



## CARDINAL SURVEYS COMPANY

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7/23/2012

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30-021-20494

Re: Step Rate Test on the Mitchell 1830-092F and Mitchell 1830-271F

### TEST PROCEDURE

- SHUT IN INJECTION WELL(S) A MINIMUM OF 24 HOURS PRIOR TO TEST
- RIG UP PUMP TRUCK AND CARDINAL'S CONTROL TRAILER
- GOIH AND SET PRESSURE TOOL ABOVE CSG SHOE
- RECORD BHP FOR MINIMUM 15 MINUTES PRIOR TO STARTING TEST
- START TEST @ 100 BPD AND GO FOR ONE HOUR PER STEP
- INCREASE RATE BY 100 BPD FOR FIRST 3 STEPS (1830-271F)
- AFTER 3 STEPS INCREASE RATE BY 200 BPD PER STEP
- STEP SIZE MAY BE INCREASED LATER IN TEST IF NEEDED
- AFTER FINAL TEST SHUT IN WELL AND RECORD DATA FOR 30 MINUTES
- POOH & RD
- **FOR 1830-092F, FOLLOW ABOVE PROCEDURE EXCEPT FOR THE FOLLOWING**
- AFTER THE FIRST 3 STEPS @ 100 BPD CONTINUE WITH 100 BPD STEP INCREASE FOR TWO MORE STEPS BEFORE GOING TO 200 BPD INCREASES PER STEP
- MAY NEED TO MODIFY ON WELL SITE
- SEE PREVIOUS TEST
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- **NOTE: AS REQUIRED BY THE STATE WE WILL GO WITH ONE HOUR STEP LENGTH FOR THESE WELLS**

Cardinal Surveys Company

*Cardinal Survey Company has made this good faith price estimate for the above service based on the information supplied to us by Robert Pomville who is acting as a representative of Hess Corporation. If conditions vary from the supplied information, Cardinal Surveys Company reserves the right to re-negotiate the above quotation to reflect those conditions. Information contained in these documents shall be kept in the strictest confidence between Cardinal Surveys Company and Hess Corporation.*