

5101Permit1995 - Batch No. _____

A Schnitzer Co 51-01

51011995

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

December 6, 1995

file

Mr. Haywood Phthisic
Director of Public Utilities
Johnston County
P.O. Box 1052
Smithfield, North Carolina 27577

RE: Appendix II Groundwater Monitoring Report for the Johnston County Landfill
(Permit # 51-01)

Dear Mr. Phthisic,

Subsequent to previous correspondence (November 15, 1995 letter) detailing problems of laboratory certification and methodologies found in the Appendix II Groundwater Monitoring Report for the Johnston County Landfill, additional information has been submitted to the Solid Waste Section by McKim & Creed that validates the analytical data as being acceptable. Although it was not evident in the original report, IEA Laboratories analyzed the samples. IEA has proper DEM certification for the analytical methods used. Only minor problems with quantitation limits for three analytes need correcting and both IEA and McKim & Creed are aware of the matter.

The Solid Waste Section regrets any misunderstanding about the report. To help prevent future problems, please submit as part of the monitoring report, a copy of the laboratory data from the laboratory conducting the analyses.

Thank you for your cooperation. If you have any questions, please call me at (919) 733-0692 ext. 257.

Sincerely,

Larry Rose
Groundwater Compliance Unit
Solid Waste Section

c: Terry Dover
Mark Fry
Janine M. Schreyack - McKim & Creed

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



November 15, 1995

Mr. Haywood Phthisic
Director of Public Utilities
Johnston County
P.O. Box 1052
Smithfield, North Carolina 27577

RE: Warning: Invalid Appendix II Groundwater Monitoring Report for the Johnston County
MSW Landfill (Permit # 51-01)

Dear Mr. Phthisic,

The Solid Waste Section has received the Appendix II monitoring report from McKim & Creed of the September 15/18, 1995 sampling event at the Johnston County MSW landfill. The report lists PXS Research Laboratories, Sanford, N.C. as the laboratory that analyzed the samples.

It has been the policy of the Solid Waste Section to require Division of Environmental Management (DEM) wastewater/groundwater laboratory certification for all laboratories that submit water quality analytical data for monitoring requirements at MSWLF facilities (reference enclosed memorandums). The certification must be for the analytical methods used for the required sampling parameters and also for the reported practical quantitation limits specified.

Although PXS Research Laboratories is certified (# 457) for some analytical methods, according to DEM laboratory certification records (confirmed by telephone conversation), it is not certified for the following methods that were used in the analyses of monitoring well samples from the Johnston County MSWLF:

<u>Method</u>	<u>Analyte</u>
EPA Method 8080	Organochlorine Pesticides & PCBs
EPA Method 8141	Organophosphorus Pesticides
EPA Method 8150	Herbicides

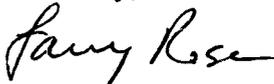
In addition, the laboratory is not certified to analyze samples for cyanide, sulfide, antimony, vanadium, and mercury, and SW-846 method 6010 is not approved for use for analysis of metals where a "low level" certification is required.

The Solid Waste Section will not accept as valid the data for the above referenced analytes and methods for which PXS Research Laboratories does not have certification. However it will not be necessary to immediately resample the monitoring wells. Since the facility is in assessment monitoring, another sampling episode for the complete Appendix II parameter list will be necessary in 1996. The sampling should be scheduled within the first quarter of the year. It is imperative that the County select a laboratory with proper certification.

Sampling and analysis to establish background concentration for the Appendix II constituent (diethylphthalate) that was found, using methods for which PXS Research Laboratories is certified, should continue unless it can be demonstrated that this compound is from a source other than the landfill (Rule .1634).

Thank you for your cooperation. If you have any questions, please call me at (919) 733-0692, ext. 257.

Sincerely,



Larry Rose
Groundwater Compliance Unit
Solid Waste Section



Terry Dover
Ben Barnes
Tom Wainwright - McKim & Creed

Enclosure

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



November 9, 1995

Mr. C.T. Clayton, P.E.
McKim & Creed Engineers, P.A.
Suite 117 Building 1
5625 Dillard Road
Cary, NC 27511

**Subject: Johnston County Landfill Permit #51-01
Alternative Daily Cover Request**

Dear Mr. Clayton:

The Solid Waste Section has reviewed your request submitted on behalf of the Johnston County Landfill dated October 24, 1995. We have closely researched the definition of yard trash within the Solid Waste Management Act, G.S. 130A-290 (45) and the disposal ban on yard trash, contained in G.S. 130A-309.10(f)(3). We also considered the definition of yard waste contained within the Solid Waste Management Rules 15A N.C.A.C. 13B, Section .0100 (65) and have reviewed policy memo #16 dated August 1, 1991 revised January 4, 1993 in regard to yard trash(waste).

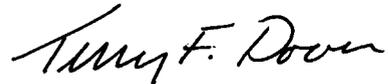
It is our opinion that the Johnston County Landfill would be in violation of the ban if your proposal would be implemented. Furthermore, U.S. EPA commissioned a report on Alternative Daily Cover materials dated June 1, 1992. "Green Waste" their term for yard trash/waste was not considered a good alternative daily cover material.

Mr. C.T. Clayton
November 6, 1995
Page 2

We are therefore denying your request submitted in accordance with 15A N.C.A.C. 13B Section 1626(2)(b) to utilize processed vegetal material(your term) as an alternative(emergency) daily cover.

If you have any questions feel free to contact our office.

Sincerely,



Terry F. Dover
Eastern Area Supervisor
Solid Waste Section

cc: Phil Prete
Jim Coffey
Jim Barber
Ben Barnes

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



October 27, 1995

Mr. C.T. Clayton, P.E.
Project Manager
McKim and Creed
Suite 117, Building 1
5625 Dillard Road
Cary, N.C. 27511

file

Re: Assessment Monitoring at the Johnston County Municipal Solid Waste Landfill (Permit #51-01).

Dear Mr. Clayton,

This letter serves as confirmation that the Solid Waste Section is in receipt of your October 23, 1995 correspondence which included a site map and a data summary table. However, sample data (including all the test results, blanks, test methods, PQL's, laboratory which performed analyses, sampling date, etcetera), groundwater flow direction and rate calculations and statistical analyses were not included. Please submit this information so the review and evaluation of the September sampling event can be completed.

Per the request in the McKim and Creed September 8 letter, permission to convert MW-4B to a permanent monitoring well is granted. At this time MW-4 can be removed from the monitoring program but should not be abandoned.

If you have any questions about these issues please call me at (919) 733-0692, extension 261.

Sincerely,

Mark Poindexter, Hydrogeologist
Groundwater Compliance Unit, Solid Waste Section

c: Philip Prete
Ben Barnes
Haywood Phthisic
Central file

Filename: 51-01#2.ast



October 24, 1995

M&C358-0052.OR(10)

ENGINEERS

SURVEYORS

ARCHITECTS

PLANNERS

Mr. Terry Dover, Environmental Supervisor
NCDEHNR
Division of Solid Waste
225 Green St., Suite 601
Fayetteville, N.C. 28301

RE: Johnston County Landfill
Alternative Cover Request

At the present time, Johnston County Landfill is using both soil cover on a daily basis and the synthetic cover at the end of each work day to cover the working face. On occasion, the ability to load and transport soil in inclement weather becomes very difficult. Johnston County would like to propose the use of an alternative soil cover, on an emergency basis, as allowed by T15A:13B.1626 (2) (b). The cover material would be derived from grinder processed vegetal material; wood chips, bark, grass clippings and leaves. This material lies in an area that is easily accessed by equipment and therefore would be easy to move.

Johnston County is well aware that "yard waste" or "yard trash" is no longer allowed in a MSW. The material proposed for use as emergency cover, does not fit the true definition of "yard trash". Yard trash is described as solid waste resulting from landscaping and yard maintenance such as brush, grass, tree limbs etc. This will be material that has been grinder processed and now is in the form of mulch or wood chips.

According to Landfill personnel, the amount of material needed during poor weather or poor road conditions would average approximately 10 scraper loads (17 cy scraper) per day. This equates to 170 cy or 4,590 cf of mulch. This would cover an area of approximately 100' x 100' x 0.5'. As stated earlier, this would only be used in an emergency type basis.

Should you have any questions regarding this request, please feel free to contact me.

Sincerely,

McKIM & CREED ENGINEERS, P.A.

A handwritten signature in cursive script that reads "C.T. Clayton".

C.T. Clayton, P.E.
Project Manager

cc: Warren Grimes-JCLF
Haywood Phthisic

SUITE 117

BUILDING I.

5625 DILLARD ROAD

CARY, NC 27511

PHONE 919/233-8091

FAX 919/233-8031

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



file

October 17, 1995

Mr. Mike Sanchez
McKim and Creed Engineers, PA
5625 Dillard Road, Suite 117
Cary, NC 27511

Re: Technical Review of Design Hydrogeologic Report - Proposed Johnston Co. MSWLF

Dear Mr. Sanchez:

A Technical Review of the Design Hydrogeologic Report has been completed. Further information is necessary in order to continue the review process.

The following comments are pursuant to the requirements of 15A NCAC 13B .1623 (b) and are directed to McKim and Creed and to S&ME. Portions of .1623 (b) not addressed below should, at this time, be considered as having met the Technical Review requirements of the Design Hydrogeologic Report; however, additional information may be requested at a later date.

(b)(3)(A) The sediment basin on the northwest corner of the proposed Phase Five must be moved approximately 80-100 feet north to prevent surface water infiltration from the basin from jeopardizing the integrity of the ground-water samples collected from GW-2. Note: GW-2 must remain at the northwest corner of the landfill because it is the most critical location to be monitored.

GW-4 must be moved away from the sediment basin on the northeast corner of the Phase Five.

A revised ground-water monitoring plan should be submitted.

Should you have any questions regarding this letter, please contact me at (919) 733-0692 ext. 267 or e-mail at <atkinsonwb@wastenot.ehnr.state.nc.us>.

Sincerely,

Brad Atkinson, Hydrogeologist
Solid Waste Section

cc: Ed Mussler, SWS
Greg Eades, SWS
Chaim J. Poran, Ensol
Walt Beckwith, S&ME

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



October 10, 1995

Mr. Michael Sanchez
McKim & Creed Engineers, P.A.
5625 Dillard Road, Suite 117
Cary, NC 27511

file

RE: Technical Review-Permit to Construct Application Revision 1, for the Proposed
Expansion of the Johnston County Landfill

Dear Mr. Sanchez,

The NC Division of Solid Waste Management, Solid Waste Section (Section) has conducted a review of the above referenced Permit to Construct application revision submitted by McKim & Creed, on behalf of Johnston County. The Section's review involved evaluating the application with respect to the North Carolina Solid Waste Management Rules (15A NCAC 13B.1600) and our technical review letter of July 28, 1995. The following issues remain to be addressed.

DRAWINGS

Drwg. E-13 Detail 4-13 incorrectly shows the geotextile cushion being placed under the FML. Please revise.

SUBGRADE

- IV-D2, 3b. The type of proof rolling equipment, or its size or weight should be specified. (Rule .1624(b)(7)(C)(ii))
- IV-D2, 3c. Is D698 to be used for these tests, or are other tests to be done for the moisture content?
- IV-D3, 3c. What particle size test is to be used?

CLAY LINER

- IV-E9, 4 While not required by the rules, many facilities also run grain size and Atterbergs on the test pad and during liner installation, when they run a perm test. There have been instances when a perm test failed or was marginal and all the other tests were within the correct window of specifications. The area of concern for repair and rechecking was able to be reduced, or a "bad" undisturbed sample was confirmed and the back-up test run.
- IV-E13,d The thickness of the "loose" lift should be stated. If the initial lift can be eight

- inches, will a subsequent lift be short?
- IV-E14,e A statement that clods or particles in excess of 3 inches in any dimension is not allowed should be included (Rule .1624(b)(8)(A))
- IV-E14,e Is the reference to vibratory rollers meant for a specific type of equipment?
Most compactors can vibrate.
- IV-E17,k It is recommended that a depth of crack that may be reworked, without having to rework or remove the entire lift be included. Possibly also the repair could be tied to the corrective action paragraph on page IV-E20.
- IV-E18 Field Quality Control- (Table E4a note; the a is missing) Would grain size tests be useful? They are commonly employed in North Carolina. Is the undisturbed permeability and natural moisture frequency correct, or should they read 1/acre/lift? If speedy tests for density and/or moisture are employed, how often are conventional tests run to help calibrate the speedy test results? i.e. every fifth or tenth measurement is confirmed with D2937 or D2216.
- IV-E19,c The original test should not be ignored, but rather the reason why it was considered faulty explained in the CQA report.
- IV-E19,d Can an area be reworked? This paragraph seems to indicate that the area must be removed.
What method will be used to ensure that the specified percentage of bentonite is used during construction?

HDPE LINERS and LLDPE

- IV-F1,2 This paragraph states that the HDPE liner materials will have a minimum thickness of 60 mils. This is inconsistent with the material specs.
- IV-F5 Suggest you add a statement that fork lifts will not be used to move rolls.
- IV-F23-iv Is the four psi pressure loss correct? Is there a reference on this recommendation?
- IV-F25 See comment IV-F28
- IV-F26,k(3) What if a seam fails through the weld, but at a stress that exceeds the tensile stress specification of parent liner material?
- IV-F28 In reference to repairs in general it is suggested that the timing of the repair be specified, ie within 24 hours after an approved test, or now if it is going to rain, etc. A statement on the size of patches is recommended. For example, all patches shall extend a minimum of X inches around the hole. A statement and method of covering or protecting holes, prior to repair is suggested.

HDPE Pipe

- IV-H4, 4 It is recommended that a statement on equipment minimizing shear movements be included.
- IV-H14, It is recommended that a size of wave that is not allowed be included, as well as

the correct procedure to remove and prevent them.

- IV-H15,b The Section is concerned about the provision to possibly eliminate the protective fabric entirely. It is recommended that a trial spreading of rock also be included. Most liner damage results not from the normal forces on the liner, but from the shear action of equipment. At a minimum, it is our opinion that the fabric should be included under all pipes (or a rub sheet of liner), under the haul roads that the trucks will be driving on, and in areas where a crane may be moving when laying pipe.

OPERATIONAL COVER etc.

- IV-J1 What is the allowable permeability of the operation cover soil?
IV-J4,2a This paragraph should be clarified to indicate that the geonet must be in place prior to placing the aggregate drainage layer at the toe of the slopes, ie make it consistent with IV-K2(2a).
IV-J7 Care should be taken to avoid shear action of equipment.

DRAINAGE NET

- IV-K4, f What precautions are recommended?

GEOTEXTILES

- IV-L1, 4 See comment IV-H15,b above.
IV-L1, 1 Is it necessary to specify that the fabric will be magnetically checked for broken needles?
IV-L4, g You may wish to also consider allowing the fabric to be sewn, and should specify the type and color, etc. of the thread.

GENERAL COMMENTS

A list of the tests to be performed or allowed, such as the one in Section IV-E4, 2a, is helpful and should be included in each section.

Has thought or provision been given to allowing staged activities, or multiple activities. This means that the liner could be placed while clay is being finished, or cover applied while liner is being finished? The specifications IV-E19-F, and IV-F3, 2a3 seem to not allow this.

The HDPE liner specs are more stringent than NSF specs. If the specified tensile strength is not required by the design, then the higher spec could reduce the number of eligible vendors for the product.

These comments are intended to expedite the review of the referenced application, and in no

Mr. M. Sanchez
Johnston County PTC Revision Review
October 10, 1995
Page 4

way do they restrict the Section's right to request additional information following the technical review process. If you have any additional questions or need help, please feel free to call me at (919) 733-0692 Ext. 343, or email us at musslerref@wastenot.ehnr.state.nc.us.

Sincerely,



Edward F. Mussler III
Environmental Engineer
Solid Waste Section

cc: Terry Dover, SWS
Jim Barber, SWS
Ben Barnes, SWS
Haywood Phistic, Johnston County

C:\WPDOCS\PERMITJOHN\CQAREV.JON

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



P 51-0

July 28, 1995

Mr. Michael Sanchez
McKim & Creed Engineers, P.A.
5625 Dillard Road, Suite 117
Cary, NC 27511

Re: Technical Review, Permit to Construct Application
Proposed Johnston County Municipal Solid Waste Landfill

Dear Mr. Sanchez,

The NC Division of Solid Waste Management, Solid Waste Section (Section) has completed its initial technical review of the above referenced Permit to Construct application submitted by McKim & Creed, on behalf of Johnston County. The Section's review involved evaluating the application with respect to the North Carolina Solid Waste Management Rules (15A NCAC 13B.1600). Based on its preliminary review, the Section requests the following additional information.

When submitting revisions to the application, the changed pages should be clearly identified with a revision date in either the header or the footer. It is not necessary to submit five copies of the revisions. Two copies will suffice. When the application is finalized and there are no more changes, then a total of five copies will be needed. Please also note that some comments may only address a particular section of your report, while the information appears in other areas (for instance some statements made in the facility plan, also appear in the operations plan). Please proofread your resubmittal carefully, so that the entire application is consistent from section to section.

Section II Facility Plan

- II-15 Waste Disposal Volumes, The discussion of the estimated variance in the waste projection needs to be included in the plan, as well as reference to the fact that waste volumes could also increase. For instance unexpected growth, a new industry, a storm, or excessive C&D waste, could be factors to cause an increase.1619(e)(1)(B)
- II-20 The use of alternative daily cover will require a demonstration, and will be included in the permit as a permit condition.
- II-22 Will Phase 5 be constructed all at once, or is phased cell construction to be used?
- II-23 What is the size of the Phase 5 footprint, in acres? Please also list the acreage of the other phases.

Mr. M. Sanchez

July 28, 1995

Page 2

- II-25 Soil balances show a lack of soil for construction of the landfill, in later years. Is sufficient soil available on-site for use as daily/weekly cover? Have off-site borrow sources been identified by the county?
- II-26 A statement needs to be added that a phase could fill up faster than expected. Also, the volume capacity of each phase should be listed in addition to the number of years of operation. The Solid Waste Section permits a landfill for five years or until the approved contours are reached. Ideally this will be five years. The permit is then amended for future phase construction or operation.
- II-29 There will also be a geomembrane liner in the closure cap that is not accounted for in the description.
- II-30 Four groundwater samples are not required prior to obtaining the permit to operate. Current Section policy is to have an initial sampling event prior to opening the new MSW unit, and the other three events taken during the first six months of operation.
- II-36 For the leachate generation rate, please also convert the cubic feet gallons. That number is more easily understood by the general public. Also, HELP reports annual rates while only monthly rates are reported. Please also provide the yearly leachate generation rates.
- II-36 What volume of leachate can be handled by city emergency action?
- II-40 Prior approval is required from the treatment plant prior to accepting leachate. Please obtain a letter or other documentation that leachate will be accepted. How much leachate will the county be able to accept on a daily basis? This information should also be include in the leachate management plan, found in the operations plan.
- II-41 Johnston County should identify trucks and have an alternate leachate disposal site identified by the time the permit to operate is issued. This information should also be include in the leachate management plan, found in the operations plan.

Section III Engineering Plan

- III-9 The description and diagram of the closure cap indicates 18" of 1×10^{-5} cm/sec soil directly overlaying the waste. Is this achievable? It has been the Sections experience that a "subgrade", like the foot of intermediate cover is necessary to provide a sufficient surface to run the compactor on, to build the low permeability barrier.
- III-9 Section C of the Engineering Plan incorrectly refers to Appendix B-1. This should be B-2 for the stability of the composite liner.
- III-10 What are the friction angles between the various closure cap components?
- III-10 Is it possible to have a well compacted operational cover on the side slopes? Is it necessary, or does the operational cover just have to be laid down with no additional compaction?
- III-12 Is NCDOT #78 stone angular or round? Will the liner be safe from puncture?
- III-12 How will the leachate lines be installed? i.e. Will protective cover be placed first or will the leachate pipe be lain and then have the cover placed on top? Also, will a rub sheet be placed under the leachate line in order to protect both the collection pipe and the FML

during cover operations?

- III-14 Is a shut off valve present or needed, such that the leachate could be stored in the lined cell if necessary? We did identify a valve at the leachate pond.
- III-15 What is the estimated time involved with draining a cell?
- III-15 How will the leachate be removed from the pond if a pump and haul scenario becomes necessary?
- III-24 Are soil conditions sufficiently uniform to make the differential settlement argument?
- III-33 Section C incorrectly refers to Appendix B-1. This should be Appendix B-2 for stability of the composite liner.
- III-33 Refers to composite sample C-12 as being representative of the on-site sandy clay. The sample should read C-2.
- * Has the leachate lagoon been sized adequately to handle the flow from the entire project? The plan just addresses phase 5.

III Appendices

- B-3 The normal stress value of 0.3 ksf used for calculating the geonet transmissivity needs to be explained.
- B-3 Using the highest recommended factor of safety 2 for all 4 parameters, the maximum $e_{all}=1.16$ in/day which is less than $e_{req}=2.77$ in/day. Does an alternate geonet need to be specified?
- C-1 With regard to the leachate generation rate estimate, it is stated that precipitation data came from NOAA, however the HELP model output indicates synthetic precipitation data from Raleigh, NC. Please clarify and also describe the other assumptions or model manipulations that were used. Where did the soil parameters come from?
- C-2 It is unclear where the value for the minimum velocity (2 fps) comes from in the leachate collector pipe design.
- C-2 Will <0.5% slope be adequate for the gravity fed leachate collection pipe running between phase 5 and the leachate pond? Reaches 1,2,6,7,9 and 10 fall below 0.5% (Appendix C-3).
- C-4 In the geomembrane flap calculations, it is stated that the granular filter material must have a permeability greater than 0.1 cm/sec. Is a sand with a $k<0.1$ cm/sec acceptable as a filter material.
- D-2 A description of the SB-Slope input parameters would be helpful in evaluating slope stability at the site.

IV COA Plan

- This section will be addressed at a future date.
- Outline jobs, responsibility, qualifications etc.
 - CQA vs. CQC needs to be addressed

Mr. M. Sanchez
July 28, 1995
Page 4

- The pre-construction conference needs to be mentioned in the CQA plan.
- Specs will be needed for all soils and the #78 stone used on the project.
- Specs will be needed for the liner test welds, all non-destructive testing and repair procedures etc.

IV-5 How is depth measured, how patched. Are 100' centers adequate for survey and locating patches, tests and undercut areas.

IV-5 Specify when subgrade and top of clay is surveyed i.e. before or after smooth role etc.

IV-6 Permeability tests # per acre/ per lift. Acceptable test methods and confining pressures.

Appendix A Geosynthetic Specs.

Please provide all pertinent specs. The technical specs must, at a minimum, be equivalent to the design numbers. Specs are needed for all liners, pipes, geonets, fabrics, stone, sand, protective cover, and clay liner.

V Operation Plan

- V-4 The detailed description of the land application of sewage sludge is not germane to the permit. It should be removed or reworded. Furthermore, in reference to the meeting it was not agreed by all parties that the "sludge could be applied to the proposed landfill area, as permitted, without adversely impacting the suitability of this site, for a new lined landfill." The Section did acknowledge that this was a permitted activity under the DEM permit issued, and if it was properly done, it was likely it would not impact the site. Mr Coffey expressed his disagreement, noting that the full hydrogeologic study should be done so that the activity would not affect the site or its characterization.
- V-4 Disposal of sewage sludge will be listed in the permit as a permitted activity, All sludge must pass both the paint filter test and the TCLP screening. Please include this in the application.
- V-8 Hazardous waste generated from conditionally exempt small quantity generators is not allowed to be disposed of at the MSWLF. This exemption is not recognized in NC Hazardous Waste Rules. Only waste generated by households is allowed, since this waste is not hazardous by definition. Please provide a copy of the waste screening form/record of inspection form that Johnston County will use while conducting its waste screening inspections.
- V-8 The Section issued a memorandum on July 12, 1994 in reference to the "Procedure and Criteria for Waste Determination. Essentially the memorandum indicated that the Section will no longer perform waste determinations for lined landfills. Lined landfills are allowed to accept wastes that are not hazardous, thus the county will be responsible for screening their own waste, as part of their waste screening process.
- V-12 The NCDEHNR address needs to be added to the waste screening plan in order to promote timely reporting of attempted illegal dumping.

- V-12 Information pertaining to the management of hazardous waste on this page is repeated word for word on V-15. Is it necessary to repeat this information?
- V-20 As previously mentioned, a demonstration of the alternative cover will be included with the permit. The permit application should address the requirements of rule .1626(2)(b).
- V-21 What actions will take place if disease vectors are detected?
- V-22 What actions will be taken upon detection of methane. Also include notification requirements. More detail needs to be included with this section specifically addressing immediate actions upon detection of methane and notification and potential remediation requirements.
- V-22 More detail needs to be included with respect to on-site fires. All burning at the landfill must have prior approval from the Section. Has Johnston County coordinated with the local fire department with respect to actions taken in the event of an on-site fire?
- V-23 How will dust be controlled at the site?
- V-26 A description of both the procedure and apparatus necessary to conduct the paint filter test should be included.
- V-32 A detailed description of the leachate sampling program (i.e. EPA sample method and frequency) is needed.
- V-A5 Are the sediment basins equipped with emergency spillways?
- V-A7 Is it necessary to scarify the operational cover prior to placing waste?
- * With a fence only enclosing a portion of the property, is the site properly secured?
- * .1626(7) The Erosion and Sediment Control Plan should be submitted to the Land Quality Section of the Division of Land Resources for approval. Please advise the Section of approval when obtained.
- V-33 A detailed description of the leachate sampling program (i.e. EPA sample method and frequency) should be included in the operation plan. The emergency leachate management plan should also address issues like the pump and haul scenario, the possibility of isolating the cell and temporarily storing the leachate in the cell, etc. More information should be supplied regarding the leachate pond. What measures are incorporated to monitor its volume and remaining storage capacity. How much leachate may be disposed of at the treatment plant. Will allowable discharge equal or exceed the inflow?

The Section highly recommends that the design include a visual gauge in the leachate pond, so that a person could tell at a glance if it needs attention. The edge of liner should be marked, so that in the future it can be found. Posts in the anchor trench have been used, as well as metal tapes. Provision should be made to identify where in the cell the waste must stop and berms must be built to ensure that waste or blowout does not exit over the liner system.

VI. Closure Plan

- VI-4 The monitoring wells should have covers that are vented in order to prevent the buildup

Mr. M. Sanchez
July 28, 1995
Page 6

- of methane gas, or trapping volatiles which could affect the groundwater samples..
- VI-5 If a settlement of 10-20 feet occurs, will the post-settlement slopes still be at 5%?
- VI-8 Does the closure cost estimate for soil take into account shrinkage factors.

VII. Post-Closure Plan

- VII-2 Will there be a road for maintenance of the flares and wells? What equipment will be allowed to operate on top of the final cover (i.e. maximum mower size)?
- VII-2 Is the frequency of maintenance checks adequate especially in light of the proposed leachate recirculation? Please provide a table of closure/post closure maintenance activities and the suggested schedule. It is likely that some activities would be more frequent early in closure and then could be reduced later in post-closure care.
- VII-3 How will the operator know when to flush out the lateral leachate collection pipes?
- VII-3 What are the typical maintenance procedures required for the aerators in the leachate pond?
- * The post closure care plan must address decommissioning the leachate lagoon. (see rule .1680(f))

Misc.

- The Section needs a sealed boundary survey plat, and a property description, if available, for the permit.

Volume 2 Design Hydrogeologic Study and Water Quality Monitoring Plan

1. Please see the attached memorandum from the section hydrogeologist

These comments are intended to expedite the review of the referenced application, and in no way do they restrict the Section's right to request additional information following the technical review process. If you have any additional questions or need help, please feel free to call me at (919) 733-0692 Ext. 344.

Sincerely,



Edward F. Mussler III
Environmental Engineer
Solid Waste Section

cc: Terry Dover, SWS
Jim Barber, SWS
Ben Barnes, SWS
Haywood Phistic, Johnston County

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

51-01



July 3, 1995

Richard B. Self
County Manager
Post Office Box 1049
Smithfield, North Carolina 27577

RE: Financial Assurance for the Johnston County Landfill
Local Government Financial Test Update

Dear Mr. Self:

This is a reminder that, as specified in 15A NCAC 13B .1628(e)(1)(F)(vi), annual updates of the financial test must be submitted 120 days after the close of the fiscal year. Tests previously submitted expired on July 1, 1995, and updated tests must be submitted to me by November 1, 1995.

Please note that the updated test must use figures from the local government Annual Financial Information Report dated **June 30, 1995**. The correct inflation rate to use in updating closure and post-closure costs is **1.015**. Prior to submitting your updated test, please call me at (919) 733-0692 ext. 270 so that we can discuss the status of the previously submitted test. Upon completion, please mail your updated test to my attention at the address printed below.

Sincerely,

Lee Capasso Flynn
Compliance Officer
Solid Waste Section

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



June 19, 1995

Mr. Haywood Phthisic
Johnston County Solid Waste Supervisor
P.O. Box 2263
Smithfield, NC 27577

Re: Technical Review, Johnston County Transition Plan, Permit Number 51-01

Dear Mr. Phthisic:

The NC Division of Solid Waste Management, Solid Waste Section (Section) has completed a technical review of the engineering portion of the above referenced Transition Plan application submitted by McKim & Creed, on behalf of Johnston County. The section hydrogeologist will review the Local Area Study and the Water Quality Monitoring portions of the Transition Plan and will request any additional water monitoring information or geology needed upon completion of his review.

The Section's engineering review involved evaluating the Johnston County Transition Plan with respect to the North Carolina Solid Waste Management Rules (15A NCAC 13B.1600). Based on its preliminary review, the Section needs the following additional information.

VI Operations Plan

Page VII-1

1. It is recommended that the solid waste that is accepted and banned from the landfill be listed, for the benefit of the on site operators, i.e. they may not have 15A NCAC 13B at their immediate disposal, for reference.

Page VII-3

4. For the benefit of the on-site operators, it is recommended that more detail be provided for the handling of asbestos. Are both friable and non-friable asbestos accepted at the facility? Do the handling methods differ?

Cover Material Requirements

1. As per §.1627(2)(b), has Johnston County made the required demonstration of the HDPE liner to a representative of the Section?

Air Criteria

1. A statement needs to be included in this section stating that the Section will be verbally notified within 24 hours of a fire at the landfill with written notification submitted within 15 days.

Mr. H. Phthisic

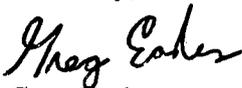
June 19, 1995

Page 3

2. Do the closure costs include the cost of the methane gas vents and the flare?
3. Do the costs for sampling and analysis include the cost of report preparation and statistical analysis?

Please submit revisions to the Transition Plan to the Section within the next 45 days. When submitting revisions to the Transition Plan, the changed pages should be clearly identified with a revision date in either the footer or the header. It is not necessary to submit five (5) copies of revisions or facility drawings, at this time. Two (2) copies will suffice. When the Transition Plan is finalized a total of five (5) copies will be needed. These comments are intended to expedite the review of the referenced application, and in no way do they restrict the Section's right to request additional information following the technical review process. If you have any questions regarding this review, please contact me at (919)733-0692 Ext. 344.

Sincerely,



Greg Eades

Environmental Engineer

Solid Waste Section

cc: Terry Dover, SWS Mike Sanchez, McKim & Creed
Ben Barnes, SWS Jim Barber, SWS

H:\EADES\JOHN1.TEC



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

April 21, 1995

TO: Owners And Operators Of Currently Operating MSWLFs

FROM: Solid Waste Section

RE: Water Quality Monitoring For Appendix II Constituents

This memorandum provides guidance on Solid Waste Section requirements for Appendix II monitoring of MSWLF Units, as required by Rule .1634 of the Solid Waste Management Rules. The memorandum suggests methods believed to be the most cost effective that will attain the desired Practical Quantitation Limits (PQLs). In order to reduce costs and the amount of water sample required for analyses, most organic analyses are best done by using methods 8260 and 8270. However these methods must utilize additional standards in order to attain all constituents on the Appendix II list.

Rule .1634(a) Assessment monitoring is required whenever a statistically significant increase over background has been detected for one or more of the constituents listed in Appendix I or whenever a violation of the North Carolina ground-water quality standards (15A NCAC 2L, .0202) has occurred.

Rule .1634(b) Within 90 days of triggering an assessment monitoring program, and annually thereafter, the owner or operator shall sample and analyze the ground water for all constituents identified in Appendix II of 40 CFR Part 258.

The owner or operator is required by Rule .1633(c) to establish an assessment monitoring program within 90 days of determining that there is a statistically significant increase over background for one or more of the constituents listed in Appendix I. Since the baseline sampling reports were due on or before April 9, 1995, MSWLF unit owners or operators should have determined if assessment monitoring is necessary by this date. Therefore for those facilities that do trigger assessment monitoring, within 90 days (on or before July 9, 1995) the MSWLF unit owners or operators are required to sample and analyze the ground water from each detection monitoring well for all 213 constituents identified in Appendix II of 40 CFR 258.

Organochlorine Pesticides and PCBs by certified method 8080 or 8081

<u>Parameter</u>	<u>POL in ppb</u>
✓ Aldrin	0.05
✓ alpha-BHC	0.05
✓ beta-BHC	0.05
✓ delta-BHC	0.05
✓ gamma-BHC; Lindane	0.05
✓ Chlordane	0.50
✓ 4,4-DDD	0.10
✓ 4,4-DDE	0.10
✓ 4,4-DDT	0.10
✓ Dieldrin	0.10
✓ Endosulfan I	0.10
✓ Endosulfan II	0.10
✓ Endosulfan sulfate	0.10
✓ Endrin	0.10
✓ Endrin aldehyde	0.10
✓ Heptachlor	0.05
✓ Heptachlor epoxide	0.10
✓ Methoxychlor	1.00
✓ Polychlorinated biphenyls; PCBs; Aroclors	2.00
✓ Toxaphene	2.00

Most of the other Appendix II organic compounds can be analyzed using either method 8260 or method 8270. Although the Subtitle D Federal Register does not list one of these methods for the following six parameters, the Solid Waste Section will accept method 8260 or 8270 for these compounds:

<u>Parameter</u>	<u>Method</u>	<u>POL in ppb</u>
✓ Acetonitrile; Methyl cyanide	8260	100
✓ Bis(2-ethylhexyl) phthalate	8270	20
✓ N-Nitrosodimethylamine	8270	10
✓ N-Nitrosodiphenylamine	8270	10
✓ N-Nitrosodipropylamine	8270	10
✓ Phenol	8270	10

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

January 18, 1995

TO: Owners And Operators Of Currently Operating MSWLFs

FROM: Solid Waste Section

RE: Water Quality Sampling At Municipal Solid Waste Landfill Facilities

The Solid Waste Section in our memorandum of June 24, 1994, provided guidance on sampling and analysis requirements for the Baseline Water Quality Sampling at Municipal Solid Waste Landfill Facilities. It has become apparent, based upon the initial sampling reports submitted, that there is still some confusion with regard to sampling analytical methods and reporting levels.

In the 6-24-94 memorandum the required laboratory certification methods were outlined and MSWLF Owners and Operators were instructed to use "an appropriately certified method" for the sample analysis. For most of the metals a "low level" certification method was specified. In most cases this would make a graphite furnace method necessary. A common mistake was the use of 6000 series Inductively Coupled Plasma (ICP) methods or Flame AA methods for some or all of the metals that should have been analyzed with a graphite furnace method.

Please note the approved methods for analyzing metals samples:

- Antimony, Beryllium, Cadmium, Chromium, Cobalt, Lead, Selenium, Thallium, and Vanadium require low level metals certification and therefore require graphite furnace methods.
- Arsenic and Selenium also require low level metals certification and therefore either a graphite furnace or a gaseous hydride analytical method.
- Barium, Copper, Nickel, and Zinc require a regular metals certification and therefore may be analyzed using an AA Flame or Inductively Coupled Plasma (ICP) methods.

- Calculations of ground-water flow directions and rates for each monitoring well (This is required for each sampling); and
- Results of the sampling analysis.

The Subtitle D Rules and The N.C. Solid Waste Management Rules for MSWLF units (the .1600 rules) do not specifically address seasonal variation in water quality monitoring samples. Therefore the Solid Waste Section does not require that the baseline sampling account for seasonal variations in ground-water quality. However, the Solid Waste Section would recommend that if your sampling schedule allows, sampling be scheduled in such a way as to account for seasonal variations in ground-water quality.

The Solid Waste Management rules require all four sampling events that comprise the baseline sampling to be completed and reported to the Solid Waste Section on or before April 9, 1995.

All future sampling and analysis at MSWLF facilities (including any additional baseline sampling) is to be performed as directed in this memorandum and the previous memorandum of June 24, 1994. Failure to use approved sampling and analysis methods and detection limits will result in the need to resample.

Attachment: APPENDIX I ORGANIC CONSTITUENTS