

State of North Carolina
Department of Environment,
Health and Natural Resources
Winston-Salem Regional Office

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
Leesha Fuller, Regional Manager



Division of Environmental Management
Groundwater Section

February 14, 1994

CERTIFIED MAIL P-536 304 704
RETURN RECEIPT REQUESTED

William O. Cordes, Registered Agent
Draper Corporation
5644 Hornaday Road
Greensboro, NC 27409

SUBJECT: Corrective Action Plan 30,000 gallon Fuel Oil UST Area, Draper Corporation, Hornaday Road, Greensboro, Guilford County, North Carolina, Incident Number 5644

Dear Mr. Cordes:

This letter is to acknowledge the receipt of the Corrective Action Plan for the subject site. The report has been reviewed and this office has numerous concerns pertaining to the report.

Pump-and-Treat methodology has been the mainstay of groundwater remedial activities in the past, but historical data reveals that the methodology is not generally very effective. Other options for soil remediation are available to you that should be considered, such as In-situ Soil Vapor Extraction, Bioventing, etc. Other options for groundwater contamination also are available to you, such as In-Situ Air Sparging with Soil Vapor Extraction, In-Situ Bioremediation, Biosparging, etc. These alternatives must be considered in order to find the most cost effective approach that will remediate the site effectively.

While the CAP recommended the installation of an infiltration gallery, no pump tests are known to have been conducted to show that the surficial aquifer has sufficient permeability to make the use of the technology feasible for the specific site conditions. The requirement for a concept to be shown to be appropriate for a specific site is very important. Please refer to the *Groundwater Section Guidelines for the Investigation and Remediation of Soils and Groundwater (Guidelines)* for a complete description of what must be included in a CAP. The selection of a specific remediation technology should be based on

- Results of bench tests/pilot studies
- Results of aquifer tests

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- Diagram of radius of influence with recovery wells superimposed on plume map
- Flow rates, injection rates determined
- Anticipated effluent concentrations after each unit of treatment.

All compiled data, calculations, pump curves, performance charts, etc., should be included in the appendices.

Furthermore, detailed design plans and specifications along with the operational characteristics and performance standards of each system component should be placed in the appendices. Also, any report containing engineering design plans must be sealed by a Professional Engineer.

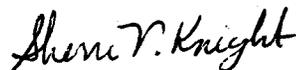
The proposed CAP must contain a copy of any permits required for remediation systems. Keep in mind that any modelling or other requirements specified in the permit application, must be included in the report.

Another concern is that the extent of the groundwater contamination does not appear to have been determined. Sample results for Monitor Well 6 revealed 31 ppb of 2,4 Dinitrophenol. No compounds were detected in Monitor Wells 13 and 14. Monitor Well 6 is the most downgradient well and has contamination. It's difficult to design a remediation system that addresses all the contamination, if the extent of contamination is not fully delineated. Therefore, more information must be obtained prior to designing the remediation system.

The shortcomings of the report are not limited to those listed above. The requirements for a CAP are clearly detailed in the *Guidelines*. The CAP submitted fails to address these requirements. Therefore, *within sixty (60) days after receipt of this letter, submit a CAP that meets the standards described in the Guidelines to me at the letterhead address.*

Should you have any questions, contact Richard Sieg or me at the letterhead address or phone number.

Sincerely,



Sherri V. Knight
Supervisor

SK/RS/rs

cc: WSRO Files
Triad Environmental Consultants, Inc.
Guilford County Department of Emergency Services

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3. Article Addressed to:

William O. Cordes, Reg. Agent
 Draper Corporation
 5644 Hornaday Road
 Greensboro, NC 24709

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