

3/6/2001

**DRILLING WELL PLAN
SWEET THING AREA MORROW WELLS
BP PERMIAN
EDDY COUNTY, NEW MEXICO**

PROCEDURE

1. Build location and dig reserve pit for Nabors Rig # 142. Line pits with 6 ml plastic or better if rocky. Fill pits with fresh water. Put sign at location indicating PPE requirements, smoking location, orientation, etc.
2. MIRU United Drilling rig. Make sure trucking company is aware of BP safety requirements. Conduct rig inspection. United is drilling the surface hole on a turnkey basis. Review JSA or similar program. Implement sign-up sheet and new arrival orientation.
3. Hold safety meeting prior to spud. As each tour begins work hold a safety meeting with BP supervisor present. Go through a Job Safety Analysis (JSA) for each different type of activity. Hold additional safety meetings at any time felt necessary. Drill and set conductor casing as United feels necessary. Spud 12 1/4" hole. Using air drill to 1400'.
4. Hold safety meeting. RU casing crew. Run guide shoe with Texas Pattern (saw tooth) cut, one joint 8 5/8" csg, float collar then 8 5/8", 32#, J-55, ST&C casing. Run a centralizer and stop ring in the middle of the first joint then 10 additional centralizers spaced every 3-4 joints. Torque to maximum value of 4650 ft-lbs and thread lock bottom two joints.
5. Conduct safety meeting. RU cementing company head with plug in place. Cement to surface as per desire of United Drilling. Displace cement with fresh water to the float collar. Top out with pea gravel and cement as necessary.
6. Hold safety meeting and fill out "Hot Work Permit". Cut off 8 5/8" casing. Weld on 8 5/8" SOW x 11" 3M casing head.
7. RD and release United Drilling.
8. MIRU Nabors Rig # 142. Repeat safety requirements as detailed in steps 2 & 3 above.
9. Pick up 7 7/8" bit and drill collars. Prior to drilling out cement test casing, BOP and choke manifold to 1000 psi for 10 minutes.
10. RU mud logger.
11. Drill to approximately 8600' (drill hole to fit the casing). Drill out with fresh water. **MAKE SURE SOLIDS CONTROL EQUIPMENT IS INSTALLED.** Will gradually begin brine additions and below 6750' will convert to high concentration XCD polymer system. See mud program. Drift casing and clean threads after delivery to location.
12. At TD circulate hole a minimum of 3 hours.

3/6/2001

13. POOH standing back drill pipe and drill collars.
14. Run open hole logs as directed.
15. GIH w/ drill pipe and collars. Circulate and condition hole a minimum of 3 hours.
16. POOH LD drill pipe and collars.
17. Conduct safety meeting. RU casing crew. Run float shoe, one joint 5 1/2", float collar then 5 1/2", 17#, J-55, LT&C casing. Torque casing to optimum value of 2290 ft-lbs. Install stop ring and centralizer in middle of first joint then 20 additional centralizers spaced 3 joints apart.
18. Hold safety meeting. RU cementing company and cement head with plug in place. Cement with 133 sx Class "C" + 2 lb/sk salt + .4% FL-25 + 15% gel tailed with 396 sx 15:61:11 POZ:C:CSE + .3% FL-25 + .3% FL-52 (see BJ procedure). Wash lines to the pit then displace cement with fresh water to the float collar.
19. Pick up BOP and set slips. Hold safety meeting and fill out "Hot Work Permit". Cut off casing and NU 11" 3M x 7 1/16" 5M tbg head.
20. RD and release rig. Run temperature survey.

Dan Tuffly