



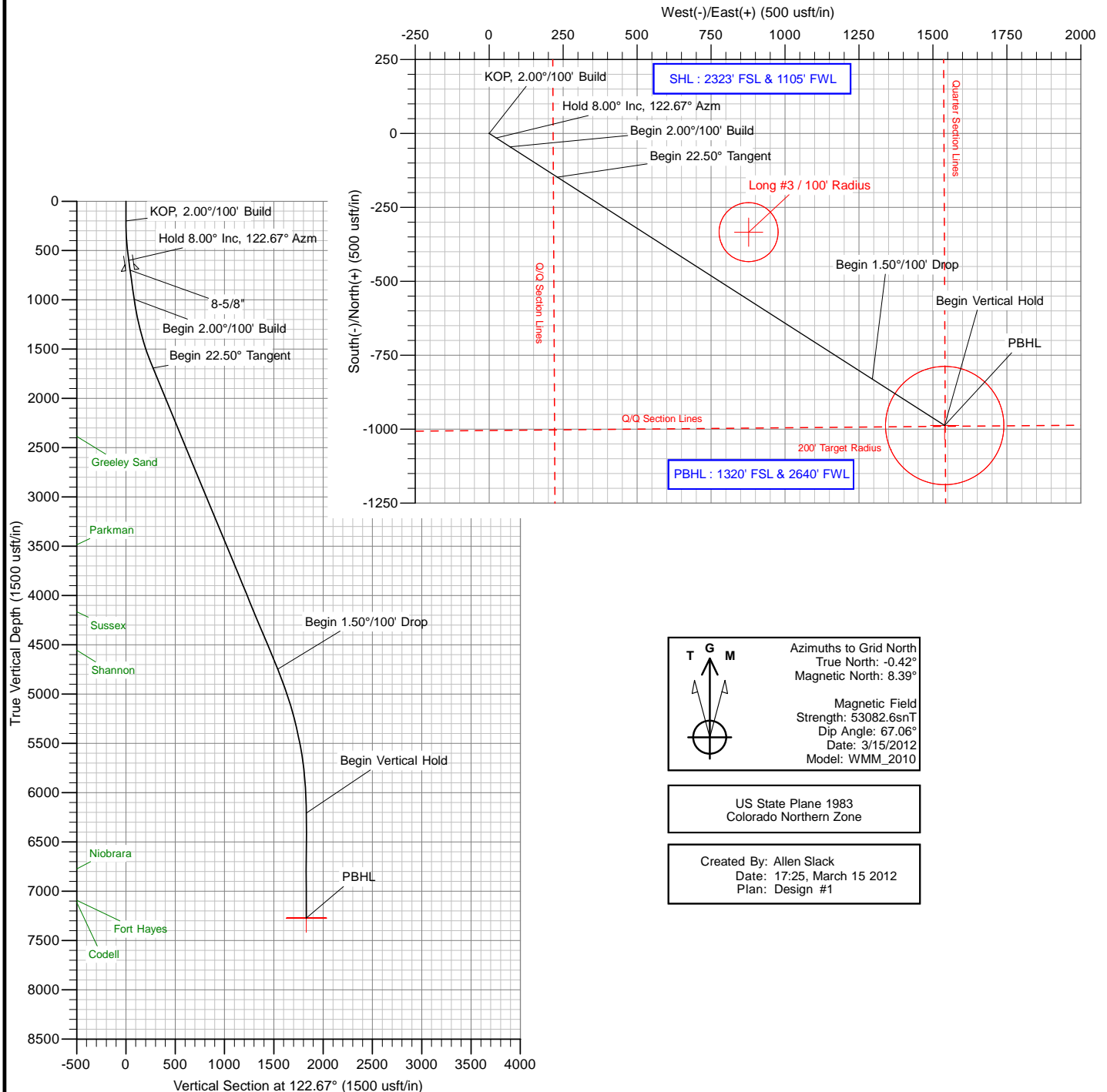
Company: Great Western
Site: Great Western
Well: 25-22-18
Project: Weld County, Colorado (NAD 83)
Rig Name: Cade 22



Planning: 936.442.2510 Fax: 936.442.2515
Operations: 936.442.2500 Fax: 936.442.2599

ANNOTATIONS

| MD | Inc | Azi | TVD | +N/-S | +E/-W | VSect | Departure | Annotation |
|---------|-------|--------|---------|---------|---------|---------|-----------|-----------------------------|
| 200.00 | 0.00 | 0.00 | 200.00 | 0.00 | 0.00 | 0.00 | 0.00 | KOP, 2.00°/100' Build |
| 600.00 | 8.00 | 122.67 | 598.70 | -15.05 | 23.47 | 27.88 | 27.88 | Hold 8.00° Inc, 122.67° Azm |
| 1000.00 | 8.00 | 122.67 | 994.81 | -45.10 | 70.33 | 83.55 | 83.55 | Begin 2.00°/100' Build |
| 1724.89 | 22.50 | 122.67 | 1692.31 | -147.74 | 230.39 | 273.69 | 273.69 | Begin 22.50° Tangent |
| 5030.55 | 22.50 | 122.67 | 4746.40 | -830.55 | 1295.17 | 1538.60 | 1538.60 | Begin 1.50°/100' Drop |
| 6530.40 | 0.00 | 0.00 | 6208.00 | -987.47 | 1539.88 | 1829.30 | 1829.30 | Begin Vertical Hold |
| 7595.40 | 0.00 | 0.00 | 7273.00 | -987.47 | 1539.88 | 1829.30 | 1829.30 | PBHL |



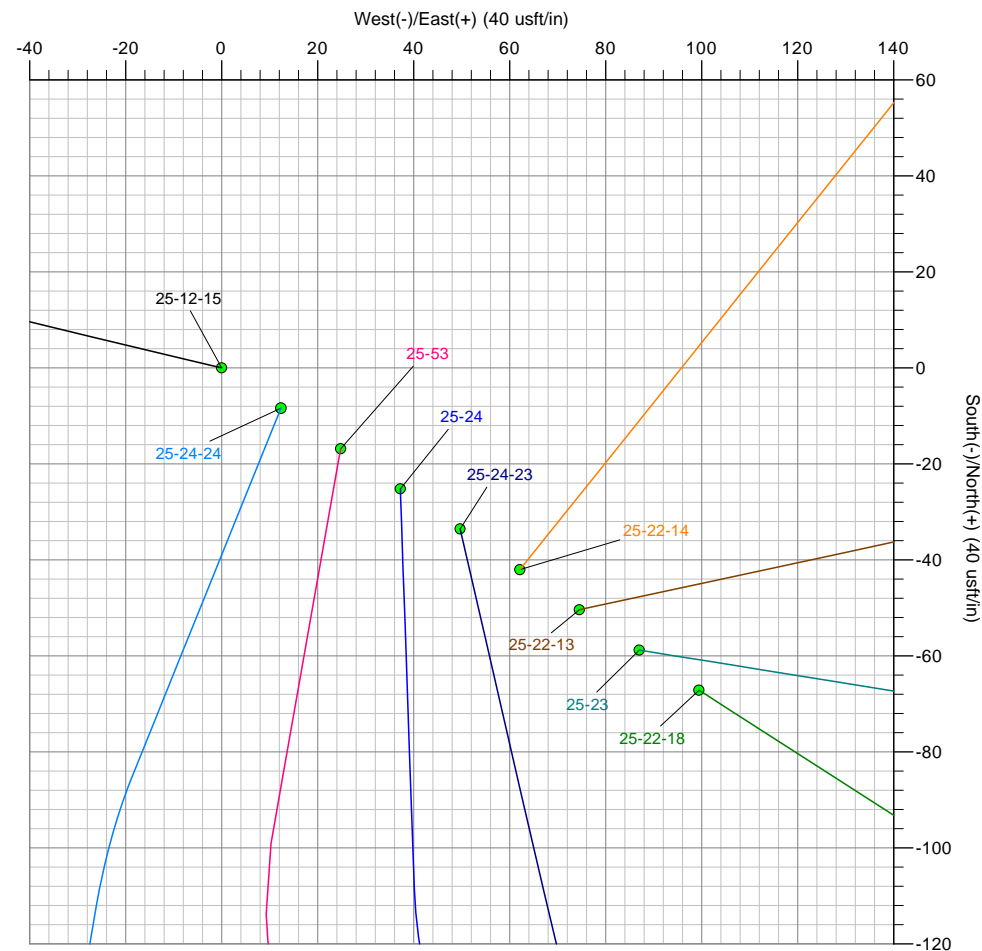
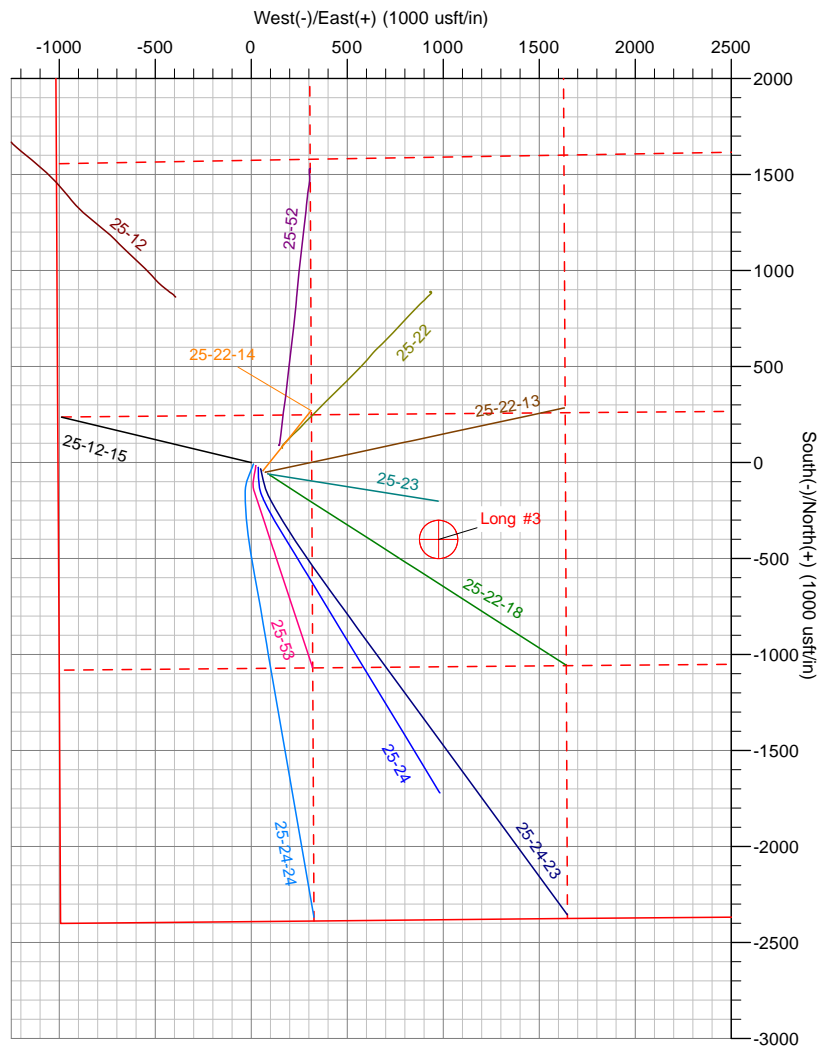
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Company: Great Western
Site: Great Western
Project: Weld County, Colorado (NAD 83)
Rig Name: Cade 22



Planning: 936.442.2510 Fax: 936.442.2515
Operations: 936.442.2500 Fax: 936.442.2599



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Great Western

Weld County, Colorado (NAD 83)

Great Western

25-22-18

Wellbore #1

Plan: Design #1

Standard Planning Report

15 March, 2012

| | | | |
|------------------|--------------------------------|-------------------------------------|------------------------------|
| Database: | Southern Region | Local Co-ordinate Reference: | Well 25-22-18 |
| Company: | Great Western | TVD Reference: | WELL @ 4765.00usft (Cade 22) |
| Project: | Weld County, Colorado (NAD 83) | MD Reference: | WELL @ 4765.00usft (Cade 22) |
| Site: | Great Western | North Reference: | Grid |
| Well: | 25-22-18 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Design #1 | | |

| | | | |
|--------------------|--------------------------------|----------------------|----------------|
| Project | Weld County, Colorado (NAD 83) | | |
| Map System: | US State Plane 1983 | System Datum: | Mean Sea Level |
| Geo Datum: | North American Datum 1983 | | |
| Map Zone: | Colorado Northern Zone | | |

| | | | | |
|-----------------------------|--------------|-------------------|----------------------------|-------------------|
| Well | 25-22-18 | | | |
| Well Position | +N/-S | 1,410,017.82 usft | Northing: | 1,410,017.82 usft |
| | +E/-W | 3,181,586.44 usft | Easting: | 3,181,586.44 usft |
| Position Uncertainty | | 0.00 usft | Wellhead Elevation: | |
| | | | Latitude: | 40° 27' 25.4395 N |
| | | | Longitude: | 104° 50' 50.831 W |
| | | | Ground Level: | 4,751.00 usft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | Wellbore #1 | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | WMM_2010 | 3/15/2012 | 8.81 | 67.06 | 53,083 |

| | | | | |
|--------------------------|--------------------------------|---------------------|----------------------|----------------------|
| Design | Design #1 | | | |
| Audit Notes: | | | | |
| Version: | Phase: | PROTOTYPE | Tie On Depth: | 0.00 |
| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) |
| | 0.00 | 0.00 | 0.00 | 122.67 |

| Plan Sections | | | | | | | | | | |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|------------------------|-----------------------|---------|-------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | TFO (°) | Target |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 200.00 | 0.00 | 0.00 | 200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 600.00 | 8.00 | 122.67 | 598.70 | -15.05 | 23.47 | 2.00 | 2.00 | 0.00 | 122.67 | PBHL v1 - Great W |
| 1,000.00 | 8.00 | 122.67 | 994.81 | -45.10 | 70.33 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1,724.89 | 22.50 | 122.67 | 1,692.31 | -147.74 | 230.39 | 2.00 | 2.00 | 0.00 | 0.00 | |
| 5,030.55 | 22.50 | 122.67 | 4,746.40 | -830.55 | 1,295.17 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 6,530.40 | 0.00 | 0.00 | 6,208.00 | -987.47 | 1,539.88 | 1.50 | -1.50 | 0.00 | 180.00 | |
| 7,595.40 | 0.00 | 0.00 | 7,273.00 | -987.47 | 1,539.88 | 0.00 | 0.00 | 0.00 | 0.00 | PBHL v1 - Great W |



| | | | |
|------------------|--------------------------------|-------------------------------------|------------------------------|
| Database: | Southern Region | Local Co-ordinate Reference: | Well 25-22-18 |
| Company: | Great Western | TVD Reference: | WELL @ 4765.00usft (Cade 22) |
| Project: | Weld County, Colorado (NAD 83) | MD Reference: | WELL @ 4765.00usft (Cade 22) |
| Site: | Great Western | North Reference: | Grid |
| Well: | 25-22-18 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Design #1 | | |

| Planned Survey | | | | | | | | | |
|------------------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 100.00 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 200.00 | 0.00 | 0.00 | 200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| KOP, 2.00°/100' Build | | | | | | | | | |
| 300.00 | 2.00 | 122.67 | 299.98 | -0.94 | 1.47 | 1.75 | 2.00 | 2.00 | 0.00 |
| 400.00 | 4.00 | 122.67 | 399.84 | -3.77 | 5.87 | 6.98 | 2.00 | 2.00 | 0.00 |
| 500.00 | 6.00 | 122.67 | 499.45 | -8.47 | 13.21 | 15.69 | 2.00 | 2.00 | 0.00 |
| 600.00 | 8.00 | 122.67 | 598.70 | -15.05 | 23.47 | 27.88 | 2.00 | 2.00 | 0.00 |
| Hold 8.00° Inc, 122.67° Azm | | | | | | | | | |
| 700.00 | 8.00 | 122.67 | 697.73 | -22.56 | 35.18 | 41.80 | 0.00 | 0.00 | 0.00 |
| 702.29 | 8.00 | 122.67 | 700.00 | -22.73 | 35.45 | 42.12 | 0.00 | 0.00 | 0.00 |
| 8-5/8" | | | | | | | | | |
| 800.00 | 8.00 | 122.67 | 796.76 | -30.08 | 46.90 | 55.71 | 0.00 | 0.00 | 0.00 |
| 900.00 | 8.00 | 122.67 | 895.78 | -37.59 | 58.62 | 69.63 | 0.00 | 0.00 | 0.00 |
| 1,000.00 | 8.00 | 122.67 | 994.81 | -45.10 | 70.33 | 83.55 | 0.00 | 0.00 | 0.00 |
| Begin 2.00°/100' Build | | | | | | | | | |
| 1,100.00 | 10.00 | 122.67 | 1,093.57 | -53.54 | 83.50 | 99.19 | 2.00 | 2.00 | 0.00 |
| 1,200.00 | 12.00 | 122.67 | 1,191.73 | -63.84 | 99.56 | 118.27 | 2.00 | 2.00 | 0.00 |
| 1,300.00 | 14.00 | 122.67 | 1,289.16 | -75.99 | 118.49 | 140.77 | 2.00 | 2.00 | 0.00 |
| 1,400.00 | 16.00 | 122.67 | 1,385.75 | -89.96 | 140.28 | 166.65 | 2.00 | 2.00 | 0.00 |
| 1,500.00 | 18.00 | 122.67 | 1,481.38 | -105.74 | 164.89 | 195.88 | 2.00 | 2.00 | 0.00 |
| 1,600.00 | 20.00 | 122.67 | 1,575.92 | -123.31 | 192.30 | 228.44 | 2.00 | 2.00 | 0.00 |
| 1,700.00 | 22.00 | 122.67 | 1,669.28 | -142.66 | 222.46 | 264.27 | 2.00 | 2.00 | 0.00 |
| 1,724.89 | 22.50 | 122.67 | 1,692.31 | -147.74 | 230.39 | 273.69 | 2.00 | 2.00 | 0.00 |
| Begin 22.50° Tangent | | | | | | | | | |
| 1,800.00 | 22.50 | 122.67 | 1,761.71 | -163.26 | 254.59 | 302.44 | 0.00 | 0.00 | 0.00 |
| 1,900.00 | 22.50 | 122.67 | 1,854.10 | -183.91 | 286.80 | 340.70 | 0.00 | 0.00 | 0.00 |
| 2,000.00 | 22.50 | 122.67 | 1,946.49 | -204.57 | 319.01 | 378.97 | 0.00 | 0.00 | 0.00 |
| 2,100.00 | 22.50 | 122.67 | 2,038.88 | -225.22 | 351.22 | 417.23 | 0.00 | 0.00 | 0.00 |
| 2,200.00 | 22.50 | 122.67 | 2,131.26 | -245.88 | 383.43 | 455.50 | 0.00 | 0.00 | 0.00 |
| 2,300.00 | 22.50 | 122.67 | 2,223.65 | -266.54 | 415.64 | 493.76 | 0.00 | 0.00 | 0.00 |
| 2,400.00 | 22.50 | 122.67 | 2,316.04 | -287.19 | 447.85 | 532.02 | 0.00 | 0.00 | 0.00 |
| 2,474.64 | 22.50 | 122.67 | 2,385.00 | -302.61 | 471.89 | 560.58 | 0.00 | 0.00 | 0.00 |
| Greeley Sand | | | | | | | | | |
| 2,500.00 | 22.50 | 122.67 | 2,408.43 | -307.85 | 480.06 | 570.29 | 0.00 | 0.00 | 0.00 |
| 2,600.00 | 22.50 | 122.67 | 2,500.82 | -328.50 | 512.27 | 608.55 | 0.00 | 0.00 | 0.00 |
| 2,700.00 | 22.50 | 122.67 | 2,593.21 | -349.16 | 544.48 | 646.82 | 0.00 | 0.00 | 0.00 |
| 2,800.00 | 22.50 | 122.67 | 2,685.60 | -369.81 | 576.69 | 685.08 | 0.00 | 0.00 | 0.00 |
| 2,900.00 | 22.50 | 122.67 | 2,777.99 | -390.47 | 608.91 | 723.35 | 0.00 | 0.00 | 0.00 |
| 3,000.00 | 22.50 | 122.67 | 2,870.38 | -411.12 | 641.12 | 761.61 | 0.00 | 0.00 | 0.00 |
| 3,100.00 | 22.50 | 122.67 | 2,962.77 | -431.78 | 673.33 | 799.88 | 0.00 | 0.00 | 0.00 |
| 3,200.00 | 22.50 | 122.67 | 3,055.16 | -452.44 | 705.54 | 838.14 | 0.00 | 0.00 | 0.00 |
| 3,300.00 | 22.50 | 122.67 | 3,147.55 | -473.09 | 737.75 | 876.41 | 0.00 | 0.00 | 0.00 |
| 3,400.00 | 22.50 | 122.67 | 3,239.94 | -493.75 | 769.96 | 914.67 | 0.00 | 0.00 | 0.00 |
| 3,500.00 | 22.50 | 122.67 | 3,332.33 | -514.40 | 802.17 | 952.94 | 0.00 | 0.00 | 0.00 |
| 3,600.00 | 22.50 | 122.67 | 3,424.72 | -535.06 | 834.38 | 991.20 | 0.00 | 0.00 | 0.00 |
| 3,665.25 | 22.50 | 122.67 | 3,485.00 | -548.54 | 855.40 | 1,016.17 | 0.00 | 0.00 | 0.00 |
| Parkman | | | | | | | | | |
| 3,700.00 | 22.50 | 122.67 | 3,517.11 | -555.71 | 866.59 | 1,029.46 | 0.00 | 0.00 | 0.00 |
| 3,800.00 | 22.50 | 122.67 | 3,609.50 | -576.37 | 898.80 | 1,067.73 | 0.00 | 0.00 | 0.00 |
| 3,900.00 | 22.50 | 122.67 | 3,701.89 | -597.02 | 931.01 | 1,105.99 | 0.00 | 0.00 | 0.00 |
| 4,000.00 | 22.50 | 122.67 | 3,794.28 | -617.68 | 963.22 | 1,144.26 | 0.00 | 0.00 | 0.00 |
| 4,100.00 | 22.50 | 122.67 | 3,886.66 | -638.34 | 995.43 | 1,182.52 | 0.00 | 0.00 | 0.00 |

| | | | |
|------------------|--------------------------------|-------------------------------------|------------------------------|
| Database: | Southern Region | Local Co-ordinate Reference: | Well 25-22-18 |
| Company: | Great Western | TVD Reference: | WELL @ 4765.00usft (Cade 22) |
| Project: | Weld County, Colorado (NAD 83) | MD Reference: | WELL @ 4765.00usft (Cade 22) |
| Site: | Great Western | North Reference: | Grid |
| Well: | 25-22-18 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Design #1 | | |

| Planned Survey | | | | | | | | | |
|------------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 4,200.00 | 22.50 | 122.67 | 3,979.05 | -658.99 | 1,027.64 | 1,220.79 | 0.00 | 0.00 | 0.00 |
| 4,300.00 | 22.50 | 122.67 | 4,071.44 | -679.65 | 1,059.86 | 1,259.05 | 0.00 | 0.00 | 0.00 |
| 4,400.00 | 22.50 | 122.67 | 4,163.83 | -700.30 | 1,092.07 | 1,297.32 | 0.00 | 0.00 | 0.00 |
| 4,401.26 | 22.50 | 122.67 | 4,165.00 | -700.56 | 1,092.47 | 1,297.80 | 0.00 | 0.00 | 0.00 |
| Sussex | | | | | | | | | |
| 4,500.00 | 22.50 | 122.67 | 4,256.22 | -720.96 | 1,124.28 | 1,335.58 | 0.00 | 0.00 | 0.00 |
| 4,600.00 | 22.50 | 122.67 | 4,348.61 | -741.61 | 1,156.49 | 1,373.85 | 0.00 | 0.00 | 0.00 |
| 4,700.00 | 22.50 | 122.67 | 4,441.00 | -762.27 | 1,188.70 | 1,412.11 | 0.00 | 0.00 | 0.00 |
| 4,800.00 | 22.50 | 122.67 | 4,533.39 | -782.92 | 1,220.91 | 1,450.38 | 0.00 | 0.00 | 0.00 |
| 4,823.39 | 22.50 | 122.67 | 4,555.00 | -787.76 | 1,228.44 | 1,459.33 | 0.00 | 0.00 | 0.00 |
| Shannon | | | | | | | | | |
| 4,900.00 | 22.50 | 122.67 | 4,625.78 | -803.58 | 1,253.12 | 1,488.64 | 0.00 | 0.00 | 0.00 |
| 5,000.00 | 22.50 | 122.67 | 4,718.17 | -824.24 | 1,285.33 | 1,526.91 | 0.00 | 0.00 | 0.00 |
| 5,030.55 | 22.50 | 122.67 | 4,746.40 | -830.55 | 1,295.17 | 1,538.60 | 0.00 | 0.00 | 0.00 |
| Begin 1.50°/100' Drop | | | | | | | | | |
| 5,100.00 | 21.46 | 122.67 | 4,810.80 | -844.58 | 1,317.05 | 1,564.59 | 1.50 | -1.50 | 0.00 |
| 5,200.00 | 19.96 | 122.67 | 4,904.34 | -863.66 | 1,346.81 | 1,599.94 | 1.50 | -1.50 | 0.00 |
| 5,300.00 | 18.46 | 122.67 | 4,998.77 | -881.42 | 1,374.50 | 1,632.84 | 1.50 | -1.50 | 0.00 |
| 5,400.00 | 16.96 | 122.67 | 5,094.03 | -897.84 | 1,400.10 | 1,663.25 | 1.50 | -1.50 | 0.00 |
| 5,500.00 | 15.46 | 122.67 | 5,190.05 | -912.90 | 1,423.60 | 1,691.16 | 1.50 | -1.50 | 0.00 |
| 5,600.00 | 13.96 | 122.67 | 5,286.77 | -926.60 | 1,444.97 | 1,716.54 | 1.50 | -1.50 | 0.00 |
| 5,700.00 | 12.46 | 122.67 | 5,384.13 | -938.94 | 1,464.20 | 1,739.39 | 1.50 | -1.50 | 0.00 |
| 5,800.00 | 10.96 | 122.67 | 5,482.04 | -949.89 | 1,481.27 | 1,759.68 | 1.50 | -1.50 | 0.00 |
| 5,900.00 | 9.46 | 122.67 | 5,580.46 | -959.45 | 1,496.19 | 1,777.39 | 1.50 | -1.50 | 0.00 |
| 6,000.00 | 7.96 | 122.67 | 5,679.30 | -967.62 | 1,508.93 | 1,792.53 | 1.50 | -1.50 | 0.00 |
| 6,100.00 | 6.46 | 122.67 | 5,778.51 | -974.39 | 1,519.49 | 1,805.07 | 1.50 | -1.50 | 0.00 |
| 6,200.00 | 4.96 | 122.67 | 5,878.01 | -979.76 | 1,527.86 | 1,815.02 | 1.50 | -1.50 | 0.00 |
| 6,300.00 | 3.46 | 122.67 | 5,977.74 | -983.72 | 1,534.03 | 1,822.35 | 1.50 | -1.50 | 0.00 |
| 6,400.00 | 1.96 | 122.67 | 6,077.63 | -986.27 | 1,538.01 | 1,827.07 | 1.50 | -1.50 | 0.00 |
| 6,500.00 | 0.46 | 122.67 | 6,177.60 | -987.40 | 1,539.78 | 1,829.18 | 1.50 | -1.50 | 0.00 |
| 6,530.40 | 0.00 | 0.00 | 6,208.00 | -987.47 | 1,539.88 | 1,829.30 | 1.50 | -1.50 | 0.00 |
| Begin Vertical Hold | | | | | | | | | |
| 6,600.00 | 0.00 | 0.00 | 6,277.60 | -987.47 | 1,539.88 | 1,829.30 | 0.00 | 0.00 | 0.00 |
| 6,700.00 | 0.00 | 0.00 | 6,377.60 | -987.47 | 1,539.88 | 1,829.30 | 0.00 | 0.00 | 0.00 |
| 6,800.00 | 0.00 | 0.00 | 6,477.60 | -987.47 | 1,539.88 | 1,829.30 | 0.00 | 0.00 | 0.00 |
| 6,900.00 | 0.00 | 0.00 | 6,577.60 | -987.47 | 1,539.88 | 1,829.30 | 0.00 | 0.00 | 0.00 |
| 7,000.00 | 0.00 | 0.00 | 6,677.60 | -987.47 | 1,539.88 | 1,829.30 | 0.00 | 0.00 | 0.00 |
| 7,095.40 | 0.00 | 0.00 | 6,773.00 | -987.47 | 1,539.88 | 1,829.30 | 0.00 | 0.00 | 0.00 |
| Niobrara | | | | | | | | | |
| 7,100.00 | 0.00 | 0.00 | 6,777.60 | -987.47 | 1,539.88 | 1,829.30 | 0.00 | 0.00 | 0.00 |
| 7,200.00 | 0.00 | 0.00 | 6,877.60 | -987.47 | 1,539.88 | 1,829.30 | 0.00 | 0.00 | 0.00 |
| 7,300.00 | 0.00 | 0.00 | 6,977.60 | -987.47 | 1,539.88 | 1,829.30 | 0.00 | 0.00 | 0.00 |
| 7,400.00 | 0.00 | 0.00 | 7,077.60 | -987.47 | 1,539.88 | 1,829.30 | 0.00 | 0.00 | 0.00 |
| 7,415.40 | 0.00 | 0.00 | 7,093.00 | -987.47 | 1,539.88 | 1,829.30 | 0.00 | 0.00 | 0.00 |
| Fort Hayes | | | | | | | | | |
| 7,435.40 | 0.00 | 0.00 | 7,113.00 | -987.47 | 1,539.88 | 1,829.30 | 0.00 | 0.00 | 0.00 |
| Codell | | | | | | | | | |
| 7,500.00 | 0.00 | 0.00 | 7,177.60 | -987.47 | 1,539.88 | 1,829.30 | 0.00 | 0.00 | 0.00 |
| 7,595.40 | 0.00 | 0.00 | 7,273.00 | -987.47 | 1,539.88 | 1,829.30 | 0.00 | 0.00 | 0.00 |
| PBHL | | | | | | | | | |

| | | | |
|------------------|--------------------------------|-------------------------------------|------------------------------|
| Database: | Southern Region | Local Co-ordinate Reference: | Well 25-22-18 |
| Company: | Great Western | TVD Reference: | WELL @ 4765.00usft (Cade 22) |
| Project: | Weld County, Colorado (NAD 83) | MD Reference: | WELL @ 4765.00usft (Cade 22) |
| Site: | Great Western | North Reference: | Grid |
| Well: | 25-22-18 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Design #1 | | |

Design Targets

Target Name

| - hit/miss target - Shape | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
|--|------------------|-----------------|---------------|-----------------|-----------------|--------------------|-------------------|-------------------|-------------------|
| PBHL v1 - Great Wes - plan hits target center - Circle (radius 200.00) | 0.00 | 0.00 | 7,273.00 | -987.47 | 1,539.88 | 1,409,030.36 | 3,183,126.32 | 40° 27' 15.5692 N | 104° 50' 31.005 W |

Casing Points

| Measured Depth (usft) | Vertical Depth (usft) | Name | Casing Diameter (") | Hole Diameter (") |
|-----------------------------|-----------------------------|--------|---------------------------|-------------------------|
| 702.29 | 700.00 | 8-5/8" | 8-5/8 | 12-1/4 |

Formations

| Measured Depth (usft) | Vertical Depth (usft) | Name | Lithology | Dip (°) | Dip Direction (°) |
|-----------------------------|-----------------------------|--------------|-----------|------------|-------------------------|
| 2,474.64 | 2,385.00 | Greeley Sand | | 0.00 | |
| 3,665.25 | 3,485.00 | Parkman | | 0.00 | |
| 4,401.26 | 4,165.00 | Sussex | | 0.00 | |
| 4,823.39 | 4,555.00 | Shannon | | 0.00 | |
| 7,095.40 | 6,773.00 | Niobrara | | 0.00 | |
| 7,415.40 | 7,093.00 | Fort Hayes | | 0.00 | |
| 7,435.40 | 7,113.00 | Codell | | 0.00 | |

Plan Annotations

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates | | Comment |
|-----------------------------|-----------------------------|-------------------|-----------------|-----------------------------|
| | | +N/-S (usft) | +E/-W (usft) | |
| 200.00 | 200.00 | 0.00 | 0.00 | KOP, 2.00°/100' Build |
| 600.00 | 598.70 | -15.05 | 23.47 | Hold 8.00° Inc, 122.67° Azm |
| 1,000.00 | 994.81 | -45.10 | 70.33 | Begin 2.00°/100' Build |
| 1,724.89 | 1,692.31 | -147.74 | 230.39 | Begin 22.50° Tangent |
| 5,030.55 | 4,746.40 | -830.55 | 1,295.17 | Begin 1.50°/100' Drop |
| 6,530.40 | 6,208.00 | -987.47 | 1,539.88 | Begin Vertical Hold |
| 7,595.40 | 7,273.00 | -987.47 | 1,539.88 | PBHL |