



Minnesota Pollution Control Agency

**CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

October 8, 2003

Commanding Officer
Southern Division
Naval Facilities Engineering Command
Attn.: Dan Owens, Code ES32
P.O. Box 190010
North Charleston, SC 29419-9010

RE: Naval Industrial Reserve Ordnance Plant Superfund Site

Dear Mr. Owens:

The Minnesota Pollution Control Agency (MPCA) staff has reviewed the report entitled, "Field Sampling Plan Addendum to the Additional Investigation at the Anoka County Riverfront Park," ("FSP Addendum") dated September 30, 2003. The FSP Addendum is for Operable Unit 1 of the Naval Industrial Reserve Ordnance Plant (NIROP) Superfund Site was submitted pursuant to the Federal Facility Agreement, dated March 27, 1991, between the MPCA, the U.S. Environmental Protection Agency (U.S. EPA), and the U.S. Navy (Navy).

The MPCA staff hereby modifies the FSP Addendum pursuant to Attachment I of this letter.

If you have any questions regarding this letter, please call me at (651) 296-7818.

Sincerely,

A handwritten signature in black ink that reads "Dan M. Douglas".

David N. Douglas, Project Manager
Superfund Unit 2
Superfund Section
Majors and Remediation Division

DND:csa

Enclosure

cc: David Seely, U.S. EPA (w/enclosure)
Mark Sladic, Tetra Tech NUS, Inc. (w/enclosure)

Attachment I

Modifications To "Field Sampling Plan Addendum To The Additional Investigation At The Anoka County Riverfront Park," Dated September 30, 2003

1. The rationale for SB-10 is not entirely clear. It would seem that one of the primary purposes of the borings is to better define lithology. The MPCA staff requests that a third goal of the work plan be added, i.e., to better define lithology in the study area. If there is additional clarification regarding the rationale for boring SB-10, the MPCA staff requests that the clarification be included in the work plan.
2. The new hydrogeologic model of the site includes the "funneling" of ground water through a gap in the low permeability (silty clay) unit in the intermediate zone. Presumably, one of the objectives of this work is to clarify the lithologic relationships in this area, i.e., to address this question, "What is the extent of the intermediate aquifer in relation to the silty clay layer?" Once this is known, locations for two nests of wells will be determined. The wells will be used to collect hydraulic head and chemistry data. The data will be used to assist in plume definition and plume capture evaluations, which is the issue raised at the Technical Subcommittee meeting regarding the United States Geological Survey (USGS) capture effectiveness report, "Evaluation of the Capture Zone for Recovery Wells at Naval Industrial Reserve Ordnance Plant, Fridley, MN - (USGS Open File Report - In Preparation," dated December 17, 2002.
3. The geology in the study area is complex due to the glacio-fluvial processes that were at work during the erosional and depositional events that created the lithologic sequence. As we have observed in the past, with this and other areas of the site (AT-2 and AT-10 areas), lithology can change greatly over short horizontal and vertical distances. The changes can profoundly influence ground water flow. A little upfront field work could avoid locating the monitoring wells in less than desirable locations. The additional upfront work can optimize the time and money spent and maximize the quality of the data to be collected. Some flexibility in the field should be built into the work plan.

The best approach for success in properly locating monitoring wells that provide the best data in glacio-fluvial sequences is to do a series of "step-out" borings at a more closely spaced interval. As data is collected from the borings in the field a cross section can be roughed out and the geology interpreted. The data is then reviewed in the field and a decision made as to the best location of the wells.

The MPCA staff requests that in the proposed MS-54S/I, SB-08 and SB-09 locations a series of up to three borings be planned for each location rather than using a single or several fixed locations. In the case of SB-08 and SB-09, the geology may change greatly in the 200 feet between borings and the complexity of the geology may not be understood.

Such rapid lithologic changes were observed between the former AT-2 and the 6-D locations. Although the specific reasoning for SB-10 is not fully articulated in the work plan it is possible that a series of borings in this location may be needed to clarify the lithology. Three borings may not be required in each location if the geology proves to be less complex; the number of borings can be determined in the field as the data is collected.

This work is an opportunity to define the northern and southern edges of the "funnel" and to better define the relationship between the silty clay layers and the extent of the intermediate aquifer. An evaluation of the data collected in the field will lead to a better decision regarding where to locate the monitoring wells so that they provide the best data for plume and capture evaluations, i.e., optimization of the well locations. The MPCA staff requests that the work plan be modified to include field flexibility and "step-out" borings to define the lithologic relationships and to locate the proposed monitoring wells.

4. The MPCA staff requests that the Navy add the draft USGS report to the list of references. Much of the work proposed in this work plan was recommended in the report.

Comment

The MPCA staff will defer to Hal Davis of the USGS to review the pump test procedures outlined in the work plan.