

December 20, 2001

Mr. John E. Hock, P.E.
Senior Project Manager
Civil and Environmental Consultants, Inc.
3041 Woodcreek Dr.
Suite 210
Downers Grove, IL 60515

Dear Mr. Hock:

On November 28-29, 2001, an NRC inspector observed the field work being conducted at the Breckenridge Disposal Site to determine the source activity of the buried materials. The purposes of the observation were to evaluate implementation of the work plan and to evaluate whether the source activity of the burial materials can be appropriately determined. Per our understanding, the purpose of the field work is only limited to determining the source term of the buried materials. A dose assessment will be performed to see whether the buried materials can be left in place.

During this observation, the NRC inspector found that the field work was being conducted in accordance with the work plan prepared by SCIENTECH, dated October 12, 2001.

The inspector made the following additional observations:

1. Not all the buried materials radioactive

The core samples from the locations identified by the magnetometry/electromagnetic survey had elevated readings ranging from near background to several thousand counts per minute. A GM pancake probe was used for the core sample scans. The background reading ranged from 50 to 80 counts per minute.

2. Contaminated soil not identified

Several elevated areas were identified by scanning with 2x2 NaI detectors. These had readings up to 200 thousand counts per minute. These areas were not identified by the magnetometry/electromagnetic survey. The thicknesses of contaminated soil in the elevated areas ranged up to several feet. The background reading ranged from 5 to 8 thousand counts per minute.

3. Not all radioactive buried material identified

A core boring was done in grid location B-17 based on the previous down hole measurement of 300 thousand counts per minute at 4-5 feet deep. The core samples up to eight feet deep indicated elevated readings up to several thousand counts per minute. However, the magnetometry/electromagnetic survey did not identify the presence of buried material at this location.

Based on the above observations, we have concluded that the magnetometry/electromagnetic survey could not adequately indicate the locations of the buried materials, if the buried materials were not contained in drums made of ferrous metals. The magnetometry/electromagnetic survey is based on the high conductivity of the ferrous metals, rather than the buried materials. These matters were discussed with you or your representatives during the on site observation. We believe that 100% surface gamma scans in the affected area, and selected biased core boring, will be required in order to adequately identify both buried materials and contaminated soils.

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Should you have any question, please contact me at (630) 829-9615 or Dr. Peter Lee at (630) 829-9870.

Sincerely,

/RA/

Bruce L. Jorgensen, Chief
Decommissioning Branch

cc: D. Minaar, State of Michigan
E. Lorenz, Pine River Superfund Citizen Task Force

bcc: S. Moore, NMSS
E. Pogue, NMSS

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