



GREAT WESTERN

MS #DDOK-110670

**Fritzler 8-8-17
Weld County, Colorado
Cade 22**

December 8, 2011

**Prepared By:
Megan Pope**

Actual Well & Surveys 1

Daily Reports 2

BHA's 3

Job Performance Charts 4

Support Staff 5

Great Western

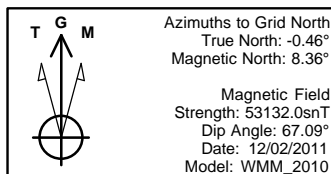
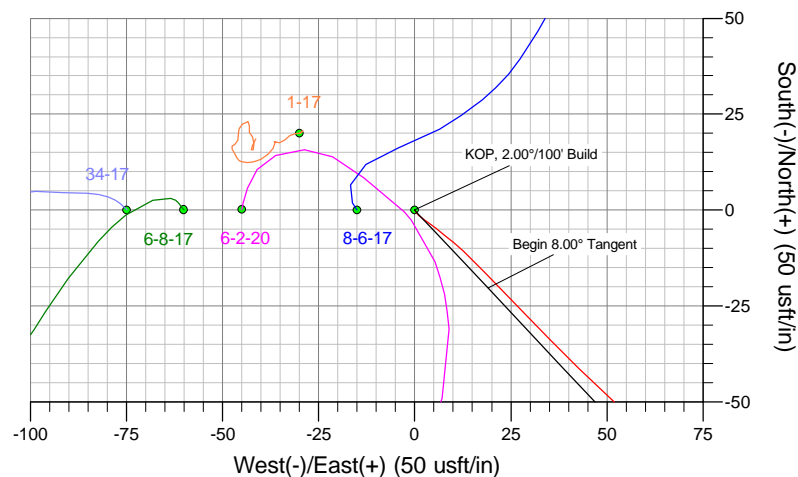
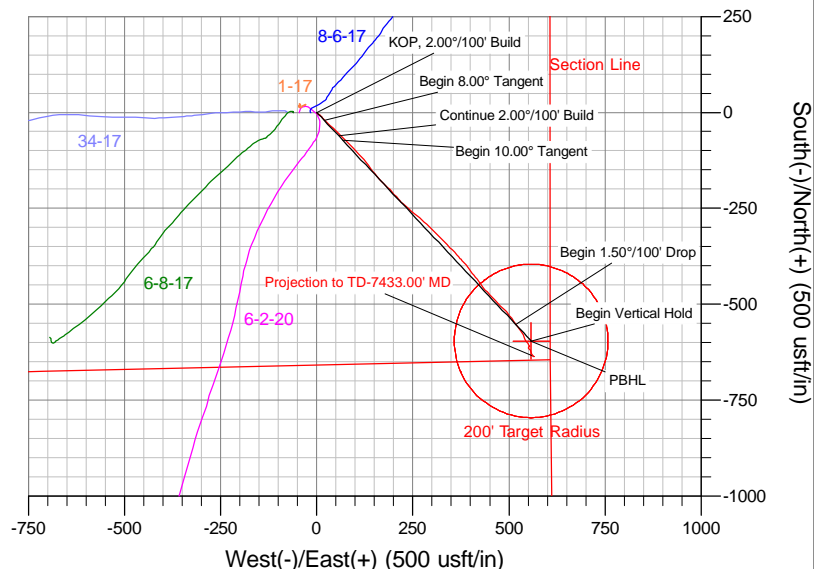
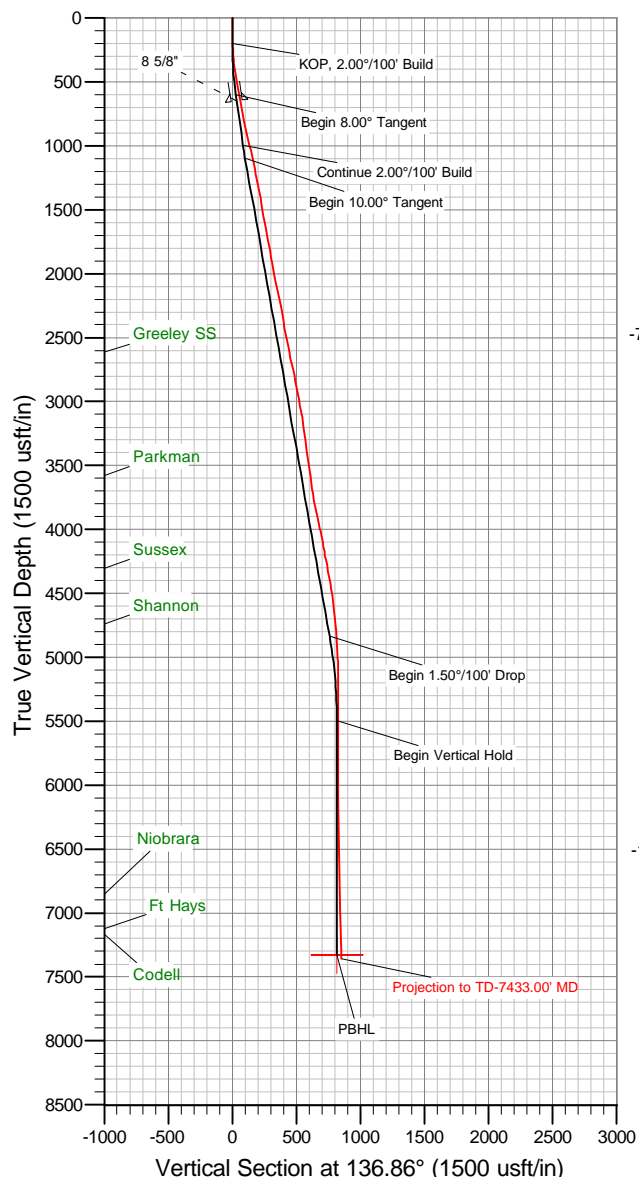
Company: Great Western
Site: Fritzler
Well: 8-8-17
Project: Weld County, Colorado (NAD 83)
Rig Name: Cade 22



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 | 136.86 | 598.70 | -20.34 | 19.06 | 27.88 | 27.88 | Begin 8.00° Tangent |
| 1000.00 | 8.00 | 136.86 | 994.81 | -60.97 | 57.13 | 83.55 | 83.55 | Continue 2.00°/100' Build |
| 1099.90 | 10.00 | 136.86 | 1093.48 | -72.37 | 67.81 | 99.18 | 99.18 | Begin 10.00° Tangent |
| 4895.91 | 10.00 | 136.86 | 4831.84 | -553.29 | 518.43 | 758.22 | 758.22 | Begin 1.50°/100' Drop |
| 5562.45 | 0.00 | 0.00 | 5495.00 | -595.62 | 558.09 | 816.23 | 816.23 | Begin Vertical Hold |
| 7396.45 | 0.00 | 0.00 | 7329.00 | -595.62 | 558.09 | 816.23 | 816.23 | PBHL |



US State Plane 1983
Colorado Northern Zone

Created By: Megan Pope
Date: 16:19, December 06 2011
Plan: Design #2

The customer should only rely on this document after independently verifying all paths, targets, coordinates, lease and hard lines represented. Any decisions made or wells drilled utilizing this or any other information supplied by MS Energy are at the sole risk and responsibility of the customer. MS Energy is not responsible for the accuracy of this schematic or the information contained herein.

Great Western

Weld County, Colorado (NAD 83)

Fritzler

8-8-17

Wellbore #1

Survey: MS MWD

Standard Survey Report

06 December, 2011

| | | | |
|------------------|--------------------------------|-------------------------------------|------------------------------|
| Company: | Great Western | Local Co-ordinate Reference: | Well 8-8-17 |
| Project: | Weld County, Colorado (NAD 83) | TVD Reference: | WELL @ 4784.00usft (Cade 22) |
| Site: | Fritzler | MD Reference: | WELL @ 4784.00usft (Cade 22) |
| Well: | 8-8-17 | North Reference: | Grid |
| Wellbore: | Wellbore #1 | Survey Calculation Method: | Minimum Curvature |
| Design: | Surveys | Database: | Southern Region |

| | | | |
|--------------------|--------------------------------|----------------------|----------------|
| 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 | 8-8-17 | | | | |
| Well Position | +N/-S | 0.00 usft | Northing: | 1,419,464.35 usft | Latitude: 40° 28' 57.6794 N |
| | +E/-W | 0.00 usft | Easting: | 3,196,215.19 usft | Longitude: 104° 47' 40.616 W |
| Position Uncertainty | | 0.00 usft | Wellhead Elevation: | usft | Ground Level: 4,770.00 usft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | Wellbore #1 | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | WMM_2010 | 12/02/11 | 8.82 | 67.09 | 53,132 |

| | | | | | |
|--------------------------|--------------------------------|---------------------|---------------------|----------------------|------|
| Design | Surveys | | | | |
| Audit Notes: | | | | | |
| Version: | 1.0 | Phase: | ACTUAL | Tie On Depth: | 0.00 |
| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) | |
| | 0.00 | 0.00 | 0.00 | 136.86 | |

| | | | | | |
|-----------------------|------------------|--------------------------|------------------|--------------------|--|
| Survey Program | Date | 12/06/11 | | | |
| From (usft) | To (usft) | Survey (Wellbore) | Tool Name | Description | |
| 172.00 | 7,433.00 | MS MWD (Wellbore #1) | MWD | MWD - Standard | |

| | | | | | | | | | | |
|------------------------------|------------------------|--------------------|------------------------------|---------------------|---------------------|--------------------------------|--------------------------------|-------------------------------|------------------------------|--|
| 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 | |
| 172.00 | 0.90 | 143.50 | 171.99 | -1.09 | 0.80 | 1.34 | 0.52 | 0.52 | 0.00 | |
| 263.00 | 3.90 | 124.40 | 262.90 | -3.41 | 3.78 | 5.07 | 3.37 | 3.30 | -20.99 | |
| 354.00 | 6.10 | 131.10 | 353.55 | -8.34 | 9.98 | 12.91 | 2.50 | 2.42 | 7.36 | |
| 445.00 | 9.00 | 135.60 | 443.75 | -16.60 | 18.61 | 24.84 | 3.25 | 3.19 | 4.95 | |
| 537.00 | 9.60 | 136.60 | 534.55 | -27.32 | 28.91 | 39.70 | 0.68 | 0.65 | 1.09 | |
| 644.00 | 11.40 | 134.20 | 639.75 | -41.17 | 42.62 | 59.19 | 1.73 | 1.68 | -2.24 | |
| 815.00 | 11.50 | 133.60 | 807.35 | -64.71 | 67.08 | 93.09 | 0.09 | 0.06 | -0.35 | |
| 908.00 | 12.50 | 134.00 | 898.31 | -78.10 | 81.04 | 112.40 | 1.08 | 1.08 | 0.43 | |
| 1,003.00 | 13.50 | 136.80 | 990.88 | -93.32 | 96.02 | 133.76 | 1.24 | 1.05 | 2.95 | |
| 1,098.00 | 12.30 | 137.50 | 1,083.48 | -108.87 | 110.45 | 154.96 | 1.27 | -1.26 | 0.74 | |
| 1,193.00 | 10.60 | 139.60 | 1,176.58 | -122.98 | 122.95 | 173.81 | 1.84 | -1.79 | 2.21 | |
| 1,285.00 | 11.90 | 143.20 | 1,266.82 | -137.02 | 134.12 | 191.69 | 1.61 | 1.41 | 3.91 | |
| 1,379.00 | 11.20 | 143.00 | 1,358.91 | -152.07 | 145.42 | 210.40 | 0.75 | -0.74 | -0.21 | |
| 1,474.00 | 9.70 | 141.30 | 1,452.33 | -165.69 | 155.98 | 227.55 | 1.61 | -1.58 | -1.79 | |

| | | | |
|------------------|--------------------------------|-------------------------------------|------------------------------|
| Company: | Great Western | Local Co-ordinate Reference: | Well 8-8-17 |
| Project: | Weld County, Colorado (NAD 83) | TVD Reference: | WELL @ 4784.00usft (Cade 22) |
| Site: | Fritzler | MD Reference: | WELL @ 4784.00usft (Cade 22) |
| Well: | 8-8-17 | North Reference: | Grid |
| Wellbore: | Wellbore #1 | Survey Calculation Method: | Minimum Curvature |
| Design: | Surveys | Database: | Southern Region |

| 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) | |
| 1,568.00 | 9.60 | 137.00 | 1,545.01 | -177.60 | 166.27 | 243.29 | 0.77 | -0.11 | -4.57 | |
| 1,663.00 | 10.80 | 130.80 | 1,638.51 | -189.21 | 178.41 | 260.06 | 1.71 | 1.26 | -6.53 | |
| 1,757.00 | 10.10 | 136.70 | 1,730.95 | -200.96 | 190.73 | 277.06 | 1.36 | -0.74 | 6.28 | |
| 1,851.00 | 10.60 | 140.00 | 1,823.42 | -213.59 | 201.94 | 293.94 | 0.82 | 0.53 | 3.51 | |
| 1,945.00 | 9.30 | 138.00 | 1,916.00 | -225.85 | 212.58 | 310.16 | 1.43 | -1.38 | -2.13 | |
| 2,039.00 | 11.50 | 132.20 | 2,008.46 | -237.79 | 224.61 | 327.10 | 2.59 | 2.34 | -6.17 | |
| 2,132.00 | 12.70 | 132.80 | 2,099.39 | -250.97 | 238.98 | 346.54 | 1.30 | 1.29 | 0.65 | |
| 2,226.00 | 11.50 | 130.10 | 2,191.30 | -264.02 | 253.73 | 366.15 | 1.41 | -1.28 | -2.87 | |
| 2,321.00 | 9.90 | 126.50 | 2,284.65 | -274.98 | 267.54 | 383.59 | 1.82 | -1.68 | -3.79 | |
| 2,416.00 | 9.80 | 133.60 | 2,378.25 | -285.42 | 279.96 | 399.70 | 1.28 | -0.11 | 7.47 | |
| 2,511.00 | 11.40 | 134.90 | 2,471.62 | -297.62 | 292.46 | 417.15 | 1.70 | 1.68 | 1.37 | |
| 2,605.00 | 10.10 | 132.90 | 2,563.97 | -309.79 | 305.08 | 434.66 | 1.44 | -1.38 | -2.13 | |
| 2,701.00 | 12.00 | 135.10 | 2,658.19 | -322.59 | 318.30 | 453.03 | 2.03 | 1.98 | 2.29 | |
| 2,795.00 | 12.90 | 136.90 | 2,749.98 | -337.17 | 332.36 | 473.29 | 1.04 | 0.96 | 1.91 | |
| 2,890.00 | 11.50 | 134.20 | 2,842.83 | -351.52 | 346.40 | 493.36 | 1.59 | -1.47 | -2.84 | |
| 2,984.00 | 10.00 | 136.00 | 2,935.18 | -363.92 | 358.79 | 510.88 | 1.64 | -1.60 | 1.91 | |
| 3,078.00 | 11.40 | 139.90 | 3,027.54 | -376.90 | 370.44 | 528.32 | 1.68 | 1.49 | 4.15 | |
| 3,169.00 | 8.40 | 137.00 | 3,117.18 | -388.64 | 380.77 | 543.95 | 3.34 | -3.30 | -3.19 | |
| 3,262.00 | 7.50 | 139.50 | 3,209.28 | -398.23 | 389.34 | 556.81 | 1.04 | -0.97 | 2.69 | |
| 3,357.00 | 8.40 | 144.10 | 3,303.37 | -408.56 | 397.44 | 569.88 | 1.16 | 0.95 | 4.84 | |
| 3,450.00 | 7.40 | 143.50 | 3,395.49 | -418.88 | 404.98 | 582.57 | 1.08 | -1.08 | -0.65 | |
| 3,545.00 | 8.30 | 138.30 | 3,489.60 | -428.92 | 413.19 | 595.50 | 1.21 | 0.95 | -5.47 | |
| 3,640.00 | 8.00 | 145.40 | 3,583.64 | -439.48 | 421.50 | 608.90 | 1.10 | -0.32 | 7.47 | |
| 3,734.00 | 8.30 | 144.80 | 3,676.69 | -450.41 | 429.13 | 622.09 | 0.33 | 0.32 | -0.64 | |
| 3,830.00 | 9.80 | 138.90 | 3,771.50 | -462.23 | 438.49 | 637.11 | 1.84 | 1.56 | -6.15 | |
| 3,925.00 | 11.60 | 135.40 | 3,864.84 | -475.12 | 450.51 | 654.74 | 2.01 | 1.89 | -3.68 | |
| 4,018.00 | 13.30 | 136.50 | 3,955.65 | -489.54 | 464.44 | 674.79 | 1.85 | 1.83 | 1.18 | |
| 4,112.00 | 11.20 | 135.90 | 4,047.51 | -503.94 | 478.24 | 694.73 | 2.24 | -2.23 | -0.64 | |
| 4,207.00 | 9.80 | 135.60 | 4,140.91 | -516.34 | 490.32 | 712.04 | 1.47 | -1.47 | -0.32 | |
| 4,301.00 | 11.70 | 141.90 | 4,233.26 | -529.56 | 501.80 | 729.53 | 2.37 | 2.02 | 6.70 | |
| 4,396.00 | 10.20 | 143.30 | 4,326.53 | -543.89 | 512.77 | 747.49 | 1.60 | -1.58 | 1.47 | |
| 4,491.00 | 9.60 | 144.00 | 4,420.11 | -557.04 | 522.45 | 763.71 | 0.64 | -0.63 | 0.74 | |
| 4,585.00 | 8.30 | 146.70 | 4,512.97 | -569.05 | 530.79 | 778.17 | 1.45 | -1.38 | 2.87 | |
| 4,680.00 | 6.50 | 151.90 | 4,607.17 | -579.53 | 537.08 | 790.12 | 2.02 | -1.89 | 5.47 | |
| 4,774.00 | 5.60 | 159.70 | 4,700.65 | -588.52 | 541.18 | 799.49 | 1.29 | -0.96 | 8.30 | |
| 4,869.00 | 4.60 | 144.60 | 4,795.28 | -595.97 | 545.00 | 807.53 | 1.75 | -1.05 | -15.89 | |
| 4,964.00 | 4.10 | 148.90 | 4,890.00 | -601.99 | 548.96 | 814.63 | 0.63 | -0.53 | 4.53 | |
| 5,059.00 | 3.30 | 155.90 | 4,984.81 | -607.39 | 551.83 | 820.54 | 0.97 | -0.84 | 7.37 | |
| 5,154.00 | 0.40 | 85.10 | 5,079.75 | -609.86 | 553.27 | 823.33 | 3.36 | -3.05 | -74.53 | |
| 5,249.00 | 0.10 | 49.60 | 5,174.75 | -609.78 | 553.67 | 823.54 | 0.34 | -0.32 | -37.37 | |
| 5,343.00 | 0.30 | 214.50 | 5,268.75 | -609.93 | 553.59 | 823.59 | 0.42 | 0.21 | 175.43 | |
| 5,622.00 | 0.50 | 214.90 | 5,547.74 | -611.53 | 552.48 | 824.00 | 0.07 | 0.07 | 0.14 | |
| 5,904.00 | 0.20 | 278.00 | 5,829.74 | -612.47 | 551.29 | 823.87 | 0.16 | -0.11 | 22.38 | |
| 6,187.00 | 0.70 | 168.50 | 6,112.73 | -614.09 | 551.15 | 824.96 | 0.28 | 0.18 | -38.69 | |

| | | | |
|------------------|--------------------------------|-------------------------------------|------------------------------|
| Company: | Great Western | Local Co-ordinate Reference: | Well 8-8-17 |
| Project: | Weld County, Colorado (NAD 83) | TVD Reference: | WELL @ 4784.00usft (Cade 22) |
| Site: | Fritzler | MD Reference: | WELL @ 4784.00usft (Cade 22) |
| Well: | 8-8-17 | North Reference: | Grid |
| Wellbore: | Wellbore #1 | Survey Calculation Method: | Minimum Curvature |
| Design: | Surveys | Database: | Southern Region |

| 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) | |
| 6,470.00 | 1.10 | 131.50 | 6,395.70 | -617.59 | 553.52 | 829.14 | 0.24 | 0.14 | -13.07 | |
| 6,754.00 | 1.80 | 162.80 | 6,679.61 | -623.66 | 556.89 | 835.86 | 0.36 | 0.25 | 11.02 | |
| 7,033.00 | 1.00 | 156.40 | 6,958.52 | -630.07 | 559.16 | 842.10 | 0.29 | -0.29 | -2.29 | |
| 7,380.00 | 1.50 | 126.60 | 7,305.44 | -635.56 | 564.01 | 849.42 | 0.23 | 0.14 | -8.59 | |
| 7,433.00 | 1.50 | 126.60 | 7,358.43 | -636.38 | 565.13 | 850.78 | 0.00 | 0.00 | 0.00 | |
| Projection to TD-7433.00' MD | | | | | | | | | | |

| Survey Annotations | | | | | |
|-----------------------|-----------------------|-------------------|--------------|------------------------------|--|
| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates | | | |
| | | +N/-S (usft) | +E/-W (usft) | Comment | |
| 7,433.00 | 7,358.43 | -636.38 | 565.13 | Projection to TD-7433.00' MD | |



| | | | | |
|------------|-----------------|--------------|-----------------|--------|
| JOB NO.: | DDOK-110670 | Report Time: | 2400 | 1 of 6 |
| COMPANY: | Great Western | API JOB # | 05-123-33239-00 | |
| LOCATION: | Weld County | WORK ORDER# | MS#110463RR | |
| RIG NAME: | Cade 22 | FIELD: | Bracewell | |
| STATE: | Colorado | TOWNSHIP: | | |
| COUNTY: | Weld County | SECTRANGE: | | |
| WELL NAME: | Fritzler 8-8-17 | | | |

From Friday, December 02, 2011 at 0000 to Friday, December 02, 2011 at 2400

| DRILLING SUMMARY | | | | Drilling Parameters | | | | | | | |
|------------------------|------|-------------------|------|---------------------|---|---------|---|-----------|-------|---------|---|
| Start Depth | 0.00 | Rotary Hours | 0.00 | WOB | 0 | Pick UP | 0 | Slack Off | 0 | SPM | |
| End Depth | 0.00 | Circulating Hours | 0.00 | RAB | 0 | SPP | 0 | FlowRate | 0 - 0 | | 0 |
| Total Drilled: | 0.00 | Avg. Total ROP: | NA | Mud Data | | | | | | | |
| Total Rotary Drilled: | 0.00 | Avg. Rotary ROP: | NA | Type | | PV | 0 | SOLID | | | 0 |
| Total Drilled Sliding: | 0.00 | Avg. Slide ROP: | NA | Weight | 0 | GAS | 0 | YP | 0 | BHT° | 0 |
| Slide Hours: | 0.00 | Percent Rotary: | NA | Viscosity | 0 | SAND | 0 | PH | 0 | Flow T° | 0 |
| Below Rotary Hrs. | 0.00 | Percent Slide: | NA | Chlorides | 0 | WL | 0 | | | Oil % | 0 |

| PERSONNEL | | | | | | CASING | | | BHA | |
|----------------------|---|----------------------------|---|------------|---|------------|-------|-----------|-----|--|
| Lead Directional : | | David Cathey | | | | Size | Lb/ft | Set Depth | N/A | |
| Second Directional : | | Coty Jeane & Nick Steichen | | | | 4 1/2 | 11.6 | 0 | | |
| MWD Operator1 | | Justin Burkett | | | | 8 5/8 | 24 | 690 | | |
| MWD Operator2 | | | | | | Signature: | | | | |
| Directional Company: | | MS Energy | | | | | | | | |
| Geologist: | | | | | | | | | | |
| Company Man: | | Eric Geiger | | | | | | | | |
| Incl. In: | 0 | Azm. In: | 0 | Incl. Out: | 0 | Azm. Out: | 0 | | | |

GENERAL COMMENT

| Date | Start Time | End Time | Hours | Start Depth | End Depth | Activity Code | COMMENT |
|----------|------------|----------|-------|-------------|-----------|---------------|--|
| 2-Dec-11 | 00:00 | 18:00 | 18.00 | 0 | 0 | Standby | Waiting On Rig Crew To Skid Rig Over To Fritzler 8-8-17. |
| 2-Dec-11 | 18:00 | 24:00 | 6.00 | 0 | 0 | Standby | Rig Up & Drill Rat Hole & Kelly Shock . |



| | | | | |
|------------|-----------------|--------------|-----------------|--------|
| JOB NO.: | DDOK-110670 | Report Time: | 2400 | 2 of 6 |
| COMPANY: | Great Western | API JOB # | 05-123-33239-00 | |
| LOCATION: | Weld County | WORK ORDER# | MS#110463RR | |
| RIG NAME: | Cade 22 | FIELD: | Bracewell | |
| STATE: | Colorado | TOWNSHIP: | | |
| COUNTY: | Weld County | SECTRANGE: | | |
| WELL NAME: | Fritzler 8-8-17 | | | |

From Saturday, December 03, 2011 at 0000 to Saturday, December 03, 2011 at 2400

| DRILLING SUMMARY | | | | Drilling Parameters | | | | | | |
|------------------------|--------|-------------------|--------|---------------------|-------|---------|------|-----------|---------|---------|
| Start Depth | 138.00 | Rotary Hours | 4.13 | WOB | 15 | Pick UP | 50 | Slack Off | 40 | SPM |
| End Depth | 697.00 | Circulating Hours | 1.10 | RAB | 45 | SPP | 1000 | FlowRate | 0 - 425 | 125 |
| Total Drilled: | 559.00 | Avg. Total ROP: | 97.78 | Mud Data | | | | | | |
| Total Rotary Drilled: | 474.00 | Avg. Rotary ROP: | 114.68 | Type | Water | | PV | 0 | SOLID | 0 |
| Total Drilled Sliding: | 85.00 | Avg. Slide ROP: | 53.68 | Weight | 8.2 | GAS | 0 | YP | 0 | BHT° |
| Slide Hours: | 1.58 | Percent Rotary: | 84.79 | Viscosity | 38 | SAND | 0 | PH | 0 | Flow T° |
| Below Rotary Hrs. | 12.82 | Percent Slide: | 15.21 | Chlorides | 0 | WL | 0 | Oil % | | 0 |

| PERSONNEL | | | | | | CASING | | | BHA |
|----------------------|------|----------------------------|-------|------------|------|------------|-------|-----------|---|
| Lead Directional : | | David Cathey | | | | Size | Lb/ft | Set Depth | BHA # 1: 12 1/4 ROCK BIT, 7 3/4" MTR 4/5_5.3 Stg, 4 1/2" XH BX - 6 5/8" Reg Pin, 6 15/16 UBHO, 6 1/4 NMDC, 6 1/4 NMDC, 6 Jts 6 1/2 Steel DC, 15 Jts 4 1/2 Spiral, 4 1/2 Drill pipe, , |
| Second Directional : | | Coty Jeane & Nick Steichen | | | | 4 1/2 | 11.6 | 0 | |
| MWD Operator1 | | Justin Burkett | | | | 8 5/8 | 24 | 690 | |
| MWD Operator2 | | | | | | | | | |
| Directional Company: | | MS Energy | | | | | | | |
| Geologist: | | | | | | Signature: | | | |
| Company Man: | | Eric Geiger | | | | | | | |
| Incl. In: | 11.4 | Azm. In: | 134.2 | Incl. Out: | 11.4 | Azm. Out: | 134.2 | | |

GENERAL COMMENT

| Date | Start Time | End Time | Hours | Start Depth | End Depth | Activity Code | COMMENT |
|----------|------------|----------|-------|-------------|-----------|----------------|---------------------------------------|
| 3-Dec-11 | 00:01 | 01:00 | 0.98 | 0 | 0 | Change BHA | P/U BHA#1 |
| 3-Dec-11 | 01:00 | 01:39 | 0.65 | 0 | 0 | Reaming | Ream Hole To Get NMDC Down |
| 3-Dec-11 | 01:39 | 01:55 | 0.27 | 0 | 0 | Change BHA | Finish Picking Up BHA#1 |
| 3-Dec-11 | 01:55 | 02:10 | 0.25 | 0 | 0 | Other | P/U Kelly |
| 3-Dec-11 | 02:10 | 02:15 | 0.08 | 138 | 138 | Survey & Conn. | Survey & Conn. |
| 3-Dec-11 | 02:15 | 02:36 | 0.35 | 138 | 153 | Sliding | Sliding- Wob 15-Gpm 425- 100 Tfo |
| 3-Dec-11 | 02:36 | 03:00 | 0.40 | 153 | 194 | Drilling | Drilling- 15 Wob-1000 Spp- 125 Spm |
| 3-Dec-11 | 03:00 | 03:10 | 0.17 | 194 | 194 | Survey & Conn. | Survey & Conn. |
| 3-Dec-11 | 03:10 | 03:20 | 0.17 | 194 | 209 | Sliding | Sliding - (WOB:15;GPM :425;TFO:120) |
| 3-Dec-11 | 03:20 | 03:26 | 0.10 | 209 | 225 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 3-Dec-11 | 03:26 | 03:36 | 0.17 | 225 | 225 | Survey & Conn. | Survey & Conn @172- .9 Inc- 143.5 Azm |
| 3-Dec-11 | 03:36 | 03:48 | 0.20 | 225 | 240 | Sliding | Sliding - (WOB:15;GPM :425;TFO:120) |
| 3-Dec-11 | 03:48 | 04:00 | 0.20 | 240 | 256 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 3-Dec-11 | 04:00 | 04:06 | 0.10 | 256 | 256 | Survey & Conn. | Survey & Conn. |
| 3-Dec-11 | 04:06 | 04:17 | 0.18 | 256 | 286 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 3-Dec-11 | 04:17 | 04:27 | 0.17 | 286 | 286 | Survey & Conn. | Survey & Conn. |
| 3-Dec-11 | 04:27 | 04:39 | 0.20 | 286 | 296 | Sliding | Sliding - (WOB:15;GPM :425;TFO:135) |

| Date | Start Time | End Time | Hours | Start Depth | End Depth | Activity Code | COMMENT |
|----------|------------|----------|-------|-------------|-----------|----------------|--|
| 3-Dec-11 | 04:39 | 04:46 | 0.12 | 296 | 316 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 3-Dec-11 | 04:46 | 04:56 | 0.17 | 316 | 316 | Survey & Conn. | Survey & Conn @ 263' - 3.9 Inc - 124.4 Azm |
| 3-Dec-11 | 04:56 | 05:07 | 0.18 | 316 | 326 | Sliding | Sliding - (WOB:15;GPM :425;TFO:150) |
| 3-Dec-11 | 05:07 | 05:26 | 0.32 | 326 | 377 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 3-Dec-11 | 05:26 | 05:39 | 0.22 | 377 | 377 | Survey & Conn. | Conn. |
| 3-Dec-11 | 05:39 | 05:54 | 0.25 | 377 | 387 | Sliding | Sliding - (WOB:15;GPM :425;TFO:160) |
| 3-Dec-11 | 05:54 | 06:01 | 0.12 | 387 | 407 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 3-Dec-11 | 06:01 | 06:11 | 0.17 | 407 | 407 | Survey & Conn. | Survey & Conn @354- 6.1 Inc- 131.1 Azm |
| 3-Dec-11 | 06:11 | 06:25 | 0.23 | 407 | 417 | Sliding | Sliding - (WOB:15;GPM :425;TFO:160) |
| 3-Dec-11 | 06:25 | 07:04 | 0.65 | 417 | 468 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 3-Dec-11 | 07:04 | 07:12 | 0.13 | 468 | 468 | Survey & Conn. | Conn. |
| 3-Dec-11 | 07:12 | 07:32 | 0.33 | 468 | 498 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 3-Dec-11 | 07:32 | 07:40 | 0.13 | 498 | 498 | Survey & Conn. | Survey & Conn 445' - 9.0 Inc - 135.6 Azm |
| 3-Dec-11 | 07:40 | 08:18 | 0.63 | 498 | 590 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 3-Dec-11 | 08:18 | 08:25 | 0.12 | 590 | 590 | Survey & Conn. | Survey & Conn @ 537' - 9.6 Inc - 136.6 Azm |
| 3-Dec-11 | 08:25 | 09:24 | 0.98 | 590 | 681 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 3-Dec-11 | 09:24 | 09:30 | 0.10 | 681 | 681 | Survey & Conn. | Survey & Conn. @ 628' - 10.9 Inc - 134.3 Azm |
| 3-Dec-11 | 09:30 | 09:36 | 0.10 | 681 | 697 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 3-Dec-11 | 09:36 | 09:40 | 0.07 | 697 | 697 | Survey & Conn. | Survey & Conn @ 644' - 11.4 Inc - 134.2 Azm |
| 3-Dec-11 | 09:40 | 09:48 | 0.13 | 697 | 697 | Circulating | Circulating |
| 3-Dec-11 | 09:48 | 11:26 | 1.63 | 697 | 697 | Short Trip | Short Trip |
| 3-Dec-11 | 11:26 | 11:45 | 0.32 | 697 | 697 | Circulating | Circulating |
| 3-Dec-11 | 11:45 | 12:00 | 0.25 | 697 | 697 | POOH | POOH |
| 3-Dec-11 | 12:00 | 12:50 | 0.83 | 697 | 697 | Change BHA | Lay Down BHA |
| 3-Dec-11 | 12:50 | 16:45 | 3.92 | 697 | 697 | Standby | Standby While Rig Crew Runs Surface CSG & Cements. |
| 3-Dec-11 | 16:45 | 19:00 | 2.25 | 697 | 697 | N/U BOPS | N/U BOPS & Test Same. |
| 3-Dec-11 | 19:00 | 24:00 | 5.00 | 697 | 697 | Standby | N/U Test BOP's |



| | | | | |
|------------|-----------------|--------------|-----------------|--------|
| JOB NO.: | DDOK-110670 | Report Time: | 2400 | 3 of 6 |
| COMPANY: | Great Western | API JOB # | 05-123-33239-00 | |
| LOCATION: | Weld County | WORK ORDER# | MS#110463RR | |
| RIG NAME: | Cade 22 | FIELD: | Bracewell | |
| STATE: | Colorado | TOWNSHIP: | | |
| COUNTY: | Weld County | SECTRANGE: | | |
| WELL NAME: | Fritzler 8-8-17 | | | |

From Sunday, December 04, 2011 at 0000 to Sunday, December 04, 2011 at 2400

| DRILLING SUMMARY | | | | Drilling Parameters | | | | | | | |
|------------------------|---------|-------------------|--------|---------------------|-------|---------|------|-----------|-----------|---------|---|
| Start Depth | 697.00 | Rotary Hours | 11.08 | WOB | 15 | Pick UP | 50 | Slack Off | 40 | SPM | |
| End Depth | 3410.00 | Circulating Hours | 0.00 | RAB | 45 | SPP | 1000 | FlowRate | 425 - 425 | 125 | |
| Total Drilled: | 2713.00 | Avg. Total ROP: | 190.39 | Mud Data | | | | | | | |
| Total Rotary Drilled: | 2478.00 | Avg. Rotary ROP: | 223.58 | Type | Water | | | PV | 0 | SOLID | 0 |
| Total Drilled Sliding: | 235.00 | Avg. Slide ROP: | 74.21 | Weight | 8.2 | GAS | 0 | YP | 0 | BHT° | 0 |
| Slide Hours: | 3.17 | Percent Rotary: | 91.34 | Viscosity | 38 | SAND | 0 | PH | 0 | Flow T° | 0 |
| Below Rotary Hrs. | 21.50 | Percent Slide: | 8.66 | Chlorides | 0 | WL | 0 | Oil % | | 0 | |

| PERSONNEL | | | | | | CASING | | | BHA |
|----------------------|------|----------------------------|-------|------------|-----|------------|-------|-----------|--|
| Lead Directional : | | David Cathey | | | | Size | Lb/ft | Set Depth | BHA # 2:7 7/8 HUGHES PDC BIT, 6 1/4" MTR 7/8 4.8 STG, 6 3/8" FLT Sub, 6 15/16 UBHO, 6 1/4 NMDC, 6 1/4 NMDC, 18 Jts 4 1/2 Spiral, 4 Drill Pipe, |
| Second Directional : | | Coty Jeane & Nick Steichen | | | | 4 1/2 | 11.6 | 0 | |
| MWD Operator1 | | Justin Burkett | | | | 8 5/8 | 24 | 690 | |
| MWD Operator2 | | | | | | | | | |
| Directional Company: | | MS Energy | | | | Signature: | | | |
| Geologist: | | | | | | | | | |
| Company Man: | | Eric Geiger | | | | | | | |
| Incl. In: | 11.4 | Azm. In: | 134.2 | Incl. Out: | 8.4 | Azm. Out: | 144.1 | | |

GENERAL COMMENT

| Date | Start Time | End Time | Hours | Start Depth | End Depth | Activity Code | COMMENT |
|----------|------------|----------|-------|-------------|-----------|-----------------|---|
| 4-Dec-11 | 00:00 | 02:30 | 2.50 | 697 | 697 | Standby | Standby |
| 4-Dec-11 | 02:30 | 03:40 | 1.17 | 697 | 697 | Change BHA | P/U BHA#2 |
| 4-Dec-11 | 03:40 | 04:00 | 0.33 | 697 | 697 | TIH | TIH |
| 4-Dec-11 | 04:00 | 05:02 | 1.03 | 697 | 711 | Drilling Cement | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 05:02 | 05:20 | 0.30 | 711 | 774 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 05:20 | 05:23 | 0.05 | 774 | 774 | Survey & Conn. | Conn. |
| 4-Dec-11 | 05:23 | 05:43 | 0.33 | 774 | 868 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 05:43 | 05:51 | 0.13 | 868 | 868 | Survey & Conn. | Survey & Conn. @815' - Inc 11.5 - Azm 133.6 |
| 4-Dec-11 | 05:51 | 05:56 | 0.08 | 868 | 878 | Sliding | Sliding - (WOB:15;GPM :425;TFO:160) |
| 4-Dec-11 | 05:56 | 06:07 | 0.18 | 878 | 929 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 06:07 | 06:28 | 0.35 | 929 | 929 | Other | Install Rot Head |
| 4-Dec-11 | 06:28 | 06:37 | 0.15 | 929 | 961 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 06:37 | 06:58 | 0.35 | 961 | 961 | Survey & Conn. | Survey & Conn @908' Inc 12.5 - Azm 134.0. |
| 4-Dec-11 | 06:58 | 07:05 | 0.12 | 961 | 971 | Sliding | Sliding - (WOB:15;GPM :425;TFO:160) |
| 4-Dec-11 | 07:05 | 07:25 | 0.33 | 971 | 1056 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 07:25 | 07:33 | 0.13 | 1056 | 1056 | Survey & Conn. | Survey & Conn. @1003' Inc 13.5 - Azm 136.8 |
| 4-Dec-11 | 07:33 | 07:52 | 0.32 | 1056 | 1151 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |

| Date | Start Time | End Time | Hours | Start Depth | End Depth | Activity Code | COMMENT |
|----------|------------|----------|-------|-------------|-----------|----------------|--|
| 4-Dec-11 | 07:52 | 08:00 | 0.13 | 1151 | 1151 | Survey & Conn. | Survey & Conn @ 1098' - 12.3 Inc - 137.5 Azm |
| 4-Dec-11 | 08:00 | 08:22 | 0.37 | 1151 | 1246 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 08:22 | 08:31 | 0.15 | 1246 | 1246 | Survey & Conn. | Survey & Conn. @1193' Inc 10.6 - Azm 139.6 |
| 4-Dec-11 | 08:31 | 08:37 | 0.10 | 1246 | 1256 | Sliding | Sliding - (WOB:15;GPM :425;TFO:0) |
| 4-Dec-11 | 08:37 | 08:54 | 0.28 | 1256 | 1338 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 08:54 | 09:00 | 0.10 | 1338 | 1338 | Survey & Conn. | Survey & Conn. @ 1285' Inc 11.9 - Azm 143.2 |
| 4-Dec-11 | 09:00 | 09:21 | 0.35 | 1338 | 1432 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 09:21 | 09:29 | 0.13 | 1432 | 1432 | Survey & Conn. | Survey & Conn.@1379' Inc 11.2 - Azm 143 |
| 4-Dec-11 | 09:29 | 09:53 | 0.40 | 1432 | 1527 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 09:53 | 09:59 | 0.10 | 1527 | 1527 | Survey & Conn. | Survey & Conn. @ 1474' Inc 9.7 - Azm 141.3 |
| 4-Dec-11 | 09:59 | 10:08 | 0.15 | 1527 | 1537 | Sliding | Sliding - (WOB:15;GPM :425;TFO:0) |
| 4-Dec-11 | 10:08 | 10:28 | 0.33 | 1537 | 1621 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 10:28 | 10:40 | 0.20 | 1621 | 1621 | Survey & Conn. | Survey & Conn.@1568' Inc 9.6 - Azm 137 |
| 4-Dec-11 | 10:40 | 10:50 | 0.17 | 1621 | 1636 | Sliding | Sliding - (WOB:15;GPM :425;TFO:0) |
| 4-Dec-11 | 10:50 | 11:15 | 0.42 | 1636 | 1716 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 11:15 | 11:22 | 0.12 | 1716 | 1716 | Survey & Conn. | Survey & Conn. @1663' Inc 10.8 Azm 130.8 |
| 4-Dec-11 | 11:22 | 11:29 | 0.12 | 1716 | 1747 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 11:29 | 11:46 | 0.28 | 1747 | 1762 | Sliding | Sliding - (WOB:15;GPM :425;TFO:0) |
| 4-Dec-11 | 11:46 | 11:57 | 0.18 | 1762 | 1810 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 11:57 | 12:06 | 0.15 | 1810 | 1810 | Survey & Conn. | Survey & Conn.@1757' Inc 10.1 - Azm 136.7 |
| 4-Dec-11 | 12:06 | 12:19 | 0.22 | 1810 | 1820 | Sliding | Sliding - (WOB:15;GPM :425;TFO:0) |
| 4-Dec-11 | 12:19 | 12:38 | 0.32 | 1820 | 1904 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 12:38 | 12:44 | 0.10 | 1904 | 1904 | Survey & Conn. | Survey & Conn.@1851' Inc 10.6 - Azm140.0 |
| 4-Dec-11 | 12:44 | 13:01 | 0.28 | 1904 | 1998 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 13:01 | 13:08 | 0.12 | 1998 | 1998 | Survey & Conn. | Survey & Conn. @1945 Inc 9.3 - Azm 138.0 |
| 4-Dec-11 | 13:08 | 13:18 | 0.17 | 1998 | 2013 | Sliding | Sliding - (WOB:15;GPM :425;TFO:0) |
| 4-Dec-11 | 13:18 | 13:23 | 0.08 | 2013 | 2028 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 13:23 | 13:35 | 0.20 | 2028 | 2038 | Sliding | Sliding - (WOB:15;GPM :425;TFO:0) |
| 4-Dec-11 | 13:35 | 13:44 | 0.15 | 2038 | 2060 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 13:44 | 13:51 | 0.12 | 2060 | 2070 | Sliding | Sliding - (WOB:15;GPM :425;TFO:0) |
| 4-Dec-11 | 13:51 | 13:55 | 0.07 | 2070 | 2092 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 13:55 | 14:00 | 0.08 | 2092 | 2092 | Survey & Conn. | Survey & Conn @2039' Inc 11.5.Azm132.2 |
| 4-Dec-11 | 14:00 | 14:25 | 0.42 | 2092 | 2185 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 14:25 | 14:31 | 0.10 | 2185 | 2185 | Survey & Conn. | Survey & Conn.@2132' Inc 12.7 - Azm 132.8 |
| 4-Dec-11 | 14:31 | 15:05 | 0.57 | 2185 | 2279 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 15:05 | 15:14 | 0.15 | 2279 | 2279 | Survey & Conn. | Survey & Conn.@ 2226 Inc 11.5 - Azm 130.1 |
| 4-Dec-11 | 15:14 | 15:34 | 0.33 | 2279 | 2374 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 15:34 | 15:39 | 0.08 | 2374 | 2374 | Survey & Conn. | Survey & Conn.@ 2321 Inc 9.9 - Azm 126.5 |
| 4-Dec-11 | 15:39 | 15:49 | 0.17 | 2374 | 2384 | Sliding | Sliding - (WOB:15;GPM :425;TFO:0) |
| 4-Dec-11 | 15:49 | 16:04 | 0.25 | 2384 | 2437 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 16:04 | 16:15 | 0.18 | 2437 | 2447 | Sliding | Sliding - (WOB:15;GPM :425;TFO:0) |
| 4-Dec-11 | 16:15 | 16:19 | 0.07 | 2447 | 2469 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 16:19 | 16:23 | 0.07 | 2469 | 2469 | Survey & Conn. | Survey & Conn.@2416 Inc 9.8 - Azm 133.6 |
| 4-Dec-11 | 16:23 | 16:33 | 0.17 | 2469 | 2479 | Sliding | Sliding - (WOB:15;GPM :425;TFO:0) |
| 4-Dec-11 | 16:33 | 16:55 | 0.37 | 2479 | 2564 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 16:55 | 17:03 | 0.13 | 2564 | 2564 | Survey & Conn. | Survey & Conn.@ 2511 Inc 11.4 - Azm 134.9 |
| 4-Dec-11 | 17:03 | 17:19 | 0.27 | 2564 | 2627 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 17:19 | 17:29 | 0.17 | 2627 | 2637 | Sliding | Sliding - (WOB:15;GPM :425;TFO:0) |

| Date | Start Time | End Time | Hours | Start Depth | End Depth | Activity Code | COMMENT |
|----------|------------|----------|-------|-------------|-----------|----------------|---|
| 4-Dec-11 | 17:29 | 17:34 | 0.08 | 2637 | 2658 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 17:34 | 17:39 | 0.08 | 2658 | 2658 | Survey & Conn. | Survey & Conn. @ 2605' Inc 10.1 - Azm 132.9 |
| 4-Dec-11 | 17:39 | 17:46 | 0.12 | 2658 | 2668 | Sliding | Sliding - (WOB:15;GPM :425;TFO:0) |
| 4-Dec-11 | 17:46 | 17:58 | 0.20 | 2668 | 2722 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 17:58 | 18:05 | 0.12 | 2722 | 2722 | Survey & Conn. | Conn. |
| 4-Dec-11 | 18:05 | 18:09 | 0.07 | 2722 | 2754 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 18:09 | 18:17 | 0.13 | 2754 | 2754 | Survey & Conn. | Survey & Conn @2701- 12.0 Inc- 135.1 Azm |
| 4-Dec-11 | 18:17 | 18:21 | 0.07 | 2754 | 2764 | Sliding | Sliding - (WOB:15;GPM :425;TFO:0) |
| 4-Dec-11 | 18:21 | 18:32 | 0.18 | 2764 | 2816 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 18:32 | 18:39 | 0.12 | 2816 | 2816 | Survey & Conn. | Conn. |
| 4-Dec-11 | 18:39 | 18:45 | 0.10 | 2816 | 2848 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 18:45 | 18:55 | 0.17 | 2848 | 2848 | Survey & Conn. | Survey & Conn @2795- 12.9 Inc- 136.9 Azm |
| 4-Dec-11 | 18:55 | 18:59 | 0.07 | 2848 | 2858 | Sliding | Sliding - (WOB:15;GPM :425;TFO:50) |
| 4-Dec-11 | 18:59 | 19:11 | 0.20 | 2858 | 2911 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 19:11 | 19:18 | 0.12 | 2911 | 2911 | Survey & Conn. | Conn. |
| 4-Dec-11 | 19:18 | 19:25 | 0.12 | 2911 | 2943 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 19:25 | 19:35 | 0.17 | 2943 | 2943 | Survey & Conn. | Survey & Conn @2890- 11.5 Inc- 134.2 Azm |
| 4-Dec-11 | 19:35 | 19:37 | 0.03 | 2943 | 2953 | Sliding | Sliding - (WOB:15;GPM :425;TFO:50) |
| 4-Dec-11 | 19:37 | 19:55 | 0.30 | 2953 | 3005 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 19:55 | 20:03 | 0.13 | 3005 | 3005 | Survey & Conn. | Conn. |
| 4-Dec-11 | 20:03 | 20:11 | 0.13 | 3005 | 3037 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 20:11 | 20:21 | 0.17 | 3037 | 3037 | Survey & Conn. | Survey & Conn @2984- 11.5 Inc- 137.2 Azm |
| 4-Dec-11 | 20:21 | 20:26 | 0.08 | 3037 | 3047 | Sliding | Sliding - (WOB:15;GPM :425;TFO:60) |
| 4-Dec-11 | 20:26 | 20:38 | 0.20 | 3047 | 3099 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 20:38 | 20:45 | 0.12 | 3099 | 3099 | Survey & Conn. | Conn. |
| 4-Dec-11 | 20:45 | 20:51 | 0.10 | 3099 | 3131 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 20:51 | 21:00 | 0.15 | 3131 | 3131 | Survey & Conn. | Survey & Conn @3078- 11.4 Inc- 139.9 Azm |
| 4-Dec-11 | 21:00 | 21:26 | 0.43 | 3131 | 3222 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 21:26 | 21:53 | 0.45 | 3222 | 3222 | Survey & Conn. | Survey & Conn @3169- 8.4 Inc- 137.0 Azm |
| 4-Dec-11 | 21:53 | 22:08 | 0.25 | 3222 | 3232 | Sliding | Sliding - (WOB:15;GPM :425;TFO:0) |
| 4-Dec-11 | 22:08 | 22:15 | 0.12 | 3232 | 3252 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 22:15 | 22:18 | 0.05 | 3252 | 3252 | Survey & Conn. | Conn. |
| 4-Dec-11 | 22:18 | 22:30 | 0.20 | 3252 | 3252 | Rig repair | Rig repair |
| 4-Dec-11 | 22:30 | 22:37 | 0.12 | 3252 | 3284 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 22:37 | 22:46 | 0.15 | 3284 | 3284 | Survey & Conn. | Conn. |
| 4-Dec-11 | 22:46 | 22:54 | 0.13 | 3284 | 3294 | Sliding | Sliding - (WOB:15;GPM :425;TFO:0) |
| 4-Dec-11 | 22:54 | 22:57 | 0.05 | 3294 | 3315 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 22:57 | 23:10 | 0.22 | 3315 | 3315 | Survey & Conn. | Survey & Conn @3262- 7.5 Inc- 139.5 Azm |
| 4-Dec-11 | 23:10 | 23:18 | 0.13 | 3315 | 3325 | Sliding | Sliding - (WOB:15;GPM :425;TFO:0) |
| 4-Dec-11 | 23:18 | 23:31 | 0.22 | 3325 | 3378 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 23:31 | 23:38 | 0.12 | 3378 | 3378 | Survey & Conn. | Conn. |
| 4-Dec-11 | 23:38 | 23:50 | 0.20 | 3378 | 3410 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 4-Dec-11 | 23:50 | 24:00 | 0.17 | 3410 | 3410 | Survey & Conn. | Survey & Conn @3357- 8.4 Inc- 144.1 Azm |



| | | | | |
|------------|-----------------|--------------|-----------------|--------|
| JOB NO.: | DDOK-110670 | Report Time: | 2400 | 4 of 6 |
| COMPANY: | Great Western | API JOB # | 05-123-33239-00 | |
| LOCATION: | Weld County | WORK ORDER# | MS#110463RR | |
| RIG NAME: | Cade 22 | FIELD: | Bracewell | |
| STATE: | Colorado | TOWNSHIP: | | |
| COUNTY: | Weld County | SECTRANGE: | | |
| WELL NAME: | Fritzler 8-8-17 | | | |

From Monday, December 05, 2011 at 0000 to Monday, December 05, 2011 at 2400

| DRILLING SUMMARY | | | | Drilling Parameters | | | | | | | |
|------------------------|---------|-------------------|--------|---------------------|-------|---------|------|-----------|-----------|---------|---|
| Start Depth | 697.00 | Rotary Hours | 11.08 | WOB | 15 | Pick UP | 120 | Slack Off | 110 | SPM | |
| End Depth | 3410.00 | Circulating Hours | 0.00 | RAB | 115 | SPP | 1500 | FlowRate | 425 - 425 | 125 | |
| Total Drilled: | 2713.00 | Avg. Total ROP: | 190.39 | Mud Data | | | | | | | |
| Total Rotary Drilled: | 2478.00 | Avg. Rotary ROP: | 223.58 | Type | Water | | | PV | 0 | SOLID | 0 |
| Total Drilled Sliding: | 235.00 | Avg. Slide ROP: | 74.21 | Weight | 8.2 | GAS | 0 | YP | 0 | BHT° | 0 |
| Slide Hours: | 3.17 | Percent Rotary: | 91.34 | Viscosity | 38 | SAND | 0 | PH | 0 | Flow T° | 0 |
| Below Rotary Hrs. | 21.50 | Percent Slide: | 8.66 | Chlorides | 0 | WL | 0 | Oil % | | 0 | |

| PERSONNEL | | | | | | CASING | | | BHA |
|----------------------|-----|----------------------------|-------|------------|-----|------------|-------|-----------|--|
| Lead Directional : | | David Cathey | | | | Size | Lb/ft | Set Depth | BHA # 2:7 7/8 HUGHES PDC BIT, 6 1/4" MTR 7/8 4.8 STG, 6 3/8" FLT Sub, 6 15/16 UBHO, 6 1/4 NMDC, 6 1/4 NMDC, 18 Jts 4 1/2 Spiral, 4 Drill Pipe, |
| Second Directional : | | Coty Jeane & Nick Steichen | | | | 4 1/2 | 11.6 | 0 | |
| MWD Operator1 | | Justin Burkett | | | | 8 5/8 | 24 | 690 | |
| MWD Operator2 | | | | | | Signature: | | | |
| Directional Company: | | MS Energy | | | | | | | |
| Geologist: | | | | | | | | | |
| Company Man: | | Eric Geiger | | | | | | | |
| Incl. In: | 8.4 | Azm. In: | 144.1 | Incl. Out: | 1.1 | Azm. Out: | 131.5 | | |

GENERAL COMMENT

| Date | Start Time | End Time | Hours | Start Depth | End Depth | Activity Code | COMMENT |
|----------|------------|----------|-------|-------------|-----------|----------------|---|
| 5-Dec-11 | 00:00 | 00:12 | 0.20 | 3410 | 3420 | Sliding | Sliding - (WOB:15;GPM :425;TFO:0) |
| 5-Dec-11 | 00:12 | 00:33 | 0.35 | 3420 | 3473 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 00:33 | 00:40 | 0.12 | 3473 | 3473 | Rig repair | Rig repair |
| 5-Dec-11 | 00:40 | 00:48 | 0.13 | 3473 | 3473 | Survey & Conn. | Conn. |
| 5-Dec-11 | 00:48 | 00:55 | 0.12 | 3473 | 3483 | Sliding | Sliding - (WOB:15;GPM :425;TFO:0) |
| 5-Dec-11 | 00:55 | 00:59 | 0.07 | 3483 | 3503 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 00:59 | 01:07 | 0.13 | 3503 | 3503 | Survey & Conn. | Survey & Conn @3450- 7.4 Inc- 143.5 Azm |
| 5-Dec-11 | 01:07 | 01:17 | 0.17 | 3503 | 3513 | Sliding | Sliding - (WOB:15;GPM :425;TFO:330) |
| 5-Dec-11 | 01:17 | 01:34 | 0.28 | 3513 | 3566 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 01:34 | 01:42 | 0.13 | 3566 | 3566 | Survey & Conn. | Conn. |
| 5-Dec-11 | 01:42 | 01:53 | 0.18 | 3566 | 3576 | Sliding | Sliding - (WOB:15;GPM :425;TFO:330) |
| 5-Dec-11 | 01:53 | 01:57 | 0.07 | 3576 | 3598 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 01:57 | 02:07 | 0.17 | 3598 | 3598 | Survey & Conn. | Survey & Conn@3545- 8.3 Inc- 138.3 Azm |
| 5-Dec-11 | 02:07 | 02:16 | 0.15 | 3598 | 3608 | Sliding | Sliding - (WOB:15;GPM :425;TFO:330) |
| 5-Dec-11 | 02:16 | 02:38 | 0.37 | 3608 | 3693 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 02:38 | 02:45 | 0.12 | 3693 | 3693 | Survey & Conn. | Survey & Conn @3640- 8.0 Inc- 145.4 Azm |
| 5-Dec-11 | 02:45 | 03:00 | 0.25 | 3693 | 3755 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |

| Date | Start Time | End Time | Hours | Start Depth | End Depth | Activity Code | COMMENT |
|----------|------------|----------|-------|-------------|-----------|--------------------|---|
| 5-Dec-11 | 03:00 | 03:15 | 0.25 | 3755 | 3755 | Survey & Conn. | Conn. |
| 5-Dec-11 | 03:15 | 03:21 | 0.10 | 3755 | 3787 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 03:21 | 03:31 | 0.17 | 3787 | 3787 | Survey & Conn. | Survey & Conn @3734- 8.3 Inc- 144.8 Azm |
| 5-Dec-11 | 03:31 | 03:40 | 0.15 | 3787 | 3797 | Sliding | Sliding - (WOB:15;GPM :425;TFO:330) |
| 5-Dec-11 | 03:40 | 03:52 | 0.20 | 3797 | 3851 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 03:52 | 04:00 | 0.13 | 3851 | 3851 | Survey & Conn. | Conn. |
| 5-Dec-11 | 04:00 | 04:05 | 0.08 | 3851 | 3883 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 04:05 | 04:15 | 0.17 | 3883 | 3883 | Survey & Conn. | Survey & Conn @3830- 9.8 Inc- 138.9 Azm |
| 5-Dec-11 | 04:15 | 04:25 | 0.17 | 3883 | 3893 | Sliding | Sliding - (WOB:15;GPM :425;TFO:330) |
| 5-Dec-11 | 04:25 | 04:40 | 0.25 | 3893 | 3946 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 04:40 | 04:48 | 0.13 | 3946 | 3946 | Survey & Conn. | Conn. |
| 5-Dec-11 | 04:48 | 04:54 | 0.10 | 3946 | 3978 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 04:54 | 05:04 | 0.17 | 3978 | 3978 | Survey & Conn. | Survey & Conn.@3925- 11.6 Inc- 135.4 Azm |
| 5-Dec-11 | 05:04 | 05:11 | 0.12 | 3978 | 3988 | Sliding | Sliding - (WOB:15;GPM :425;TFO:330) |
| 5-Dec-11 | 05:11 | 05:24 | 0.22 | 3988 | 4041 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 05:24 | 05:32 | 0.13 | 4041 | 4041 | Survey & Conn. | Conn. |
| 5-Dec-11 | 05:32 | 05:39 | 0.12 | 4041 | 4071 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 05:39 | 05:48 | 0.15 | 4071 | 4071 | Survey & Conn. | Survey & Conn @4018- 13.3 Inc- 136.5 Azm |
| 5-Dec-11 | 05:48 | 06:02 | 0.23 | 4071 | 4133 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 06:02 | 06:06 | 0.07 | 4133 | 4133 | Survey & Conn. | Conn. |
| 5-Dec-11 | 06:06 | 06:14 | 0.13 | 4133 | 4165 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 06:14 | 06:18 | 0.07 | 4165 | 4165 | Survey & Conn. | Survey & Conn.@4112' Inc 11.2 - Azm 135.9 |
| 5-Dec-11 | 06:18 | 06:22 | 0.07 | 4165 | 4175 | Sliding | Sliding - (WOB:15;GPM :425;TFO:330) |
| 5-Dec-11 | 06:22 | 06:50 | 0.47 | 4175 | 4229 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 06:50 | 06:54 | 0.07 | 4229 | 4229 | Survey & Conn. | Survey & Conn. |
| 5-Dec-11 | 06:54 | 07:19 | 0.42 | 4229 | 4244 | Sliding | Sliding - (WOB:15;GPM :425;TFO:330) |
| 5-Dec-11 | 07:19 | 07:29 | 0.17 | 4244 | 4260 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 07:29 | 07:33 | 0.07 | 4260 | 4260 | Survey & Conn. | Survey & Conn. @4207 Inc 9.8 - Azm 135.6 |
| 5-Dec-11 | 07:33 | 07:56 | 0.38 | 4260 | 4270 | Sliding | Sliding - (WOB:15;GPM :425;TFO:330) |
| 5-Dec-11 | 07:56 | 08:08 | 0.20 | 4270 | 4324 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 08:08 | 08:15 | 0.12 | 4324 | 4324 | Survey & Conn. | Survey & Conn. |
| 5-Dec-11 | 08:15 | 08:25 | 0.17 | 4324 | 4354 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 08:25 | 08:29 | 0.07 | 4354 | 4354 | Survey & Conn. | Survey & Conn.@ 4301 Inc 11.7 - Azm 141.9 |
| 5-Dec-11 | 08:29 | 08:53 | 0.40 | 4354 | 4449 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 08:53 | 08:58 | 0.08 | 4449 | 4449 | Survey & Conn. | Survey & Conn.@ 4396 Inc 10.2 - Azm 143.3 |
| 5-Dec-11 | 08:58 | 09:16 | 0.30 | 4449 | 4544 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 09:16 | 09:34 | 0.30 | 4544 | 4544 | Rig Service-Inhole | Rig Service-Inhole |
| 5-Dec-11 | 09:34 | 09:39 | 0.08 | 4544 | 4544 | Survey & Conn. | Survey & Conn.@ 4491 Inc 9.6 - Azm144.0 |
| 5-Dec-11 | 09:39 | 10:06 | 0.45 | 4544 | 4638 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 10:06 | 10:10 | 0.07 | 4638 | 4638 | Survey & Conn. | Survey & Conn. @4585 Inc 8.3 - Azm 146.7 |
| 5-Dec-11 | 10:10 | 10:36 | 0.43 | 4638 | 4733 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 10:36 | 10:40 | 0.07 | 4733 | 4733 | Survey & Conn. | Survey & Conn.@ 4680 Inc 6.5 - Azm 151.9 |
| 5-Dec-11 | 10:40 | 11:11 | 0.52 | 4733 | 4827 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 11:11 | 11:23 | 0.20 | 4827 | 4827 | Survey & Conn. | Survey & Conn.@ 4774 Inc 5.6 - Azm 159.7 |
| 5-Dec-11 | 11:23 | 11:47 | 0.40 | 4827 | 4837 | Sliding | Sliding - (WOB:15;GPM :425;TFO:330) |
| 5-Dec-11 | 11:47 | 12:02 | 0.25 | 4837 | 4891 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 12:02 | 12:22 | 0.33 | 4891 | 4891 | Rig repair | Rig repair replace spp valve |
| 5-Dec-11 | 12:22 | 12:31 | 0.15 | 4891 | 4922 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |

| Date | Start Time | End Time | Hours | Start Depth | End Depth | Activity Code | COMMENT |
|----------|------------|----------|-------|-------------|-----------|----------------|---|
| 5-Dec-11 | 12:31 | 12:37 | 0.10 | 4922 | 4922 | Survey & Conn. | Survey & Conn. @ 4869 Inc 4.6 - Azm 144.6 |
| 5-Dec-11 | 12:37 | 13:16 | 0.65 | 4922 | 5017 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 13:16 | 13:21 | 0.08 | 5017 | 5017 | Survey & Conn. | Survey & Conn. @4964 Inc 4.1 - Azm 148.9 |
| 5-Dec-11 | 13:21 | 13:34 | 0.22 | 5017 | 5081 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 13:34 | 13:40 | 0.10 | 5081 | 5081 | Survey & Conn. | Survey & Conn. |
| 5-Dec-11 | 13:40 | 14:21 | 0.68 | 5081 | 5112 | Sliding | Sliding - (WOB:15;GPM :425;TFO:330) |
| 5-Dec-11 | 14:21 | 14:42 | 0.35 | 5112 | 5112 | Rig repair | Rig repair |
| 5-Dec-11 | 14:42 | 14:46 | 0.07 | 5112 | 5112 | Survey & Conn. | Survey & Conn. @5059 Inc 3.3 - Azm 155.9 |
| 5-Dec-11 | 14:46 | 14:55 | 0.15 | 5112 | 5144 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 14:55 | 15:01 | 0.10 | 5144 | 5144 | Survey & Conn. | Survey & Conn. |
| 5-Dec-11 | 15:01 | 15:26 | 0.42 | 5144 | 5207 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 15:26 | 15:31 | 0.08 | 5207 | 5207 | Survey & Conn. | Survey & Conn. @ 5154 Inc .04 - Azm 85.1 |
| 5-Dec-11 | 15:31 | 16:00 | 0.48 | 5207 | 5302 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 16:00 | 16:05 | 0.08 | 5302 | 5302 | Survey & Conn. | Survey & Conn. @ 5247 Inc 0.1 - Azm 49.6 |
| 5-Dec-11 | 16:05 | 16:37 | 0.53 | 5302 | 5396 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 16:37 | 16:45 | 0.13 | 5396 | 5396 | Survey & Conn. | Survey & Conn @5343- .3 Inc- 214.5 Azm |
| 5-Dec-11 | 16:45 | 18:15 | 1.50 | 5396 | 5675 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 18:15 | 18:25 | 0.17 | 5675 | 5675 | Survey & Conn. | Survey & Conn @5622- .5 Inc- 214.9 Azm |
| 5-Dec-11 | 18:25 | 19:59 | 1.57 | 5675 | 5957 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 19:59 | 20:11 | 0.20 | 5957 | 5957 | Survey & Conn. | Survey & Conn @5904- .2 Inc- 278.0 Azm |
| 5-Dec-11 | 20:11 | 21:49 | 1.63 | 5957 | 6240 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 21:49 | 21:59 | 0.17 | 6240 | 6240 | Survey & Conn. | Survey & Conn @6187- .7 Inc- 168.5 Azm |
| 5-Dec-11 | 21:59 | 23:32 | 1.55 | 6240 | 6523 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 5-Dec-11 | 23:32 | 23:45 | 0.22 | 6523 | 6523 | Survey & Conn. | Survey & Conn @6470- 1.1 Inc- 131.5 Azm |
| 5-Dec-11 | 23:45 | 24:00 | 0.25 | 6523 | 6554 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |



| | | | | |
|------------|-----------------|--------------|-----------------|--------|
| JOB NO.: | DDOK-110670 | Report Time: | 2400 | 5 of 6 |
| COMPANY: | Great Western | API JOB # | 05-123-33239-00 | |
| LOCATION: | Weld County | WORK ORDER# | MS#110463RR | |
| RIG NAME: | Cade 22 | FIELD: | Bracewell | |
| STATE: | Colorado | TOWNSHIP: | | |
| COUNTY: | Weld County | SECTRANGE: | | |
| WELL NAME: | Fritzler 8-8-17 | | | |

From Tuesday, December 06, 2011 at 0000 to Tuesday, December 06, 2011 at 2400

| DRILLING SUMMARY | | | | Drilling Parameters | | | | | | | |
|------------------------|---------|-------------------|--------|---------------------|------------|---------|------|-----------|-----------|---------|---|
| Start Depth | 6554.00 | Rotary Hours | 11.35 | WOB | 15 | Pick UP | 120 | Slack Off | 110 | SPM | |
| End Depth | 7433.00 | Circulating Hours | 1.37 | RAB | 115 | SPP | 1500 | FlowRate | 425 - 425 | 125 | |
| Total Drilled: | 879.00 | Avg. Total ROP: | 77.44 | Mud Data | | | | | | | |
| Total Rotary Drilled: | 879.00 | Avg. Rotary ROP: | 77.44 | Type | Water Base | | | PV | 12 | SOLID | 5 |
| Total Drilled Sliding: | 0.00 | Avg. Slide ROP: | NA | Weight | 9 | GAS | 0 | YP | 3 | BHT° | 0 |
| Slide Hours: | 0.00 | Percent Rotary: | 100.00 | Viscosity | 38 | SAND | 0 | PH | 8 | Flow T° | 0 |
| Below Rotary Hrs. | 16.65 | Percent Slide: | .00 | Chlorides | 1300 | WL | 12 | Oil % | | 0 | |

| PERSONNEL | | | | | | CASING | | | BHA |
|----------------------|-----|----------------------------|-------|------------|---|------------|-------|-----------|--|
| Lead Directional : | | David Cathey | | | | Size | Lb/ft | Set Depth | BHA # 2:7 7/8 HUGHES PDC BIT, 6 1/4" MTR 7/8 4.8 STG, 6 3/8" FLT Sub, 6 15/16 UBHO, 6 1/4 NMDC, 6 1/4 NMDC, 18 Jts 4 1/2 Spiral, 4 Drill Pipe, |
| Second Directional : | | Coty Jeane & Nick Steichen | | | | 4 1/2 | 11.6 | 0 | |
| MWD Operator1 | | Justin Burkett | | | | 8 5/8 | 24 | 690 | |
| MWD Operator2 | | | | | | | | | |
| Directional Company: | | MS Energy | | | | Signature: | | | |
| Geologist: | | | | | | | | | |
| Company Man: | | Eric Geiger | | | | | | | |
| Incl. In: | 1.1 | Azm. In: | 131.5 | Incl. Out: | 0 | Azm. Out: | 0 | | |

GENERAL COMMENT

| Date | Start Time | End Time | Hours | Start Depth | End Depth | Activity Code | COMMENT |
|----------|------------|----------|-------|-------------|-----------|----------------|---|
| 6-Dec-11 | 00:00 | 02:42 | 2.70 | 6554 | 6807 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 6-Dec-11 | 02:42 | 02:52 | 0.17 | 6807 | 6807 | Survey & Conn. | Survey & Conn @6754- 1.8 Inc- 162.8 Azm |
| 6-Dec-11 | 02:52 | 05:45 | 2.88 | 6807 | 6897 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 6-Dec-11 | 05:45 | 07:34 | 1.82 | 6897 | 6897 | Short Trip | Short For Wash Out In Pipe. |
| 6-Dec-11 | 07:34 | 09:31 | 1.95 | 6897 | 7086 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 6-Dec-11 | 09:31 | 09:36 | 0.08 | 7086 | 7086 | Survey & Conn. | Survey & Conn @ 7086' - 1.0 Inc - 156.4 Azm |
| 6-Dec-11 | 09:36 | 13:25 | 3.82 | 7086 | 7433 | Drilling | Drilling - (WOB:15;GPM :425;RPM:85) |
| 6-Dec-11 | 13:25 | 13:30 | 0.08 | 7433 | 7433 | Survey & Conn. | Survey & Conn. @ 7380 Inc 1.5 - Azm 126.6 |
| 6-Dec-11 | 13:30 | 13:35 | 0.08 | 7433 | 7433 | Circulating | Circulating |
| 6-Dec-11 | 13:35 | 14:22 | 0.78 | 7433 | 7433 | POOH | POOH SHORT TRIP |
| 6-Dec-11 | 14:22 | 15:39 | 1.28 | 7433 | 7433 | Circulating | Circulating |
| 6-Dec-11 | 15:39 | 21:30 | 5.85 | 7433 | 7433 | L/D DP | POOH L/D DP |
| 6-Dec-11 | 21:30 | 22:30 | 1.00 | 7433 | 7433 | Change BHA | Lay Down BHA |
| 6-Dec-11 | 22:30 | 24:00 | 1.50 | 7433 | 7433 | Standby | Standby |



| | | | | |
|------------|-----------------|--------------|-----------------|--------|
| JOB NO.: | DDOK-110670 | Report Time: | 2400 | 6 of 6 |
| COMPANY: | Great Western | API JOB # | 05-123-33239-00 | |
| LOCATION: | Weld County | WORK ORDER# | MS#110463RR | |
| RIG NAME: | Cade 22 | FIELD: | Bracewell | |
| STATE: | Colorado | TOWNSHIP: | | |
| COUNTY: | Weld County | SECTRANGE: | | |
| WELL NAME: | Fritzler 8-8-17 | | | |

From Wednesday, December 07, 2011 at 0000 to Wednesday, December 07, 2011 at 2400

| DRILLING SUMMARY | | | | Drilling Parameters | | | | | | | |
|------------------------|------|-------------------|------|---------------------|------------|---------|------|-----------|-----------|---------|---|
| Start Depth | 0.00 | Rotary Hours | 0.00 | WOB | 15 | Pick UP | 120 | Slack Off | 110 | SPM | |
| End Depth | 0.00 | Circulating Hours | 0.00 | RAB | 115 | SPP | 1500 | FlowRate | 425 - 425 | 125 | |
| Total Drilled: | 0.00 | Avg. Total ROP: | NA | Mud Data | | | | | | | |
| Total Rotary Drilled: | 0.00 | Avg. Rotary ROP: | NA | Type | Water Base | | | PV | 12 | SOLID | 5 |
| Total Drilled Sliding: | 0.00 | Avg. Slide ROP: | NA | Weight | 9 | GAS | 0 | YP | 3 | BHT° | 0 |
| Slide Hours: | 0.00 | Percent Rotary: | NA | Viscosity | 38 | SAND | 0 | PH | 8 | Flow T° | 0 |
| Below Rotary Hrs. | 0.00 | Percent Slide: | NA | Chlorides | 1300 | WL | 12 | | | Oil % | 0 |

| PERSONNEL | | | | | | CASING | | | BHA | |
|----------------------|---|----------------------------|---|------------|---|------------|-------|-----------|-----|--|
| Lead Directional : | | David Cathey | | | | Size | Lb/ft | Set Depth | N/A | |
| Second Directional : | | Coty Jeane & Nick Steichen | | | | 4 1/2 | 11.6 | 0 | | |
| MWD Operator1 | | Justin Burkett | | | | 8 5/8 | 24 | 690 | | |
| MWD Operator2 | | | | | | Signature: | | | | |
| Directional Company: | | MS Energy | | | | | | | | |
| Geologist: | | | | | | | | | | |
| Company Man: | | Eric Geiger | | | | | | | | |
| Incl. In: | 0 | Azm. In: | 0 | Incl. Out: | 0 | Azm. Out: | 0 | | | |

GENERAL COMMENT

| Date | Start Time | End Time | Hours | Start Depth | End Depth | Activity Code | COMMENT |
|----------|------------|----------|-------|-------------|-----------|---------------|---------|
| 7-Dec-11 | 00:00 | 24:00 | 0.00 | 7433 | 7433 | Standby | Standby |

Well Information

BHA # 1



JOB NO.: DDOK-110670

FIELD: Bracewell

COMPANY: Great Western

TOWNSHIP:

LOCATION: Weld County

SECT. RANGE:

RIG NAME: Cade 22

Lead DD: David Cathey

STATE: Colorado

Co. Man: Eric Geiger

COUNTY: Weld County

BHA TYPE: Steerable Assembly

WELL NAME: Fritzler 8-8-17

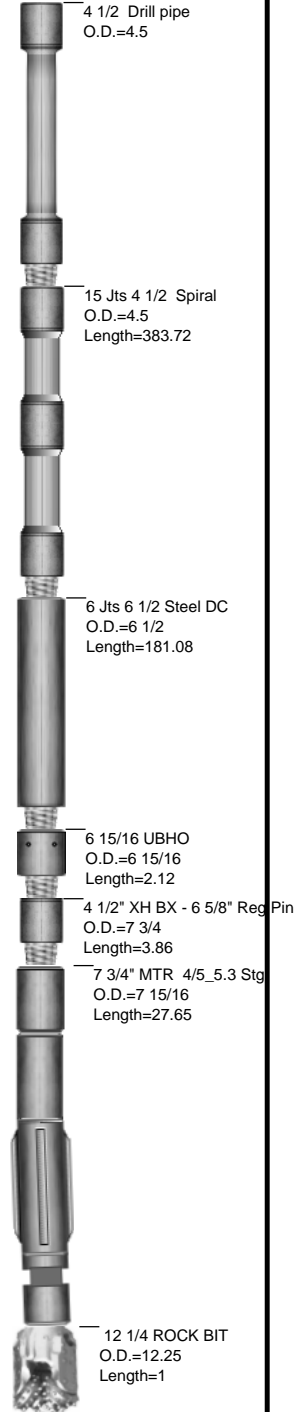
BHA Summary Information

| TIME IN - OUT | | | Rotary Hours | | | 4.13 | | | Start Depth | | | 138.00 | | | RPM Range | Flow Rate | | |
|------------------------|------------|----------------------|-------------------|-------------------|--------|-------------|------------------|--------|-------------|-----------------|--------|--------|-------------|--|-----------|-----------|----------|--|
| Start Time | | End Time | Circ Hrs Tot/Only | | | 6.82 / 1.10 | | | End Depth | | | 697.00 | | | | | | |
| 03-Dec-11 @ 01:00 | | 03-Dec-11 @ 12:50 | | Slide Hours | | | 1.58 | | | Percent Rotary: | | | 84.79 | | | 85 -85 | 425 -425 | |
| | | | | Below Rotary Hrs. | | | 11.83 | | | Percent Slide: | | | 15.21 | | | | | |
| Total Drilled: | | | | 559.00 | | | Avg. Total ROP: | | | 97.78 | | | Incl. | | Azimuth | | | |
| Total Rotary Drilled: | | | | 474.00 | | | Avg. Rotary ROP: | | | 114.68 | | | IN OUT | | IN | | OUT | |
| Total Drilled Sliding: | | | | 85.00 | | | Avg. Slide ROP: | | | 53.68 | | | .0 .0 | | .00 | | .00 | |
| SPP | 1000 -1000 | | Weights | SO | 40 -40 | | PU | 50 -50 | | RAB | 45 -45 | | Reason POOH | | | TD | | |

| Bit Data | | | | | | | | MOTOR DATA | | | | | | Mud Data | | | | | |
|------------|----|-----------------|-------------------|--------|----|----------------|-------------|----------------|--------------|-------|--------|---------|--------|----------|-------|-------|---|--------|---|
| OTHER | | 12 1/4 ROCK BIT | | | | | | Performance | | | | | | Type | Water | | | | |
| Type Bit | | | | ROCK | | | | Model: 7754553 | | | Pad OD | | | WT | 8.2 | GAS | 0 | Solids | 0 |
| TFA | | 1.113 | | | | | | MFG. Mpact | | | .25 | | | Vis | 38 | SAND | 0 | T ° | 0 |
| JETS | | 22 | 22 | 22 | 0 | 0 | Bend ° | 1.83 | Stator/Rotor | 4/5 | | PV | 0 | PH | 0 | Chlor | 0 | | |
| | | 0 | 0 | 0 | 0 | 0 | Bit to Bend | 6.88 | Motor Diff | 200 | | YP | 0 | WL | 0 | Oil % | 0 | | |
| Bit Coding | | | | IADC# | | | | Rev/GAL | 0.25 | | | | | | BHT° | | 0 | | |
| IR | OR | DL | Loc | BS | G | ODL | NB Stab | 12 | | PUMPS | | PUMP1 | | PUMP1 | | | | | |
| | | | | | | | Rotor Jet | | 0 | | NAME | | OFR | | | | | | |
| | | | | | | | | | | | Model | | FR1300 | | | | | | |
| Bit Drop: | | | 110 PSI @ 425 GPM | | | Sensor Offsets | | | | Type | | Triplex | | | | | | | |
| Comments | | | | Sensor | 48 | Sonic | 0 | | Liner | | 6.00 | | | | | .00 | | | |
| | | | | Gamma | 0 | DNsc | 0 | | Stroke | | 12.00 | | | | | .00 | | | |
| | | | | Restiv | 0 | GYRO | 0 | | Efficiency | | 95.00 | | | | | .00 | | | |

BHA Detail

| # | Description | Serial # | I.D. | O.D. | Length | Sum | Top Conn |
|----|-------------------------------|---------------|-------|---------|--------|--------|------------|
| 1 | 12 1/4 ROCK BIT | CH36MRS | 0 | 12.25 | 1.00 | 1.00 | 6 5/8 REGP |
| 2 | 7 3/4" MTR 4/5_5.3 Stg | MSD77D116D | | 7 15/16 | 27.65 | 28.65 | 6 5/8 REGB |
| 3 | 4 1/2" XH BX - 6 5/8" Reg Pin | SD107244 | 2 7/8 | 7 3/4 | 3.86 | 32.51 | 4 1/2 XHB |
| 4 | 6 15/16 UBHO | LS412X15107M | 3 | 6 15/16 | 2.12 | 34.63 | 4 1/2 XHB |
| 5 | 6 1/4 NMDC | SD39672 | 2 7/8 | 6 1/4 | 28.49 | 63.12 | 4 1/2 XHB |
| 6 | 6 1/4 NMDC | SD41976 | 2 7/8 | 6 | 29.30 | 92.42 | 4 1/2 XHB |
| 7 | 6 Jts 6 1/2 Steel DC | Rig | 3 7/8 | 6 1/2 | 181.08 | 273.50 | 4 1/2 XHB |
| 8 | 15 Jts 4 1/2 Spiral | HWDP-2.75- | 2.75 | 4.5 | 383.72 | 657.22 | 4 1/2 XH |
| 9 | 4 1/2 Drill pipe | DP-3.64-S-135 | 3.64 | 4.5 | 0.00 | 657.22 | 4 1/2 XH |
| 10 | | | | | 0.00 | 657.22 | |



Well Information

BHA # 2



JOB NO.: DDOK-110670

FIELD: Bracewell

COMPANY: Great Western

TOWNSHIP:

LOCATION: Weld County

SECT. RANGE:

RIG NAME: Cade 22

Lead DD: David Cathey

STATE: Colorado

Co. Man: Eric Geiger

COUNTY: Weld County

BHA TYPE: Steerable Assembly

WELL NAME: Fritzler 8-8-17

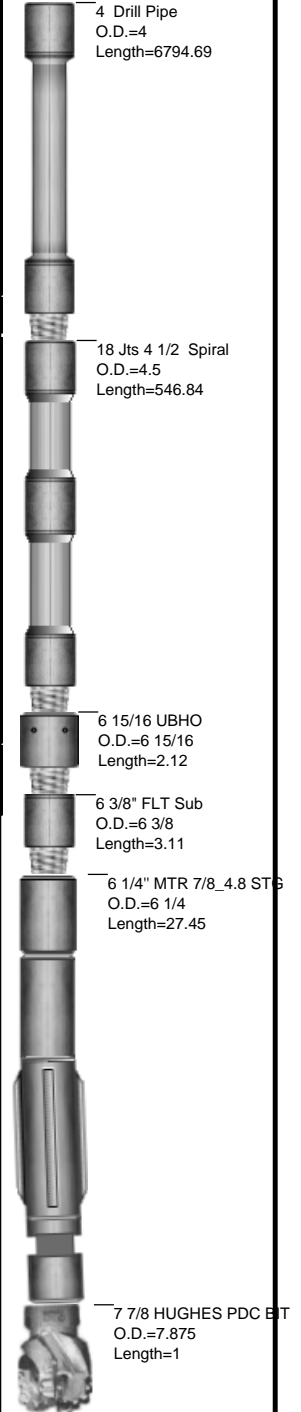
BHA Summary Information

| TIME IN - OUT | | | Rotary Hours | | | 37.70 | | Start Depth | | | 697.00 | | RPM | Flow Rate | |
|------------------------|----------------------|-------------------|--------------|---------|--------------|------------------|-----------------|-------------|-------------|---------|--------|--------|-------------|-----------|--------|
| Start Time | End Time | Circ Hrs Tot/Only | | | 45.73 / 1.67 | | End Depth | | | 7433.00 | | | | | |
| 04-Dec-11 @ 03:40 | 06-Dec-11 @ 22:30 | Slide Hours | | | 6.37 | | Percent Rotary: | | | 94.20 | | 85 -85 | 425 -425 | | |
| | | Below Rotary Hrs. | | | 60.98 | | Percent Slide: | | | 5.80 | | | | | |
| Total Drilled: | | | 6736.00 | | | Avg. Total ROP: | | | 152.86 | | Incl. | | Azimuth | | |
| Total Rotary Drilled: | | | 6345.00 | | | Avg. Rotary ROP: | | | 168.30 | | IN | OUT | IN | | OUT |
| Total Drilled Sliding: | | | 391.00 | | | Avg. Slide ROP: | | | 61.41 | | 11.4 | 1.5 | 134.01 | | 126.60 |
| SPP | 1000 -1500 | Weights | SO | 40 -110 | PU | 50 -120 | RAB | 45 -115 | Reason POOH | | | TD | | | |

| Bit Data | | | | | | | MOTOR DATA | | | | | | | Mud Data | | | | | | |
|------------|----|----------------------|-------------------|--------|----|-------|-----------------|-------------|------|--------------|--------|--------|---------|----------|------------|------|-----|--------|------|--|
| BAKER | | 7 7/8 HUGHES PDC BIT | | | | | Performance | | | | | | | Type | Water Base | | | | | |
| Type Bit | | | | PDC | | | Model: 625 4878 | | | | Pad OD | | | WT | 9 | GAS | 0 | Solids | 5 | |
| TFA | | 1.207 | | | | | MFG. MPact | | | | .25 | | | Vis | 38 | SAND | 0 | T ° | 0 | |
| JETS | | | 15 | 15 | 15 | 15 | 15 | Bend ° | 1.83 | Stator/Rotor | | 7/8 | | PV | 12 | PH | 8 | Chlor | 1300 | |
| | | | 15 | 15 | 0 | 0 | 0 | Bit to Bend | 7.05 | Motor Diff | | 250 | | YP | 3 | WL | 12 | Oil % | 0 | |
| Bit Coding | | | | IADC# | | | | Rev/GAL | 0.34 | | | | | | | BHT° | | 0 | | |
| IR | OR | DL | Loc | BS | G | ODL | NB Stab | | 0 | PUMPS | | PUMP1 | | | PUMP1 | | | | | |
| | | | | | | | Rotor Jet | | 0 | NAME | | OFR | | | | | | | | |
| 1 | 1 | WT | A | X | 0 | NO | | | | Model | | FR1300 | | | | | | | | |
| Bit Drop: | | | 103 PSI @ 425 GPM | | | | Sensor Offsets | | | | Type | | Triplex | | | | | | | |
| Comments | | | | Sensor | 52 | Sonic | 0 | Liner | | 6.00 | | | | | | | .00 | | | |
| | | | | Gamma | 0 | DNsc | 0 | Stroke | | 12.00 | | | | | | | .00 | | | |
| | | | | Restiv | 0 | GYRO | 0 | Efficiency | | 95.00 | | | | | | | .00 | | | |

BHA Detail

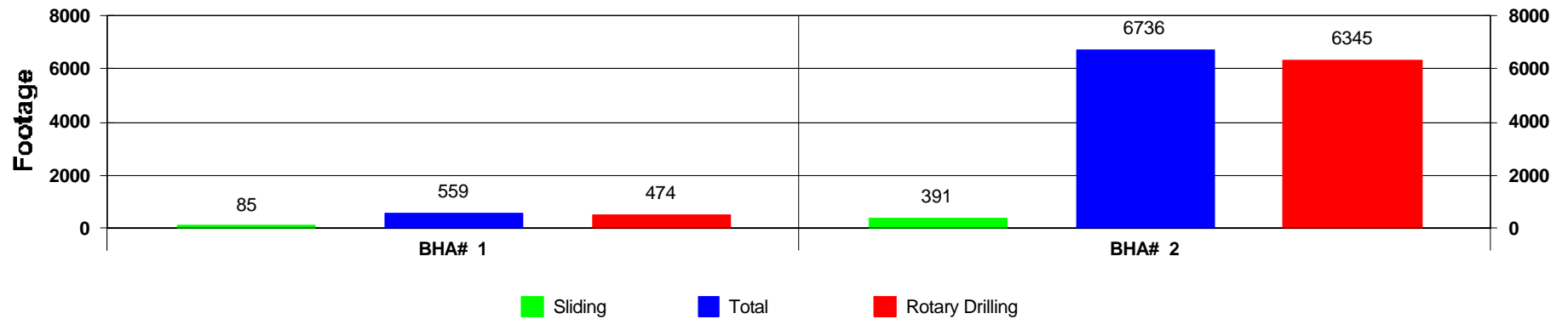
| # | Description | Serial # | I.D. | O.D. | Length | Sum | Top Conn |
|---|------------------------|--------------|-------|---------|----------|---------|------------|
| 1 | 7 7/8 HUGHES PDC BIT | 7127861 | | 7.875 | 1.00 | 1.00 | 4 1/2 REGP |
| 2 | 6 1/4" MTR 7/8_4.8 STG | MSD62D159H | | 6 1/4 | 27.45 | 28.45 | 4 1/2 XHB |
| 3 | 6 3/8" FLT Sub | SD105358 | 2 7/8 | 6 3/8 | 3.11 | 31.56 | 4 1/2 XHB |
| 4 | 6 15/16 UBHO | LS412X15107M | 3 | 6 15/16 | 2.12 | 33.68 | 4 1/2 XHB |
| 5 | 6 1/4 NMDC | SD39672 | 2 7/8 | 6 1/4 | 28.49 | 62.17 | 4 1/2 XHB |
| 6 | 6 1/4 NMDC | SD41976 | 2 7/8 | 6 | 29.30 | 91.47 | 4 1/2 XHB |
| 7 | 18 Jts 4 1/2 Spiral | HWDP-2.75- | 2.75 | 4.5 | 546.84 | 638.31 | 4 1/2 XH |
| 8 | 4 Drill Pipe | DP-3.476-E | 3.476 | 4 | 6,794.69 | 7433.00 | 4 1/2 XH |



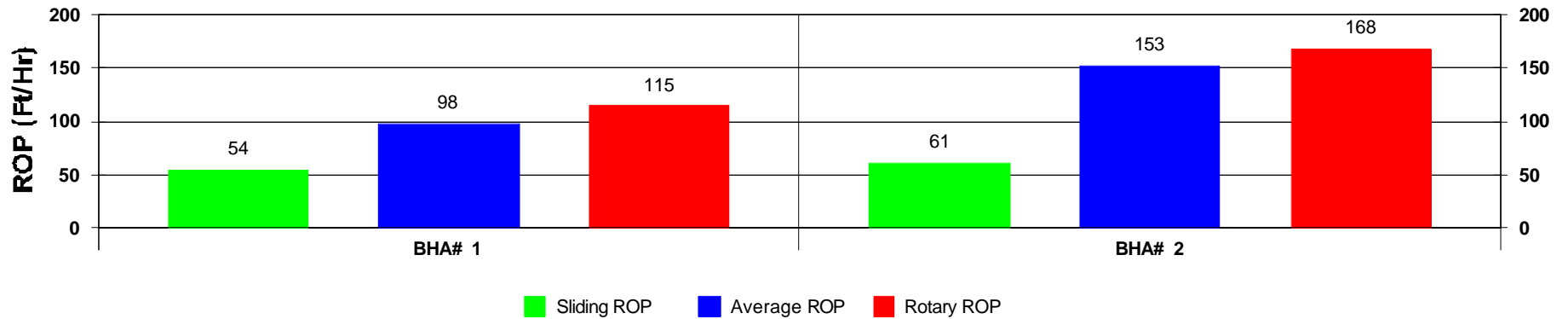


| | | | | |
|------------|-----------------|-------------|-----------|--|
| JOB NO.: | DDOK-110670 | FIELD: | Bracewell | |
| COMPANY: | Great Western | TOWNSHIP: | | |
| LOCATION: | Weld County | SECT/RANGE: | | |
| RIG NAME: | Cade 22 | COMMENT | | |
| STATE: | Colorado | | | |
| COUNTY: | Weld County | | | |
| WELL NAME: | Fritzler 8-8-17 | | | |

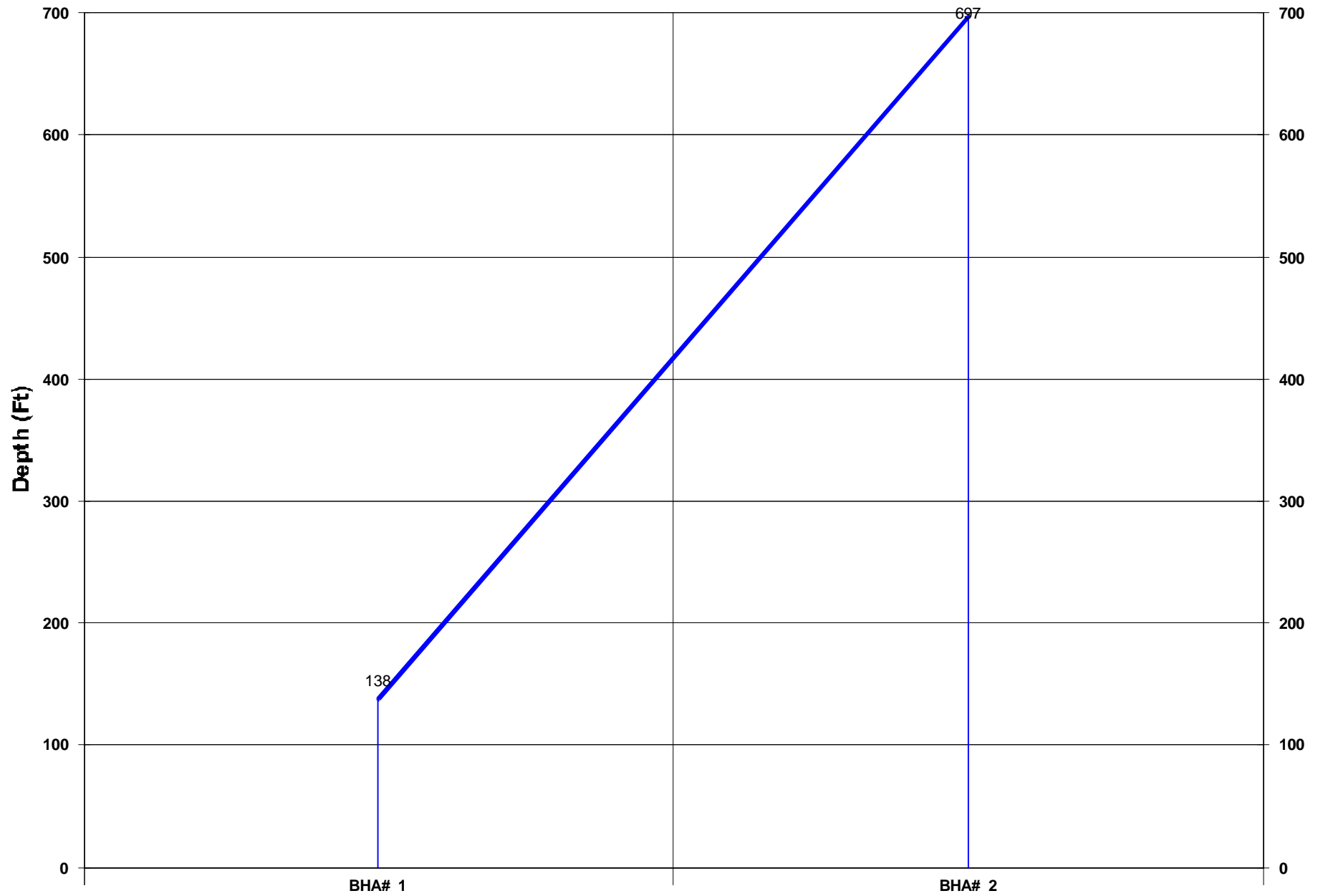
Footage Drilled with BHA



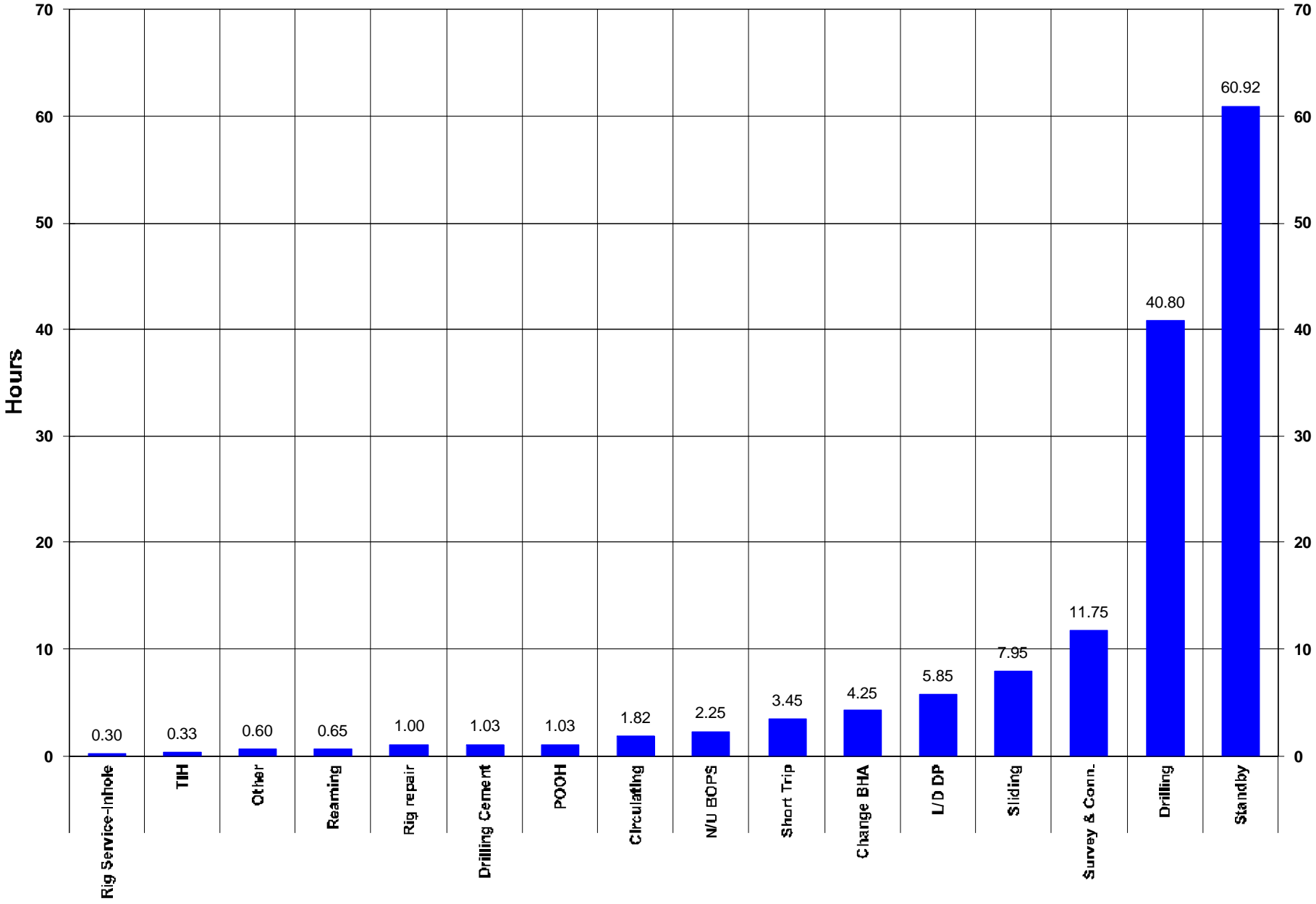
ROP vs BHA



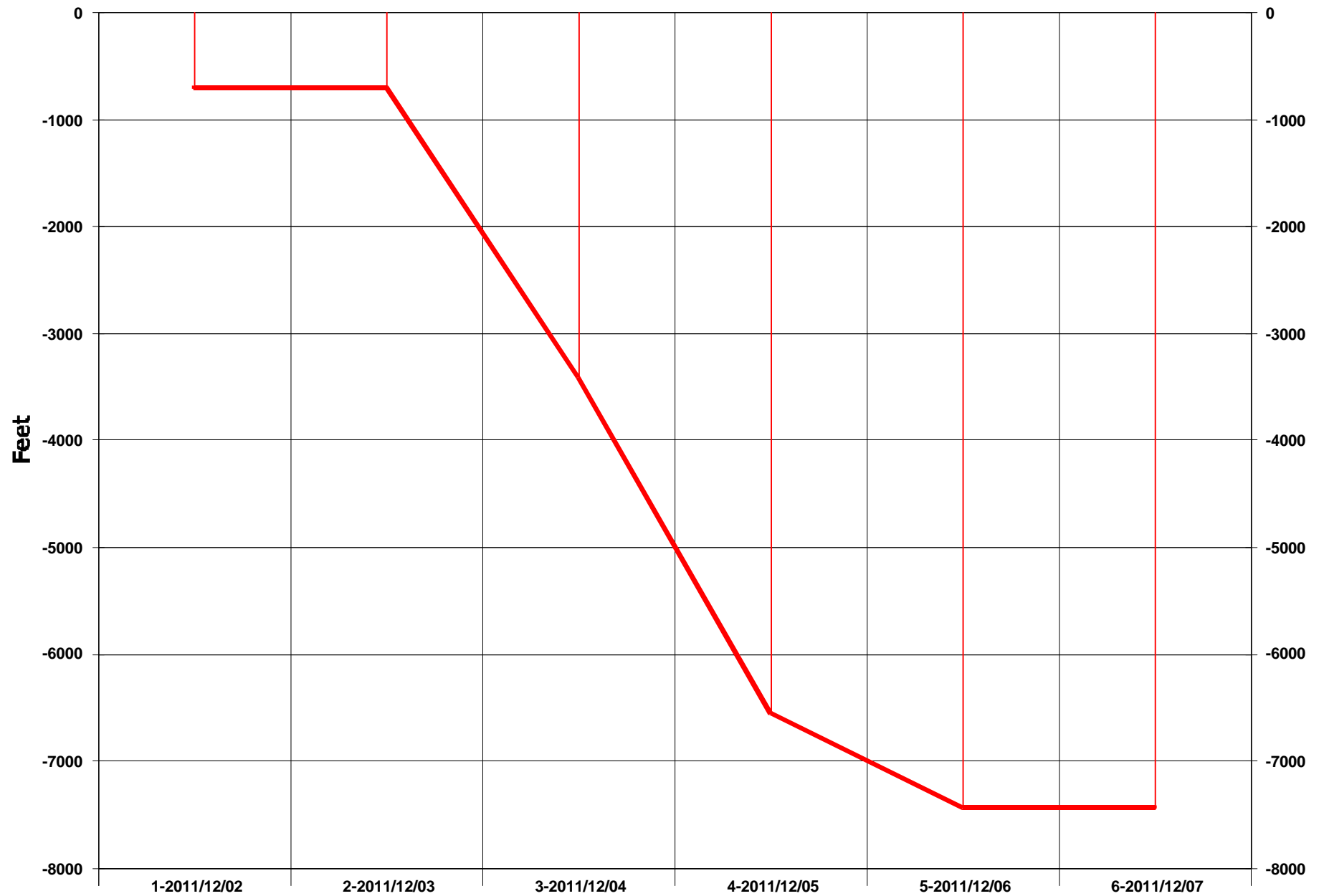
Depth vs BHA



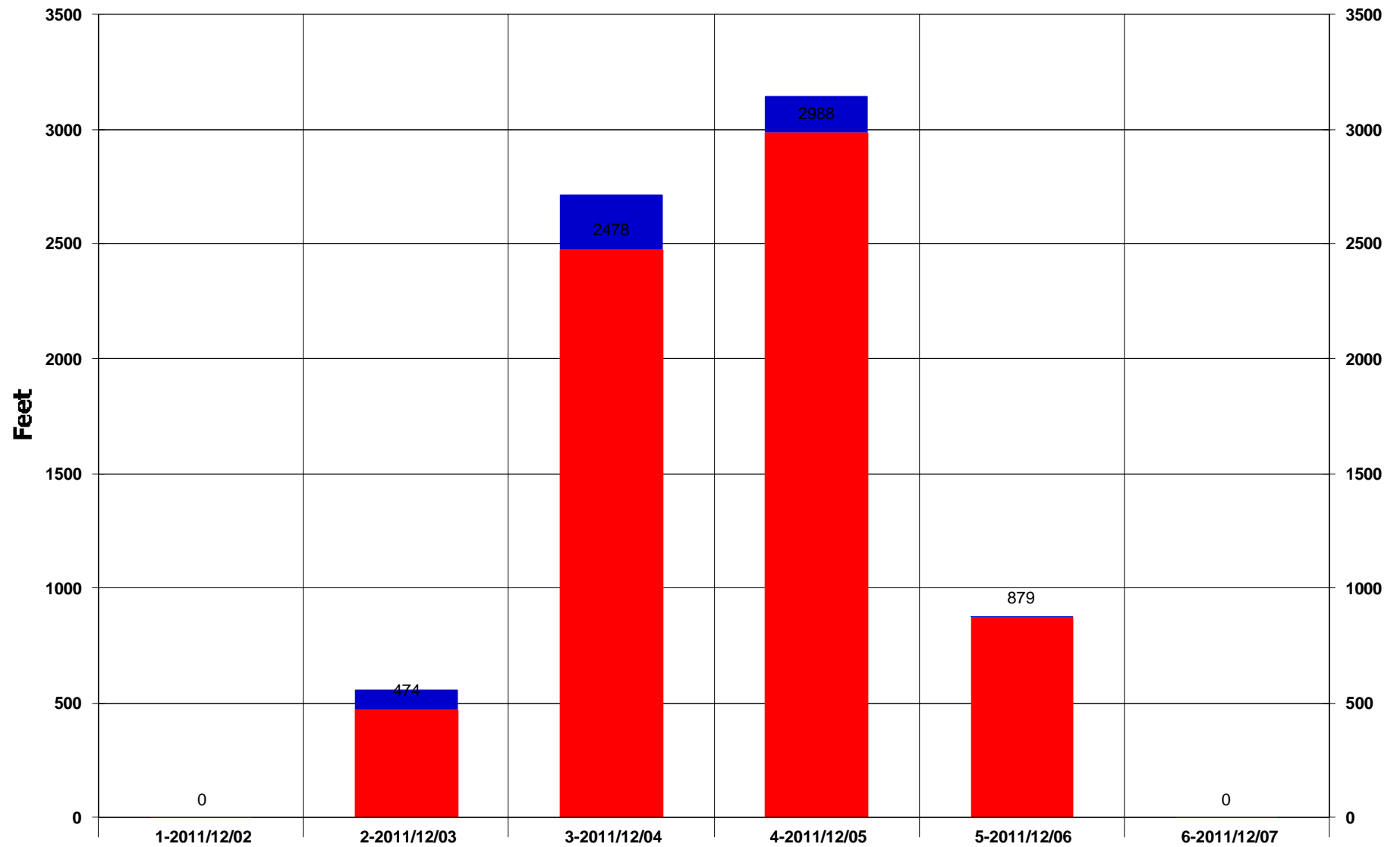
Activity Histogram



Measured Depth vs Days

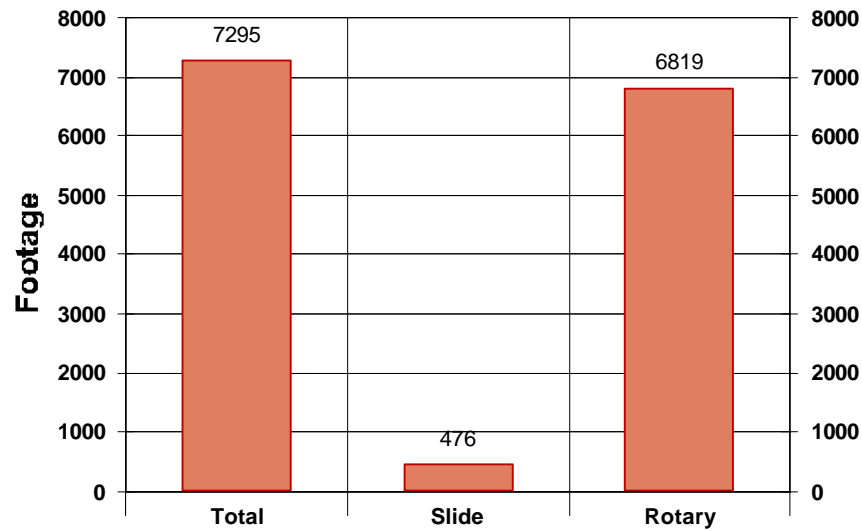


Daily Footage

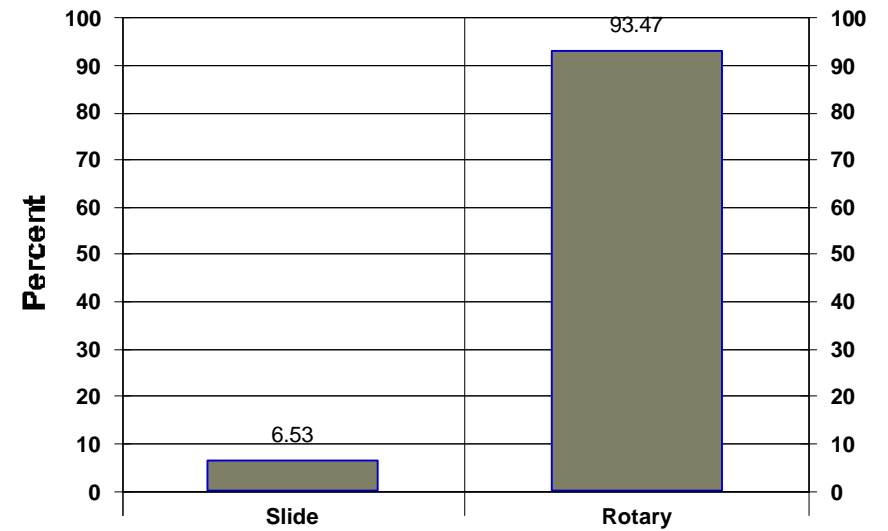


Rotary Drilling Sliding

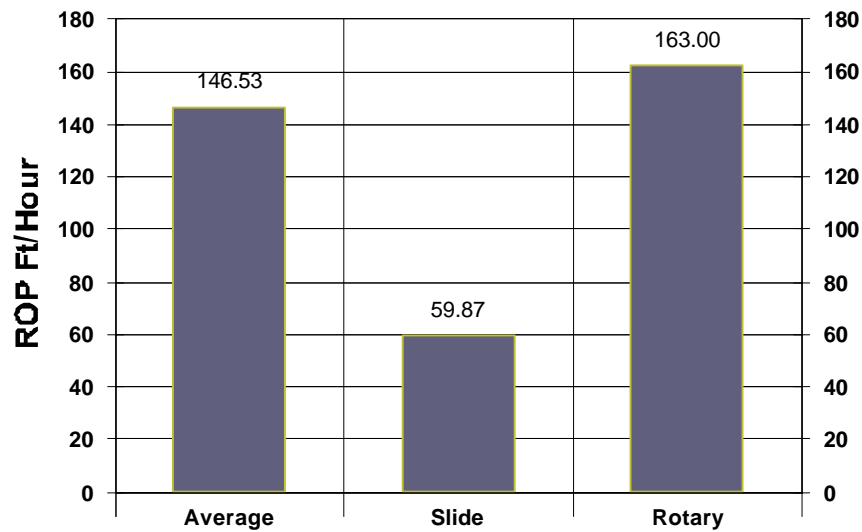
Footage Drilled Totals



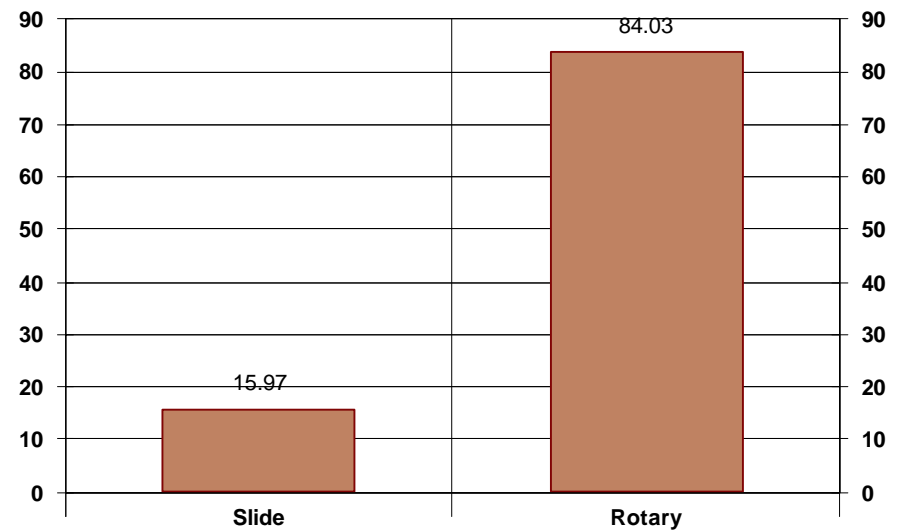
Footage Percent



Rate of Penetration Totals



Time Percent



**Baker, MT**

22 S. 4th St. W.
Baker, MT 59313
Phone: 406.778.3983
Watts: 877.844.9850
Fax: 406.778.3982

Conroe, TX

3335 Pollok Drive
Conroe, TX 77303
Phone: 936.442.2500
Watts: 800.769.5988
Fax: 936.442.2599

Corpus Christi, TX

1579 N. Lexington
Corpus Christi, TX 78409
Phone: 361.289.7272
Watts: 800.880.7468
Fax: 361.289.7320

Dallas, TX

307 W. 7th St. Ste 1230
Ft. Worth, TX 76102
Phone: 817.870.4847
Fax: 817.870.4829

Denver, CO

1600 Broadway St. 2400
Denver, CO 80202
Phone: 303.542.1957
Fax: 303.542.1958

Ft. Worth, TX

7821 Will Rogers Blvd.
Ft. Worth, TX 76140
Phone: 817.568.1038

Grand Junction, CO

742 W. White Ave.
Grand Junction, CO 81501
Phone: 970.257.1911
Watts: 970.257.1946
Fax: 970.257.1947

Houston, TX

1030 Regional Park Dr.
Houston, TX 77060
Phone: 281.951.4346
Fax: 281.951.4342

Lafayette, LA

301 Marcon Drive
Lafayette, LA 70507
Phone: 337.267.7468
Watts: 800.259.2867
Fax: 337.267.9409

Odessa, TX

1620 South Marlin Dr
Odessa, TX 79763
Phone: 432.339.0360
Fax: 432.570.8385

Oklahoma City, OK

3800 S. Thomas Rd
Oklahoma City, OK 73179
Phone: 800.769.5988

West Alexander, PA

903 Old Brick Rd.
West Alexander, PA 15376
Phone: 724.484.7550
Fax: 724.484.0326