| CEMENTING TREATMENT REPORT | | | | | PIC | NEE | K | | | TREATMENT NUMBER GH2013009 | | | DATE 7/19/2013 | | | | | | |
|---|----------------|------------------------------|----------|-----------|---------------|-------------------|--------------|----------------------|---|----------------------------|-------------------------------|--------------|-----------------|-----------|--------------|----------|------------|---------|-----------|
| NATURAL RESOURCES | | | | | | | | STAGE | | | JOB TYPE surface | | | | | | | | |
| WELL NAME AND NO. LOCATION (LEGAL) | | | | | RIG NAME: | | | | | CEMENT PUMPER: | | | | | | | | | |
| Winger ATU1 FIELD FORMATION | | | | | WELL DATA | Drilling Rig #216 | | | | | | | 23004 FOP FT | | | | | | |
| FIELD | | | | | FORMATI | ON | | | BIT SIZE | | CSG/Liner Size | 8 5/8 | | | FT | TOP | | FT | |
| COUNTY | | | | | STATE | | API NO. | | TOTAL DEPTH | 700 | WEIGHT | 24 | | | | | | | |
| 000.111 | | Grant Co | | | 01.112 | KS | | | MUD TYPE | 700 | FOOTAGE | 676.73 | | | | | | 1 | |
| | | | | | l . | | 1 | | BHST | | GRADE | 070.73 | | | | | | ł | |
| RIG FORMAN | | | | г | Dave Martine | 27 | | | BHCT | | THREAD | | | | | | | | |
| RIG FORMAN | | | | | Jave Maiting | J.L. | | | | _ | LESS FOOTAGE SHOE JOINT(S) | 10.00 | | | | | | | |
| | | | | | | | | | MUD DENSITY | | | 43.27 | | | | | | TOTAL: | |
| CEMENT SUPER | | | | (| Gary Hesslin | g | | | MUD VISC | | Disp. Capacity | 40.2 | | | | | | 40.2 | |
| | | | | | | | | | Include Footage From Ground | d Level To Head l | n Disp. Capacity | _ | TYPE | 1 | | | | | |
| | | | | | | | | | DEPTH | | | Stage Tool | DEPTH | | | | | | |
| | | | | | | | m TYPE | | | age, | TYPE | | | | | | | | |
| SPECIAL INSTRUCTIONS | | | | | | | DEPTH | | | | DEPTH | | | | | | | | |
| | | | | | | | Head & Plugs | | □TBG | D.P. | | | | SQUEE | ZE JOB | | | | |
| | | | | | | | | | | | SIZE | | T00L | TYPE | | | | | |
| | | | | | | | | | Double Box 6 | WEIGHT | | | | DEPTH | | | | | |
| | | | | | | | | | Single | GRADE | | | TAIL PIPE: | | | SIZE | | DEPTH | |
| | | | | | | | | | Swage | THREADS | | | TUBING VO | | | | | BBLs | |
| | | | | | | | | | ✓knockout | New | Used | | CSG VOL B | ELOW TO | OOL | | | BBLs | |
| LIFT PRESSURE | | | 234 | psi | | | | | | DEPTH | | | TOTAL | | | | | BBLs | |
| PRESSURE LIMI | Г | | 1000 | psi | | | 500 | over lift | CEMENT TEMPERATUR | RE: | | | ANNULAR V | | | | | BBLs | |
| | | | | | NO. of Cen | | | 5 | WATER QUALITY: | | | pH | | | SG | | | TEMP | |
| TIME | | SSURE | 1 | PUMPED | | DULED FOR | D. 1995 | 7/10/2012 | ARRIVE ON LOCATION TIME: 8:30 | | 7/10/2012 | RIG UP | 0.45 | D. 188 | | | OCATION | D. COTT | 7/10/2012 |
| 0001 to 2400 | TBG | CSG | INCR | CUM | TIME: RATE | 9:00 FLUID T | | 7/19/2013 DENSITY | TIME: 8:30 | DATE: | 7/19/2013 | TIME: | 8:45 1:30 | DATE: | 7/19/2013 | TIME: | 12:30 | DATE: | 7/19/2013 |
| | | | - | | AAIE | 1 LUID I | | PENSILI | | | | | 1:30 | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| 8:30 | | <u></u> | <u></u> | | <u> </u> | | | | | | | Arriv | e on locat | ion | | | | | |
| | | | | | | | | | | | <u> </u> | | | | | | | | |
| 0.15 | | | | | | | | | | | n | ia ur r | c and k11 | oan:- | man* | | | | |
| 8:45 | | - | - | } | 1 | - | | | | | R | ig up pump | s and bulk | equipi | пепі | | | | |
| | | | | | | | | | | | | | | | | | | | |
| 10:15 | | | | | | | | | | | | Held | safety mee | ting | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| 10.40 | | 1000 | 2 | | 0.5 | 110 | | 0.24 | | | Tr | 1.11 | . 100 | | | | | | |
| 10:40 | | 1000 | 2 | | 0.5 | H2c |) | 8.34 | | | Test pi | imps and li | nes to 100 | 0 ps1. T | est good. | | | | |
| | | | | | | | | | | | | | | | | | | | |
| 10:42 | | 90 | 38 | | 4 | H2c |) | 8.34 | | | pumped | l H2o ahead | l. Cirrcula | tion at | 0 bbls aw | av | | | |
| | | | | | | | | | | | | | | | | - | | | |
| | | | | | | _ | | | | | 3.61 | | | | | | | | |
| 10:53 | | 80 | 114 | 154 | 4 | Cmt | | 15 | | | Mı | x and pump | 114 bbls | (528 sl | ks) 15 # s | urface : | set cement | | |
| | | | | | | | | | | | | | | | | | | | |
| 11:28 | | 40.3 | 40.3 | 194.3 | 4 | H2c | , | 8.34 | | | Г | Orop plug a | nd start dis | nlacem | nent | | | | |
| 11.20 | | 10.5 | 10.5 | 17113 | i i | 1120 | | 0.5 . | | | • | rop prag a | ia start an | pracerr | 10111 | | | | |
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| | | | | | | | | | | | | | Diaplacm | ent call | outs 12 bl | ols 4 bp | om 55 psi | | |
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| | | | | | | | | | | 36 | bbls 4 bpm 230 | psi slow ra | e to 2 bpn | n until l | last 2 bbls | then 1 | bpm | | |
| | | | | | | | | | | | | | | | | | | | |
| 11:46 | | | | | | | | | | La | nd plug at 780. | lift 250 psi | held for 15 | 5 min te | est float. T | Tested s | pood | | |
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| | | | | | | | | | | | | p: | | | | | | | |
| 5:30 | | 37.11 | | <u> </u> | <u> </u> | | | | Rigged down a left location COMPOSITION OF SYSTEM SLURRY MIXED | | | | | | | | | | |
| System Used | No.of Sacks | Yield ft ³ /sk | | | | | | | COMPOSITION OF SY | SIEM | | | | | | | BBLS | | ENSITY |
| | | 25,38 | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| Surface Set 528 1.21 Surface set 25:75 (p:G) + 3% S1, 0.25 lb/sx p 29, 0.25 lb/sx p 46 @ 15 # gal | | | | | | | | | 114 | | 15 | | | | | | | | |
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| CIRCULATION | □Y∈ | es [| No. | WASHED CA | ASING DOW | /N | Yes | √No | | | BREAKDOWN | | · <u></u> | PSI | FINAL | | 780 | - | PSI |
| | | | | | | | RET | TURNED TO | SURFACE | | BEFORE PLUG BUN | | | | | | | | |
| DISPLACEMENT | VOI | | 40.3 | BBLS | i | | | 30 | | | PRESSURE | , | 50 | PSI | RATE | | 2 | BPM | |

| CEMENTING TREATMENT REPORT (PAGE 2) | PION | EER | | GH2013009 | DATE | | | | |
|-------------------------------------|----------------|-------------------------------|-------------------------------------|--------------------------------|---|--|--|--|--|
| | NATURAL RES | SOURCES | | STAGE | OB TYPE | | | | |
| WELL NAME AND NO. Winger ATU1 | LOCATION (LEGA | AL) | RIG NAME: | rilling Rig #216 | CEMENT PUMP: 23004 | | | | |
| FIELD | FORMATION | | RIG FOREMAN: | e Martinez | CEMENT SUPERVISOR: Gary Hessling | | | | |
| COUNTY Grant Co. | STATE | API NO. | ARRIVE ON LOCATION TIME: 8:30 DATE: | 7/19/2013 RIG UP TIME: 8:45 | LEFT LOCATION DATE: 7/19/2013 TIME: 12:30 DATE: 7/19/2013 | | | | |
| Grant Co | CUM TIME: 9: | O FOR 0:00 DATE: 7/19/2013 | 111111 | COMMENT | 11712013 IAMA 12130 MILL 11712013 | | | | |
| | RATE F | FLUID TYPE DENSITY | | | | | | | |
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