

State of North Carolina
Department of Environment,
Health and Natural Resources
Division of Solid Waste Management



James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
William L. Meyer, Director

March 14, 1995

MEMORANDUM

To: Susan Wright

From: Bobby Lutfy *BL*

RE: Hydrogeologic Review Of The Transition Plan For The Alexander
County Landfill, Permit # 02-01

The Solid Waste Section Hydrogeologic Unit has reviewed the Local Area Study and Water Quality Monitoring Plan portions of the Transition Plan for The Alexander County Landfill. There appear to be several errors and omissions in these portions of the Transition Plan. Please have Alexander County's consultants address the following comments:

SUMMARY REPORT

- ✓ - Item 4 in the Summary Report states the size of the MSWLF unit to be 6.5 acres. Some of the maps indicate a landfill area significantly larger than 6.5 acres. The consultant needs to confirm the size of both closed and active fill areas. A facility map (and/or the 2000 foot perimeter map) should be provided that shows the limits of both past and active fill areas.

LOCAL AREA STUDY

- ✓ - The Aerial Photograph has no north arrow.
- The 2000 ft. perimeter map does not identify some of the following items, as required by rule .1629(b)(2)(A):
 - (i) Current topographic information for the permitted facility;
 - X (ii) Water supply intakes (ground and surface water);
 - ✓ (iii) Underground utility lines;
 - ✓ (iv) Private residences; and
 - ✓ (v) Known or potential sources of contamination.

These items should be clearly indicated and labeled on the map. If any item is not present this should be noted on the margin of the map. For example, if there are no drinking water wells within 2000 ft. of the facility boundary, this should be noted in the margin of the map.

- The 2000 ft. perimeter map does not identify some of the following information, requested in the Technical Guidance Document for Transition Plans For Existing MSWLF Units In North Carolina:
 - X - Location of survey control benchmarks;
 - ✓ - Existing conditions, (including a current topographic map of the permitted facility);
 - ✓ - Known limits of old disposal areas;
 - ✓ - Areal limits of active disposal areas;
 - General topographic features such as floodplains, wetlands, streams, lakes, ponds, watersheds, drainage structures, etc.
 - The scale, legend, North direction, and benchmark(s).

WATER QUALITY MONITORING PLAN

- ✓- On page 2 it states "the wells were not locked" and had "unvented PVC caps". These deficiencies should be corrected and the corrections should be documented.
- ✓- No survey control for the monitoring wells has been reported. The monitoring wells must be accurately surveyed for horizontal and vertical control.
- ✓- Table 4 proposed 10 foot well screens for all wells. As referenced in other correspondence, shallow wells should generally be installed with 15 foot well screens.

SAMPLING AND ANALYSIS PLAN (SAP)

- Pages 2 and 3 of the SAP describe decontamination procedures for the water level indicator that are not recommended by EPA. The approved method of field decontamination of water level indicators is a laboratory grade soap wash followed by a DI water rinse (steps 2 and 3 of your equipment decontamination

procedures, rather than steps 3 through 5). The soap wash is preferred because even laboratory grade isopropyl alcohol is not 100% pure and because in the field there is insufficient time to properly air dry equipment cleaned with alcohol.

- Page 3 (SAP) It is a good policy to verify the total well depth after sampling to see if the depth matches the depth of well indicated on the well tag. This also provides information on the condition of the well and alerts you to problems with siltation of the well, etc.
- Page 4 (SAP) If the bailer is left in the monitoring well between purging and sampling, it should be suspended in the well at a level above the water table.
- Table 1, Ground And Surface Water Analyses Methodology: Many of the proposed analytical methods are not those required in the sampling guidelines outlined in the June 24, 1994 memorandum to MSWLF Owners and Operators. Regular ICP methods (EPA 6010A) are not approved for metals requiring low level certification. (Beryllium, Chromium, Cobalt, Silver, and Vanadium are metals requiring low level certification that were listed in Table 1 for analyses using ICP methods not approved by the Section for low level analysis.) The approved analytical methods for Volatile Organic analysis are EPA 8240 or 8260. The other methods proposed for Organic Constituent analysis in Table 1 are not necessary (8010A, 8020A, 8021).
- There is no reference or discussion in the Sampling And Analysis Plan to statistical analysis of the ground-water quality analytical data.

WATER QUALITY MONITORING SYSTEM REPORT Of October 1994

- X - Please have the consultant explain why no monitoring well was installed in the drainage feature where well 4 was previously thought to be located.
- Table 1 Documentation and calculations should be provided for the permeability values, porosity values, effective porosity values, and ground-water flow rate values.

- ✓ - There is no north arrow on Plate 1.
- X - Plate 1 indicates that monitoring wells MW-2, MW-6, and MW-8 are located outside the landfill facility boundary.
- ✓ - Unapproved analytical methods were used for Silver and Vanadium. Incorrect PQLs were reported for Nickel and Vanadium.
- ✓ - According to our records REIC Laboratory is not certified for low-level analysis for Vanadium.
- Several of the monitoring wells indicate levels of inorganic and/or organic constituents that are above the North Carolina Groundwater Standards. Alexander County should be informed that upon completion of the baseline sampling, assessment monitoring for Appendix II constituents will probably be necessary.

If representatives of Alexander County or their consultants have any questions regarding this memo, they may contact me.