



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service
Agency for Toxic Substances
and Disease Registry

Memorandum

Date July 6, 1993

From Environmental Health Scientist, DHAC

Subject ATSDR position on testing of soil core samples
at Industrial Excess Landfill

To Louise Fabinski, Region V representative

Through: Director, DHAC
 Chief, RPB, DHAC *DM for SNE*
 Chief, ESS, RPB, DHAC *DM*

STATEMENT OF PROBLEM

Concerned citizens want EPA to test "cores" (soil samples) from the northwest corner of the landfill for radioactivity and inorganic and organic contaminants. Apparently US EPA has soil (split spoon) samples, stored in jars, from past drilling activities. Concerned citizens believe further characterization is necessary because the northwest corner is reportedly an old dump area. Some concerned citizens want excavation of any heavily contaminated areas or "hot spots".

Citizens are concerned that radioactive gases could be spewed out during operation of the Methane Venting System or that treated groundwater discharged to Metzger's Ditch may contain radiation.

DISCUSSION

Since groundwater is the more appropriate medium for characterizing radioactive and many other wastes, further analyses of soil samples are not needed for waste characterization.

The radioactivity issue was explained by EPA in 1990 (1). Their response was that the likelihood of detecting radioactive compounds was much greater through analysis of groundwater than soil. Soil sampling is inappropriate because of the number of samples needed.

Radioactivity and other wastes in soil would not be migrating off site so soil characterization would not lead to assessment of any levels at a point of human exposure. Measuring radioactivity and other wastes in a mobile medium such as

groundwater is more important to determine if a public health threat exists.

In our opinion, the results of radiation testing in groundwater to date do not support the possibility that radioactive wastes were disposed of in the landfill. Since no residential wells sampled to date have specific radioisotopes exceeding drinking water standards, it appears that radiation is not a public health threat. The four rounds of radiation testing in groundwater should be used to determine if a radiation problem exists in discharging groundwater to Metzger's Ditch.

Existing samples would be inappropriate to use for testing of contaminants such as volatile and semivolatile organics. The concentrations would be inaccurate at best or biased low. Off-site migration of heavy metals in groundwater has already been documented (2). Exposure to heavy metals through the groundwater pathway has been eliminated by the alternate water system.

According to the ROD, EPA's plan is to contain contaminants through capping of the landfill and pumping and treating groundwater. Due to the potential release of volatile organic compounds during excavation of any "hot spots", the proposed remedy seems more appropriate and safer for the general public and on-site workers than excavation.

Characterizing the soil will not help in the evaluation of radioactive landfill gases emitted in the Methane Venting System. The most appropriate medium in this case would be air. Samples should be taken at the discharge point and tested for any radioactive gases previously detected in soil or groundwater.

If data become available which suggest a completed human exposure pathway for subsurface soils, ATSDR will reevaluate this opinion.

POSITION

ATSDR does not support further testing of soil core samples for radiation or inorganic and organic contaminants in the northwest corner of the landfill. Groundwater and air are the more appropriate media for characterization of contaminants that could migrate off site and lead to human exposure.


Laura Barr

REFERENCES

1. Final Report on the Probability of Detection of Hypothetical Radiochemical Contamination of Groundwater at the Industrial Excess Landfill, Uniontown, Ohio, PRC, March 11, 1991.
2. Final Remedial Investigation Report for Industrial Excess Landfill, Uniontown, Ohio, July 1988.