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LETTER AND U S NAVY RESPONSE TO COMMENTS ON FIELD INVESTIGATION REPORT
ANOKA COUNTY RIVERFRONT PARKNIROP FRIDLEY MN
10/5/2000
TETRA TECH

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October 5, 2000

Project Number 7842

Mr. Dave Douglas
Minnesota Pollution Control Agency
Division of Ground Water and Solid Waste
520 Lafayette Road
St. Paul, Minnesota 55155-4194

Reference: CLEAN CONTRACT No. N62467-94-D-0888
Contract Task Order No. 0057

Subject: Field Investigation Report at NIROP and Anoka County Riverfront Park
NIROP Fridley, Fridley Minnesota

Dear Dave:

The Navy, through the USGS, has recently completed a heat pulse flowmeter study at the site. Also, the week of September 18 through September 24, the Navy, through TtNUS, conducted a colloidal borescope study at the site. The two studies are expected to provide additional information in addressing concerns expressed by MPCA in their August 17, 2000 comment letter about the Subject Report. Following completion of the two studies and prior address of MPCA's 1999 AMR comments (September 18, 2000), the Navy is now able to reply to the EPA's Field Investigation Report comments.

The Navy has previously replied to MPCA comments on the AMR, and also EPA comments on the AMR and Field Investigaion Report (October 5, 2000). The Navy proposes that the Technical Committee resolve all outstanding issues. Once MCPA and EPA have reviewed all Navy responses, we will work with the MPCA and EPA to find a mutually agreeable time, location, and agenda for the Technical Committee to meet.

Sincerely,

Mark Sladic P.E.
Task Order Manager

MS/kf

Enclosure

cc: Joel Sanders, SOUTHDIV
John Aubert, NAVSEA
Tom Bloom, USEPA
Richard Harris, RAB Co-Chair
Tim Ruda, UDLP
John Koehnen, Tech Law
Rick Kuhlthau, Tech Law
Keith Henn, TtNUS
Mark Perry/File 7842 TtNUS
Debra Wroblewski TtNUS (Cover Letter Only)

FIELD INVESTIGATION REPORT AT THE NIROP AND ANOKA COUNTY RIVERFRONT PARK (FIR) DATED APRIL 2000

Attachment I

1. **Comment: Section 3.4.2 Groundwater Flow p. 3-5:** In the review of the 1999 Annual Monitoring Report (AMR), the MPCA staff provided alternative potentiometric contour maps for pumping conditions for the shallow, intermediate, deep and bedrock aquifers (see Modification 3, Attachment I, July 12, 1999 MPCA letter). The MPCA staff questioned the presence of a "groundwater mound in ACP" as is described in the 1999 AMR and in this report (see Modification 4, Attachment I, July 12, 1999 MPCA letter). As stated in AMR Modification 4, the resolution of the ground water flow regime in Anoka County Park (ACP) is important for the implementation of any ACP remedy. The MPCA staff requests that the resolution of ground water flow in ACP be given a high priority and that resolution be achieved with the MPCA staff prior to the implementation of a pilot scale ACP remedy.

   Response: The Navy agrees with the agencies interpretations as detailed in the Response to Comments (see Attachment 1; Response 3). Depending on placement of the Anoka Park pilot study, it will be necessary for the Partnering Team / Technical Committee to resolve the groundwater flow before proceeding.

2. **Comment: Section 4.1, Groundwater Exceedances for VOCs, pages 4-1 to 4-2:** In all instances where the detection limits are above the ARARs or TBCs for ground water and soil, it is not possible to say that the contaminant is or is not present in the soil and/or ground water at levels of concern (exceeds ARARs or TBCs). This situation should be reflected in the conclusions and recommendations. In the case of vinyl chloride, before the pilot test for the remedy for the park is implemented, the MPCA staff requests that the Navy re-sample at least the compliance wells in ACP for vinyl chloride using a method that can achieve a reporting limit of 0.2 ug/l for vinyl chloride. The MPCA staff suggests using a method that would include freezing of the trap in the purge and trap system (with a device such a turbo-cool and using a 25-milliliter purge volume. This data will serve as a baseline for evaluating changes in the level of vinyl chloride in the compliance wells before the pilot study begins.

   Response: The MPCA has already requested that the agency participate in the Work Plan Development for the pilot testing in Anoka Park and should pursue the request made in this comment at that venue. However, the Navy will not be resampling the wells for vinyl chloride for the revision to the Field Investigation Report. The Navy will, however, include the caveat requested by MPCA, regarding contaminants present, in the conclusions and recommendations.

3. **Comment: Section 4.3, Groundwater, pages 4-5 to 4-11:** In this section there is discussion of the comparison of contaminant levels in ground water to Health Risk Limits (HRLs) and Maximum Contaminant Limits (MCLs). The MPCA staff requests that the ground water data be presented in a table that lists the HRL and MCL for the compounds monitored and lists the concentrations of each compound found in each well sampled. For the compounds that exceed the HRL or MCL, the concentration should be highlighted with a footnote for which ARAR is meet or exceeded. The conclusions and recommendations should reflect the data presented in the table.

   Response: The Navy will develop the table and summarize the table in the conclusions and recommendations. The Navy notes that Table 4-16 in the Report already summarizes the information requested in this comment.

4. **Comment: Section 4.3, Groundwater, pages 4-5 to 4-11:** The surface water compliance monitoring network was reset in the MPCA staff modifications to the 1999 ARM (see

Modification 8, Attachment I, July 12, 1999 MPCA letter). The MPCA staff requests that a table be prepared, using the data from these wells, that lists the surface water quality standard (SWQS) for the compounds monitored and lists the levels of each compound found in each surface water compliance well sampled. For the compounds that meet or exceed the SWSQ, the concentration should be highlighted to indicate that the SWQS is met or exceeded. The results of analysis of the data should be reflected in the conclusions and recommendations. Upon receipt of this information, the MPCA staff will request that the MPCA surface water quality staff (Dave Maschwitz) use the data in the table to perform the second MPCA staff surface water quality assessment of the NIROP Site.

Response: As the Navy stated in the Response to Comments letter for the AMR (September 18, 2000), the Navy does not agree with the MPCA's unilateral attempt to reset the compliance network. The Navy will develop the requested table for the previously-agreed compliance network.

5. **Comment: Section 4.3 Groundwater, second paragraph, page 4-7:** The MPCA staff does not agree that the ground water contamination present in ACP is simply a remnant of contamination present before the extraction wells were installed. Significant areas of non-capture have been identified in the 1999 AMR and new pumping wells are being installed to address areas of non-capture. Some of the ground water contamination observed in ACP is from contamination flowing into ACP past the current capture system (see Modification 12, Attachment I, July 12, 1999, MPCA letter). The MPCA requests that this statement be changed to reflect the non-capture issue.

   Response: The Navy will modify the statement to include contributions from non-capture.

6. **Comment: Section 4.3 Groundwater second paragraph, page 4-7:** The MPCA staff does not agree that a ground water mound exists in ACP that limits contaminant flux to the Mississippi River (see Modification4, Attachment I, July 12, 1999 MPCA letter).

   Response: While other interpretations are certainly plausible, the Navy believes the contours provided best represent the site conditions. The Navy is in the process of collecting additional data (e.g. borehole flowmeter results) which should assist and support the stated interpretations further. Based on the agreement on the July 6 conference call Technical Committee meeting, the Navy will revise the discussion in the text so that it better describes the site conditions (use the word 'ridge' instead of 'mound') and acknowledge where multiple interpretations are possible.

7. **Comment: Section 4.3 Groundwater, third paragraph, page 4-7:** The MPCA staff does not agree that sufficient evidence has been presented by the Navy to determine that the contaminants detected in wells MS-52S, FMC-20 and/or 19-S originated from the FMC Site (see Modification 11, Attachment I, July 12, 1999 MPCA 1999 AMR letter).

   Response: The Navy has based its observation on the source of contamination from its own and MPCA's hydraulic head maps. The Navy has offered the MPCA an opportunity to redraw hydraulic head maps that indicate that the contamination originates from NIROP, since the Navy has already attempted this and has not been able to reach any other conclusion than that the groundwater flow direction is from offsite.

8. **Comment: Section 6.1.3, Risk Assessment Soil, page 6-2:** The objectives of this investigation appear to be limited to evaluating ground water related issues. Soil investigation was not conducted for the purpose of evaluating risks posed by contact with contaminated soil.

   Soil samples were taken from nine locations and evaluated for volatile organic compounds. Only two of the nine locations were evaluated for semi-volatile organic compounds and

metals. According to the report, the locations of the soil samples were based on a field screening for volatiles. Given the history of disposal of foundry sands and core butts and the current use of ACP as a recreational area, this level of investigation is inadequate for conducting a risk assessment. The MPCA staff requests that sections of the report that deal with the risk assessment of soil are hereby rejected and be removed from the report.

Response: The Navy agrees.

9. **Comment: Section 6.2, Conclusions, first bullet, page 6-4:** Presumably in this bullet, the Navy is referring to trichloroethylene (TCE) ground water contamination. If so, the MPCA staff believes that it is more accurate to say that the Navy has found evidence of disposal activities associated with TCE in ground water in the ACP. The MPCA staff requests that this bullet be re-written to identify the specific contaminant(s) that the Navy is referring to. If the Navy is referring to contaminants other than TCE in ground water in the park, the MPCA staff believes that the data cannot relied upon to conclude that disposal of other contaminants (hazardous substances?) did not take place in ACP. As the Navy knows, the matter of the disposal of hazardous substances associated with foundry sands and core butts is still under investigation by the Environmental Protection Agency and the MPCA.

   Also the magnitude and extent of the disposal of hazardous substances in the landfill in the south of ACP has not been determined. Also the MPCA does not agree with this conclusion as indicated in Modification 5 above.

   Response: The Navy will revise the bullet to say that the Navy has not found evidence of disposal activities associated with TCE in ground water in ACP.

10. **Comment: Section 6.2, Conclusions, second bullet page 6-4:** The MPCA does not agree that sufficient evidence has been presented by the Navy to determine that the contaminants in the southern portion of the plume originated from the FMC Site.

    Response: Please see response to Comment no. 7.

11. **Comment: Section 6.2, Conclusions, third bullet, page 6-4:** The MPCA staff believes that the following discussion more accurately reflects the status of the first four recommendations of the OU1 Five-Year Review.

    Regarding the first OU1 Five-Year Review recommendation, the Navy, U.S. EPA, and MPCA staff have discussed changes to the OU1 remedy at our partnering meeting of August 2, 2000. On August 7, 2000, in a telephone call from me, Mark Sladic agreed to memorialize all of the changes to the remedy in a technical memorandum or equivalent document. These changes will eventually be memorialized in an addendum to the 1999 AMR and a minor modification of the OU1 Record of Decision. However, these changes have not yet been implemented as requested in this recommendation.

    Regarding the second OU1 Five-Year Review recommendation, the Navy has installed additional ground water monitoring wells for evaluating ground water and surface water impacts; however, the Navy and MPCA staff are currently finalizing the monitoring requirements for the Remedial Action Monitoring Plan.

    Regarding the third OU1 Five-Year Review recommendation, the MPCA staff believes that the Navy has completed this recommendation.

    Regarding the fourth OU1 Five-Year Review recommendation, the MPCA staff has not yet begun the second MPCA staff surface water assessment, however, the staff plans to do so in the near future. A surface water assessment will be performed by the MPCA staff upon receipt of the table requested in Modification 4 above.

Response: The Navy agrees to add the additional detail provided by MPCA in describing the status of the first four recommendations of the OU1 Five Year Review.

12. **Comment: General Modification:** Using lithologic logs from the wells located within the area shown on the attached site map (Figure 1), the MPCA staff requests that the Navy construct a geologic fence diagram of the site compliance line area and ACP. The diagram will be useful in visualizing the geology in the area to assist in evaluation of where potential ACP remedies may be applied to maximize remedial measures. The fence diagram will identify the location of permeable zones and low permeability zones and how these geologic conditions might effect the application and effectiveness of remedial options. The information can be used, for instance, to determine where reagents for enhanced biodegradation may be best applied and in predicting the path of ground water movement in ACP. The use of fence diagrams is a fairly commonly used tool to aid in visualization of geologic conditions.

    Response: The fence diagram will be developed, although the Navy notes that all the information to be provided in the diagram is already available on multiple other diagrams in the AMR.