

PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Loloff Farms 26I-312**

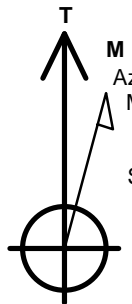
Surface Location: Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
 Ground Elevation: 4678.0

| +N/-S | +E/-W | Northing | Easting | Latitude | Longitude | Slot |
|-------|-------|------------|------------|-----------|-------------|------|
| 0.0 | 0.0 | 1376854.64 | 3271600.86 | 40.363770 | -104.525310 | |

Ensign Rig #123 RKB - 15' WELL @ 4693.0ft (Ensign Rig #123 RKB - 15')

WELLBORE TARGET DETAILS

| Name | TVD | +N/-S | +E/-W | Shape |
|--------------------------------|--------|-------|--------|-------|
| SHL 236'FSL & 290'FWL, Sec.26 | 1.0 | 0.0 | 0.0 | Point |
| BHL 405'FSL & 2143'FWL, Sec.25 | 6650.0 | 179.6 | 7131.1 | Point |



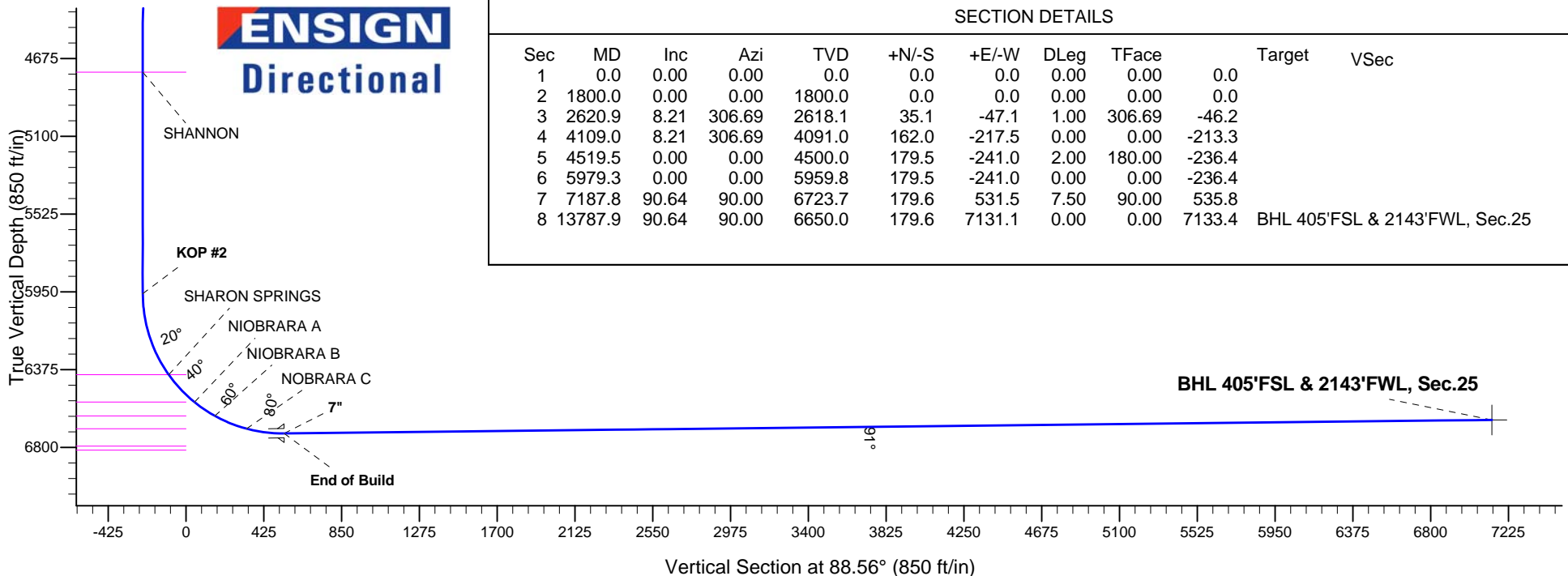
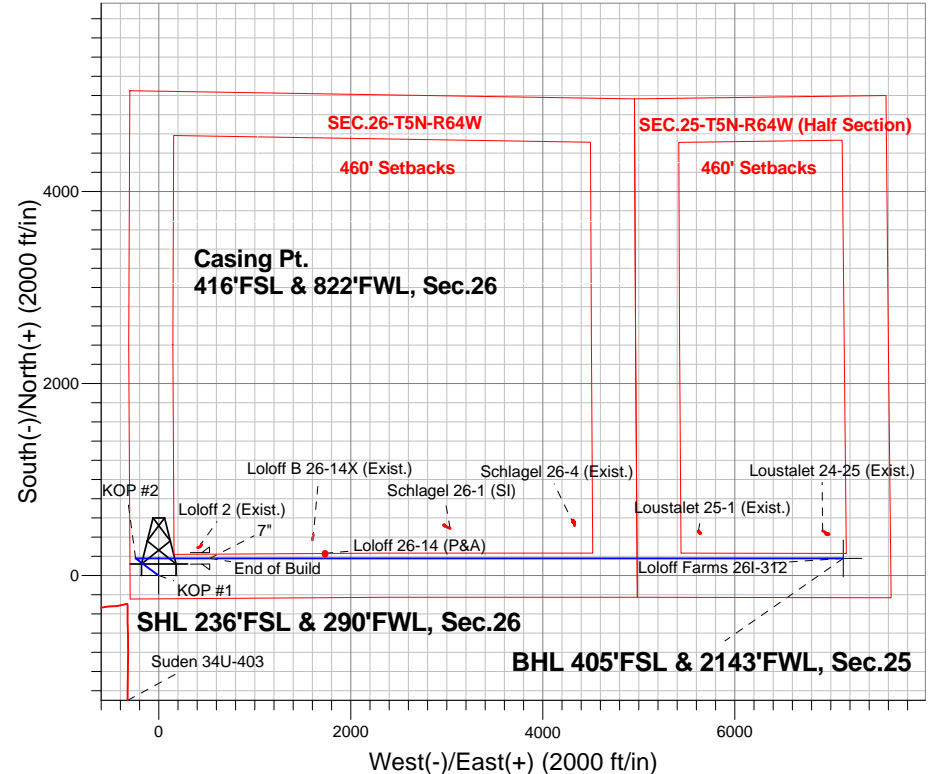
Azimuths to True North
 Magnetic North: 8.25°

Magnetic Field
 Strength: 52764.8snT
 Dip Angle: 66.94°
 Date: 12/31/2014
 Model: IGRF2010

ANNOTATIONS

| TVD | MD | Annotation |
|--------|--------|--------------|
| 1800.0 | 1800.0 | KOP #1 |
| 5959.8 | 5979.3 | KOP #2 |
| 6723.7 | 7187.8 | End of Build |

Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W
 Loloff Farms 26I-312
 Plan #2 (3-9-15)





PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.26-T5N-R64W

Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W

Loloff Farms 26I-312

Wellbore #1

Plan: Plan #2 (3-9-15)

Standard Planning Report

13 March, 2015

| | | | |
|------------------|---|-------------------------------------|---|
| Database: | landmark | Local Co-ordinate Reference: | Well Loloff Farms 26I-312 |
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | TVD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Project: | SEC.26-T5N-R64W | MD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Site: | Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W | North Reference: | True |
| Well: | Loloff Farms 26I-312 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Plan #2 (3-9-15) | | |

| | | | |
|--------------------|----------------------------------|----------------------|-----------------------------|
| Project | SEC.26-T5N-R64W, Weld County, CO | | |
| Map System: | US State Plane 1983 | System Datum: | Mean Sea Level |
| Geo Datum: | North American Datum 1983 | | Using Well Reference Point |
| Map Zone: | Colorado Northern Zone | | Using geodetic scale factor |

| | | | | | | | | | | | | | | | | | |
|-----------------------|--|--|----------|--|--|---|--|--|-----------------|--|--|-------------------|--|--|-------------|--|--|
| Site | | | | | | Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W | | | | | | | | | | | |
| Site Position: | | | | | | Northing: | | | 1,376,850.35 ft | | | Latitude: | | | 40.363760 | | |
| From: | | | Lat/Long | | | Easting: | | | 3,271,539.60 ft | | | Longitude: | | | -104.525530 | | |
| Position Uncertainty: | | | 0.0 ft | | | Slot Radius: | | | " | | | Grid Convergence: | | | 0.63 ° | | |

| Well | Loloff Farms 26I-312 | | | | | |
|----------------------|----------------------|---------|---------------------|-----------------|---------------|-------------|
| Well Position | +N/-S | 3.6 ft | Northing: | 1,376,854.64 ft | Latitude: | 40.363770 |
| | +E/-W | 61.3 ft | Easting: | 3,271,600.86 ft | Longitude: | -104.525310 |
| Position Uncertainty | | 0.0 ft | Wellhead Elevation: | ft | Ground Level: | 4,678.0 ft |

| | | | | | |
|-----------------|-------------|--|--|--|--|
| Wellbore | Wellbore #1 | | | | |
|-----------------|-------------|--|--|--|--|

| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|-----------|------------|-------------|-----------------|---------------|---------------------|
| | IGRF2010 | 12/31/2014 | 8.25 | 66.94 | 52,765 |

| | | | | | |
|---------------|------------------|--|--|--|--|
| Design | Plan #2 (3-9-15) | | | | |
|---------------|------------------|--|--|--|--|

| | | | | | |
|--------------------------|------------------------------|-------------------|----------------------|----------------------|--|
| Audit Notes: | | | | | |
| Version: | Phase: | PROTOTYPE | Tie On Depth: | 0.0 | |
| Vertical Section: | Depth From (TVD) (ft) | +N/-S (ft) | +E/-W (ft) | Direction (°) | |
| | 0.0 | 0.0 | 0.0 | 88.56 | |

| Plan Sections | | | | | | | | | | |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|----------------------|---------------------|---------|-------------------|
| 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 | |
| 1,800.0 | 0.00 | 0.00 | 1,800.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 2,620.9 | 8.21 | 306.69 | 2,618.1 | 35.1 | -47.1 | 1.00 | 1.00 | 0.00 | 306.69 | |
| 4,109.0 | 8.21 | 306.69 | 4,091.0 | 162.0 | -217.5 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 4,519.5 | 0.00 | 0.00 | 4,500.0 | 179.5 | -241.0 | 2.00 | -2.00 | 0.00 | 180.00 | |
| 5,979.3 | 0.00 | 0.00 | 5,959.8 | 179.5 | -241.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 7,187.8 | 90.64 | 90.00 | 6,723.7 | 179.6 | 531.5 | 7.50 | 7.50 | 0.00 | 90.00 | |
| 13,787.9 | 90.64 | 90.00 | 6,650.0 | 179.6 | 7,131.1 | 0.00 | 0.00 | 0.00 | 0.00 | BHL 405'FSL & 214 |

| | | | |
|------------------|--|-------------------------------------|---|
| Database: | landmark | Local Co-ordinate Reference: | Well Loloff Farms 26I-312 |
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | TVD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Project: | SEC.26-T5N-R64W | MD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Site: | Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W | North Reference: | True |
| Well: | Loloff Farms 26I-312 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Plan #2 (3-9-15) | | |

| 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 |
| KOP #1 | | | | | | | | | |
| 1,900.0 | 1.00 | 306.69 | 1,900.0 | 0.5 | -0.7 | -0.7 | 1.00 | 1.00 | 0.00 |
| 2,000.0 | 2.00 | 306.69 | 2,000.0 | 2.1 | -2.8 | -2.7 | 1.00 | 1.00 | 0.00 |
| 2,100.0 | 3.00 | 306.69 | 2,099.9 | 4.7 | -6.3 | -6.2 | 1.00 | 1.00 | 0.00 |
| 2,200.0 | 4.00 | 306.69 | 2,199.7 | 8.3 | -11.2 | -11.0 | 1.00 | 1.00 | 0.00 |
| 2,300.0 | 5.00 | 306.69 | 2,299.4 | 13.0 | -17.5 | -17.2 | 1.00 | 1.00 | 0.00 |
| 2,400.0 | 6.00 | 306.69 | 2,398.9 | 18.8 | -25.2 | -24.7 | 1.00 | 1.00 | 0.00 |
| 2,500.0 | 7.00 | 306.69 | 2,498.3 | 25.5 | -34.2 | -33.6 | 1.00 | 1.00 | 0.00 |
| 2,600.0 | 8.00 | 306.69 | 2,597.4 | 33.3 | -44.7 | -43.9 | 1.00 | 1.00 | 0.00 |
| 2,620.9 | 8.21 | 306.69 | 2,618.1 | 35.1 | -47.1 | -46.2 | 1.00 | 1.00 | 0.00 |
| 2,700.0 | 8.21 | 306.69 | 2,696.4 | 41.8 | -56.1 | -55.1 | 0.00 | 0.00 | 0.00 |
| 2,800.0 | 8.21 | 306.69 | 2,795.4 | 50.4 | -67.6 | -66.3 | 0.00 | 0.00 | 0.00 |
| 2,900.0 | 8.21 | 306.69 | 2,894.3 | 58.9 | -79.0 | -77.5 | 0.00 | 0.00 | 0.00 |
| 3,000.0 | 8.21 | 306.69 | 2,993.3 | 67.4 | -90.5 | -88.8 | 0.00 | 0.00 | 0.00 |
| 3,100.0 | 8.21 | 306.69 | 3,092.3 | 75.9 | -101.9 | -100.0 | 0.00 | 0.00 | 0.00 |
| 3,200.0 | 8.21 | 306.69 | 3,191.3 | 84.5 | -113.4 | -111.2 | 0.00 | 0.00 | 0.00 |
| 3,300.0 | 8.21 | 306.69 | 3,290.2 | 93.0 | -124.8 | -122.5 | 0.00 | 0.00 | 0.00 |
| 3,400.0 | 8.21 | 306.69 | 3,389.2 | 101.5 | -136.3 | -133.7 | 0.00 | 0.00 | 0.00 |
| 3,500.0 | 8.21 | 306.69 | 3,488.2 | 110.1 | -147.7 | -144.9 | 0.00 | 0.00 | 0.00 |
| 3,535.2 | 8.21 | 306.69 | 3,523.0 | 113.1 | -151.8 | -148.9 | 0.00 | 0.00 | 0.00 |
| PARKMAN | | | | | | | | | |
| 3,600.0 | 8.21 | 306.69 | 3,587.2 | 118.6 | -159.2 | -156.1 | 0.00 | 0.00 | 0.00 |
| 3,700.0 | 8.21 | 306.69 | 3,686.1 | 127.1 | -170.6 | -167.4 | 0.00 | 0.00 | 0.00 |
| 3,800.0 | 8.21 | 306.69 | 3,785.1 | 135.7 | -182.1 | -178.6 | 0.00 | 0.00 | 0.00 |
| 3,900.0 | 8.21 | 306.69 | 3,884.1 | 144.2 | -193.5 | -189.8 | 0.00 | 0.00 | 0.00 |
| 4,000.0 | 8.21 | 306.69 | 3,983.1 | 152.7 | -205.0 | -201.1 | 0.00 | 0.00 | 0.00 |
| 4,100.0 | 8.21 | 306.69 | 4,082.0 | 161.2 | -216.4 | -212.3 | 0.00 | 0.00 | 0.00 |
| 4,109.0 | 8.21 | 306.69 | 4,091.0 | 162.0 | -217.5 | -213.3 | 0.00 | 0.00 | 0.00 |
| 4,184.7 | 6.70 | 306.69 | 4,166.0 | 167.9 | -225.3 | -221.0 | 2.00 | -2.00 | 0.00 |
| SUSSEX | | | | | | | | | |
| 4,200.0 | 6.39 | 306.69 | 4,181.2 | 168.9 | -226.7 | -222.4 | 2.00 | -2.00 | 0.00 |
| 4,300.0 | 4.39 | 306.69 | 4,280.8 | 174.5 | -234.3 | -229.8 | 2.00 | -2.00 | 0.00 |

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|------------------|---|-------------------------------------|---|
| Database: | landmark | Local Co-ordinate Reference: | Well Loloff Farms 26I-312 |
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | TVD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Project: | SEC.26-T5N-R64W | MD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Site: | Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W | North Reference: | True |
| Well: | Loloff Farms 26I-312 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Plan #2 (3-9-15) | | |

| 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) |
| 4,400.0 | 2.39 | 306.69 | 4,380.6 | 178.1 | -239.0 | -234.4 | 2.00 | -2.00 | 0.00 |
| 4,500.0 | 0.39 | 306.69 | 4,480.5 | 179.5 | -240.9 | -236.4 | 2.00 | -2.00 | 0.00 |
| 4,519.5 | 0.00 | 0.00 | 4,500.0 | 179.5 | -241.0 | -236.4 | 2.00 | -2.00 | 0.00 |
| 4,600.0 | 0.00 | 0.00 | 4,580.5 | 179.5 | -241.0 | -236.4 | 0.00 | 0.00 | 0.00 |
| 4,700.0 | 0.00 | 0.00 | 4,680.5 | 179.5 | -241.0 | -236.4 | 0.00 | 0.00 | 0.00 |
| 4,769.5 | 0.00 | 0.00 | 4,750.0 | 179.5 | -241.0 | -236.4 | 0.00 | 0.00 | 0.00 |
| SHANNON | | | | | | | | | |
| 4,800.0 | 0.00 | 0.00 | 4,780.5 | 179.5 | -241.0 | -236.4 | 0.00 | 0.00 | 0.00 |
| 4,900.0 | 0.00 | 0.00 | 4,880.5 | 179.5 | -241.0 | -236.4 | 0.00 | 0.00 | 0.00 |
| 5,000.0 | 0.00 | 0.00 | 4,980.5 | 179.5 | -241.0 | -236.4 | 0.00 | 0.00 | 0.00 |
| 5,100.0 | 0.00 | 0.00 | 5,080.5 | 179.5 | -241.0 | -236.4 | 0.00 | 0.00 | 0.00 |
| 5,200.0 | 0.00 | 0.00 | 5,180.5 | 179.5 | -241.0 | -236.4 | 0.00 | 0.00 | 0.00 |
| 5,300.0 | 0.00 | 0.00 | 5,280.5 | 179.5 | -241.0 | -236.4 | 0.00 | 0.00 | 0.00 |
| 5,400.0 | 0.00 | 0.00 | 5,380.5 | 179.5 | -241.0 | -236.4 | 0.00 | 0.00 | 0.00 |
| 5,500.0 | 0.00 | 0.00 | 5,480.5 | 179.5 | -241.0 | -236.4 | 0.00 | 0.00 | 0.00 |
| 5,600.0 | 0.00 | 0.00 | 5,580.5 | 179.5 | -241.0 | -236.4 | 0.00 | 0.00 | 0.00 |
| 5,700.0 | 0.00 | 0.00 | 5,680.5 | 179.5 | -241.0 | -236.4 | 0.00 | 0.00 | 0.00 |
| 5,800.0 | 0.00 | 0.00 | 5,780.5 | 179.5 | -241.0 | -236.4 | 0.00 | 0.00 | 0.00 |
| 5,900.0 | 0.00 | 0.00 | 5,880.5 | 179.5 | -241.0 | -236.4 | 0.00 | 0.00 | 0.00 |
| 5,979.3 | 0.00 | 0.00 | 5,959.8 | 179.5 | -241.0 | -236.4 | 0.00 | 0.00 | 0.00 |
| KOP #2 | | | | | | | | | |
| 6,000.0 | 1.55 | 90.00 | 5,980.5 | 179.5 | -240.7 | -236.1 | 7.51 | 7.51 | 0.00 |
| 6,100.0 | 9.05 | 90.00 | 6,080.0 | 179.5 | -231.5 | -226.9 | 7.50 | 7.50 | 0.00 |
| 6,200.0 | 16.55 | 90.00 | 6,177.5 | 179.5 | -209.3 | -204.7 | 7.50 | 7.50 | 0.00 |
| 6,300.0 | 24.05 | 90.00 | 6,271.2 | 179.5 | -174.7 | -170.1 | 7.50 | 7.50 | 0.00 |
| 6,400.0 | 31.55 | 90.00 | 6,359.6 | 179.5 | -128.0 | -123.5 | 7.50 | 7.50 | 0.00 |
| 6,452.1 | 35.46 | 90.00 | 6,403.0 | 179.5 | -99.3 | -94.8 | 7.50 | 7.50 | 0.00 |
| SHARON SPRINGS | | | | | | | | | |
| 6,500.0 | 39.05 | 90.00 | 6,441.1 | 179.5 | -70.3 | -65.8 | 7.50 | 7.50 | 0.00 |
| 6,600.0 | 46.55 | 90.00 | 6,514.5 | 179.5 | -2.4 | 2.1 | 7.50 | 7.50 | 0.00 |
| 6,658.5 | 50.94 | 90.00 | 6,553.0 | 179.5 | 41.5 | 46.0 | 7.50 | 7.50 | 0.00 |
| NIORARA A | | | | | | | | | |
| 6,700.0 | 54.05 | 90.00 | 6,578.3 | 179.5 | 74.5 | 79.0 | 7.50 | 7.50 | 0.00 |
| 6,792.6 | 61.00 | 90.00 | 6,628.0 | 179.5 | 152.6 | 157.1 | 7.50 | 7.50 | 0.00 |
| NIORARA B | | | | | | | | | |
| 6,800.0 | 61.55 | 90.00 | 6,631.5 | 179.5 | 159.1 | 163.5 | 7.50 | 7.50 | 0.00 |
| 6,900.0 | 69.05 | 90.00 | 6,673.3 | 179.6 | 249.8 | 254.3 | 7.50 | 7.50 | 0.00 |
| 6,980.3 | 75.08 | 90.00 | 6,698.0 | 179.6 | 326.2 | 330.6 | 7.50 | 7.50 | 0.00 |
| NOBRARA C | | | | | | | | | |
| 7,000.0 | 76.55 | 90.00 | 6,702.8 | 179.6 | 345.3 | 349.7 | 7.50 | 7.50 | 0.00 |
| 7,100.0 | 84.05 | 90.00 | 6,719.7 | 179.6 | 443.8 | 448.2 | 7.50 | 7.50 | 0.00 |
| 7,187.8 | 90.64 | 90.00 | 6,723.7 | 179.6 | 531.5 | 535.8 | 7.50 | 7.50 | 0.00 |
| End of Build - 7" | | | | | | | | | |
| 7,200.0 | 90.64 | 90.00 | 6,723.6 | 179.6 | 543.7 | 548.0 | 0.01 | 0.01 | 0.00 |
| 7,300.0 | 90.64 | 90.00 | 6,722.5 | 179.6 | 643.7 | 648.0 | 0.00 | 0.00 | 0.00 |
| 7,400.0 | 90.64 | 90.00 | 6,721.4 | 179.6 | 743.7 | 747.9 | 0.00 | 0.00 | 0.00 |
| 7,500.0 | 90.64 | 90.00 | 6,720.2 | 179.6 | 843.6 | 847.9 | 0.00 | 0.00 | 0.00 |
| 7,600.0 | 90.64 | 90.00 | 6,719.1 | 179.6 | 943.6 | 947.9 | 0.00 | 0.00 | 0.00 |
| 7,700.0 | 90.64 | 90.00 | 6,718.0 | 179.6 | 1,043.6 | 1,047.8 | 0.00 | 0.00 | 0.00 |
| 7,800.0 | 90.64 | 90.00 | 6,716.9 | 179.6 | 1,143.6 | 1,147.8 | 0.00 | 0.00 | 0.00 |

| | | | |
|------------------|--|-------------------------------------|---|
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| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | TVD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Project: | SEC.26-T5N-R64W | MD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Site: | Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W | North Reference: | True |
| Well: | Loloff Farms 26I-312 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Plan #2 (3-9-15) | | |

| 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) |
| 7,900.0 | 90.64 | 90.00 | 6,715.8 | 179.6 | 1,243.6 | 1,247.7 | 0.00 | 0.00 | 0.00 |
| 8,000.0 | 90.64 | 90.00 | 6,714.7 | 179.6 | 1,343.6 | 1,347.7 | 0.00 | 0.00 | 0.00 |
| 8,100.0 | 90.64 | 90.00 | 6,713.5 | 179.6 | 1,443.6 | 1,447.7 | 0.00 | 0.00 | 0.00 |
| 8,200.0 | 90.64 | 90.00 | 6,712.4 | 179.6 | 1,543.6 | 1,547.6 | 0.00 | 0.00 | 0.00 |
| 8,300.0 | 90.64 | 90.00 | 6,711.3 | 179.6 | 1,643.6 | 1,647.6 | 0.00 | 0.00 | 0.00 |
| 8,400.0 | 90.64 | 90.00 | 6,710.2 | 179.6 | 1,743.6 | 1,747.6 | 0.00 | 0.00 | 0.00 |
| 8,500.0 | 90.64 | 90.00 | 6,709.1 | 179.6 | 1,843.6 | 1,847.5 | 0.00 | 0.00 | 0.00 |
| 8,600.0 | 90.64 | 90.00 | 6,707.9 | 179.6 | 1,943.6 | 1,947.5 | 0.00 | 0.00 | 0.00 |
| 8,700.0 | 90.64 | 90.00 | 6,706.8 | 179.6 | 2,043.6 | 2,047.4 | 0.00 | 0.00 | 0.00 |
| 8,800.0 | 90.64 | 90.00 | 6,705.7 | 179.6 | 2,143.6 | 2,147.4 | 0.00 | 0.00 | 0.00 |
| 8,900.0 | 90.64 | 90.00 | 6,704.6 | 179.6 | 2,243.6 | 2,247.4 | 0.00 | 0.00 | 0.00 |
| 9,000.0 | 90.64 | 90.00 | 6,703.5 | 179.6 | 2,343.6 | 2,347.3 | 0.00 | 0.00 | 0.00 |
| 9,100.0 | 90.64 | 90.00 | 6,702.4 | 179.6 | 2,443.5 | 2,447.3 | 0.00 | 0.00 | 0.00 |
| 9,200.0 | 90.64 | 90.00 | 6,701.2 | 179.6 | 2,543.5 | 2,547.3 | 0.00 | 0.00 | 0.00 |
| 9,300.0 | 90.64 | 90.00 | 6,700.1 | 179.6 | 2,643.5 | 2,647.2 | 0.00 | 0.00 | 0.00 |
| 9,400.0 | 90.64 | 90.00 | 6,699.0 | 179.6 | 2,743.5 | 2,747.2 | 0.00 | 0.00 | 0.00 |
| 9,500.0 | 90.64 | 90.00 | 6,697.9 | 179.6 | 2,843.5 | 2,847.1 | 0.00 | 0.00 | 0.00 |
| 9,600.0 | 90.64 | 90.00 | 6,696.8 | 179.6 | 2,943.5 | 2,947.1 | 0.00 | 0.00 | 0.00 |
| 9,700.0 | 90.64 | 90.00 | 6,695.7 | 179.6 | 3,043.5 | 3,047.1 | 0.00 | 0.00 | 0.00 |
| 9,800.0 | 90.64 | 90.00 | 6,694.5 | 179.6 | 3,143.5 | 3,147.0 | 0.00 | 0.00 | 0.00 |
| 9,900.0 | 90.64 | 90.00 | 6,693.4 | 179.6 | 3,243.5 | 3,247.0 | 0.00 | 0.00 | 0.00 |
| 10,000.0 | 90.64 | 90.00 | 6,692.3 | 179.6 | 3,343.5 | 3,346.9 | 0.00 | 0.00 | 0.00 |
| 10,100.0 | 90.64 | 90.00 | 6,691.2 | 179.6 | 3,443.5 | 3,446.9 | 0.00 | 0.00 | 0.00 |
| 10,200.0 | 90.64 | 90.00 | 6,690.1 | 179.6 | 3,543.5 | 3,546.9 | 0.00 | 0.00 | 0.00 |
| 10,300.0 | 90.64 | 90.00 | 6,689.0 | 179.6 | 3,643.5 | 3,646.8 | 0.00 | 0.00 | 0.00 |
| 10,400.0 | 90.64 | 90.00 | 6,687.8 | 179.6 | 3,743.5 | 3,746.8 | 0.00 | 0.00 | 0.00 |
| 10,500.0 | 90.64 | 90.00 | 6,686.7 | 179.6 | 3,843.5 | 3,846.8 | 0.00 | 0.00 | 0.00 |
| 10,600.0 | 90.64 | 90.00 | 6,685.6 | 179.6 | 3,943.5 | 3,946.7 | 0.00 | 0.00 | 0.00 |
| 10,700.0 | 90.64 | 90.00 | 6,684.5 | 179.6 | 4,043.4 | 4,046.7 | 0.00 | 0.00 | 0.00 |
| 10,800.0 | 90.64 | 90.00 | 6,683.4 | 179.6 | 4,143.4 | 4,146.6 | 0.00 | 0.00 | 0.00 |
| 10,900.0 | 90.64 | 90.00 | 6,682.3 | 179.6 | 4,243.4 | 4,246.6 | 0.00 | 0.00 | 0.00 |
| 11,000.0 | 90.64 | 90.00 | 6,681.1 | 179.6 | 4,343.4 | 4,346.6 | 0.00 | 0.00 | 0.00 |
| 11,100.0 | 90.64 | 90.00 | 6,680.0 | 179.6 | 4,443.4 | 4,446.5 | 0.00 | 0.00 | 0.00 |
| 11,200.0 | 90.64 | 90.00 | 6,678.9 | 179.6 | 4,543.4 | 4,546.5 | 0.00 | 0.00 | 0.00 |
| 11,300.0 | 90.64 | 90.00 | 6,677.8 | 179.6 | 4,643.4 | 4,646.5 | 0.00 | 0.00 | 0.00 |
| 11,400.0 | 90.64 | 90.00 | 6,676.7 | 179.6 | 4,743.4 | 4,746.4 | 0.00 | 0.00 | 0.00 |
| 11,500.0 | 90.64 | 90.00 | 6,675.6 | 179.6 | 4,843.4 | 4,846.4 | 0.00 | 0.00 | 0.00 |
| 11,600.0 | 90.64 | 90.00 | 6,674.4 | 179.6 | 4,943.4 | 4,946.3 | 0.00 | 0.00 | 0.00 |
| 11,700.0 | 90.64 | 90.00 | 6,673.3 | 179.6 | 5,043.4 | 5,046.3 | 0.00 | 0.00 | 0.00 |
| 11,800.0 | 90.64 | 90.00 | 6,672.2 | 179.6 | 5,143.4 | 5,146.3 | 0.00 | 0.00 | 0.00 |
| 11,900.0 | 90.64 | 90.00 | 6,671.1 | 179.6 | 5,243.4 | 5,246.2 | 0.00 | 0.00 | 0.00 |
| 12,000.0 | 90.64 | 90.00 | 6,670.0 | 179.6 | 5,343.4 | 5,346.2 | 0.00 | 0.00 | 0.00 |
| 12,100.0 | 90.64 | 90.00 | 6,668.9 | 179.6 | 5,443.4 | 5,446.2 | 0.00 | 0.00 | 0.00 |
| 12,200.0 | 90.64 | 90.00 | 6,667.7 | 179.6 | 5,543.4 | 5,546.1 | 0.00 | 0.00 | 0.00 |
| 12,300.0 | 90.64 | 90.00 | 6,666.6 | 179.6 | 5,643.3 | 5,646.1 | 0.00 | 0.00 | 0.00 |
| 12,400.0 | 90.64 | 90.00 | 6,665.5 | 179.6 | 5,743.3 | 5,746.0 | 0.00 | 0.00 | 0.00 |
| 12,500.0 | 90.64 | 90.00 | 6,664.4 | 179.6 | 5,843.3 | 5,846.0 | 0.00 | 0.00 | 0.00 |
| 12,600.0 | 90.64 | 90.00 | 6,663.3 | 179.6 | 5,943.3 | 5,946.0 | 0.00 | 0.00 | 0.00 |
| 12,700.0 | 90.64 | 90.00 | 6,662.2 | 179.6 | 6,043.3 | 6,045.9 | 0.00 | 0.00 | 0.00 |
| 12,800.0 | 90.64 | 90.00 | 6,661.0 | 179.6 | 6,143.3 | 6,145.9 | 0.00 | 0.00 | 0.00 |
| 12,900.0 | 90.64 | 90.00 | 6,659.9 | 179.6 | 6,243.3 | 6,245.8 | 0.00 | 0.00 | 0.00 |

| | | | |
|------------------|--|-------------------------------------|---|
| Database: | landmark | Local Co-ordinate Reference: | Well Loloff Farms 26I-312 |
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | TVD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Project: | SEC.26-T5N-R64W | MD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Site: | Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W | North Reference: | True |
| Well: | Loloff Farms 26I-312 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Plan #2 (3-9-15) | | |

| 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) | |
| 13,000.0 | 90.64 | 90.00 | 6,658.8 | 179.6 | 6,343.3 | 6,345.8 | 0.00 | 0.00 | 0.00 | |
| 13,100.0 | 90.64 | 90.00 | 6,657.7 | 179.6 | 6,443.3 | 6,445.8 | 0.00 | 0.00 | 0.00 | |
| 13,200.0 | 90.64 | 90.00 | 6,656.6 | 179.6 | 6,543.3 | 6,545.7 | 0.00 | 0.00 | 0.00 | |
| 13,300.0 | 90.64 | 90.00 | 6,655.4 | 179.6 | 6,643.3 | 6,645.7 | 0.00 | 0.00 | 0.00 | |
| 13,400.0 | 90.64 | 90.00 | 6,654.3 | 179.6 | 6,743.3 | 6,745.7 | 0.00 | 0.00 | 0.00 | |
| 13,500.0 | 90.64 | 90.00 | 6,653.2 | 179.6 | 6,843.3 | 6,845.6 | 0.00 | 0.00 | 0.00 | |
| 13,600.0 | 90.64 | 90.00 | 6,652.1 | 179.6 | 6,943.3 | 6,945.6 | 0.00 | 0.00 | 0.00 | |
| 13,700.0 | 90.64 | 90.00 | 6,651.0 | 179.6 | 7,043.3 | 7,045.5 | 0.00 | 0.00 | 0.00 | |
| 13,787.9 | 90.64 | 90.00 | 6,650.0 | 179.6 | 7,131.1 | 7,133.4 | 0.00 | 0.00 | 0.00 | |

| Targets | | | | | | | | | | |
|---|---------------|--------------|----------|------------|------------|---------------|--------------|-----------|-------------|--|
| Target Name - hit/miss target - Shape | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) | Latitude | Longitude | |
| BHL 405'FSL & 2143'I - plan hits target - Point | 0.00 | 0.00 | 6,650.0 | 179.6 | 7,131.1 | 1,377,112.56 | 3,278,729.30 | 40.364260 | -104.499720 | |
| SHL 236'FSL & 290'F - plan hits target - Point | 0.00 | 0.00 | 1.0 | 0.0 | 0.0 | 1,376,854.66 | 3,271,600.86 | 40.363770 | -104.525310 | |

| Casing Points | | | | | | |
|---------------------|---------------------|------|---------------------|-------------------|--|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name | Casing Diameter (") | Hole Diameter (") | | |
| 7,187.8 | 6,723.7 | 7" | 7 | 7-1/2 | | |

| Formations | | | | | | |
|---------------------|---------------------|----------------|-----------|---------|-------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name | Lithology | Dip (°) | Dip Direction (°) | |
| 3,535.2 | 3,523.0 | PARKMAN | | 0.00 | | |
| 4,184.7 | 4,166.0 | SUSSEX | | 0.00 | | |
| 4,769.5 | 4,750.0 | SHANNON | | 0.00 | | |
| 6,452.1 | 6,403.0 | SHARON SPRINGS | | 0.00 | | |
| 6,658.5 | 6,553.0 | NIOBRARA A | | 0.00 | | |
| 6,792.6 | 6,628.0 | NIOBRARA B | | 0.00 | | |
| 6,980.3 | 6,698.0 | NIOBRARA C | | 0.00 | | |
| | 6,793.0 | FT. HAYS | | 0.00 | | |
| | 6,815.0 | CODELL | | 0.00 | | |

| | | | |
|------------------|--|-------------------------------------|---|
| Database: | landmark | Local Co-ordinate Reference: | Well Loloff Farms 26I-312 |
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | TVD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Project: | SEC.26-T5N-R64W | MD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Site: | Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W | North Reference: | True |
| Well: | Loloff Farms 26I-312 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Plan #2 (3-9-15) | | |

| Plan Annotations | | | | | |
|---------------------------|---------------------------|-------------------|---------------|--------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates | | Comment | |
| | | +N/-S (ft) | +E/-W (ft) | | |
| 1,800.0 | 1,800.0 | 0.0 | 0.0 | KOP #1 | |
| 5,979.3 | 5,959.8 | 179.5 | -241.0 | KOP #2 | |
| 7,187.8 | 6,723.7 | 179.6 | 531.5 | End of Build | |



PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.26-T5N-R64W

Loloff Farms 5N64W26l Pad Sec.26-T5N-R64W

Loloff Farms 26l-312

Wellbore #1

Plan #2 (3-9-15)

Anticollision Report

13 March, 2015



| | | | |
|---------------------------|---|-------------------------------------|---|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Loloff Farms 26I-312 |
| Project: | SEC.26-T5N-R64W | TVD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Reference Site: | Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W | MD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Loloff Farms 26I-312 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #2 (3-9-15) | Offset TVD Reference: | Offset Datum |

| | | | |
|-------------------------------------|---|-----------------------|---------------------|
| Reference | Plan #2 (3-9-15) | | |
| Filter type: | NO GLOBAL FILTER: Using user defined selection & filtering criteria | | |
| Interpolation Method: | MD Interval 100.0ft | Error Model: | ISCWSA |
| Depth Range: | Unlimited | Scan Method: | Closest Approach 3D |
| Results Limited by: | Maximum center-center distance of 1,000.0ft | Error Surface: | Elliptical Conic |
| Warning Levels Evaluated at: | 2.00 Sigma | | |

| | | | | |
|----------------------------|-----------------------|--------------------------------|------------------|--------------------|
| Survey Tool Program | Date 3/13/2015 | | | |
| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description |
| 0.0 | 13,787.9 | Plan #2 (3-9-15) (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 | | | | | | |
| Existing Wells Pad Sec.26-T5N-R64W | | | | | | |
| Loloff 26-14 (P&A) - Wellbore #1 - Wellbore #1 | 8,389.7 | 6,662.3 | 53.7 | -132.4 | 0.288 | Level 1, CC, ES, SF |
| Loustalet 24-25 (Exist.) - Wellbore #1 - Wellbore #1 | 13,613.1 | 6,535.2 | 265.2 | 56.2 | 1.269 | Level 3, CC, ES, SF |
| Loustalet 25-1 (Exist.) - Wellbore #1 - Wellbore #1 | 12,279.5 | 6,566.9 | 284.5 | 111.9 | 1.648 | CC, ES |
| Loustalet 25-1 (Exist.) - Wellbore #1 - Wellbore #1 | 12,300.0 | 6,566.6 | 285.2 | 112.0 | 1.647 | SF |
| Schlagel 26-1 (SI) - Wellbore #1 - Wellbore #1 | 9,684.5 | 6,619.5 | 315.3 | 215.2 | 3.151 | CC |
| Schlagel 26-1 (SI) - Wellbore #1 - Wellbore #1 | 9,700.0 | 6,619.7 | 315.6 | 215.1 | 3.141 | ES, SF |
| Schlagel 26-4 (Exist.) - Wellbore #1 - Wellbore #1 | 10,987.8 | 6,578.9 | 341.4 | 203.2 | 2.469 | CC |
| Schlagel 26-4 (Exist.) - Wellbore #1 - Wellbore #1 | 11,000.0 | 6,578.7 | 341.7 | 203.0 | 2.465 | ES, SF |
| Existing Wells Pad Sec.26-T5N-R64W (Grid) | | | | | | |
| Loloff 2 (Exist.) - Wellbore #1 - Wellbore #1 | 7,068.7 | 6,687.5 | 115.1 | 82.9 | 3.577 | CC, ES, SF |
| Loloff B 26-14X (Exist.) - Wellbore #1 - Wellbore #1 | 8,259.5 | 6,678.9 | 191.5 | 129.9 | 3.110 | CC, ES, SF |
| Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W | | | | | | |
| Loloff Farms 26H-232 - Wellbore #1 - Plan #2 (3-9-15) | 1,000.0 | 1,000.0 | 30.7 | 26.4 | 7.178 | CC |
| Loloff Farms 26H-232 - Wellbore #1 - Plan #2 (3-9-15) | 1,100.0 | 1,099.8 | 31.0 | 26.2 | 6.561 | ES |
| Loloff Farms 26H-232 - Wellbore #1 - Plan #2 (3-9-15) | 13,787.9 | 13,685.9 | 426.1 | 29.5 | 1.074 | Level 2, SF |
| Loloff Farms 26H-332 - Wellbore #1 - Plan #2 (3-9-15) | 166.3 | 167.3 | 61.4 | 60.9 | 117.441 | CC |
| Loloff Farms 26H-332 - Wellbore #1 - Plan #2 (3-9-15) | 300.0 | 300.8 | 61.6 | 60.4 | 54.791 | ES |
| Loloff Farms 26H-332 - Wellbore #1 - Plan #2 (3-9-15) | 13,787.9 | 13,838.0 | 659.5 | 253.7 | 1.625 | SF |
| Loloff Farms 26I-402 - Wellbore #1 - Plan #2 (3-9-15) | 1,800.0 | 1,799.0 | 27.9 | 20.0 | 3.543 | CC |
| Loloff Farms 26I-402 - Wellbore #1 - Plan #2 (3-9-15) | 13,787.9 | 13,864.5 | 346.6 | -42.5 | 0.891 | Level 1, ES, SF |
| Suden 34U-HZ Pad Sec.34-T5N-R64W | | | | | | |
| Suden 34U-403 - Wellbore #1 - Wellbore #1 | 6,000.0 | 6,079.4 | 479.4 | 443.2 | 13.249 | CC, ES, SF |

| | | | | | | | | | | | | |
|--|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|
| Offset Design Existing Wells Pad Sec.26-T5N-R64W - Loloff 26-14 (P&A) - Wellbore #1 - Wellbore #1 | | | | | | | | | | | | |
| Survey Program: 6970-UNKNOWN | | | | | | | | | | | | |
| 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 |
| 7,400.0 | 6,721.4 | 6,673.4 | 6,673.4 | 27.6 | 133.5 | -101.64 | 233.2 | 1,733.3 | 991.1 | 833.5 | 157.65 | 6.287 |

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

| | | | |
|---------------------------|---|-------------------------------------|---|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Loloff Farms 26I-312 |
| Project: | SEC.26-T5N-R64W | TVD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Reference Site: | Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W | MD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Loloff Farms 26I-312 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #2 (3-9-15) | Offset TVD Reference: | Offset Datum |

| Offset Design Existing Wells Pad Sec.26-T5N-R64W - Loloff 26-14 (P&A) - Wellbore #1 - Wellbore #1 | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|---|---------------------------|---------------------------|---------------------------|-----------|--------|-----------------------------|---|---------------|----------------------------|-----------------------------|-------------------------------|----------------------|---------------------|--------|
| Survey Program: 6970-UNKNOWN | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference | Offset | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning | |
| 7,500.0 | 6,720.2 | 6,672.2 | 6,672.2 | 29.9 | 133.4 | -100.49 | 233.2 | 1,733.3 | 891.3 | 730.7 | 160.56 | 5.551 | | |
| 7,600.0 | 6,719.1 | 6,671.1 | 6,671.1 | 32.4 | 133.4 | -99.33 | 233.2 | 1,733.3 | 791.5 | 628.0 | 163.51 | 4.841 | | |
| 7,700.0 | 6,718.0 | 6,670.0 | 6,670.0 | 34.8 | 133.4 | -98.17 | 233.2 | 1,733.3 | 691.8 | 525.3 | 166.46 | 4.156 | | |
| 7,800.0 | 6,716.9 | 6,668.9 | 6,668.9 | 37.4 | 133.4 | -97.00 | 233.2 | 1,733.3 | 592.1 | 422.7 | 169.41 | 3.495 | | |
| 7,900.0 | 6,715.8 | 6,667.8 | 6,667.8 | 39.9 | 133.4 | -95.82 | 233.2 | 1,733.3 | 492.6 | 320.3 | 172.34 | 2.858 | | |
| 8,000.0 | 6,714.7 | 6,666.7 | 6,666.7 | 42.5 | 133.3 | -94.64 | 233.2 | 1,733.3 | 393.4 | 218.1 | 175.24 | 2.245 | | |
| 8,100.0 | 6,713.5 | 6,665.5 | 6,665.5 | 45.2 | 133.3 | -93.45 | 233.2 | 1,733.3 | 294.6 | 116.5 | 178.11 | 1.654 | | |
| 8,200.0 | 6,712.4 | 6,664.4 | 6,664.4 | 47.8 | 133.3 | -92.26 | 233.2 | 1,733.3 | 197.2 | 16.2 | 180.92 | 1.090 | Level 2 | |
| 8,300.0 | 6,711.3 | 6,663.3 | 6,663.3 | 50.5 | 133.3 | -91.07 | 233.2 | 1,733.3 | 104.6 | -79.1 | 183.68 | 0.569 | Level 1 | |
| 8,389.7 | 6,710.3 | 6,662.3 | 6,662.3 | 52.9 | 133.2 | -90.00 | 233.2 | 1,733.3 | 53.7 | -132.4 | 186.10 | 0.288 | Level 1, CC, ES, SF | |
| 8,400.0 | 6,710.2 | 6,662.2 | 6,662.2 | 53.2 | 133.2 | -89.88 | 233.2 | 1,733.3 | 54.7 | -131.7 | 186.38 | 0.293 | Level 1 | |
| 8,500.0 | 6,709.1 | 6,661.1 | 6,661.1 | 55.8 | 133.2 | -88.69 | 233.2 | 1,733.3 | 122.6 | -66.4 | 189.01 | 0.649 | Level 1 | |
| 8,600.0 | 6,707.9 | 6,659.9 | 6,659.9 | 58.5 | 133.2 | -87.49 | 233.2 | 1,733.3 | 217.0 | 25.4 | 191.57 | 1.133 | Level 2 | |
| 8,700.0 | 6,706.8 | 6,658.8 | 6,658.8 | 61.3 | 133.2 | -86.31 | 233.2 | 1,733.3 | 314.9 | 120.8 | 194.06 | 1.622 | | |
| 8,800.0 | 6,705.7 | 6,657.7 | 6,657.7 | 64.0 | 133.2 | -85.12 | 233.2 | 1,733.3 | 413.7 | 217.3 | 196.47 | 2.106 | | |
| 8,900.0 | 6,704.6 | 6,656.6 | 6,656.6 | 66.7 | 133.1 | -83.94 | 233.2 | 1,733.3 | 513.1 | 314.3 | 198.79 | 2.581 | | |
| 9,000.0 | 6,703.5 | 6,655.5 | 6,655.5 | 69.4 | 133.1 | -82.76 | 233.2 | 1,733.3 | 612.6 | 411.6 | 201.03 | 3.047 | | |
| 9,100.0 | 6,702.4 | 6,654.4 | 6,654.4 | 72.2 | 133.1 | -81.59 | 233.2 | 1,733.3 | 712.3 | 509.1 | 203.19 | 3.505 | | |
| 9,200.0 | 6,701.2 | 6,653.2 | 6,653.2 | 74.9 | 133.1 | -80.43 | 233.2 | 1,733.3 | 812.0 | 606.7 | 205.25 | 3.956 | | |
| 9,300.0 | 6,700.1 | 6,652.1 | 6,652.1 | 77.7 | 133.0 | -79.27 | 233.2 | 1,733.3 | 911.8 | 704.6 | 207.23 | 4.400 | | |

| | | | |
|---------------------------|---|-------------------------------------|---|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Loloff Farms 26I-312 |
| Project: | SEC.26-T5N-R64W | TVD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Reference Site: | Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W | MD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Loloff Farms 26I-312 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #2 (3-9-15) | Offset TVD Reference: | Offset Datum |

| Offset Design Existing Wells Pad Sec.26-T5N-R64W - Loustalet 24-25 (Exist.) - Wellbore #1 - Wellbore #1 | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|--|------------------------|------------------------|------------------------|-----------|--------|-----------------------------|---|---|----------------------------|-----------------------------|-------------------------------|----------------------|---------------------------|--------|
| Survey Program: 100-NS-GYRO-MS | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference | Offset | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | Offset Wellbore Centre +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning | |
| 12,700.0 | 6,662.2 | 6,636.2 | 6,633.3 | 172.3 | 11.6 | -107.71 | 449.7 | 6,946.2 | 945.5 | 770.0 | 175.55 | 5.386 | | |
| 12,800.0 | 6,661.0 | 6,625.1 | 6,622.3 | 175.1 | 11.5 | -105.60 | 449.1 | 6,947.3 | 850.6 | 670.5 | 180.05 | 4.724 | | |
| 12,900.0 | 6,659.9 | 6,614.1 | 6,611.3 | 177.9 | 11.5 | -103.44 | 448.6 | 6,948.4 | 756.8 | 572.4 | 184.41 | 4.104 | | |
| 13,000.0 | 6,658.8 | 6,603.0 | 6,600.4 | 180.7 | 11.5 | -101.24 | 448.0 | 6,949.5 | 664.6 | 476.0 | 188.61 | 3.524 | | |
| 13,100.0 | 6,657.7 | 6,592.0 | 6,589.4 | 183.5 | 11.5 | -98.98 | 447.4 | 6,950.6 | 574.8 | 382.2 | 192.62 | 2.984 | | |
| 13,200.0 | 6,656.6 | 6,580.9 | 6,578.4 | 186.3 | 11.5 | -96.69 | 446.8 | 6,951.7 | 488.8 | 292.4 | 196.39 | 2.489 | | |
| 13,300.0 | 6,655.4 | 6,569.8 | 6,567.4 | 189.1 | 11.4 | -94.37 | 446.2 | 6,952.8 | 408.9 | 209.0 | 199.91 | 2.045 | | |
| 13,400.0 | 6,654.3 | 6,558.8 | 6,556.4 | 191.9 | 11.4 | -92.02 | 445.7 | 6,953.9 | 339.4 | 136.3 | 203.14 | 1.671 | | |
| 13,500.0 | 6,653.2 | 6,547.7 | 6,545.4 | 194.7 | 11.4 | -89.66 | 445.1 | 6,955.0 | 288.1 | 82.0 | 206.07 | 1.398 | Level 3 | |
| 13,600.0 | 6,652.1 | 6,536.6 | 6,534.4 | 197.5 | 11.4 | -87.29 | 444.5 | 6,956.1 | 265.6 | 56.9 | 208.67 | 1.273 | Level 3 | |
| 13,613.1 | 6,652.0 | 6,535.2 | 6,533.0 | 197.9 | 11.4 | -86.97 | 444.4 | 6,956.3 | 265.2 | 56.2 | 208.98 | 1.269 | Level 3, CC, ES, SF | |
| 13,700.0 | 6,651.0 | 6,525.6 | 6,523.4 | 200.3 | 11.3 | -84.91 | 443.9 | 6,957.2 | 278.9 | 68.0 | 210.92 | 1.322 | Level 3 | |
| 13,787.9 | 6,650.0 | 6,515.9 | 6,513.7 | 202.7 | 11.3 | -82.83 | 443.4 | 6,958.2 | 317.0 | 104.4 | 212.61 | 1.491 | Level 3 | |

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|---------------------------|---|-------------------------------------|---|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Loloff Farms 26I-312 |
| Project: | SEC.26-T5N-R64W | TVD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Reference Site: | Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W | MD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Loloff Farms 26I-312 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #2 (3-9-15) | Offset TVD Reference: | Offset Datum |

| Offset Design Existing Wells Pad Sec.26-T5N-R64W - Loustalet 25-1 (Exist.) - Wellbore #1 - Wellbore #1 | | | | | | | | | | | | | 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 | 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) | | | |
| 11,400.0 | 6,676.7 | 6,580.8 | 6,580.3 | 136.0 | 12.1 | -93.11 | 464.0 | 5,622.8 | 924.3 | 776.5 | 147.83 | 6.253 | | |
| 11,500.0 | 6,675.6 | 6,579.2 | 6,578.7 | 138.8 | 12.1 | -92.80 | 464.0 | 5,622.8 | 829.7 | 679.1 | 150.65 | 5.508 | | |
| 11,600.0 | 6,674.4 | 6,577.6 | 6,577.2 | 141.6 | 12.1 | -92.48 | 464.0 | 5,622.9 | 736.6 | 583.1 | 153.48 | 4.799 | | |
| 11,700.0 | 6,673.3 | 6,576.0 | 6,575.6 | 144.3 | 12.1 | -92.16 | 464.0 | 5,622.9 | 645.5 | 489.2 | 156.30 | 4.130 | | |
| 11,800.0 | 6,672.2 | 6,574.5 | 6,574.0 | 147.1 | 12.1 | -91.85 | 464.0 | 5,622.9 | 557.5 | 398.4 | 159.12 | 3.504 | | |
| 11,900.0 | 6,671.1 | 6,572.9 | 6,572.5 | 149.9 | 12.1 | -91.53 | 464.0 | 5,622.9 | 474.3 | 312.3 | 161.94 | 2.929 | | |
| 12,000.0 | 6,670.0 | 6,571.3 | 6,570.9 | 152.7 | 12.1 | -91.21 | 464.0 | 5,622.9 | 398.8 | 234.1 | 164.76 | 2.421 | | |
| 12,100.0 | 6,668.9 | 6,569.7 | 6,569.3 | 155.5 | 12.1 | -90.90 | 464.0 | 5,622.9 | 336.4 | 168.8 | 167.57 | 2.007 | | |
| 12,200.0 | 6,667.7 | 6,568.2 | 6,567.7 | 158.3 | 12.1 | -90.58 | 464.0 | 5,622.9 | 295.4 | 125.0 | 170.37 | 1.734 | | |
| 12,279.5 | 6,666.8 | 6,566.9 | 6,566.5 | 160.5 | 12.1 | -90.33 | 464.0 | 5,622.9 | 284.5 | 111.9 | 172.60 | 1.648 CC, ES | | |
| 12,300.0 | 6,666.6 | 6,566.6 | 6,566.2 | 161.1 | 12.1 | -90.26 | 464.0 | 5,622.9 | 285.2 | 112.0 | 173.18 | 1.647 SF | | |
| 12,400.0 | 6,665.5 | 6,565.0 | 6,564.6 | 163.9 | 12.1 | -89.95 | 464.0 | 5,622.9 | 308.9 | 133.0 | 175.98 | 1.755 | | |
| 12,500.0 | 6,664.4 | 6,563.4 | 6,563.0 | 166.7 | 12.1 | -89.63 | 464.1 | 5,622.9 | 359.9 | 181.1 | 178.77 | 2.013 | | |
| 12,600.0 | 6,663.3 | 6,561.9 | 6,561.4 | 169.5 | 12.1 | -89.31 | 464.1 | 5,622.9 | 428.5 | 246.9 | 181.56 | 2.360 | | |
| 12,700.0 | 6,662.2 | 6,560.3 | 6,559.9 | 172.3 | 12.1 | -89.00 | 464.1 | 5,622.9 | 507.6 | 323.3 | 184.35 | 2.754 | | |
| 12,800.0 | 6,661.0 | 6,558.7 | 6,558.3 | 175.1 | 12.1 | -88.68 | 464.1 | 5,622.9 | 593.1 | 406.0 | 187.13 | 3.169 | | |
| 12,900.0 | 6,659.9 | 6,557.2 | 6,556.7 | 177.9 | 12.1 | -88.36 | 464.1 | 5,622.9 | 682.5 | 492.6 | 189.90 | 3.594 | | |
| 13,000.0 | 6,658.8 | 6,555.6 | 6,555.1 | 180.7 | 12.1 | -88.05 | 464.1 | 5,623.0 | 774.5 | 581.8 | 192.67 | 4.020 | | |
| 13,100.0 | 6,657.7 | 6,554.0 | 6,553.6 | 183.5 | 12.1 | -87.73 | 464.1 | 5,623.0 | 868.3 | 672.9 | 195.43 | 4.443 | | |
| 13,200.0 | 6,656.6 | 6,552.4 | 6,552.0 | 186.3 | 12.1 | -87.42 | 464.1 | 5,623.0 | 963.3 | 765.1 | 198.19 | 4.861 | | |

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|---------------------------|---|-------------------------------------|---|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Loloff Farms 26I-312 |
| Project: | SEC.26-T5N-R64W | TVD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Reference Site: | Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W | MD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Loloff Farms 26I-312 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #2 (3-9-15) | Offset TVD Reference: | Offset Datum |

| Offset Design Existing Wells Pad Sec.26-T5N-R64W - Schlagel 26-1 (SI) - Wellbore #1 - Wellbore #1 | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|---|-------------------------------|---------------------|----------------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|--------------|--------------------|--------|
| Survey Program: 100-NS-GYRO-MS | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Measured Depth (ft) | Vertical Reference Depth (ft) | Measured Depth (ft) | Vertical Offset Depth (ft) | Semi Major Axis | | | Distance | | | Separation | | | Warning | |
| | | | | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Factor | | |
| 8,800.0 | 6,705.7 | 6,605.2 | 6,604.0 | 64.0 | 11.8 | -88.21 | 495.0 | 3,027.7 | 938.9 | 863.2 | 75.73 | 12.398 | | |
| 8,900.0 | 6,704.6 | 6,606.8 | 6,605.6 | 66.7 | 11.8 | -88.50 | 495.0 | 3,027.7 | 845.4 | 766.9 | 78.46 | 10.774 | | |
| 9,000.0 | 6,703.5 | 6,608.4 | 6,607.2 | 69.4 | 11.8 | -88.80 | 494.9 | 3,027.7 | 753.5 | 672.3 | 81.21 | 9.279 | | |
| 9,100.0 | 6,702.4 | 6,610.0 | 6,608.8 | 72.2 | 11.8 | -89.09 | 494.9 | 3,027.8 | 664.0 | 580.1 | 83.95 | 7.909 | | |
| 9,200.0 | 6,701.2 | 6,611.7 | 6,610.4 | 74.9 | 11.8 | -89.38 | 494.9 | 3,027.8 | 578.0 | 491.3 | 86.70 | 6.666 | | |
| 9,300.0 | 6,700.1 | 6,613.3 | 6,612.1 | 77.7 | 11.8 | -89.68 | 494.9 | 3,027.9 | 497.2 | 407.7 | 89.46 | 5.558 | | |
| 9,400.0 | 6,699.0 | 6,614.9 | 6,613.7 | 80.4 | 11.8 | -89.97 | 494.8 | 3,027.9 | 424.6 | 332.4 | 92.21 | 4.605 | | |
| 9,500.0 | 6,697.9 | 6,616.5 | 6,615.3 | 83.2 | 11.8 | -90.26 | 494.8 | 3,028.0 | 365.3 | 270.3 | 94.97 | 3.846 | | |
| 9,600.0 | 6,696.8 | 6,618.1 | 6,616.9 | 85.9 | 11.8 | -90.56 | 494.8 | 3,028.0 | 326.4 | 228.6 | 97.73 | 3.340 | | |
| 9,684.5 | 6,695.8 | 6,619.5 | 6,618.3 | 88.3 | 11.8 | -90.81 | 494.8 | 3,028.0 | 315.3 | 215.2 | 100.06 | 3.151 CC | | |
| 9,700.0 | 6,695.7 | 6,619.7 | 6,618.5 | 88.7 | 11.8 | -90.85 | 494.8 | 3,028.0 | 315.6 | 215.1 | 100.49 | 3.141 ES, SF | | |
| 9,800.0 | 6,694.5 | 6,621.3 | 6,620.1 | 91.5 | 11.8 | -91.14 | 494.7 | 3,028.1 | 335.7 | 232.5 | 103.24 | 3.252 | | |
| 9,900.0 | 6,693.4 | 6,623.0 | 6,621.7 | 94.2 | 11.8 | -91.44 | 494.7 | 3,028.1 | 381.9 | 275.9 | 106.00 | 3.602 | | |
| 10,000.0 | 6,692.3 | 6,624.6 | 6,623.4 | 97.0 | 11.8 | -91.73 | 494.7 | 3,028.2 | 446.0 | 337.2 | 108.76 | 4.101 | | |
| 10,100.0 | 6,691.2 | 6,626.2 | 6,625.0 | 99.8 | 11.8 | -92.02 | 494.7 | 3,028.2 | 521.5 | 410.0 | 111.51 | 4.677 | | |
| 10,200.0 | 6,690.1 | 6,627.8 | 6,626.6 | 102.6 | 11.8 | -92.32 | 494.7 | 3,028.3 | 604.2 | 489.9 | 114.27 | 5.288 | | |
| 10,300.0 | 6,689.0 | 6,629.4 | 6,628.2 | 105.3 | 11.8 | -92.61 | 494.6 | 3,028.3 | 691.5 | 574.5 | 117.02 | 5.909 | | |
| 10,400.0 | 6,687.8 | 6,631.0 | 6,629.8 | 108.1 | 11.8 | -92.90 | 494.6 | 3,028.4 | 781.8 | 662.0 | 119.76 | 6.528 | | |
| 10,500.0 | 6,686.7 | 6,632.6 | 6,631.4 | 110.9 | 11.8 | -93.20 | 494.6 | 3,028.4 | 874.2 | 751.7 | 122.51 | 7.136 | | |
| 10,600.0 | 6,685.6 | 6,634.3 | 6,633.0 | 113.7 | 11.8 | -93.49 | 494.6 | 3,028.4 | 968.2 | 842.9 | 125.25 | 7.730 | | |

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|---------------------------|---|-------------------------------------|---|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Loloff Farms 26I-312 |
| Project: | SEC.26-T5N-R64W | TVD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Reference Site: | Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W | MD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Loloff Farms 26I-312 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #2 (3-9-15) | Offset TVD Reference: | Offset Datum |

| Offset Design Existing Wells Pad Sec.26-T5N-R64W - Schlagel 26-4 (Exist.) - Wellbore #1 - Wellbore #1 | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|---|---------------------------|---------------------------|---------------------------|-----------------|--------|-----------------------------|---|---------------|----------------------------|-----------------------------|----------------------|--------------|--------------------|--------|
| Survey Program: 100-NS-GYRO-MS | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Semi Major Axis | | | Distance | | | Minimum Separation | | | Warning | |
| Reference | Offset | Reference | Offset | Reference | Offset | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Separation Factor | Warning | | |
| 10,100.0 | 6,691.2 | 6,588.9 | 6,588.1 | 99.8 | 13.8 | -91.65 | 521.0 | 4,331.3 | 951.2 | 837.6 | 113.53 | 8.378 | | |
| 10,200.0 | 6,690.1 | 6,587.7 | 6,586.9 | 102.6 | 13.8 | -91.45 | 521.0 | 4,331.3 | 858.6 | 742.3 | 116.32 | 7.382 | | |
| 10,300.0 | 6,689.0 | 6,586.6 | 6,585.7 | 105.3 | 13.8 | -91.25 | 521.0 | 4,331.3 | 767.9 | 648.8 | 119.10 | 6.447 | | |
| 10,400.0 | 6,687.8 | 6,585.4 | 6,584.6 | 108.1 | 13.8 | -91.05 | 521.0 | 4,331.3 | 679.8 | 557.9 | 121.89 | 5.577 | | |
| 10,500.0 | 6,686.7 | 6,584.2 | 6,583.4 | 110.9 | 13.8 | -90.86 | 521.0 | 4,331.3 | 595.4 | 470.8 | 124.67 | 4.776 | | |
| 10,600.0 | 6,685.6 | 6,583.1 | 6,582.3 | 113.7 | 13.8 | -90.67 | 521.0 | 4,331.3 | 516.7 | 389.2 | 127.46 | 4.054 | | |
| 10,700.0 | 6,684.5 | 6,582.0 | 6,581.2 | 116.5 | 13.8 | -90.48 | 521.0 | 4,331.3 | 446.6 | 316.3 | 130.25 | 3.429 | | |
| 10,800.0 | 6,683.4 | 6,580.9 | 6,580.1 | 119.2 | 13.8 | -90.30 | 521.0 | 4,331.3 | 389.7 | 256.7 | 133.03 | 2.929 | | |
| 10,900.0 | 6,682.3 | 6,579.8 | 6,579.0 | 122.0 | 13.8 | -90.12 | 521.0 | 4,331.3 | 352.6 | 216.7 | 135.82 | 2.596 | | |
| 10,987.8 | 6,681.3 | 6,578.9 | 6,578.0 | 124.5 | 13.8 | -89.96 | 521.0 | 4,331.3 | 341.4 | 203.2 | 138.27 | 2.469 CC | | |
| 11,000.0 | 6,681.1 | 6,578.7 | 6,577.9 | 124.8 | 13.8 | -89.94 | 521.0 | 4,331.3 | 341.7 | 203.0 | 138.61 | 2.465 ES, SF | | |
| 11,100.0 | 6,680.0 | 6,577.7 | 6,576.8 | 127.6 | 13.8 | -89.76 | 521.0 | 4,331.3 | 359.4 | 218.0 | 141.40 | 2.542 | | |
| 11,200.0 | 6,678.9 | 6,576.6 | 6,575.8 | 130.4 | 13.8 | -89.58 | 521.0 | 4,331.3 | 402.0 | 257.8 | 144.18 | 2.788 | | |
| 11,300.0 | 6,677.8 | 6,575.6 | 6,574.8 | 133.2 | 13.8 | -89.41 | 521.0 | 4,331.3 | 462.6 | 315.7 | 146.97 | 3.148 | | |
| 11,400.0 | 6,676.7 | 6,574.6 | 6,573.8 | 136.0 | 13.8 | -89.24 | 521.0 | 4,331.3 | 535.2 | 385.5 | 149.75 | 3.574 | | |
| 11,500.0 | 6,675.6 | 6,573.6 | 6,572.7 | 138.8 | 13.8 | -89.07 | 521.0 | 4,331.2 | 615.5 | 463.0 | 152.54 | 4.035 | | |
| 11,600.0 | 6,674.4 | 6,572.6 | 6,571.8 | 141.6 | 13.8 | -88.91 | 521.0 | 4,331.2 | 700.9 | 545.6 | 155.32 | 4.513 | | |
| 11,700.0 | 6,673.3 | 6,571.6 | 6,570.8 | 144.3 | 13.8 | -88.74 | 521.0 | 4,331.2 | 789.8 | 631.6 | 158.11 | 4.995 | | |
| 11,800.0 | 6,672.2 | 6,570.7 | 6,569.8 | 147.1 | 13.8 | -88.58 | 521.0 | 4,331.2 | 881.0 | 720.1 | 160.89 | 5.476 | | |
| 11,900.0 | 6,671.1 | 6,569.7 | 6,568.9 | 149.9 | 13.8 | -88.42 | 521.0 | 4,331.2 | 973.9 | 810.3 | 163.67 | 5.951 | | |

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|---------------------------|---|-------------------------------------|---|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Loloff Farms 26I-312 |
| Project: | SEC.26-T5N-R64W | TVD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Reference Site: | Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W | MD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Loloff Farms 26I-312 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #2 (3-9-15) | Offset TVD Reference: | Offset Datum |

| Offset Design Existing Wells Pad Sec.26-T5N-R64W (Grid) - Loloff 2 (Exist.) - Wellbore #1 - Wellbore #1 | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|---|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|--------|
| Survey Program: 100-NS-GYRO-MS | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | Offset | Semi Major Axis | | Distance | | Minimum Separation | | 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 | 53.97 | 324.3 | 445.9 | 552.1 | | | | | |
| 100.0 | 100.0 | 70.6 | 70.6 | 0.1 | 0.1 | 53.98 | 324.2 | 445.9 | 551.3 | 551.1 | 0.21 | 2,674.149 | | |
| 200.0 | 200.0 | 172.2 | 172.2 | 0.3 | 0.3 | 54.02 | 323.8 | 445.9 | 551.0 | 550.4 | 0.66 | 839.990 | | |
| 300.0 | 300.0 | 272.3 | 272.3 | 0.6 | 0.6 | 54.05 | 323.2 | 445.7 | 550.6 | 549.5 | 1.14 | 482.543 | | |
| 378.9 | 378.9 | 348.9 | 348.9 | 0.7 | 0.7 | 54.07 | 323.0 | 445.7 | 550.4 | 548.9 | 1.47 | 374.773 | | |
| 400.0 | 400.0 | 369.1 | 369.1 | 0.8 | 0.8 | 54.07 | 322.9 | 445.7 | 550.4 | 548.8 | 1.55 | 355.501 | | |
| 500.0 | 500.0 | 469.4 | 469.4 | 1.0 | 0.9 | 54.09 | 323.0 | 446.0 | 550.7 | 548.7 | 1.94 | 283.281 | | |
| 600.0 | 600.0 | 567.5 | 567.5 | 1.2 | 1.1 | 54.08 | 323.1 | 446.1 | 550.8 | 548.5 | 2.32 | 237.284 | | |
| 700.0 | 700.0 | 667.8 | 667.8 | 1.5 | 1.2 | 54.02 | 323.9 | 446.2 | 551.4 | 548.7 | 2.65 | 207.769 | | |
| 800.0 | 800.0 | 768.4 | 768.4 | 1.7 | 1.3 | 53.98 | 324.4 | 446.2 | 551.7 | 548.7 | 2.99 | 184.307 | | |
| 900.0 | 900.0 | 869.2 | 869.1 | 1.9 | 1.4 | 53.88 | 325.3 | 445.8 | 551.9 | 548.6 | 3.36 | 164.292 | | |
| 1,000.0 | 1,000.0 | 968.8 | 968.7 | 2.1 | 1.6 | 53.85 | 325.7 | 445.7 | 552.1 | 548.3 | 3.76 | 146.992 | | |
| 1,100.0 | 1,100.0 | 1,070.1 | 1,070.1 | 2.4 | 1.8 | 53.83 | 325.9 | 445.8 | 552.2 | 548.1 | 4.17 | 132.484 | | |
| 1,170.9 | 1,170.9 | 1,140.9 | 1,140.9 | 2.5 | 1.9 | 53.81 | 326.1 | 445.6 | 552.2 | 547.7 | 4.46 | 123.731 | | |
| 1,200.0 | 1,200.0 | 1,169.4 | 1,169.3 | 2.6 | 2.0 | 53.80 | 326.1 | 445.6 | 552.2 | 547.6 | 4.58 | 120.479 | | |
| 1,300.0 | 1,300.0 | 1,268.8 | 1,268.8 | 2.8 | 2.2 | 53.77 | 326.5 | 445.6 | 552.4 | 547.4 | 5.02 | 110.075 | | |
| 1,400.0 | 1,400.0 | 1,369.8 | 1,369.8 | 3.0 | 2.4 | 53.73 | 326.9 | 445.5 | 552.6 | 547.1 | 5.46 | 101.127 | | |
| 1,500.0 | 1,500.0 | 1,471.0 | 1,471.0 | 3.3 | 2.6 | 53.65 | 327.5 | 445.0 | 552.5 | 546.6 | 5.91 | 93.521 | | |
| 1,600.0 | 1,600.0 | 1,571.1 | 1,571.1 | 3.5 | 2.9 | 53.51 | 328.4 | 444.0 | 552.3 | 545.9 | 6.35 | 86.929 | | |
| 1,700.0 | 1,700.0 | 1,671.2 | 1,671.2 | 3.7 | 3.1 | 53.34 | 329.7 | 442.9 | 552.1 | 545.3 | 6.81 | 81.117 | | |
| 1,800.0 | 1,800.0 | 1,770.2 | 1,770.1 | 3.9 | 3.3 | 53.15 | 331.0 | 441.7 | 551.9 | 544.7 | 7.26 | 75.986 | | |
| 1,803.0 | 1,803.0 | 1,773.1 | 1,773.0 | 3.9 | 3.3 | 106.46 | 331.0 | 441.7 | 551.9 | 544.7 | 7.28 | 75.844 | | |
| 1,900.0 | 1,900.0 | 1,869.6 | 1,869.6 | 4.2 | 3.6 | 106.40 | 332.2 | 440.8 | 552.2 | 544.5 | 7.72 | 71.502 | | |
| 2,000.0 | 2,000.0 | 1,969.2 | 1,969.1 | 4.4 | 3.8 | 106.53 | 333.2 | 440.2 | 553.1 | 544.9 | 8.18 | 67.589 | | |
| 2,100.0 | 2,099.9 | 2,069.2 | 2,069.2 | 4.6 | 4.0 | 106.89 | 333.7 | 440.0 | 554.5 | 545.9 | 8.63 | 64.265 | | |
| 2,200.0 | 2,199.7 | 2,170.8 | 2,170.7 | 4.8 | 4.2 | 107.49 | 333.7 | 440.1 | 556.3 | 547.3 | 9.01 | 61.749 | | |
| 2,300.0 | 2,299.4 | 2,270.7 | 2,270.7 | 5.0 | 4.3 | 108.27 | 333.3 | 440.0 | 558.5 | 549.2 | 9.32 | 59.894 | | |
| 2,400.0 | 2,398.9 | 2,369.0 | 2,368.9 | 5.3 | 4.4 | 109.22 | 332.7 | 440.3 | 561.4 | 551.8 | 9.63 | 58.280 | | |
| 2,500.0 | 2,498.3 | 2,466.7 | 2,466.7 | 5.5 | 4.5 | 110.36 | 331.8 | 441.1 | 565.4 | 555.5 | 9.96 | 56.755 | | |
| 2,600.0 | 2,597.4 | 2,565.5 | 2,565.4 | 5.8 | 4.6 | 111.75 | 330.0 | 442.6 | 570.5 | 560.2 | 10.31 | 55.314 | | |
| 2,700.0 | 2,696.4 | 2,664.6 | 2,664.4 | 6.0 | 4.7 | 113.30 | 328.0 | 444.1 | 576.4 | 565.7 | 10.69 | 53.928 | | |
| 2,800.0 | 2,795.4 | 2,764.5 | 2,764.3 | 6.3 | 4.8 | 114.84 | 325.9 | 445.6 | 582.5 | 571.5 | 11.08 | 52.585 | | |
| 2,900.0 | 2,894.3 | 2,865.1 | 2,864.9 | 6.6 | 5.0 | 116.35 | 323.8 | 446.8 | 588.8 | 577.3 | 11.48 | 51.282 | | |
| 3,000.0 | 2,993.3 | 2,966.3 | 2,966.1 | 6.9 | 5.1 | 117.80 | 321.8 | 447.5 | 595.1 | 583.2 | 11.90 | 50.020 | | |
| 3,100.0 | 3,092.3 | 3,066.3 | 3,066.1 | 7.2 | 5.3 | 119.15 | 320.1 | 447.6 | 601.4 | 589.0 | 12.32 | 48.810 | | |
| 3,200.0 | 3,191.3 | 3,166.1 | 3,165.9 | 7.5 | 5.4 | 120.46 | 318.6 | 447.5 | 607.8 | 595.1 | 12.75 | 47.662 | | |
| 3,300.0 | 3,290.2 | 3,266.4 | 3,266.2 | 7.8 | 5.6 | 121.76 | 316.7 | 447.4 | 614.4 | 601.2 | 13.19 | 46.566 | | |
| 3,400.0 | 3,389.2 | 3,369.3 | 3,369.0 | 8.1 | 5.8 | 123.10 | 314.4 | 446.9 | 620.9 | 607.2 | 13.65 | 45.499 | | |
| 3,500.0 | 3,488.2 | 3,474.8 | 3,474.4 | 8.4 | 6.0 | 124.47 | 311.5 | 445.6 | 626.8 | 612.7 | 14.11 | 44.430 | | |
| 3,600.0 | 3,587.2 | 3,577.9 | 3,577.4 | 8.7 | 6.2 | 125.78 | 308.2 | 443.5 | 632.1 | 617.6 | 14.57 | 43.383 | | |
| 3,700.0 | 3,686.1 | 3,678.7 | 3,678.1 | 9.0 | 6.4 | 127.05 | 304.9 | 441.0 | 637.3 | 622.3 | 15.03 | 42.391 | | |
| 3,800.0 | 3,785.1 | 3,777.4 | 3,776.8 | 9.4 | 6.6 | 128.27 | 301.6 | 438.4 | 642.6 | 627.1 | 15.50 | 41.468 | | |
| 3,900.0 | 3,884.1 | 3,878.7 | 3,878.0 | 9.7 | 6.8 | 129.50 | 298.3 | 435.6 | 648.1 | 632.2 | 15.97 | 40.595 | | |
| 4,000.0 | 3,983.1 | 3,979.2 | 3,978.4 | 10.0 | 7.0 | 130.59 | 296.0 | 432.2 | 653.6 | 637.1 | 16.44 | 39.765 | | |
| 4,100.0 | 4,082.0 | 4,079.1 | 4,078.2 | 10.3 | 7.2 | 131.62 | 294.2 | 428.6 | 659.1 | 642.2 | 16.90 | 38.987 | | |
| 4,200.0 | 4,181.2 | 4,180.1 | 4,179.2 | 10.6 | 7.4 | 132.57 | 292.8 | 424.6 | 663.6 | 646.3 | 17.37 | 38.214 | | |
| 4,300.0 | 4,280.8 | 4,279.1 | 4,278.0 | 10.8 | 7.6 | 133.22 | 291.7 | 420.6 | 665.8 | 648.1 | 17.78 | 37.446 | | |
| 4,400.0 | 4,380.6 | 4,378.6 | 4,377.4 | 11.0 | 7.8 | 133.59 | 290.9 | 416.7 | 665.9 | 647.7 | 18.18 | 36.621 | | |
| 4,500.0 | 4,480.5 | 4,477.2 | 4,476.0 | 11.2 | 8.0 | 133.73 | 290.0 | 412.9 | 663.6 | 645.0 | 18.57 | 35.743 | | |

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|---------------------------|---|-------------------------------------|---|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Loloff Farms 261-312 |
| Project: | SEC.26-T5N-R64W | TVD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Reference Site: | Loloff Farms 5N64W261 Pad Sec.26-T5N-R64W | MD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Loloff Farms 261-312 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #2 (3-9-15) | Offset TVD Reference: | Offset Datum |

| Offset Design Existing Wells Pad Sec.26-T5N-R64W (Grid) - Loloff 2 (Exist.) - Wellbore #1 - Wellbore #1 | | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|---|---------------------|---------------------|---------------------|-----------|--------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|---------|--------------------|--------|
| Survey Program: 100-NS-GYRO-MS | | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference | Offset | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning | | |
| 4,600.0 | 4,580.5 | 4,575.6 | 4,574.3 | 11.4 | 8.3 | 80.40 | 289.5 | 409.2 | 659.9 | 640.9 | 19.03 | 34.680 | | | |
| 4,700.0 | 4,680.5 | 4,668.6 | 4,667.3 | 11.6 | 8.5 | 80.35 | 289.6 | 406.2 | 656.7 | 637.3 | 19.43 | 33.800 | | | |
| 4,800.0 | 4,780.5 | 4,760.6 | 4,759.3 | 11.8 | 8.6 | 80.28 | 290.0 | 404.3 | 654.8 | 635.0 | 19.82 | 33.038 | | | |
| 4,900.0 | 4,880.5 | 4,856.9 | 4,855.6 | 12.0 | 8.8 | 80.19 | 290.9 | 403.3 | 653.9 | 633.7 | 20.20 | 32.365 | | | |
| 5,000.0 | 4,980.5 | 4,957.1 | 4,955.8 | 12.2 | 9.0 | 80.06 | 292.3 | 402.3 | 653.1 | 632.5 | 20.59 | 31.724 | | | |
| 5,100.0 | 5,080.5 | 5,055.9 | 5,054.6 | 12.4 | 9.2 | 79.95 | 293.4 | 401.3 | 652.3 | 631.4 | 20.97 | 31.102 | | | |
| 5,200.0 | 5,180.5 | 5,154.8 | 5,153.5 | 12.6 | 9.4 | 79.87 | 294.2 | 400.7 | 651.9 | 630.5 | 21.37 | 30.510 | | | |
| 5,282.8 | 5,263.3 | 5,234.7 | 5,233.3 | 12.7 | 9.5 | 79.81 | 294.9 | 400.3 | 651.6 | 629.9 | 21.68 | 30.059 | | | |
| 5,300.0 | 5,280.5 | 5,250.5 | 5,249.2 | 12.8 | 9.5 | 79.79 | 295.0 | 400.3 | 651.6 | 629.9 | 21.74 | 29.976 | | | |
| 5,400.0 | 5,380.5 | 5,346.5 | 5,345.2 | 13.0 | 9.7 | 79.71 | 296.0 | 400.8 | 652.3 | 630.2 | 22.08 | 29.543 | | | |
| 5,500.0 | 5,480.5 | 5,447.9 | 5,446.5 | 13.2 | 9.8 | 79.68 | 296.5 | 401.4 | 653.0 | 630.6 | 22.41 | 29.139 | | | |
| 5,600.0 | 5,580.5 | 5,549.5 | 5,548.1 | 13.4 | 9.9 | 79.69 | 296.5 | 401.9 | 653.5 | 630.8 | 22.74 | 28.733 | | | |
| 5,700.0 | 5,680.5 | 5,650.0 | 5,648.6 | 13.6 | 10.0 | 79.69 | 296.6 | 402.3 | 653.8 | 630.7 | 23.08 | 28.328 | | | |
| 5,800.0 | 5,780.5 | 5,749.8 | 5,748.4 | 13.8 | 10.2 | 79.69 | 296.6 | 402.6 | 654.1 | 630.7 | 23.42 | 27.925 | | | |
| 5,900.0 | 5,880.5 | 5,849.7 | 5,848.3 | 14.0 | 10.3 | 79.67 | 296.9 | 402.9 | 654.5 | 630.7 | 23.78 | 27.524 | | | |
| 6,000.0 | 5,980.5 | 5,948.1 | 5,946.7 | 14.2 | 10.4 | -10.30 | 296.6 | 403.3 | 654.6 | 630.5 | 24.05 | 27.223 | | | |
| 6,100.0 | 6,080.0 | 6,046.4 | 6,045.0 | 14.3 | 10.6 | -10.52 | 296.3 | 404.1 | 646.3 | 622.2 | 24.07 | 26.853 | | | |
| 6,200.0 | 6,177.5 | 6,144.3 | 6,142.9 | 14.4 | 10.7 | -11.18 | 296.2 | 404.9 | 625.2 | 601.5 | 23.74 | 26.333 | | | |
| 6,300.0 | 6,271.2 | 6,236.6 | 6,235.1 | 14.5 | 10.9 | -12.38 | 296.4 | 405.6 | 592.0 | 568.9 | 23.09 | 25.634 | | | |
| 6,400.0 | 6,359.6 | 6,323.3 | 6,321.9 | 14.5 | 11.0 | -14.26 | 296.4 | 406.7 | 547.4 | 525.3 | 22.18 | 24.679 | | | |
| 6,500.0 | 6,441.1 | 6,404.5 | 6,403.0 | 14.7 | 11.1 | -17.21 | 296.2 | 408.0 | 492.4 | 471.3 | 21.14 | 23.291 | | | |
| 6,600.0 | 6,514.5 | 6,479.2 | 6,477.8 | 14.9 | 11.3 | -22.00 | 295.9 | 409.4 | 427.9 | 407.7 | 20.28 | 21.104 | | | |
| 6,700.0 | 6,578.3 | 6,544.4 | 6,543.0 | 15.5 | 11.4 | -29.93 | 295.6 | 410.5 | 355.5 | 335.2 | 20.28 | 17.533 | | | |
| 6,800.0 | 6,631.5 | 6,599.3 | 6,597.8 | 16.5 | 11.5 | -43.10 | 295.1 | 411.5 | 277.7 | 255.3 | 22.39 | 12.401 | | | |
| 6,900.0 | 6,673.3 | 6,643.2 | 6,641.7 | 17.7 | 11.5 | -62.68 | 294.8 | 412.2 | 199.1 | 172.2 | 26.93 | 7.395 | | | |
| 7,000.0 | 6,702.8 | 6,674.0 | 6,672.5 | 19.3 | 11.6 | -82.11 | 294.6 | 412.6 | 133.3 | 102.6 | 30.70 | 4.343 | | | |
| 7,068.7 | 6,715.8 | 6,687.5 | 6,686.0 | 20.6 | 11.6 | -90.11 | 294.6 | 412.7 | 115.1 | 82.9 | 32.17 | 3.577 CC, ES, SF | | | |
| 7,100.0 | 6,719.7 | 6,691.5 | 6,690.1 | 21.2 | 11.6 | -91.81 | 294.6 | 412.8 | 119.2 | 86.5 | 32.72 | 3.643 | | | |
| 7,200.0 | 6,723.6 | 6,696.1 | 6,694.7 | 23.2 | 11.6 | -89.81 | 294.6 | 412.8 | 174.3 | 139.5 | 34.76 | 5.013 | | | |
| 7,300.0 | 6,722.5 | 6,695.8 | 6,694.3 | 25.3 | 11.6 | -89.62 | 294.6 | 412.8 | 257.9 | 221.0 | 36.90 | 6.990 | | | |
| 7,400.0 | 6,721.4 | 6,695.4 | 6,693.9 | 27.6 | 11.6 | -89.44 | 294.6 | 412.8 | 350.3 | 311.1 | 39.17 | 8.943 | | | |
| 7,500.0 | 6,720.2 | 6,695.0 | 6,693.6 | 29.9 | 11.6 | -89.26 | 294.6 | 412.8 | 446.0 | 404.4 | 41.52 | 10.740 | | | |
| 7,600.0 | 6,719.1 | 6,694.7 | 6,693.2 | 32.4 | 11.6 | -89.08 | 294.6 | 412.8 | 543.2 | 499.2 | 43.95 | 12.358 | | | |
| 7,700.0 | 6,718.0 | 6,694.3 | 6,692.9 | 34.8 | 11.6 | -88.91 | 294.6 | 412.8 | 641.3 | 594.8 | 46.44 | 13.809 | | | |
| 7,800.0 | 6,716.9 | 6,694.0 | 6,692.5 | 37.4 | 11.6 | -88.74 | 294.6 | 412.8 | 739.9 | 690.9 | 48.97 | 15.109 | | | |
| 7,900.0 | 6,715.8 | 6,693.7 | 6,692.2 | 39.9 | 11.6 | -88.58 | 294.6 | 412.8 | 838.8 | 787.3 | 51.54 | 16.276 | | | |
| 8,000.0 | 6,714.7 | 6,693.3 | 6,691.9 | 42.5 | 11.6 | -88.42 | 294.6 | 412.8 | 937.9 | 883.8 | 54.13 | 17.327 | | | |

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|---------------------------|---|-------------------------------------|---|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Loloff Farms 26I-312 |
| Project: | SEC.26-T5N-R64W | TVD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Reference Site: | Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W | MD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Loloff Farms 26I-312 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #2 (3-9-15) | Offset TVD Reference: | Offset Datum |

| Offset Design Existing Wells Pad Sec.26-T5N-R64W (Grid) - Loloff B 26-14X (Exist.) - Wellbore #1 - Wellbore #1 | | | | | | | | | | | | | 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 | 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) | | | |
| 7,300.0 | 6,722.5 | 6,680.4 | 6,679.4 | 25.3 | 12.2 | -90.50 | 371.1 | 1,603.1 | 978.4 | 940.9 | 37.48 | 26.104 | | |
| 7,400.0 | 6,721.4 | 6,680.2 | 6,679.3 | 27.6 | 12.2 | -90.45 | 371.1 | 1,603.1 | 880.6 | 840.8 | 39.75 | 22.155 | | |
| 7,500.0 | 6,720.2 | 6,680.1 | 6,679.1 | 29.9 | 12.2 | -90.41 | 371.1 | 1,603.1 | 783.3 | 741.2 | 42.10 | 18.604 | | |
| 7,600.0 | 6,719.1 | 6,679.9 | 6,679.0 | 32.4 | 12.2 | -90.36 | 371.1 | 1,603.1 | 686.7 | 642.2 | 44.53 | 15.421 | | |
| 7,700.0 | 6,718.0 | 6,679.8 | 6,678.8 | 34.8 | 12.2 | -90.32 | 371.1 | 1,603.1 | 591.4 | 544.4 | 47.02 | 12.577 | | |
| 7,800.0 | 6,716.9 | 6,679.6 | 6,678.7 | 37.4 | 12.2 | -90.27 | 371.1 | 1,603.1 | 497.8 | 448.3 | 49.55 | 10.046 | | |
| 7,900.0 | 6,715.8 | 6,679.4 | 6,678.5 | 39.9 | 12.2 | -90.22 | 371.1 | 1,603.1 | 407.3 | 355.2 | 52.12 | 7.815 | | |
| 8,000.0 | 6,714.7 | 6,679.3 | 6,678.3 | 42.5 | 12.2 | -90.18 | 371.1 | 1,603.1 | 322.5 | 267.8 | 54.72 | 5.894 | | |
| 8,100.0 | 6,713.5 | 6,679.1 | 6,678.2 | 45.2 | 12.2 | -90.13 | 371.1 | 1,603.1 | 249.2 | 191.9 | 57.35 | 4.346 | | |
| 8,200.0 | 6,712.4 | 6,679.0 | 6,678.0 | 47.8 | 12.2 | -90.09 | 371.1 | 1,603.1 | 200.5 | 140.5 | 59.99 | 3.343 | | |
| 8,259.5 | 6,711.8 | 6,678.9 | 6,677.9 | 49.4 | 12.2 | -90.06 | 371.1 | 1,603.1 | 191.5 | 129.9 | 61.58 | 3.110 CC, ES, SF | | |
| 8,300.0 | 6,711.3 | 6,678.8 | 6,677.9 | 50.5 | 12.2 | -90.04 | 371.1 | 1,603.1 | 195.7 | 133.1 | 62.66 | 3.124 | | |
| 8,400.0 | 6,710.2 | 6,678.7 | 6,677.7 | 53.2 | 12.2 | -89.99 | 371.1 | 1,603.1 | 237.5 | 172.2 | 65.33 | 3.635 | | |
| 8,500.0 | 6,709.1 | 6,678.5 | 6,677.6 | 55.8 | 12.2 | -89.95 | 371.1 | 1,603.1 | 307.4 | 239.4 | 68.03 | 4.519 | | |
| 8,600.0 | 6,707.9 | 6,678.4 | 6,677.4 | 58.5 | 12.2 | -89.90 | 371.1 | 1,603.1 | 390.7 | 319.9 | 70.73 | 5.523 | | |
| 8,700.0 | 6,706.8 | 6,678.2 | 6,677.3 | 61.3 | 12.2 | -89.86 | 371.1 | 1,603.1 | 480.3 | 406.9 | 73.44 | 6.540 | | |
| 8,800.0 | 6,705.7 | 6,678.1 | 6,677.1 | 64.0 | 12.2 | -89.81 | 371.1 | 1,603.1 | 573.4 | 497.3 | 76.16 | 7.529 | | |
| 8,900.0 | 6,704.6 | 6,677.9 | 6,677.0 | 66.7 | 12.2 | -89.76 | 371.1 | 1,603.1 | 668.5 | 589.6 | 78.89 | 8.474 | | |
| 9,000.0 | 6,703.5 | 6,677.8 | 6,676.8 | 69.4 | 12.2 | -89.72 | 371.1 | 1,603.1 | 764.9 | 683.2 | 81.62 | 9.371 | | |
| 9,100.0 | 6,702.4 | 6,677.6 | 6,676.6 | 72.2 | 12.2 | -89.67 | 371.1 | 1,603.1 | 862.0 | 777.7 | 84.36 | 10.218 | | |
| 9,200.0 | 6,701.2 | 6,677.4 | 6,676.5 | 74.9 | 12.2 | -89.62 | 371.1 | 1,603.1 | 959.8 | 872.7 | 87.11 | 11.019 | | |

| | | | |
|---------------------------|---|-------------------------------------|---|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Loloff Farms 261-312 |
| Project: | SEC.26-T5N-R64W | TVD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Reference Site: | Loloff Farms 5N64W261 Pad Sec.26-T5N-R64W | MD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Loloff Farms 261-312 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #2 (3-9-15) | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|-----------------------|---------------------|---------------------|---------------------|-----------|--------|-----------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|--------------------|---------|
| Survey Program: 0-MWD | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | | | | | | | | | | | | | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference | Offset | Semi Major Axis | 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 | -89.99 | -89.99 | 0.0 | -30.7 | 30.7 | 30.4 | 0.22 | 136.381 | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | -89.99 | -89.99 | 0.0 | -30.7 | 30.7 | 30.0 | 0.67 | 45.460 | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | -89.99 | -89.99 | 0.0 | -30.7 | 30.7 | 29.5 | 1.12 | 27.276 | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.6 | 0.6 | -89.99 | -89.99 | 0.0 | -30.7 | 30.7 | 29.1 | 1.57 | 19.483 | |
| 400.0 | 400.0 | 400.0 | 400.0 | 0.8 | 0.8 | -89.99 | -89.99 | 0.0 | -30.7 | 30.7 | 28.6 | 2.02 | 15.153 | |
| 500.0 | 500.0 | 500.0 | 500.0 | 1.0 | 1.0 | -89.99 | -89.99 | 0.0 | -30.7 | 30.7 | 28.2 | 2.47 | 12.398 | |
| 600.0 | 600.0 | 600.0 | 600.0 | 1.2 | 1.2 | -89.99 | -89.99 | 0.0 | -30.7 | 30.7 | 27.7 | 2.92 | 10.491 | |
| 700.0 | 700.0 | 700.0 | 700.0 | 1.5 | 1.5 | -89.99 | -89.99 | 0.0 | -30.7 | 30.7 | 27.3 | 3.37 | 9.092 | |
| 800.0 | 800.0 | 800.0 | 800.0 | 1.7 | 1.7 | -89.99 | -89.99 | 0.0 | -30.7 | 30.7 | 26.8 | 3.82 | 8.022 | |
| 900.0 | 900.0 | 900.0 | 900.0 | 1.9 | 1.9 | -89.99 | -89.99 | 0.0 | -30.7 | 30.7 | 26.4 | 4.27 | 7.178 CC | |
| 1,000.0 | 1,000.0 | 1,000.0 | 1,000.0 | 2.1 | 2.1 | -89.99 | -89.99 | 0.0 | -30.7 | 30.7 | 26.2 | 4.72 | 6.561 ES | |
| 1,100.0 | 1,100.0 | 1,099.8 | 1,099.8 | 2.4 | 2.4 | -88.48 | -88.48 | 0.8 | -30.9 | 31.0 | 26.8 | 5.17 | 6.193 | |
| 1,200.0 | 1,200.0 | 1,199.6 | 1,199.5 | 2.6 | 2.6 | -84.12 | -84.12 | 3.3 | -31.8 | 32.0 | 28.5 | 5.62 | 6.073 | |
| 1,300.0 | 1,300.0 | 1,299.2 | 1,299.1 | 2.8 | 2.8 | -77.54 | -77.54 | 7.4 | -33.3 | 34.1 | 31.6 | 6.07 | 6.215 | |
| 1,400.0 | 1,400.0 | 1,398.6 | 1,398.3 | 3.0 | 3.0 | -69.72 | -69.72 | 13.1 | -35.3 | 37.7 | 36.6 | 6.52 | 6.620 | |
| 1,500.0 | 1,500.0 | 1,497.8 | 1,497.2 | 3.3 | 3.3 | -61.79 | -61.79 | 20.4 | -37.9 | 43.1 | 43.7 | 6.97 | 7.264 | |
| 1,600.0 | 1,600.0 | 1,596.8 | 1,595.7 | 3.5 | 3.5 | -54.59 | -54.59 | 29.2 | -41.1 | 50.6 | 52.8 | 7.43 | 8.106 | |
| 1,700.0 | 1,700.0 | 1,695.3 | 1,693.6 | 3.7 | 3.8 | -48.51 | -48.51 | 39.7 | -44.9 | 60.2 | 64.0 | 7.90 | 9.101 | |
| 1,800.0 | 1,800.0 | 1,793.4 | 1,790.9 | 3.9 | 4.0 | -43.58 | -43.58 | 51.6 | -49.2 | 71.9 | 76.3 | 8.32 | 10.176 | |
| 1,900.0 | 1,900.0 | 1,891.2 | 1,887.6 | 4.2 | 4.3 | 13.77 | 13.77 | 65.1 | -54.0 | 84.6 | 88.8 | 8.76 | 11.135 | |
| 2,000.0 | 2,000.0 | 1,989.4 | 1,984.5 | 4.4 | 4.6 | 17.29 | 17.29 | 80.1 | -59.3 | 97.6 | 100.2 | 9.21 | 11.884 | |
| 2,100.0 | 2,099.9 | 2,088.6 | 2,082.3 | 4.6 | 4.9 | 20.34 | 20.34 | 95.4 | -64.8 | 109.4 | 110.3 | 9.65 | 12.421 | |
| 2,200.0 | 2,199.7 | 2,187.8 | 2,180.3 | 4.8 | 5.2 | 23.11 | 23.11 | 110.8 | -70.4 | 119.9 | 119.0 | 10.11 | 12.775 | |
| 2,300.0 | 2,299.4 | 2,287.2 | 2,278.3 | 5.0 | 5.6 | 25.76 | 25.76 | 126.2 | -75.9 | 129.1 | 126.4 | 10.56 | 12.970 | |
| 2,400.0 | 2,398.9 | 2,386.7 | 2,376.4 | 5.3 | 5.9 | 28.39 | 28.39 | 141.6 | -81.4 | 137.0 | 132.6 | 11.03 | 13.028 | |
| 2,500.0 | 2,498.3 | 2,486.3 | 2,474.6 | 5.5 | 6.2 | 31.08 | 31.08 | 157.0 | -86.9 | 143.6 | 137.6 | 11.50 | 12.967 | |
| 2,600.0 | 2,597.4 | 2,585.9 | 2,572.9 | 5.8 | 6.6 | 33.90 | 33.90 | 172.5 | -92.4 | 149.1 | 142.0 | 12.00 | 12.834 | |
| 2,700.0 | 2,696.4 | 2,685.5 | 2,671.1 | 6.0 | 6.9 | 36.80 | 36.80 | 187.9 | -98.0 | 154.0 | 146.8 | 12.52 | 12.721 | |
| 2,800.0 | 2,795.4 | 2,785.0 | 2,769.3 | 6.3 | 7.3 | 39.53 | 39.53 | 203.3 | -103.5 | 159.3 | 151.8 | 13.05 | 12.630 | |
| 2,900.0 | 2,894.3 | 2,884.6 | 2,867.5 | 6.6 | 7.6 | 42.08 | 42.08 | 218.8 | -109.0 | 164.8 | 157.1 | 13.60 | 12.555 | |
| 3,000.0 | 2,893.3 | 2,884.2 | 2,865.8 | 6.9 | 8.0 | 44.46 | 44.46 | 234.2 | -114.5 | 170.7 | 162.7 | 14.16 | 12.493 | |
| 3,100.0 | 3,092.3 | 3,083.8 | 3,064.0 | 7.2 | 8.3 | 46.68 | 46.68 | 249.6 | -120.1 | 176.9 | 168.6 | 14.73 | 12.442 | |
| 3,200.0 | 3,191.3 | 3,183.4 | 3,162.2 | 7.5 | 8.7 | 48.75 | 48.75 | 265.0 | -125.6 | 183.3 | 174.6 | 15.32 | 12.399 | |
| 3,300.0 | 3,290.2 | 3,283.0 | 3,260.4 | 7.8 | 9.0 | 50.67 | 50.67 | 280.5 | -131.1 | 189.9 | 180.8 | 15.91 | 12.364 | |
| 3,400.0 | 3,389.2 | 3,382.5 | 3,358.7 | 8.1 | 9.4 | 52.47 | 52.47 | 295.9 | -136.6 | 196.7 | 187.2 | 16.52 | 12.334 | |
| 3,500.0 | 3,488.2 | 3,482.1 | 3,456.9 | 8.4 | 9.8 | 54.14 | 54.14 | 311.3 | -142.2 | 203.7 | 193.8 | 17.13 | 12.309 | |
| 3,600.0 | 3,587.2 | 3,581.7 | 3,555.1 | 8.7 | 10.1 | 55.70 | 55.70 | 326.7 | -147.7 | 210.9 | 200.5 | 17.76 | 12.289 | |
| 3,700.0 | 3,686.1 | 3,681.3 | 3,653.3 | 9.0 | 10.5 | 57.16 | 57.16 | 342.2 | -153.2 | 218.2 | 207.3 | 18.39 | 12.272 | |
| 3,800.0 | 3,785.1 | 3,780.9 | 3,751.6 | 9.4 | 10.9 | 58.52 | 58.52 | 357.6 | -158.7 | 225.7 | 214.2 | 19.02 | 12.259 | |
| 3,900.0 | 3,884.1 | 3,880.5 | 3,849.8 | 9.7 | 11.2 | 59.80 | 59.80 | 373.0 | -164.3 | 233.2 | 221.2 | 19.67 | 12.248 | |
| 4,000.0 | 3,983.1 | 3,980.0 | 3,948.0 | 10.0 | 11.6 | 60.99 | 60.99 | 388.4 | -169.8 | 240.9 | 228.3 | 20.32 | 12.239 | |
| 4,100.0 | 4,082.0 | 4,079.6 | 4,046.3 | 10.3 | 12.0 | 62.11 | 62.11 | 403.9 | -175.3 | 248.7 | 236.3 | 20.91 | 12.296 | |
| 4,200.0 | 4,181.2 | 4,179.2 | 4,144.5 | 10.6 | 12.3 | 63.02 | 63.02 | 419.3 | -180.8 | 257.2 | 245.9 | 21.41 | 12.482 | |
| 4,300.0 | 4,280.8 | 4,278.7 | 4,242.6 | 10.8 | 12.7 | 63.25 | 63.25 | 434.7 | -186.4 | 267.3 | 257.1 | 21.85 | 12.767 | |
| 4,400.0 | 4,380.6 | 4,378.0 | 4,340.5 | 11.0 | 13.1 | 62.85 | 62.85 | 450.1 | -191.9 | 278.9 | 270.1 | 22.23 | 13.149 | |
| 4,500.0 | 4,480.5 | 4,476.9 | 4,438.1 | 11.2 | 13.4 | 61.93 | 61.93 | 465.4 | -197.4 | 292.3 | 283.4 | 23.51 | 13.053 | |
| 4,600.0 | 4,580.5 | 4,575.5 | 4,535.4 | 11.4 | 13.8 | 7.22 | 7.22 | 480.7 | -202.8 | 306.9 | 297.5 | 24.14 | 13.323 | |
| 4,700.0 | 4,680.5 | 4,674.2 | 4,632.7 | 11.6 | 14.2 | 5.90 | 5.90 | 496.0 | -208.3 | 321.7 | 311.8 | 24.77 | 13.587 | |
| 4,800.0 | 4,780.5 | 4,772.8 | 4,730.0 | 11.8 | 14.5 | 4.69 | 4.69 | 511.2 | -213.8 | 336.6 | | | | |

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

| | | | |
|---------------------------|---|-------------------------------------|---|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Loloff Farms 26I-312 |
| Project: | SEC.26-T5N-R64W | TVD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Reference Site: | Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W | MD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Loloff Farms 26I-312 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #2 (3-9-15) | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|-----------------------|---------------------|---------------------|---------------------|-----------|--------|-----------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|--------------------|---------|
| Survey Program: 0-MWD | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | | | | | | | | | | | | | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference | Offset | Semi Major Axis | 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 | 4,880.5 | 4,871.4 | 4,827.3 | 12.0 | 14.9 | 3.59 | | 526.5 | -219.3 | 351.7 | 326.3 | 25.40 | 13.846 | |
| 5,000.0 | 4,980.5 | 4,970.1 | 4,924.6 | 12.2 | 15.3 | 2.57 | | 541.8 | -224.7 | 366.9 | 340.9 | 26.02 | 14.099 | |
| 5,100.0 | 5,080.5 | 5,068.7 | 5,021.9 | 12.4 | 15.6 | 1.64 | | 557.1 | -230.2 | 382.2 | 355.6 | 26.64 | 14.346 | |
| 5,200.0 | 5,180.5 | 5,181.1 | 5,133.0 | 12.6 | 16.0 | 0.76 | | 572.7 | -235.8 | 396.0 | 368.8 | 27.22 | 14.547 | |
| 5,300.0 | 5,280.5 | 5,295.5 | 5,246.8 | 12.8 | 16.2 | 0.15 | | 584.3 | -240.0 | 406.2 | 378.4 | 27.74 | 14.642 | |
| 5,400.0 | 5,380.5 | 5,410.8 | 5,361.8 | 13.0 | 16.5 | -0.23 | | 591.7 | -242.6 | 412.6 | 384.4 | 28.20 | 14.631 | |
| 5,500.0 | 5,480.5 | 5,526.6 | 5,477.5 | 13.2 | 16.6 | -0.38 | | 594.8 | -243.7 | 415.3 | 386.7 | 28.61 | 14.515 | |
| 5,600.0 | 5,580.5 | 5,629.6 | 5,580.5 | 13.4 | 16.8 | -0.38 | | 594.9 | -243.8 | 415.3 | 386.4 | 28.98 | 14.334 | |
| 5,700.0 | 5,680.5 | 5,729.6 | 5,680.5 | 13.6 | 17.0 | -0.38 | | 594.9 | -243.8 | 415.3 | 386.0 | 29.35 | 14.151 | |
| 5,800.0 | 5,780.5 | 5,829.6 | 5,780.5 | 13.8 | 17.1 | -0.38 | | 594.9 | -243.8 | 415.3 | 385.6 | 29.73 | 13.972 | |
| 5,900.0 | 5,880.5 | 5,929.8 | 5,880.6 | 14.0 | 17.3 | -0.16 | | 594.9 | -242.2 | 415.3 | 385.3 | 30.08 | 13.806 | |
| 5,916.0 | 5,896.6 | 5,945.7 | 5,896.6 | 14.0 | 17.3 | -90.00 | | 594.9 | -241.0 | 415.3 | 387.5 | 27.79 | 14.947 | |
| 6,000.0 | 5,980.5 | 6,028.4 | 5,978.3 | 14.2 | 17.4 | -88.44 | | 594.9 | -229.5 | 415.5 | 387.3 | 28.16 | 14.754 | |
| 6,100.0 | 6,080.0 | 6,124.5 | 6,071.3 | 14.3 | 17.4 | -86.22 | | 594.9 | -205.1 | 416.3 | 387.7 | 28.54 | 14.587 | |
| 6,200.0 | 6,177.5 | 6,218.9 | 6,158.8 | 14.4 | 17.5 | -84.09 | | 594.9 | -170.0 | 417.6 | 388.8 | 28.83 | 14.485 | |
| 6,300.0 | 6,271.2 | 6,311.6 | 6,240.0 | 14.5 | 17.5 | -82.08 | | 594.9 | -125.3 | 419.4 | 390.3 | 29.08 | 14.422 | |
| 6,400.0 | 6,359.6 | 6,402.8 | 6,314.0 | 14.5 | 17.5 | -80.22 | | 594.9 | -72.0 | 421.6 | 392.2 | 29.37 | 14.355 | |
| 6,500.0 | 6,441.1 | 6,492.8 | 6,380.2 | 14.7 | 17.6 | -78.53 | | 594.9 | -11.3 | 423.9 | 394.1 | 29.80 | 14.226 | |
| 6,600.0 | 6,514.5 | 6,581.6 | 6,438.1 | 14.9 | 17.6 | -77.04 | | 594.9 | 56.0 | 426.3 | 395.8 | 30.53 | 13.961 | |
| 6,700.0 | 6,578.3 | 6,669.5 | 6,487.4 | 15.5 | 17.8 | -75.76 | | 594.9 | 128.7 | 428.6 | 397.0 | 31.66 | 13.539 | |
| 6,800.0 | 6,631.5 | 6,756.6 | 6,527.7 | 16.5 | 18.2 | -74.70 | | 594.9 | 205.9 | 430.7 | 397.4 | 33.32 | 12.927 | |
| 6,900.0 | 6,673.3 | 6,843.1 | 6,558.8 | 17.7 | 19.2 | -73.87 | | 594.9 | 286.6 | 432.4 | 396.8 | 35.56 | 12.159 | |
| 7,000.0 | 6,702.8 | 6,929.2 | 6,580.4 | 19.3 | 20.5 | -73.28 | | 594.9 | 369.9 | 433.7 | 395.3 | 38.37 | 11.302 | |
| 7,100.0 | 6,719.7 | 7,015.0 | 6,592.5 | 21.2 | 22.1 | -72.92 | | 594.9 | 454.7 | 434.5 | 392.8 | 41.67 | 10.427 | |
| 7,200.0 | 6,723.6 | 7,103.2 | 6,595.2 | 23.2 | 23.8 | -72.82 | | 594.9 | 542.9 | 434.7 | 389.3 | 45.38 | 9.580 | |
| 7,300.0 | 6,722.5 | 7,203.2 | 6,594.6 | 25.3 | 26.0 | -72.89 | | 594.9 | 642.9 | 434.6 | 385.1 | 49.49 | 8.781 | |
| 7,400.0 | 6,721.4 | 7,303.2 | 6,594.0 | 27.6 | 28.2 | -72.95 | | 594.9 | 742.9 | 434.4 | 380.6 | 53.83 | 8.070 | |
| 7,500.0 | 6,720.2 | 7,403.2 | 6,593.4 | 29.9 | 30.5 | -73.02 | | 594.9 | 842.9 | 434.3 | 375.9 | 58.36 | 7.442 | |
| 7,600.0 | 6,719.1 | 7,503.2 | 6,592.8 | 32.4 | 32.9 | -73.08 | | 594.9 | 942.9 | 434.1 | 371.1 | 63.02 | 6.889 | |
| 7,700.0 | 6,718.0 | 7,603.2 | 6,592.2 | 34.8 | 35.4 | -73.14 | | 594.9 | 1,042.9 | 434.0 | 366.2 | 67.80 | 6.401 | |
| 7,800.0 | 6,716.9 | 7,703.2 | 6,591.5 | 37.4 | 37.9 | -73.21 | | 594.9 | 1,142.9 | 433.8 | 361.2 | 72.67 | 5.970 | |
| 7,900.0 | 6,715.8 | 7,803.2 | 6,590.9 | 39.9 | 40.5 | -73.27 | | 594.9 | 1,242.9 | 433.7 | 356.1 | 77.62 | 5.588 | |
| 8,000.0 | 6,714.7 | 7,903.2 | 6,590.3 | 42.5 | 43.0 | -73.34 | | 594.9 | 1,342.9 | 433.5 | 350.9 | 82.63 | 5.247 | |
| 8,100.0 | 6,713.5 | 8,003.2 | 6,589.7 | 45.2 | 45.7 | -73.40 | | 594.9 | 1,442.9 | 433.4 | 345.7 | 87.69 | 4.943 | |
| 8,200.0 | 6,712.4 | 8,103.2 | 6,589.1 | 47.8 | 48.3 | -73.46 | | 594.9 | 1,542.8 | 433.3 | 340.5 | 92.79 | 4.669 | |
| 8,300.0 | 6,711.3 | 8,203.2 | 6,588.5 | 50.5 | 50.9 | -73.53 | | 594.9 | 1,642.8 | 433.1 | 335.2 | 97.93 | 4.423 | |
| 8,400.0 | 6,710.2 | 8,303.2 | 6,587.9 | 53.2 | 53.6 | -73.59 | | 594.9 | 1,742.8 | 433.0 | 329.9 | 103.11 | 4.199 | |
| 8,500.0 | 6,709.1 | 8,403.2 | 6,587.3 | 55.8 | 56.3 | -73.66 | | 594.9 | 1,842.8 | 432.8 | 324.5 | 108.31 | 3.996 | |
| 8,600.0 | 6,707.9 | 8,503.2 | 6,586.7 | 58.5 | 59.0 | -73.72 | | 594.9 | 1,942.8 | 432.7 | 319.1 | 113.54 | 3.811 | |
| 8,700.0 | 6,706.8 | 8,603.2 | 6,586.0 | 61.3 | 61.7 | -73.78 | | 594.9 | 2,042.8 | 432.5 | 313.7 | 118.79 | 3.641 | |
| 8,800.0 | 6,705.7 | 8,703.2 | 6,585.4 | 64.0 | 64.4 | -73.85 | | 594.9 | 2,142.8 | 432.4 | 308.3 | 124.06 | 3.485 | |
| 8,900.0 | 6,704.6 | 8,803.2 | 6,584.8 | 66.7 | 67.1 | -73.91 | | 594.9 | 2,242.8 | 432.3 | 302.9 | 129.35 | 3.342 | |
| 9,000.0 | 6,703.5 | 8,903.2 | 6,584.2 | 69.4 | 69.8 | -73.98 | | 594.9 | 2,342.8 | 432.1 | 297.5 | 134.65 | 3.209 | |
| 9,100.0 | 6,702.4 | 9,003.2 | 6,583.6 | 72.2 | 72.6 | -74.04 | | 594.9 | 2,442.8 | 432.0 | 292.0 | 139.97 | 3.086 | |
| 9,200.0 | 6,701.2 | 9,103.2 | 6,583.0 | 74.9 | 75.3 | -74.11 | | 594.9 | 2,542.8 | 431.8 | 286.5 | 145.30 | 2.972 | |
| 9,300.0 | 6,700.1 | 9,203.2 | 6,582.4 | 77.7 | 78.0 | -74.17 | | 594.9 | 2,642.8 | 431.7 | 281.1 | 150.65 | 2.866 | |
| 9,400.0 | 6,699.0 | 9,303.2 | 6,581.8 | 80.4 | 80.8 | -74.24 | | 594.9 | 2,742.8 | 431.6 | 275.6 | 156.00 | 2.766 | |
| 9,500.0 | 6,697.9 | 9,403.1 | 6,581.2 | 83.2 | 83.5 | -74.30 | | 594.9 | 2,842.8 | 431.4 | 270.1 | 161.37 | 2.674 | |
| 9,600.0 | 6,696.8 | 9,503.1 | 6,580.6 | 85.9 | 86.3 | -74.37 | | 594.9 | 2,942.8 | 431.3 | 264.5 | 166.74 | 2.587 | |

| | | | |
|---------------------------|---|-------------------------------------|---|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Loloff Farms 261-312 |
| Project: | SEC.26-T5N-R64W | TVD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Reference Site: | Loloff Farms 5N64W261 Pad Sec.26-T5N-R64W | MD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Loloff Farms 261-312 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #2 (3-9-15) | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|-----------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|-----------------------------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|--------|
| Survey Program: 0-MWD | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | | | | | | | | | | | | | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | Offset Wellbore Centre +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning | |
| 9,700.0 | 6,695.7 | 9,603.1 | 6,579.9 | 88.7 | 89.0 | -74.43 | 594.9 | 3,042.8 | 431.2 | 259.0 | 172.13 | 2.505 | | |
| 9,800.0 | 6,694.5 | 9,703.1 | 6,579.3 | 91.5 | 91.8 | -74.50 | 594.9 | 3,142.8 | 431.0 | 253.5 | 177.52 | 2.428 | | |
| 9,900.0 | 6,693.4 | 9,803.1 | 6,578.7 | 94.2 | 94.6 | -74.56 | 594.9 | 3,242.8 | 430.9 | 248.0 | 182.92 | 2.356 | | |
| 10,000.0 | 6,692.3 | 9,903.1 | 6,578.1 | 97.0 | 97.3 | -74.63 | 594.9 | 3,342.8 | 430.7 | 242.4 | 188.33 | 2.287 | | |
| 10,100.0 | 6,691.2 | 10,003.1 | 6,577.5 | 99.8 | 100.1 | -74.69 | 594.9 | 3,442.8 | 430.6 | 236.9 | 193.75 | 2.223 | | |
| 10,200.0 | 6,690.1 | 10,103.1 | 6,576.9 | 102.6 | 102.9 | -74.76 | 594.9 | 3,542.8 | 430.5 | 231.3 | 199.17 | 2.161 | | |
| 10,300.0 | 6,689.0 | 10,203.1 | 6,576.3 | 105.3 | 105.7 | -74.82 | 594.9 | 3,642.8 | 430.3 | 225.7 | 204.60 | 2.103 | | |
| 10,400.0 | 6,687.8 | 10,303.1 | 6,575.7 | 108.1 | 108.4 | -74.89 | 594.9 | 3,742.8 | 430.2 | 220.2 | 210.03 | 2.048 | | |
| 10,500.0 | 6,686.7 | 10,403.1 | 6,575.1 | 110.9 | 111.2 | -74.95 | 594.9 | 3,842.8 | 430.1 | 214.6 | 215.47 | 1.996 | | |
| 10,600.0 | 6,685.6 | 10,503.1 | 6,574.4 | 113.7 | 114.0 | -75.02 | 594.9 | 3,942.8 | 429.9 | 209.0 | 220.92 | 1.946 | | |
| 10,700.0 | 6,684.5 | 10,603.1 | 6,573.8 | 116.5 | 116.8 | -75.08 | 594.9 | 4,042.8 | 429.8 | 203.4 | 226.37 | 1.899 | | |
| 10,800.0 | 6,683.4 | 10,703.1 | 6,573.2 | 119.2 | 119.5 | -75.15 | 594.9 | 4,142.8 | 429.7 | 197.9 | 231.83 | 1.853 | | |
| 10,900.0 | 6,682.3 | 10,803.1 | 6,572.6 | 122.0 | 122.3 | -75.21 | 594.9 | 4,242.8 | 429.6 | 192.3 | 237.29 | 1.810 | | |
| 11,000.0 | 6,681.1 | 10,903.1 | 6,572.0 | 124.8 | 125.1 | -75.28 | 594.9 | 4,342.8 | 429.4 | 186.7 | 242.76 | 1.769 | | |
| 11,100.0 | 6,680.0 | 11,003.1 | 6,571.4 | 127.6 | 127.9 | -75.34 | 594.9 | 4,442.8 | 429.3 | 181.1 | 248.23 | 1.729 | | |
| 11,200.0 | 6,678.9 | 11,103.1 | 6,570.8 | 130.4 | 130.7 | -75.41 | 594.9 | 4,542.8 | 429.2 | 175.5 | 253.70 | 1.692 | | |
| 11,300.0 | 6,677.8 | 11,203.1 | 6,570.2 | 133.2 | 133.5 | -75.47 | 594.9 | 4,642.7 | 429.0 | 169.9 | 259.18 | 1.655 | | |
| 11,400.0 | 6,676.7 | 11,303.1 | 6,569.6 | 136.0 | 136.3 | -75.54 | 594.9 | 4,742.7 | 428.9 | 164.2 | 264.67 | 1.621 | | |
| 11,500.0 | 6,675.6 | 11,403.1 | 6,568.9 | 138.8 | 139.0 | -75.60 | 594.9 | 4,842.7 | 428.8 | 158.6 | 270.16 | 1.587 | | |
| 11,600.0 | 6,674.4 | 11,503.1 | 6,568.3 | 141.6 | 141.8 | -75.67 | 594.9 | 4,942.7 | 428.7 | 153.0 | 275.65 | 1.555 | | |
| 11,700.0 | 6,673.3 | 11,603.1 | 6,567.7 | 144.3 | 144.6 | -75.73 | 594.9 | 5,042.7 | 428.5 | 147.4 | 281.15 | 1.524 | | |
| 11,800.0 | 6,672.2 | 11,703.1 | 6,567.1 | 147.1 | 147.4 | -75.80 | 594.9 | 5,142.7 | 428.4 | 141.8 | 286.65 | 1.495 Level 3 | | |
| 11,900.0 | 6,671.1 | 11,803.1 | 6,566.5 | 149.9 | 150.2 | -75.87 | 594.9 | 5,242.7 | 428.3 | 136.1 | 292.16 | 1.466 Level 3 | | |
| 12,000.0 | 6,670.0 | 11,903.1 | 6,565.9 | 152.7 | 153.0 | -75.93 | 594.9 | 5,342.7 | 428.2 | 130.5 | 297.66 | 1.438 Level 3 | | |
| 12,100.0 | 6,668.9 | 12,003.1 | 6,565.3 | 155.5 | 155.8 | -76.00 | 594.9 | 5,442.7 | 428.0 | 124.9 | 303.18 | 1.412 Level 3 | | |
| 12,200.0 | 6,667.7 | 12,103.1 | 6,564.7 | 158.3 | 158.6 | -76.06 | 594.9 | 5,542.7 | 427.9 | 119.2 | 308.69 | 1.386 Level 3 | | |
| 12,300.0 | 6,666.6 | 12,203.1 | 6,564.1 | 161.1 | 161.4 | -76.13 | 594.9 | 5,642.7 | 427.8 | 113.6 | 314.21 | 1.362 Level 3 | | |
| 12,400.0 | 6,665.5 | 12,303.1 | 6,563.4 | 163.9 | 164.2 | -76.19 | 594.9 | 5,742.7 | 427.7 | 107.9 | 319.73 | 1.338 Level 3 | | |
| 12,500.0 | 6,664.4 | 12,403.1 | 6,562.8 | 166.7 | 167.0 | -76.26 | 594.9 | 5,842.7 | 427.6 | 102.3 | 325.26 | 1.315 Level 3 | | |
| 12,600.0 | 6,663.3 | 12,503.1 | 6,562.2 | 169.5 | 169.8 | -76.33 | 594.9 | 5,942.7 | 427.4 | 96.6 | 330.79 | 1.292 Level 3 | | |
| 12,700.0 | 6,662.2 | 12,603.1 | 6,561.6 | 172.3 | 172.6 | -76.39 | 594.9 | 6,042.7 | 427.3 | 91.0 | 336.32 | 1.271 Level 3 | | |
| 12,800.0 | 6,661.0 | 12,703.1 | 6,561.0 | 175.1 | 175.3 | -76.46 | 594.9 | 6,142.7 | 427.2 | 85.3 | 341.86 | 1.250 Level 2 | | |
| 12,900.0 | 6,659.9 | 12,803.1 | 6,560.4 | 177.9 | 178.1 | -76.52 | 594.9 | 6,242.7 | 427.1 | 79.7 | 347.40 | 1.229 Level 2 | | |
| 13,000.0 | 6,658.8 | 12,903.1 | 6,559.8 | 180.7 | 180.9 | -76.59 | 594.9 | 6,342.7 | 427.0 | 74.0 | 352.94 | 1.210 Level 2 | | |
| 13,100.0 | 6,657.7 | 13,003.1 | 6,559.2 | 183.5 | 183.7 | -76.66 | 594.9 | 6,442.7 | 426.8 | 68.4 | 358.49 | 1.191 Level 2 | | |
| 13,200.0 | 6,656.6 | 13,103.1 | 6,558.6 | 186.3 | 186.5 | -76.72 | 594.9 | 6,542.7 | 426.7 | 62.7 | 364.03 | 1.172 Level 2 | | |
| 13,300.0 | 6,655.4 | 13,203.1 | 6,557.9 | 189.1 | 189.3 | -76.79 | 594.9 | 6,642.7 | 426.6 | 57.0 | 369.59 | 1.154 Level 2 | | |
| 13,400.0 | 6,654.3 | 13,303.1 | 6,557.3 | 191.9 | 192.1 | -76.85 | 594.9 | 6,742.7 | 426.5 | 51.4 | 375.14 | 1.137 Level 2 | | |
| 13,500.0 | 6,653.2 | 13,403.1 | 6,556.7 | 194.7 | 194.9 | -76.92 | 594.9 | 6,842.7 | 426.4 | 45.7 | 380.70 | 1.120 Level 2 | | |
| 13,600.0 | 6,652.1 | 13,503.1 | 6,556.1 | 197.5 | 197.7 | -76.99 | 594.9 | 6,942.7 | 426.3 | 40.0 | 386.26 | 1.104 Level 2 | | |
| 13,700.0 | 6,651.0 | 13,603.1 | 6,555.5 | 200.3 | 200.5 | -77.05 | 594.9 | 7,042.7 | 426.2 | 34.3 | 391.82 | 1.088 Level 2 | | |
| 13,766.0 | 6,650.2 | 13,669.1 | 6,555.1 | 202.1 | 202.4 | -77.10 | 594.9 | 7,108.7 | 426.1 | 30.6 | 395.49 | 1.077 Level 2 | | |
| 13,787.9 | 6,650.0 | 13,685.9 | 6,555.0 | 202.7 | 202.8 | -77.11 | 594.9 | 7,125.5 | 426.1 | 29.5 | 396.57 | 1.074 Level 2, SF | | |

| | | | |
|---------------------------|---|-------------------------------------|---|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Loloff Farms 261-312 |
| Project: | SEC.26-T5N-R64W | TVD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Reference Site: | Loloff Farms 5N64W261 Pad Sec.26-T5N-R64W | MD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Loloff Farms 261-312 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #2 (3-9-15) | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|-----------------------|---------------------|---------------------|---------------------|----------------|-------------|----------------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|--------------------|---------|
| Survey Program: 2-MWD | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | | | | | | | | | | | | | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Semi Major Axis (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 | 2.0 | 2.0 | 0.0 | 0.0 | -93.39 | | -3.6 | -61.3 | 61.4 | | | | |
| 100.0 | 100.0 | 101.0 | 101.0 | 0.1 | 0.1 | -93.39 | | -3.6 | -61.3 | 61.4 | 61.2 | 0.22 | 273.239 | |
| 166.3 | 166.3 | 167.3 | 167.3 | 0.3 | 0.3 | -93.39 | | -3.6 | -61.3 | 61.4 | 60.9 | 0.52 | 117.441 CC | |
| 200.0 | 200.0 | 201.0 | 201.0 | 0.3 | 0.3 | -93.39 | | -3.6 | -61.3 | 61.4 | 60.7 | 0.67 | 91.080 | |
| 300.0 | 300.0 | 300.8 | 300.8 | 0.6 | 0.6 | -92.57 | | -2.8 | -61.5 | 61.6 | 60.4 | 1.12 | 54.791 ES | |
| 400.0 | 400.0 | 400.6 | 400.5 | 0.8 | 0.8 | -90.18 | | -0.2 | -62.1 | 62.1 | 60.5 | 1.57 | 39.414 | |
| 500.0 | 500.0 | 500.2 | 500.1 | 1.0 | 1.0 | -86.32 | | 4.1 | -63.0 | 63.1 | 61.1 | 2.03 | 31.144 | |
| 600.0 | 600.0 | 599.7 | 599.4 | 1.2 | 1.3 | -81.18 | | 10.0 | -64.3 | 65.1 | 62.6 | 2.48 | 26.237 | |
| 700.0 | 700.0 | 698.9 | 698.3 | 1.5 | 1.5 | -75.08 | | 17.6 | -66.0 | 68.3 | 65.4 | 2.94 | 23.276 | |
| 800.0 | 800.0 | 797.8 | 796.7 | 1.7 | 1.8 | -68.49 | | 26.8 | -68.0 | 73.2 | 69.8 | 3.39 | 21.593 | |
| 900.0 | 900.0 | 896.4 | 894.7 | 1.9 | 2.0 | -61.85 | | 37.7 | -70.4 | 80.1 | 76.2 | 3.85 | 20.804 | |
| 1,000.0 | 1,000.0 | 994.5 | 992.0 | 2.1 | 2.3 | -55.59 | | 50.1 | -73.1 | 89.1 | 84.8 | 4.31 | 20.653 | |
| 1,100.0 | 1,100.0 | 1,092.2 | 1,088.6 | 2.4 | 2.6 | -49.94 | | 64.1 | -76.2 | 100.3 | 95.5 | 4.79 | 20.951 | |
| 1,200.0 | 1,200.0 | 1,189.4 | 1,184.5 | 2.6 | 3.0 | -45.01 | | 79.6 | -79.6 | 113.8 | 108.5 | 5.28 | 21.555 | |
| 1,300.0 | 1,300.0 | 1,287.5 | 1,281.0 | 2.8 | 3.3 | -40.84 | | 96.4 | -83.3 | 128.9 | 123.1 | 5.79 | 22.283 | |
| 1,400.0 | 1,400.0 | 1,385.9 | 1,378.0 | 3.0 | 3.7 | -37.54 | | 113.2 | -87.0 | 144.7 | 138.3 | 6.30 | 22.946 | |
| 1,500.0 | 1,500.0 | 1,484.4 | 1,474.9 | 3.3 | 4.1 | -34.89 | | 130.1 | -90.7 | 160.8 | 153.9 | 6.83 | 23.529 | |
| 1,600.0 | 1,600.0 | 1,582.8 | 1,571.8 | 3.5 | 4.4 | -32.72 | | 147.0 | -94.4 | 177.1 | 169.8 | 7.37 | 24.041 | |
| 1,700.0 | 1,700.0 | 1,681.3 | 1,668.7 | 3.7 | 4.8 | -30.92 | | 163.9 | -98.1 | 193.7 | 185.8 | 7.91 | 24.490 | |
| 1,800.0 | 1,800.0 | 1,779.7 | 1,765.6 | 3.9 | 5.2 | -29.40 | | 180.7 | -101.9 | 210.4 | 202.0 | 8.46 | 24.887 | |
| 1,900.0 | 1,900.0 | 1,878.3 | 1,862.7 | 4.2 | 5.6 | 25.23 | | 197.6 | -105.6 | 226.5 | 218.0 | 8.58 | 26.408 | |
| 2,000.0 | 2,000.0 | 1,977.0 | 1,959.9 | 4.4 | 5.9 | 26.55 | | 214.6 | -109.3 | 241.2 | 232.1 | 9.04 | 26.692 | |
| 2,100.0 | 2,099.9 | 2,076.0 | 2,057.3 | 4.6 | 6.3 | 27.90 | | 231.5 | -113.0 | 254.4 | 244.9 | 9.49 | 26.801 | |
| 2,200.0 | 2,199.7 | 2,175.0 | 2,154.8 | 4.8 | 6.7 | 29.30 | | 248.5 | -116.8 | 266.3 | 256.3 | 9.95 | 26.760 | |
| 2,300.0 | 2,299.4 | 2,274.2 | 2,252.5 | 5.0 | 7.1 | 30.76 | | 265.5 | -120.5 | 276.8 | 266.4 | 10.41 | 26.590 | |
| 2,400.0 | 2,398.9 | 2,373.5 | 2,350.2 | 5.3 | 7.5 | 32.30 | | 282.5 | -124.2 | 286.1 | 275.2 | 10.87 | 26.309 | |
| 2,500.0 | 2,498.3 | 2,472.8 | 2,448.0 | 5.5 | 7.9 | 33.94 | | 299.5 | -128.0 | 294.1 | 282.8 | 11.34 | 25.930 | |
| 2,600.0 | 2,597.4 | 2,572.1 | 2,545.8 | 5.8 | 8.2 | 35.67 | | 316.5 | -131.7 | 300.9 | 289.1 | 11.82 | 25.463 | |
| 2,700.0 | 2,696.4 | 2,671.5 | 2,643.6 | 6.0 | 8.6 | 37.50 | | 333.6 | -135.5 | 307.1 | 294.8 | 12.31 | 24.944 | |
| 2,800.0 | 2,795.4 | 2,770.8 | 2,741.3 | 6.3 | 9.0 | 39.26 | | 350.6 | -139.2 | 313.5 | 300.7 | 12.82 | 24.462 | |
| 2,900.0 | 2,894.3 | 2,870.1 | 2,839.1 | 6.6 | 9.4 | 40.95 | | 367.6 | -142.9 | 320.3 | 306.9 | 13.33 | 24.017 | |
| 3,000.0 | 2,993.3 | 2,969.5 | 2,936.9 | 6.9 | 9.8 | 42.57 | | 384.6 | -146.7 | 327.2 | 313.4 | 13.86 | 23.605 | |
| 3,100.0 | 3,092.3 | 3,068.8 | 3,034.7 | 7.2 | 10.2 | 44.12 | | 401.7 | -150.4 | 334.5 | 320.1 | 14.40 | 23.222 | |
| 3,200.0 | 3,191.3 | 3,168.1 | 3,132.5 | 7.5 | 10.6 | 45.61 | | 418.7 | -154.2 | 342.0 | 327.0 | 14.96 | 22.865 | |
| 3,300.0 | 3,290.2 | 3,267.5 | 3,230.3 | 7.8 | 11.0 | 47.03 | | 435.7 | -157.9 | 349.7 | 334.1 | 15.52 | 22.532 | |
| 3,400.0 | 3,389.2 | 3,366.8 | 3,328.1 | 8.1 | 11.4 | 48.39 | | 452.7 | -161.7 | 357.6 | 341.5 | 16.09 | 22.221 | |
| 3,500.0 | 3,488.2 | 3,466.1 | 3,425.9 | 8.4 | 11.7 | 49.69 | | 469.8 | -165.4 | 365.7 | 349.0 | 16.67 | 21.931 | |
| 3,600.0 | 3,587.2 | 3,565.5 | 3,523.7 | 8.7 | 12.1 | 50.93 | | 486.8 | -169.2 | 373.9 | 356.7 | 17.27 | 21.658 | |
| 3,700.0 | 3,686.1 | 3,664.8 | 3,621.5 | 9.0 | 12.5 | 52.12 | | 503.8 | -172.9 | 382.4 | 364.5 | 17.87 | 21.403 | |
| 3,800.0 | 3,785.1 | 3,764.1 | 3,719.3 | 9.4 | 12.9 | 53.26 | | 520.8 | -176.6 | 391.0 | 372.5 | 18.47 | 21.164 | |
| 3,900.0 | 3,884.1 | 3,863.5 | 3,817.1 | 9.7 | 13.3 | 54.35 | | 537.9 | -180.4 | 399.7 | 380.6 | 19.09 | 20.939 | |
| 4,000.0 | 3,983.1 | 3,962.8 | 3,914.8 | 10.0 | 13.7 | 55.39 | | 554.9 | -184.1 | 408.6 | 388.9 | 19.71 | 20.728 | |
| 4,100.0 | 4,082.0 | 4,062.1 | 4,012.6 | 10.3 | 14.1 | 56.39 | | 571.9 | -187.9 | 417.6 | 397.3 | 20.34 | 20.530 | |
| 4,200.0 | 4,181.2 | 4,161.5 | 4,110.4 | 10.6 | 14.5 | 57.34 | | 588.9 | -191.6 | 427.6 | 406.6 | 20.92 | 20.434 | |
| 4,300.0 | 4,280.8 | 4,260.7 | 4,208.1 | 10.8 | 14.9 | 57.91 | | 606.0 | -195.4 | 439.4 | 418.0 | 21.42 | 20.512 | |
| 4,400.0 | 4,380.6 | 4,359.8 | 4,305.7 | 11.0 | 15.3 | 58.12 | | 622.9 | -199.1 | 453.1 | 431.2 | 21.87 | 20.715 | |
| 4,500.0 | 4,480.5 | 4,458.5 | 4,402.9 | 11.2 | 15.6 | 57.99 | | 639.9 | -202.8 | 468.6 | 446.3 | 22.27 | 21.037 | |
| 4,600.0 | 4,580.5 | 4,557.0 | 4,499.8 | 11.4 | 16.0 | 4.13 | | 656.7 | -206.5 | 485.4 | 459.3 | 26.07 | 18.620 | |
| 4,700.0 | 4,680.5 | 4,655.4 | 4,596.7 | 11.6 | 16.4 | 3.56 | | 673.6 | -210.2 | 502.2 | 475.5 | 26.69 | 18.819 | |

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

| | | | |
|---------------------------|---|-------------------------------------|---|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Loloff Farms 26I-312 |
| Project: | SEC.26-T5N-R64W | TVD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Reference Site: | Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W | MD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Loloff Farms 26I-312 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #2 (3-9-15) | Offset TVD Reference: | Offset Datum |

| Offset Design | | Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W - Loloff Farms 26H-332 - Wellbore #1 - Plan #2 (3-9-15) | | | | | | | | | | | Offset Site Error: | | 0.0 ft | |
|-----------------------|---------------------|---|---------------------|-----------------|-------------|-----------------------|------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|--------------------|--------|--------|
| Survey Program: 2-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) | | | | | | | | |
| 4,800.0 | 4,780.5 | 4,753.8 | 4,693.6 | 11.8 | 16.8 | 3.03 | 690.5 | -213.9 | 519.1 | 491.8 | 27.31 | 19.011 | | | | |
| 4,900.0 | 4,880.5 | 4,852.3 | 4,790.6 | 12.0 | 17.2 | 2.53 | 707.3 | -217.7 | 536.1 | 508.2 | 27.93 | 19.197 | | | | |
| 5,000.0 | 4,980.5 | 4,950.7 | 4,887.5 | 12.2 | 17.6 | 2.06 | 724.2 | -221.4 | 553.1 | 524.5 | 28.54 | 19.377 | | | | |
| 5,100.0 | 5,080.5 | 5,049.2 | 4,984.4 | 12.4 | 18.0 | 1.62 | 741.1 | -225.1 | 570.1 | 540.9 | 29.16 | 19.551 | | | | |
| 5,200.0 | 5,180.5 | 5,147.6 | 5,081.3 | 12.6 | 18.4 | 1.21 | 758.0 | -228.8 | 587.2 | 557.4 | 29.78 | 19.720 | | | | |
| 5,300.0 | 5,280.5 | 5,246.1 | 5,178.2 | 12.8 | 18.7 | 0.82 | 774.8 | -232.5 | 604.2 | 573.9 | 30.39 | 19.883 | | | | |
| 5,400.0 | 5,380.5 | 5,344.5 | 5,275.2 | 13.0 | 19.1 | 0.45 | 791.7 | -236.2 | 621.4 | 590.4 | 31.00 | 20.041 | | | | |
| 5,500.0 | 5,480.5 | 5,464.1 | 5,393.1 | 13.2 | 19.5 | 0.06 | 810.6 | -240.4 | 637.2 | 605.6 | 31.62 | 20.155 | | | | |
| 5,600.0 | 5,580.5 | 5,591.3 | 5,519.4 | 13.4 | 19.8 | -0.23 | 825.5 | -243.6 | 649.0 | 616.8 | 32.16 | 20.177 | | | | |
| 5,700.0 | 5,680.5 | 5,719.6 | 5,647.3 | 13.6 | 20.1 | -0.41 | 835.0 | -245.7 | 656.4 | 623.7 | 32.64 | 20.109 | | | | |
| 5,800.0 | 5,780.5 | 5,848.5 | 5,776.2 | 13.8 | 20.3 | -0.49 | 838.9 | -246.6 | 659.4 | 626.3 | 33.05 | 19.950 | | | | |
| 5,900.0 | 5,880.5 | 5,953.9 | 5,881.5 | 14.0 | 20.4 | -0.49 | 839.0 | -246.6 | 659.5 | 626.0 | 33.40 | 19.742 | | | | |
| 6,000.0 | 5,980.5 | 6,054.1 | 5,981.7 | 14.2 | 20.5 | -90.48 | 839.0 | -246.3 | 659.5 | 630.9 | 28.60 | 23.058 | | | | |
| 6,100.0 | 6,080.0 | 6,154.8 | 6,081.9 | 14.3 | 20.7 | -90.47 | 839.0 | -236.8 | 659.5 | 630.6 | 28.89 | 22.828 | | | | |
| 6,200.0 | 6,177.5 | 6,255.5 | 6,180.0 | 14.4 | 20.7 | -90.44 | 839.0 | -214.2 | 659.4 | 630.3 | 29.11 | 22.655 | | | | |
| 6,300.0 | 6,271.2 | 6,356.1 | 6,274.2 | 14.5 | 20.8 | -90.41 | 839.0 | -179.0 | 659.4 | 630.1 | 29.31 | 22.499 | | | | |
| 6,400.0 | 6,359.6 | 6,456.7 | 6,362.9 | 14.5 | 20.8 | -90.37 | 839.0 | -131.7 | 659.4 | 629.9 | 29.58 | 22.296 | | | | |
| 6,500.0 | 6,441.1 | 6,557.2 | 6,444.6 | 14.7 | 20.9 | -90.33 | 839.0 | -73.2 | 659.4 | 629.4 | 30.03 | 21.958 | | | | |
| 6,600.0 | 6,514.5 | 6,657.7 | 6,517.8 | 14.9 | 20.9 | -90.28 | 839.0 | -4.6 | 659.4 | 628.6 | 30.82 | 21.393 | | | | |
| 6,700.0 | 6,578.3 | 6,758.1 | 6,581.4 | 15.5 | 21.1 | -90.22 | 839.0 | 73.0 | 659.4 | 627.3 | 32.10 | 20.540 | | | | |
| 6,800.0 | 6,631.5 | 6,858.4 | 6,634.2 | 16.5 | 21.3 | -90.16 | 839.0 | 158.2 | 659.4 | 625.4 | 33.99 | 19.403 | | | | |
| 6,900.0 | 6,673.3 | 6,958.6 | 6,675.4 | 17.7 | 21.7 | -90.10 | 839.0 | 249.4 | 659.4 | 622.9 | 36.51 | 18.061 | | | | |
| 7,000.0 | 6,702.8 | 7,058.7 | 6,704.2 | 19.3 | 22.6 | -90.04 | 839.0 | 345.2 | 659.4 | 619.8 | 39.64 | 16.635 | | | | |
| 7,077.0 | 6,716.9 | 7,135.7 | 6,717.8 | 20.7 | 23.5 | -89.99 | 839.0 | 421.0 | 659.4 | 617.0 | 42.42 | 15.545 | | | | |
| 7,100.0 | 6,719.7 | 7,158.7 | 6,720.3 | 21.2 | 23.9 | -89.97 | 839.0 | 443.8 | 659.4 | 616.2 | 43.27 | 15.239 | | | | |
| 7,200.0 | 6,723.6 | 7,258.6 | 6,723.6 | 23.2 | 25.6 | -89.92 | 839.0 | 543.7 | 659.4 | 612.2 | 47.26 | 13.954 | | | | |
| 7,300.0 | 6,722.5 | 7,358.6 | 6,722.5 | 25.3 | 27.5 | -89.92 | 839.0 | 643.6 | 659.4 | 607.9 | 51.53 | 12.797 | | | | |
| 7,400.0 | 6,721.4 | 7,458.6 | 6,721.4 | 27.6 | 29.6 | -89.91 | 839.0 | 743.6 | 659.4 | 603.4 | 56.03 | 11.769 | | | | |
| 7,500.0 | 6,720.2 | 7,558.6 | 6,720.2 | 29.9 | 31.9 | -89.91 | 839.0 | 843.6 | 659.4 | 598.7 | 60.72 | 10.861 | | | | |
| 7,600.0 | 6,719.1 | 7,658.6 | 6,719.1 | 32.4 | 34.2 | -89.91 | 839.0 | 943.6 | 659.4 | 593.9 | 65.55 | 10.060 | | | | |
| 7,700.0 | 6,718.0 | 7,758.6 | 6,718.0 | 34.8 | 36.6 | -89.91 | 839.0 | 1,043.6 | 659.4 | 588.9 | 70.50 | 9.354 | | | | |
| 7,800.0 | 6,716.9 | 7,858.6 | 6,716.8 | 37.4 | 39.0 | -89.91 | 839.0 | 1,143.6 | 659.4 | 583.9 | 75.54 | 8.729 | | | | |
| 7,900.0 | 6,715.8 | 7,958.6 | 6,715.7 | 39.9 | 41.5 | -89.91 | 839.0 | 1,243.6 | 659.4 | 578.8 | 80.66 | 8.175 | | | | |
| 8,000.0 | 6,714.7 | 8,058.6 | 6,714.6 | 42.5 | 44.1 | -89.91 | 839.0 | 1,343.6 | 659.4 | 573.6 | 85.84 | 7.682 | | | | |
| 8,100.0 | 6,713.5 | 8,158.6 | 6,713.4 | 45.2 | 46.6 | -89.90 | 839.0 | 1,443.6 | 659.4 | 568.3 | 91.08 | 7.240 | | | | |
| 8,200.0 | 6,712.4 | 8,258.6 | 6,712.3 | 47.8 | 49.2 | -89.90 | 839.0 | 1,543.6 | 659.4 | 563.1 | 96.36 | 6.844 | | | | |
| 8,300.0 | 6,711.3 | 8,358.6 | 6,711.2 | 50.5 | 51.9 | -89.90 | 839.0 | 1,643.6 | 659.4 | 557.8 | 101.67 | 6.486 | | | | |
| 8,400.0 | 6,710.2 | 8,458.6 | 6,710.0 | 53.2 | 54.5 | -89.90 | 839.0 | 1,743.6 | 659.4 | 552.4 | 107.01 | 6.162 | | | | |
| 8,500.0 | 6,709.1 | 8,558.6 | 6,708.9 | 55.8 | 57.1 | -89.90 | 839.0 | 1,843.6 | 659.4 | 547.0 | 112.39 | 5.868 | | | | |
| 8,600.0 | 6,707.9 | 8,658.6 | 6,707.8 | 58.5 | 59.8 | -89.90 | 839.0 | 1,943.6 | 659.4 | 541.6 | 117.78 | 5.599 | | | | |
| 8,700.0 | 6,706.8 | 8,758.6 | 6,706.6 | 61.3 | 62.5 | -89.89 | 839.0 | 2,043.6 | 659.4 | 536.2 | 123.19 | 5.353 | | | | |
| 8,800.0 | 6,705.7 | 8,858.6 | 6,705.5 | 64.0 | 65.2 | -89.89 | 839.0 | 2,143.5 | 659.4 | 530.8 | 128.63 | 5.127 | | | | |
| 8,900.0 | 6,704.6 | 8,958.6 | 6,704.4 | 66.7 | 67.9 | -89.89 | 839.0 | 2,243.5 | 659.4 | 525.4 | 134.07 | 4.918 | | | | |
| 9,000.0 | 6,703.5 | 9,058.6 | 6,703.2 | 69.4 | 70.6 | -89.89 | 839.0 | 2,343.5 | 659.4 | 519.9 | 139.53 | 4.726 | | | | |
| 9,100.0 | 6,702.4 | 9,158.6 | 6,702.1 | 72.2 | 73.3 | -89.89 | 839.0 | 2,443.5 | 659.4 | 514.4 | 145.01 | 4.548 | | | | |
| 9,200.0 | 6,701.2 | 9,258.6 | 6,701.0 | 74.9 | 76.0 | -89.89 | 839.0 | 2,543.5 | 659.4 | 508.9 | 150.49 | 4.382 | | | | |
| 9,300.0 | 6,700.1 | 9,358.6 | 6,699.8 | 77.7 | 78.8 | -89.89 | 839.0 | 2,643.5 | 659.4 | 503.4 | 155.98 | 4.228 | | | | |
| 9,400.0 | 6,699.0 | 9,458.6 | 6,698.7 | 80.4 | 81.5 | -89.88 | 839.0 | 2,743.5 | 659.4 | 497.9 | 161.49 | 4.083 | | | | |
| 9,500.0 | 6,697.9 | 9,558.6 | 6,697.5 | 83.2 | 84.2 | -89.88 | 839.0 | 2,843.5 | 659.4 | 492.4 | 167.00 | 3.949 | | | | |

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|---------------------------|---|-------------------------------------|---|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Loloff Farms 26I-312 |
| Project: | SEC.26-T5N-R64W | TVD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Reference Site: | Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W | MD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Loloff Farms 26I-312 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #2 (3-9-15) | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|-----------------------|---------------------|---------------------|---------------------|-----------|--------|-----------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|--------------------|---------|
| Survey Program: 2-MWD | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | | | | | | | | | | | | | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference | Offset | Semi Major Axis | 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 | 6,696.8 | 9,658.6 | 6,696.4 | 85.9 | 87.0 | -89.88 | | 839.0 | 2,943.5 | 659.4 | 486.9 | 172.51 | 3.822 | |
| 9,700.0 | 6,695.7 | 9,758.6 | 6,695.3 | 88.7 | 89.7 | -89.88 | | 839.0 | 3,043.5 | 659.4 | 481.4 | 178.03 | 3.704 | |
| 9,800.0 | 6,694.5 | 9,858.6 | 6,694.1 | 91.5 | 92.5 | -89.88 | | 839.0 | 3,143.5 | 659.4 | 475.9 | 183.56 | 3.592 | |
| 9,900.0 | 6,693.4 | 9,958.6 | 6,693.0 | 94.2 | 95.2 | -89.88 | | 839.0 | 3,243.5 | 659.4 | 470.3 | 189.10 | 3.487 | |
| 10,000.0 | 6,692.3 | 10,058.6 | 6,691.9 | 97.0 | 98.0 | -89.88 | | 839.0 | 3,343.5 | 659.4 | 464.8 | 194.64 | 3.388 | |
| 10,100.0 | 6,691.2 | 10,158.6 | 6,690.7 | 99.8 | 100.7 | -89.87 | | 839.0 | 3,443.5 | 659.4 | 459.2 | 200.18 | 3.294 | |
| 10,200.0 | 6,690.1 | 10,258.6 | 6,689.6 | 102.6 | 103.5 | -89.87 | | 839.0 | 3,543.5 | 659.4 | 453.7 | 205.73 | 3.205 | |
| 10,300.0 | 6,689.0 | 10,358.6 | 6,688.5 | 105.3 | 106.3 | -89.87 | | 839.0 | 3,643.5 | 659.4 | 448.1 | 211.28 | 3.121 | |
| 10,400.0 | 6,687.8 | 10,458.6 | 6,687.3 | 108.1 | 109.0 | -89.87 | | 839.0 | 3,743.4 | 659.4 | 442.6 | 216.83 | 3.041 | |
| 10,500.0 | 6,686.7 | 10,558.6 | 6,686.2 | 110.9 | 111.8 | -89.87 | | 839.0 | 3,843.4 | 659.4 | 437.0 | 222.39 | 2.965 | |
| 10,600.0 | 6,685.6 | 10,658.6 | 6,685.1 | 113.7 | 114.6 | -89.87 | | 839.0 | 3,943.4 | 659.4 | 431.5 | 227.95 | 2.893 | |
| 10,700.0 | 6,684.5 | 10,758.6 | 6,683.9 | 116.5 | 117.4 | -89.86 | | 839.0 | 4,043.4 | 659.4 | 425.9 | 233.51 | 2.824 | |
| 10,800.0 | 6,683.4 | 10,858.6 | 6,682.8 | 119.2 | 120.1 | -89.86 | | 839.0 | 4,143.4 | 659.4 | 420.3 | 239.08 | 2.758 | |
| 10,900.0 | 6,682.3 | 10,958.6 | 6,681.7 | 122.0 | 122.9 | -89.86 | | 839.0 | 4,243.4 | 659.4 | 414.8 | 244.65 | 2.695 | |
| 11,000.0 | 6,681.1 | 11,058.6 | 6,680.5 | 124.8 | 125.7 | -89.86 | | 839.0 | 4,343.4 | 659.4 | 409.2 | 250.22 | 2.635 | |
| 11,100.0 | 6,680.0 | 11,158.6 | 6,679.4 | 127.6 | 128.5 | -89.86 | | 839.0 | 4,443.4 | 659.4 | 403.6 | 255.79 | 2.578 | |
| 11,200.0 | 6,678.9 | 11,258.6 | 6,678.3 | 130.4 | 131.2 | -89.86 | | 839.0 | 4,543.4 | 659.4 | 398.1 | 261.36 | 2.523 | |
| 11,300.0 | 6,677.8 | 11,358.6 | 6,677.1 | 133.2 | 134.0 | -89.86 | | 839.0 | 4,643.4 | 659.4 | 392.5 | 266.94 | 2.470 | |
| 11,400.0 | 6,676.7 | 11,458.6 | 6,676.0 | 136.0 | 136.8 | -89.85 | | 839.0 | 4,743.4 | 659.4 | 386.9 | 272.52 | 2.420 | |
| 11,500.0 | 6,675.6 | 11,558.6 | 6,674.9 | 138.8 | 139.6 | -89.85 | | 839.0 | 4,843.4 | 659.4 | 381.3 | 278.10 | 2.371 | |
| 11,600.0 | 6,674.4 | 11,658.6 | 6,673.7 | 141.6 | 142.4 | -89.85 | | 839.0 | 4,943.4 | 659.4 | 375.7 | 283.68 | 2.325 | |
| 11,700.0 | 6,673.3 | 11,758.6 | 6,672.6 | 144.3 | 145.2 | -89.85 | | 839.0 | 5,043.4 | 659.4 | 370.2 | 289.26 | 2.280 | |
| 11,800.0 | 6,672.2 | 11,858.6 | 6,671.5 | 147.1 | 147.9 | -89.85 | | 839.0 | 5,143.4 | 659.4 | 364.6 | 294.85 | 2.236 | |
| 11,900.0 | 6,671.1 | 11,958.6 | 6,670.3 | 149.9 | 150.7 | -89.85 | | 839.0 | 5,243.3 | 659.4 | 359.0 | 300.43 | 2.195 | |
| 12,000.0 | 6,670.0 | 12,058.6 | 6,669.2 | 152.7 | 153.5 | -89.84 | | 839.0 | 5,343.3 | 659.4 | 353.4 | 306.02 | 2.155 | |
| 12,100.0 | 6,668.9 | 12,158.6 | 6,668.1 | 155.5 | 156.3 | -89.84 | | 839.0 | 5,443.3 | 659.4 | 347.8 | 311.60 | 2.116 | |
| 12,200.0 | 6,667.7 | 12,258.6 | 6,666.9 | 158.3 | 159.1 | -89.84 | | 839.0 | 5,543.3 | 659.4 | 342.2 | 317.19 | 2.079 | |
| 12,300.0 | 6,666.6 | 12,358.6 | 6,665.8 | 161.1 | 161.9 | -89.84 | | 839.0 | 5,643.3 | 659.4 | 336.6 | 322.78 | 2.043 | |
| 12,400.0 | 6,665.5 | 12,458.6 | 6,664.6 | 163.9 | 164.7 | -89.84 | | 839.0 | 5,743.3 | 659.4 | 331.0 | 328.37 | 2.008 | |
| 12,500.0 | 6,664.4 | 12,558.6 | 6,663.5 | 166.7 | 167.5 | -89.84 | | 839.0 | 5,843.3 | 659.4 | 325.5 | 333.96 | 1.975 | |
| 12,600.0 | 6,663.3 | 12,658.6 | 6,662.4 | 169.5 | 170.3 | -89.84 | | 839.0 | 5,943.3 | 659.4 | 319.9 | 339.56 | 1.942 | |
| 12,700.0 | 6,662.2 | 12,758.6 | 6,661.2 | 172.3 | 173.1 | -89.83 | | 839.0 | 6,043.3 | 659.4 | 314.3 | 345.15 | 1.911 | |
| 12,800.0 | 6,661.0 | 12,858.6 | 6,660.1 | 175.1 | 175.9 | -89.83 | | 839.0 | 6,143.3 | 659.4 | 308.7 | 350.74 | 1.880 | |
| 12,900.0 | 6,659.9 | 12,958.6 | 6,659.0 | 177.9 | 178.6 | -89.83 | | 839.0 | 6,243.3 | 659.4 | 303.1 | 356.34 | 1.851 | |
| 13,000.0 | 6,658.8 | 13,058.6 | 6,657.8 | 180.7 | 181.4 | -89.83 | | 839.0 | 6,343.3 | 659.4 | 297.5 | 361.93 | 1.822 | |
| 13,100.0 | 6,657.7 | 13,158.6 | 6,656.7 | 183.5 | 184.2 | -89.83 | | 839.0 | 6,443.3 | 659.4 | 291.9 | 367.53 | 1.794 | |
| 13,200.0 | 6,656.6 | 13,258.6 | 6,655.6 | 186.3 | 187.0 | -89.83 | | 839.0 | 6,543.3 | 659.4 | 286.3 | 373.13 | 1.767 | |
| 13,300.0 | 6,655.4 | 13,358.6 | 6,654.4 | 189.1 | 189.8 | -89.83 | | 839.0 | 6,643.3 | 659.4 | 280.7 | 378.72 | 1.741 | |
| 13,400.0 | 6,654.3 | 13,458.6 | 6,653.3 | 191.9 | 192.6 | -89.82 | | 839.0 | 6,743.3 | 659.4 | 275.1 | 384.32 | 1.716 | |
| 13,500.0 | 6,653.2 | 13,558.6 | 6,652.2 | 194.7 | 195.4 | -89.82 | | 839.0 | 6,843.2 | 659.4 | 269.5 | 389.92 | 1.691 | |
| 13,600.0 | 6,652.1 | 13,658.6 | 6,651.0 | 197.5 | 198.2 | -89.82 | | 839.0 | 6,943.2 | 659.4 | 263.9 | 395.52 | 1.667 | |
| 13,700.0 | 6,651.0 | 13,758.6 | 6,649.9 | 200.3 | 201.0 | -89.82 | | 839.0 | 7,043.2 | 659.4 | 258.3 | 401.12 | 1.644 | |
| 13,760.5 | 6,650.3 | 13,819.1 | 6,649.2 | 202.0 | 202.7 | -89.82 | | 839.0 | 7,103.7 | 659.4 | 254.9 | 404.51 | 1.630 | |
| 13,787.9 | 6,650.0 | 13,838.0 | 6,649.0 | 202.7 | 203.2 | -89.82 | | 839.0 | 7,122.6 | 659.5 | 253.7 | 405.80 | 1.625 SF | |

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|---------------------------|---|-------------------------------------|---|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Loloff Farms 261-312 |
| Project: | SEC.26-T5N-R64W | TVD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Reference Site: | Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W | MD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Loloff Farms 261-312 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #2 (3-9-15) | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|-----------------------|---------------------|---------------------|---------------------|-----------|--------|-----------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|--------|
| Survey Program: 0-MWD | | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | | | | | | | | | | | | | | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference | Offset | Semi Major Axis | 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 | 89.97 | 89.97 | 0.0 | 27.9 | 27.9 | | | | | |
| 100.0 | 100.0 | 99.0 | 99.0 | 0.1 | 0.1 | 89.97 | 89.97 | 0.0 | 27.9 | 27.9 | 27.6 | 0.22 | 124.605 | | |
| 200.0 | 200.0 | 199.0 | 199.0 | 0.3 | 0.3 | 89.97 | 89.97 | 0.0 | 27.9 | 27.9 | 27.2 | 0.67 | 41.466 | | |
| 300.0 | 300.0 | 299.0 | 299.0 | 0.6 | 0.6 | 89.97 | 89.97 | 0.0 | 27.9 | 27.9 | 26.7 | 1.12 | 24.846 | | |
| 400.0 | 400.0 | 399.0 | 399.0 | 0.8 | 0.8 | 89.97 | 89.97 | 0.0 | 27.9 | 27.9 | 26.3 | 1.57 | 17.737 | | |
| 500.0 | 500.0 | 499.0 | 499.0 | 1.0 | 1.0 | 89.97 | 89.97 | 0.0 | 27.9 | 27.9 | 25.8 | 2.02 | 13.791 | | |
| 600.0 | 600.0 | 599.0 | 599.0 | 1.2 | 1.2 | 89.97 | 89.97 | 0.0 | 27.9 | 27.9 | 25.4 | 2.47 | 11.281 | | |
| 700.0 | 700.0 | 699.0 | 699.0 | 1.5 | 1.5 | 89.97 | 89.97 | 0.0 | 27.9 | 27.9 | 24.9 | 2.92 | 9.544 | | |
| 800.0 | 800.0 | 799.0 | 799.0 | 1.7 | 1.7 | 89.97 | 89.97 | 0.0 | 27.9 | 27.9 | 24.5 | 3.37 | 8.271 | | |
| 900.0 | 900.0 | 899.0 | 899.0 | 1.9 | 1.9 | 89.97 | 89.97 | 0.0 | 27.9 | 27.9 | 24.0 | 3.82 | 7.297 | | |
| 1,000.0 | 1,000.0 | 999.0 | 999.0 | 2.1 | 2.1 | 89.97 | 89.97 | 0.0 | 27.9 | 27.9 | 23.6 | 4.27 | 6.529 | | |
| 1,100.0 | 1,100.0 | 1,099.0 | 1,099.0 | 2.4 | 2.4 | 89.97 | 89.97 | 0.0 | 27.9 | 27.9 | 23.1 | 4.72 | 5.907 | | |
| 1,200.0 | 1,200.0 | 1,199.0 | 1,199.0 | 2.6 | 2.6 | 89.97 | 89.97 | 0.0 | 27.9 | 27.9 | 22.7 | 5.17 | 5.393 | | |
| 1,300.0 | 1,300.0 | 1,299.0 | 1,299.0 | 2.8 | 2.8 | 89.97 | 89.97 | 0.0 | 27.9 | 27.9 | 22.3 | 5.62 | 4.961 | | |
| 1,400.0 | 1,400.0 | 1,399.0 | 1,399.0 | 3.0 | 3.0 | 89.97 | 89.97 | 0.0 | 27.9 | 27.9 | 21.8 | 6.07 | 4.594 | | |
| 1,500.0 | 1,500.0 | 1,499.0 | 1,499.0 | 3.3 | 3.3 | 89.97 | 89.97 | 0.0 | 27.9 | 27.9 | 21.4 | 6.52 | 4.277 | | |
| 1,600.0 | 1,600.0 | 1,599.0 | 1,599.0 | 3.5 | 3.5 | 89.97 | 89.97 | 0.0 | 27.9 | 27.9 | 20.9 | 6.97 | 4.001 | | |
| 1,700.0 | 1,700.0 | 1,699.0 | 1,699.0 | 3.7 | 3.7 | 89.97 | 89.97 | 0.0 | 27.9 | 27.9 | 20.5 | 7.42 | 3.758 | | |
| 1,800.0 | 1,800.0 | 1,799.0 | 1,799.0 | 3.9 | 3.9 | 89.97 | 89.97 | 0.0 | 27.9 | 27.9 | 20.0 | 7.86 | 3.543 CC | | |
| 1,900.0 | 1,900.0 | 1,899.0 | 1,899.0 | 4.2 | 4.2 | 144.33 | 144.33 | 0.0 | 27.9 | 28.6 | 20.3 | 8.31 | 3.439 | | |
| 2,000.0 | 2,000.0 | 1,999.0 | 1,999.0 | 4.4 | 4.4 | 147.16 | 147.16 | 0.0 | 27.9 | 30.7 | 22.0 | 8.74 | 3.515 | | |
| 2,100.0 | 2,099.9 | 2,098.9 | 2,098.9 | 4.6 | 4.6 | 151.08 | 151.08 | 0.0 | 27.9 | 34.5 | 25.3 | 9.18 | 3.757 | | |
| 2,200.0 | 2,199.7 | 2,198.7 | 2,198.7 | 4.8 | 4.8 | 155.29 | 155.29 | 0.0 | 27.9 | 39.9 | 30.3 | 9.61 | 4.155 | | |
| 2,300.0 | 2,299.4 | 2,298.4 | 2,298.4 | 5.0 | 5.1 | 159.25 | 159.25 | 0.0 | 27.9 | 47.2 | 37.1 | 10.04 | 4.699 | | |
| 2,400.0 | 2,398.9 | 2,397.9 | 2,397.9 | 5.3 | 5.3 | 162.68 | 162.68 | 0.0 | 27.9 | 56.3 | 45.8 | 10.47 | 5.373 | | |
| 2,500.0 | 2,498.3 | 2,497.3 | 2,497.3 | 5.5 | 5.5 | 165.53 | 165.53 | 0.0 | 27.9 | 67.1 | 56.3 | 10.90 | 6.163 | | |
| 2,600.0 | 2,597.4 | 2,597.2 | 2,597.2 | 5.8 | 5.7 | 168.35 | 168.35 | -0.4 | 27.1 | 79.4 | 68.1 | 11.30 | 7.026 | | |
| 2,700.0 | 2,696.4 | 2,697.1 | 2,697.1 | 6.0 | 5.9 | 171.46 | 171.46 | -1.7 | 24.9 | 92.0 | 80.3 | 11.70 | 7.863 | | |
| 2,800.0 | 2,795.4 | 2,797.1 | 2,797.0 | 6.3 | 6.1 | 174.66 | 174.66 | -3.8 | 21.2 | 104.0 | 91.9 | 12.11 | 8.587 | | |
| 2,900.0 | 2,894.3 | 2,897.1 | 2,896.8 | 6.6 | 6.3 | 177.96 | 177.96 | -6.8 | 15.9 | 115.5 | 102.9 | 12.53 | 9.216 | | |
| 3,000.0 | 2,993.3 | 2,997.1 | 2,996.5 | 6.9 | 6.5 | -178.61 | -178.61 | -10.6 | 9.1 | 126.6 | 113.6 | 12.96 | 9.767 | | |
| 3,100.0 | 3,092.3 | 3,097.0 | 3,095.9 | 7.2 | 6.7 | -175.06 | -175.06 | -15.3 | 0.8 | 137.5 | 124.1 | 13.40 | 10.256 | | |
| 3,200.0 | 3,191.3 | 3,196.8 | 3,195.0 | 7.5 | 6.9 | -171.40 | -171.40 | -20.8 | -9.0 | 148.4 | 134.5 | 13.87 | 10.698 | | |
| 3,300.0 | 3,290.2 | 3,296.3 | 3,293.7 | 7.8 | 7.1 | -167.65 | -167.65 | -27.2 | -20.2 | 159.4 | 145.0 | 14.35 | 11.105 | | |
| 3,400.0 | 3,389.2 | 3,395.1 | 3,391.6 | 8.1 | 7.4 | -164.12 | -164.12 | -33.9 | -32.2 | 170.9 | 156.0 | 14.86 | 11.501 | | |
| 3,500.0 | 3,488.2 | 3,493.9 | 3,489.4 | 8.4 | 7.6 | -161.03 | -161.03 | -40.7 | -44.2 | 182.9 | 167.5 | 15.38 | 11.895 | | |
| 3,600.0 | 3,587.2 | 3,592.7 | 3,587.3 | 8.7 | 7.9 | -158.33 | -158.33 | -47.5 | -56.1 | 195.4 | 179.5 | 15.91 | 12.283 | | |
| 3,700.0 | 3,686.1 | 3,691.5 | 3,685.1 | 9.0 | 8.1 | -155.96 | -155.96 | -54.2 | -68.1 | 208.3 | 191.9 | 16.46 | 12.660 | | |
| 3,800.0 | 3,785.1 | 3,790.4 | 3,783.0 | 9.4 | 8.4 | -153.86 | -153.86 | -61.0 | -80.0 | 221.5 | 204.5 | 17.01 | 13.024 | | |
| 3,900.0 | 3,884.1 | 3,889.2 | 3,880.9 | 9.7 | 8.7 | -152.00 | -152.00 | -67.7 | -92.0 | 235.0 | 217.4 | 17.57 | 13.374 | | |
| 4,000.0 | 3,983.1 | 3,988.0 | 3,978.7 | 10.0 | 9.0 | -150.35 | -150.35 | -74.5 | -104.0 | 248.7 | 230.5 | 18.14 | 13.709 | | |
| 4,100.0 | 4,082.0 | 4,086.8 | 4,076.6 | 10.3 | 9.2 | -148.86 | -148.86 | -81.3 | -115.9 | 262.5 | 243.8 | 18.71 | 14.029 | | |
| 4,200.0 | 4,181.2 | 4,185.7 | 4,174.5 | 10.6 | 9.5 | -147.49 | -147.49 | -88.0 | -127.9 | 275.4 | 256.1 | 19.29 | 14.272 | | |
| 4,300.0 | 4,280.8 | 4,284.9 | 4,272.7 | 10.8 | 9.8 | -145.85 | -145.85 | -94.8 | -139.9 | 285.5 | 265.6 | 19.83 | 14.397 | | |
| 4,400.0 | 4,380.6 | 4,384.0 | 4,370.9 | 11.0 | 10.1 | -143.92 | -143.92 | -101.6 | -151.9 | 293.0 | 272.7 | 20.35 | 14.399 | | |
| 4,500.0 | 4,480.5 | 4,483.2 | 4,469.1 | 11.2 | 10.4 | -141.66 | -141.66 | -108.4 | -163.9 | 298.2 | 277.3 | 20.85 | 14.299 | | |
| 4,600.0 | 4,580.5 | 4,582.2 | 4,567.1 | 11.4 | 10.7 | 167.55 | 167.55 | -115.2 | -175.9 | 302.1 | 281.4 | 20.63 | 14.641 | | |
| 4,700.0 | 4,680.5 | 4,681.2 | 4,665.2 | 11.6 | 11.0 | 170.01 | 170.01 | -121.9 | -187.9 | 306.5 | 285.4 | 21.03 | 14.570 | | |
| 4,800.0 | 4,780.5 | 4,780.3 | 4,763.3 | 11.8 | 11.3 | 172.40 | 172.40 | -128.7 | -199.9 | 311.4 | 290.0 | 21.45 | 14.518 | | |

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

| | | | |
|---------------------------|---|-------------------------------------|---|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Loloff Farms 261-312 |
| Project: | SEC.26-T5N-R64W | TVD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Reference Site: | Loloff Farms 5N64W261 Pad Sec.26-T5N-R64W | MD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Loloff Farms 261-312 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #2 (3-9-15) | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|-----------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|---------|--------------------|--------|
| Survey Program: 0-MWD | | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | | | | | | | | | | | | | | |
| Reference | | Offset | | Semi Major Axis | | Highside Toolface (°) | Offset Wellbore Centre | | Distance | | Minimum Separation (ft) | Separation Factor | Warning | | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | | +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | | | | | |
| 4,900.0 | 4,880.5 | 4,879.3 | 4,861.3 | 12.0 | 11.7 | 174.72 | -135.5 | -211.9 | 316.9 | 295.0 | 21.88 | 14.485 | | | |
| 5,000.0 | 4,980.5 | 4,981.4 | 4,962.6 | 12.2 | 11.9 | 176.92 | -142.2 | -223.7 | 322.6 | 300.3 | 22.32 | 14.456 | | | |
| 5,100.0 | 5,080.5 | 5,086.4 | 5,067.0 | 12.4 | 12.2 | 178.56 | -147.3 | -232.8 | 327.2 | 304.4 | 22.75 | 14.383 | | | |
| 5,200.0 | 5,180.5 | 5,192.0 | 5,172.4 | 12.6 | 12.4 | 179.58 | -150.6 | -238.6 | 330.2 | 307.0 | 23.17 | 14.248 | | | |
| 5,300.0 | 5,280.5 | 5,297.9 | 5,278.3 | 12.8 | 12.6 | 179.99 | -151.9 | -241.0 | 331.5 | 307.9 | 23.59 | 14.049 | | | |
| 5,400.0 | 5,380.5 | 5,399.2 | 5,379.5 | 13.0 | 12.8 | -179.99 | -152.0 | -241.0 | 331.5 | 307.5 | 24.00 | 13.811 | | | |
| 5,500.0 | 5,480.5 | 5,499.2 | 5,479.5 | 13.2 | 13.0 | -179.99 | -152.0 | -241.0 | 331.5 | 307.1 | 24.42 | 13.576 | | | |
| 5,600.0 | 5,580.5 | 5,599.2 | 5,579.5 | 13.4 | 13.2 | -179.99 | -152.0 | -241.0 | 331.5 | 306.7 | 24.84 | 13.348 | | | |
| 5,700.0 | 5,680.5 | 5,699.2 | 5,679.5 | 13.6 | 13.4 | -179.99 | -152.0 | -241.0 | 331.5 | 306.3 | 25.26 | 13.127 | | | |
| 5,800.0 | 5,780.5 | 5,799.2 | 5,779.5 | 13.8 | 13.6 | -179.99 | -152.0 | -241.0 | 331.5 | 305.8 | 25.67 | 12.912 | | | |
| 5,900.0 | 5,880.5 | 5,899.2 | 5,879.5 | 14.0 | 13.8 | -179.99 | -152.0 | -241.0 | 331.5 | 305.4 | 26.10 | 12.704 | | | |
| 5,962.3 | 5,942.9 | 5,961.5 | 5,941.9 | 14.1 | 13.9 | 90.10 | -152.0 | -241.0 | 331.5 | 304.1 | 27.43 | 12.086 | | | |
| 6,000.0 | 5,980.5 | 5,999.2 | 5,979.5 | 14.2 | 14.0 | 90.05 | -152.0 | -241.0 | 331.5 | 303.9 | 27.58 | 12.019 | | | |
| 6,100.0 | 6,080.0 | 6,099.2 | 6,079.5 | 14.3 | 14.2 | 91.43 | -152.0 | -239.8 | 331.6 | 303.7 | 27.92 | 11.879 | | | |
| 6,200.0 | 6,177.5 | 6,200.4 | 6,179.9 | 14.4 | 14.3 | 93.14 | -152.0 | -227.3 | 332.0 | 303.9 | 28.14 | 11.800 | | | |
| 6,300.0 | 6,271.2 | 6,303.1 | 6,279.1 | 14.5 | 14.4 | 94.80 | -152.0 | -201.2 | 332.7 | 304.4 | 28.29 | 11.761 | | | |
| 6,400.0 | 6,359.6 | 6,407.1 | 6,375.2 | 14.5 | 14.4 | 96.39 | -152.0 | -161.4 | 333.6 | 305.2 | 28.44 | 11.728 | | | |
| 6,500.0 | 6,441.1 | 6,512.5 | 6,466.0 | 14.7 | 14.5 | 97.86 | -152.0 | -108.3 | 334.7 | 306.0 | 28.72 | 11.653 | | | |
| 6,600.0 | 6,514.5 | 6,619.1 | 6,549.7 | 14.9 | 14.7 | 99.20 | -152.0 | -42.2 | 335.9 | 306.6 | 29.28 | 11.471 | | | |
| 6,700.0 | 6,578.3 | 6,727.0 | 6,624.1 | 15.5 | 15.1 | 100.37 | -152.0 | 35.7 | 337.0 | 306.7 | 30.29 | 11.125 | | | |
| 6,800.0 | 6,631.5 | 6,835.9 | 6,687.4 | 16.5 | 15.9 | 101.35 | -152.0 | 124.3 | 338.1 | 306.2 | 31.93 | 10.590 | | | |
| 6,900.0 | 6,673.3 | 6,945.7 | 6,737.7 | 17.7 | 17.1 | 102.11 | -152.0 | 221.8 | 339.1 | 304.8 | 34.28 | 9.893 | | | |
| 7,000.0 | 6,702.8 | 7,056.2 | 6,773.8 | 19.3 | 18.7 | 102.66 | -152.0 | 326.1 | 339.8 | 302.5 | 37.33 | 9.102 | | | |
| 7,100.0 | 6,719.7 | 7,167.2 | 6,794.5 | 21.2 | 20.7 | 102.97 | -152.0 | 435.0 | 340.2 | 299.2 | 40.99 | 8.299 | | | |
| 7,200.0 | 6,723.6 | 7,276.6 | 6,799.5 | 23.2 | 22.9 | 103.06 | -152.0 | 544.2 | 340.3 | 295.3 | 45.05 | 7.554 | | | |
| 7,300.0 | 6,722.5 | 7,376.6 | 6,798.7 | 25.3 | 25.0 | 103.12 | -152.0 | 644.2 | 340.4 | 291.2 | 49.22 | 6.916 | | | |
| 7,400.0 | 6,721.4 | 7,476.6 | 6,798.0 | 27.6 | 27.3 | 103.18 | -152.0 | 744.2 | 340.5 | 286.9 | 53.62 | 6.350 | | | |
| 7,500.0 | 6,720.2 | 7,576.6 | 6,797.2 | 29.9 | 29.6 | 103.24 | -152.0 | 844.2 | 340.6 | 282.4 | 58.20 | 5.852 | | | |
| 7,600.0 | 6,719.1 | 7,676.6 | 6,796.5 | 32.4 | 32.1 | 103.30 | -152.0 | 944.2 | 340.6 | 277.7 | 62.91 | 5.415 | | | |
| 7,700.0 | 6,718.0 | 7,776.6 | 6,795.7 | 34.8 | 34.6 | 103.36 | -152.0 | 1,044.2 | 340.7 | 273.0 | 67.74 | 5.030 | | | |
| 7,800.0 | 6,716.9 | 7,876.6 | 6,795.0 | 37.4 | 37.1 | 103.42 | -152.0 | 1,144.2 | 340.8 | 268.2 | 72.66 | 4.691 | | | |
| 7,900.0 | 6,715.8 | 7,976.6 | 6,794.2 | 39.9 | 39.7 | 103.48 | -152.0 | 1,244.2 | 340.9 | 263.3 | 77.65 | 4.390 | | | |
| 8,000.0 | 6,714.7 | 8,076.6 | 6,793.5 | 42.5 | 42.2 | 103.53 | -152.0 | 1,344.2 | 341.0 | 258.3 | 82.69 | 4.124 | | | |
| 8,100.0 | 6,713.5 | 8,176.6 | 6,792.7 | 45.2 | 44.9 | 103.59 | -152.0 | 1,444.2 | 341.1 | 253.3 | 87.79 | 3.885 | | | |
| 8,200.0 | 6,712.4 | 8,276.6 | 6,792.0 | 47.8 | 47.5 | 103.65 | -152.0 | 1,544.2 | 341.2 | 248.2 | 92.92 | 3.672 | | | |
| 8,300.0 | 6,711.3 | 8,376.6 | 6,791.2 | 50.5 | 50.2 | 103.71 | -152.0 | 1,644.2 | 341.3 | 243.2 | 98.08 | 3.479 | | | |
| 8,400.0 | 6,710.2 | 8,476.6 | 6,790.5 | 53.2 | 52.9 | 103.77 | -152.0 | 1,744.2 | 341.3 | 238.1 | 103.27 | 3.305 | | | |
| 8,500.0 | 6,709.1 | 8,576.6 | 6,789.7 | 55.8 | 55.6 | 103.83 | -152.0 | 1,844.2 | 341.4 | 232.9 | 108.49 | 3.147 | | | |
| 8,600.0 | 6,707.9 | 8,676.6 | 6,789.0 | 58.5 | 58.3 | 103.89 | -152.0 | 1,944.2 | 341.5 | 227.8 | 113.72 | 3.003 | | | |
| 8,700.0 | 6,706.8 | 8,776.6 | 6,788.2 | 61.3 | 61.0 | 103.95 | -152.0 | 2,044.2 | 341.6 | 222.6 | 118.97 | 2.871 | | | |
| 8,800.0 | 6,705.7 | 8,876.6 | 6,787.4 | 64.0 | 63.7 | 104.01 | -152.0 | 2,144.2 | 341.7 | 217.5 | 124.23 | 2.750 | | | |
| 8,900.0 | 6,704.6 | 8,976.6 | 6,786.7 | 66.7 | 66.4 | 104.07 | -152.0 | 2,244.2 | 341.8 | 212.3 | 129.51 | 2.639 | | | |
| 9,000.0 | 6,703.5 | 9,076.6 | 6,785.9 | 69.4 | 69.1 | 104.13 | -152.0 | 2,344.2 | 341.9 | 207.1 | 134.79 | 2.536 | | | |
| 9,100.0 | 6,702.4 | 9,176.6 | 6,785.2 | 72.2 | 71.9 | 104.19 | -152.0 | 2,444.2 | 342.0 | 201.9 | 140.09 | 2.441 | | | |
| 9,200.0 | 6,701.2 | 9,276.6 | 6,784.4 | 74.9 | 74.6 | 104.25 | -152.0 | 2,544.2 | 342.0 | 196.7 | 145.39 | 2.353 | | | |
| 9,300.0 | 6,700.1 | 9,376.6 | 6,783.7 | 77.7 | 77.4 | 104.31 | -152.0 | 2,644.2 | 342.1 | 191.4 | 150.69 | 2.270 | | | |
| 9,400.0 | 6,699.0 | 9,476.6 | 6,782.9 | 80.4 | 80.1 | 104.37 | -152.0 | 2,744.2 | 342.2 | 186.2 | 156.01 | 2.194 | | | |
| 9,500.0 | 6,697.9 | 9,576.6 | 6,782.2 | 83.2 | 82.9 | 104.43 | -152.0 | 2,844.2 | 342.3 | 181.0 | 161.32 | 2.122 | | | |
| 9,600.0 | 6,696.8 | 9,676.6 | 6,781.4 | 85.9 | 85.7 | 104.49 | -152.0 | 2,944.2 | 342.4 | 175.8 | 166.64 | 2.055 | | | |

| | | | |
|---------------------------|---|-------------------------------------|---|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Loloff Farms 261-312 |
| Project: | SEC.26-T5N-R64W | TVD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Reference Site: | Loloff Farms 5N64W261 Pad Sec.26-T5N-R64W | MD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Loloff Farms 261-312 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #2 (3-9-15) | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|-----------------------|---------------------|---------------------|---------------------|----------------|-------------|----------------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-----------------------|---------|
| Survey Program: 0-MWD | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | | | | | | | | | | | | | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Semi Major Axis (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 | 6,695.7 | 9,776.6 | 6,780.7 | 88.7 | 88.4 | 104.55 | | -152.0 | 3,044.2 | 342.5 | 170.5 | 171.97 | 1.992 | |
| 9,800.0 | 6,694.5 | 9,876.6 | 6,779.9 | 91.5 | 91.2 | 104.61 | | -152.0 | 3,144.1 | 342.6 | 165.3 | 177.29 | 1.932 | |
| 9,900.0 | 6,693.4 | 9,976.6 | 6,779.2 | 94.2 | 94.0 | 104.67 | | -152.0 | 3,244.1 | 342.7 | 160.1 | 182.62 | 1.876 | |
| 10,000.0 | 6,692.3 | 10,076.6 | 6,778.4 | 97.0 | 96.7 | 104.73 | | -152.0 | 3,344.1 | 342.8 | 154.8 | 187.95 | 1.824 | |
| 10,100.0 | 6,691.2 | 10,176.6 | 6,777.7 | 99.8 | 99.5 | 104.79 | | -152.0 | 3,444.1 | 342.9 | 149.6 | 193.28 | 1.774 | |
| 10,200.0 | 6,690.1 | 10,276.6 | 6,776.9 | 102.6 | 102.3 | 104.84 | | -152.0 | 3,544.1 | 343.0 | 144.4 | 198.62 | 1.727 | |
| 10,300.0 | 6,689.0 | 10,376.6 | 6,776.2 | 105.3 | 105.1 | 104.90 | | -152.0 | 3,644.1 | 343.1 | 139.1 | 203.95 | 1.682 | |
| 10,400.0 | 6,687.8 | 10,476.6 | 6,775.4 | 108.1 | 107.8 | 104.96 | | -152.0 | 3,744.1 | 343.2 | 133.9 | 209.28 | 1.640 | |
| 10,500.0 | 6,686.7 | 10,576.6 | 6,774.7 | 110.9 | 110.6 | 105.02 | | -152.0 | 3,844.1 | 343.3 | 128.6 | 214.62 | 1.599 | |
| 10,600.0 | 6,685.6 | 10,676.6 | 6,773.9 | 113.7 | 113.4 | 105.08 | | -152.0 | 3,944.1 | 343.4 | 123.4 | 219.95 | 1.561 | |
| 10,700.0 | 6,684.5 | 10,776.6 | 6,773.2 | 116.5 | 116.2 | 105.14 | | -152.0 | 4,044.1 | 343.4 | 118.2 | 225.28 | 1.525 | |
| 10,800.0 | 6,683.4 | 10,876.6 | 6,772.4 | 119.2 | 119.0 | 105.20 | | -152.0 | 4,144.1 | 343.5 | 112.9 | 230.62 | 1.490 Level 3 | |
| 10,900.0 | 6,682.3 | 10,976.6 | 6,771.7 | 122.0 | 121.7 | 105.26 | | -152.0 | 4,244.1 | 343.6 | 107.7 | 235.95 | 1.456 Level 3 | |
| 11,000.0 | 6,681.1 | 11,076.6 | 6,770.9 | 124.8 | 124.5 | 105.32 | | -152.0 | 4,344.1 | 343.7 | 102.5 | 241.28 | 1.425 Level 3 | |
| 11,100.0 | 6,680.0 | 11,176.6 | 6,770.2 | 127.6 | 127.3 | 105.38 | | -152.0 | 4,444.1 | 343.8 | 97.2 | 246.61 | 1.394 Level 3 | |
| 11,200.0 | 6,678.9 | 11,276.6 | 6,769.4 | 130.4 | 130.1 | 105.43 | | -152.0 | 4,544.1 | 343.9 | 92.0 | 251.94 | 1.365 Level 3 | |
| 11,300.0 | 6,677.8 | 11,376.6 | 6,768.7 | 133.2 | 132.9 | 105.49 | | -152.0 | 4,644.1 | 344.0 | 86.8 | 257.26 | 1.337 Level 3 | |
| 11,400.0 | 6,676.7 | 11,476.6 | 6,767.9 | 136.0 | 135.7 | 105.55 | | -152.0 | 4,744.1 | 344.1 | 81.5 | 262.59 | 1.311 Level 3 | |
| 11,500.0 | 6,675.6 | 11,576.6 | 6,767.2 | 138.8 | 138.5 | 105.61 | | -152.0 | 4,844.1 | 344.2 | 76.3 | 267.91 | 1.285 Level 3 | |
| 11,600.0 | 6,674.4 | 11,676.6 | 6,766.4 | 141.6 | 141.3 | 105.67 | | -152.0 | 4,944.1 | 344.3 | 71.1 | 273.23 | 1.260 Level 3 | |
| 11,700.0 | 6,673.3 | 11,776.6 | 6,765.7 | 144.3 | 144.1 | 105.73 | | -152.0 | 5,044.1 | 344.4 | 65.9 | 278.56 | 1.236 Level 2 | |
| 11,800.0 | 6,672.2 | 11,876.6 | 6,764.9 | 147.1 | 146.9 | 105.79 | | -152.0 | 5,144.1 | 344.5 | 60.7 | 283.87 | 1.214 Level 2 | |
| 11,900.0 | 6,671.1 | 11,976.6 | 6,764.2 | 149.9 | 149.7 | 105.85 | | -152.0 | 5,244.1 | 344.6 | 55.4 | 289.19 | 1.192 Level 2 | |
| 12,000.0 | 6,670.0 | 12,076.6 | 6,763.4 | 152.7 | 152.4 | 105.90 | | -152.0 | 5,344.1 | 344.7 | 50.2 | 294.51 | 1.171 Level 2 | |
| 12,100.0 | 6,668.9 | 12,176.6 | 6,762.7 | 155.5 | 155.2 | 105.96 | | -152.0 | 5,444.1 | 344.8 | 45.0 | 299.82 | 1.150 Level 2 | |
| 12,200.0 | 6,667.7 | 12,276.6 | 6,761.9 | 158.3 | 158.0 | 106.02 | | -152.0 | 5,544.1 | 344.9 | 39.8 | 305.13 | 1.130 Level 2 | |
| 12,300.0 | 6,666.6 | 12,376.6 | 6,761.2 | 161.1 | 160.8 | 106.08 | | -152.0 | 5,644.1 | 345.0 | 34.6 | 310.44 | 1.111 Level 2 | |
| 12,400.0 | 6,665.5 | 12,476.6 | 6,760.4 | 163.9 | 163.6 | 106.14 | | -152.0 | 5,744.1 | 345.1 | 29.4 | 315.74 | 1.093 Level 2 | |
| 12,500.0 | 6,664.4 | 12,576.6 | 6,759.7 | 166.7 | 166.4 | 106.20 | | -152.0 | 5,844.1 | 345.2 | 24.2 | 321.05 | 1.075 Level 2 | |
| 12,600.0 | 6,663.3 | 12,676.6 | 6,758.9 | 169.5 | 169.2 | 106.26 | | -152.0 | 5,944.1 | 345.3 | 19.0 | 326.35 | 1.058 Level 2 | |
| 12,700.0 | 6,662.2 | 12,776.6 | 6,758.2 | 172.3 | 172.0 | 106.31 | | -152.0 | 6,044.0 | 345.4 | 13.8 | 331.65 | 1.042 Level 2 | |
| 12,800.0 | 6,661.0 | 12,876.6 | 6,757.4 | 175.1 | 174.8 | 106.37 | | -152.0 | 6,144.0 | 345.5 | 8.6 | 336.94 | 1.026 Level 2 | |
| 12,900.0 | 6,659.9 | 12,976.6 | 6,756.7 | 177.9 | 177.6 | 106.43 | | -152.0 | 6,244.0 | 345.6 | 3.4 | 342.24 | 1.010 Level 2 | |
| 13,000.0 | 6,658.8 | 13,076.6 | 6,755.9 | 180.7 | 180.4 | 106.49 | | -152.0 | 6,344.0 | 345.7 | -1.8 | 347.53 | 0.995 Level 1 | |
| 13,100.0 | 6,657.7 | 13,176.6 | 6,755.2 | 183.5 | 183.2 | 106.55 | | -152.0 | 6,444.0 | 345.9 | -7.0 | 352.82 | 0.980 Level 1 | |
| 13,200.0 | 6,656.6 | 13,276.6 | 6,754.4 | 186.3 | 186.0 | 106.60 | | -152.0 | 6,544.0 | 346.0 | -12.1 | 358.10 | 0.966 Level 1 | |
| 13,300.0 | 6,655.4 | 13,376.6 | 6,753.7 | 189.1 | 188.8 | 106.66 | | -152.0 | 6,644.0 | 346.1 | -17.3 | 363.39 | 0.952 Level 1 | |
| 13,400.0 | 6,654.3 | 13,476.6 | 6,752.9 | 191.9 | 191.6 | 106.72 | | -152.0 | 6,744.0 | 346.2 | -22.5 | 368.67 | 0.939 Level 1 | |
| 13,500.0 | 6,653.2 | 13,576.6 | 6,752.2 | 194.7 | 194.4 | 106.78 | | -152.0 | 6,844.0 | 346.3 | -27.7 | 373.95 | 0.926 Level 1 | |
| 13,600.0 | 6,652.1 | 13,676.6 | 6,751.4 | 197.5 | 197.2 | 106.84 | | -152.0 | 6,944.0 | 346.4 | -32.8 | 379.22 | 0.913 Level 1 | |
| 13,700.0 | 6,651.0 | 13,776.6 | 6,750.7 | 200.3 | 200.0 | 106.90 | | -152.0 | 7,044.0 | 346.5 | -38.0 | 384.49 | 0.901 Level 1 | |
| 13,787.9 | 6,650.0 | 13,864.5 | 6,750.0 | 202.7 | 202.5 | 106.95 | | -152.0 | 7,131.9 | 346.6 | -42.5 | 389.12 | 0.891 Level 1, ES, SF | |

| | | | |
|---------------------------|---|-------------------------------------|---|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Loloff Farms 261-312 |
| Project: | SEC.26-T5N-R64W | TVD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Reference Site: | Loloff Farms 5N64W261 Pad Sec.26-T5N-R64W | MD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Loloff Farms 261-312 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #2 (3-9-15) | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|--|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|--------|
| Suden 34U-HZ Pad Sec.34-T5N-R64W - Suden 34U-403 - Wellbore #1 - Wellbore #1 | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Survey Program: 123-MWD | | | | | | | | | | | | | | |
| 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 | |
| 2,700.0 | 2,696.4 | 2,950.2 | 2,903.1 | 6.0 | 10.3 | -62.69 | -347.9 | -927.0 | 978.2 | 965.3 | 12.92 | 75.700 | | |
| 2,800.0 | 2,795.4 | 3,035.1 | 2,985.7 | 6.3 | 10.7 | -63.80 | -346.5 | -907.6 | 950.2 | 936.7 | 13.47 | 70.555 | | |
| 2,900.0 | 2,894.3 | 3,127.5 | 3,075.9 | 6.6 | 11.1 | -65.01 | -344.5 | -887.3 | 923.2 | 909.2 | 14.05 | 65.713 | | |
| 3,000.0 | 2,993.3 | 3,221.9 | 3,167.9 | 6.9 | 11.5 | -66.35 | -342.9 | -866.4 | 896.7 | 882.0 | 14.67 | 61.124 | | |
| 3,100.0 | 3,092.3 | 3,315.2 | 3,258.8 | 7.2 | 11.9 | -67.82 | -342.1 | -845.3 | 870.7 | 855.4 | 15.33 | 56.814 | | |
| 3,200.0 | 3,191.3 | 3,404.6 | 3,345.9 | 7.5 | 12.3 | -69.30 | -341.6 | -825.3 | 845.7 | 829.7 | 15.98 | 52.910 | | |
| 3,300.0 | 3,290.2 | 3,494.1 | 3,433.4 | 7.8 | 12.7 | -70.77 | -340.1 | -806.4 | 821.7 | 805.1 | 16.65 | 49.343 | | |
| 3,400.0 | 3,389.2 | 3,580.6 | 3,517.9 | 8.1 | 13.1 | -72.36 | -340.1 | -788.0 | 799.2 | 781.8 | 17.34 | 46.085 | | |
| 3,500.0 | 3,488.2 | 3,676.5 | 3,611.7 | 8.4 | 13.5 | -74.17 | -340.1 | -768.3 | 778.0 | 759.9 | 18.10 | 42.977 | | |
| 3,600.0 | 3,587.2 | 3,778.0 | 3,710.7 | 8.7 | 13.9 | -76.36 | -341.4 | -745.6 | 757.0 | 738.0 | 18.96 | 39.918 | | |
| 3,700.0 | 3,686.1 | 3,875.4 | 3,805.5 | 9.0 | 14.4 | -78.56 | -342.0 | -723.3 | 736.2 | 716.4 | 19.84 | 37.117 | | |
| 3,800.0 | 3,785.1 | 3,969.9 | 3,897.6 | 9.4 | 14.8 | -80.71 | -341.5 | -702.3 | 716.3 | 695.6 | 20.69 | 34.616 | | |
| 3,900.0 | 3,884.1 | 4,058.6 | 3,984.3 | 9.7 | 15.2 | -82.70 | -339.9 | -683.8 | 697.7 | 676.1 | 21.51 | 32.432 | | |
| 4,000.0 | 3,983.1 | 4,154.2 | 4,078.0 | 10.0 | 15.6 | -84.92 | -338.5 | -664.6 | 680.7 | 658.3 | 22.39 | 30.400 | | |
| 4,100.0 | 4,082.0 | 4,252.4 | 4,174.0 | 10.3 | 16.0 | -87.36 | -337.1 | -643.9 | 664.3 | 641.0 | 23.34 | 28.462 | | |
| 4,200.0 | 4,181.2 | 4,351.6 | 4,270.7 | 10.6 | 16.4 | -89.63 | -336.0 | -621.9 | 648.7 | 624.5 | 24.24 | 26.757 | | |
| 4,300.0 | 4,280.8 | 4,454.4 | 4,370.9 | 10.8 | 16.9 | -91.68 | -333.5 | -599.3 | 633.3 | 608.3 | 25.08 | 25.252 | | |
| 4,400.0 | 4,380.6 | 4,554.4 | 4,468.4 | 11.0 | 17.4 | -93.37 | -329.7 | -577.5 | 617.9 | 592.0 | 25.84 | 23.915 | | |
| 4,500.0 | 4,480.5 | 4,654.4 | 4,565.9 | 11.2 | 17.8 | -94.84 | -325.5 | -555.4 | 602.4 | 575.8 | 26.55 | 22.691 | | |
| 4,600.0 | 4,580.5 | 4,744.3 | 4,653.4 | 11.4 | 18.3 | -149.65 | -322.5 | -535.0 | 587.5 | 563.0 | 24.57 | 23.916 | | |
| 4,700.0 | 4,680.5 | 4,838.3 | 4,744.8 | 11.6 | 18.7 | -151.45 | -320.7 | -513.1 | 574.2 | 549.3 | 24.88 | 23.075 | | |
| 4,800.0 | 4,780.5 | 4,932.6 | 4,836.6 | 11.8 | 19.1 | -153.36 | -319.5 | -491.3 | 562.0 | 536.8 | 25.18 | 22.321 | | |
| 4,900.0 | 4,880.5 | 5,029.7 | 4,931.1 | 12.0 | 19.6 | -155.37 | -318.3 | -469.2 | 550.9 | 525.4 | 25.45 | 21.641 | | |
| 5,000.0 | 4,980.5 | 5,127.4 | 5,026.5 | 12.2 | 20.0 | -157.36 | -316.6 | -448.0 | 540.4 | 514.7 | 25.73 | 21.005 | | |
| 5,100.0 | 5,080.5 | 5,226.7 | 5,123.5 | 12.4 | 20.4 | -159.36 | -314.4 | -427.1 | 530.4 | 504.4 | 25.99 | 20.404 | | |
| 5,200.0 | 5,180.5 | 5,322.5 | 5,217.5 | 12.6 | 20.8 | -161.19 | -311.8 | -408.4 | 521.1 | 494.9 | 26.27 | 19.840 | | |
| 5,300.0 | 5,280.5 | 5,422.2 | 5,315.6 | 12.8 | 21.2 | -162.86 | -308.3 | -391.4 | 512.4 | 485.9 | 26.56 | 19.294 | | |
| 5,400.0 | 5,380.5 | 5,519.5 | 5,411.7 | 13.0 | 21.5 | -164.32 | -304.3 | -376.8 | 504.1 | 477.2 | 26.87 | 18.762 | | |
| 5,500.0 | 5,480.5 | 5,614.3 | 5,505.4 | 13.2 | 21.8 | -165.76 | -300.7 | -362.8 | 496.6 | 469.5 | 27.17 | 18.280 | | |
| 5,600.0 | 5,580.5 | 5,711.1 | 5,601.2 | 13.4 | 22.1 | -167.21 | -297.8 | -349.4 | 490.4 | 462.9 | 27.47 | 17.852 | | |
| 5,700.0 | 5,680.5 | 5,802.3 | 5,691.8 | 13.6 | 22.4 | -168.39 | -294.9 | -338.5 | 484.8 | 457.0 | 27.78 | 17.452 | | |
| 5,800.0 | 5,780.5 | 5,889.0 | 5,778.1 | 13.8 | 22.6 | -169.18 | -294.3 | -331.5 | 482.4 | 454.4 | 28.09 | 17.174 | | |
| 5,900.0 | 5,880.5 | 5,994.0 | 5,883.1 | 14.0 | 22.8 | -169.63 | -292.9 | -327.5 | 480.4 | 452.0 | 28.46 | 16.881 | | |
| 5,979.4 | 5,959.9 | 6,062.3 | 5,951.3 | 14.1 | 22.9 | 100.37 | -292.0 | -326.4 | 479.4 | 443.3 | 36.11 | 13.275 | | |
| 6,000.0 | 5,980.5 | 6,079.4 | 5,968.4 | 14.2 | 22.9 | 100.29 | -292.1 | -326.5 | 479.4 | 443.2 | 36.18 | 13.249 CC, ES, SF | | |
| 6,100.0 | 6,080.0 | 6,151.1 | 6,040.1 | 14.3 | 23.0 | 100.70 | -293.8 | -327.0 | 483.8 | 447.5 | 36.39 | 13.295 | | |
| 6,200.0 | 6,177.5 | 6,204.0 | 6,092.6 | 14.4 | 23.0 | 100.69 | -300.0 | -326.3 | 499.4 | 462.8 | 36.58 | 13.654 | | |
| 6,300.0 | 6,271.2 | 6,267.0 | 6,154.2 | 14.5 | 23.1 | 100.71 | -312.8 | -324.9 | 526.0 | 489.2 | 36.77 | 14.306 | | |
| 6,400.0 | 6,359.6 | 6,316.3 | 6,201.9 | 14.5 | 23.1 | 100.07 | -325.5 | -324.6 | 562.0 | 525.0 | 36.98 | 15.195 | | |
| 6,500.0 | 6,441.1 | 6,367.3 | 6,250.5 | 14.7 | 23.2 | 99.09 | -341.1 | -324.9 | 607.4 | 570.1 | 37.30 | 16.282 | | |
| 6,600.0 | 6,514.5 | 6,415.7 | 6,295.8 | 14.9 | 23.2 | 97.36 | -357.9 | -324.7 | 660.8 | 623.0 | 37.83 | 17.467 | | |
| 6,700.0 | 6,578.3 | 6,457.0 | 6,333.8 | 15.5 | 23.2 | 94.49 | -374.0 | -324.2 | 721.6 | 683.0 | 38.64 | 18.676 | | |
| 6,800.0 | 6,631.5 | 6,479.1 | 6,353.9 | 16.5 | 23.2 | 89.38 | -383.3 | -324.1 | 788.9 | 749.2 | 39.67 | 19.886 | | |
| 6,900.0 | 6,673.3 | 6,498.4 | 6,371.3 | 17.7 | 23.2 | 83.17 | -391.7 | -324.2 | 861.3 | 820.6 | 40.68 | 21.169 | | |
| 7,000.0 | 6,702.8 | 6,511.4 | 6,382.8 | 19.3 | 23.3 | 75.73 | -397.6 | -324.4 | 937.2 | 895.9 | 41.32 | 22.683 | | |

| | | | |
|---------------------------|---|-------------------------------------|---|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Loloff Farms 26I-312 |
| Project: | SEC.26-T5N-R64W | TVD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Reference Site: | Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W | MD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Loloff Farms 26I-312 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #2 (3-9-15) | Offset TVD Reference: | Offset Datum |

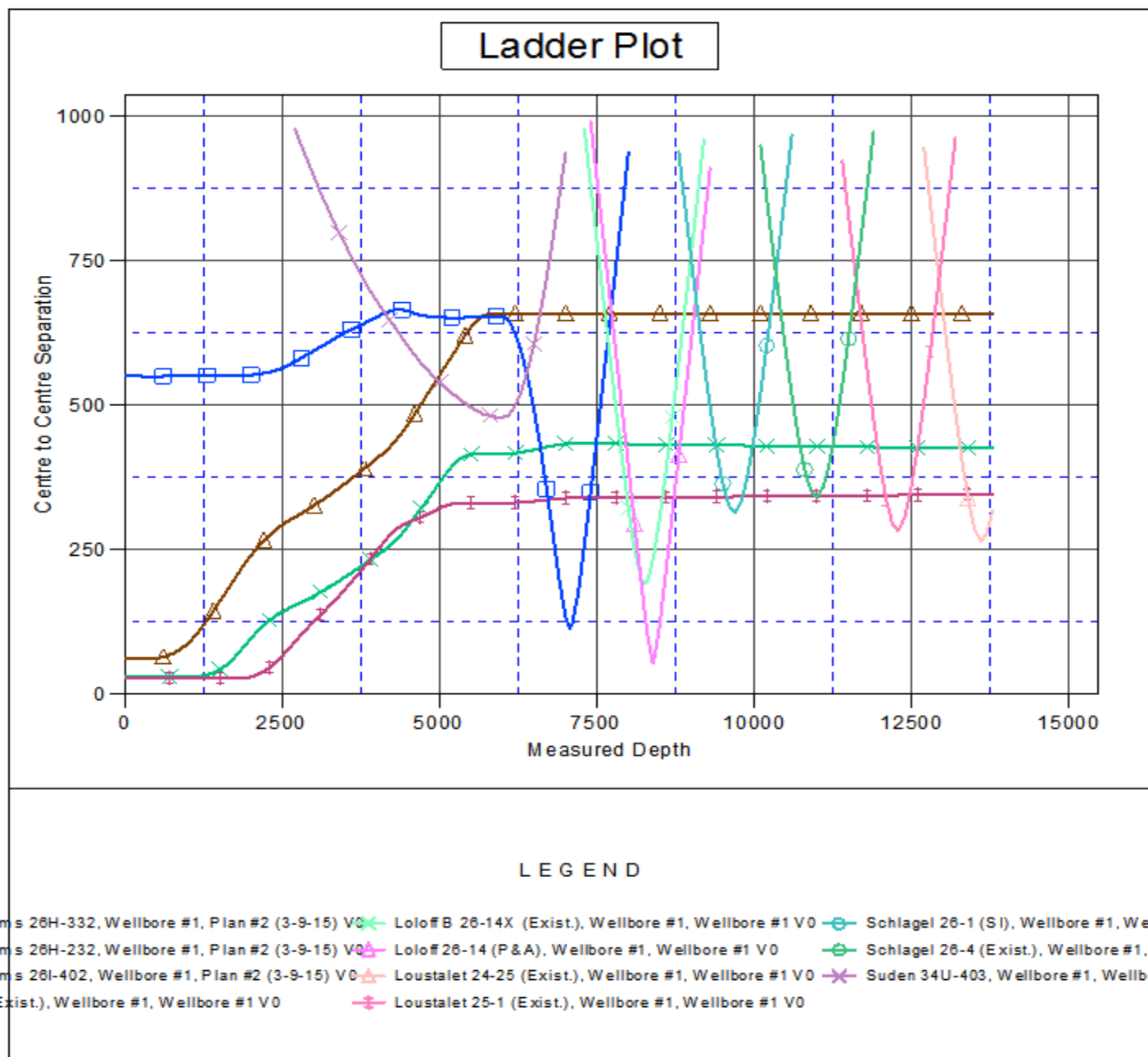
Reference Depths are relative to WELL @ 4693.0ft (Ensign Rig #123 RCoordinates are relative to: Loloff Farms 26I-312

Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.63°



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

| | | | |
|---------------------------|---|-------------------------------------|---|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Loloff Farms 26I-312 |
| Project: | SEC.26-T5N-R64W | TVD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Reference Site: | Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W | MD Reference: | WELL @ 4693.0ft (Ensign Rig #123 RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Loloff Farms 26I-312 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #2 (3-9-15) | Offset TVD Reference: | Offset Datum |

Reference Depths are relative to WELL @ 4693.0ft (Ensign Rig #123 RCoordinates are relative to: Loloff Farms 26I-312

Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.63°

