

3. DRILLING PITS:

- A. Mud pits will be constructed so as not to leak, break or allow discharge of liquids. Pits are not to be located in natural drainage. Any plastic material used to line pits must be removed to below ground level before pits are covered.
- B. All unguarded pits containing liquids will be fenced.
- C. Liquids in pits will be allowed to evaporate, or be properly disposed of otherwise, before pits are broken. Under no circumstances will pits be allowed to be cut to be drained.

4. CASING AND CEMENTING REQUIREMENTS:

- A. Surface casing is to be set at sufficient depth to protect fresh water zones and cement circulated to the surface. In areas where the salt section (Salado) is present, surface casing should be set at least 50 feet into the Rustler Anhydrite and cement circulated to the surface. If surface casing is set at a lesser depth, the first string of casing set below the salt section must be cemented from the casing shoe to the surface or cemented to the surface through a stage tool set at least 50 feet below the top of the Rustler, after cementing around the shoe with sufficient cement to fill to the base of the salt section, minimum.
- B. Intermediate and production casing strings are to be set and cemented as necessary to effectively isolate and seal off all water, oil, gas or potash bearing strata encountered in the well down to the casing point. Where the salt section is present, the minimum required cement fill behind the first casing string, either production or intermediate, set below the salt section is back to above the base of the salt section.
- C. Prior to drilling the plug after cementing, all casing strings shall be pressure tested. Test pressure shall not be less than 600 psi for surface casing, and a minimum of 1,500 psi or 0.2 psi/ft., whichever is greater, for other casing strings. If the pressure declines more than 10 percent in 30 minutes, or if there is other indication of a leak, the casing shall be recemented, repaired, or an additional casing string run, and the casing shall be tested again in the same manner.
- D. After cementing but before commencing any tests, the casing string shall stand cemented under pressure until the cement has reached a compressive strength of at least 500 psi at the shoe, except that in no case shall tests be initiated until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log.

5. BLOWOUT PREVENTION:

- A. Blowout preventers and related well-control equipment shall be installed, tested and used in such manner necessary to prevent blowouts.
- B. Ram-type blowout preventers and related control equipment shall be pressure tested with water to the rated working pressure of the stack assembly (except that the annular-type preventer may be tested to 70 percent of rated working pressure): (a) when installed, (b) before drilling possible abnormally pressured zones, and (c) following repairs that require disconnecting a pressure seal in the assembly.
- C. While drill pipe is in use, ram-type blowout preventers shall be actuated to test proper functioning once each trip, but in no event less than once each day. The annular-type blowout preventer shall be actuated on the drill pipe at least once each week.
- D. Blowout preventers are to have proper rams for the operations being performed. Casing rams are required when running casing.
- E. Blowout preventers are to have handwheels installed.
- F. A choke line and a kill line are to be properly installed. The kill line is not to be used as a fill-up line.

- (5) How pipe was cemented, including amount of cement, type, whether cement circulated, location of cementing tools, etc.
- (4) Casing run, including size, grade, weight and depth set.
- (3) Blowout prevention drills conducted.
- (2) Blowout prevention tests for proper functioning.
- (1) Blowout prevention pressure tests including test pressures and results.

A. The following shall be entered in the daily driller's log:

## 7. DRILLER'S LOG:

- (3) Two copies of all electrical and radioactivity logs run.
- (2) Four copies of Well Completion Report, Form 9-330. Show formation tops, drill stem test information, completion data, and production tests. Show all oil and gas zones and important water sands under item 37. Data on water sands should include rate of water inflow and elevation to which water rose in hole.
- (b) Intervals tested, perforated, acidized, or fractured and results obtained. Show date work was done.
- (a) Setting of each string of casing. Show size, grade and weight of casing set, size hole, depth set, amount and type of cement used, whether cement circulated, top of cement behind casing if determined, depth of cementing tools if used, casing test method and results, and date work was done. Show spud date or first report submitted.
- (1) Five copies of 5-hour report, Form 9-331, giving complete information concerning:

A. The following reports shall be filed with the District Engineer within 15 days after the work is completed

## 6. REPORTS:

- M. From the time drilling operations are initiated and until drilling operations are completed, a member of the drilling crew or the toolpusher shall maintain rig floor surveillance at all times, unless the well is secured with blowout preventers or cement plugs.
- L. When coming out of the hole with drill pipe, the annulus shall be filled with mud before the mud level drops below 100 feet. The volume of mud required to fill the hole shall be watched, and any time there is an indication of swabbing, or influx of formation fluids, proper blowout prevention precautions must be taken. The mud shall not be circulated and conditioned except on or near bottom, unless well conditions prevent running pipe to bottom.
- K. The characteristics, use, and testing of drilling mud and the conduct of related drilling procedures shall be such as are necessary for well control. Quantities of mud materials sufficient to insure well control shall be maintained, readily accessible for use at all times.
- J. The maximum pressure to be allowed on blowout preventers during well control operations is to be posted for each casing string.
- I. Blowout prevention drills are to be conducted as necessary to assure that equipment is operational and that each crew is properly trained to carry out emergency duties. All BOP tests and drills are to be recorded in the driller's log.
- H. Drill string safety valve(s) to fit all pipe in the drill string are to be maintained on the rig floor while drilling operations are in progress.
- G. The accumulator system shall have a pressure capacity to provide for repeated operation of hydraulic preventers.