

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 17, 1995

Michael G. Palmer
McGill Associates
P.O. Box 2259
Asheville, N.C. 28802

Fac/Perm/Co ID #	Doc ID#
bc	31510

RE: Transition Plan - Hydrogeologic Evaluation Of Local Area Study
And Water Quality Monitoring Plan For The Jackson County
Landfill (Permit # 84-01)

Dear Mr. Palmer,

A hydrogeologic review has been completed of the Jackson County Landfill Transition Plan. Additional information and clarification is needed on several issues. Please review the following comments and questions and prepare a revised Transition Plan for the Jackson County Landfill.

COMMENTS AND QUESTIONS:

LOCAL AREA STUDY:

- The report references "temporary benchmarks". If it has not already been done, permanent benchmarks should be established and a map showing their locations should be submitted.
- The landfill facility boundaries should be indicated on the three orthophoto maps (figures 2, 3, & 4).
- Figure 7: It is not clear where the downgradient facility property boundary is located. Is it located above or below the highway? Who owns the property between the highway and the Tuckasegee River? It appears that monitoring wells 2 and 4 are outside the facility boundary, and would not meet the rule's conditions for establishing a ground-water detection monitoring system at the relevant point of compliance.
- Figure 14: The location of the landfill should be indicated on the Tuckasegee Water & Sewer Authority - Water System map.

- No 2000 ft. perimeter map was submitted identifying the items required by rule .1629(b)(2)(A).

WATER QUALITY MONITORING PLAN (WQMP)

- On page 14 it states "Monitoring wells MW-2 and MW-4 are located ... outside of the facility property boundary". As noted earlier, this indicates these wells do not fulfill the requirements in the rules for establishing detection monitoring wells within the relevant point of compliance.
- Table 3: No slug test data is reported for well MW-5.
- Tables 5 and 6: Design and maintenance problems identified for the monitoring wells (vented well caps, complete well identification tags, etc.) should be corrected and documentation should be provided to the Solid Waste Section.
- Table 7: Data is not presented for all of the Appendix I metals. There is no data for Beryllium, Cobalt, Nickel, Thallium, or Vanadium.
- Figure 4, Profile A-A': What is the elevation of the Tuckasegee River at a location projected along the A-A' Profile?
- Figure 7, Water Table Elevation Contour Map: What is the date for the water table measurements used to prepare the Water Table Elevation Contour Map?
- Appendix F, Well Construction Records: The Well Construction Record for well MW-2 indicates the sand filter pack extends too far above and below the screen, creating a screened interval of 28 ft. in length. The stabilized water table is too far above the well screen. The location, design, and construction of well MW-2 does not meet the requirements of the rules and policies established by the Solid Waste Section. There is no Drilling Log information provided for well MW-4.

- Appendix G, Laboratory Test Data For Water Sampling: The data reported indicates levels for several organic constituents in several monitoring wells that exceed the North Carolina Groundwater Quality Standards.

SAMPLING AND ANALYSIS PLAN (Appendix H)

- Page 1, item 2.3: It states "The measurements shall be taken to the nearest 0.1 foot". The rules require measurements to be taken to the nearest 0.01 ft.
- There is discussion in item 3.0 about field decontamination of sampling equipment. The Solid Waste Section requires either dedicated sampling systems at each monitoring well or a separate laboratory cleaned Teflon or stainless steel bailer for each well. Field decontamination of sampling devices is not allowed by the Section. All references to field decontamination of sampling equipment should be deleted.
- The decontamination procedure described in item 3.2 does not meet the EPA protocol for equipment decontamination.
- Item 3.3, Purging Procedures: Generally field decontamination of purging equipment is also discouraged. It is not permitted for bailers, since a separated laboratory cleaned bailer is required for each monitoring well. If purging pumps are used the decontamination procedures should be more extensive than those described in item 3.3.
- Item 3.3.2, Volume Calculation For Water Evacuation: The total well depth of each well should be based on well construction data or past measurements of the well. A field measurement of total well depth should be made after sampling each well in order to verify the depth of the well and identify any problems with siltation of the well. Item 3.3.2 describes decontamination procedures for the measuring devices that are not recommended by EPA. The approved method for field decontamination of measuring devices is a laboratory grade soap and water wash followed by a DI water rinse. There is generally insufficient time to allow isopropanol or acetone to adequately air dry under field conditions.

- Items 3.3.2 and 3.3.3 reference evacuating "3 x Volume (gal)". The Solid Waste Section requires that a minimum of three well volumes be evacuated to purge a well. Generally between three and five well volumes should be evacuated for purging. However purging should continue until field parameters have stabilized.
- Item 3.4.1, Monitoring Well Sampling Procedure: On page 7 it states "The first bailer-full is discarded". This should not be done if sampling for volatile organic compounds. The first bailer should be carefully filled from the top of the water column and the first bailer-full used to provide water for the volatile organic analyses.
- Item 3.4.2, Surface Water Sampling Procedure: Generally intermediate sampling containers should be avoided if at all possible. If intermediate sampling containers are necessary they must be made of Teflon or stainless steel and they must be properly decontaminated according to the approved EPA protocol.

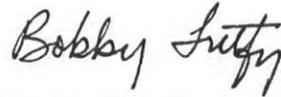
INITIAL SAMPLING REPORT of October 1994:

- The report does not specify the analytical test methods used.
- Six organic constituents in the Appendix I parameter list were not tested: Chlorodibromomethane; Trans-1,4-dichloro-2-butene; Cis-1,2-dichloroethene; Methylene Chloride; Vinyl Acetate; and 1,1,2,2-Tetrachloroethane.
- Three inorganic constituents in the Appendix I list were not tested: Beryllium, Cobalt, and Vanadium.
- The detection limit for Lead was too high.
- Monitoring well MW-3 has two organic constituents reported at levels that exceed the N.C. Groundwater Standards. Jackson County should be informed that when the baseline sampling is complete, they will probably need to begin assessment monitoring.

Mr. Michael Palmer
Jackson Co. Transition Plan
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If you, Jackson County, or Law Engineering have any questions regarding this letter, please contact me at (919) 733-0692. Revisions to the Transition Plan should be submitted within the next 30 days. Thank you for your assistance in providing the additions and clarifications to the items addressed in this letter.

Sincerely,



Bobby Lutfy
Hydrogeologist
Solid Waste Section

cc: Lula Melton, Solid Waste Section
Jim Patterson, Solid Waste Section
Tom Massie, Jackson County Planning
Paul Johnstone, Law Engineering