



CARDINAL SURVEYS COMPANY

POST OFFICE BOX 729
ODESSA, TEXAS 79760-0729
(432) 580-8061
FAX (432) 580-0547

POST OFFICE BOX 1966
HOBBS, NEW MEXICO 88240
(575) 397-1069
FAX (575) 393-5836

7/23/2012

Daniel Cordle
Hess Corporation
100 NW 7th St.
P. O. Box 840
Seminole, TX 79360

30-021-20540

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 Ponville 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.