



COMMONWEALTH of VIRGINIA

Department of Health

P O BOX 2448
Richmond, VA 23218

Marissa Levine, MD, MPH, FAAFP
State Health Commissioner

TTY 7-1-1 OR
1-800-828-1120

April 30, 2014

Mr. Allan Skouby
GeoPro, Inc.
PO Box 150
Bowie, Texas 76230

Dear Mr. Skouby,

We have reviewed the information you submitted requesting approval of GeoPro, Inc.'s PowerTEC and PowerTECx grout additive for use with geothermal closed-loop wells in Virginia. A detailed discussion of the submittal and review can be found in the attached review memorandum.

PowerTEC and PowerTECx are specially formulated graphite-based thermal-enhancement additives that are proposed for exclusive use with GeoPro Thermal Grout Lite or Thermal Grout Select grouting products (previously approved by VDH and certified to NSF/ANSI Standard 60). PowerTEC and PowerTECx are designed to work with or without the addition of silica sand. PowerTEC and PowerTECx are certified to NSF/ANSI Standard 60.

Based on the submitted information, PowerTEC and PowerTECx, comply with section 12VAC5-630-410.C.4 of the *Private Well Regulations*, and are approved for use as a grout additive in geothermal closed-loop wells in Virginia, when these materials are used in accordance with your explicit manufacturer's instructions and per the qualifications of the NSF/ANSI Standard 60 certification.

This approval will be posted on our website.

Respectfully,

A handwritten signature in cursive script that reads 'Marcia J. Degen'.

Marcia J. Degen, PhD., P.E.
Environmental Technical Services Administrator
Division of Onsite Sewage, Water Services, Environmental
Engineering and Marina Programs

cc: Environmental Health Managers
Office of Environmental Health Services
Virginia Water Well Association

*Virginia Department of Health
Office of Environmental Health Services
Division of Onsite Sewage and Water Services*

To: File

From: Stephen Elgin, P.E.

Date: April 23, 2014

RE: Review Summary for GeoPro, Inc. – PowerTEC and PowerTEC_x (geothermal well grout additives)

cc: Marcia Degen, P.E. – Technical Services Administrator

Background:

GeoPro, Inc. submitted an email request dated January 8, 2014, for approval of PowerTEC and PowerTEC_x for use as a grout additive for geothermal closed-loop wells in Virginia. GeoPro, Inc. PowerTEC and PowerTEC_x are certified under NSF/ANSI Standard 60.

GeoPro, Inc. submitted the following information to VDH with their request for approval:

*Permeability Test Reports
Manufacturer's Material Brochures
Material Safety Data Sheets (MSDS) and Related discussion
NSF Standard 60 Certification Letter*

The manufacturer's representative also submitted the following information, which they requested remain confidential:

*Mixing Recipes and Related Discussion – CONFIDENTIAL and excluded from the Freedom of Information Act per Section 2.2-3705.6 of the Code of Virginia
NSF Standard 60 Test Report and Related Discussion from GeoPro, Inc. – CONFIDENTIAL and excluded from the Freedom of Information Act per Section 2.2-3705.6 of the Code of Virginia*

NSF representatives provided information regarding NSF 60 lab test procedures, including sample preparation and reagent water specifications. Below is an excerpt from the discussion with NSF regarding the certification under NSF/ANSI Standard 60:

NSF 60 requires a full formulation disclosure by the manufacturer and on-going inspections of the manufacturing facility to verify the formulation and raw materials being used. It also requires testing for any contaminants of concern that are in the product that could be contributed to water. NSF 60 does not require all products to be tested for all regulated contaminants, but it does require testing for any contaminants (regulated or not) that are reasonably expected to be present in the product.

Of the regulated contaminants tested, NSF determined that the concentrations in the subject product were nondetectable or less than the pertinent drinking water standards.

Based on the NSF 60 test report, a single sample of PowerTEC was analyzed. The NSF 60 certification is for PowerTEC and PowerTEC_x. The manufacturer's representative advised that PowerTEC_x is a less dense material. Both products are listed on a single MSDS sheet.

VDH Determination:

Based on the NSF test results, combined with the manufacturer's mixing recipes, and an assumed water aquifer volume for dilution, VDH has determined that the use of GeoPro, Inc. PowerTEC or PowerTEC_x as a grout additive in accordance with the manufacturer's recommendations and NSF qualifications will be acceptable in Virginia.

Recommendation:

Accept GeoPro, Inc. PowerTEC and PowerTEC_x in Virginia for use as a grout additive in geothermal closed-loop wells, in accordance with the manufacturer's recommendations and qualifications of the NSF Standard 60 certification.