





Cathedral Energy Services

Survey Report

| | | | |
|------------------|---------------------------------|-------------------------------------|--------------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well 8512C-24 L24 496 (was 8512A-24) |
| Project: | Story Gulch | TVD Reference: | KB @ 8208.0ft (Original Well Elev) |
| Site: | L24 496 | MD Reference: | KB @ 8208.0ft (Original Well Elev) |
| Well: | 8512C-24 L24 496 (was 8512A-24) | North Reference: | True |
| Wellbore: | DD | Survey Calculation Method: | Minimum Curvature |
| Design: | DD | Database: | USA EDM 5000 Multi Users DB |

| | | | |
|--------------------|---------------------------|----------------------|----------------|
| Project | Story Gulch | | |
| Map System: | US State Plane 1983 | System Datum: | Mean Sea Level |
| Geo Datum: | North American Datum 1983 | | |
| Map Zone: | Colorado Central Zone | | |

| | | | | |
|------------------------------|----------|---------------------|-----------------|-----------------------------------|
| Site | L24 496 | | | |
| Site Position: | | Northing: | 1,685,024.52 ft | Latitude: 39° 41' 5.72 N |
| From: | Lat/Long | Easting: | 2,261,789.15 ft | Longitude: 108° 7' 23.99 W |
| Position Uncertainty: | 0.0 ft | Slot Radius: | 13.200 in | Grid Convergence: -1.65 ° |

| | | | | |
|-----------------------------|---------------------------------|--------|----------------------------|-----------------|
| Well | 8512C-24 L24 496 (was 8512A-24) | | | |
| Well Position | +N/-S | 0.0 ft | Northing: | 1,685,024.50 ft |
| | +E/-W | 0.0 ft | Easting: | 2,261,789.15 ft |
| Position Uncertainty | | 0.0 ft | Wellhead Elevation: | ft |
| | | | Ground Level: | 8,193.0 ft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | DD | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2010 | 2/25/2013 | 10.21 | 65.82 | 52,147 |

| | | | | |
|--------------------------|-------------------------|-------------------|-------------------|--------------------------|
| Design | DD | | | |
| Audit Notes: | | | | |
| Version: | 1.0 | Phase: | ACTUAL | Tie On Depth: 0.0 |
| Vertical Section: | Depth From (TVD) | +N/-S (ft) | +E/-W (ft) | Direction (°) |
| | 0.0 | 0.0 | 0.0 | 335.50 |

| | | | | |
|-----------------------|----------------|--------------------------|------------------|--------------------|
| Survey Program | Date | 3/12/2013 | | |
| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description |
| 179.0 | 12,207.0 | Survey #1 (DD) | MWD | Geolink MWD |

| | | | | | | | | | |
|----------------------------|------------------------|--------------------|----------------------------|-------------------|-------------------|------------------------------|------------------------------|-----------------------------|------------------------------|
| Survey | | | | | | | | | |
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Formations / Comments |
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | |
| 179.0 | 0.20 | 22.20 | 179.0 | 0.3 | 0.1 | 0.2 | 0.11 | 0.11 | |
| 209.0 | 0.40 | 63.60 | 209.0 | 0.4 | 0.2 | 0.3 | 0.94 | 0.67 | |
| 240.0 | 0.40 | 29.60 | 240.0 | 0.5 | 0.4 | 0.3 | 0.75 | 0.00 | |
| 270.0 | 0.20 | 38.60 | 270.0 | 0.7 | 0.5 | 0.4 | 0.68 | -0.67 | |
| 301.0 | 0.40 | 49.50 | 301.0 | 0.8 | 0.6 | 0.5 | 0.67 | 0.65 | |
| 332.0 | 0.40 | 35.60 | 332.0 | 0.9 | 0.7 | 0.5 | 0.31 | 0.00 | |
| 363.0 | 0.40 | 52.10 | 363.0 | 1.1 | 0.9 | 0.6 | 0.37 | 0.00 | |
| 393.0 | 0.40 | 78.30 | 393.0 | 1.2 | 1.1 | 0.6 | 0.60 | 0.00 | |
| 424.0 | 0.40 | 19.90 | 424.0 | 1.3 | 1.2 | 0.7 | 1.26 | 0.00 | |
| 470.0 | 0.40 | 42.20 | 470.0 | 1.6 | 1.4 | 0.9 | 0.34 | 0.00 | |
| 515.0 | 0.20 | 5.30 | 515.0 | 1.8 | 1.5 | 1.0 | 0.60 | -0.44 | |
| 610.0 | 0.10 | 354.40 | 610.0 | 2.0 | 1.5 | 1.2 | 0.11 | -0.11 | |

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| Site: | L24 496 | MD Reference: | KB @ 8208.0ft (Original Well Elev) |
| Well: | 8512C-24 L24 496 (was 8512A-24) | North Reference: | True |
| Wellbore: | DD | Survey Calculation Method: | Minimum Curvature |
| Design: | DD | Database: | USA EDM 5000 Multi Users DB |

| Survey | | | | | | | | | |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|-----------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Formations / Comments |
| 701.0 | 0.20 | 291.90 | 701.0 | 2.1 | 1.3 | 1.4 | 0.20 | 0.11 | |
| 793.0 | 0.10 | 22.30 | 793.0 | 2.3 | 1.2 | 1.6 | 0.24 | -0.11 | |
| 885.0 | 0.30 | 300.30 | 885.0 | 2.5 | 1.0 | 1.8 | 0.33 | 0.22 | |
| 976.0 | 1.40 | 334.90 | 976.0 | 3.6 | 0.4 | 3.1 | 1.28 | 1.21 | |
| 1,068.0 | 2.90 | 343.00 | 1,067.9 | 6.8 | -0.8 | 6.6 | 1.66 | 1.63 | |
| 1,159.0 | 3.60 | 344.40 | 1,158.8 | 11.8 | -2.2 | 11.7 | 0.77 | 0.77 | |
| 1,251.0 | 4.40 | 329.50 | 1,250.5 | 17.6 | -4.8 | 18.0 | 1.42 | 0.87 | |
| 1,343.0 | 4.60 | 327.10 | 1,342.3 | 23.8 | -8.6 | 25.2 | 0.30 | 0.22 | |
| 1,434.0 | 4.10 | 318.80 | 1,433.0 | 29.3 | -12.7 | 31.9 | 0.88 | -0.55 | |
| 1,526.0 | 3.10 | 314.50 | 1,524.8 | 33.5 | -16.7 | 37.4 | 1.13 | -1.09 | |
| 1,617.0 | 3.40 | 313.30 | 1,615.7 | 37.1 | -20.4 | 42.2 | 0.34 | 0.33 | |
| 1,709.0 | 5.00 | 329.00 | 1,707.4 | 42.4 | -24.4 | 48.7 | 2.13 | 1.74 | |
| 1,801.0 | 5.10 | 339.00 | 1,799.1 | 49.6 | -28.0 | 56.8 | 0.96 | 0.11 | |
| 1,892.0 | 4.50 | 338.30 | 1,889.7 | 56.7 | -30.7 | 64.4 | 0.66 | -0.66 | |
| 1,984.0 | 3.70 | 333.60 | 1,981.5 | 62.7 | -33.4 | 70.9 | 0.94 | -0.87 | |
| 2,075.0 | 3.70 | 342.60 | 2,072.3 | 68.2 | -35.6 | 76.8 | 0.64 | 0.00 | |
| 2,167.0 | 4.40 | 343.00 | 2,164.1 | 74.4 | -37.5 | 83.2 | 0.76 | 0.76 | |
| 2,259.0 | 4.60 | 343.50 | 2,255.8 | 81.3 | -39.6 | 90.4 | 0.22 | 0.22 | |
| 2,350.0 | 4.00 | 338.80 | 2,346.6 | 87.7 | -41.8 | 97.2 | 0.76 | -0.66 | |
| 2,442.0 | 4.20 | 334.20 | 2,438.3 | 93.8 | -44.4 | 103.7 | 0.42 | 0.22 | |
| 2,533.0 | 4.40 | 341.80 | 2,529.1 | 100.1 | -46.9 | 110.5 | 0.66 | 0.22 | |
| 2,625.0 | 4.20 | 343.30 | 2,620.8 | 106.7 | -49.0 | 117.4 | 0.25 | -0.22 | |
| 2,717.0 | 4.50 | 344.20 | 2,712.5 | 113.4 | -50.9 | 124.3 | 0.33 | 0.33 | |
| 2,808.0 | 4.40 | 344.00 | 2,803.3 | 120.2 | -52.9 | 131.3 | 0.11 | -0.11 | |
| 2,900.0 | 4.60 | 343.50 | 2,895.0 | 127.1 | -54.9 | 138.4 | 0.22 | 0.22 | |
| 2,965.0 | 4.90 | 340.30 | 2,959.8 | 132.2 | -56.6 | 143.8 | 0.62 | 0.46 | |
| 3,078.0 | 4.20 | 334.40 | 3,072.4 | 140.5 | -60.0 | 152.7 | 0.74 | -0.62 | |
| 3,173.0 | 3.70 | 330.30 | 3,167.2 | 146.3 | -63.0 | 159.2 | 0.60 | -0.53 | |
| 3,268.0 | 4.40 | 351.30 | 3,261.9 | 152.5 | -65.1 | 165.8 | 1.71 | 0.74 | |
| 3,363.0 | 4.00 | 351.10 | 3,356.7 | 159.4 | -66.1 | 172.5 | 0.42 | -0.42 | |
| 3,458.0 | 3.90 | 353.10 | 3,451.5 | 165.9 | -67.1 | 178.8 | 0.18 | -0.11 | |
| 3,553.0 | 4.70 | 345.40 | 3,546.2 | 172.9 | -68.4 | 185.7 | 1.04 | 0.84 | |
| 3,648.0 | 4.10 | 341.20 | 3,640.9 | 179.8 | -70.5 | 192.9 | 0.72 | -0.63 | |
| 3,743.0 | 3.20 | 338.20 | 3,735.7 | 185.5 | -72.6 | 198.9 | 0.97 | -0.95 | |
| 3,839.0 | 4.00 | 342.80 | 3,831.5 | 191.2 | -74.6 | 204.9 | 0.89 | 0.83 | |
| 3,934.0 | 5.10 | 332.80 | 3,926.2 | 198.1 | -77.5 | 212.4 | 1.42 | 1.16 | |
| 4,029.0 | 4.50 | 325.70 | 4,020.9 | 205.0 | -81.5 | 220.3 | 0.89 | -0.63 | |
| 4,124.0 | 4.20 | 324.90 | 4,115.6 | 210.9 | -85.6 | 227.4 | 0.32 | -0.32 | |
| 4,218.0 | 5.50 | 335.10 | 4,209.3 | 217.8 | -89.5 | 235.3 | 1.65 | 1.38 | |
| 4,313.0 | 5.10 | 332.00 | 4,303.9 | 225.7 | -93.4 | 244.1 | 0.52 | -0.42 | |
| 4,408.0 | 4.60 | 327.50 | 4,398.5 | 232.6 | -97.4 | 252.0 | 0.66 | -0.53 | |
| 4,503.0 | 5.10 | 345.30 | 4,493.2 | 239.9 | -100.5 | 260.0 | 1.66 | 0.53 | |
| 4,598.0 | 4.50 | 330.40 | 4,587.9 | 247.2 | -103.4 | 267.8 | 1.45 | -0.63 | |
| 4,693.0 | 5.60 | 339.10 | 4,682.5 | 254.8 | -106.9 | 276.2 | 1.41 | 1.16 | |
| 4,788.0 | 5.00 | 335.20 | 4,777.1 | 262.9 | -110.3 | 285.0 | 0.74 | -0.63 | |
| 4,883.0 | 5.70 | 338.50 | 4,871.7 | 271.0 | -113.8 | 293.8 | 0.80 | 0.74 | |
| 4,978.0 | 4.90 | 334.40 | 4,966.3 | 279.1 | -117.3 | 302.6 | 0.93 | -0.84 | |
| 5,073.0 | 4.90 | 345.00 | 5,060.9 | 286.6 | -120.1 | 310.6 | 0.95 | 0.00 | |
| 5,168.0 | 4.50 | 345.40 | 5,155.6 | 294.2 | -122.1 | 318.3 | 0.42 | -0.42 | |
| 5,264.0 | 4.20 | 341.60 | 5,251.3 | 301.2 | -124.1 | 325.5 | 0.43 | -0.31 | |
| 5,359.0 | 3.70 | 345.80 | 5,346.1 | 307.4 | -126.0 | 332.0 | 0.61 | -0.53 | |
| 5,454.0 | 3.30 | 348.00 | 5,440.9 | 313.1 | -127.3 | 337.7 | 0.44 | -0.42 | |
| 5,549.0 | 3.70 | 333.30 | 5,535.8 | 318.5 | -129.2 | 343.4 | 1.03 | 0.42 | |

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| Design: | DD | Database: | USA EDM 5000 Multi Users DB |

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|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|-----------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Formations / Comments |
| 5,644.0 | 3.50 | 324.60 | 5,630.6 | 323.6 | -132.3 | 349.3 | 0.61 | -0.21 | |
| 5,739.0 | 4.30 | 340.90 | 5,725.4 | 329.3 | -135.1 | 355.7 | 1.43 | 0.84 | |
| 5,834.0 | 4.00 | 337.20 | 5,820.1 | 335.7 | -137.6 | 362.6 | 0.42 | -0.32 | |
| 5,929.0 | 3.70 | 329.90 | 5,914.9 | 341.4 | -140.4 | 368.9 | 0.60 | -0.32 | |
| 6,024.0 | 5.00 | 336.00 | 6,009.6 | 347.9 | -143.6 | 376.1 | 1.45 | 1.37 | |
| 6,119.0 | 4.30 | 324.60 | 6,104.3 | 354.6 | -147.4 | 383.8 | 1.22 | -0.74 | |
| 6,214.0 | 4.90 | 332.10 | 6,199.0 | 361.1 | -151.3 | 391.3 | 0.89 | 0.63 | |
| 6,309.0 | 5.40 | 341.00 | 6,293.6 | 368.9 | -154.7 | 399.8 | 0.99 | 0.53 | |
| 6,404.0 | 4.70 | 331.50 | 6,388.3 | 376.5 | -158.0 | 408.1 | 1.15 | -0.74 | |
| 6,499.0 | 4.60 | 325.00 | 6,482.9 | 383.1 | -162.0 | 415.8 | 0.56 | -0.11 | |
| 6,595.0 | 5.80 | 315.40 | 6,578.5 | 389.7 | -167.7 | 424.1 | 1.54 | 1.25 | |
| 6,690.0 | 4.70 | 319.20 | 6,673.1 | 396.0 | -173.6 | 432.3 | 1.21 | -1.16 | |
| 6,785.0 | 4.10 | 333.60 | 6,767.9 | 402.0 | -177.6 | 439.5 | 1.32 | -0.63 | |
| 6,880.0 | 4.40 | 349.40 | 6,862.6 | 408.6 | -179.8 | 446.4 | 1.27 | 0.32 | |
| 6,975.0 | 4.20 | 347.50 | 6,957.3 | 415.6 | -181.2 | 453.4 | 0.26 | -0.21 | |
| 7,070.0 | 3.90 | 347.10 | 7,052.1 | 422.2 | -182.7 | 459.9 | 0.32 | -0.32 | |
| 7,165.0 | 3.40 | 343.50 | 7,146.9 | 428.0 | -184.2 | 465.9 | 0.58 | -0.53 | |
| 7,260.0 | 3.90 | 347.50 | 7,241.7 | 433.9 | -185.7 | 471.8 | 0.59 | 0.53 | |
| 7,355.0 | 3.90 | 346.60 | 7,336.5 | 440.2 | -187.2 | 478.2 | 0.06 | 0.00 | |
| 7,450.0 | 3.50 | 347.50 | 7,431.3 | 446.1 | -188.6 | 484.2 | 0.43 | -0.42 | |
| 7,545.0 | 3.00 | 345.80 | 7,526.1 | 451.4 | -189.8 | 489.4 | 0.54 | -0.53 | |
| 7,641.0 | 2.90 | 343.10 | 7,622.0 | 456.1 | -191.1 | 494.3 | 0.18 | -0.10 | |
| 7,736.0 | 2.70 | 339.40 | 7,716.9 | 460.5 | -192.6 | 498.9 | 0.28 | -0.21 | |
| 7,831.0 | 2.40 | 337.50 | 7,811.8 | 464.5 | -194.1 | 503.2 | 0.33 | -0.32 | |
| 7,926.0 | 2.30 | 327.20 | 7,906.7 | 467.9 | -195.9 | 507.0 | 0.46 | -0.11 | |
| 8,021.0 | 2.00 | 321.60 | 8,001.7 | 470.8 | -198.0 | 510.5 | 0.39 | -0.32 | |
| 8,116.0 | 1.80 | 323.10 | 8,096.6 | 473.3 | -199.9 | 513.6 | 0.22 | -0.21 | |
| 8,211.0 | 1.90 | 320.00 | 8,191.6 | 475.7 | -201.8 | 516.6 | 0.15 | 0.11 | |
| 8,255.7 | 1.71 | 322.47 | 8,236.2 | 476.8 | -202.7 | 517.9 | 0.46 | -0.43 | 8512C-24 L24 496 TGT |
| 8,306.0 | 1.50 | 326.00 | 8,286.5 | 477.9 | -203.5 | 519.3 | 0.46 | -0.42 | |
| 8,401.0 | 2.00 | 297.30 | 8,381.5 | 479.7 | -205.7 | 521.8 | 1.05 | 0.53 | |
| 8,496.0 | 1.70 | 321.80 | 8,476.4 | 481.6 | -208.1 | 524.5 | 0.88 | -0.32 | |
| 8,591.0 | 2.30 | 23.70 | 8,571.4 | 484.4 | -208.2 | 527.2 | 2.23 | 0.63 | |
| 8,686.0 | 1.80 | 24.90 | 8,666.3 | 487.5 | -206.8 | 529.4 | 0.53 | -0.53 | |
| 8,781.0 | 1.70 | 22.20 | 8,761.3 | 490.2 | -205.6 | 531.3 | 0.14 | -0.11 | |
| 8,876.0 | 0.40 | 303.20 | 8,856.3 | 491.7 | -205.4 | 532.6 | 1.76 | -1.37 | |
| 8,971.0 | 0.60 | 285.80 | 8,951.3 | 492.0 | -206.1 | 533.2 | 0.26 | 0.21 | |
| 9,066.0 | 0.60 | 237.90 | 9,046.3 | 491.9 | -207.0 | 533.4 | 0.51 | 0.00 | |
| 9,161.0 | 0.90 | 249.60 | 9,141.2 | 491.4 | -208.1 | 533.4 | 0.35 | 0.32 | |
| 9,256.0 | 1.30 | 236.30 | 9,236.2 | 490.5 | -209.7 | 533.3 | 0.50 | 0.42 | |
| 9,351.0 | 0.90 | 238.90 | 9,331.2 | 489.5 | -211.3 | 533.0 | 0.42 | -0.42 | |
| 9,446.0 | 0.60 | 37.40 | 9,426.2 | 489.5 | -211.6 | 533.2 | 1.55 | -0.32 | |
| 9,541.0 | 0.20 | 191.00 | 9,521.2 | 489.8 | -211.3 | 533.3 | 0.83 | -0.42 | |
| 9,636.0 | 0.40 | 176.70 | 9,616.2 | 489.3 | -211.3 | 532.8 | 0.22 | 0.21 | |
| 9,731.0 | 0.60 | 157.80 | 9,711.2 | 488.5 | -211.1 | 532.0 | 0.27 | 0.21 | |
| 9,826.0 | 0.40 | 194.50 | 9,806.2 | 487.7 | -211.0 | 531.3 | 0.39 | -0.21 | |
| 9,921.0 | 0.80 | 160.50 | 9,901.2 | 486.7 | -210.9 | 530.4 | 0.55 | 0.42 | |
| 10,015.0 | 1.50 | 54.30 | 9,995.2 | 486.8 | -209.7 | 530.0 | 2.01 | 0.74 | |
| 10,110.0 | 0.80 | 47.60 | 10,090.2 | 488.0 | -208.2 | 530.4 | 0.75 | -0.74 | |
| 10,205.0 | 0.40 | 21.20 | 10,185.2 | 488.8 | -207.6 | 530.8 | 0.50 | -0.42 | |
| 10,300.0 | 0.30 | 325.60 | 10,280.2 | 489.3 | -207.6 | 531.3 | 0.36 | -0.11 | |
| 10,396.0 | 0.30 | 241.60 | 10,376.2 | 489.4 | -207.9 | 531.5 | 0.42 | 0.00 | |
| 10,490.0 | 0.70 | 216.80 | 10,470.1 | 488.8 | -208.5 | 531.3 | 0.47 | 0.43 | |

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| Design: | DD | Database: | USA EDM 5000 Multi Users DB |

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| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Formations / Comments |
| 10,585.0 | 1.00 | 207.80 | 10,565.1 | 487.6 | -209.2 | 530.5 | 0.34 | 0.32 | |
| 10,680.0 | 0.60 | 205.20 | 10,660.1 | 486.4 | -209.8 | 529.6 | 0.42 | -0.42 | |
| 10,776.0 | 1.10 | 212.60 | 10,756.1 | 485.2 | -210.5 | 528.8 | 0.53 | 0.52 | |
| 10,871.0 | 0.70 | 194.70 | 10,851.1 | 483.9 | -211.2 | 527.9 | 0.51 | -0.42 | |
| 10,965.0 | 1.30 | 212.50 | 10,945.1 | 482.4 | -211.9 | 526.8 | 0.71 | 0.64 | |
| 11,060.0 | 0.80 | 226.70 | 11,040.1 | 481.0 | -213.0 | 526.0 | 0.59 | -0.53 | |
| 11,155.0 | 1.80 | 51.60 | 11,135.1 | 481.5 | -212.3 | 526.2 | 2.73 | 1.05 | |
| 11,250.0 | 1.20 | 45.50 | 11,230.0 | 483.1 | -210.4 | 526.9 | 0.65 | -0.63 | |
| 11,345.0 | 0.70 | 75.10 | 11,325.0 | 484.0 | -209.1 | 527.1 | 0.72 | -0.53 | |
| 11,440.0 | 0.30 | 102.40 | 11,420.0 | 484.1 | -208.3 | 526.9 | 0.48 | -0.42 | |
| 11,535.0 | 0.30 | 201.20 | 11,515.0 | 483.8 | -208.2 | 526.6 | 0.48 | 0.00 | |
| 11,630.0 | 0.30 | 306.80 | 11,610.0 | 483.7 | -208.5 | 526.6 | 0.50 | 0.00 | |
| 11,725.0 | 0.30 | 277.80 | 11,705.0 | 483.9 | -208.9 | 527.0 | 0.16 | 0.00 | |
| 11,820.0 | 0.30 | 253.50 | 11,800.0 | 483.9 | -209.4 | 527.1 | 0.13 | 0.00 | |
| 11,915.0 | 0.20 | 254.00 | 11,895.0 | 483.7 | -209.8 | 527.2 | 0.11 | -0.11 | |
| 12,010.0 | 0.50 | 232.10 | 11,990.0 | 483.4 | -210.3 | 527.1 | 0.34 | 0.32 | |
| 12,105.0 | 0.90 | 207.10 | 12,085.0 | 482.5 | -210.9 | 526.5 | 0.52 | 0.42 | |
| 12,147.0 | 1.00 | 208.50 | 12,127.0 | 481.9 | -211.3 | 526.1 | 0.24 | 0.24 | Last Cathedral Survey @ 12,147' MD |
| 12,207.0 | 1.00 | 208.50 | 12,187.0 | 481.0 | -211.8 | 525.5 | 0.00 | 0.00 | Projection to Bit @ 12,207' MD - 8512C-24 L24 4 |

| Targets | | | | | | | | | |
|--|---------------|--------------|----------|------------|------------|---------------|--------------|-----------------|-----------------|
| Target Name | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) | Latitude | Longitude |
| 8512C-24 L24 496 TGT | 0.00 | 0.00 | 8,236.0 | 488.6 | -201.1 | 1,685,518.71 | 2,261,602.24 | 39° 41' 10.55 N | 108° 7' 26.56 W |
| - hit/miss target | | | | | | | | | |
| - actual wellpath misses target center by 11.9ft at 8255.7ft MD (8236.2 TVD, 476.8 N, -202.7 E) | | | | | | | | | |
| - Point | | | | | | | | | |
| 8512C-24 L24 496 PBHI | 0.00 | 0.00 | 13,055.0 | 478.6 | -218.1 | 1,685,509.22 | 2,261,584.95 | 39° 41' 10.45 N | 108° 7' 26.78 W |
| - actual wellpath misses target center by 868.0ft at 12207.0ft MD (12187.0 TVD, 481.0 N, -211.8 E) | | | | | | | | | |
| - Rectangle (sides W30.0 H50.0 D0.0) | | | | | | | | | |

| Design Annotations | | | | | |
|---------------------|---------------------|------------|------------|------------------------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Comment | |
| 12,147.0 | 12,127.0 | 481.9 | -211.3 | Last Cathedral Survey @ 12,147' MD | |
| 12,207.0 | 12,187.0 | 481.0 | -211.8 | Projection to Bit @ 12,207' MD | |

Checked By: _____ Approved By: _____ Date: _____