

**Ohio Department of Natural Resources  
Division of Mineral Resources Management  
Oil and Gas Well Permitting Program**

**Shallow Surface Casing Permit Conditions**

Wells drilled to the “Clinton sandstone” or deeper in areas of shallow surface casing requirements for these counties: – Ashtabula, Cuyahoga, Geauga, Lake, Lorain – Columbia and Eaton townships, Medina – Litchfield township, Summit – Macedonia, Northfield Center, Richfield, Sagamore Hills and Twinsburg townships.

1. Conductor casing must be landed to bedrock and cemented to surface. Circulation must be established and the hole must be properly conditioned, before the conductor casing is cemented. The division inspector or respective division regional office must receive ample notification before the cementing operation in order for the state to witness the condition of the well bore, placement of pipe and cementing operations.
2. The surface hole shall be drilled on freshwater or freshwater-based fluid only.
3. The 8-5/8” surface casing shall be set at least 50 feet below the deepest USDW and cemented to surface (see casing program on permit). Circulation must be established and the hole must be properly conditioned, before the surface casing is cemented. The division inspector or respective division regional office must receive ample notification before the cementing operation in order for the state to witness the condition of the well bore, placement of pipe and cementing operations.
4. The owner shall record all zones and depths where natural gas, oil and brine are encountered or circulation was lost during drilling operations. This information must be made available to the inspector prior to the production casing being cemented. This information must be forwarded to the inspector as a report, as notations on the geolograph or other format approved by the chief. Additionally, this information shall be recorded on the well completion record (Form 8).
5. The division inspector or respective division regional office must be notified when the well is drilled to total depth.
6. For vertical wells, the operator will run a geophysical log suite (minimum log suite: gamma ray, compensated density, neutron, and caliper) of the entire borehole, including the Berea Sandstone, to detect potential gas zones. A field copy of the log shall be made available to the division inspector prior to the act of running the production casing.
7. During the primary cementing operation for the production string the top of cement must be at least 100’ above the top of the Lockport formation before perforating, acidizing or stimulating the well. Circulation must be established and

the hole must be properly conditioned, before the production casing is cemented. If there is a significant break in circulation during the primary cementing operations for the production casing, the operator shall run a Cement Bond Log (CBL), to verify the top of the cement job.

8. The annular pressure must be monitored for a period of five (5) days after the longstring casing is cemented.
  - If the pressure in the annulus does not exceed 70% of the hydrostatic pressure at the casing shoe of the surface casing string (determined by multiplying .303 times the depth of the casing shoe) after 5 days, work on the well can continue. Pressure should be recorded each day and then weekly thereafter until the well is placed into production. This data must be provided to the inspector before the well is completed. If the pressure relief valve is activated, the division must be immediately notified.
  - If the annular pressure exceeds 70% of the hydrostatic pressure at the casing shoe of the surface casing string, the owner must complete remedial cementing operations to the top of the “Big Lime” before completing the well.
  - **Under no circumstances should the annulus be shut in, except during a pressure test.**
  - The division inspector or respective division regional office must be notified a minimum of 24 hours prior to this cementing operation.
9. The 8-5/8” wellhead must be above grade or the annular space of the wellhead must be plumbed above grade and be readily accessible and unobstructed.
10. The operator shall maintain a gauge on the surface casing nipple to monitor gas pressure in the annulus. At no time shall gas be allowed to accumulate in the annulus at pressures exceeding 70% of the hydrostatic pressure at the casing shoe of the surface casing string. The surface casing nipple shall have a properly functioning relief valve, set to release gas, if pressure exceeds the allowable pressure. If venting cannot control the gas release, it may be flared according to the guidelines found in the OAC 1501:9-9-05 (B & C).

1501:9-9-05 Producing operations.

(B) All gas vented to the atmosphere must be flared, with the exception of gas released by a properly functioning relief device and gas released by controlled venting for testing, blowing down and cleaning out wells. Flares must be a minimum of one hundred (100) feet from the well, a minimum of one hundred (100) feet from oil production tanks and all other surface equipment, and one hundred (100) feet from existing inhabited structures and in a position so that any escaping oil or condensate cannot drain onto public roads or towards existing inhabited structures or other areas which could cause a safety hazard.

(C) Pits, pumps and flares must be safely fenced if within one hundred fifty (150) feet of an existing inhabited structure and if in the opinion of the Chief, such fence is necessary to protect life and limb.