

CEMENTING TREATMENT REPORT



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| TREATMENT NUMBER SO2011007 | DATE 4/24/2011 |
| STAGE 1 | JOB TYPE Long String |

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| WELL NAME AND NO. Thurrow-Tate ATU | LOCATION (LEGAL) Sec. 33 T30S, R36W | RIG NAME: Trinidad Drilling | CEMENT PUMPER: 2304 |
| FIELD Hugoton | FORMATION Chase/Council Grove | WELL DATA | BOTTOM |
| COUNTY Grant | STATE Kansas | AFE 20196 | FT TOP |
| RIG FOREMAN Phillip Gibson | | BIT SIZE 7 7/8 | CSG/Liner Size 5 1/2 |
| CEMENT SUPERVISOR Stan Owens | | TOTAL DEPTH 3095 | WEIGHT 17 |
| CEMENT EMPLOYEES Nick Ricchuiti, Bruce Green and J.R. Ortiz | | MUD TYPE | FOOTAGE 3089 |
| | | <input type="checkbox"/> BHST | GRADE J-55 |
| | | <input type="checkbox"/> BHCT | THREAD LT&C |
| | | MUD DENSITY | LESS FOOTAGE SHOE JOINT(S) 42 |
| | | MUD VISC | Disp. Capacity 70.6 |
| | | Include Footage From Ground Level To Head In Disp. Capacity | |
| | | FRONT TYPE | DEPTH |
| | | SHOE TYPE | DEPTH |

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|----------------------|---------------------------------------|--|---------------------------|
| SPECIAL INSTRUCTIONS | Head & Plugs | TBG | D.P. |
| | <input type="checkbox"/> Double Box 6 | WEIGHT | SIZE |
| | <input type="checkbox"/> Single | GRADE | TOOL TYPE |
| | <input type="checkbox"/> Swage | THREADS | DEPTH |
| | <input type="checkbox"/> Knockout | <input type="checkbox"/> New <input type="checkbox"/> Used | TAIL PIPE: SIZE DEPTH |
| | | DEPTH | TUBING VOLUME BBLs |
| | | | CSG VOL BELOW TOOL BBLs |
| | | | TOTAL ANNULAR VOLUME BBLs |

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|---------------------|------|-----|--------------|------|-----|---------------------|----|----------------|------|-----|----|------|----|
| LIFT PRESSURE | 1200 | psi | BUMP PLUG TO | 2000 | psi | CEMENT TEMPERATURE: | 70 | WATER QUALITY: | 8 pH | 325 | SG | TEMP | 58 |
| NO. of Centralizers | 12 | | | | | | | | | | | | |

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|------|--------------|----------|-----|-----|---------------|------|-----|-----------------------------|-----------------------------|-----------------------------|----------------------------|
| TIME | 0001 to 2400 | PRESSURE | TBG | CSG | VOLUME PUMPED | INCR | CUM | JOB SCHEDULED FOR | ARRIVE ON LOCATION | RIG UP | LEFT LOCATION |
| | | | | | | | | TIME: 20:00 DATE: 4/23/2011 | TIME: 18:00 DATE: 4/23/2011 | TIME: 23:00 DATE: 4/23/2011 | TIME: 1:30 DATE: 4/24/2011 |
| | | | | | | | | RATE | FLUID TYPE | DENSITY | |

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|-------|--|------|--|------|--|-----|-----|------|--|--|---|
| 23:00 | | | | | | | | | | | Pre job safety meeting. |
| 23:31 | | 2000 | | 2 | | 0.5 | H2O | 8.3 | | | Test Pumps and Lines. |
| 23:33 | | 120 | | 5 | | 3 | H2O | 8.3 | | | Pump H2O till circulation established. |
| 23:37 | | 220 | | 110 | | 3 | CMT | 12.5 | | | Mix and pump lead cement @ 12.5 ppg. |
| 0:15 | | 340 | | 46 | | 3 | CMT | 15 | | | Mix and pump tail cement @ 15 ppg. |
| 0:28 | | | | | | | | | | | Shut down and wash pumps and lines. |
| 0:29 | | | | | | | | | | | Drop top plug. |
| 0:30 | | 1200 | | 60 | | 4 | KCl | 8.3 | | | Pump displacement with KCl water. |
| 0:45 | | 1400 | | 10.6 | | 2 | H2O | 8.3 | | | Slow rate to bump plug. |
| 0:48 | | 3000 | | | | | | | | | Bump plug and check floats. (Held O.K.) |
| | | | | | | | | | | | Circulated cement @ 65 bbls displacement pumped. (2 bbls good cement to pit.) |
| 1:00 | | | | | | | | | | | Post job safety meeting. |

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| Water Requirement | No. of Sacks | Yield ft ³ /sk | COMPOSITION OF SYSTEM | | | | SLURRY MIXED | |
| | | | | | | | BBLs | DENSITY |
| 10.21 | 300 | 2.06 | SDC | | | | 110 | 12.5 |
| 4.97 | 210 | 1.23 | Surface Set | | | | 46 | 15 |

| | | | | | | | | |
|-------------------|---|--------------------|--|---------------------|------|-------|------------------|-------|
| CIRCULATION | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | WASHED CASING DOWN | <input type="checkbox"/> Yes <input type="checkbox"/> No | BREAKDOWN | PSI | FINAL | 3000 | PSI |
| DISPLACEMENT VOL. | 70.6 | BBLs | 2 | RETURNED TO SURFACE | 2 | BBLs | BEFORE PLUG BUMP | 1200 |
| | | | | PRESSURE | 1200 | PSI | RATE | 2 BPM |

