



North Carolina Department of Environment and Natural Resources

Division of Water Quality

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Director

Pat McCrory
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John E. Skvarla, III
Secretary

April 22, 2013

Subject: State-Wide Well Construction Variance
North Carolina Well Construction Standards
Rule 15A NCAC 02C .0108
Standards of Construction: Well Other Than Water Supply

To Whom it May Concern:

Current rules codified in the North Carolina Administrative Code (NCAC) Title 15A Subchapter 02C .0108 require that a well, other than a water supply (monitoring well, recovery well, etc.), meet minimum construction standards consisting of one (1) foot of packing material above the top of the screen, one (1) foot thick bentonite seal above the packing material, and three (3) feet of cement or concrete type grout from the bentonite seal to the land surface. Adherence to these rules means that no well can be constructed such that the top of the well screen is located any closer than five (5) feet from the ground surface. Please note that 15A NCAC 02C .0108(h) allows for installation of a less than one (1) foot bentonite seal above the packing material if the screen depth necessitates a thinner seal. This well construction is allowed without a variance to the rule where site conditions dictate the necessity.

There are certain settings where it may be necessary to construct a monitoring or recovery well that does not meet the minimum construction standards for well screen packing material and annular space grout. The geographical and physical conditions that call for construction of a well other than water supply that does not meet the minimum standards can occur in any part of the State. These conditions can include shallow groundwater conditions associated with geology, the proximity to a groundwater discharge boundary, or the nature of the constituents being monitored or recovered.

Therefore, the Aquifer Protection Section (APS) is prepared to grant a statewide variance applicable to the construction of wells other than water supply. The granting of this variance shall in no way relieve the well contractor, owner, or agent from the other requirements of the North Carolina Well Construction Standards, or other applicable law, rule or regulation that may be administered by other agencies.

The approval of this variance is contingent upon the presence of one or more of the following conditions within five (5) feet of the ground surface validated on-site by an appropriate North Carolina licensed professional (Engineer, Geologist, or Soil Scientist). Supportive documentation of these conditions may be requested by the APS:

- Direct observation of the groundwater table during installation or investigative activities.
- Site assessment activities that confirm perched or high water table conditions based on evidence of soil redoximorphic features.
- The presence of a contaminant to be monitored or recovered such as a Light Non-Aqueous Phase Liquid (LNAPL) or free product.

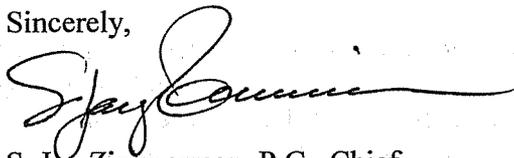
A well granted this variance must meet the following minimum construction standards with regards to grout and packing material:

- Packing material placed in the annular space around the well screen shall extend at least six (6) inches above the top of the screen.
- A six (6) inch thick seal comprised of chip or pellet bentonite shall be placed in the annular space above and in direct contact with the packing material.
- A one (1) foot seal of concrete or cement grout shall be installed in the annular space from land surface to the top of the bentonite seal (upper one foot of well horizon).

Provided that the grout is installed and used in strict accordance with the manufacturers specifications and that no well is installed with a screen depth of less than two (2) feet from the land surface regardless of the water table depth, it is my finding that the conditions and limitations specified above are sufficient for approval of a variance outlined in 15A NCAC 02C .0118. This variance will be effective from the date of its issuance until it is amended or rescinded by the issuing agency. If you are dissatisfied with this decision, you may commence a contested case by filing a petition under G.S. 150B-23 within sixty (60) days of the decision.

If you have any questions regarding this variance, please contact your local APS Regional Office or the APS Central Office at (919) 807-6464.

Sincerely,



S. Jay Zimmerman, P.G., Chief
Aquifer Protection Section

cc: Regional Aquifer Protection Supervisors
Well Contractors Certification Commission
Local County Health Departments
DHHS – On-Site Water Protection Branch