

Safety:

This procedure includes cementing and perforating. A pre-job safety meeting involving all personnel on location should be held before any work commences. Conoco policies and the service company's safety procedures should be reviewed. Arrange for a pre-determined assembly area in case of an emergency. No unauthorized personnel are allowed on location.

The following checklist is recommended during cementing operations:

1. All pump and storage trucks should rig up outside dead man anchors and guy wires if possible.
2. All connections on the wellhead must have a pressure rating higher than the maximum pump pressure.
3. Data recording equipment should be located as far as practical from the discharge line.
4. Anchor all lines and pressure test as needed.
5. A service company and/or company employee must be designated to operate valves at the wellhead in case of an emergency.
6. All service and company personnel must keep a safe distance from pressured-up lines. No one should be in the derrick or on the rig floor while pumping cement.

The following checklist is recommended during perforating operations:

1. The perforating truck should rig up outside dead man anchors and guy wires and be positioned upwind of the wellhead if possible.
2. The perforating company must place warning signs at least 500' away from the operation on all incoming roads.
3. Welding, on location, is not permitted during the perforating operation.
4. Perforating must be suspended during electrical thunderstorms or sandstorms.
5. Turn off all radios that are within 500' of the operation. They should not be used while rigging up and loading perforating guns or until the gun is at least 500' in the hole. The same process should be repeated when pulling out of the hole.
6. The perforating truck must be grounded to the rig and wellhead before installing the blasting cap(s).
7. Insure that the key to the perforating panel is removed from the panel and the generator on the truck is turned off while arming the gun.
8. No one is allowed in the derrick or on the rig floor while perforating.
9. Upon completion of the operation, the work area shall be thoroughly inspected and all scraps and explosive materials shall be properly removed from the location by the service company performing the operation.

Recommended Procedure:

1. Prepare well for P&A:
 - A. MIRU. Bleed well pressure down. Kill well with 9.5 ppg brine if needed.
 - B. ND wellhead and NU BOP.
 - C. PU and TIH w/6-1/8" bit, 7" casing scraper, and 2-7/8" workstring to 5800'. POOH.

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