                 | 0.0                               | 58.8       | 58.8                 | 53.7                  | 5.17                    | 11.380             | CC, ES  |        |
| 1,300.0               | 1,300.0             | 1,298.1             | 1,298.1             | 2.8             | 2.8         | 89.43                 | 0.6                               | 60.4       | 60.4                 | 54.8                  | 5.61                    | 10.780             |         |        |
| 1,400.0               | 1,400.0             | 1,395.9             | 1,395.8             | 3.0             | 3.0         | 87.93                 | 2.4                               | 65.1       | 65.3                 | 59.2                  | 6.04                    | 10.813             |         |        |
| 1,500.0               | 1,500.0             | 1,493.3             | 1,492.8             | 3.3             | 3.2         | 85.87                 | 5.3                               | 72.9       | 73.4                 | 67.0                  | 6.47                    | 11.346             |         |        |
| 1,600.0               | 1,600.0             | 1,590.0             | 1,588.8             | 3.5             | 3.5         | 83.67                 | 9.3                               | 83.7       | 84.9                 | 78.0                  | 6.91                    | 12.291             |         |        |
| 1,700.0               | 1,700.0             | 1,685.8             | 1,683.5             | 3.7             | 3.7         | 81.60                 | 14.4                              | 97.3       | 99.8                 | 92.4                  | 7.35                    | 13.576             |         |        |
| 1,800.0               | 1,800.0             | 1,783.9             | 1,780.1             | 3.9             | 4.0         | 79.83                 | 20.3                              | 113.2      | 116.7                | 108.9                 | 7.79                    | 14.975             |         |        |
| 1,900.0               | 1,900.0             | 1,882.4             | 1,877.1             | 4.2             | 4.3         | 78.51                 | 26.3                              | 129.2      | 133.8                | 125.6                 | 8.24                    | 16.235             |         |        |
| 2,000.0               | 2,000.0             | 1,980.9             | 1,974.1             | 4.4             | 4.6         | 77.48                 | 32.2                              | 145.2      | 150.9                | 142.2                 | 8.69                    | 17.364             |         |        |
| 2,100.0               | 2,100.0             | 2,079.5             | 2,071.3             | 4.6             | 4.9         | 61.96                 | 38.2                              | 161.2      | 167.3                | 158.2                 | 9.13                    | 18.325             |         |        |
| 2,200.0               | 2,199.8             | 2,178.4             | 2,168.6             | 4.8             | 5.3         | 62.45                 | 44.2                              | 177.2      | 182.1                | 172.5                 | 9.58                    | 19.003             |         |        |
| 2,300.0               | 2,299.5             | 2,277.4             | 2,266.1             | 5.1             | 5.6         | 63.76                 | 50.2                              | 193.3      | 195.3                | 185.3                 | 10.04                   | 19.457             |         |        |
| 2,400.0               | 2,398.7             | 2,376.4             | 2,363.6             | 5.3             | 6.0         | 65.80                 | 56.2                              | 209.3      | 207.3                | 196.8                 | 10.51                   | 19.728             |         |        |
| 2,500.0               | 2,497.9             | 2,475.3             | 2,461.1             | 5.5             | 6.3         | 67.92                 | 62.2                              | 225.4      | 219.3                | 208.3                 | 11.00                   | 19.942             |         |        |
| 2,600.0               | 2,597.1             | 2,574.3             | 2,558.6             | 5.8             | 6.7         | 69.82                 | 68.2                              | 241.4      | 231.6                | 220.1                 | 11.50                   | 20.137             |         |        |
| 2,700.0               | 2,696.3             | 2,673.3             | 2,656.0             | 6.0             | 7.0         | 71.52                 | 74.1                              | 257.5      | 244.1                | 232.1                 | 12.02                   | 20.313             |         |        |
| 2,800.0               | 2,795.5             | 2,772.2             | 2,753.5             | 6.3             | 7.4         | 73.06                 | 80.1                              | 273.5      | 256.8                | 244.2                 | 12.54                   | 20.471             |         |        |
| 2,900.0               | 2,894.7             | 2,871.2             | 2,851.0             | 6.6             | 7.8         | 74.46                 | 86.1                              | 289.6      | 269.6                | 256.6                 | 13.08                   | 20.613             |         |        |
| 3,000.0               | 2,993.9             | 2,970.2             | 2,948.4             | 6.8             | 8.1         | 75.73                 | 92.1                              | 305.6      | 282.6                | 269.0                 | 13.63                   | 20.739             |         |        |
| 3,100.0               | 3,093.0             | 3,069.1             | 3,045.9             | 7.1             | 8.5         | 76.88                 | 98.1                              | 321.7      | 295.8                | 281.6                 | 14.18                   | 20.852             |         |        |
| 3,200.0               | 3,192.2             | 3,168.1             | 3,143.4             | 7.4             | 8.9         | 77.94                 | 104.1                             | 337.8      | 309.0                | 294.2                 | 14.75                   | 20.953             |         |        |
| 3,300.0               | 3,291.4             | 3,267.1             | 3,240.9             | 7.7             | 9.3         | 78.91                 | 110.1                             | 353.8      | 322.3                | 307.0                 | 15.32                   | 21.044             |         |        |
| 3,400.0               | 3,390.6             | 3,366.0             | 3,338.3             | 8.0             | 9.6         | 79.80                 | 116.1                             | 369.9      | 335.7                | 319.8                 | 15.89                   | 21.125             |         |        |
| 3,500.0               | 3,489.8             | 3,465.0             | 3,435.8             | 8.2             | 10.0        | 80.63                 | 122.1                             | 385.9      | 349.2                | 332.7                 | 16.47                   | 21.197             |         |        |
| 3,600.0               | 3,589.0             | 3,564.0             | 3,533.3             | 8.5             | 10.4        | 81.39                 | 128.1                             | 402.0      | 362.8                | 345.7                 | 17.06                   | 21.263             |         |        |
| 3,700.0               | 3,688.2             | 3,662.9             | 3,630.7             | 8.8             | 10.8        | 82.10                 | 134.0                             | 418.0      | 376.4                | 358.7                 | 17.65                   | 21.322             |         |        |
| 3,800.0               | 3,787.4             | 3,761.9             | 3,728.2             | 9.1             | 11.2        | 82.76                 | 140.0                             | 434.1      | 390.0                | 371.8                 | 18.25                   | 21.375             |         |        |
| 3,900.0               | 3,886.5             | 3,860.9             | 3,825.7             | 9.4             | 11.5        | 83.37                 | 146.0                             | 450.1      | 403.8                | 384.9                 | 18.85                   | 21.423             |         |        |
| 4,000.0               | 3,985.7             | 3,959.8             | 3,923.2             | 9.7             | 11.9        | 83.95                 | 152.0                             | 466.2      | 417.5                | 398.1                 | 19.45                   | 21.467             |         |        |
| 4,100.0               | 4,085.0             | 4,058.8             | 4,020.6             | 10.0            | 12.3        | 84.57                 | 158.0                             | 482.2      | 431.3                | 411.3                 | 20.04                   | 21.525             |         |        |
| 4,200.0               | 4,184.5             | 4,157.8             | 4,118.1             | 10.2            | 12.7        | 84.91                 | 164.0                             | 498.3      | 445.5                | 424.9                 | 20.56                   | 21.672             |         |        |
| 4,300.0               | 4,284.4             | 4,256.7             | 4,215.5             | 10.4            | 13.1        | 84.81                 | 170.0                             | 514.3      | 459.9                | 438.9                 | 21.03                   | 21.872             |         |        |
| 4,400.0               | 4,384.3             | 4,355.4             | 4,312.7             | 10.6            | 13.5        | 84.33                 | 176.0                             | 530.3      | 474.7                | 453.3                 | 21.46                   | 22.126             |         |        |
| 4,500.0               | 4,484.3             | 4,453.9             | 4,409.7             | 10.8            | 13.8        | 98.32                 | 181.9                             | 546.3      | 489.9                | 468.0                 | 21.86                   | 22.412             |         |        |
| 4,600.0               | 4,584.3             | 4,552.4             | 4,506.7             | 11.0            | 14.2        | 97.38                 | 187.9                             | 562.3      | 505.2                | 482.9                 | 22.28                   | 22.673             |         |        |
| 4,700.0               | 4,684.3             | 4,650.8             | 4,603.7             | 11.2            | 14.6        | 96.49                 | 193.8                             | 578.3      | 520.6                | 497.9                 | 22.71                   | 22.928             |         |        |
| 4,800.0               | 4,784.3             | 4,749.3             | 4,700.7             | 11.4            | 15.0        | 95.66                 | 199.8                             | 594.3      | 536.1                | 513.0                 | 23.13                   | 23.177             |         |        |
| 4,900.0               | 4,884.3             | 4,847.8             | 4,797.8             | 11.6            | 15.4        | 94.87                 | 205.8                             | 610.2      | 551.8                | 528.2                 | 23.56                   | 23.421             |         |        |
| 5,000.0               | 4,984.3             | 4,946.3             | 4,894.8             | 11.8            | 15.8        | 94.12                 | 211.7                             | 626.2      | 567.5                | 543.5                 | 23.99                   | 23.658             |         |        |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad Sec.32-T1N-R67W    | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design         |                     | Jacobucci 1N67W32S Pad Sec.32-T1N-R67W - Jacobucci 32S-303 - Wellbore #1 - Plan #1 (10-8-14) |                     |                 |             |                       |                                   |            |                      |                       |                         | Offset Site Error: |  | 0.0 ft  |
|-----------------------|---------------------|----------------------------------------------------------------------------------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|--------------------|--|---------|
| Survey Program: 0-MWD |                     |                                                                                              |                     |                 |             |                       |                                   |            |                      |                       |                         | Offset Well Error: |  | 0.0 ft  |
| Reference             |                     | Offset                                                                                       |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                    |  | Warning |
| Measured Depth (ft)   | Vertical Depth (ft) | Measured Depth (ft)                                                                          | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor  |  |         |
| 5,100.0               | 5,084.3             | 5,044.8                                                                                      | 4,991.8             | 12.0            | 16.2        | 93.41                 | 217.7                             | 642.2      | 583.3                | 558.9                 | 24.42                   | 23.889             |  |         |
| 5,200.0               | 5,184.3             | 5,143.3                                                                                      | 5,088.8             | 12.2            | 16.5        | 92.75                 | 223.7                             | 658.2      | 599.3                | 574.4                 | 24.85                   | 24.115             |  |         |
| 5,300.0               | 5,284.3             | 5,241.8                                                                                      | 5,185.8             | 12.4            | 16.9        | 92.11                 | 229.6                             | 674.1      | 615.2                | 590.0                 | 25.28                   | 24.334             |  |         |
| 5,400.0               | 5,384.3             | 5,340.3                                                                                      | 5,282.8             | 12.6            | 17.3        | 91.51                 | 235.6                             | 690.1      | 631.3                | 605.6                 | 25.72                   | 24.547             |  |         |
| 5,500.0               | 5,484.3             | 5,459.3                                                                                      | 5,400.2             | 12.8            | 17.7        | 90.88                 | 242.2                             | 707.9      | 646.2                | 620.0                 | 26.16                   | 24.699             |  |         |
| 5,600.0               | 5,584.3             | 5,585.4                                                                                      | 5,525.5             | 13.0            | 18.0        | 90.40                 | 247.4                             | 721.8      | 657.2                | 630.6                 | 26.60                   | 24.707             |  |         |
| 5,700.0               | 5,684.3             | 5,712.6                                                                                      | 5,652.3             | 13.2            | 18.3        | 90.11                 | 250.7                             | 730.6      | 664.1                | 637.1                 | 27.03                   | 24.570             |  |         |
| 5,800.0               | 5,784.3             | 5,840.3                                                                                      | 5,780.0             | 13.4            | 18.5        | 90.00                 | 252.0                             | 734.1      | 666.8                | 639.4                 | 27.45                   | 24.291             |  |         |
| 5,900.0               | 5,884.3             | 5,944.7                                                                                      | 5,884.3             | 13.6            | 18.6        | 90.00                 | 252.0                             | 734.1      | 666.9                | 639.0                 | 27.85                   | 23.946             |  |         |
| 6,000.0               | 5,984.3             | 6,044.7                                                                                      | 5,984.3             | 13.9            | 18.8        | 90.00                 | 252.0                             | 734.1      | 666.9                | 638.6                 | 28.25                   | 23.607             |  |         |
| 6,100.0               | 6,084.3             | 6,144.7                                                                                      | 6,084.3             | 14.1            | 18.9        | 90.00                 | 252.0                             | 734.1      | 666.9                | 638.2                 | 28.65                   | 23.277             |  |         |
| 6,200.0               | 6,184.3             | 6,244.7                                                                                      | 6,184.3             | 14.3            | 19.1        | 90.00                 | 252.0                             | 734.1      | 666.9                | 637.8                 | 29.05                   | 22.954             |  |         |
| 6,300.0               | 6,284.3             | 6,344.7                                                                                      | 6,284.3             | 14.5            | 19.2        | 90.00                 | 252.0                             | 734.1      | 666.9                | 637.4                 | 29.46                   | 22.640             |  |         |
| 6,400.0               | 6,384.3             | 6,444.7                                                                                      | 6,384.3             | 14.7            | 19.4        | 90.00                 | 252.0                             | 734.1      | 666.9                | 637.0                 | 29.86                   | 22.333             |  |         |
| 6,500.0               | 6,484.3             | 6,544.7                                                                                      | 6,484.3             | 14.9            | 19.5        | 90.00                 | 252.0                             | 734.1      | 666.9                | 636.6                 | 30.27                   | 22.033             |  |         |
| 6,600.0               | 6,584.3             | 6,644.7                                                                                      | 6,584.3             | 15.1            | 19.7        | 90.00                 | 252.0                             | 734.1      | 666.9                | 636.2                 | 30.68                   | 21.741             |  |         |
| 6,700.0               | 6,684.3             | 6,744.7                                                                                      | 6,684.3             | 15.3            | 19.8        | 90.00                 | 252.0                             | 734.1      | 666.9                | 635.8                 | 31.08                   | 21.455             |  |         |
| 6,800.0               | 6,784.3             | 6,844.7                                                                                      | 6,784.3             | 15.6            | 20.0        | 90.00                 | 252.0                             | 734.1      | 666.9                | 635.4                 | 31.49                   | 21.176             |  |         |
| 6,850.5               | 6,834.9             | 6,895.2                                                                                      | 6,834.9             | 15.7            | 20.1        | -90.07                | 252.0                             | 734.1      | 666.9                | 635.2                 | 31.69                   | 21.046             |  |         |
| 6,900.0               | 6,884.3             | 6,944.7                                                                                      | 6,884.3             | 15.7            | 20.2        | -90.13                | 252.0                             | 734.1      | 666.9                | 635.0                 | 31.88                   | 20.920             |  |         |
| 7,000.0               | 6,983.4             | 7,044.7                                                                                      | 6,984.3             | 15.9            | 20.3        | -91.05                | 250.1                             | 734.1      | 667.0                | 634.9                 | 32.10                   | 20.776             |  |         |
| 7,100.0               | 7,080.0             | 7,146.4                                                                                      | 7,085.0             | 15.9            | 20.4        | -92.09                | 236.1                             | 734.1      | 667.3                | 635.1                 | 32.21                   | 20.715             |  |         |
| 7,200.0               | 7,172.5             | 7,249.8                                                                                      | 7,184.5             | 15.9            | 20.5        | -93.09                | 208.4                             | 734.1      | 667.9                | 635.6                 | 32.26                   | 20.704             |  |         |
| 7,300.0               | 7,259.1             | 7,355.0                                                                                      | 7,280.9             | 16.0            | 20.5        | -94.05                | 166.7                             | 734.1      | 668.6                | 636.3                 | 32.29                   | 20.706             |  |         |
| 7,400.0               | 7,338.6             | 7,461.8                                                                                      | 7,372.1             | 16.0            | 20.5        | -94.94                | 111.2                             | 734.1      | 669.4                | 637.0                 | 32.38                   | 20.676             |  |         |
| 7,500.0               | 7,409.5             | 7,570.3                                                                                      | 7,455.8             | 16.1            | 20.5        | -95.75                | 42.3                              | 734.1      | 670.3                | 637.7                 | 32.60                   | 20.560             |  |         |
| 7,600.0               | 7,470.5             | 7,680.2                                                                                      | 7,529.9             | 16.4            | 20.6        | -96.45                | -38.8                             | 734.1      | 671.2                | 638.1                 | 33.03                   | 20.318             |  |         |
| 7,700.0               | 7,520.8             | 7,791.5                                                                                      | 7,592.2             | 16.8            | 20.7        | -97.04                | -130.9                            | 734.1      | 672.0                | 638.2                 | 33.76                   | 19.905             |  |         |
| 7,800.0               | 7,559.3             | 7,903.9                                                                                      | 7,640.9             | 17.4            | 21.0        | -97.49                | -232.1                            | 734.1      | 672.6                | 637.8                 | 34.81                   | 19.321             |  |         |
| 7,900.0               | 7,585.4             | 8,017.2                                                                                      | 7,674.5             | 18.2            | 21.5        | -97.80                | -340.1                            | 734.1      | 673.1                | 636.9                 | 36.23                   | 18.581             |  |         |
| 8,000.0               | 7,598.8             | 8,130.9                                                                                      | 7,691.7             | 19.1            | 22.2        | -97.96                | -452.4                            | 734.1      | 673.4                | 635.4                 | 37.97                   | 17.734             |  |         |
| 8,100.0               | 7,600.7             | 8,238.1                                                                                      | 7,694.1             | 20.1            | 23.0        | -97.98                | -559.5                            | 734.1      | 673.4                | 633.4                 | 40.00                   | 16.837             |  |         |
| 8,200.0               | 7,600.9             | 8,338.1                                                                                      | 7,694.3             | 21.3            | 24.0        | -97.97                | -659.5                            | 734.1      | 673.4                | 631.2                 | 42.24                   | 15.943             |  |         |
| 8,300.0               | 7,601.1             | 8,438.1                                                                                      | 7,694.4             | 22.5            | 25.1        | -97.97                | -759.5                            | 734.1      | 673.4                | 628.7                 | 44.69                   | 15.069             |  |         |
| 8,400.0               | 7,601.3             | 8,538.1                                                                                      | 7,694.5             | 23.9            | 26.3        | -97.96                | -859.5                            | 734.1      | 673.4                | 626.1                 | 47.32                   | 14.231             |  |         |
| 8,500.0               | 7,601.5             | 8,638.1                                                                                      | 7,694.7             | 25.3            | 27.6        | -97.95                | -959.5                            | 734.1      | 673.4                | 623.3                 | 50.10                   | 13.441             |  |         |
| 8,600.0               | 7,601.7             | 8,738.1                                                                                      | 7,694.8             | 26.8            | 28.9        | -97.95                | -1,059.5                          | 734.1      | 673.4                | 620.4                 | 53.00                   | 12.704             |  |         |
| 8,700.0               | 7,601.9             | 8,838.1                                                                                      | 7,694.9             | 28.3            | 30.3        | -97.94                | -1,159.5                          | 734.1      | 673.4                | 617.3                 | 56.02                   | 12.020             |  |         |
| 8,800.0               | 7,602.1             | 8,938.1                                                                                      | 7,695.1             | 29.9            | 31.8        | -97.94                | -1,259.5                          | 734.1      | 673.3                | 614.2                 | 59.12                   | 11.389             |  |         |
| 8,900.0               | 7,602.3             | 9,038.1                                                                                      | 7,695.2             | 31.5            | 33.3        | -97.93                | -1,359.5                          | 734.1      | 673.3                | 611.0                 | 62.31                   | 10.807             |  |         |
| 9,000.0               | 7,602.5             | 9,138.1                                                                                      | 7,695.4             | 33.1            | 34.9        | -97.92                | -1,459.5                          | 734.1      | 673.3                | 607.8                 | 65.55                   | 10.271             |  |         |
| 9,100.0               | 7,602.8             | 9,238.1                                                                                      | 7,695.5             | 34.8            | 36.5        | -97.92                | -1,559.5                          | 734.1      | 673.3                | 604.5                 | 68.86                   | 9.778              |  |         |
| 9,200.0               | 7,603.0             | 9,338.1                                                                                      | 7,695.6             | 36.5            | 38.1        | -97.91                | -1,659.5                          | 734.1      | 673.3                | 601.1                 | 72.21                   | 9.324              |  |         |
| 9,300.0               | 7,603.2             | 9,438.1                                                                                      | 7,695.8             | 38.2            | 39.7        | -97.91                | -1,759.5                          | 734.1      | 673.3                | 597.7                 | 75.61                   | 8.905              |  |         |
| 9,400.0               | 7,603.4             | 9,538.1                                                                                      | 7,695.9             | 40.0            | 41.4        | -97.90                | -1,859.5                          | 734.1      | 673.3                | 594.2                 | 79.04                   | 8.518              |  |         |
| 9,500.0               | 7,603.6             | 9,638.1                                                                                      | 7,696.1             | 41.7            | 43.1        | -97.89                | -1,959.5                          | 734.1      | 673.3                | 590.8                 | 82.50                   | 8.160              |  |         |
| 9,600.0               | 7,603.8             | 9,738.1                                                                                      | 7,696.2             | 43.5            | 44.8        | -97.89                | -2,059.5                          | 734.1      | 673.3                | 587.3                 | 86.00                   | 7.829              |  |         |
| 9,700.0               | 7,604.0             | 9,838.1                                                                                      | 7,696.3             | 45.2            | 46.5        | -97.88                | -2,159.5                          | 734.1      | 673.3                | 583.7                 | 89.52                   | 7.521              |  |         |
| 9,800.0               | 7,604.2             | 9,938.1                                                                                      | 7,696.5             | 47.0            | 48.2        | -97.88                | -2,259.5                          | 734.1      | 673.2                | 580.2                 | 93.06                   | 7.235              |  |         |
| 9,900.0               | 7,604.4             | 10,038.1                                                                                     | 7,696.6             | 48.8            | 50.0        | -97.87                | -2,359.5                          | 734.1      | 673.2                | 576.6                 | 96.62                   | 6.968              |  |         |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad Sec.32-T1N-R67W    | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design         |                     | Jacobucci 1N67W32S Pad Sec.32-T1N-R67W - Jacobucci 32S-303 - Wellbore #1 - Plan #1 (10-8-14) |                     |                 |             |                       |                                   |            |                      |                       | Offset Site Error:      |                   | 0.0 ft  |
|-----------------------|---------------------|----------------------------------------------------------------------------------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|---------|
| Survey Program: 0-MWD |                     |                                                                                              |                     |                 |             |                       |                                   |            |                      |                       | Offset Well Error:      |                   | 0.0 ft  |
| Reference             |                     | Offset                                                                                       |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                   | Warning |
| Measured Depth (ft)   | Vertical Depth (ft) | Measured Depth (ft)                                                                          | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor |         |
| 10,000.0              | 7,604.6             | 10,138.1                                                                                     | 7,696.8             | 50.6            | 51.8        | -97.87                | -2,459.5                          | 734.1      | 673.2                | 573.0                 | 100.20                  | 6.719             |         |
| 10,100.0              | 7,604.8             | 10,238.1                                                                                     | 7,696.9             | 52.5            | 53.5        | -97.86                | -2,559.5                          | 734.1      | 673.2                | 569.4                 | 103.79                  | 6.486             |         |
| 10,200.0              | 7,605.1             | 10,338.1                                                                                     | 7,697.0             | 54.3            | 55.3        | -97.85                | -2,659.5                          | 734.1      | 673.2                | 565.8                 | 107.40                  | 6.268             |         |
| 10,300.0              | 7,605.3             | 10,438.1                                                                                     | 7,697.2             | 56.1            | 57.1        | -97.85                | -2,759.5                          | 734.1      | 673.2                | 562.2                 | 111.02                  | 6.064             |         |
| 10,400.0              | 7,605.5             | 10,538.1                                                                                     | 7,697.3             | 57.9            | 58.9        | -97.84                | -2,859.5                          | 734.1      | 673.2                | 558.5                 | 114.65                  | 5.871             |         |
| 10,500.0              | 7,605.7             | 10,638.1                                                                                     | 7,697.5             | 59.8            | 60.7        | -97.84                | -2,959.5                          | 734.1      | 673.2                | 554.9                 | 118.30                  | 5.691             |         |
| 10,600.0              | 7,605.9             | 10,738.1                                                                                     | 7,697.6             | 61.6            | 62.5        | -97.83                | -3,059.5                          | 734.1      | 673.2                | 551.2                 | 121.95                  | 5.520             |         |
| 10,700.0              | 7,606.1             | 10,838.1                                                                                     | 7,697.7             | 63.5            | 64.3        | -97.82                | -3,159.5                          | 734.1      | 673.2                | 547.5                 | 125.61                  | 5.359             |         |
| 10,800.0              | 7,606.3             | 10,938.1                                                                                     | 7,697.9             | 65.3            | 66.2        | -97.82                | -3,259.5                          | 734.1      | 673.1                | 543.9                 | 129.28                  | 5.207             |         |
| 10,900.0              | 7,606.5             | 11,038.1                                                                                     | 7,698.0             | 67.2            | 68.0        | -97.81                | -3,359.5                          | 734.1      | 673.1                | 540.2                 | 132.96                  | 5.063             |         |
| 11,000.0              | 7,606.7             | 11,138.1                                                                                     | 7,698.2             | 69.0            | 69.8        | -97.81                | -3,459.5                          | 734.1      | 673.1                | 536.5                 | 136.65                  | 4.926             |         |
| 11,100.0              | 7,606.9             | 11,238.1                                                                                     | 7,698.3             | 70.9            | 71.7        | -97.80                | -3,559.5                          | 734.1      | 673.1                | 532.8                 | 140.34                  | 4.796             |         |
| 11,200.0              | 7,607.2             | 11,338.1                                                                                     | 7,698.4             | 72.8            | 73.5        | -97.79                | -3,659.5                          | 734.1      | 673.1                | 529.1                 | 144.03                  | 4.673             |         |
| 11,300.0              | 7,607.4             | 11,438.1                                                                                     | 7,698.6             | 74.6            | 75.3        | -97.79                | -3,759.5                          | 734.1      | 673.1                | 525.4                 | 147.74                  | 4.556             |         |
| 11,400.0              | 7,607.6             | 11,538.1                                                                                     | 7,698.7             | 76.5            | 77.2        | -97.78                | -3,859.5                          | 734.1      | 673.1                | 521.6                 | 151.44                  | 4.444             |         |
| 11,500.0              | 7,607.8             | 11,638.1                                                                                     | 7,698.9             | 78.4            | 79.0        | -97.78                | -3,959.5                          | 734.1      | 673.1                | 517.9                 | 155.16                  | 4.338             |         |
| 11,600.0              | 7,608.0             | 11,738.1                                                                                     | 7,699.0             | 80.2            | 80.9        | -97.77                | -4,059.5                          | 734.1      | 673.1                | 514.2                 | 158.87                  | 4.237             |         |
| 11,700.0              | 7,608.2             | 11,838.1                                                                                     | 7,699.1             | 82.1            | 82.7        | -97.77                | -4,159.5                          | 734.1      | 673.1                | 510.5                 | 162.59                  | 4.140             |         |
| 11,800.0              | 7,608.4             | 11,938.1                                                                                     | 7,699.3             | 84.0            | 84.6        | -97.76                | -4,259.5                          | 734.1      | 673.1                | 506.7                 | 166.32                  | 4.047             |         |
| 11,900.0              | 7,608.6             | 12,038.1                                                                                     | 7,699.4             | 85.9            | 86.5        | -97.75                | -4,359.5                          | 734.1      | 673.0                | 503.0                 | 170.05                  | 3.958             |         |
| 12,000.0              | 7,608.8             | 12,138.1                                                                                     | 7,699.6             | 87.7            | 88.3        | -97.75                | -4,459.5                          | 734.1      | 673.0                | 499.3                 | 173.78                  | 3.873             |         |
| 12,100.0              | 7,609.0             | 12,238.1                                                                                     | 7,699.7             | 89.6            | 90.2        | -97.74                | -4,559.5                          | 734.1      | 673.0                | 495.5                 | 177.51                  | 3.791             |         |
| 12,200.0              | 7,609.2             | 12,338.1                                                                                     | 7,699.8             | 91.5            | 92.1        | -97.74                | -4,659.5                          | 734.1      | 673.0                | 491.8                 | 181.25                  | 3.713             |         |
| 12,300.0              | 7,609.5             | 12,438.1                                                                                     | 7,700.0             | 93.4            | 93.9        | -97.73                | -4,759.5                          | 734.1      | 673.0                | 488.0                 | 184.99                  | 3.638             |         |
| 12,400.0              | 7,609.7             | 12,538.1                                                                                     | 7,700.1             | 95.3            | 95.8        | -97.72                | -4,859.5                          | 734.1      | 673.0                | 484.3                 | 188.73                  | 3.566             |         |
| 12,500.0              | 7,609.9             | 12,638.1                                                                                     | 7,700.3             | 97.2            | 97.7        | -97.72                | -4,959.5                          | 734.1      | 673.0                | 480.5                 | 192.47                  | 3.497             |         |
| 12,600.0              | 7,610.1             | 12,738.1                                                                                     | 7,700.4             | 99.1            | 99.6        | -97.71                | -5,059.5                          | 734.1      | 673.0                | 476.8                 | 196.22                  | 3.430             |         |
| 12,700.0              | 7,610.3             | 12,838.1                                                                                     | 7,700.5             | 100.9           | 101.4       | -97.71                | -5,159.5                          | 734.1      | 673.0                | 473.0                 | 199.97                  | 3.365             |         |
| 12,800.0              | 7,610.5             | 12,938.1                                                                                     | 7,700.7             | 102.8           | 103.3       | -97.70                | -5,259.5                          | 734.1      | 673.0                | 469.2                 | 203.72                  | 3.303             |         |
| 12,900.0              | 7,610.7             | 13,038.1                                                                                     | 7,700.8             | 104.7           | 105.2       | -97.69                | -5,359.5                          | 734.1      | 673.0                | 465.5                 | 207.48                  | 3.244             |         |
| 13,000.0              | 7,610.9             | 13,138.1                                                                                     | 7,701.0             | 106.6           | 107.1       | -97.69                | -5,459.5                          | 734.1      | 672.9                | 461.7                 | 211.23                  | 3.186             |         |
| 13,100.0              | 7,611.1             | 13,238.1                                                                                     | 7,701.1             | 108.5           | 109.0       | -97.68                | -5,559.5                          | 734.1      | 672.9                | 457.9                 | 214.99                  | 3.130             |         |
| 13,200.0              | 7,611.3             | 13,338.1                                                                                     | 7,701.2             | 110.4           | 110.8       | -97.68                | -5,659.5                          | 734.1      | 672.9                | 454.2                 | 218.75                  | 3.076             |         |
| 13,300.0              | 7,611.6             | 13,438.1                                                                                     | 7,701.4             | 112.3           | 112.7       | -97.67                | -5,759.5                          | 734.1      | 672.9                | 450.4                 | 222.51                  | 3.024             |         |
| 13,400.0              | 7,611.8             | 13,538.1                                                                                     | 7,701.5             | 114.2           | 114.6       | -97.66                | -5,859.5                          | 734.1      | 672.9                | 446.6                 | 226.27                  | 2.974             |         |
| 13,500.0              | 7,612.0             | 13,638.1                                                                                     | 7,701.7             | 116.1           | 116.5       | -97.66                | -5,959.5                          | 734.1      | 672.9                | 442.9                 | 230.03                  | 2.925             |         |
| 13,600.0              | 7,612.2             | 13,738.1                                                                                     | 7,701.8             | 118.0           | 118.4       | -97.65                | -6,059.5                          | 734.1      | 672.9                | 439.1                 | 233.80                  | 2.878             |         |
| 13,700.0              | 7,612.4             | 13,838.1                                                                                     | 7,701.9             | 119.9           | 120.3       | -97.65                | -6,159.5                          | 734.1      | 672.9                | 435.3                 | 237.56                  | 2.832             |         |
| 13,800.0              | 7,612.6             | 13,938.1                                                                                     | 7,702.1             | 121.8           | 122.2       | -97.64                | -6,259.5                          | 734.1      | 672.9                | 431.5                 | 241.33                  | 2.788             |         |
| 13,900.0              | 7,612.8             | 14,038.1                                                                                     | 7,702.2             | 123.7           | 124.0       | -97.64                | -6,359.5                          | 734.1      | 672.9                | 427.8                 | 245.10                  | 2.745             |         |
| 14,000.0              | 7,613.0             | 14,138.1                                                                                     | 7,702.3             | 125.6           | 125.9       | -97.63                | -6,459.5                          | 734.1      | 672.8                | 424.0                 | 248.87                  | 2.704             |         |
| 14,100.0              | 7,613.2             | 14,238.1                                                                                     | 7,702.5             | 127.5           | 127.8       | -97.62                | -6,559.5                          | 734.1      | 672.8                | 420.2                 | 252.64                  | 2.663             |         |
| 14,200.0              | 7,613.4             | 14,338.1                                                                                     | 7,702.6             | 129.4           | 129.7       | -97.62                | -6,659.5                          | 734.1      | 672.8                | 416.4                 | 256.41                  | 2.624             |         |
| 14,300.0              | 7,613.6             | 14,438.1                                                                                     | 7,702.8             | 131.3           | 131.6       | -97.61                | -6,759.5                          | 734.1      | 672.8                | 412.6                 | 260.19                  | 2.586             |         |
| 14,400.0              | 7,613.9             | 14,538.1                                                                                     | 7,702.9             | 133.2           | 133.5       | -97.61                | -6,859.5                          | 734.1      | 672.8                | 408.9                 | 263.96                  | 2.549             |         |
| 14,450.5              | 7,614.0             | 14,588.5                                                                                     | 7,703.0             | 134.1           | 134.5       | -97.60                | -6,910.0                          | 734.1      | 672.8                | 406.9                 | 265.86                  | 2.531             |         |
| 14,469.1              | 7,614.0             | 14,603.6                                                                                     | 7,703.0             | 134.5           | 134.7       | -97.60                | -6,925.1                          | 734.1      | 672.8                | 406.3                 | 266.50                  | 2.525 SF          |         |

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad Sec.32-T1N-R67W    | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design         |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Site Error: |         | 0.0 ft |
|-----------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|---------|--------|
| Survey Program: 0-MWD |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Well Error: |         | 0.0 ft |
| Reference             |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                   |                    | Warning |        |
| Measured Depth (ft)   | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor |                    |         |        |
| 0.0                   | 0.0                 | 0.0                 | 0.0                 | 0.0             | 0.0         | -90.01                | 0.0                               | -28.0      | 28.0                 |                       |                         |                   |                    |         |        |
| 100.0                 | 100.0               | 100.0               | 100.0               | 0.1             | 0.1         | -90.01                | 0.0                               | -28.0      | 28.0                 | 27.8                  | 0.22                    | 124.634           |                    |         |        |
| 200.0                 | 200.0               | 200.0               | 200.0               | 0.3             | 0.3         | -90.01                | 0.0                               | -28.0      | 28.0                 | 27.3                  | 0.67                    | 41.545            |                    |         |        |
| 300.0                 | 300.0               | 300.0               | 300.0               | 0.6             | 0.6         | -90.01                | 0.0                               | -28.0      | 28.0                 | 26.9                  | 1.12                    | 24.927            |                    |         |        |
| 400.0                 | 400.0               | 400.0               | 400.0               | 0.8             | 0.8         | -90.01                | 0.0                               | -28.0      | 28.0                 | 26.4                  | 1.57                    | 17.805            |                    |         |        |
| 500.0                 | 500.0               | 500.0               | 500.0               | 1.0             | 1.0         | -90.01                | 0.0                               | -28.0      | 28.0                 | 26.0                  | 2.02                    | 13.848            |                    |         |        |
| 600.0                 | 600.0               | 600.0               | 600.0               | 1.2             | 1.2         | -90.01                | 0.0                               | -28.0      | 28.0                 | 25.5                  | 2.47                    | 11.330            |                    |         |        |
| 700.0                 | 700.0               | 700.0               | 700.0               | 1.5             | 1.5         | -90.01                | 0.0                               | -28.0      | 28.0                 | 25.1                  | 2.92                    | 9.587             |                    |         |        |
| 800.0                 | 800.0               | 800.0               | 800.0               | 1.7             | 1.7         | -90.01                | 0.0                               | -28.0      | 28.0                 | 24.6                  | 3.37                    | 8.309             |                    |         |        |
| 900.0                 | 900.0               | 900.0               | 900.0               | 1.9             | 1.9         | -90.01                | 0.0                               | -28.0      | 28.0                 | 24.2                  | 3.82                    | 7.331             |                    |         |        |
| 1,000.0               | 1,000.0             | 1,000.0             | 1,000.0             | 2.1             | 2.1         | -90.01                | 0.0                               | -28.0      | 28.0                 | 23.7                  | 4.27                    | 6.560             |                    |         |        |
| 1,100.0               | 1,100.0             | 1,100.0             | 1,100.0             | 2.4             | 2.4         | -90.01                | 0.0                               | -28.0      | 28.0                 | 23.3                  | 4.72                    | 5.935             |                    |         |        |
| 1,200.0               | 1,200.0             | 1,200.0             | 1,200.0             | 2.6             | 2.6         | -90.01                | 0.0                               | -28.0      | 28.0                 | 22.8                  | 5.17                    | 5.419             |                    |         |        |
| 1,300.0               | 1,300.0             | 1,300.0             | 1,300.0             | 2.8             | 2.8         | -90.01                | 0.0                               | -28.0      | 28.0                 | 22.4                  | 5.62                    | 4.985             |                    |         |        |
| 1,400.0               | 1,400.0             | 1,400.0             | 1,400.0             | 3.0             | 3.0         | -90.01                | 0.0                               | -28.0      | 28.0                 | 21.9                  | 6.07                    | 4.616             |                    |         |        |
| 1,500.0               | 1,500.0             | 1,500.0             | 1,500.0             | 3.3             | 3.3         | -90.01                | 0.0                               | -28.0      | 28.0                 | 21.5                  | 6.52                    | 4.298             |                    |         |        |
| 1,600.0               | 1,600.0             | 1,600.0             | 1,600.0             | 3.5             | 3.5         | -90.01                | 0.0                               | -28.0      | 28.0                 | 21.0                  | 6.97                    | 4.020 CC, ES      |                    |         |        |
| 1,700.0               | 1,700.0             | 1,699.3             | 1,699.3             | 3.7             | 3.7         | -87.60                | 1.2                               | -29.2      | 29.3                 | 21.8                  | 7.41                    | 3.947             |                    |         |        |
| 1,800.0               | 1,800.0             | 1,798.3             | 1,798.2             | 3.9             | 3.9         | -81.51                | 4.9                               | -32.8      | 33.2                 | 25.4                  | 7.85                    | 4.232             |                    |         |        |
| 1,900.0               | 1,900.0             | 1,896.9             | 1,896.4             | 4.2             | 4.1         | -74.18                | 11.0                              | -38.8      | 40.5                 | 32.2                  | 8.29                    | 4.878             |                    |         |        |
| 2,000.0               | 2,000.0             | 1,995.9             | 1,994.7             | 4.4             | 4.4         | -67.87                | 18.9                              | -46.5      | 50.5                 | 41.8                  | 8.74                    | 5.781             |                    |         |        |
| 2,100.0               | 2,100.0             | 2,095.3             | 2,093.5             | 4.6             | 4.6         | -79.96                | 27.0                              | -54.5      | 60.8                 | 51.7                  | 9.18                    | 6.626             |                    |         |        |
| 2,200.0               | 2,199.8             | 2,194.8             | 2,192.4             | 4.8             | 4.9         | -80.68                | 35.1                              | -62.4      | 70.6                 | 61.0                  | 9.63                    | 7.336             |                    |         |        |
| 2,300.0               | 2,299.5             | 2,294.3             | 2,291.2             | 5.1             | 5.1         | -83.67                | 43.2                              | -70.3      | 79.9                 | 69.9                  | 10.08                   | 7.933             |                    |         |        |
| 2,400.0               | 2,398.7             | 2,393.6             | 2,389.9             | 5.3             | 5.4         | -88.15                | 51.3                              | -78.3      | 89.3                 | 78.8                  | 10.54                   | 8.471             |                    |         |        |
| 2,500.0               | 2,497.9             | 2,492.9             | 2,488.5             | 5.5             | 5.7         | -92.29                | 59.4                              | -86.2      | 99.2                 | 88.1                  | 11.02                   | 8.996             |                    |         |        |
| 2,600.0               | 2,597.1             | 2,592.2             | 2,587.1             | 5.8             | 5.9         | -95.67                | 67.5                              | -94.1      | 109.5                | 97.9                  | 11.52                   | 9.503             |                    |         |        |
| 2,700.0               | 2,696.3             | 2,691.5             | 2,685.8             | 6.0             | 6.2         | -98.47                | 75.6                              | -102.0     | 120.0                | 108.0                 | 12.02                   | 9.986             |                    |         |        |
| 2,800.0               | 2,795.5             | 2,790.7             | 2,784.4             | 6.3             | 6.5         | -100.81               | 83.7                              | -109.9     | 130.9                | 118.3                 | 12.54                   | 10.441            |                    |         |        |
| 2,900.0               | 2,894.7             | 2,890.0             | 2,883.0             | 6.6             | 6.8         | -102.78               | 91.8                              | -117.8     | 141.9                | 128.8                 | 13.06                   | 10.868            |                    |         |        |
| 3,000.0               | 2,993.9             | 2,989.3             | 2,981.7             | 6.8             | 7.0         | -104.48               | 99.9                              | -125.8     | 153.1                | 139.5                 | 13.58                   | 11.267            |                    |         |        |
| 3,100.0               | 3,093.0             | 3,088.6             | 3,080.3             | 7.1             | 7.3         | -105.94               | 108.0                             | -133.7     | 164.3                | 150.2                 | 14.12                   | 11.639            |                    |         |        |
| 3,200.0               | 3,192.2             | 3,187.9             | 3,178.9             | 7.4             | 7.6         | -107.21               | 116.1                             | -141.6     | 175.7                | 161.0                 | 14.66                   | 11.987            |                    |         |        |
| 3,300.0               | 3,291.4             | 3,287.1             | 3,277.6             | 7.7             | 7.9         | -108.33               | 124.2                             | -149.5     | 187.1                | 171.9                 | 15.20                   | 12.312            |                    |         |        |
| 3,400.0               | 3,390.6             | 3,386.4             | 3,376.2             | 8.0             | 8.2         | -109.32               | 132.2                             | -157.4     | 198.6                | 182.9                 | 15.75                   | 12.615            |                    |         |        |
| 3,500.0               | 3,489.8             | 3,485.7             | 3,474.8             | 8.2             | 8.5         | -110.20               | 140.3                             | -165.3     | 210.2                | 193.9                 | 16.30                   | 12.898            |                    |         |        |
| 3,600.0               | 3,589.0             | 3,585.0             | 3,573.5             | 8.5             | 8.8         | -110.99               | 148.4                             | -173.3     | 221.8                | 204.9                 | 16.85                   | 13.163            |                    |         |        |
| 3,700.0               | 3,688.2             | 3,684.3             | 3,672.1             | 8.8             | 9.0         | -111.70               | 156.5                             | -181.2     | 233.4                | 216.0                 | 17.41                   | 13.411            |                    |         |        |
| 3,800.0               | 3,787.4             | 3,783.5             | 3,770.7             | 9.1             | 9.3         | -112.35               | 164.6                             | -189.1     | 245.1                | 227.1                 | 17.96                   | 13.644            |                    |         |        |
| 3,900.0               | 3,886.5             | 3,882.8             | 3,869.4             | 9.4             | 9.6         | -112.93               | 172.7                             | -197.0     | 256.8                | 238.3                 | 18.52                   | 13.863            |                    |         |        |
| 4,000.0               | 3,985.7             | 3,982.1             | 3,968.0             | 9.7             | 9.9         | -113.46               | 180.8                             | -204.9     | 268.5                | 249.4                 | 19.09                   | 14.069            |                    |         |        |
| 4,100.0               | 4,085.0             | 4,081.4             | 4,066.7             | 10.0            | 10.2        | -113.98               | 188.9                             | -212.8     | 280.1                | 260.4                 | 19.64                   | 14.261            |                    |         |        |
| 4,200.0               | 4,184.5             | 4,180.9             | 4,165.5             | 10.2            | 10.5        | -113.99               | 197.0                             | -220.8     | 290.4                | 270.3                 | 20.14                   | 14.422            |                    |         |        |
| 4,300.0               | 4,284.4             | 4,280.4             | 4,264.3             | 10.4            | 10.8        | -113.38               | 205.1                             | -228.7     | 299.4                | 278.8                 | 20.61                   | 14.528            |                    |         |        |
| 4,400.0               | 4,384.3             | 4,379.8             | 4,363.1             | 10.6            | 11.1        | -112.19               | 213.2                             | -236.6     | 307.1                | 286.0                 | 21.05                   | 14.590            |                    |         |        |
| 4,500.0               | 4,484.3             | 4,479.2             | 4,461.8             | 10.8            | 11.4        | -95.62                | 221.3                             | -244.6     | 314.1                | 292.6                 | 21.48                   | 14.626            |                    |         |        |
| 4,600.0               | 4,584.3             | 4,578.5             | 4,560.5             | 11.0            | 11.7        | -94.05                | 229.4                             | -252.5     | 321.4                | 299.5                 | 21.93                   | 14.658            |                    |         |        |
| 4,700.0               | 4,684.3             | 4,677.9             | 4,659.2             | 11.2            | 12.0        | -92.54                | 237.5                             | -260.4     | 328.9                | 306.6                 | 22.37                   | 14.702            |                    |         |        |
| 4,800.0               | 4,784.3             | 4,784.7             | 4,765.5             | 11.4            | 12.3        | -91.18                | 245.1                             | -267.9     | 335.7                | 312.9                 | 22.79                   | 14.734            |                    |         |        |
| 4,900.0               | 4,884.3             | 4,893.3             | 4,873.9             | 11.6            | 12.5        | -90.34                | 250.0                             | -272.7     | 340.1                | 316.9                 | 23.18                   | 14.668            |                    |         |        |
| 5,000.0               | 4,984.3             | 5,002.4             | 4,982.9             | 11.8            | 12.7        | -90.01                | 252.0                             | -274.6     | 341.8                | 318.2                 | 23.57                   | 14.499            |                    |         |        |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad Sec.32-T1N-R67W    | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design         |                     |                     |                     |                 |             |                       |                        |            |                      | Jacobucci 1N67W32S Pad Sec.32-T1N-R67W - Jacobucci 32S-343 - Wellbore #1 - Plan #2 (10-8-14) |                         |                   |  | Offset Site Error: |  | 0.0 ft |
|-----------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|------------------------|------------|----------------------|----------------------------------------------------------------------------------------------|-------------------------|-------------------|--|--------------------|--|--------|
| Survey Program: 0-MWD |                     |                     |                     |                 |             |                       |                        |            |                      |                                                                                              |                         |                   |  | Offset Well Error: |  | 0.0 ft |
| Reference             |                     | Offset              |                     | Semi Major Axis |             |                       | Distance               |            |                      |                                                                                              |                         |                   |  | Warning            |  |        |
| Measured Depth (ft)   | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre |            | Between Centres (ft) | Between Ellipses (ft)                                                                        | Minimum Separation (ft) | Separation Factor |  |                    |  |        |
|                       |                     |                     |                     |                 |             |                       | +N/-S (ft)             | +E/-W (ft) |                      |                                                                                              |                         |                   |  |                    |  |        |
| 5,100.0               | 5,084.3             | 5,103.8             | 5,084.3             | 12.0            | 12.8        | -90.00                | 252.0                  | -274.6     | 341.9                | 317.9                                                                                        | 23.96                   | 14.266            |  |                    |  |        |
| 5,200.0               | 5,184.3             | 5,203.8             | 5,184.3             | 12.2            | 13.0        | -90.00                | 252.0                  | -274.6     | 341.9                | 317.5                                                                                        | 24.37                   | 14.027            |  |                    |  |        |
| 5,300.0               | 5,284.3             | 5,303.8             | 5,284.3             | 12.4            | 13.2        | -90.00                | 252.0                  | -274.6     | 341.9                | 317.1                                                                                        | 24.78                   | 13.796            |  |                    |  |        |
| 5,400.0               | 5,384.3             | 5,403.8             | 5,384.3             | 12.6            | 13.4        | -90.00                | 252.0                  | -274.6     | 341.9                | 316.7                                                                                        | 25.19                   | 13.571            |  |                    |  |        |
| 5,500.0               | 5,484.3             | 5,503.8             | 5,484.3             | 12.8            | 13.6        | -90.00                | 252.0                  | -274.6     | 341.9                | 316.3                                                                                        | 25.60                   | 13.353            |  |                    |  |        |
| 5,600.0               | 5,584.3             | 5,603.8             | 5,584.3             | 13.0            | 13.8        | -90.00                | 252.0                  | -274.6     | 341.9                | 315.8                                                                                        | 26.01                   | 13.141            |  |                    |  |        |
| 5,700.0               | 5,684.3             | 5,703.8             | 5,684.3             | 13.2            | 14.0        | -90.00                | 252.0                  | -274.6     | 341.9                | 315.4                                                                                        | 26.43                   | 12.935            |  |                    |  |        |
| 5,800.0               | 5,784.3             | 5,803.8             | 5,784.3             | 13.4            | 14.2        | -90.00                | 252.0                  | -274.6     | 341.9                | 315.0                                                                                        | 26.84                   | 12.735            |  |                    |  |        |
| 5,900.0               | 5,884.3             | 5,903.8             | 5,884.3             | 13.6            | 14.4        | -90.00                | 252.0                  | -274.6     | 341.9                | 314.6                                                                                        | 27.26                   | 12.540            |  |                    |  |        |
| 6,000.0               | 5,984.3             | 6,003.8             | 5,984.3             | 13.9            | 14.6        | -90.00                | 252.0                  | -274.6     | 341.9                | 314.2                                                                                        | 27.68                   | 12.351            |  |                    |  |        |
| 6,100.0               | 6,084.3             | 6,103.8             | 6,084.3             | 14.1            | 14.8        | -90.00                | 252.0                  | -274.6     | 341.9                | 313.8                                                                                        | 28.10                   | 12.167            |  |                    |  |        |
| 6,200.0               | 6,184.3             | 6,203.8             | 6,184.3             | 14.3            | 15.0        | -90.00                | 252.0                  | -274.6     | 341.9                | 313.3                                                                                        | 28.52                   | 11.988            |  |                    |  |        |
| 6,300.0               | 6,284.3             | 6,303.8             | 6,284.3             | 14.5            | 15.2        | -90.00                | 252.0                  | -274.6     | 341.9                | 312.9                                                                                        | 28.94                   | 11.814            |  |                    |  |        |
| 6,400.0               | 6,384.3             | 6,403.8             | 6,384.3             | 14.7            | 15.4        | -90.00                | 252.0                  | -274.6     | 341.9                | 312.5                                                                                        | 29.36                   | 11.645            |  |                    |  |        |
| 6,500.0               | 6,484.3             | 6,503.8             | 6,484.3             | 14.9            | 15.6        | -90.00                | 252.0                  | -274.6     | 341.9                | 312.1                                                                                        | 29.78                   | 11.480            |  |                    |  |        |
| 6,600.0               | 6,584.3             | 6,603.8             | 6,584.3             | 15.1            | 15.8        | -90.00                | 252.0                  | -274.6     | 341.9                | 311.7                                                                                        | 30.20                   | 11.319            |  |                    |  |        |
| 6,700.0               | 6,684.3             | 6,703.8             | 6,684.3             | 15.3            | 16.0        | -90.00                | 252.0                  | -274.6     | 341.9                | 311.2                                                                                        | 30.63                   | 11.162            |  |                    |  |        |
| 6,800.0               | 6,784.3             | 6,803.8             | 6,784.3             | 15.6            | 16.2        | -90.00                | 252.0                  | -274.6     | 341.9                | 310.8                                                                                        | 31.05                   | 11.010            |  |                    |  |        |
| 6,850.7               | 6,835.0             | 6,854.5             | 6,835.0             | 15.7            | 16.3        | 90.13                 | 252.0                  | -274.6     | 341.9                | 310.6                                                                                        | 31.25                   | 10.938            |  |                    |  |        |
| 6,900.0               | 6,884.3             | 6,903.8             | 6,884.3             | 15.7            | 16.4        | 90.25                 | 252.0                  | -274.6     | 341.9                | 310.4                                                                                        | 31.45                   | 10.869            |  |                    |  |        |
| 7,000.0               | 6,983.4             | 7,003.5             | 6,984.0             | 15.9            | 16.6        | 92.22                 | 251.2                  | -274.6     | 342.1                | 310.4                                                                                        | 31.72                   | 10.784            |  |                    |  |        |
| 7,100.0               | 7,080.0             | 7,105.2             | 7,085.0             | 15.9            | 16.7        | 94.63                 | 239.7                  | -274.6     | 343.0                | 311.1                                                                                        | 31.85                   | 10.768            |  |                    |  |        |
| 7,200.0               | 7,172.5             | 7,209.0             | 7,185.5             | 15.9            | 16.8        | 96.97                 | 214.3                  | -274.6     | 344.4                | 312.6                                                                                        | 31.89                   | 10.802            |  |                    |  |        |
| 7,300.0               | 7,259.1             | 7,314.8             | 7,283.6             | 16.0            | 16.8        | 99.18                 | 174.6                  | -274.6     | 346.4                | 314.5                                                                                        | 31.87                   | 10.868            |  |                    |  |        |
| 7,400.0               | 7,338.6             | 7,422.8             | 7,377.0             | 16.0            | 16.9        | 101.24                | 120.6                  | -274.6     | 348.6                | 316.8                                                                                        | 31.86                   | 10.941            |  |                    |  |        |
| 7,500.0               | 7,409.5             | 7,532.9             | 7,463.3             | 16.1            | 16.9        | 103.09                | 52.5                   | -274.6     | 351.1                | 319.1                                                                                        | 31.95                   | 10.988            |  |                    |  |        |
| 7,600.0               | 7,470.5             | 7,644.8             | 7,540.2             | 16.4            | 16.9        | 104.69                | -28.7                  | -274.6     | 353.5                | 321.3                                                                                        | 32.22                   | 10.972            |  |                    |  |        |
| 7,700.0               | 7,520.8             | 7,758.5             | 7,605.4             | 16.8            | 17.1        | 106.01                | -121.8                 | -274.6     | 355.7                | 323.0                                                                                        | 32.77                   | 10.857            |  |                    |  |        |
| 7,800.0               | 7,559.3             | 7,873.6             | 7,656.5             | 17.4            | 17.6        | 107.04                | -224.8                 | -274.6     | 357.6                | 323.9                                                                                        | 33.67                   | 10.620            |  |                    |  |        |
| 7,900.0               | 7,585.4             | 7,989.9             | 7,691.8             | 18.2            | 18.4        | 107.73                | -335.4                 | -274.6     | 358.9                | 323.9                                                                                        | 34.97                   | 10.263            |  |                    |  |        |
| 8,000.0               | 7,598.8             | 8,106.8             | 7,710.1             | 19.1            | 19.4        | 108.09                | -450.8                 | -274.6     | 359.6                | 322.9                                                                                        | 36.68                   | 9.805             |  |                    |  |        |
| 8,100.0               | 7,600.7             | 8,215.7             | 7,712.6             | 20.1            | 20.5        | 108.12                | -559.6                 | -274.6     | 359.7                | 321.0                                                                                        | 38.69                   | 9.298             |  |                    |  |        |
| 8,200.0               | 7,600.9             | 8,315.7             | 7,712.6             | 21.3            | 21.6        | 108.10                | -659.6                 | -274.6     | 359.7                | 318.8                                                                                        | 40.87                   | 8.799             |  |                    |  |        |
| 8,300.0               | 7,601.1             | 8,415.7             | 7,712.7             | 22.5            | 22.9        | 108.08                | -759.6                 | -274.6     | 359.6                | 316.3                                                                                        | 43.26                   | 8.312             |  |                    |  |        |
| 8,400.0               | 7,601.3             | 8,515.7             | 7,712.8             | 23.9            | 24.2        | 108.06                | -859.6                 | -274.6     | 359.6                | 313.7                                                                                        | 45.82                   | 7.847             |  |                    |  |        |
| 8,500.0               | 7,601.5             | 8,615.7             | 7,712.8             | 25.3            | 25.6        | 108.04                | -959.6                 | -274.6     | 359.5                | 311.0                                                                                        | 48.53                   | 7.409             |  |                    |  |        |
| 8,600.0               | 7,601.7             | 8,715.7             | 7,712.9             | 26.8            | 27.1        | 108.02                | -1,059.6               | -274.6     | 359.5                | 308.1                                                                                        | 51.35                   | 7.000             |  |                    |  |        |
| 8,700.0               | 7,601.9             | 8,815.7             | 7,713.0             | 28.3            | 28.6        | 108.00                | -1,159.6               | -274.6     | 359.4                | 305.2                                                                                        | 54.28                   | 6.622             |  |                    |  |        |
| 8,800.0               | 7,602.1             | 8,915.7             | 7,713.0             | 29.9            | 30.1        | 107.98                | -1,259.6               | -274.6     | 359.4                | 302.1                                                                                        | 57.30                   | 6.273             |  |                    |  |        |
| 8,900.0               | 7,602.3             | 9,015.7             | 7,713.1             | 31.5            | 31.7        | 107.95                | -1,359.6               | -274.6     | 359.4                | 299.0                                                                                        | 60.39                   | 5.951             |  |                    |  |        |
| 9,000.0               | 7,602.5             | 9,115.7             | 7,713.2             | 33.1            | 33.4        | 107.93                | -1,459.6               | -274.6     | 359.3                | 295.8                                                                                        | 63.54                   | 5.655             |  |                    |  |        |
| 9,100.0               | 7,602.8             | 9,215.7             | 7,713.3             | 34.8            | 35.0        | 107.91                | -1,559.6               | -274.6     | 359.3                | 292.5                                                                                        | 66.75                   | 5.383             |  |                    |  |        |
| 9,200.0               | 7,603.0             | 9,315.7             | 7,713.3             | 36.5            | 36.7        | 107.89                | -1,659.6               | -274.6     | 359.2                | 289.2                                                                                        | 70.00                   | 5.132             |  |                    |  |        |
| 9,300.0               | 7,603.2             | 9,415.7             | 7,713.4             | 38.2            | 38.4        | 107.87                | -1,759.6               | -274.6     | 359.2                | 285.9                                                                                        | 73.29                   | 4.901             |  |                    |  |        |
| 9,400.0               | 7,603.4             | 9,515.7             | 7,713.5             | 40.0            | 40.1        | 107.85                | -1,859.6               | -274.6     | 359.1                | 282.5                                                                                        | 76.62                   | 4.687             |  |                    |  |        |
| 9,500.0               | 7,603.6             | 9,615.7             | 7,713.5             | 41.7            | 41.9        | 107.83                | -1,959.6               | -274.6     | 359.1                | 279.1                                                                                        | 79.99                   | 4.489             |  |                    |  |        |
| 9,600.0               | 7,603.8             | 9,715.7             | 7,713.6             | 43.5            | 43.6        | 107.81                | -2,059.6               | -274.6     | 359.1                | 275.7                                                                                        | 83.38                   | 4.306             |  |                    |  |        |
| 9,700.0               | 7,604.0             | 9,815.7             | 7,713.7             | 45.2            | 45.4        | 107.79                | -2,159.6               | -274.6     | 359.0                | 272.2                                                                                        | 86.79                   | 4.137             |  |                    |  |        |
| 9,800.0               | 7,604.2             | 9,915.7             | 7,713.7             | 47.0            | 47.2        | 107.76                | -2,259.6               | -274.6     | 359.0                | 268.7                                                                                        | 90.23                   | 3.979             |  |                    |  |        |
| 9,900.0               | 7,604.4             | 10,015.7            | 7,713.8             | 48.8            | 49.0        | 107.74                | -2,359.6               | -274.6     | 358.9                | 265.2                                                                                        | 93.68                   | 3.831             |  |                    |  |        |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad Sec.32-T1N-R67W    | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design Jacobucci 1N67W32S Pad Sec.32-T1N-R67W - Jacobucci 32S-343 - Wellbore #1 - Plan #2 (10-8-14) |                |                |                |                 |        |                   |                        |            |                 | Offset Site Error: |                    | 0.0 ft            |         |
|------------------------------------------------------------------------------------------------------------|----------------|----------------|----------------|-----------------|--------|-------------------|------------------------|------------|-----------------|--------------------|--------------------|-------------------|---------|
| Survey Program: 0-MWD                                                                                      |                |                |                |                 |        |                   |                        |            |                 | Offset Well Error: |                    | 0.0 ft            |         |
| Reference                                                                                                  |                | Offset         |                | Semi Major Axis |        | Distance          |                        |            |                 |                    |                    |                   |         |
| Measured Depth                                                                                             | Vertical Depth | Measured Depth | Vertical Depth | Reference       | Offset | Highside Toolface | Offset Wellbore Centre |            | Between Centres | Between Ellipses   | Minimum Separation | Separation Factor | Warning |
| (ft)                                                                                                       | (ft)           | (ft)           | (ft)           | (ft)            | (ft)   | (°)               | +N/-S (ft)             | +E/-W (ft) | (ft)            | (ft)               | (ft)               |                   |         |
| 10,000.0                                                                                                   | 7,604.6        | 10,115.7       | 7,713.9        | 50.6            | 50.8   | 107.72            | -2,459.6               | -274.6     | 358.9           | 261.7              | 97.16              | 3.694             |         |
| 10,100.0                                                                                                   | 7,604.8        | 10,215.7       | 7,713.9        | 52.5            | 52.6   | 107.70            | -2,559.6               | -274.6     | 358.8           | 258.2              | 100.64             | 3.565             |         |
| 10,200.0                                                                                                   | 7,605.1        | 10,315.7       | 7,714.0        | 54.3            | 54.4   | 107.68            | -2,659.6               | -274.6     | 358.8           | 254.7              | 104.15             | 3.445             |         |
| 10,300.0                                                                                                   | 7,605.3        | 10,415.7       | 7,714.1        | 56.1            | 56.2   | 107.66            | -2,759.6               | -274.6     | 358.8           | 251.1              | 107.66             | 3.332             |         |
| 10,400.0                                                                                                   | 7,605.5        | 10,515.7       | 7,714.2        | 57.9            | 58.1   | 107.64            | -2,859.6               | -274.6     | 358.7           | 247.5              | 111.19             | 3.226             |         |
| 10,500.0                                                                                                   | 7,605.7        | 10,615.7       | 7,714.2        | 59.8            | 59.9   | 107.62            | -2,959.6               | -274.6     | 358.7           | 243.9              | 114.73             | 3.126             |         |
| 10,600.0                                                                                                   | 7,605.9        | 10,715.7       | 7,714.3        | 61.6            | 61.7   | 107.59            | -3,059.6               | -274.6     | 358.6           | 240.3              | 118.28             | 3.032             |         |
| 10,700.0                                                                                                   | 7,606.1        | 10,815.7       | 7,714.4        | 63.5            | 63.6   | 107.57            | -3,159.6               | -274.6     | 358.6           | 236.7              | 121.84             | 2.943             |         |
| 10,800.0                                                                                                   | 7,606.3        | 10,915.7       | 7,714.4        | 65.3            | 65.4   | 107.55            | -3,259.6               | -274.6     | 358.5           | 233.1              | 125.40             | 2.859             |         |
| 10,900.0                                                                                                   | 7,606.5        | 11,015.7       | 7,714.5        | 67.2            | 67.3   | 107.53            | -3,359.6               | -274.6     | 358.5           | 229.5              | 128.98             | 2.780             |         |
| 11,000.0                                                                                                   | 7,606.7        | 11,115.7       | 7,714.6        | 69.0            | 69.1   | 107.51            | -3,459.6               | -274.6     | 358.5           | 225.9              | 132.56             | 2.704             |         |
| 11,100.0                                                                                                   | 7,606.9        | 11,215.7       | 7,714.6        | 70.9            | 71.0   | 107.49            | -3,559.6               | -274.6     | 358.4           | 222.3              | 136.15             | 2.633             |         |
| 11,200.0                                                                                                   | 7,607.2        | 11,315.7       | 7,714.7        | 72.8            | 72.8   | 107.47            | -3,659.6               | -274.6     | 358.4           | 218.6              | 139.74             | 2.565             |         |
| 11,300.0                                                                                                   | 7,607.4        | 11,415.7       | 7,714.8        | 74.6            | 74.7   | 107.44            | -3,759.6               | -274.6     | 358.3           | 215.0              | 143.34             | 2.500             |         |
| 11,400.0                                                                                                   | 7,607.6        | 11,515.7       | 7,714.9        | 76.5            | 76.6   | 107.42            | -3,859.6               | -274.6     | 358.3           | 211.3              | 146.94             | 2.438             |         |
| 11,500.0                                                                                                   | 7,607.8        | 11,615.7       | 7,714.9        | 78.4            | 78.4   | 107.40            | -3,959.6               | -274.6     | 358.3           | 207.7              | 150.55             | 2.380             |         |
| 11,600.0                                                                                                   | 7,608.0        | 11,715.7       | 7,715.0        | 80.2            | 80.3   | 107.38            | -4,059.6               | -274.6     | 358.2           | 204.0              | 154.17             | 2.323             |         |
| 11,700.0                                                                                                   | 7,608.2        | 11,815.7       | 7,715.1        | 82.1            | 82.2   | 107.36            | -4,159.6               | -274.6     | 358.2           | 200.4              | 157.79             | 2.270             |         |
| 11,800.0                                                                                                   | 7,608.4        | 11,915.7       | 7,715.1        | 84.0            | 84.0   | 107.34            | -4,259.6               | -274.6     | 358.1           | 196.7              | 161.41             | 2.219             |         |
| 11,900.0                                                                                                   | 7,608.6        | 12,015.7       | 7,715.2        | 85.9            | 85.9   | 107.32            | -4,359.6               | -274.6     | 358.1           | 193.0              | 165.04             | 2.170             |         |
| 12,000.0                                                                                                   | 7,608.8        | 12,115.7       | 7,715.3        | 87.7            | 87.8   | 107.30            | -4,459.6               | -274.6     | 358.0           | 189.4              | 168.67             | 2.123             |         |
| 12,100.0                                                                                                   | 7,609.0        | 12,215.7       | 7,715.3        | 89.6            | 89.7   | 107.27            | -4,559.6               | -274.6     | 358.0           | 185.7              | 172.31             | 2.078             |         |
| 12,200.0                                                                                                   | 7,609.2        | 12,315.7       | 7,715.4        | 91.5            | 91.6   | 107.25            | -4,659.6               | -274.6     | 358.0           | 182.0              | 175.94             | 2.035             |         |
| 12,300.0                                                                                                   | 7,609.5        | 12,415.7       | 7,715.5        | 93.4            | 93.4   | 107.23            | -4,759.6               | -274.6     | 357.9           | 178.3              | 179.59             | 1.993             |         |
| 12,400.0                                                                                                   | 7,609.7        | 12,515.7       | 7,715.6        | 95.3            | 95.3   | 107.21            | -4,859.6               | -274.6     | 357.9           | 174.6              | 183.23             | 1.953             |         |
| 12,500.0                                                                                                   | 7,609.9        | 12,615.7       | 7,715.6        | 97.2            | 97.2   | 107.19            | -4,959.6               | -274.6     | 357.8           | 171.0              | 186.88             | 1.915             |         |
| 12,600.0                                                                                                   | 7,610.1        | 12,715.7       | 7,715.7        | 99.1            | 99.1   | 107.17            | -5,059.6               | -274.6     | 357.8           | 167.3              | 190.53             | 1.878             |         |
| 12,700.0                                                                                                   | 7,610.3        | 12,815.7       | 7,715.8        | 100.9           | 101.0  | 107.15            | -5,159.6               | -274.6     | 357.8           | 163.6              | 194.18             | 1.842             |         |
| 12,800.0                                                                                                   | 7,610.5        | 12,915.7       | 7,715.8        | 102.8           | 102.9  | 107.12            | -5,259.6               | -274.6     | 357.7           | 159.9              | 197.84             | 1.808             |         |
| 12,900.0                                                                                                   | 7,610.7        | 13,015.7       | 7,715.9        | 104.7           | 104.8  | 107.10            | -5,359.6               | -274.6     | 357.7           | 156.2              | 201.50             | 1.775             |         |
| 13,000.0                                                                                                   | 7,610.9        | 13,115.7       | 7,716.0        | 106.6           | 106.7  | 107.08            | -5,459.6               | -274.6     | 357.6           | 152.5              | 205.16             | 1.743             |         |
| 13,100.0                                                                                                   | 7,611.1        | 13,215.7       | 7,716.0        | 108.5           | 108.5  | 107.06            | -5,559.6               | -274.6     | 357.6           | 148.8              | 208.82             | 1.712             |         |
| 13,200.0                                                                                                   | 7,611.3        | 13,315.7       | 7,716.1        | 110.4           | 110.4  | 107.04            | -5,659.6               | -274.6     | 357.5           | 145.1              | 212.48             | 1.683             |         |
| 13,300.0                                                                                                   | 7,611.6        | 13,415.7       | 7,716.2        | 112.3           | 112.3  | 107.02            | -5,759.6               | -274.6     | 357.5           | 141.4              | 216.15             | 1.654             |         |
| 13,400.0                                                                                                   | 7,611.8        | 13,515.7       | 7,716.3        | 114.2           | 114.2  | 107.00            | -5,859.6               | -274.6     | 357.5           | 137.6              | 219.82             | 1.626             |         |
| 13,500.0                                                                                                   | 7,612.0        | 13,615.7       | 7,716.3        | 116.1           | 116.1  | 106.98            | -5,959.6               | -274.6     | 357.4           | 133.9              | 223.49             | 1.599             |         |
| 13,600.0                                                                                                   | 7,612.2        | 13,715.7       | 7,716.4        | 118.0           | 118.0  | 106.95            | -6,059.6               | -274.6     | 357.4           | 130.2              | 227.17             | 1.573             |         |
| 13,700.0                                                                                                   | 7,612.4        | 13,815.7       | 7,716.5        | 119.9           | 119.9  | 106.93            | -6,159.6               | -274.6     | 357.3           | 126.5              | 230.84             | 1.548             |         |
| 13,800.0                                                                                                   | 7,612.6        | 13,915.7       | 7,716.5        | 121.8           | 121.8  | 106.91            | -6,259.6               | -274.6     | 357.3           | 122.8              | 234.52             | 1.524             |         |
| 13,900.0                                                                                                   | 7,612.8        | 14,015.7       | 7,716.6        | 123.7           | 123.7  | 106.89            | -6,359.6               | -274.6     | 357.3           | 119.1              | 238.20             | 1.500 Level 3     |         |
| 14,000.0                                                                                                   | 7,613.0        | 14,115.7       | 7,716.7        | 125.6           | 125.6  | 106.87            | -6,459.6               | -274.6     | 357.2           | 115.3              | 241.88             | 1.477 Level 3     |         |
| 14,100.0                                                                                                   | 7,613.2        | 14,215.7       | 7,716.7        | 127.5           | 127.5  | 106.85            | -6,559.6               | -274.6     | 357.2           | 111.6              | 245.56             | 1.455 Level 3     |         |
| 14,200.0                                                                                                   | 7,613.4        | 14,315.7       | 7,716.8        | 129.4           | 129.4  | 106.83            | -6,659.6               | -274.6     | 357.1           | 107.9              | 249.24             | 1.433 Level 3     |         |
| 14,300.0                                                                                                   | 7,613.6        | 14,415.7       | 7,716.9        | 131.3           | 131.3  | 106.80            | -6,759.6               | -274.6     | 357.1           | 104.2              | 252.93             | 1.412 Level 3     |         |
| 14,400.0                                                                                                   | 7,613.9        | 14,515.7       | 7,717.0        | 133.2           | 133.2  | 106.78            | -6,859.6               | -274.6     | 357.1           | 100.4              | 256.62             | 1.391 Level 3     |         |
| 14,469.1                                                                                                   | 7,614.0        | 14,584.7       | 7,717.0        | 134.5           | 134.5  | 106.77            | -6,928.6               | -274.6     | 357.0           | 97.9               | 259.16             | 1.378 Level 3, SF |         |

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad Sec.32-T1N-R67W    | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design         |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Site Error: | 0.0 ft  |
|-----------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|---------|
| Survey Program: 0-MWD |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Well Error: | 0.0 ft  |
| Reference             |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                   |                    | Warning |
| Measured Depth (ft)   | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor |                    |         |
| 0.0                   | 0.0                 | 0.0                 | 0.0                 | 0.0             | 0.0         | 90.04                 | 0.0                               | 28.0       | 28.0                 |                       |                         |                   |                    |         |
| 100.0                 | 100.0               | 100.0               | 100.0               | 0.1             | 0.1         | 90.04                 | 0.0                               | 28.0       | 28.0                 | 27.8                  | 0.22                    | 124.635           |                    |         |
| 200.0                 | 200.0               | 200.0               | 200.0               | 0.3             | 0.3         | 90.04                 | 0.0                               | 28.0       | 28.0                 | 27.3                  | 0.67                    | 41.545            |                    |         |
| 300.0                 | 300.0               | 300.0               | 300.0               | 0.6             | 0.6         | 90.04                 | 0.0                               | 28.0       | 28.0                 | 26.9                  | 1.12                    | 24.927            |                    |         |
| 400.0                 | 400.0               | 400.0               | 400.0               | 0.8             | 0.8         | 90.04                 | 0.0                               | 28.0       | 28.0                 | 26.4                  | 1.57                    | 17.805            |                    |         |
| 500.0                 | 500.0               | 500.0               | 500.0               | 1.0             | 1.0         | 90.04                 | 0.0                               | 28.0       | 28.0                 | 26.0                  | 2.02                    | 13.848            |                    |         |
| 600.0                 | 600.0               | 600.0               | 600.0               | 1.2             | 1.2         | 90.04                 | 0.0                               | 28.0       | 28.0                 | 25.5                  | 2.47                    | 11.330            |                    |         |
| 700.0                 | 700.0               | 700.0               | 700.0               | 1.5             | 1.5         | 90.04                 | 0.0                               | 28.0       | 28.0                 | 25.1                  | 2.92                    | 9.587             |                    |         |
| 800.0                 | 800.0               | 800.0               | 800.0               | 1.7             | 1.7         | 90.04                 | 0.0                               | 28.0       | 28.0                 | 24.6                  | 3.37                    | 8.309             |                    |         |
| 900.0                 | 900.0               | 900.0               | 900.0               | 1.9             | 1.9         | 90.04                 | 0.0                               | 28.0       | 28.0                 | 24.2                  | 3.82                    | 7.331             |                    |         |
| 1,000.0               | 1,000.0             | 1,000.0             | 1,000.0             | 2.1             | 2.1         | 90.04                 | 0.0                               | 28.0       | 28.0                 | 23.7                  | 4.27                    | 6.560             |                    |         |
| 1,100.0               | 1,100.0             | 1,100.0             | 1,100.0             | 2.4             | 2.4         | 90.04                 | 0.0                               | 28.0       | 28.0                 | 23.3                  | 4.72                    | 5.935             |                    |         |
| 1,200.0               | 1,200.0             | 1,200.0             | 1,200.0             | 2.6             | 2.6         | 90.04                 | 0.0                               | 28.0       | 28.0                 | 22.8                  | 5.17                    | 5.419             |                    |         |
| 1,300.0               | 1,300.0             | 1,300.0             | 1,300.0             | 2.8             | 2.8         | 90.04                 | 0.0                               | 28.0       | 28.0                 | 22.4                  | 5.62                    | 4.985             |                    |         |
| 1,400.0               | 1,400.0             | 1,400.0             | 1,400.0             | 3.0             | 3.0         | 90.04                 | 0.0                               | 28.0       | 28.0                 | 21.9                  | 6.07                    | 4.616 CC, ES      |                    |         |
| 1,500.0               | 1,500.0             | 1,499.1             | 1,499.1             | 3.3             | 3.3         | 88.58                 | 0.7                               | 29.6       | 29.6                 | 23.1                  | 6.51                    | 4.544             |                    |         |
| 1,600.0               | 1,600.0             | 1,597.9             | 1,597.8             | 3.5             | 3.5         | 84.99                 | 3.0                               | 34.1       | 34.4                 | 27.4                  | 6.94                    | 4.947             |                    |         |
| 1,700.0               | 1,700.0             | 1,696.3             | 1,695.8             | 3.7             | 3.7         | 80.84                 | 6.7                               | 41.8       | 42.5                 | 35.1                  | 7.38                    | 5.759             |                    |         |
| 1,800.0               | 1,800.0             | 1,794.0             | 1,792.8             | 3.9             | 3.9         | 77.17                 | 11.9                              | 52.3       | 54.1                 | 46.3                  | 7.82                    | 6.920             |                    |         |
| 1,900.0               | 1,900.0             | 1,893.0             | 1,890.8             | 4.2             | 4.2         | 74.47                 | 17.9                              | 64.5       | 67.6                 | 59.4                  | 8.26                    | 8.182             |                    |         |
| 2,000.0               | 2,000.0             | 1,992.1             | 1,988.9             | 4.4             | 4.4         | 72.68                 | 24.0                              | 76.8       | 81.2                 | 72.5                  | 8.71                    | 9.327             |                    |         |
| 2,100.0               | 2,100.0             | 2,091.2             | 2,087.2             | 4.6             | 4.7         | 57.13                 | 30.0                              | 89.1       | 93.9                 | 84.8                  | 9.14                    | 10.275            |                    |         |
| 2,200.0               | 2,199.8             | 2,190.6             | 2,185.6             | 4.8             | 5.0         | 58.26                 | 36.0                              | 101.4      | 104.8                | 95.2                  | 9.58                    | 10.934            |                    |         |
| 2,300.0               | 2,299.5             | 2,290.1             | 2,284.1             | 5.1             | 5.3         | 60.68                 | 42.1                              | 113.7      | 113.9                | 103.9                 | 10.03                   | 11.361            |                    |         |
| 2,400.0               | 2,398.7             | 2,389.5             | 2,382.6             | 5.3             | 5.6         | 64.15                 | 48.1                              | 126.0      | 121.9                | 111.4                 | 10.49                   | 11.614            |                    |         |
| 2,500.0               | 2,497.9             | 2,488.9             | 2,481.0             | 5.5             | 5.9         | 67.57                 | 54.2                              | 138.3      | 129.9                | 118.9                 | 10.98                   | 11.835            |                    |         |
| 2,600.0               | 2,597.1             | 2,588.3             | 2,579.4             | 5.8             | 6.2         | 70.59                 | 60.2                              | 150.6      | 138.3                | 126.9                 | 11.47                   | 12.058            |                    |         |
| 2,700.0               | 2,696.3             | 2,687.7             | 2,677.9             | 6.0             | 6.5         | 73.25                 | 66.3                              | 162.9      | 147.1                | 135.1                 | 11.98                   | 12.276            |                    |         |
| 2,800.0               | 2,795.5             | 2,787.1             | 2,776.3             | 6.3             | 6.8         | 75.61                 | 72.3                              | 175.2      | 156.2                | 143.7                 | 12.51                   | 12.486            |                    |         |
| 2,900.0               | 2,894.7             | 2,886.5             | 2,874.8             | 6.6             | 7.1         | 77.71                 | 78.4                              | 187.5      | 165.5                | 152.4                 | 13.04                   | 12.687            |                    |         |
| 3,000.0               | 2,993.9             | 2,985.9             | 2,973.2             | 6.8             | 7.4         | 79.58                 | 84.4                              | 199.8      | 175.0                | 161.4                 | 13.59                   | 12.878            |                    |         |
| 3,100.0               | 3,093.0             | 3,085.2             | 3,071.7             | 7.1             | 7.7         | 81.26                 | 90.5                              | 212.1      | 184.6                | 170.5                 | 14.14                   | 13.057            |                    |         |
| 3,200.0               | 3,192.2             | 3,184.6             | 3,170.1             | 7.4             | 8.0         | 82.78                 | 96.5                              | 224.4      | 194.4                | 179.7                 | 14.70                   | 13.226            |                    |         |
| 3,300.0               | 3,291.4             | 3,284.0             | 3,268.5             | 7.7             | 8.4         | 84.14                 | 102.6                             | 236.7      | 204.4                | 189.1                 | 15.27                   | 13.385            |                    |         |
| 3,400.0               | 3,390.6             | 3,383.4             | 3,367.0             | 8.0             | 8.7         | 85.38                 | 108.6                             | 249.0      | 214.4                | 198.6                 | 15.84                   | 13.534            |                    |         |
| 3,500.0               | 3,489.8             | 3,482.8             | 3,465.4             | 8.2             | 9.0         | 86.51                 | 114.6                             | 261.3      | 224.5                | 208.1                 | 16.42                   | 13.674            |                    |         |
| 3,600.0               | 3,589.0             | 3,582.2             | 3,563.9             | 8.5             | 9.3         | 87.54                 | 120.7                             | 273.6      | 234.7                | 217.7                 | 17.00                   | 13.805            |                    |         |
| 3,700.0               | 3,688.2             | 3,681.6             | 3,662.3             | 8.8             | 9.7         | 88.49                 | 126.7                             | 285.9      | 245.0                | 227.4                 | 17.59                   | 13.929            |                    |         |
| 3,800.0               | 3,787.4             | 3,781.0             | 3,760.8             | 9.1             | 10.0        | 89.35                 | 132.8                             | 298.3      | 255.3                | 237.1                 | 18.18                   | 14.045            |                    |         |
| 3,900.0               | 3,886.5             | 3,880.4             | 3,859.2             | 9.4             | 10.3        | 90.16                 | 138.8                             | 310.6      | 265.7                | 246.9                 | 18.77                   | 14.154            |                    |         |
| 4,000.0               | 3,985.7             | 3,979.8             | 3,957.7             | 9.7             | 10.6        | 90.90                 | 144.9                             | 322.9      | 276.1                | 256.8                 | 19.37                   | 14.257            |                    |         |
| 4,100.0               | 4,085.0             | 4,079.2             | 4,056.1             | 10.0            | 11.0        | 91.60                 | 150.9                             | 335.2      | 286.6                | 266.6                 | 19.95                   | 14.366            |                    |         |
| 4,200.0               | 4,184.5             | 4,178.6             | 4,154.6             | 10.2            | 11.3        | 91.78                 | 157.0                             | 347.5      | 297.0                | 276.5                 | 20.45                   | 14.519            |                    |         |
| 4,300.0               | 4,284.4             | 4,278.0             | 4,253.1             | 10.4            | 11.6        | 91.30                 | 163.0                             | 359.8      | 307.3                | 286.4                 | 20.92                   | 14.691            |                    |         |
| 4,400.0               | 4,384.3             | 4,377.3             | 4,351.3             | 10.6            | 12.0        | 90.24                 | 169.1                             | 372.1      | 317.6                | 296.3                 | 21.33                   | 14.889            |                    |         |
| 4,500.0               | 4,484.3             | 4,476.3             | 4,449.4             | 10.8            | 12.3        | 103.64                | 175.1                             | 384.3      | 328.1                | 306.4                 | 21.73                   | 15.102            |                    |         |
| 4,600.0               | 4,584.3             | 4,575.4             | 4,547.5             | 11.0            | 12.6        | 102.15                | 181.1                             | 396.6      | 338.9                | 316.7                 | 22.14                   | 15.304            |                    |         |
| 4,700.0               | 4,684.3             | 4,674.4             | 4,645.6             | 11.2            | 13.0        | 100.75                | 187.1                             | 408.8      | 349.8                | 327.3                 | 22.56                   | 15.508            |                    |         |
| 4,800.0               | 4,784.3             | 4,773.4             | 4,743.7             | 11.4            | 13.3        | 99.44                 | 193.2                             | 421.1      | 361.0                | 338.0                 | 22.98                   | 15.713            |                    |         |
| 4,900.0               | 4,884.3             | 4,872.5             | 4,841.8             | 11.6            | 13.6        | 98.21                 | 199.2                             | 433.4      | 372.3                | 348.9                 | 23.39                   | 15.917            |                    |         |
| 5,000.0               | 4,984.3             | 4,971.5             | 4,939.9             | 11.8            | 14.0        | 97.05                 | 205.2                             | 445.6      | 383.8                | 360.0                 | 23.81                   | 16.121            |                    |         |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad Sec.32-T1N-R67W    | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design         |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Site Error: | 0.0ft   |
|-----------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|---------|
| Survey Program: 0-MWD |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Well Error: | 0.0ft   |
| Reference             |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                   |                    | Warning |
| Measured Depth (ft)   | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor |                    |         |
| 5,100.0               | 5,084.3             | 5,070.6             | 5,038.0             | 12.0            | 14.3        | 95.96                 | 211.2                             | 457.9      | 395.5                | 371.2                 | 24.23                   | 16.323            |                    |         |
| 5,200.0               | 5,184.3             | 5,169.6             | 5,136.1             | 12.2            | 14.6        | 94.93                 | 217.3                             | 470.1      | 407.3                | 382.6                 | 24.65                   | 16.523            |                    |         |
| 5,300.0               | 5,284.3             | 5,268.7             | 5,234.2             | 12.4            | 14.9        | 93.96                 | 223.3                             | 482.4      | 419.2                | 394.1                 | 25.07                   | 16.720            |                    |         |
| 5,400.0               | 5,384.3             | 5,367.7             | 5,332.3             | 12.6            | 15.3        | 93.04                 | 229.3                             | 494.7      | 431.2                | 405.7                 | 25.49                   | 16.914            |                    |         |
| 5,500.0               | 5,484.3             | 5,466.8             | 5,430.4             | 12.8            | 15.6        | 92.17                 | 235.3                             | 506.9      | 443.3                | 417.4                 | 25.92                   | 17.105            |                    |         |
| 5,600.0               | 5,584.3             | 5,569.7             | 5,532.4             | 13.0            | 15.9        | 91.33                 | 241.5                             | 519.6      | 455.4                | 429.0                 | 26.34                   | 17.288            |                    |         |
| 5,700.0               | 5,684.3             | 5,668.8             | 5,647.8             | 13.2            | 16.2        | 90.61                 | 247.1                             | 530.8      | 465.0                | 438.3                 | 26.76                   | 17.380            |                    |         |
| 5,800.0               | 5,784.3             | 5,802.6             | 5,764.3             | 13.4            | 16.5        | 90.18                 | 250.6                             | 537.9      | 471.1                | 443.9                 | 27.17                   | 17.342            |                    |         |
| 5,900.0               | 5,884.3             | 5,919.9             | 5,881.6             | 13.6            | 16.7        | 90.01                 | 252.0                             | 540.8      | 473.5                | 445.9                 | 27.57                   | 17.174            |                    |         |
| 6,000.0               | 5,984.3             | 6,022.7             | 5,984.3             | 13.9            | 16.8        | 90.00                 | 252.0                             | 540.8      | 473.6                | 445.6                 | 27.97                   | 16.931            |                    |         |
| 6,100.0               | 6,084.3             | 6,122.7             | 6,084.3             | 14.1            | 17.0        | 90.00                 | 252.0                             | 540.8      | 473.6                | 445.2                 | 28.38                   | 16.688            |                    |         |
| 6,200.0               | 6,184.3             | 6,222.7             | 6,184.3             | 14.3            | 17.2        | 90.00                 | 252.0                             | 540.8      | 473.6                | 444.8                 | 28.79                   | 16.451            |                    |         |
| 6,300.0               | 6,284.3             | 6,322.7             | 6,284.3             | 14.5            | 17.3        | 90.00                 | 252.0                             | 540.8      | 473.6                | 444.4                 | 29.19                   | 16.220            |                    |         |
| 6,400.0               | 6,384.3             | 6,422.7             | 6,384.3             | 14.7            | 17.5        | 90.00                 | 252.0                             | 540.8      | 473.6                | 443.9                 | 29.61                   | 15.995            |                    |         |
| 6,500.0               | 6,484.3             | 6,522.7             | 6,484.3             | 14.9            | 17.7        | 90.00                 | 252.0                             | 540.8      | 473.6                | 443.5                 | 30.02                   | 15.776            |                    |         |
| 6,600.0               | 6,584.3             | 6,622.7             | 6,584.3             | 15.1            | 17.9        | 90.00                 | 252.0                             | 540.8      | 473.6                | 443.1                 | 30.43                   | 15.562            |                    |         |
| 6,700.0               | 6,684.3             | 6,722.7             | 6,684.3             | 15.3            | 18.0        | 90.00                 | 252.0                             | 540.8      | 473.6                | 442.7                 | 30.84                   | 15.353            |                    |         |
| 6,800.0               | 6,784.3             | 6,822.7             | 6,784.3             | 15.6            | 18.2        | 90.00                 | 252.0                             | 540.8      | 473.6                | 442.3                 | 31.26                   | 15.149            |                    |         |
| 6,850.9               | 6,835.2             | 6,873.5             | 6,835.2             | 15.7            | 18.3        | -90.10                | 252.0                             | 540.8      | 473.6                | 442.1                 | 31.46                   | 15.054            |                    |         |
| 6,900.0               | 6,884.3             | 6,922.6             | 6,884.3             | 15.7            | 18.4        | -90.18                | 252.0                             | 540.8      | 473.6                | 441.9                 | 31.65                   | 14.963            |                    |         |
| 7,000.0               | 6,983.4             | 7,021.7             | 6,983.4             | 15.9            | 18.6        | -91.69                | 252.0                             | 540.8      | 473.8                | 441.9                 | 31.89                   | 14.858            |                    |         |
| 7,100.0               | 7,080.0             | 7,119.4             | 7,081.0             | 15.9            | 18.7        | -94.56                | 251.7                             | 540.8      | 475.2                | 443.2                 | 32.00                   | 14.850            |                    |         |
| 7,200.0               | 7,172.5             | 7,222.3             | 7,183.5             | 15.9            | 18.9        | -97.92                | 242.1                             | 540.8      | 478.5                | 446.5                 | 32.00                   | 14.952            |                    |         |
| 7,300.0               | 7,259.1             | 7,329.9             | 7,288.1             | 16.0            | 18.9        | -101.17               | 217.5                             | 540.8      | 483.5                | 451.5                 | 31.94                   | 15.138            |                    |         |
| 7,400.0               | 7,338.6             | 7,442.5             | 7,392.7             | 16.0            | 19.0        | -104.25               | 176.3                             | 540.8      | 489.7                | 457.9                 | 31.84                   | 15.380            |                    |         |
| 7,500.0               | 7,409.5             | 7,560.4             | 7,494.7             | 16.1            | 19.0        | -107.10               | 117.1                             | 540.8      | 496.8                | 465.0                 | 31.77                   | 15.636            |                    |         |
| 7,600.0               | 7,470.5             | 7,684.0             | 7,590.3             | 16.4            | 19.0        | -109.64               | 39.1                              | 540.8      | 504.1                | 472.3                 | 31.81                   | 15.848            |                    |         |
| 7,700.0               | 7,520.8             | 7,813.0             | 7,675.4             | 16.8            | 19.1        | -111.80               | -57.6                             | 540.8      | 511.1                | 479.1                 | 32.05                   | 15.945            |                    |         |
| 7,800.0               | 7,559.3             | 7,946.9             | 7,745.2             | 17.4            | 19.3        | -113.50               | -171.7                            | 540.8      | 517.1                | 484.5                 | 32.63                   | 15.848            |                    |         |
| 7,900.0               | 7,585.4             | 8,084.9             | 7,795.2             | 18.2            | 19.9        | -114.68               | -300.1                            | 540.8      | 521.5                | 487.8                 | 33.63                   | 15.505            |                    |         |
| 8,000.0               | 7,598.8             | 8,225.5             | 7,821.6             | 19.1            | 20.8        | -115.29               | -438.0                            | 540.8      | 523.8                | 488.7                 | 35.12                   | 14.916            |                    |         |
| 8,100.0               | 7,600.7             | 8,346.0             | 7,825.4             | 20.1            | 21.9        | -115.39               | -558.4                            | 540.8      | 524.2                | 487.2                 | 36.98                   | 14.174            |                    |         |
| 8,200.0               | 7,600.9             | 8,446.0             | 7,826.0             | 21.3            | 23.0        | -115.43               | -658.4                            | 540.8      | 524.3                | 485.3                 | 39.02                   | 13.437            |                    |         |
| 8,300.0               | 7,601.1             | 8,546.0             | 7,826.6             | 22.5            | 24.1        | -115.46               | -758.4                            | 540.8      | 524.5                | 483.2                 | 41.26                   | 12.712            |                    |         |
| 8,400.0               | 7,601.3             | 8,646.0             | 7,827.1             | 23.9            | 25.4        | -115.50               | -858.4                            | 540.8      | 524.6                | 481.0                 | 43.66                   | 12.016            |                    |         |
| 8,500.0               | 7,601.5             | 8,746.0             | 7,827.7             | 25.3            | 26.7        | -115.53               | -958.4                            | 540.8      | 524.8                | 478.6                 | 46.21                   | 11.358            |                    |         |
| 8,600.0               | 7,601.7             | 8,846.0             | 7,828.2             | 26.8            | 28.1        | -115.56               | -1,058.4                          | 540.8      | 524.9                | 476.1                 | 48.87                   | 10.742            |                    |         |
| 8,700.0               | 7,601.9             | 8,946.0             | 7,828.8             | 28.3            | 29.6        | -115.60               | -1,158.4                          | 540.8      | 525.1                | 473.5                 | 51.63                   | 10.171            |                    |         |
| 8,800.0               | 7,602.1             | 9,046.0             | 7,829.4             | 29.9            | 31.1        | -115.63               | -1,258.4                          | 540.8      | 525.2                | 470.8                 | 54.47                   | 9.642             |                    |         |
| 8,900.0               | 7,602.3             | 9,146.0             | 7,829.9             | 31.5            | 32.6        | -115.67               | -1,358.4                          | 540.8      | 525.4                | 468.0                 | 57.39                   | 9.155             |                    |         |
| 9,000.0               | 7,602.5             | 9,246.0             | 7,830.5             | 33.1            | 34.2        | -115.70               | -1,458.4                          | 540.8      | 525.6                | 465.2                 | 60.36                   | 8.706             |                    |         |
| 9,100.0               | 7,602.8             | 9,346.0             | 7,831.0             | 34.8            | 35.8        | -115.74               | -1,558.4                          | 540.8      | 525.7                | 462.3                 | 63.39                   | 8.293             |                    |         |
| 9,200.0               | 7,603.0             | 9,446.0             | 7,831.6             | 36.5            | 37.5        | -115.77               | -1,658.4                          | 540.8      | 525.9                | 459.4                 | 66.46                   | 7.912             |                    |         |
| 9,300.0               | 7,603.2             | 9,546.0             | 7,832.1             | 38.2            | 39.2        | -115.80               | -1,758.4                          | 540.8      | 526.0                | 456.4                 | 69.57                   | 7.560             |                    |         |
| 9,400.0               | 7,603.4             | 9,646.0             | 7,832.7             | 40.0            | 40.8        | -115.84               | -1,858.4                          | 540.8      | 526.2                | 453.4                 | 72.72                   | 7.236             |                    |         |
| 9,500.0               | 7,603.6             | 9,746.0             | 7,833.3             | 41.7            | 42.6        | -115.87               | -1,958.4                          | 540.8      | 526.3                | 450.4                 | 75.89                   | 6.935             |                    |         |
| 9,600.0               | 7,603.8             | 9,846.0             | 7,833.8             | 43.5            | 44.3        | -115.91               | -2,058.4                          | 540.8      | 526.5                | 447.4                 | 79.09                   | 6.657             |                    |         |
| 9,700.0               | 7,604.0             | 9,946.0             | 7,834.4             | 45.2            | 46.0        | -115.94               | -2,158.4                          | 540.8      | 526.6                | 444.3                 | 82.31                   | 6.398             |                    |         |
| 9,800.0               | 7,604.2             | 10,046.0            | 7,834.9             | 47.0            | 47.8        | -115.98               | -2,258.4                          | 540.8      | 526.8                | 441.2                 | 85.55                   | 6.158             |                    |         |
| 9,900.0               | 7,604.4             | 10,146.0            | 7,835.5             | 48.8            | 49.5        | -116.01               | -2,358.4                          | 540.8      | 526.9                | 438.1                 | 88.80                   | 5.934             |                    |         |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad Sec.32-T1N-R67W    | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design         |                     |                     |                     |                 |             |                       |                                   |            |                      | Jacobucci 1N67W32S Pad Sec.32-T1N-R67W - Jacobucci 32S-423 - Wellbore #1 - Plan #2 (10-8-14) |                         |                   |  | Offset Site Error: |  | 0.0 ft |
|-----------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|----------------------------------------------------------------------------------------------|-------------------------|-------------------|--|--------------------|--|--------|
| Survey Program: 0-MWD |                     |                     |                     |                 |             |                       |                                   |            |                      |                                                                                              |                         |                   |  | Offset Well Error: |  | 0.0 ft |
| Reference             |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                                                                                              |                         |                   |  | Warning            |  |        |
| Measured Depth (ft)   | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft)                                                                        | Minimum Separation (ft) | Separation Factor |  |                    |  |        |
| 10,000.0              | 7,604.6             | 10,246.0            | 7,836.1             | 50.6            | 51.3        | -116.04               | -2,458.4                          | 540.8      | 527.1                | 435.0                                                                                        | 92.07                   | 5.725             |  |                    |  |        |
| 10,100.0              | 7,604.8             | 10,346.0            | 7,836.6             | 52.5            | 53.1        | -116.08               | -2,558.4                          | 540.8      | 527.2                | 431.9                                                                                        | 95.36                   | 5.529             |  |                    |  |        |
| 10,200.0              | 7,605.1             | 10,446.0            | 7,837.2             | 54.3            | 54.9        | -116.11               | -2,658.4                          | 540.8      | 527.4                | 428.7                                                                                        | 98.65                   | 5.346             |  |                    |  |        |
| 10,300.0              | 7,605.3             | 10,546.0            | 7,837.7             | 56.1            | 56.7        | -116.15               | -2,758.4                          | 540.8      | 527.5                | 425.6                                                                                        | 101.96                  | 5.174             |  |                    |  |        |
| 10,400.0              | 7,605.5             | 10,646.0            | 7,838.3             | 57.9            | 58.5        | -116.18               | -2,858.4                          | 540.8      | 527.7                | 422.4                                                                                        | 105.27                  | 5.013             |  |                    |  |        |
| 10,500.0              | 7,605.7             | 10,746.0            | 7,838.8             | 59.8            | 60.3        | -116.21               | -2,958.4                          | 540.8      | 527.8                | 419.2                                                                                        | 108.59                  | 4.861             |  |                    |  |        |
| 10,600.0              | 7,605.9             | 10,846.0            | 7,839.4             | 61.6            | 62.2        | -116.25               | -3,058.4                          | 540.8      | 528.0                | 416.1                                                                                        | 111.93                  | 4.717             |  |                    |  |        |
| 10,700.0              | 7,606.1             | 10,946.0            | 7,840.0             | 63.5            | 64.0        | -116.28               | -3,158.4                          | 540.8      | 528.2                | 412.9                                                                                        | 115.26                  | 4.582             |  |                    |  |        |
| 10,800.0              | 7,606.3             | 11,046.0            | 7,840.5             | 65.3            | 65.8        | -116.32               | -3,258.4                          | 540.8      | 528.3                | 409.7                                                                                        | 118.61                  | 4.454             |  |                    |  |        |
| 10,900.0              | 7,606.5             | 11,146.0            | 7,841.1             | 67.2            | 67.7        | -116.35               | -3,358.4                          | 540.8      | 528.5                | 406.5                                                                                        | 121.95                  | 4.333             |  |                    |  |        |
| 11,000.0              | 7,606.7             | 11,246.0            | 7,841.6             | 69.0            | 69.5        | -116.38               | -3,458.3                          | 540.8      | 528.6                | 403.3                                                                                        | 125.31                  | 4.219             |  |                    |  |        |
| 11,100.0              | 7,606.9             | 11,346.0            | 7,842.2             | 70.9            | 71.3        | -116.42               | -3,558.3                          | 540.8      | 528.8                | 400.1                                                                                        | 128.66                  | 4.110             |  |                    |  |        |
| 11,200.0              | 7,607.2             | 11,446.0            | 7,842.8             | 72.8            | 73.2        | -116.45               | -3,658.3                          | 540.8      | 528.9                | 396.9                                                                                        | 132.02                  | 4.006             |  |                    |  |        |
| 11,300.0              | 7,607.4             | 11,546.0            | 7,843.3             | 74.6            | 75.0        | -116.49               | -3,758.3                          | 540.8      | 529.1                | 393.7                                                                                        | 135.39                  | 3.908             |  |                    |  |        |
| 11,400.0              | 7,607.6             | 11,646.0            | 7,843.9             | 76.5            | 76.9        | -116.52               | -3,858.3                          | 540.8      | 529.2                | 390.5                                                                                        | 138.76                  | 3.814             |  |                    |  |        |
| 11,500.0              | 7,607.8             | 11,746.0            | 7,844.4             | 78.4            | 78.8        | -116.55               | -3,958.3                          | 540.8      | 529.4                | 387.3                                                                                        | 142.12                  | 3.725             |  |                    |  |        |
| 11,600.0              | 7,608.0             | 11,846.0            | 7,845.0             | 80.2            | 80.6        | -116.59               | -4,058.3                          | 540.8      | 529.5                | 384.1                                                                                        | 145.50                  | 3.640             |  |                    |  |        |
| 11,700.0              | 7,608.2             | 11,946.0            | 7,845.5             | 82.1            | 82.5        | -116.62               | -4,158.3                          | 540.8      | 529.7                | 380.8                                                                                        | 148.87                  | 3.558             |  |                    |  |        |
| 11,800.0              | 7,608.4             | 12,046.0            | 7,846.1             | 84.0            | 84.3        | -116.65               | -4,258.3                          | 540.8      | 529.9                | 377.6                                                                                        | 152.25                  | 3.480             |  |                    |  |        |
| 11,900.0              | 7,608.6             | 12,146.0            | 7,846.7             | 85.9            | 86.2        | -116.69               | -4,358.3                          | 540.8      | 530.0                | 374.4                                                                                        | 155.62                  | 3.406             |  |                    |  |        |
| 12,000.0              | 7,608.8             | 12,246.0            | 7,847.2             | 87.7            | 88.1        | -116.72               | -4,458.3                          | 540.8      | 530.2                | 371.2                                                                                        | 159.00                  | 3.334             |  |                    |  |        |
| 12,100.0              | 7,609.0             | 12,346.0            | 7,847.8             | 89.6            | 90.0        | -116.76               | -4,558.3                          | 540.8      | 530.3                | 368.0                                                                                        | 162.38                  | 3.266             |  |                    |  |        |
| 12,200.0              | 7,609.2             | 12,446.0            | 7,848.3             | 91.5            | 91.8        | -116.79               | -4,658.3                          | 540.8      | 530.5                | 364.7                                                                                        | 165.76                  | 3.200             |  |                    |  |        |
| 12,300.0              | 7,609.5             | 12,546.0            | 7,848.9             | 93.4            | 93.7        | -116.82               | -4,758.3                          | 540.8      | 530.6                | 361.5                                                                                        | 169.14                  | 3.137             |  |                    |  |        |
| 12,400.0              | 7,609.7             | 12,646.0            | 7,849.5             | 95.3            | 95.6        | -116.86               | -4,858.3                          | 540.8      | 530.8                | 358.3                                                                                        | 172.53                  | 3.077             |  |                    |  |        |
| 12,500.0              | 7,609.9             | 12,746.0            | 7,850.0             | 97.2            | 97.5        | -116.89               | -4,958.3                          | 540.8      | 531.0                | 355.1                                                                                        | 175.91                  | 3.018             |  |                    |  |        |
| 12,600.0              | 7,610.1             | 12,846.0            | 7,850.6             | 99.1            | 99.3        | -116.92               | -5,058.3                          | 540.8      | 531.1                | 351.8                                                                                        | 179.29                  | 2.962             |  |                    |  |        |
| 12,700.0              | 7,610.3             | 12,946.0            | 7,851.1             | 100.9           | 101.2       | -116.96               | -5,158.3                          | 540.8      | 531.3                | 348.6                                                                                        | 182.67                  | 2.908             |  |                    |  |        |
| 12,800.0              | 7,610.5             | 13,046.0            | 7,851.7             | 102.8           | 103.1       | -116.99               | -5,258.3                          | 540.8      | 531.4                | 345.4                                                                                        | 186.06                  | 2.856             |  |                    |  |        |
| 12,900.0              | 7,610.7             | 13,146.0            | 7,852.2             | 104.7           | 105.0       | -117.02               | -5,358.3                          | 540.8      | 531.6                | 342.2                                                                                        | 189.44                  | 2.806             |  |                    |  |        |
| 13,000.0              | 7,610.9             | 13,246.0            | 7,852.8             | 106.6           | 106.9       | -117.06               | -5,458.3                          | 540.8      | 531.8                | 338.9                                                                                        | 192.82                  | 2.758             |  |                    |  |        |
| 13,100.0              | 7,611.1             | 13,346.0            | 7,853.4             | 108.5           | 108.8       | -117.09               | -5,558.3                          | 540.8      | 531.9                | 335.7                                                                                        | 196.21                  | 2.711             |  |                    |  |        |
| 13,200.0              | 7,611.3             | 13,446.0            | 7,853.9             | 110.4           | 110.6       | -117.12               | -5,658.3                          | 540.8      | 532.1                | 332.5                                                                                        | 199.59                  | 2.666             |  |                    |  |        |
| 13,300.0              | 7,611.6             | 13,546.0            | 7,854.5             | 112.3           | 112.5       | -117.16               | -5,758.3                          | 540.8      | 532.2                | 329.3                                                                                        | 202.97                  | 2.622             |  |                    |  |        |
| 13,400.0              | 7,611.8             | 13,646.0            | 7,855.0             | 114.2           | 114.4       | -117.19               | -5,858.3                          | 540.8      | 532.4                | 326.0                                                                                        | 206.35                  | 2.580             |  |                    |  |        |
| 13,500.0              | 7,612.0             | 13,746.0            | 7,855.6             | 116.1           | 116.3       | -117.22               | -5,958.3                          | 540.8      | 532.6                | 322.8                                                                                        | 209.74                  | 2.539             |  |                    |  |        |
| 13,600.0              | 7,612.2             | 13,846.0            | 7,856.2             | 118.0           | 118.2       | -117.26               | -6,058.3                          | 540.8      | 532.7                | 319.6                                                                                        | 213.12                  | 2.500             |  |                    |  |        |
| 13,700.0              | 7,612.4             | 13,946.0            | 7,856.7             | 119.9           | 120.1       | -117.29               | -6,158.3                          | 540.8      | 532.9                | 316.4                                                                                        | 216.50                  | 2.461             |  |                    |  |        |
| 13,800.0              | 7,612.6             | 14,046.0            | 7,857.3             | 121.8           | 122.0       | -117.32               | -6,258.3                          | 540.8      | 533.0                | 313.2                                                                                        | 219.88                  | 2.424             |  |                    |  |        |
| 13,900.0              | 7,612.8             | 14,146.0            | 7,857.8             | 123.7           | 123.9       | -117.36               | -6,358.3                          | 540.8      | 533.2                | 309.9                                                                                        | 223.26                  | 2.388             |  |                    |  |        |
| 14,000.0              | 7,613.0             | 14,246.0            | 7,858.4             | 125.6           | 125.8       | -117.39               | -6,458.3                          | 540.8      | 533.4                | 306.7                                                                                        | 226.63                  | 2.353             |  |                    |  |        |
| 14,100.0              | 7,613.2             | 14,346.0            | 7,859.0             | 127.5           | 127.7       | -117.42               | -6,558.3                          | 540.8      | 533.5                | 303.5                                                                                        | 230.01                  | 2.319             |  |                    |  |        |
| 14,200.0              | 7,613.4             | 14,446.0            | 7,859.5             | 129.4           | 129.6       | -117.46               | -6,658.3                          | 540.8      | 533.7                | 300.3                                                                                        | 233.39                  | 2.287             |  |                    |  |        |
| 14,300.0              | 7,613.6             | 14,546.0            | 7,860.1             | 131.3           | 131.5       | -117.49               | -6,758.3                          | 540.8      | 533.8                | 297.1                                                                                        | 236.77                  | 2.255             |  |                    |  |        |
| 14,400.0              | 7,613.9             | 14,646.0            | 7,860.6             | 133.2           | 133.3       | -117.52               | -6,858.3                          | 540.8      | 534.0                | 293.9                                                                                        | 240.14                  | 2.224             |  |                    |  |        |
| 14,469.1              | 7,614.0             | 14,712.8            | 7,861.0             | 134.5           | 134.6       | -117.55               | -6,925.1                          | 540.8      | 534.1                | 291.7                                                                                        | 242.39                  | 2.204 SF          |  |                    |  |        |

|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

Reference Depths are relative to WELL @ 5074.0ft (RKB - 15')

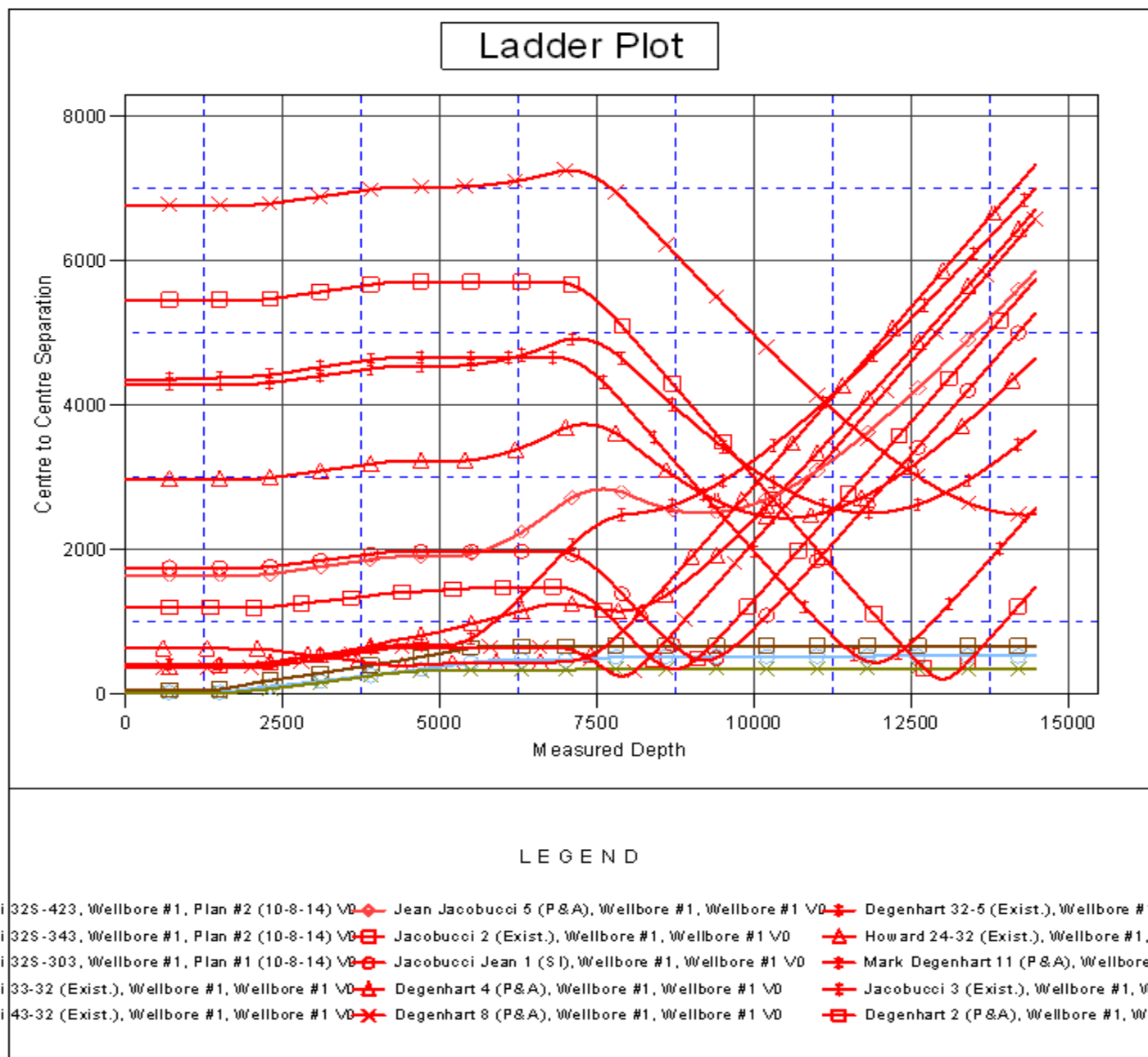
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Jacobucci 32S-203

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.38°



|                           |                                           |                                     |                             |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>           | PETROLEUM DEVELOPMENT CORP Weld County CO | <b>Local Co-ordinate Reference:</b> | Well Jacobucci 32S-203      |
| <b>Project:</b>           | SEC.32-T1N-R67W                           | <b>TVD Reference:</b>               | WELL @ 5074.0ft (RKB - 15') |
| <b>Reference Site:</b>    | Jacobucci 1N67W32S Pad<br>Sec.32-T1N-R67W | <b>MD Reference:</b>                | WELL @ 5074.0ft (RKB - 15') |
| <b>Site Error:</b>        | 0.0ft                                     | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>    | Jacobucci 32S-203                         | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Well Error:</b>        | 0.0ft                                     | <b>Output errors are at</b>         | 2.00 sigma                  |
| <b>Reference Wellbore</b> | Wellbore #1                               | <b>Database:</b>                    | Landmark                    |
| <b>Reference Design:</b>  | Plan #2 (10-8-14)                         | <b>Offset TVD Reference:</b>        | Offset Datum                |

Reference Depths are relative to WELL @ 5074.0ft (RKB - 15')

Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Jacobucci 32S-203

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.38°

