

Well Name: **Dechant D18-27D**

Surface Location: Dechant D18-30D Pad Sec.7-T3N-R64W
North American Datum 1983 US State Plane 1983 Colorado Northern Zone

Ground Elevation: 4825.0

+N/-S +E/-W
0.0 0.0

Northing
1329432.76

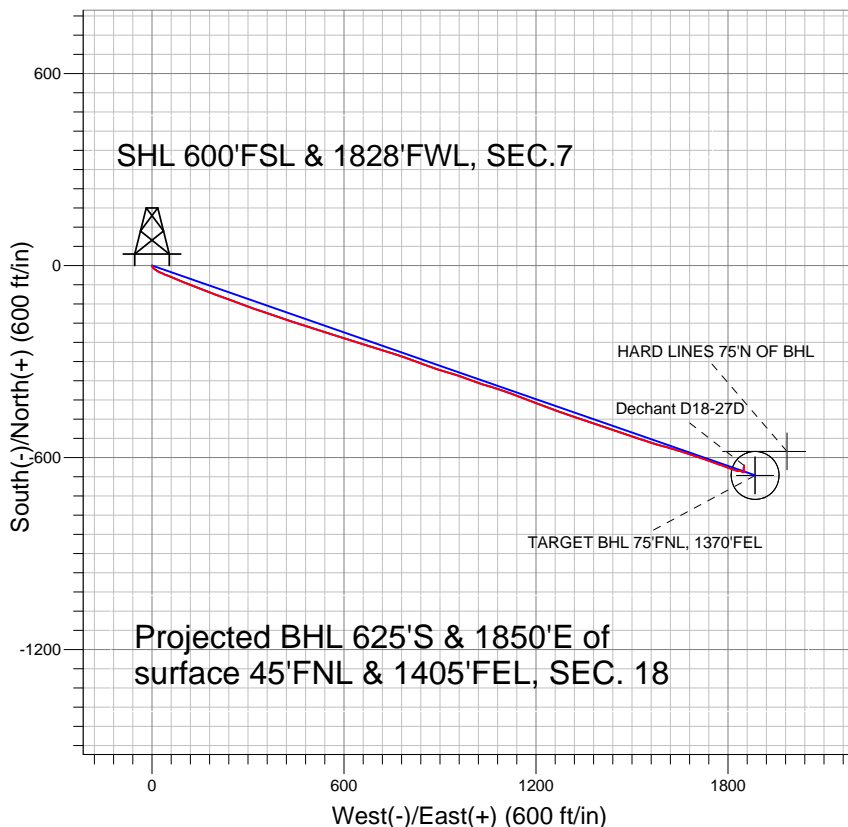
Easting
3252373.72

Latitude
40.234160

Longitude
-104.596040

Slot

NOBLE ENERGY INC WELD COUNTY CO



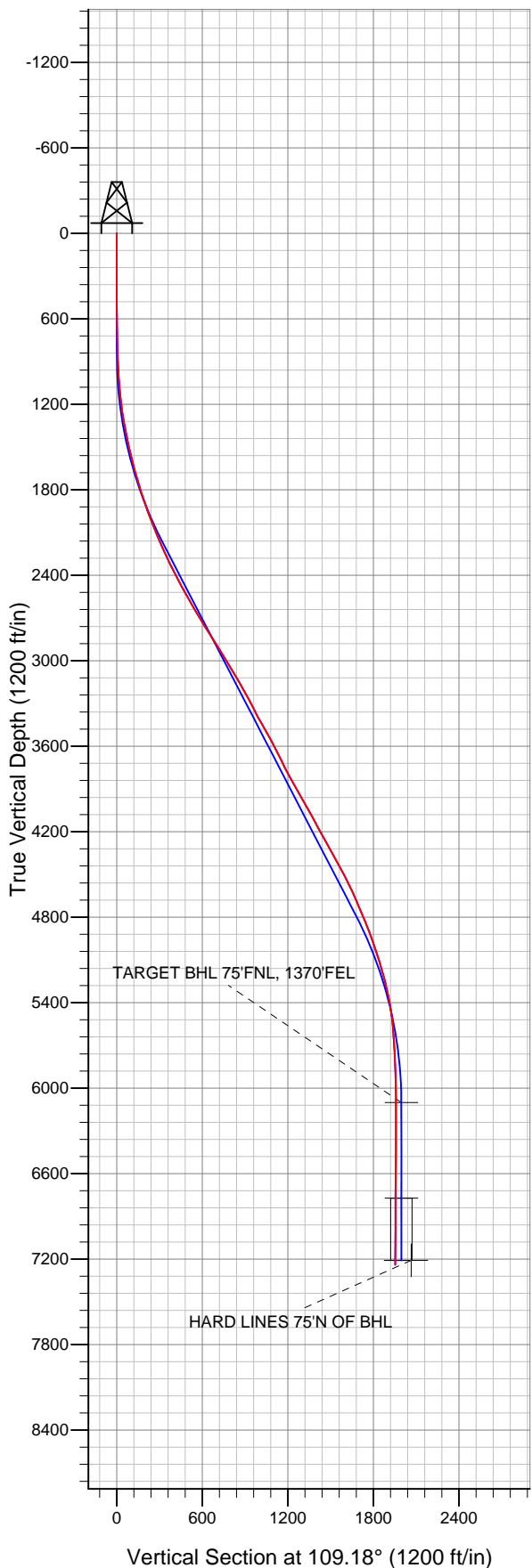
LEGEND

- Dechant D18-27D, Wellbore #1, Noble Dechant D18-27D Plan #3 (8-12-11) VO
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
7676'MD & 7239'TVD @ 1953'VS
1.8 deg Inc 5.2 deg AZ

Project: SEC.7-T3N-R64W
Site: Dechant D18-30D Pad Sec.7-T3N-R64W
Well: Dechant D18-27D
Plan: Wellbore #1





Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.7-T3N-R64W

Dechant D18-30D Pad Sec.7-T3N-R64W

Dechant D18-27D

Wellbore #1

Survey: Survey #1

Standard Survey Report

06 September, 2011



| | | | |
|------------------|------------------------------------|-------------------------------------|--------------------------------------|
| Company: | NOBLE ENERGY INC WELD COUNTY CO | Local Co-ordinate Reference: | Well Dechant D18-27D |
| Project: | SEC.7-T3N-R64W | TVD Reference: | WELL @ 4838.0ft (Original Well Elev) |
| Site: | Dechant D18-30D Pad Sec.7-T3N-R64W | MD Reference: | WELL @ 4838.0ft (Original Well Elev) |
| Well: | Dechant D18-27D | North Reference: | True |
| Wellbore: | Wellbore #1 | Survey Calculation Method: | Minimum Curvature |
| Design: | Wellbore #1 | Database: | Landmark |

| | | | |
|--------------------|---------------------------------------|----------------------|-----------------------------|
| Project | SEC.7-T3N-R64W, Weld County, Colorado | | |
| 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 | Dechant D18-30D Pad Sec.7-T3N-R64W | | |
| Site Position: | | Northing: | 1,329,450.88ft |
| From: | Lat/Long | Easting: | 3,252,362.36ft |
| Position Uncertainty: | 0.0 ft | Slot Radius: | " |
| | | Latitude: | 40.234210 |
| | | Longitude: | -104.596080 |
| | | Grid Convergence: | 0.58 ° |

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|-----------------------------|-----------------|----------------------------|----------------------------------|
| Well | Dechant D18-27D | | |
| Well Position | +N/-S | 0.0 ft | Northing: 1,329,432.76 ft |
| | +E/-W | 0.0 ft | Easting: 3,252,373.72 ft |
| Position Uncertainty | 0.0 ft | Wellhead Elevation: | ft |
| | | Latitude: | 40.234160 |
| | | Longitude: | -104.596040 |
| | | Ground Level: | 4,825.0 ft |

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|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | Wellbore #1 | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2010 | 8/12/2011 | 8.74 | 66.94 | 53,046 |

| | | | | | |
|--------------------------|------------------------------|-------------------|-------------------|----------------------|-----|
| Design | Wellbore #1 | | | | |
| Audit Notes: | | | | | |
| Version: | 1.0 | Phase: | ACTUAL | Tie On Depth: | 0.0 |
| Vertical Section: | Depth From (TVD) (ft) | +N/-S (ft) | +E/-W (ft) | Direction (°) | |
| | 0.0 | 0.0 | 0.0 | 109.18 | |

| | | | | | |
|-----------------------|----------------|--------------------------|------------------|--------------------|--|
| Survey Program | Date | 9/6/2011 | | | |
| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description | |
| 65.0 | 7,676.0 | Survey #1 (Wellbore #1) | MWD | MWD - Standard | |

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|----------------------------|------------------------|--------------------|----------------------------|-------------------|-------------------|------------------------------|------------------------------|-----------------------------|----------------------------|--|
| 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 | |
| 65.0 | 0.30 | 197.70 | 65.0 | -0.2 | -0.1 | 0.0 | 0.46 | 0.46 | 0.00 | |
| 152.0 | 0.50 | 194.20 | 152.0 | -0.7 | -0.2 | 0.0 | 0.23 | 0.23 | -4.02 | |
| 240.0 | 0.30 | 254.40 | 240.0 | -1.2 | -0.5 | -0.1 | 0.50 | -0.23 | 68.41 | |
| 303.0 | 0.20 | 351.60 | 303.0 | -1.1 | -0.7 | -0.3 | 0.60 | -0.16 | 154.29 | |
| 395.0 | 0.40 | 188.40 | 395.0 | -1.3 | -0.8 | -0.3 | 0.65 | 0.22 | -177.39 | |
| 487.0 | 0.30 | 178.90 | 487.0 | -1.8 | -0.8 | -0.2 | 0.13 | -0.11 | -10.33 | |
| 579.0 | 0.10 | 167.20 | 579.0 | -2.2 | -0.8 | 0.0 | 0.22 | -0.22 | -12.72 | |
| 672.0 | 1.60 | 125.10 | 672.0 | -3.0 | 0.3 | 1.2 | 1.64 | 1.61 | -45.27 | |
| 753.0 | 1.80 | 136.90 | 752.9 | -4.6 | 2.1 | 3.5 | 0.50 | 0.25 | 14.57 | |
| 802.0 | 1.80 | 153.30 | 801.9 | -5.8 | 3.0 | 4.7 | 1.05 | 0.00 | 33.47 | |
| 896.0 | 2.20 | 134.80 | 895.9 | -8.4 | 4.9 | 7.4 | 0.80 | 0.43 | -19.68 | |
| 990.0 | 3.30 | 126.40 | 989.8 | -11.3 | 8.4 | 11.6 | 1.24 | 1.17 | -8.94 | |

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|------------------|------------------------------------|-------------------------------------|--------------------------------------|
| Company: | NOBLE ENERGY INC WELD COUNTY CO | Local Co-ordinate Reference: | Well Dechant D18-27D |
| Project: | SEC.7-T3N-R64W | TVD Reference: | WELL @ 4838.0ft (Original Well Elev) |
| Site: | Dechant D18-30D Pad Sec.7-T3N-R64W | MD Reference: | WELL @ 4838.0ft (Original Well Elev) |
| Well: | Dechant D18-27D | North Reference: | True |
| Wellbore: | Wellbore #1 | Survey Calculation Method: | Minimum Curvature |
| Design: | Wellbore #1 | Database: | Landmark |

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) |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| 1,084.0 | 5.70 | 122.70 | 1,083.5 | -15.4 | 14.5 | 18.7 | 2.57 | 2.55 | -3.94 |
| 1,178.0 | 6.20 | 117.80 | 1,177.0 | -20.3 | 22.9 | 28.3 | 0.76 | 0.53 | -5.21 |
| 1,272.0 | 8.60 | 113.20 | 1,270.2 | -25.4 | 33.8 | 40.3 | 2.63 | 2.55 | -4.89 |
| 1,365.0 | 11.10 | 110.90 | 1,361.8 | -31.4 | 48.6 | 56.2 | 2.72 | 2.69 | -2.47 |
| 1,459.0 | 11.90 | 111.30 | 1,453.9 | -38.1 | 66.1 | 74.9 | 0.86 | 0.85 | 0.43 |
| 1,553.0 | 13.40 | 114.80 | 1,545.6 | -46.2 | 85.0 | 95.4 | 1.79 | 1.60 | 3.72 |
| 1,647.0 | 14.90 | 110.60 | 1,636.8 | -55.0 | 106.2 | 118.4 | 1.93 | 1.60 | -4.47 |
| 1,741.0 | 15.90 | 111.10 | 1,727.4 | -63.9 | 129.5 | 143.3 | 1.07 | 1.06 | 0.53 |
| 1,835.0 | 18.40 | 112.00 | 1,817.2 | -74.1 | 155.3 | 171.0 | 2.67 | 2.66 | 0.96 |
| 1,929.0 | 19.20 | 109.90 | 1,906.2 | -84.9 | 183.6 | 201.3 | 1.11 | 0.85 | -2.23 |
| 2,023.0 | 20.70 | 110.40 | 1,994.5 | -96.0 | 213.7 | 233.4 | 1.61 | 1.60 | 0.53 |
| 2,117.0 | 22.10 | 110.90 | 2,082.1 | -108.1 | 245.8 | 267.6 | 1.50 | 1.49 | 0.53 |
| 2,211.0 | 23.10 | 110.00 | 2,168.8 | -120.7 | 279.6 | 303.8 | 1.13 | 1.06 | -0.96 |
| 2,305.0 | 25.50 | 109.50 | 2,254.5 | -133.8 | 316.0 | 342.4 | 2.56 | 2.55 | -0.53 |
| 2,399.0 | 26.20 | 107.70 | 2,339.1 | -146.8 | 354.9 | 383.4 | 1.12 | 0.74 | -1.91 |
| 2,493.0 | 27.30 | 109.90 | 2,423.0 | -160.5 | 394.9 | 425.7 | 1.57 | 1.17 | 2.34 |
| 2,587.0 | 29.20 | 107.90 | 2,505.8 | -174.9 | 437.0 | 470.2 | 2.26 | 2.02 | -2.13 |
| 2,681.0 | 29.60 | 107.70 | 2,587.7 | -189.0 | 480.9 | 516.3 | 0.44 | 0.43 | -0.21 |
| 2,775.0 | 30.70 | 108.30 | 2,669.0 | -203.6 | 525.8 | 563.5 | 1.21 | 1.17 | 0.64 |
| 2,868.0 | 32.50 | 107.40 | 2,748.2 | -218.5 | 572.2 | 612.2 | 2.00 | 1.94 | -0.97 |
| 2,962.0 | 31.30 | 107.00 | 2,828.0 | -233.2 | 619.7 | 661.9 | 1.30 | -1.28 | -0.43 |
| 3,056.0 | 31.70 | 107.40 | 2,908.2 | -247.7 | 666.6 | 711.0 | 0.48 | 0.43 | 0.43 |
| 3,150.0 | 32.50 | 108.10 | 2,987.8 | -262.9 | 714.2 | 760.9 | 0.94 | 0.85 | 0.74 |
| 3,244.0 | 30.20 | 106.90 | 3,068.1 | -277.6 | 760.8 | 809.8 | 2.54 | -2.45 | -1.28 |
| 3,338.0 | 30.80 | 109.50 | 3,149.1 | -292.6 | 806.1 | 857.5 | 1.54 | 0.64 | 2.77 |
| 3,432.0 | 28.60 | 112.40 | 3,230.7 | -309.2 | 849.6 | 904.0 | 2.79 | -2.34 | 3.09 |
| 3,526.0 | 26.60 | 106.90 | 3,314.0 | -323.9 | 890.5 | 947.5 | 3.44 | -2.13 | -5.85 |
| 3,620.0 | 28.90 | 106.30 | 3,397.2 | -336.4 | 932.5 | 991.2 | 2.46 | 2.45 | -0.64 |
| 3,714.0 | 30.00 | 110.20 | 3,479.1 | -350.8 | 976.4 | 1,037.4 | 2.35 | 1.17 | 4.15 |
| 3,808.0 | 28.40 | 109.70 | 3,561.1 | -366.5 | 1,019.5 | 1,083.3 | 1.72 | -1.70 | -0.53 |
| 3,902.0 | 26.30 | 106.20 | 3,644.6 | -379.8 | 1,060.5 | 1,126.4 | 2.81 | -2.23 | -3.72 |
| 3,996.0 | 26.50 | 108.10 | 3,728.8 | -392.2 | 1,100.4 | 1,168.2 | 0.92 | 0.21 | 2.02 |
| 4,090.0 | 28.30 | 111.80 | 3,812.3 | -407.0 | 1,141.1 | 1,211.4 | 2.64 | 1.91 | 3.94 |
| 4,184.0 | 30.10 | 110.60 | 3,894.3 | -423.5 | 1,183.8 | 1,257.3 | 2.01 | 1.91 | -1.28 |
| 4,278.0 | 29.50 | 111.30 | 3,975.9 | -440.2 | 1,227.5 | 1,303.9 | 0.74 | -0.64 | 0.74 |
| 4,372.0 | 29.50 | 109.00 | 4,057.7 | -456.2 | 1,270.9 | 1,350.2 | 1.20 | 0.00 | -2.45 |
| 4,466.0 | 27.40 | 109.90 | 4,140.4 | -471.1 | 1,313.1 | 1,395.0 | 2.28 | -2.23 | 0.96 |
| 4,559.0 | 29.80 | 106.90 | 4,222.0 | -485.1 | 1,355.4 | 1,439.5 | 3.01 | 2.58 | -3.23 |
| 4,653.0 | 28.40 | 109.00 | 4,304.1 | -499.1 | 1,398.9 | 1,485.2 | 1.84 | -1.49 | 2.23 |
| 4,747.0 | 29.50 | 110.20 | 4,386.4 | -514.4 | 1,441.7 | 1,530.7 | 1.32 | 1.17 | 1.28 |
| 4,841.0 | 28.10 | 108.40 | 4,468.8 | -529.4 | 1,484.4 | 1,576.0 | 1.75 | -1.49 | -1.91 |
| 4,935.0 | 26.70 | 106.90 | 4,552.2 | -542.5 | 1,525.7 | 1,619.2 | 1.66 | -1.49 | -1.60 |
| 5,029.0 | 24.10 | 108.40 | 4,637.1 | -554.7 | 1,564.1 | 1,659.5 | 2.85 | -2.77 | 1.60 |
| 5,123.0 | 23.00 | 104.90 | 4,723.3 | -565.5 | 1,600.0 | 1,697.0 | 1.89 | -1.17 | -3.72 |
| 5,217.0 | 23.00 | 106.50 | 4,809.8 | -575.4 | 1,635.4 | 1,733.7 | 0.67 | 0.00 | 1.70 |
| 5,311.0 | 20.20 | 106.70 | 4,897.2 | -585.3 | 1,668.6 | 1,768.2 | 2.98 | -2.98 | 0.21 |
| 5,405.0 | 19.00 | 109.00 | 4,985.8 | -595.0 | 1,698.6 | 1,799.8 | 1.52 | -1.28 | 2.45 |
| 5,499.0 | 18.50 | 110.90 | 5,074.8 | -605.3 | 1,727.0 | 1,830.0 | 0.84 | -0.53 | 2.02 |
| 5,593.0 | 15.80 | 109.70 | 5,164.6 | -614.9 | 1,753.0 | 1,857.7 | 2.90 | -2.87 | -1.28 |
| 5,687.0 | 14.20 | 108.00 | 5,255.4 | -622.8 | 1,776.0 | 1,882.0 | 1.77 | -1.70 | -1.81 |
| 5,781.0 | 11.80 | 111.30 | 5,347.0 | -629.8 | 1,795.9 | 1,903.1 | 2.67 | -2.55 | 3.51 |
| 5,875.0 | 9.30 | 109.50 | 5,439.4 | -635.9 | 1,812.0 | 1,920.3 | 2.68 | -2.66 | -1.91 |
| 5,969.0 | 5.90 | 108.80 | 5,532.5 | -640.0 | 1,823.7 | 1,932.8 | 3.62 | -3.62 | -0.74 |
| 6,062.0 | 4.20 | 94.60 | 5,625.2 | -641.8 | 1,831.7 | 1,940.8 | 2.26 | -1.83 | -15.27 |

| | | | |
|------------------|------------------------------------|-------------------------------------|--------------------------------------|
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| Project: | SEC.7-T3N-R64W | TVD Reference: | WELL @ 4838.0ft (Original Well Elev) |
| Site: | Dechant D18-30D Pad Sec.7-T3N-R64W | MD Reference: | WELL @ 4838.0ft (Original Well Elev) |
| Well: | Dechant D18-27D | North Reference: | True |
| Wellbore: | Wellbore #1 | Survey Calculation Method: | Minimum Curvature |
| Design: | Wellbore #1 | Database: | Landmark |

| 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) | |
| 6,156.0 | 3.30 | 91.20 | 5,719.0 | -642.1 | 1,837.8 | 1,946.7 | 0.99 | -0.96 | -3.62 | |
| 6,250.0 | 2.40 | 127.10 | 5,812.9 | -643.3 | 1,842.1 | 1,951.2 | 2.08 | -0.96 | 38.19 | |
| 6,344.0 | 2.20 | 107.60 | 5,906.8 | -645.1 | 1,845.4 | 1,954.9 | 0.85 | -0.21 | -20.74 | |
| 6,438.0 | 0.80 | 97.00 | 6,000.8 | -645.7 | 1,847.7 | 1,957.3 | 1.51 | -1.49 | -11.28 | |
| 6,537.5 | 0.44 | 32.45 | 6,100.2 | -645.5 | 1,848.6 | 1,958.1 | 0.73 | -0.36 | -64.88 | |
| TARGET BHL 75°FNL, 1370°FEL | | | | | | | | | | |
| 6,563.0 | 0.50 | 10.70 | 6,125.8 | -645.3 | 1,848.7 | 1,958.1 | 0.73 | 0.24 | -85.24 | |
| 6,688.0 | 1.10 | 43.10 | 6,250.8 | -643.9 | 1,849.6 | 1,958.5 | 0.58 | 0.48 | 25.92 | |
| 6,814.0 | 1.10 | 349.10 | 6,376.7 | -641.8 | 1,850.2 | 1,958.4 | 0.79 | 0.00 | -42.86 | |
| 6,939.0 | 1.10 | 338.90 | 6,501.7 | -639.5 | 1,849.6 | 1,957.0 | 0.16 | 0.00 | -8.16 | |
| 7,064.0 | 0.80 | 341.70 | 6,626.7 | -637.5 | 1,848.9 | 1,955.7 | 0.24 | -0.24 | 2.24 | |
| 7,189.0 | 1.10 | 12.60 | 6,751.7 | -635.6 | 1,848.8 | 1,955.0 | 0.47 | 0.24 | 24.72 | |
| 7,208.2 | 0.99 | 12.14 | 6,770.8 | -635.2 | 1,848.9 | 1,955.0 | 0.56 | -0.56 | -2.41 | |
| TARGET CIRCLE 75°FNL & 1370°FEL | | | | | | | | | | |
| 7,314.0 | 0.40 | 5.10 | 6,876.7 | -633.9 | 1,849.1 | 1,954.8 | 0.56 | -0.56 | -6.65 | |
| 7,439.0 | 1.30 | 6.70 | 7,001.6 | -632.1 | 1,849.4 | 1,954.4 | 0.72 | 0.72 | 1.28 | |
| 7,564.0 | 1.80 | 5.20 | 7,126.6 | -628.7 | 1,849.7 | 1,953.6 | 0.40 | 0.40 | -1.20 | |
| 7,647.2 | 1.80 | 5.20 | 7,209.8 | -626.1 | 1,849.9 | 1,953.0 | 0.00 | 0.00 | 0.00 | |
| HARD LINES 75°N OF BHL | | | | | | | | | | |
| 7,676.0 | 1.80 | 5.20 | 7,238.5 | -625.2 | 1,850.0 | 1,952.7 | 0.00 | 0.00 | 0.00 | |

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|-------------------|--------------------|-------------|
| Checked By: _____ | Approved By: _____ | Date: _____ |
|-------------------|--------------------|-------------|