



Protecting, maintaining and improving the health of all Minnesotans

March 9, 2005

Refer to: License Number 27058 (TN 3434)

Mr. Daniel Owens
Naval Facilities Engineering Command,
Southern Division
2155 Eagle Drive
North Charleston, South Carolina 29406

Mr. John Henrich
Bergerson-Caswell, Inc.
5115 Industrial Street
Maple Plain, Minnesota 55359

Dear Mr. Owens and Mr. Henrich:

Subject: Variance from Minnesota Rules, Chapter 4725, for Construction of Three Monitoring Wells, Minnesota Unique Well Numbers 725500, 725504, and 725506, in Anoka County Riverfront Park, Located in the NE $\frac{1}{4}$ of the NE $\frac{1}{4}$ of the NW $\frac{1}{4}$ of Section 27, Township 30 North, Range 24 West, Anoka County, Minnesota

This letter is in response to your request for a variance from Minnesota Rules, Chapter 4725, to construct three monitoring wells in Anoka County Riverfront Park, Fridley, Minnesota. Anoka County Riverfront Park is located immediately west of the Naval Industrial Reserve Ordnance Plant (NIROP). The proposed wells are part of the network of monitoring wells used to evaluate the impact and effectiveness of in-situ bioremediation of groundwater contaminated with chlorinated solvents.

Information provided in the variance request indicates that the proposed wells will be constructed with 2-inch flush thread PVC casing and will be 75 feet deep. The reported static water level is at a depth of approximately 30 feet. The proposed well depth is necessary to delineate the distribution and degradation of injected vegetable oil. Variance TN 2408A was approved by the Minnesota Department of Health (MDH) on October 26, 2001, for the oil injection.

Mr. Ed Schneider of the MDH contacted Mr. Rob Caho of Bergerson-Caswell, Inc., and Mr. Venky Venkatesh at CH2M Hill, Inc., who clarified that there will be 5 to 10 feet of screen at the bottom of each well, and that the full depth of the annular space above each screen will be grouted with neat cement. Mr. Venkatesh indicated that the use of steel casing was not desirable, as it would interfere with future downhole geophysical work.

Minnesota Rules, part 4725.6650, subpart 1 requires that a monitoring well may be constructed with flush threaded polyvinyl chloride (PVC) casing and screens only if the screen intersects the water table; the total depth of the well is 50 feet or less, the well is completed in unconsolidated materials; and the flush threaded PVC casing used meets the standards in Schedule 40 as referenced in ASTM Standard 1785-88.

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The MDH granted a variance (TN 2408) to the U.S. Navy and Bergerson-Caswell, Inc. on October 11, 2001, for similar monitoring well construction at the subject site.

In accordance with Minnesota Rules, Chapter 4725, and based on the information provided, **your request for a variance is granted to construct the three subject monitoring wells with 2-inch diameter PVC casing to a total depth of 75 feet.** The variance is granted because of the need for monitoring and remediation of the groundwater at the site. The variance is granted with the following conditions:

1. A Monitoring Well Permit Application for each well must be submitted to and approved by the MDH prior to beginning well construction.
2. MDH staff, Mr. Steve Bennett at 651/643-2113 or Mr. Ronald Thompson at 651/643-2108, must be contacted at least 24 hours prior to beginning well construction.
3. The flush threaded PVC casing must meet the standards of ASTM F480-02, and the standards in Schedule 40 as referenced in ASTM Standard D1785-04.
4. The annular space between the casing and the bore hole must be filled with neat-cement grout, pumped through a tremie pipe from within 10 feet of the top of the screen up to the ground surface.
5. All other requirements of Minnesota Rules, Chapter 4725, shall be in effect.

Alternative measures or conditions attached to a variance have the force of law and effect of applicable rule. If a party violates the alternative measures or conditions attached to the variance, the party is subject to enforcement actions and penalties provided in the applicable law or rule.

The variance is conditioned upon the applicable acceptance of and compliance with the conditions of the variance. Failure by the applicant to comply with the conditions prescribed in the variance will result in the immediate expiration of the variance.

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If you have any questions, please contact Mr. Schneider at 651/215-0827 or Mr. Bennett at 651/643-2113.

Sincerely,



f Mr. Daniel A. Wilson, Manager
Well Management Section
Environmental Health Division
P.O. Box 64975
St. Paul, Minnesota 55164-0975

DAW:ECS:dg

cc: Jeff Perry, Anoka County Department of Parks and Recreation
David Douglas, Minnesota Pollution Control Agency
Venky Venkatesh, CH2M Hill, Inc.