OhioEPA

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Happy Thanksgiving!

PLEASE DELIVER THE FOLLOWING PAGES TO:

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DIVISION: Division of Emergency and Remedial Response

TOTAL NUMBER OF PAGES INCLUDING COVER LETTER: 5

SENDER'S (SECRETARY'S) SIGNATURE:

DATE:

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COMMENTS: Don Here are the groundwater comments that you have been waiting on. If you have any questions or comments, please give me a call.

Ron N.

IF THERE ARE ANY PROBLEMS, CALL OHIO EPA NWDO AT (419) 352-8461.

Introduction:

The Division of Emergency and Remedial Response has requested that the Division of Drinking and Ground Waters review the above referenced document.

Conclusions:

The document should be revised to reflect the following comments. Please transmit the comments to NASA. If you have any questions, please contact me.

Comments on the Sampling and Analysis Plan:

1. Section 3.3.4.4.1--Risk Evaluation Needs

   With respect to ground water samples, analytical reporting limits should be less than maximum contaminant levels for those constituents that have them.

2. Section 4.3--Groundwater

   It is not clear whether the consultants for NASA believe the limits of contamination in ground water have been determined throughout the facility. The installation of the proposed monitoring wells will probably be sufficient to define the limits of contamination in the western portion of the facility. However, these limits have not been defined east of Ransom Road but should be, if not as part of this investigation then as part of a future ground water investigation conducted at the site.

3. Section 4.3.2--Well Development

   a. The development procedure references drilling fluids, but these are not mentioned in the section on well installation (Section 4.3.1). This discrepancy in the SAP needs to be resolved. Ohio EPA does not recommend the use of drilling fluids if they can be avoided.

   b. The SAP states that "well development will be completed by bailing, pumping, and surging." Ohio EPA does not recommend surging any monitoring wells set in the silty and/or clayey overburden because surging of wells screened in fine-grained sediments increases turbidity and does not improve hydraulic response significantly. Development

should be limited to either pumping or preferably bailing. This comment also applies to the well development section in Attachment V.

c. The SAP should state that a turbidity measurement will also be taken at the end of well development.

4. Section 4.3.2.2--Development Records

Wells installed in the State of Ohio need to be registered with the Ohio Department of Natural Resources Division of Water. The driller and the consultant who retains the driller have equal responsibility for this documentation. The SAP should state that a well installation log will be filed with ODNR for each monitoring well installed as part of the investigation.

5. Section 4.3.3--Water Level Monitoring

The SAP should state when water level monitoring will occur (prior to development and prior to sampling, etc.).

6. Section 4.3.4--Groundwater Sampling

a. The SAP calls for taking turbidity measurements during sampling, but a turbidity meter is not included on the equipment list. This discrepancy should be resolved.

b. The SAP should state how often field parameters will be checked. Ohio EPA recommends that field parameters be checked and recorded after each well volume.

c. The SAP should state how sampling rates during purging and sampling will be determined.

d. The proposed decontamination procedures for the metals filtering apparatus are insufficient. Decontamination should include a potable water rinse, a wash with non-phosphate detergent, a second potable water rinse, a nitric acid rinse, and a final rinse with deionized water.

e. The SAP should specify the order of sample collection.

f. Filtration of samples should occur at the wellhead, not at the field office.

7. Section 4.3.5--Field Hydraulic Conductivity Testing

The SAP should clarify whether a second slug test will be conducted in a well in which the initial slug test fails or not and what type of software will be used to evaluate the data.

8. Section 8.4--Purged Groundwater

The difference between "aqueous liquids" and "purged groundwater" should be clarified. The terms appear to be used interchangeably in this section of the SAP, but they have different disposal scenarios. In general, Ohio EPA does not recommend disposal by land application of development and purge water. The final disposition of these wastes should be based on appropriate analytical data. If they are determined to be hazardous, they should be treated as such. Non-hazardous waste may not be suitable for disposal in stormwater sewers; disposal in one of the facility's wastewater treatment plants may be more appropriate.

Comments on the Quality Assurance Project Plan:

9. Section 4.9.2--Equipment Rinsate Samples

The QAPP should specify the rate at which rinse blanks will be collected.

10. Section 4.9.3--Field Blanks

Ohio EPA recommends that field blanks be collected at a rate of 10% of the investigative samples. The collection of one field blank from each of the steam cleaner water and one field blank from the water used for decontamination will probably be insufficient, and not only from the standpoint of rate of collection. If the investigation is substantially lengthened due to unanticipated delays, more field blanks will be also be needed.

11. Table 7-1--TCL VOCs and Laboratory Reporting Limits
Table 7-4--TAL Inorganic Compounds and Laboratory Reporting Limits

All ground water samples should be analyzed using methods that achieve reporting limits that are *less than* maximum contaminant limits for those constituents that have them (benzene, vinyl chloride, antimony, beryllium, etc.). The QAPP and SAP should be revised accordingly.

Comment on Attachment V:

12. Section V.4.1.6--Materials and Procedures

Ohio EPA recommends a maximum of 5-foot screen lengths for investigative monitoring wells in general and at this site in particular. Although 10-foot screens have been used elsewhere at the facility, the purpose the four new wells is to help define the limits of contamination. Using 10-foot screens may seriously underestimate the contamination at the site. The longer the screen, the larger the water column available to "dilute" and underrepresent the actual constituent concentrations. Similarly, because the bedrock wells at the site have been completed with more than 10 feet of open hole, samples acquired from these wells will probably not be fully representative of the ground water quality at these locations.