

**Regulatory Citation(s):**

**78.83. Surface and coal protective casing and cementing procedures.**

(c) The surface hole shall be drilled using air, freshwater, or freshwater-based drilling fluid.

**Section 602 of The Clean Streams Law of Pennsylvania**

"Pollution" shall be construed to mean contamination of any waters of the Commonwealth such as will create or is likely to create a nuisance or to render such waters harmful, detrimental or injurious to public health, safety or welfare, or to domestic, municipal, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses, or to livestock, wild animals, birds, fish or other aquatic life, including but not limited to such contamination by alteration of the physical, chemical or biological properties of such waters, or change in temperature, taste, color or odor thereof, or the discharge of any liquid, gaseous, radioactive, solid or other substances into such waters. The department shall determine when a discharge constitutes pollution, as herein defined, and shall establish standards whereby and wherefrom it can be ascertained and determined whether such discharge does or does not constitute pollution as herein defined.

**Question**

Is injecting detergent into the air stream permissible when drilling the surface or coal protective hole?

**Response:**

Detergents are most commonly used to reduce surface tension and facilitate the removal of cuttings. They also enable faster penetration rates and lower pressure while drilling. These benefits contribute toward a cleaner hole, which is critical during cementing operations. Since detergents are typically additives associated with tophole operations, using them is permissible when drilling the surface or coal protective hole as long as they are a standard formulation, used in a conventional manner and do not pose a threat of pollution to waters of the Commonwealth.

Although standard formulations and conventional uses are authorized by this policy, operators should be aware of any drilling additives, lubricants, or other materials, including detergents; when performing tophole operations that may violate The Clean Streams Law of 1937, P.L. 1987, No. 394.

It is recommended that operators review the Recommended Practices Concerning Horizontal Directional Drilling (HDD) Additives guidance, which lists substances that comply with ANSI/NSF Standard 60. A list of certified "Well Drilling Aids" can be accessed at the Office of Oil and Gas Management's website by selecting Informational Resources on the Industry Resources Page:

<http://www.dep.pa.gov/Business/Energy/OilandGasPrograms/OilandGasMgmt/IndustryResources/InformationResources/Pages/default.aspx#.VmGfuJ0o6po>

Tophole drilling additives which are certified in conformance with ANSI/NSF Standard 60 are deemed acceptable to DEP, when used in the manner indicated in the certification of the additive. All conditions included as part of the additive's certification should be followed. Use of tophole drilling additives certified in conformance with ANSI/NSF Standard 60 does not relieve the operator of liability should pollution of the waters of the Commonwealth occur as a result of drilling operations.

Alternative product certification processes and standards will also be considered. However, the operator must submit a summary of the substances used, the standard/certification process referenced, and how that process will prevent pollution as defined in the Clean Streams Law. This information should be summarized in the casing and cementing plan described under 25 Pa. Code § 78.83a and submitted to the Department for review prior to drilling.

If an operator is interested in seeking NSF/ANSI 60 Standard certification, a step-by-step process is provided on that organization's website:

<http://www.nsf.org/services/by-industry/water-wastewater/water-treatment-chemicals/nsf-ansi-standard-60>