



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
75 Davis Street
Providence, R.I. 02908

26 March 1984

Commander
Naval Education & Training Center
Newport, RI 02841

Dear Sir:

Enclosed is a copy of a review of NETC's "Hydrogeologic Investigation and Groundwater Monitoring Program for Tank Farm #5" which was prepared by the Environmental Protection Agency.

The said document should be revised accordingly, and submitted to the Department of Environmental Management by 6 June 1984.

If you have any questions, please call me at 277-2797.

Sincerely,

Thomas Epstein,
Engineer
Division of Air & Hazardous
Materials

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enc.

cc: Marty Dwyer, NETC ✓
Michael O'Brien, EPA

DATE: March 19, 1984

SUBJECT: Review of Groundwater Monitoring Program for Naval Education Training Center, Newport, Rhode Island

FROM: Margaret Leshen, ^MGeologist, State Waste Programs Branch

TO: Richard Boynton, Chief, CT/RI Waste Programs Section

The following review is in response to the State of Rhode Island's request for technical assistance in the area of groundwater monitoring. The review was limited to the report entitled "Hydrogeologic Investigation and Groundwater Monitoring Program for Tank Farm #5" for the Naval Education and Training Center, Newport, Rhode Island by GHR Engineering Corporation dated June 24, 1983. The review was conducted pursuant to RCRA Subpart F - Groundwater Monitoring. RCRA regulations require facilities to implement groundwater in the uppermost aquifer underlying the facility.

The objectives of the hydrologic investigation and proposed groundwater monitoring program are consistent with the goals of RCRA. Review of the proposed groundwater monitoring indicate that more information and clarification are needed in the following areas:

- A. A thorough evaluation of the overlying unconsolidated material (till) must be performed (including permeability and absorption potential for contaminants). It is questionable if the till is always unsaturated. (Data is for one time, June 1983). Saturated till will create a water table condition in which groundwater flow directions may differ from those in bedrock. In addition the properties of the transition zone from the overburden to bedrock should be detailed.
- B. In order to determine flow direction and flow rate in the bedrock more information is necessary.
 1. Previous investigations detailing groundwater elevation data should be submitted, (Charles A. Maguire and Associates, 1945, "Report of Drilling, Test Pumping and Appurtenant Work at Area 5 U.S. Naval Net and Fuel Depot" Melville, Rhode Island).
 2. Additional methods and procedures to locate wells should be employed. (See attached "RCRA Permit Writers Manual Special Monitoring Considerations in Consolidated Rock Terrains".) Careful geologic mapping can identify joint patterns and bedding planes. Inventory of all existing wells in the area may provide additional information.

- D. Well Construction and design need to be reevaluated.
1. If the overburden is truly unsaturated, how will MW-3 and MW-4 detect contamination? Unsaturated zone monitoring techniques (i.e., by lysimeter) might be applicable.
 2. Bedrock wells should be constructed in accordance with criteria set forth in the attached Permit Writers Guidance Manual.
 - a. It is questionable if the wells should be screened in the bedrock. And if the screens should extend through the overburden and bedrock. In order to determine contaminant concentrations and groundwater elevations multiple completion wells or cluster wells should be utilized.
 3. In order to evaluate parameter selection a thorough evaluation of the chemicals used and stored on site should be conducted. Special emphasis should be given to the chemicals stored at tank farm #5.
 4. Procedures for obtaining groundwater elevations, sample handling and preservation should be specified. Quality Assurance/Quality Control should be addressed (i.e., blanks, replicates, split samples, etc.).
 5. It is unclear as to the specific RCRA Subpart F requirements that are applicable to the facility. Is the monitoring program part of the permitting process in which case §264 standards apply or is it an interim status monitoring program. If it is an interim status monitoring program, it must be determined if this is an alternate monitoring program (§265.90(d)) or a detection monitoring program.