



Rocky Mountain Area Laboratory
899 Baseline Place
Brighton, CO 80601
Phone (303) 659-7347
Fax (303) 659-7401

***Rocky Mountain Area Laboratory
CEMENTING REPORT***

Prepared for:
***Bayswater Exploration & Prod
Hirsch #14-24
Weld County, Colorado
Lab Report #C02-021-13
Longstring
API# 05-123-36410-0000***

***Rocky Mountain Area Laboratory
899 Baseline Place
Brighton, CO 80601
Phone (303) 659-7347***

ANALYST: Margaret Windholz

BAKER HUGHES TECHNICAL REPRESENTATIVE

Submitted by: Blake David

February 4, 2013



CEMENTING LABORATORY REPORT

Lab Report #C02-021-13

| | | | |
|-----------------|------------------------------|------------|-----------------------|
| COMPANY : | Bayswater Exploration & Prod | DATE: | February 4, 2013 |
| WELL NAME: | Hirsch #14-24 | LOCATION: | Weld County, Colorado |
| DISTRICT: | Brighton | TYPE JOB: | Longstring |
| API # | 05-123-36410-0000 | TOC(md): | |
| DEPTH MD(ft): | 8,002 ft | BHST(°F): | 264 °F |
| CASING SIZE("): | 4 1/2 in | BHCT(°F): | 188 °F |
| TUBING SIZE("): | | BHSqT(°F): | 222 °F |
| HOLE SIZE("): | 7 7/8 in | TOL (°F): | Static Circ |

SLURRY DESIGN DATA

| | |
|----|--|
| #1 | Slurry No.1 - Premium Lite Cement + 8 pps CSE-2 + 4% Bentonite + 0.6% SMS |
| #2 | Slurry No. 2 - Premium Lite Cement + 3% Bentonite + 0.4% FL-52 |
| #3 | Slurry No. 3 - Class G Cement: FA (50:50) + 0.4% FL-52 + 0.1% CD-32 + 0.1% SMS |

| SLURRY PROPERTIES | | #1 | #2 | #3 |
|----------------------------|---------|--------|--------|--------|
| Density : ppg | | 11.00 | 12.50 | 14.60 |
| Yield :cu.ft./sk. | | 3.22 | 1.89 | 1.16 |
| Mixing Water: gal/sk. | | 19.86 | 10.37 | 5.01 |
| Water Type: | | Fresh | Fresh | Fresh |
| Testing Temperature : | | 189 °F | 188 °F | 189 °F |
| Thickening Time: hrs:mins. | | 8:04 | 1:54 | 5:41 |
| Free Water: mls. | | | | |
| Fluid Loss:ml/30min | | | | |
| Compressive Strength: | | | | |
| | hrs. | | | |
| | hrs. | | | |
| Rheologies | RPM | | | |
| | 300 | | | |
| | 200 | | | |
| | 100 | | | |
| | 6 | | | |
| | 3 | | | |
| | 600 | | | |
| | PV | | | |
| | YP | | | |
| Gel Strength : #/100sq.ft. | 10 sec. | | | |
| | 10 min. | | | |

REMARKS :

COMMENTS: The above data is supplied solely for informational purposes and BHI makes no guarantees or warranties, either express or implied, with respect to the accuracy or use of this data. All product warranties and guarantees shall be governed by the standard contract terms at the time of sale.



Baker Hughes Rocky Mountain Area Laboratory Report

Report #: C02-021-13

Customer/Well Information

Company: Bayswater Exploration & Prod Depth MD: 8,002 ft Date: February 4, 2013
Well Name: Hirsch #14-24 Depth TVD: 8,002 ft Prepared for:
API #: 05-123-36410-0000 TOC(md): Submitted by: Blake David
Location: Weld County, Colorado Casing Size: 4 1/2 in Prepared by: Margaret Windholz
District: Brighton Tubing Size: Water Type: Fresh
Type Job: Longstring Hole size: 7 7/8 in

BHST: 264 °F BHCT: 188 °F BHSqT: 222 °F

Slurry Design Data

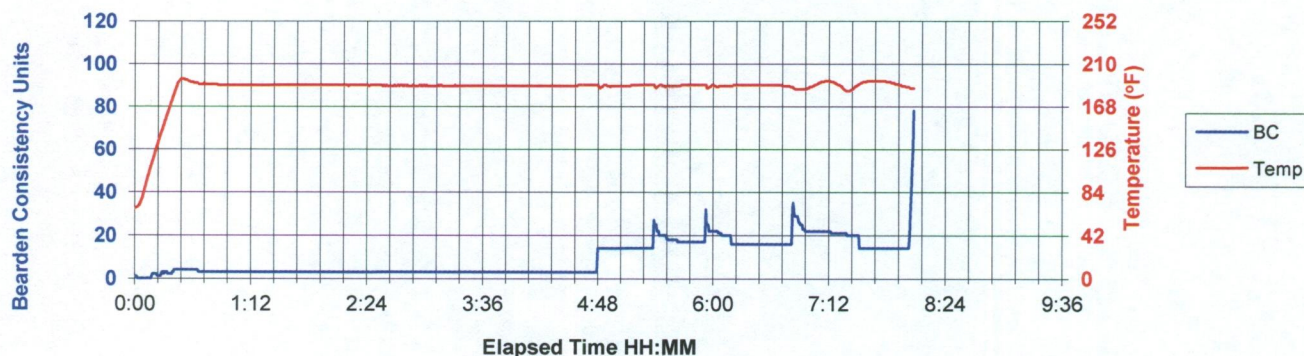
Slurry No.1 - Premium Lite Cement + 8 pps CSE-2 + 4% Bentonite + 0.6% SMS

Slurry Properties

Density: 11.0 ppg Fluid Loss: Test Temp: 189 °F
Yield: 3.22 cf/sack Free Water: Time to 70bc: 8:04 hrs:min
Mix Water: 19.86 gps Total Fluid: Time to 100 bc:

| Rheology: | 600 rpm | 300 rpm | 200 rpm | 100 rpm | 6 rpm | 3 rpm | PV | YP | Gel Strength | |
|-----------|---------|---------|---------|---------|-------|-------|----|----|--------------|--------|
| | | | | | | | | | 10 sec | 10 min |
| | | | | | | | | | | |

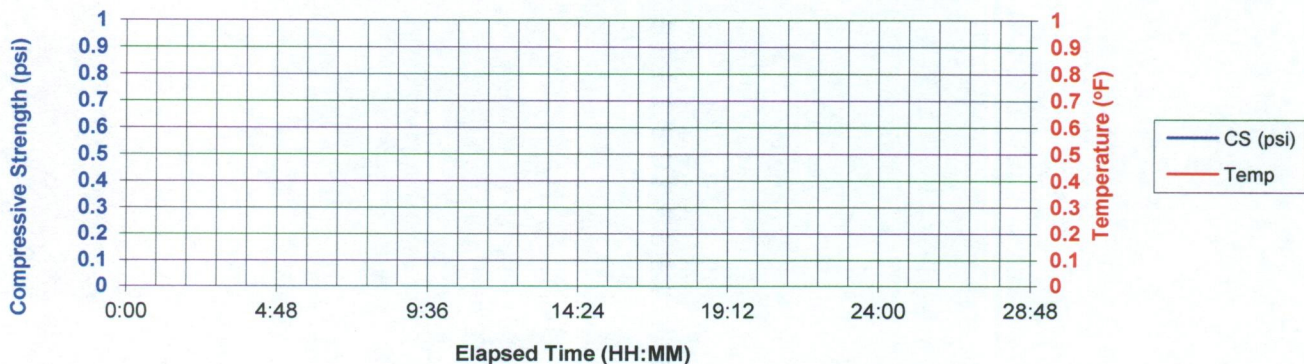
Consistometer Recording of Bearden Consistency:



Compressive Strength Data:

| Temperature | 12 hours | 24 hours | 36 hours | 48 hours |
|-------------|----------|----------|----------|----------|
| 25 psi | | | | |

Ultrasonic Cement Analyzer Data Chart:



Notice: This report is presented in good faith based upon present day technology and information provided; but because of variable conditions and other information which must be relied upon, Baker Hughes, Inc. makes no warranty, express or implied, as to the accuracy of the data or of any calculations or opinions expressed herein. You agree that Baker Hughes, Inc. shall not be liable for any loss or damage, whether due to negligence or otherwise, arising out of or in connection with such data, calculations, or opinions.



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District: Brighton Tubing Size: Water Type: Fresh
Type Job: Longstring Hole size: 7 7/8 in

BHST: 264 °F BHCT: 188 °F BHSqT: 222 °F

Slurry Design Data

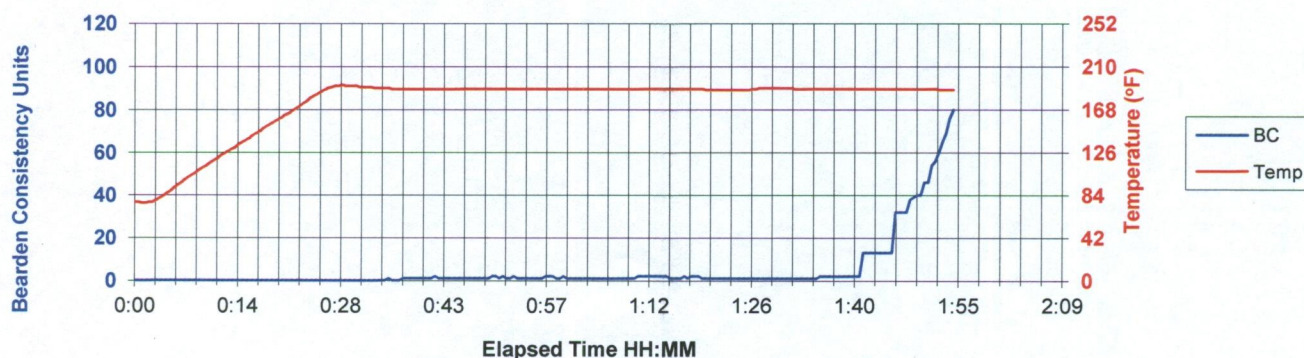
Slurry No. 2 - Premium Lite Cement + 3% Bentonite + 0.4% FL-52

Slurry Properties

Density: 12.5 ppg Fluid Loss: Test Temp: 188 °F
Yield: 1.89 cf/sack Free Water: Time to 70bc: 1:54 hrs:min
Mix Water: 10.37 gps Total Fluid: Time to 100 bc:

| Rheology: | 600 rpm | 300 rpm | 200 rpm | 100 rpm | 6 rpm | 3 rpm | PV | YP | Gel Strength | |
|-----------|---------|---------|---------|---------|-------|-------|----|----|--------------|--------|
| | | | | | | | | | 10 sec | 10 min |
| | | | | | | | | | | |

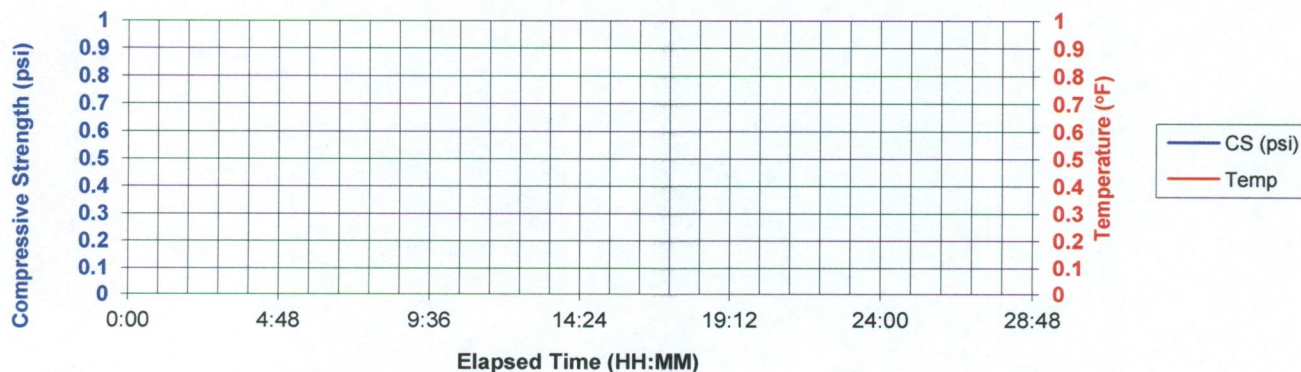
Consistometer Recording of Bearden Consistency:



Compressive Strength Data:

| Temperature | 12 hours | 24 hours | 36 hours | 48 hours |
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| 25 psi | | | | |

Ultrasonic Cement Analyzer Data Chart:



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BHST: 264 °F BHCT: 188 °F BHSqT: 222 °F

Slurry Design Data

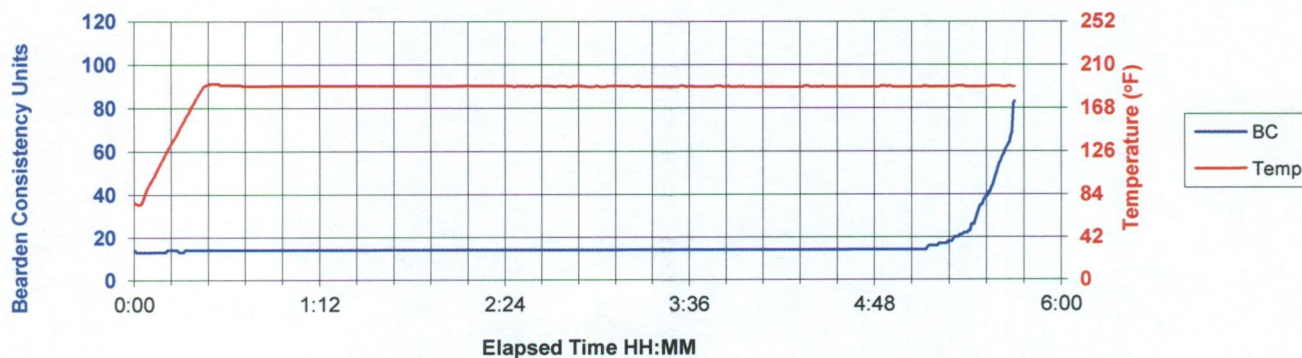
Slurry No. 3 - Class G Cement: FA (50:50) + 0.4% FL-52 + 0.1% CD-32 + 0.1% SMS

Slurry Properties

Density: 14.6 ppg Fluid Loss: Test Temp: 189 °F
Yield: 1.16 cf/sack Free Water: Time to 70bc: 5:41 hrs:min
Mix Water: 5.01 gps Total Fluid: Time to 100 bc:

| Rheology: | 600 rpm | 300 rpm | 200 rpm | 100 rpm | 6 rpm | 3 rpm | PV | YP | Gel Strength | |
|-----------|---------|---------|---------|---------|-------|-------|----|----|--------------|--------|
| | | | | | | | | | 10 sec | 10 min |
| | | | | | | | | | | |

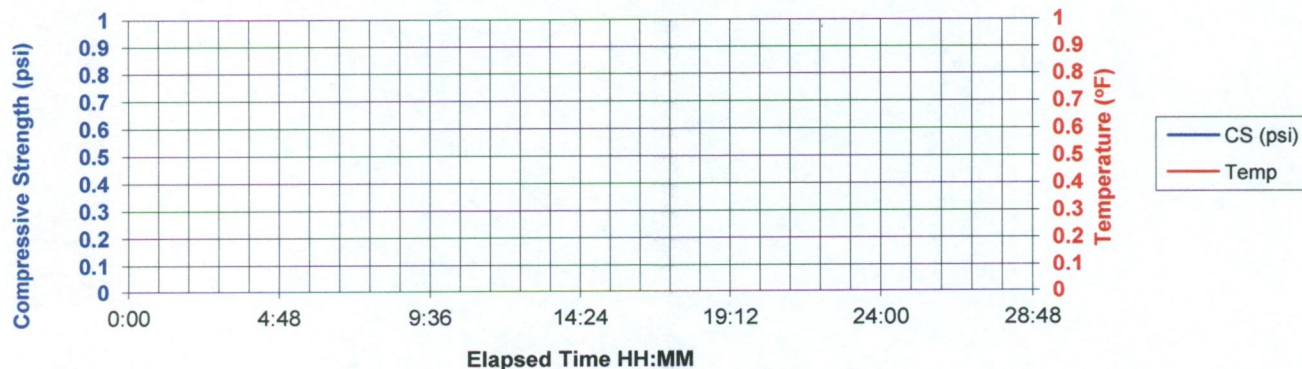
Consistometer Recording of Bearden Consistency:



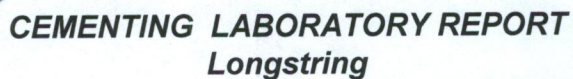
Compressive Strength Data:

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| | | | |
|------------|------------------------------|-----------|-----------------------|
| COMPANY: | Bayswater Exploration & Prod | DATE: | February 4, 2013 |
| WELL NAME: | Hirsch #14-24 | LOCATION: | Weld County, Colorado |
| DISTRICT: | Brighton | TYPE JOB: | Fresh |

[illegible]

| Water Analysis | | | |
|-------------------|-----|------------|----|
| Temp: | °F | Viscosity: | cP |
| pH: | | Color: | |
| Specific Gravity: | | Odor: | |
| S.G Corrected: | | Turbidity | |
| Resistivity: | Ω-m | Filtrates: | |

| Cation: | mg/L | me/l | ppm |
|----------------|------|------|-----|
| Sodium (calc.) | | | |
| Calcium | | | |
| Magnesium: | | | |
| Potassium | | | |
| Iron | | | |

| Anions: | mg/L | me/l | ppm |
|-------------|------|------|-----|
| Chloride | | | |
| Sulfates | | | |
| Hydroxide | | | |
| Carbonate | | | |
| Bicarbonate | | | |

| Summary | mg/L | me/l | ppm |
|--------------------------------|------|------|-----|
| Total Dissolved Solids (calc.) | | | |
| Total Hardness as CaCO3 | | | |

Mud / Spacer Compatibility

Mud:

Spacer:

| | VISCOMETER DIAL READING | | | | | |
|----------------------|-------------------------|-----|-----|-----|---|---|
| | 600 | 300 | 200 | 100 | 6 | 3 |
| 100% Mud | | | | | | |
| 100% Spacer | | | | | | |
| 75% Mud - 25% Spacer | | | | | | |
| 50% Mud - 50% Spacer | | | | | | |
| 25% Mud - 75% Spacer | | | | | | |

Comments: