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Letters to the Editor

County didn't go beyond call of duty on Davis landfill

11-19-99

Letters to the Editor
News & Record

"Health Department went beyond call of duty" (Nov. 6): In my neighborhood we are beginning to call ourselves "The Wiley Davis Canaries," human counterparts of birds once used to detect toxic conditions in mines.

Though we are grateful for the county's recent testing of some neighborhood wells, sporadic testing was only initiated in response to neighborhood concerns, not as part of an existing county plan to protect the health of the neighborhood from a hazardous landfill.

Under the county's watch, the landfill became a Class A contamination site. Available documents reflect only two instances of the county testing off-site residential wells between 1989-1998.

When trace contaminants were detected, they were reported in the "not to worry" category. Gross contamination in a new well was dismissed as originating from solvents in PVC pipe adhesive, and flushing would solve the problem. The fact that the toxic solvents involved have also been detected within the landfill site is apparently of no concern.

When the state reassumed authority for inspection/operation of the landfill in

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N.C. Dept. of EHNR
NOV 22 1999
Winston-Salem
Regional Office



Related Info:
Read Columns by:

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LCIDN41-B Permit David H Griffin
1993-Present

1991, contamination status and closure requests were essentially ignored. Monitoring wells were analyzed for an inadequate number of potential contaminants.

Under the joint watch of the state/county during the last three years, the landfill's big dump (41-B) has encroached upon the little dump (41-N). This was a clear violation of state permits and county zoning, according to two employees of the N.C. Department of Environment and Natural Resources. Yet D.H. Griffin was allowed once again to get by with a serious operational violation unscathed.

We "canaries" question governmental priorities as they relate to a contaminated landfill versus the health of the community.

Dick Fayssoux Jr., Greensboro

Technology eroding value of FedEx deliveries

important issue has been missing from the ongoing debate over the value to this city's economy of the proposed FedEx hub: an analysis of changes in the demand for services provided by FedEx in recent years.

The company's financials, as well as analysis by transportation business experts show that the once-brilliant premium-priced overnight delivery model pioneered by this company is in rapid decline, especially for FedEx's desirable high technology clients. Analysts say that the high cost of rapid shipping has motivated technology companies to develop computerized inventory and manufacturing systems that are designed to eliminate the need for FedEx-type service.

These systems are so popular that FedEx itself is getting into this business to make up for declining shipping

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES
WINSTON-SALEM REGIONAL OFFICE

November 23, 1998



CERTIFIED MAIL Z-064 496 448
RETURN RECEIPT REQUESTED

JAMES B. HUNT JR.
GOVERNOR

Mr. D.H. Griffin
D.H. Griffin Wrecking Company, Inc.
Post Office Box 4657
Greensboro, NC 27407

WAYNE MCDEVITT
SECRETARY

Re: Wiley Davis Landfill (Permit # 41-B)
Closure Requirements

Dear Mr. Griffin:

Reference is made to our meeting of October 20, 1998, and the discussion concerning the closure of the Wiley Davis Landfill (Permit # 41-B). The purpose of this letter is to summarize the results of the meeting. It was agreed that a closure for the landfill plan be submitted for approval within 90 days (January 18, 1999). The closure plan should contain the following:

- I The agreed upon closure date of May 1, 1999 at which time no further waste shall be received at the facility.
- II A detailed site plan prepared by a registered professional engineer and submitted to the section for approval. The description should include a site map with final contours at a minimum of five foot intervals and should describe activities and a schedule achieving final contours. In addition to final contours, the site plan should include proposed sedimentation and erosion control features such as slope drains, benches, diversion berms and ditches. Existing surface water features, streams waste boundaries, property lines, proposed side slopes (not to exceed three to one), and other pertinent information should be included on the site plan. Vegetative cover and post-closure maintenance should also be addressed in the plan. You should contact Matthew Gantt of the Land Quality Section at the Winston-Salem Regional Office at (336) 771-2608 Ext 247 to discuss requirements for sedimentation control rules. Beneficial fill (strictly limited to concrete, brick, concrete block, uncontaminated soil, rock and gravel) may be utilized after the May 1, 1999 date to achieved the final contours, but all closure activities should be completed in a short period of time as set forth in the approved closure plan.

- III Submittal of a new ground water monitoring plan. The Solid Waste Section has reviewed the groundwater monitoring system and data which indicates contamination at the site. An upgrade of the exiting monitoring system is necessary to determine the nature and extent of contaminant migration and to adequately monitor groundwater quality at and around the Wiley Davis Landfill.

Therefore the Solid Waste Section requires that a new groundwater monitoring plan be submitted for the disposal site that is protective of public health and the environment and addresses the possibility of off-site contamination. The proposed monitoring plan should be certified by a licensed professional geologist with experience in assessment and remediation of groundwater. The plan must be approved by the Solid Waste Section before implementation and before additional wells are installed. Your consultant should call Mr. Larry Rose at (919) 733-0697 ext. 257 to discuss the plan before completion of the design. All monitoring wells must comply with well construction standards of 15A NCAC 2C .0108.

The proposed system should include incorporation or proper closure of the existing monitoring wells. Proper maintenance of wells is necessary and includes providing adequate safe access for sampling purposes. The North Carolina Water Quality Monitoring Guidance Document for Solid Waste Facilities addresses maintenance factors that are critical for helping insure proper monitoring.

- IV Submittal of a methane monitoring plan. Landfills have the potential to generate methane gas from the decomposition of organic matter. Methane gas concentrations in excess of 5% are explosive and under the right conditions can migrate for long distances and in unpredictable directions. Solid Waste Management Rule .0503 states "the concentration of explosive gases generated by the site shall not exceed... the lower explosive limit for gases at the property boundary." Since the methane gas situation is not known at the site and there exists the possibility of methane generation with off-site migration, an explosive gas monitoring plan is necessary. The plan should address monitoring as well as corrective action in the event that methane detected at levels greater than regulatory limits.

Thank you for your cooperation in resolving this matter. If you have any questions, please call me at (336) 771-4608 ext. 206. For questions concerning groundwater or methane monitoring, you should contact Larry Rose at (919) 733-0692 ext. 257

Sincerely,



Hugh Jernigan

Waste Management Specialist

Solid Waste Section

cc: Dexter Matthews

Philip J. Prete

Julian Foscue

Larry Rose

Matthew Gantt

TJ/π

June 2, 1999



JAMES B. HUNT JR.
GOVERNOR

WAYNE MCDEVITT
SECRETARY

Mr. Mark Taylor
Ecologic Associates, P.C.
2007 Yanceyville Street - Suite 223
Greensboro, North Carolina 27405-5004

Ref: Revised Closure Plan for the Wiley Davis Landfill (Permit No. 41-B)

Mr. Taylor:

The Solid Waste Section (the Section) has completed the review of your revised closure plan dated 26 April 1999 for the above referenced facility. Several items in the revised plan need to be clarified before approval can be granted. These items correspond to the number sequence of your April 26, 1999 letter as follows:

- 1) The agreed upon closure date for the facility is 15 September 1999. All plans for completing construction and having stabilizing vegetation established should take into account possibilities for contractor delays and adverse weather conditions. No extension of this closure date will be considered by the Section. Also, beneficial fill material is "allowed as needed to repair or further improve slopes and drainage," as agreed in our March 26, 1999 meeting (refer to page 4 and page 6 of text). However, disposal activities and stockpiling of this type of material at the site after the closure date was not agreed upon. Please revise the plan accordingly.
- 2) Whereas other federal and state regulations may differ in how a facility is defined, NC Solid Waste Management Rules require that separately deeded pieces of property have separate permit numbers and meet the individual requirements for the specified type of landfill. According to the current situation, the adjacent LCID landfill (Permit #41-N) is also out of compliance with the Rules since the Wiley Davis Landfill (Permit #41-B) has crossed the property boundary and encroached upon the LCID buffer areas. Until a satisfactory resolution to this encroachment is made, the LCID is subject to receiving notice of violations (NOV's), penalties, and possible inability to renew the permit when the existing permit expires on September 13, 1999.

In your April 26, 1999 response letter and on page 4 and page 8 of the revised Closure Plan, you refer to the Wiley Davis facility as a C&D landfill. Although the Wiley Davis Landfill may have taken C&D waste, it was never permitted as such and this is one of the reasons for our current effort in closing the facility. Please remove any reference to the facility as being a C&D landfill. The Section views the site as a

Mr. Taylor
June 2, 1999
Page 2

non-complying facility due to the type of waste accepted and the January 1, 1998 deadline for meeting new landfill requirements. Also, due to the LCID landfill requirements (.0563 and .0566), please adjust your closure plans to provide side slopes no steeper than 3 (horizontal): 1 (vertical) in the northeastern area currently proposed with 2.5:1 side slopes. The Section accepts the proposed 2:1 side slopes on the northwestern corner of the facility due to property boundary restraints and the desire to maintain proper sediment and erosion control devices. However, future instability of this slope and/or purchase of adjacent land to accommodate monitoring wells may necessitate reconfiguring this slope to a flatter grade.

If you have any questions or comments concerning this letter, please feel free to call me at (336) 771-4608 ext. 204.

Sincerely,



Timothy A. Jewett
Western Area Engineer
Solid Waste Section

cc: Jim Coffey
Phil Prete
Julian Foscue
Larry Rose
Hugh Jernigan
Raleigh Central Files



NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES

DIVISION OF WASTE MANAGEMENT



JAMES B. HUNT JR.
GOVERNOR

WAYNE McDEVITT
SECRETARY

WILLIAM L. MEYER
DIRECTOR

MEMORANDUM

DATE: MAY 20, 1999
TO: HUGH JERNIGAN
THROUGH: JULIAN FOSCUE
FROM: PHILIP J. PRETE 
RE: STATEMENT ON WILEY DAVIS ROAD / DH GRIFFIN LANDFILL
(PERMIT # 41-B) GUILFORD COUNTY

The D. H. Griffin Landfill has operated under an evolving program and due to changes in the rules that were intended to upgrade the environmental protective attributes of various classes of landfills, the landfill has been determined by the Division to be non-conforming as of January 1, 1998. The Division began internal discussions to develop a strategy to address the inconsistencies in late 1997 and entered into negotiations with the permittee on or about 20 October, 1998 to find reasonable alternatives to close the landfill in compliance with the rules and to implement a post-closure monitoring program. The Divisions attention in 1998 was directed at assuring that all municipal solid waste landfills closed in accordance with the rules. Upon completing those priority activities the Division began to attend to the non-municipal solid waste landfills that were non-conforming based on the new rules. The Wiley Davis Road landfill became the highest priority in this class of facility.

The Division currently is reviewing a closure plan, and plans for post-closure environmental monitoring submitted by the permittee at the request of the Division. The permittee has been fully cooperating with the Division to accomplish complete closure of the old unit at an economic loss to the permittee. The site will be phased into closure with stabilization and vegetation of final contours.

PJP

ane
C. 27407

Reed
S Sedgewood Lane
Greensboro, NC 27407

Stephen G Johnson
Kendia K. Johnson
4007 Sedgewood Lane
Greensboro NC 27407

Shelia Barber
4012 Sedgewood Lane
Greensboro, NC 27407

Donna Nell-Martin
Brad Martin
4011 Sedgewood Ln
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Paul D. Rimley
Rachel Nance Rimley
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Eugenia E. Jansouf
R. Jansouf
4005 Sedgewood Lane
Greensboro, N.C. 27407

Teresa and Ben Hodget
4000 Sedgewood Lane
Greensboro, NC 27407

Charles and Frances Wiley
4002 Sedgewood Lane
Greensboro NC
27407

#19

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WASTE MANAGEMENT

April 6, 1999

RECEIVED
N.C. Dept. of EHNR
APR - 7 1999
Winston-Salem
Regional Office

Mr. D.H. Griffin
D.H. Griffin Wrecking Company, Inc.
Post Office Box 4657
Greensboro, North Carolina 27407

Ref: Wiley Davis Landfill (Permit No. 41-B) Closure Requirements

Mr. Griffin:

This letter is in reference to our meeting on 26 March 1999 at the Winston-Salem Regional Office and our discussion of the Closure Plan and Environmental Monitoring Plans submitted by EcoLogic Associates, P.C. on 22 February 1999. Since the Closure Plan submitted did not address final contours and other requirements to satisfy the original closure date of May 1, 1999, we agreed that a revised closure plan be submitted within 30 days of our meeting (26 April 1999). The revised closure plan should reflect the following:

- 1) The closure date of the facility has been extended from 1 May 1999 to 15 September 1999. However, the new closure date reflects final closure of the facility as opposed to the previous date being the point at which waste could no longer be accepted at the facility. Final closure for the September deadline includes proper grading, slope stabilization, seeding, and termination of disposal operations at the site. A phased closure approach was agreed on and the closure plan should establish a clear time line with specific milestones for the phases.
- 2) Resolve property boundary issues involving encroachment of the Wiley Davis facility onto the adjoining property occupied by LCID Permit Number 41-N. Any request for expansion of the LCID facility should be submitted separately from the Wiley Davis closure plan.
- 3) Coordinate modifications to the Methane Monitoring Plan with Mr. Larry Rose of the Raleigh Central Office. According to Solid Waste Management Rules, the compliance boundary is the facility property line.
- 4) Coordinate additions and modifications to the Groundwater and Surface Water Monitoring Plans with Mr. Larry Rose of the Raleigh Central Office. All monitoring points and wells need to be located within the property boundaries of the facility.

Mr. Griffin
Wiley Davis Landfill Closure
April 6, 1999
Page 2

During the meeting, you advised us of the Department of Transportation's (DOT) intent to construct an interchange for the proposed I-85 By-Pass in the vicinity of Wiley Davis Landfill. Please consider the effects of the proposed construction when preparing the revised closure plan and monitoring plans. Also, be aware that the DOT's purchase of adjoining property does not alter the requirements for controlling potential methane migration and groundwater contamination at the property lines of the facility. If you have any questions or comments concerning this letter, please feel free to call me at (336) 771-4608 ext. 204.

Sincerely,



Timothy A. Jewett
Western Area Engineer
Solid Waste Section

cc: Jim Coffey
Phil Prete
Julian Foscue
Larry Rose
Hugh Jernigan
Raleigh Central Files

A:\CAD\DR\GRIFLET

H-3

NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
WINSTON-SALEM REGIONAL OFFICE

June 14, 1999



JAMES B. HUNT JR.
GOVERNOR

Mr. Ken Carter
Guilford County Environmental Health Department
1100 East Wendover Avenue
Greensboro, North Carolina 27405

Re: Response to Information Request on Wiley Davis Landfill

WAYNE MCDEVITT
SECRETARY

Mr. Carter:

I am writing in response to your request for information on the Wiley Davis Landfill (Permit Number 41-B), generated from a meeting between your staff and NCDENR Solid Wastes Specialist, Hugh Jernigan, on 26 May 1999. Several of the items discussed in the meeting fall outside of the State's authority and can only be addressed by local zoning requirements or County Departments. However, the following items fall under the closure agreement between the NCDENR Solid Waste Section and D.H. Griffin Wrecking Company:

Item 1: Why is continued acceptance of waste necessary to meet the closure deadline of 15 September 1999?

The facility currently has unacceptable slopes and flat areas on top that would not promote storm water runoff. The flat areas provide ideal points for ponding of water and infiltration which increase the risk of groundwater contamination and migration of groundwater contaminants. Steep slopes are more susceptible to erosion and loss of vegetative ground cover that can lead to unstable slope conditions. The continued acceptance of waste will allow D.H. Griffin Wrecking Company to obtain more acceptable slopes and grades at the site.

Item 2: What is the basis for denying a request to renew the permit for the newer LCID facility (Permit Number 41-N) that expires 13 September 1999?

The only recourse the State has in denying an LCID permit that meets all of the technical requirements of the Solid Waste Management Rules (sections .0564, .0565, and .0566) is if the facility does not have appropriate zoning approval by the county. Past compliance history can play a factor, but compliance at the 41-N permitted site has been satisfactory to date.

Mr. Carter
June 14, 1999
Page 2

Item 3: How long will D.H. Griffin Wrecking Company have to continue post-closure groundwater monitoring at the site?

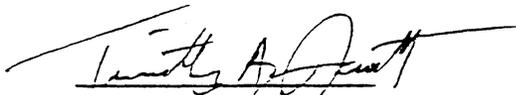
Post Closure Monitoring for the site will be for a minimum of five (5) years or indefinitely if contaminants are detected in the monitoring well system. Solid Waste Management Rules require landfill property owners to perform groundwater mitigation and other actions if contaminants are detected crossing the compliance (property) boundary. A request to end post-closure monitoring of groundwater can be submitted by the landowner if data from the monitoring wells indicates no contamination or if contaminant levels have dropped below drinking water standards.

Item 4: What are the methane monitoring requirements for the site?

Methane Monitoring requirements are similar to Groundwater requirements for post-closure monitoring - a minimum of five (5) years or indefinitely if methane levels pose a health concern. Solid Waste Management Rules require landfill property owners to perform venting and flaring of methane or other measures if methane levels exceed the lower explosive limit (5% methane) at the property boundary or twenty-five percent of the lower explosive limit (1.25 % methane) in on-site structures.

I am also enclosing a statement from Phil Prete, Solid Waste Section - Compliance Branch Head, regarding the Division of Waste Management's view of the Wiley Davis Landfill site. If you have any additional questions or comments concerning this letter, please call me at (336) 771-4608 ext. 204 or Hugh Jernigan at ext. 206.

Sincerely,



Timothy A. Jewett
Western Area Engineer
Solid Waste Section

cc: Julian Foscue
Hugh Jernigan
Eric Ireland
Garris Evans

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES
WINSTON-SALEM REGIONAL OFFICE

MEMORANDUM

1's of June 21

TO: Phil Prete

THROUGH: Julian Foscoe

FROM: Hugh Jernigan *Hwj.*

SUBJECT: Chronology of the History of the D.H. Griffin
Wiley Davis Landfill

Listed below is a basic history of the landfill with attachments. Particular attention was given to any Notices Of Violation and related information. The facility was primarily inspected by the Department of Human Resources, Division of Health Services, Solid and Hazardous Waste Management Branch From 1980-May 1987. From May 1, 1987 - September 1, 1991 the facility was inspected under the delegated authority of the Guildford County Health Department, and since September 1991 the Solid Waste Section has had the responsibility for inspections.

Attachment Number

1. January 1980 D.H. Griffin purchased property from John Ethel Nunn. The site was supposedly used by Emory Roofing as disposal site for his business prior to purchase of property.
2. March 27, 1980 Letter from D.H Griffin Wrecking requesting transfer of permit from Mr. Emory. No information has been found regarding a landfill permit to Emory Roofing. Also, no plans or information on landfill operations have been found as accompanying information for the transfer request.
3. May 28, 1980 Permit issued to D.H. Griffin for a Demolition/Landscape landfill.
4. March 14 1984 Complaint Investigation - Disposal of liquids in 55 gallons drums.
5. April 16, 1987 Letter regarding complaint of leachate discharging into creek.
6. May 1, 1987 Delegation of Authority for Solid Waste program to Guildford County.

Attachment Number

7. August 15, 1989 Letter from D.H. Griffin Wrecking concerning leachate and odors.
8. October 24, 1989 Notice of Violation from Air Quality in reference to odor
9. April 17, 1990 Notice of Violation from Water Quality Section in reference to discharge of leachate.
10. April 23, 1990 Letter from Guilford County on closure of landfill.
11. January 31, 1991 Notice of Violation from Water Quality Section referencing violation of 2L standards.
12. August 13, 1991 Letter referencing Guilford County rescinding Delegated Authority (Effective September 1, 1991)
13. April 27, 1993 Notice of Violation from Solid Waste Section.
14. June 11, 1997 Status memo on D.H. Griffin Wiley Davis landfill.
15. January 30, 1998 Investigation of fire at landfill.
February 2, 1998
16. November 23, 1998 Letter to D.H. Griffin summarizing meeting of October 20, 1998 and discussing closing of landfill.
17. March 8 1999 Investigation of underground fire at landfill.
18. March 18, 1999 Complaint letter from citizens in area.
19. April 6, 1999 Letter to D.H. Griffin in reference to March 26, 1999 meeting and closure plan for the facility.
20. April 8, 1999 Citizens meeting
21. June 2, 1999 Letter reviewing closure plan
22. June 4, 1999 Site visit
23. June 14, 1999 Letter to Ken Carter Guilford County Health Department.

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES
WINSTON-SALEM REGIONAL OFFICE

June 14, 1999



JAMES B. HUNT JR.
GOVERNOR

WAYNE MCDEVITT
SECRETARY

Mr. Ken Carter
Guilford County Environmental Health Department
1100 East Wendover Avenue
Greensboro, North Carolina 27405

RECEIVED
N.C. Dept. of EHNR
JUN 17 1999
Winston-Salem
Regional Office

Re: Response to Information Request on Wiley Davis Landfill

Mr. Carter:

I am writing in response to your request for information on the Wiley Davis Landfill (Permit Number 41-B), generated from a meeting between your staff and NCDENR Solid Wastes Specialist, Hugh Jernigan, on 26 May 1999. Several of the items discussed in the meeting fall outside of the State's authority and can only be addressed by local zoning requirements or County Departments. However, the following items fall under the closure agreement between the NCDENR Solid Waste Section and D.H. Griffin Wrecking Company:

Item 1: Why is continued acceptance of waste necessary to meet the closure deadline of 15 September 1999?

The facility currently has unacceptable slopes and flat areas on top that would not promote storm water runoff. The flat areas provide ideal points for ponding of water and infiltration which increase the risk of groundwater contamination and migration of groundwater contaminants. Steep slopes are more susceptible to erosion and loss of vegetative ground cover that can lead to unstable slope conditions. The continued acceptance of waste will allow D.H. Griffin Wrecking Company to obtain more acceptable slopes and grades at the site.

Item 2: What is the basis for denying a request to renew the permit for the newer LCID facility (Permit Number 41-N) that expires 13 September 1999?

The only recourse the State has in denying an LCID permit that meets all of the technical requirements of the Solid Waste Management Rules (sections .0564, .0565, and .0566) is if the facility does not have appropriate zoning approval by the county. Past compliance history can play a factor, but compliance at the 41-N permitted site has been satisfactory to date.

State of North Carolina
Department of Environment,
Health and Natural Resources
Division of Land Resources

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary



June 23, 1993

Mr. D.H. Griffin, Sr.
D.H. Griffin Wrecking Co., Inc.
P.O. Box 4657
Greensboro, North Carolina 27407

RE: Expired Mining Permit No. 41-14
Griffin Pit
Guilford County

RECEIVED
N.C. Dept. of EHNHR
JUL - 2 1993
Winston-Salem
Regional Office

Dear Mr. Griffin:

This letter is to follow-up our meeting and site inspection conducted on Monday, June 14, 1993 at the above referenced site. As you will recall, you and your representatives, me, Messrs. Doug Miller and Lindy Leonard of our Winston-Salem Regional Office, and a representative of the Division of Solid Waste Management were present at the meeting. We reviewed the map and other information recently forwarded to this office by your engineer, Mr. Homer Wade. The following is what was agreed to at the meeting between all parties that were present:

- 1.) No excavated material shall be removed from this site as the mining permit for this site has expired. Material excavated onsite shall be used onsite as cover material for the landfill in the 18.407 acre area.
- 2.) No landfilling activities, other than those allowed under Solid Waste Management Rule 15A NCAC 13B.0562, shall occur in the 16.030 acre area until a valid landfill permit has been issued for this area by the Division of Solid Waste Management.
- 3.) If a decision on the landfill permit for the 16.030 acre area has not been made by the Division of Solid Waste Management **by September 1, 1993**, you must commence grading, sloping and permanent stabilization of the disturbed areas along the perimeter of the 16.030 acre area and complete such restoration in a timely manner. The bottom of the excavation can remain disturbed while awaiting a response from the Division of Solid Waste Management if said area continues to drain into the sediment basin located downstream.

Mr. Griffin

Page 2

- 4.) If the Division of Solid Waste Management denies your application for a landfill permit, you must immediately do one of the following:
- a) immediately grade, slope and permanently stabilize all disturbed areas within the 16.030 acre area,
- OR
- b) immediately apply for a mining permit to cover the 16.030 acre area and obtain such permit prior to removal of any excavated material offsite. In the application, you must clearly define which areas of the site will be used for onsite cover material, which areas will be used for mining purposes and hauled offsite, and which areas will be permanently stabilized/reclaimed.

As was agreed to during our meeting, this office will continue to maintain your \$25,000.00 Letter of Credit until all required reclamation at the entire mine site has been completed. This includes final capping and permanent stabilization of the landfill in the 18.407 acre area as well as the completion of landfilling and capping activities in the 16.030 acre area (if approved by the Division of Solid Waste Management) or complete reclamation of this area that is currently disturbed at the site.

Again, thank you for the opportunity to meet with you at the mine site and to discuss the above situation. If you should have any questions on the above, please contact me at (919) 733-4574.

Sincerely,


Tracy E. Davis, E.I.T.
State Mining Specialist
Land Quality Section

/td

cc: Mr. Doug Miller, Winston-Salem Regional Office, Land Quality Section
Mr. Hugh Jernigan, Winston-Salem Regional Office, Division of Solid Waste Management

State of North Carolina
Department of Environment,
Health and Natural Resources
Winston-Salem Regional Office

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary



**DIVISION OF WASTE MANAGEMENT
SOLID WASTE SECTION**

June 11, 1997

MEMO

#14

TO: Phil Prete

FROM: Hugh Jernigan *[Signature]*

THROUGH: Julian Foscoe *[Signature]*

SUBJECT: Wiley Davis Landfill
Permit No. 41-B

The permit for a sanitary landfill was issued on May 28, 1980, and was an existing landfill at the time of issuance. There are several issues and questions that should be resolved for the site:

1) Waste Acceptance

The permit was issued as a sanitary landfill (demolition-landscape landfill) and it appears the site has accepted C & D waste since the ^{inspection} ~~inspection~~ of the landfill in that the interpretation of "demolition waste" was C & D. There are also written approvals for the acceptance of roofing materials by Guilford County. Review of Regional Office and Central Files reveal no permit application which could address this issue and questions remain over types of acceptable waste.

2) Groundwater

There are monitoring wells at the site which have shown contamination. The Groundwater Section in the Winston-Salem Regional Office has delegated authority to the Guilford County Environmental Health Department. According to Gene Mile of Guilford County, the landfill is currently on a quarterly groundwater monitoring schedule. Should the Solid Waste Section be responsible for evaluating groundwater monitoring at the site?

June 11, 1997

3) Elevation Limitations/Side slopes

There are no final contours listed for the site; waste disposal is currently being conducted on a plateau, and could go much higher based on the size of the site. The side slopes of the landfill are very steep which could possibly result in a slide in the future. Is there any way to regulate the height of the landfill?

4) Operational Requirements

Operational plans were not required at the time of permit issuance and there are none in effect. Should the facility operate under LCID rules or Sanitary Landfill rules and could the facility be required to submit operational plans (all other issues concerning the site need to be clarified first)?

5) Roadway Construction

Part of the Greensboro Urban Loop Highway Plans call for an interchange which would intersect with a portion of the landfill. Unless these highway plans are modified, a significant amount of waste will be moved to make way for the interchange.

It appears the site may meet buffer requirements concerning the siting requirements of 0563(6)(c).

Apparently a call for a permit renewal is not an option in that due to the heavy workload, the permitting staff has to consider a permit renewal for this type site a low priority.

Any assistance and direction concerning this facility would be greatly appreciated.

HJ/mrw

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WASTE MANAGEMENT



April 6, 1999

RECEIVED
N.C. Dept. of EHNHR
APR - 7 1999
Winston-Salem
Regional Office

Mr. D.H. Griffin
D.H. Griffin Wrecking Company, Inc.
P.O. Box 4657
Greensboro, N.C. 27407

RE: Environmental Assessment Monitoring Plan - Wiley Davis Landfill
(Permit # 41-B)

Dear Mr. Griffin:

This letter is intended to provide documentation of the Solid Waste Section's comments about the referenced monitoring plan as expressed during our March 26, 1999 meeting at the Winston-Salem Regional Office. As you may recall, we discussed several issues of the plan that need to be addressed before final approval can be granted.

Within the next 60 days please provide to the Solid Waste Section a response, with revisions as necessary, to the following concerns and questions.

Groundwater Assessment Plan

- * *page 4* - Groundwater standards for 1,2-dichlorobenzene and 1,4-dichlorobenzene are 620 ppb and 75 ppb respectively.
- * *page 10* - Statistical analyses of analytical data is not required.

Water Quality Monitoring Plan

- * *page 2* - NCAC 13B Solid Waste Management Rules Sections .1631 through .1633 are not applicable to this landfill. Environmental monitoring requirements are covered in Sections .0503 and .0601.
- * *figure 2 (proposed sample locations)* - Monitoring well 4 (WD-4) is identified as being located outside of the property boundary and consequently outside of the compliance boundary. According to our discussions D.H. Griffin Wrecking Company, Inc. does not own the property where the well is located. One option to address this is to obtain an easement or some legal agreement to allow continued use of this well. Otherwise, the well should be properly abandoned and another one installed inside the

property boundary to monitor the same general area. Water quality compliance standards must be monitored "at a horizontal distance of 500 feet from the waste boundary or at the property boundary, whichever is closer to the source" [NCAC 15A 2L .0107 (a)].

Although the potentiometric map indicates groundwater flow is primarily south and southwest toward the creek there is some evidence that this may be only shallow flow. Topographic maps of the area show a feature that suggests flow to the southeast is possible. Since flow direction has been based on measurements from a monitoring well system with no wells along the eastern side of the landfill, perceived flow direction may be more skewed to the south and southwest while a large component of flow may move unmonitored below Wiley Davis Road. Because of this possibility, additional potentiometric data to establish groundwater flow direction east of the landfill is necessary. It may be possible to obtain authorization to install three temporary piezometers on the Department of Transportation's (DOT) newly acquired property across Wiley Davis Road. The piezometers can be used for groundwater measurements and sampling purposes. Depending on the results expanded assessment plans may be necessary to evaluate that side of the site.

It has been indicated that monitoring wells WD-2s, WD-2d, WD-6 and proposed WD-8d may be eliminated by roadwork and will need replacing. The replacement location, to some extent, will depend on how invasive the roadwork is at the site. In your revised monitoring plan, give proposed alternate locations for these wells.

The Department of Transportation's construction activities related to the Greensboro Outer Loop could have a significant effect on the Water Quality Assessment and Monitoring Plan for the landfill. This being the case, additional modifications will be necessary as DOT's plans and activities become known.

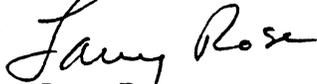
Landfill Gas Monitoring Plan

The Landfill Gas Monitoring Plan was designed for the western side of the landfill based on the assumption that gas migration would be limited by the downgradient stream in the area. Although the stream would probably restrict potential gas migration, the compliance boundary is at the property boundary [15A NCAC 13B .0503 (2)], which unfortunately does not extend to the stream. Consequently monitoring must be done at the property boundary. The plan should be revised to include the western side of the landfill. If the company acquires the property all the

way to the stream, as was discussed as a potential option in our meeting, then the gas monitoring plan could remain as currently proposed.

Thank you for your cooperation in resolving this matter. If you have any questions, please call me at (919) 733-0692, extension 257.

Sincerely,



Larry Rose
Environmental Specialist
Solid Waste Section

cc: Phil Prete - Head, Field Operations Branch
Julian Foscue - Western Area Supervisor
Hugh Jernigan - Waste Management Specialist
Mark Taylor, P.E. - Ecologic Associates, P.C.
Gary Babb, P.G. - Babb and Associates, P.A.

RECEIVED
N.C. Dept. of ENR

MAR 18 1999

Winston-Salem
Regional Office

Mr. Hugh Jernigan
North Carolina Solid Waste Section
585 Waughtown Street
Winston-Salem, NC 27107

Dear Mr. Jernigan:

This letter is in accordance with a telephone conversation you had with Nancy Lenker on March 8, 1999, requesting that a letter be written stating the concerns the residents of Sedgewood Lane in Greensboro, NC, are having about the dump on Wiley Davis Road that is owned by D. H. Griffin.

1. We are concerned about the smell that is coming from the dump. As you know, the dump caught fire several weeks ago. The smell that is permeating our homes is coming from this fire and is a smell that is worse than that given off by a pulp mill. This smell is in our neighborhood everytime the wind does not blow. The fumes coming from this fire are making our eyes sting, our noses run, our heads ache, and are causing allergic reactions. One child is not even able to play outside because of her allergic reactions to the fumes.
2. We are concerned about the safety of the water in our wells. We are wondering what effect this unlined dump is having on the ground water that we are drawing from our wells. Several of the residents are so concerned about the water that they are only drinking bottled water.
3. A big concern is the major health problems we are seeing in residents who have lived in the neighborhood for many years. In the last six houses on this dead-end street (the houses that are nearest this dump) we have seen the following major health problems:

Five cases of cancer (two have died and three are recent cases)
One stroke
One case of failed kidneys

We do not know if any of these health problems are results of any contamination from this dump, but the statistics are staggering. Out of twelve adults that have lived in or are living in these six houses seven have had major health problems. All but two of the children in these families grew up and moved away before the dump had been in existence very long.

4. When you drive to the end of our street you can see the dump which is not far behind the vacant lot at the end of the street. We are concerned about the devaluation that this dump is going to have on the property in our neighborhood.
5. We are concerned about the oily substance that is on the surface of the water in the creek that runs beside this dump.

6. We are concerned that the State of North Carolina is not going to do anything about this dump until all the residents around it are sick since this is what the State seems to do in so many cases. We know that this dump was unregulated when it was first opened and that it is also unlined.

We would like to know what the State plans to do about this problem. We would like to know who is going to pay the doctor bills of the residents who are being made sick from the dump. We would like to know who is going to pay to monitor our water to make sure that it is safe for consumption. We would like to know who is going to reimburse these residents for the devaluation of their property this dump is going to cause. We would like to know who is going to clean up this mess - although we know that this burden will fall on the taxpayers of the State of North Carolina.

The signers of this letter are on Page 3.

CC Mr. Garris Evans, Jr., R.S.
Environmental Health Specialist
Environmental Health Division
Guilford County Department of Public Health
1100 East Wendover Avenue
Greensboro, NC 27405

CC U. S. Environmental Protection Agency
Region IV
Regional Federal Center
Atlanta, GA 30303

Marilyn B. Seneca
4010 Sedgewood Lane
Greensboro, N.C. 27407

Teresa and Ben Hodge
4000 Sedgewood Lane
Greensboro, NC 27407

Carol J. Reed
4003 Sedgewood Lane
Greensboro, NC 27407

Charles and Frances Wolfe
4002 Sedgewood Lane
Greensboro NC
27407

Stephen & Johnson
Kendrick Johnson
4007 Sedgewood Lane
Greensboro NC 27407

Shela Baker
4012 Sedgewood Lane
Greensboro, NC 27407

Donna Nell Martin
Brad Martin
4011 Sedgewood Ln
NC 27407

Paul D. Rumley
Rachel Nance Rumley
4030 Sedgewood Lane
Greensboro, N.C. 27407

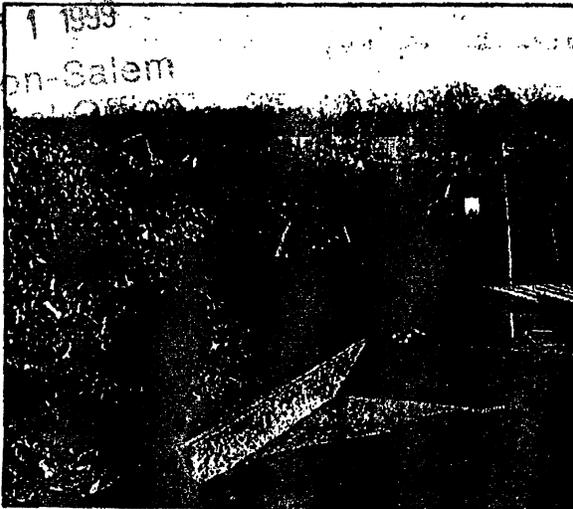
Eugenie E. Jaxson
R. Jaxson Jr.
4005 Sedgewood Lane
Greensboro, N.C. 27407

DH Griffin salvages demolition materials

By John S. Blaisdell, Market Development Specialist

RECEIVED
N.C. Dept. of Environment

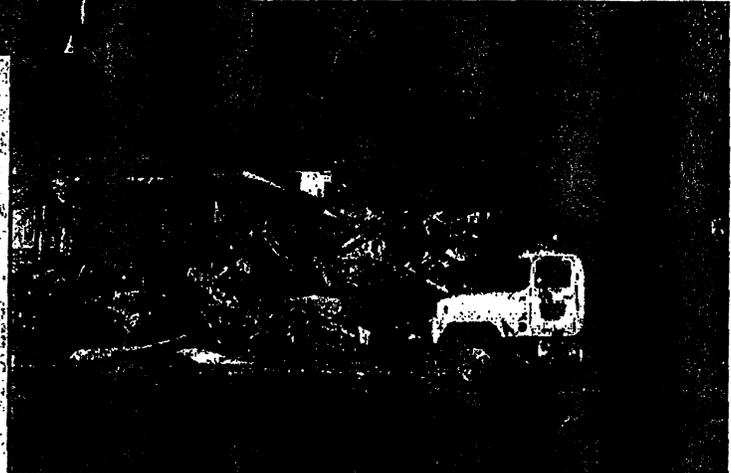
MAR 1 1999
Winston-Salem
Regional Office



Post-It® Fax Note	7671	Date	3/11/99	# of pages	2
To	Julien Rescue	From	Phil Preke		
Co./Dept.		Co.			
Phone #		Phone #			
Fax #		Fax #			

OPEN ONE MINUTE THINGS
Left: A view of DH Griffin's Greensboro salvage yard where demolition materials are recycled.

Below: DH Griffin recovers material from a commercial demolition site in Raleigh.



DH Griffin stands out as one of North Carolina's largest construction and demolition debris recycling businesses. Started in Greensboro nearly 40 years ago by one individual, David Griffin Sr., the company has grown into an international business with more than 700 employees. The company prides itself in being highly integrated, offering a full range of services, including lead and asbestos abatement, construction services, demolition services, materials salvage and recycling, and landfill disposal.

DH Griffin's salvage yard and main business offices are located in Greensboro, N.C. The company also maintains satellite offices throughout the United States.

The Business of Demolition

According to David Griffin Jr., vice president of DH Griffin Wrecking Inc., approximately 60 percent of their demolition work is industrial, 35 percent commercial, and five percent residential. He estimates that 60 percent of business comes from Fortune 500 companies. Also, the Department of Energy creates a lot of decommissioning and dismantling (D&D) work for their company with the removal of power plants.

DH Griffin specifically targets commercial, residential, and publicly-owned structures with a high salvage

content. Before a building is demolished, they carefully extract directly re-usable materials such as windows, doors, antique timbers, piping, and light fixtures. Materials are transported back to their 37-acre salvage yard in Greensboro, where they are re-sold directly to the public.

Structures then are torn down using large excavators with attached grapples or shears to properly sort and size reduce the material. Recyclable materials such as metals are separated onsite from residuals destined for the landfill. Some metals are baled at the demolition job site using portable baling equipment and sent directly to local markets. Other metals are delivered to Griffin's

Continued on next page.

5

Continued from previous page.

Greensboro salvage yard for further processing. Some aggregates, such as concrete and brick, are also recovered on-site and sold or given away as solid fill material.

The Salvage Yard

DH Griffin's massive 37-acre site in Greensboro houses the main business offices for the demolition and asbestos abatement, scrap metal salvage, building materials salvage and re-sale, and the automobile and parts recycling and salvage operations. At the yard, DH Griffin receives metal and other recyclable materials from their own demolition work, as well as from other recycling businesses and industrial, commercial, or residential sources.

Ferrous metals are processed using a large stationary shear to size reduce the materials before being shipped to market. Non-ferrous metals such as aluminum and copper are baled on site. The yard has railroad line connections, allowing them to transport materials directly to the mills. Approximately 60,000 tons of metals are handled per year.

Environmental Remediation Services

In 1985, DH Griffin decided to get into remediation services to further integrate the company. Demolition and Asbestos Removal Inc. (DARI) was created to handle all their own abatement work that must be completed prior to demolition projects. DH Griffin assesses asbestos and lead content in buildings and completes the state's required abatement procedures.

Landfill Operations

DH Griffin owns and operates a construction and demolition debris landfill in Greensboro that accepts materials from their own demolition jobs, as well as from other customers. Currently, they are salvaging cardboard and metals at the landfill. According to Griffin Jr., the company plans to site several new construction and demolition landfills in and around North Carolina within the next five years.

Construction & Demolition (C&D) Debris Recycling

Very little infrastructure exists for C&D debris recycling in North Carolina. However, among the few companies involved, DH Griffin stands out as being one of the largest in the state today.

It recently has been estimated that the demolition portion of the C&D waste stream is approximately 1.4

Business Summary

Company Name:	DH Griffin Wrecking Inc.
Started:	1959
Type of Business:	Environmental Services/Demolition/Salvage
Ownership:	Private
Employees:	Nationally, 700 North Carolina and South Carolina, 350
Company Growth Rate:	20.25% per year
Nationwide Offices:	15
Demolitions Per Year:	300
Material Recovered Per Year (Nationally):	Metal, 200,000 tons Concrete, 500,000 tons
Rank Among Demolition Contractors in the U.S.:	Among Top 3

million tons in North Carolina. Recovering additional amounts of material from demolition sites will depend primarily on increases in the recovery of two main materials: aggregates and wood. DH Griffin already is recovering large amounts of concrete and other aggregates and plans to increase the amount being recovered within the next few months.

The Future of DH Griffin

Unlike most other individual construction or demolition contractors, DH Griffin has found a competitive advantage in integrating the businesses. Integration apparently has been a successful move for the company, which has seen 20-25 percent annual growth in recent years. "As of the beginning of December, we had 40 projects started in 14 states," Griffin Jr. said.

As for the future, according to Griffin Jr., "We plan to offer design and build services to our customers so they can have one stop shopping. We will be able to offer remediation, demolition, recycling, and salvage, as well as design and build services for the new building."

Most recently, Griffin has involved in several multi-million dollar general contracting/construction projects in the Raleigh area, including the new Centennial High School and the new Student Health Center at North Carolina State University. These projects are being done by DH Griffin Construction Company, the company's contracting division based in Raleigh.

For more information about DH Griffin's services, call the company's Greensboro office at (336) 855-7030.

NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
WINSTON-SALEM REGIONAL OFFICE



November 23, 1998

CERTIFIED MAIL Z-064 496 448
RETURN RECEIPT REQUESTED

JAMES B. HUNT JR.
GOVERNOR

Mr. D.H. Griffin
D.H. Griffin Wrecking Company, Inc.
Post Office Box 4657
Greensboro, NC 27407

WAYNE MCDEVITT
SECRETARY

Re: Wiley Davis Landfill (Permit # 41-B)
Closure Requirements

Dear Mr. Griffin:

Reference is made to our meeting of October 20, 1998, and the discussion concerning the closure of the Wiley Davis Landfill (Permit # 41-B). The purpose of this letter is to summarize the results of the meeting. It was agreed that a closure for the landfill plan be submitted for approval within 90 days (January 18, 1999). The closure plan should contain the following:

- I The agreed upon closure date of May 1, 1999 at which time no further waste shall be received at the facility.
- II A detailed site plan prepared by a registered professional engineer and submitted to the section for approval. The description should include a site map with final contours at a minimum of five foot intervals and should describe activities and a schedule achieving final contours. In addition to final contours, the site plan should include proposed sedimentation and erosion control features such as slope drains, benches, diversion berms and ditches. Existing surface water features, streams waste boundaries, property lines, proposed side slopes (not to exceed three to one), and other pertinent information should be included on the site plan. Vegetative cover and post-closure maintenance should also be addressed in the plan. You should contact Matthew Gantt of the Land Quality Section at the Winston-Salem Regional Office at (336) 771-2608 Ext 247 to discuss requirements for sedimentation control rules. Beneficial fill (strictly limited to concrete, brick, concrete block, uncontaminated soil, rock and gravel) may be utilized after the May 1, 1999 date to achieved the final contours, but all closure activities should be completed in a short period of time as set forth in the approved closure plan.

D.H. Griffin

Page 2

- III Submittal of a new ground water monitoring plan. The Solid Waste Section has reviewed the groundwater monitoring system and data which indicates contamination at the site. An upgrade of the exiting monitoring system is necessary to determine the nature and extent of contaminant migration and to adequately monitor groundwater quality at and around the Wiley Davis Landfill.

Therefore the Solid Waste Section requires that a new groundwater monitoring plan be submitted for the disposal site that is protective of public health and the environment and addresses the possibility of off-site contamination. The proposed monitoring plan should be certified by a licensed professional geologist with experience in assessment and remediation of groundwater. The plan must be approved by the Solid Waste Section before implementation and before additional wells are installed. Your consultant should call Mr. Larry Rose at (919) 733-0697 ext. 257 to discuss the plan before completion of the design. All monitoring wells must comply with well construction standards of 15A NCAC 2C .0108.

The proposed system should include incorporation or proper closure of the existing monitoring wells. Proper maintenance of wells is necessary and includes providing adequate safe access for sampling purposes. The North Carolina Water Quality Monitoring Guidance Document for Solid Waste Facilities addresses maintenance factors that are critical for helping insure proper monitoring.

- IV Submittal of a methane monitoring plan. Landfills have the potential to generate methane gas from the decomposition of organic matter. Methane gas concentrations in excess of 5% are explosive and under the right conditions can migrate for long distances and in unpredictable directions. Solid Waste Management Rule .0503 states "the concentration of explosive gases generated by the site shall not exceed... the lower explosive limit for gases at the property boundary." Since the methane gas situation is not known at the site and there exists the possibility of methane generation with off-site migration, an explosive gas monitoring plan is necessary. The plan should address monitoring as well as corrective action in the event that methane detected at levels greater than regulatory limits.

Thank you for your cooperation in resolving this matter. If you have any questions, please call me at (336) 771-4608 ext. 206. For questions concerning groundwater or methane monitoring, you should contact Larry Rose at (919) 733-0692 ext. 257

Sincerely,



Hugh Jernigan
Waste Management Specialist
Solid Waste Section

cc: Dexter Matthews
Philip J. Prete
Julian Foscue
Larry Rose
Matthew Gantt

TJ/rt

Oct 14 '98 11:41

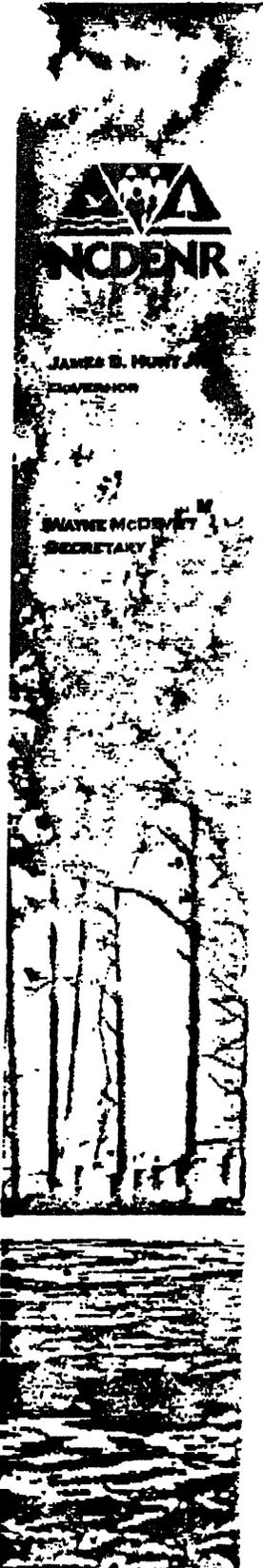
OK 89197334810



NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES WINSTON-SALEM REGIONAL OFFICE

COVER SHEET

FAX



To: PHIL PREE
Fax #: (919) 733-4810
Subject: JERRY SPARROW (NEW WELL)
Date: 10-14-98
Pages: 3, including this cover sheet

From: Winston-Salem Regional Office
Name: JULIAN FOSQUE
Fax #: (336) 771-4631
Phone#: (336) 771-4600

COMMENTS: Please contact the person listed above if all pages are not received.

PHIL:
MR JERRY SPARROW (336) 852-2961 JUST FAXED ME THE ATTACHED LAB RESULTS CONCERNING A SAMPLE TAKEN FROM HIS "NEW" WELL. MR. SPARROW LIVES ACROSS THE CR. FROM THE D.H. GRIFFIN LANDFILL.

JULIAN

DIVISION OF HEALTH AND HUMAN SERVICES
STATE LABORATORY OF PUBLIC HEALTH
PO BOX 28047 - 306 N. WILMINGTON ST., RALEIGH, NC 27611

ORGANIC CHEMICAL ANALYSIS / PURGEABLE COMPOUNDS

LABORATORY # 983047

COMPOUND	MDL	µg/l	COMPOUND	MDL	µg/l
Chloromethane	2.0 ^{µg/l} / _l	u	1,2-Dichloropropane	0.5 ^{µg/l} / _l	u
Vinyl Chloride			Dibromomethane		↓
Bromomethane			Bromodichloromethane		0.9
Chloroethane			Cis-1,2-Dichloroethane		u
Trichlorofluoromethane	↓		4-Methyl-3-Pentanone (MIBK)		trace
1,1-Dichloroethane	0.5 ^{µg/l} / _l		Toluene		trace
Acetone	2.0 ^{µg/l} / _l		Trans-1,2-Dichloroethane		u
Iodomethane	0.5 ^{µg/l} / _l		1,1,1-Trichloroethane		↓
Carbon Disulfide			Tetrachloroethane		↓
Methylene Chloride			2-Hexanone		↓
Acetonitrile			Dibromochloromethane		trace
Trans-1,2-Dichloroethane			Ethylene Dibromide		u
Methyl-t-Butyl-Ether		↓	Chlorobenzene		↓
1,1-Dichloroethane		trace	1,1,1,2-Tetrachloroethane		↓
Isopropyl Ether		u	Ethyl Benzene		↓
Cis-1,2-Dichloroethane	↓	↓	Xylenes		trace
2-Butanone	2.0 ^{µg/l} / _l	803.3 ³	Styrene		trace
Tetrahydrofuran	↓	2394.0 ³	Bromoform		trace
Chloroform	0.5 ^{µg/l} / _l	3.8	1,1,2,2-Tetrachloroethane		u
1,1,1-Trichloroethane		u	1,2,3-Trichloropropane		↓
Carbon Tetrachloride			1,4-Dichlorobenzene		↓
Benzene			1,2-Dichlorobenzene	↓	↓
1,2-Dichloroethane			1,2-Dibromo-3-Chloropropane	2.0 ^{µg/l} / _l	↓
Trichloroethane	↓	↓			

- Possible lab contamination or background
- Estimated Value
- Actual value is known to be less than value given.
- Actual value is known to be greater than value given.
- Material was analyzed for but not detected. The number is the Minimum Detection Limit.
- Tentative Identification.
- Sample diluted. MDL's do not apply.

RECEIVED
N.C. Dept. of EHNR

OCT 14 1998

Winston Salem
Regional Office

DATE 10-14-98 FAX COVER TIME 11:20

FROM J Sparrow
TELEPHONE 852-2961

TO J. Foscoe
FAX NUMBER 771 4631

NUMBER OF PAGES 2

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES
WINSTON-SALEM REGIONAL OFFICE



JAMES B. HUNT
GOVERNOR

SWAYNE McDEVITT
SECRETARY

C O V E R

S H E E T

FAX

To: PHIL PRETE
Fax #: ~~(919)~~ (919) 733-4810
Subject: Jerry Sparrow (New Well)
Date: 10-14-98
Pages: 3, including this cover sheet

From: Winston-Salem Regional Office
Name: JULIAN FOSQUE
Fax #: (336) 771-4631
Phone#: (336) 771-4600

COMMENTS: Please contact the person listed above if all pages are not received.

PHIL:
MR JERRY SPARROW (336) 852-2961 JUST
FAXED ME THE ATTACHED LAB RESULTS
CONCERNING A SAMPLE TAKEN FROM HIS
"NEW" WELL. MR. SPARROW LIVES ACROSS
THE CR. FROM THE D.H. GRIFFIN LANDFILL.

JULIAN

From: Self <NROAR04/N1NW309>
To: PRETE PHILIP
Subject: Wiley Davis Landfill
Send reply to: Hugh_Jernigan@WSRO.ENR.State.NC.US
Date sent: Mon, 11 May 1998 10:44:31 +0000

Phil:

1. Phone Numbers and contacts for Wiley Davis Landfill

Landfill Office (336) 292-0216

D. H. Griffin Wrecking (D.H. Griffin) (336) 855-7030

D. H. Griffin Wrecking (D.H. Griffin, Jr., Vice President) (336)
855-9309

After Hours Number (336) 294-5593 Tommy Coleman, Landfill Manager.

2. Landfill inspections

We have made no formal inspections in the past 24 months. I had been talking Permitting trying to see if we could "call" the permit for review due to it had been issued in 1980. Julian and I met with Mr. Griffin to discuss landfill issues on 8/23/96. I had hoped we could get them to close Re: Jan '98 LCID rule. Also visited the site on 4/24/97 and I think the photos I took were sent to you. Wrote memo to you June 97 asking for direction. Last visited the site on 1/30/98 and 2/2/98 in reference to a fire at the site.

From: Self <NROAR04/N1NW309>
To: ROSE LARRY,PRETE PHILIP,POINDEXTER MARK
Subject: D.H. Griffin/Wiley Davis Road Landfill
Send reply to: Hugh_Jernigan@WSRO.ENR.State.NC.US
Date sent: Tue, 26 May 1998 09:51:18 +0000

I have completed a file search of Land Quality records and have talked to some "old timers" who had been at the site as far back as the early 1970's. There are no records on the depth of excavations, which were being conducted for approximately 5-10 years prior to the 1971 Mining Act. It appears that the landfilling at the site started around the mid-1970's. From conversations with Land Quality and Hazardous Waste people, my guess is the sandrock mining probably proceeded no more than 20-30 feet below the elevation of Wiley Davis Road.

Thanks for taking the time to go by the site last week.

Hugh J.

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES
WINSTON-SALEM REGIONAL OFFICE
DIVISION OF WATER QUALITY
GROUNDWATER SECTION



February 17, 1998

JAMES B. HUNT JR.
GOVERNOR

Ms. Evelyn Walker
Wiley Davis Road Landfill
400 Wiley Davis Road
Greensboro, NC 27407

WAYNE MCDEVITT
SECRETARY

**Subject: Groundwater Sample Detection Limits, Wiley Davis Landfill,
Wiley Davis Road, Greensboro, Guilford County, North Carolina
Incident #6357, Site Priority Ranking 0110/A**

Dear Ms. Walker:

This office acknowledges the receipt of the Semi-Annual Groundwater Monitoring report for the subject site on February 12, 1998. Your cooperation is appreciated. After reviewing the report, we found that the detection limits for certain contaminants are higher than the NC groundwater standards. The detection limits for any contaminants should be below the State 2L standards. Therefore, you need to use a NC certified laboratory which is able to analyze any contaminants of concern below the State groundwater standards.

Please be advised that you need to submit a copy of monitoring report to the NC Division of Waste Management in Raleigh for their review.

If you may have any questions, please feel free to contact Gene Mao at (336) 373-3771.

Sincerely,

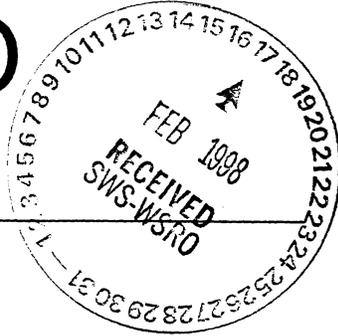
Sherri. V. Knight
Groundwater Supervisor

cc: WSRO

2/13/98 - Alian / Hugh...

Larry is looking into item # 2 on Hugh's memo. - Phil

MEMO



TO: Phil,

DATE: 2-9-98

SUBJECT: Wiley Davis LF
Greulford Co.

This site is being monitored on a semi-annual basis. Unfortunately the data has been sent to the Water Quality section in the Winston Salem Office since 1994. The last data we have is 4, 1994. Water Quality has been sending the data on to Environmental Health @ the Guilford Co. Health Dept. I have made contact w/ both the Health Dept and LF, and have a copy of the last data. Future data will be sent to me ^{at the LF.}

There is some contamination (some > 2L stds.). The private wells located off-site do not show anything yet, but there is the possibility since some are downgradient.

When all of the missing data comes in I'll review it w/ ^{From:} Mark & we'll make a decision. We (the solid waste section) have jurisdiction over the site. Thanks



North Carolina Department of Environment,
Health, and Natural Resources



Printed on Recycled Paper

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WASTE MANAGEMENT

RECEIVED
N.C. Dept. of EHNR

APR - 7 1999

April 6, 1999



Winston-Salem
Regional Office

Mr. D.H. Griffin
D.H. Griffin Wrecking Company, Inc.
Post Office Box 4657
Greensboro, North Carolina 27407

Ref: Wiley Davis Landfill (Permit No. 41-B) Closure Requirements

Mr. Griffin:

This letter is in reference to our meeting on 26 March 1999 at the Winston-Salem Regional Office and our discussion of the Closure Plan and Environmental Monitoring Plans submitted by EcoLogic Associates, P.C. on 22 February 1999. Since the Closure Plan submitted did not address final contours and other requirements to satisfy the original closure date of May 1, 1999, we agreed that a revised closure plan be submitted within 30 days of our meeting (26 April 1999). The revised closure plan should reflect the following:

- 1) The closure date of the facility has been extended from 1 May 1999 to 15 September 1999. However, the new closure date reflects final closure of the facility as opposed to the previous date being the point at which waste could no longer be accepted at the facility. Final closure for the September deadline includes proper grading, slope stabilization, seeding, and termination of disposal operations at the site. A phased closure approach was agreed on and the closure plan should establish a clear time line with specific milestones for the phases.
- 2) Resolve property boundary issues involving encroachment of the Wiley Davis facility onto the adjoining property occupied by LCID Permit Number 41-N. Any request for expansion of the LCID facility should be submitted separately from the Wiley Davis closure plan.
- 3) Coordinate modifications to the Methane Monitoring Plan with Mr. Larry Rose of the Raleigh Central Office. According to Solid Waste Management Rules, the compliance boundary is the facility property line.
- 4) Coordinate additions and modifications to the Groundwater and Surface Water Monitoring Plans with Mr. Larry Rose of the Raleigh Central Office. All monitoring points and wells need to be located within the property boundaries of the facility.

Mr. Griffin
Wiley Davis Landfill Closure
April 6, 1999
Page 2

During the meeting, you advised us of the Department of Transportation's (DOT) intent to construct an interchange for the proposed I-85 By-Pass in the vicinity of Wiley Davis Landfill. Please consider the effects of the proposed construction when preparing the revised closure plan and monitoring plans. Also, be aware that the DOT's purchase of adjoining property does not alter the requirements for controlling potential methane migration and groundwater contamination at the property lines of the facility. If you have any questions or comments concerning this letter, please feel free to call me at (336) 771-4608 ext. 204.

Sincerely,


Timothy A. Jewett
Western Area Engineer
Solid Waste Section

cc: Jim Coffey
Phil Prete
Julian Foscue
Larry Rose
Hugh Jernigan
Raleigh Central Files

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NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
WINSTON-SALEM REGIONAL OFFICE

June 14, 1999



JAMES B. HUNT JR.
GOVERNOR

WAYNE McDEVITT
SECRETARY

RECEIVED
N.C. Dept. of EHNR
JUN 17 1999
Winston-Salem
Regional Office

Mr. Ken Carter
Guilford County Environmental Health Department
1100 East Wendover Avenue
Greensboro, North Carolina 27405

Re: Response to Information Request on Wiley Davis Landfill

Mr. Carter:

I am writing in response to your request for information on the Wiley Davis Landfill (Permit Number 41-B), generated from a meeting between your staff and NCDENR Solid Wastes Specialist, Hugh Jernigan, on 26 May 1999. Several of the items discussed in the meeting fall outside of the State's authority and can only be addressed by local zoning requirements or County Departments. However, the following items fall under the closure agreement between the NCDENR Solid Waste Section and D.H. Griffin Wrecking Company:

Item 1: Why is continued acceptance of waste necessary to meet the closure deadline of 15 September 1999?

The facility currently has unacceptable slopes and flat areas on top that would not promote storm water runoff. The flat areas provide ideal points for ponding of water and infiltration which increase the risk of groundwater contamination and migration of groundwater contaminants. Steep slopes are more susceptible to erosion and loss of vegetative ground cover that can lead to unstable slope conditions. The continued acceptance of waste will allow D.H. Griffin Wrecking Company to obtain more acceptable slopes and grades at the site.

Item 2: What is the basis for denying a request to renew the permit for the newer LCID facility (Permit Number 41-N) that expires 13 September 1999?

The only recourse the State has in denying an LCID permit that meets all of the technical requirements of the Solid Waste Management Rules (sections .0564, .0565, and .0566) is if the facility does not have appropriate zoning approval by the county. Past compliance history can play a factor, but compliance at the 41-N permitted site has been satisfactory to date.

Mr. Carter
June 14, 1999
Page 2

Item 3: How long will D.H. Griffin Wrecking Company have to continue post-closure groundwater monitoring at the site?

Post Closure Monitoring for the site will be for a minimum of five (5) years or indefinitely if contaminants are detected in the monitoring well system. Solid Waste Management Rules require landfill property owners to perform groundwater mitigation and other actions if contaminants are detected crossing the compliance (property) boundary. A request to end post-closure monitoring of groundwater can be submitted by the landowner if data from the monitoring wells indicates no contamination or if contaminant levels have dropped below drinking water standards.

Item 4: What are the methane monitoring requirements for the site?

Methane Monitoring requirements are similar to Groundwater requirements for post-closure monitoring - a minimum of five (5) years or indefinitely if methane levels pose a health concern. Solid Waste Management Rules require landfill property owners to perform venting and flaring of methane or other measures if methane levels exceed the lower explosive limit (5% methane) at the property boundary or twenty-five percent of the lower explosive limit (1.25 % methane) in on-site structures.

I am also enclosing a statement from Phil Prete, Solid Waste Section - Compliance Branch Head, regarding the Division of Waste Management's view of the Wiley Davis Landfill site. If you have any additional questions or comments concerning this letter, please call me at (336) 771-4608 ext. 204 or Hugh Jernigan at ext. 206.

Sincerely,



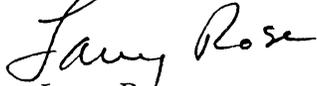
Timothy A. Jewett
Western Area Engineer
Solid Waste Section

cc: Julian Foscue
Hugh Jernigan
Eric Ireland
Garris Evans

way to the stream, as was discussed as a potential option in our meeting, then the gas monitoring plan could remain as currently proposed.

Thank you for your cooperation in resolving this matter. If you have any questions, please call me at (919) 733-0692, extension 257.

Sincerely,

A handwritten signature in cursive script that reads "Larry Rose".

Larry Rose
Environmental Specialist
Solid Waste Section

cc: Phil Prete - Head, Field Operations Branch
Julian Foscue - Western Area Supervisor
Hugh Jernigan - Waste Management Specialist
Mark Taylor, P.E. - Ecologic Associates, P.C.
Gary Babb, P.G. - Babb and Associates, P.A.

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WASTE MANAGEMENT



April 6, 1999

RECEIVED
N.C. Dept. of EHNR
APR - 7 1999
Winston-Salem
Regional Office

Mr. D.H. Griffin
D.H. Griffin Wrecking Company, Inc.
P.O. Box 4657
Greensboro, N.C. 27407

RE: Environmental Assessment Monitoring Plan - Wiley Davis Landfill
(Permit # 41-B)

Dear Mr. Griffin:

This letter is intended to provide documentation of the Solid Waste Section's comments about the referenced monitoring plan as expressed during our March 26, 1999 meeting at the Winston-Salem Regional Office. As you may recall, we discussed several issues of the plan that need to be addressed before final approval can be granted.

Within the next 60 days please provide to the Solid Waste Section a response, with revisions as necessary, to the following concerns and questions.

Groundwater Assessment Plan

- * *page 4* - Groundwater standards for 1,2-dichlorobenzene and 1,4-dichlorobenzene are 620 ppb and 75 ppb respectively.
- * *page 10* - Statistical analyses of analytical data is not required.

Water Quality Monitoring Plan

- * *page 2* - NCAC 13B Solid Waste Management Rules Sections .1631 through .1633 are not applicable to this landfill. Environmental monitoring requirements are covered in Sections .0503 and .0601.
- * *figure 2 (proposed sample locations)* - Monitoring well 4 (WD-4) is identified as being located outside of the property boundary and consequently outside of the compliance boundary. According to our discussions D.H. Griffin Wrecking Company, Inc. does not own the property where the well is located. One option to address this is to obtain an easement or some legal agreement to allow continued use of this well. Otherwise, the well should be properly abandoned and another one installed inside the

property boundary to monitor the same general area. Water quality compliance standards must be monitored "at a horizontal distance of 500 feet from the waste boundary or at the property boundary, whichever is closer to the source" [NCAC 15A 2L .0107 (a)].

Although the potentiometric map indicates groundwater flow is primarily south and southwest toward the creek there is some evidence that this may be only shallow flow. Topographic maps of the area show a feature that suggests flow to the southeast is possible. Since flow direction has been based on measurements from a monitoring well system with no wells along the eastern side of the landfill, perceived flow direction may be more skewed to the south and southwest while a large component of flow may move unmonitored below Wiley Davis Road. Because of this possibility, additional potentiometric data to establish groundwater flow direction east of the landfill is necessary. It may be possible to obtain authorization to install three temporary piezometers on the Department of Transportation's (DOT) newly acquired property across Wiley Davis Road. The piezometers can be used for groundwater measurements and sampling purposes. Depending on the results expanded assessment plans may be necessary to evaluate that side of the site.

It has been indicated that monitoring wells WD-2s, WD-2d, WD-6 and proposed WD-8d may be eliminated by roadwork and will need replacing. The replacement location, to some extent, will depend on how invasive the roadwork is at the site. In your revised monitoring plan, give proposed alternate locations for these wells.

The Department of Transportation's construction activities related to the Greensboro Outer Loop could have a significant effect on the Water Quality Assessment and Monitoring Plan for the landfill. This being the case, additional modifications will be necessary as DOT's plans and activities become known.

Landfill Gas Monitoring Plan

The Landfill Gas Monitoring Plan was designed for the western side of the landfill based on the assumption that gas migration would be limited by the downgradient stream in the area. Although the stream would probably restrict potential gas migration, the compliance boundary is at the property boundary [15A NCAC 13B .0503 (2)], which unfortunately does not extend to the stream. Consequently monitoring must be done at the property boundary. The plan should be revised to include the western side of the landfill. If the company acquires the property all the

*J. H. ...
Hugh*

Date sent: **Mon, 29 Mar 1999 08:45 -0500 (EST)**
From: **Davis.Mark@epamail.epa.gov**
Subject:
To: **matthewsdr@wastenot.enr.state.nc.us**

Hey Dexter,

Hope all is going well over there. I wanted to pass along this info.

I recently recieved a call from a concerned citizen regarding the operation of a C&D LF in Greensboro, operated by DH Griffin- on Wiley Davis Rd (I think?). The women claims that the facility is open late at night, burns alot of debris, accepts lots of paper, is allowing litter to blow off the site and has orange stuff leaking into the nearby creek. She also tried to make a connection between the operation of the landfill and the fact that 5 out of 8 people living near the facility now have cancer. I explained the usual Federal/State role stuff and suggested that she continue to work with you guys regarding operation of the facility. I suggested that she contact the Agency for Toxic Substances and Disease Registry (ATSDR) with regard to the health issues. She asked me to give you guys a call, so I decided I would just send this e-mail instead.

I think she mentioned that they have arranged to meet with you guys (or may already have), so I'm guessing that you are already aware of this women's concerns and are on top of things the best you can be. Take care and I will talk with ya later.

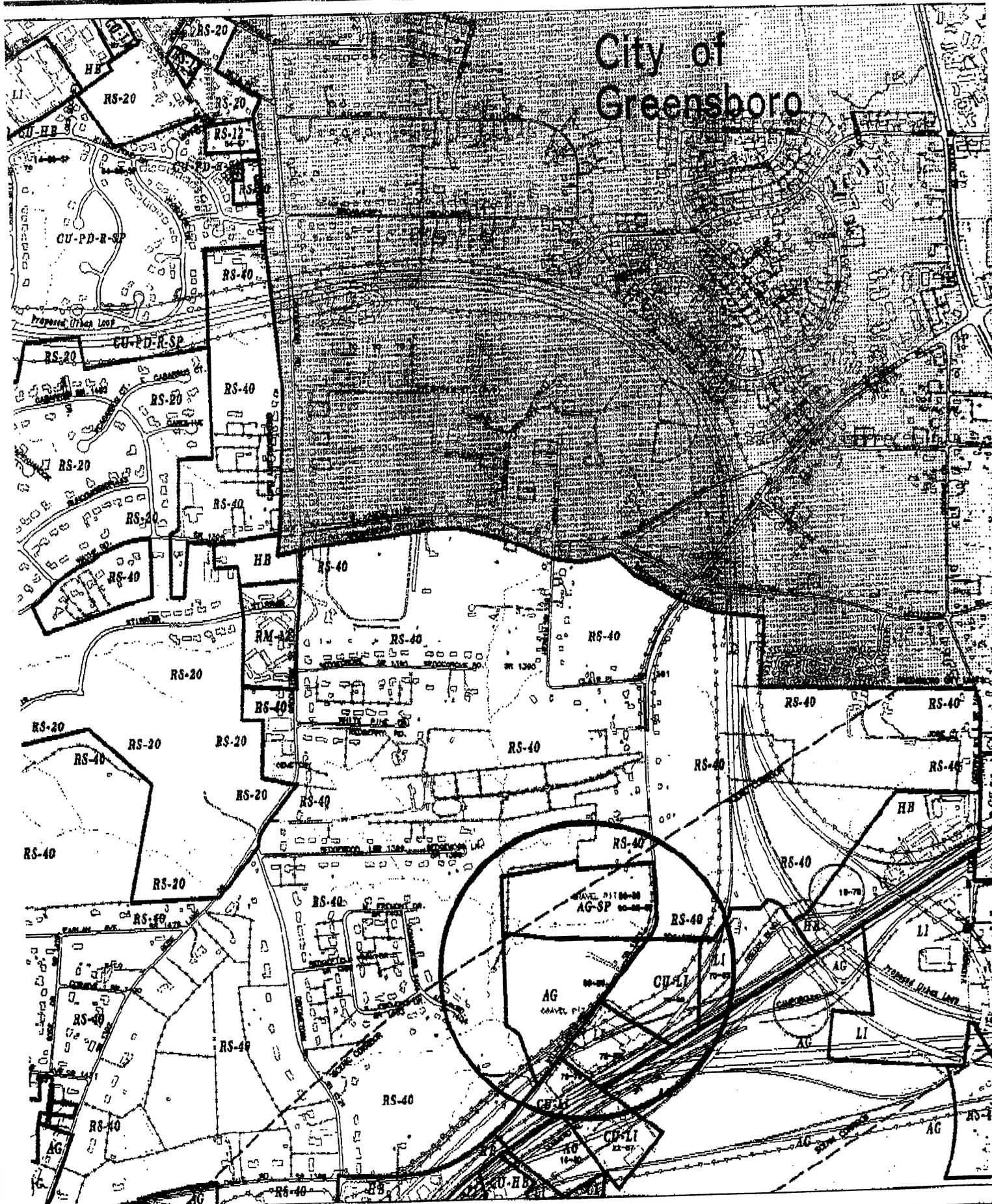
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*Photo
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someone check this
out: DM*

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MAR 18 1999

Winston-Salem
Regional Office

Mr. Hugh Jernigan
North Carolina Solid Waste Section
585 Waughtown Street
Winston-Salem, NC 27107

Dear Mr. Jernigan:

This letter is in accordance with a telephone conversation you had with Nancy Lenker on March 8, 1999, requesting that a letter be written stating the concerns the residents of Sedgewood Lane in Greensboro, NC, are having about the dump on Wiley Davis Road that is owned by D. H. Griffin.

1. We are concerned about the smell that is coming from the dump. As you know, the dump caught fire several weeks ago. The smell that is permeating our homes is coming from this fire and is a smell that is worse than that given off by a pulp mill. This smell is in our neighborhood everytime the wind does not blow. The fumes coming from this fire are making our eyes sting, our noses run, our heads ache, and are causing allergic reactions. One child is not even able to play outside because of her allergic reactions to the fumes.
2. We are concerned about the safety of the water in our wells. We are wondering what effect this unlined dump is having on the ground water that we are drawing from our wells. Several of the residents are so concerned about the water that they are only drinking bottled water.
3. A big concern is the major health problems we are seeing in residents who have lived in the neighborhood for many years. In the last six houses on this dead-end street (the houses that are nearest this dump) we have seen the following major health problems:

Five cases of cancer (two have died and three are recent cases)
One stroke
One case of failed kidneys

We do not know if any of these health problems are results of any contamination from this dump, but the statistics are staggering. Out of twelve adults that have lived in or are living in these six houses seven have had major health problems. All but two of the children in these families grew up and moved away before the dump had been in existence very long.

4. When you drive to the end of our street you can see the dump which is not far behind the vacant lot at the end of the street. We are concerned about the devaluation that this dump is going to have on the property in our neighborhood.
5. We are concerned about the oily substance that is on the surface of the water in the creek that runs beside this dump.

6. We are concerned that the State of North Carolina is not going to do anything about this dump until all the residents around it are sick since this is what the State seems to do in so many cases. We know that this dump was unregulated when it was first opened and that it is also unlined.

We would like to know what the State plans to do about this problem. We would like to know who is going to pay the doctor bills of the residents who are being made sick from the dump. We would like to know who is going to pay to monitor our water to make sure that it is safe for consumption. We would like to know who is going to reimburse these residents for the devaluation of their property this dump is going to cause. We would like to know who is going to clean up this mess - although we know that this burden will fall on the taxpayers of the State of North Carolina.

The signers of this letter are on Page 3.

CC Mr. Garris Evans, Jr., R.S.
Environmental Health Specialist
Environmental Health Division
Guilford County Department of Public Health
1100 East Wendover Avenue
Greensboro, NC 27405

CC U. S. Environmental Protection Agency
Region IV
Regional Federal Center
Atlanta, GA 30303

#17

- Phone Call
 Discussion
 Field Trip
 Conference
 Other (Specify)

RECORD OF COMMUNICATION

(Record of item checked above)

To: File

From: Hugh Jernigan

Date 3/8/99
Time

Subject: DH Griffin / Wiley Davis Landfill Guilford County

Summary of Communication

(Guilford Co. Health Dept.)

Received a call from Garris Evans concerning an underground fire at the Wiley Davis landfill. According to Mr Evans he had received calls concerning odors from the landfill.

Met Garris Evans at the site on 3/8/99 and with Mr Tommy Coleman of DH Griffin. According to Mr Coleman they had observe some venting of smoke in the northwest corner of the landfill near the sedimentation basin, during the previous week. Mr Coleman stated they have been hauling dirt and concrete to cover the venting area in an attempt to stop the smoke and odors. At the time of the visit there were several small areas of venting with associated odors. No smoke was visible at a distance, but could be seen close to the source. Mr Coleman stated he expected to cover the vent areas within a week.

Toured the area in which Mr Evans had received complaints. It is a residential area west of the landfill, beginning approximately 600 ft from the landfill. No one was home at the time of the visit, and

Conclusions, Action Taken or Required

No odors were noted in the area

INFORMATION COPIES

TO:

Phil Prefu

State of North Carolina
Department of Environment,
Health and Natural Resources
Winston-Salem Regional Office

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
Leesha Fuller, Regional Manager



DIVISION OF SOLID WASTE MANAGEMENT
SOLID WASTE SECTION

July 13, 1995

CERTIFIED MAIL P-536 316 737
RETURN RECEIPT REQUESTED

Mr. David H. Griffin, Sr.
Wiley Davis Landfill, Inc.
P.O. Box 7657
Greensboro, N.C. 27417-0657

NOTICE OF VIOLATION

Wiley Davis Road Landfill, Inc.
Land Clearing and Inert Debris Landfill
Solid Waste Permit No. 41-N
Guilford County

Dear Mr. Griffin:

On July 10, 1995 an inspection was conducted at the Wiley Davis Road Landfill, Permit No. 41-N, Guilford County. The inspection revealed violations of certain requirements contained in the North Carolina Solid Waste Management Rules, codified at 15A N.C. Admin. Code 13B, and violation of the Operation Plan for the facility as contained in Permit No. 41-N. Specifically the violations are as follows:

.0566 "Operational Requirements for Land Clearing/Inert Debris Landfill"

- (1) Operational plans shall be approved and followed as specified for the facility.
- (2) The facility shall only accept those solid wastes that it is permitted to receive.

The inspection of July 10, 1995 revealed non conforming unpermitted waste being disposed of in the landfill including plastics, treated wood, metals, insulation, and general construction/demolition debris. The attempted disposal of these wastes are in violation of the Solid Waste Management Rules and Operational Plans for the facility.

Based on the foregoing, Wiley Davis Road Landfill is hereby ordered to take the following actions, to correct all violations as stated

Mr. David H. Griffin, Sr.

Page 2

in this Notice of Violation, and otherwise be in compliance with North Carolina Solid Waste Management Rules:

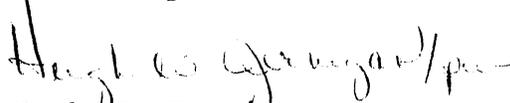
(1) Immediately remove and properly dispose all non conforming/unpermitted waste.

(2) Within fifteen (15) days of receipt of this Notice, provide this office a plan of action which details procedures to prevent attempted disposal of non conforming/unpermitted waste.

Pursuant to N.C.G.S. 130A 22(a) and 15A North Carolina Administrative Code 13B Sections .0701-.0707, and administrative penalty of up to \$5,000.00 per day per violation may be assessed for violations of Solid Waste Law or Regulations.

If you have any questions, please feel free to contact me at 910/771-4600.

Sincerely,



Hugh W. Jernigan
Waste Management Specialist

cc: Garris Evans
Julian Foscue
Jan McHargue
✓ Phil Prete

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Piedmont Triad, North Carolina

SEARCH

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Local/State News

Browns Summit landfill may be dead issue

10-16-99

By **MEREDITH BARKLEY**, Staff Writer
News & Record

Greensboro businessman D.H. Griffin may not be building a landfill near Browns Summit after all.

A local partnership's has submitted a plan to develop a 1700-acre tract that includes both the Griffin property and the adjoining Reedy Fork Ranch property on Greensboro's northern edge. The land would be annexed into the city and zoned for a mixed of residential, commercial, retail and industrial uses.

While the 185-acre Griffin site would remain heavy industrial, it would carry a stipulation that nothing requiring a special use permit could go on the property. Landfills require a special use permit.

"This represents planning at its best," said Ron Wilson, vice president for residential development for Starmount Co., one of the partners in the project. "This is one of the few areas in which Greensboro can grow."

Wilson has been a vocal opponent of Griffin's plan to build a landfill on his property. Wilson says an adjacent landfill could scuttle plans for a residential development on the Reedy Fork property.

"As much as this county needs a

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OCT 19 1999



Winston-Salem
Regional Office

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landfill, this location is not the right place for it," Wilson said Friday. "Mr. Griffin has been extremely cooperative and we've provided him an alternative us for his property."

Griffin said Friday he would continue to own the property, which is not currently served by city utilities. By allowing his property to become part of the larger plan, he would gain access to city sewer. A water line from Reidsville would pass near the property.

Theoretically, the Griffin property would become more attractive to some industrial users.

Starmount is partnering with Hubbard Realty of Winston-Salem in the project. They have contracts to buy the Reedy Fork property.

The partners filed a request Oct. 8 that the tract be annexed into the city. That request will be heard by the city Planning Board next Wednesday.

On Friday, the partners asked that the city zone the Griffin land for heavy industrial, a 43-acre parcel on the west side of U.S. 29 for light industrial and the remainder of the property -- about 1,500 acres -- for planned unit development-mixed. That would include all property on the east side of U.S. 29 and a large tract on the west side of the highway.

The zoning request will be heard by the city Zoning Board in November.

Both the annexation and zoning requests must ultimately be decided by the city council, which is scheduled to consider them in December.

The landfill request is still before the county commissioners. They, however, are not expected to consider it before their December meeting. But if the annexation and rezonings are successful, the

commissioners won't have to take the landfill issue up again.

Griffin said Friday that "it was possible" the landfill is a dead issue.

Bill Ruska, the city's zoning administrator, predicted the matter would be looked on favorably by city officials.

The 1,700-acre project would be developed in three phases that would begin in 2000 and stretch over at least 20 years. It would include up to 3,500 homes priced from \$90,000 to \$175,000, about 2.5 million square feet of businesses space in two corporate parks and the Griffin site, up to 350,000 square feet of retail uses and two hotels, and 450 acres of open space.

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#9



MAY 21 RECEIVED

State of North Carolina
Department of Natural Resources and Community Development
Winston-Salem Regional Office

James G. Martin, Governor

William W. Cobey, Jr., Secretary

DIVISION OF ENVIRONMENTAL MANAGEMENT

April 17, 1990

CERTIFIED MAIL NO. P-536 300 956
RETURN RECEIPT REQUESTED



Mr. D. H. Griffin, Sr., President
D. H. Griffin Wrecking Company, Inc.
4700 Hilltop Road
P. O. Box 4657
Greensboro, NC 27407

SUBJECT: Notice of Violation
Illegal discharges of landfill leachate
from the D.H. Griffin Wrecking Company, Inc.'s
demolition landfill and sandrock mine
located off Wiley Davis Road, Greensboro, N.C.
Guilford County

Dear Mr. Griffin:

Based upon information gained from complaints by neighbors, complaints and reports from the Guilford County Health Department, and on-site observations by various Division of Environmental Management (DEM) employees, there has been a number of water discharges from the subject site containing leachate. Each of the violations was a violation of North Carolina General Statute (NCGS) 143-215.1.

There have been partially effective efforts to contain possible discharges, but the continued presence of a large pond containing leachate and treatment chemicals adjacent to a small creek suggests additional potential discharges and problems.

This letter is your notice to immediately cease discharges of leachate contaminated water from your over-all site.

We recommend that the demolition land filling operations be stopped and that the site be properly closed. We recommend that the new sand rock mine section of the over-all site be used for mining only with no demolition land fill or other land fill operations.

Mr. D. H. Griffin
Page #2
April 17, 1990

In closing the existing sand rock and demolition land fill you must make certain that competent technical evaluations are made regarding the land fill's effects on ground water, surface water, and health and that remediation operations are taken when indicated.

You must submit a written response to the Winston-Salem Regional Office to the attention of Mr. Larry D. Coble, Regional Supervisor, at the address shown on our letterhead regarding the actions taken to date and what are planned to eliminate your Company's violations by May 31, 1990. Your corrective actions should show completion dates for each activity proposed.

Until such time as these facilities are either properly permitted or the discharges are eliminated, your Company is considered to be in violation of and, therefore, subject to enforcement action pursuant to the North Carolina General Statutes 143-215 et al.

If you have any questions about this letter, please contact Mr. A. R. Hagstrom or Mr. M. Steven Mauney at this office on (919) 761-2351.

Sincerely,

Larry D. Coble

Larry D. Coble
Regional Supervisor

LDC/MSM/ARH/vm

cc: Guilford County Emergency Management ✓
Permits and Engineering
Central Files
WSRO

SA1
Oct 21 1999

Hugh

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Piedmont Triad, North Carolina

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Local/State News

Two reports say some well water near landfill is unsafe to drink

10-2-99

By **PARKER LEE NASH**, Staff Writer
News & Record

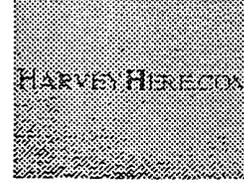
Nearly a decade ago, environmental watchdogs discovered that groundwater at the Wiley Davis Landfill was polluted. They branded the site "contaminated" and ordered it cleaned up and shut down.

But for reasons no inspectors or their bosses now can explain, neither happened. A 1991 state-ordered plan for cleaning up the private landfill in Guilford County languished inside a musty, yellowing file. The plan was discovered recently by the News & Record.

Now, as controversy about Wiley Davis simmers, newly released reports say that some pollutants found in the landfill's wells in the early 1990s are turning up in dangerous levels in the nearby neighborhood's drinking water. Three families' wells are pumping water that's unsafe to drink, a federal health agency report says. Two are polluted by lead, and one by a toxic solvent, the report says.

Contaminated water from the Wiley Davis Landfill, off Groometown Road near Sedgefield, has "traveled off-site to several private drinking water wells located nearby," another report by an independent environmental group contends.

Folks living by the landfill are fed-up, frustrated and feeling helpless. State environmental officials won't return their



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phone calls, they say. Guilford County health inspectors say their water is safe. Guilford commissioners have told them their time to speak has come and gone.

"These chemicals don't belong in our wells, but they're there and we have to drink this water," said Nancy Lenker, whose well is contaminated with lead. "And nobody seems to care."

The man who owns the Wiley Davis Landfill, D.H. Griffin of Greensboro, has denied that his landfill has polluted anybody's water. Griffin, who wants to build a new landfill in northeast Guilford, did not return calls this week. The county planning board turned down his request for a new landfill last month.

Griffin recently said that state documents about contamination at the landfill are "all lies."

"If we was doing anything bad out there," Griffin said, "do you think they'd have let us stay open?"

Wiley Davis neighbors say they want two things: They want water clean of contaminants, and they want answers. They wonder how environmental inspectors could brand part of their neighborhood a contamination zone a decade ago, order the Wiley Davis Landfill closed and cleaned up, and now say they know nothing about it.

The neighbors think Guilford County, which has helped the state monitor the Wiley Davis Landfill on and off for 20 years, should pay to connect them to Greensboro city water.

A report by federal toxicologists at the Agency for Toxic Substances and Disease Registry in Atlanta says that three wells near the Wiley Davis Landfill are pumping dangerously polluted water. They based their findings on the same water tests state officials did on wells in the Wiley Davis neighborhood.

State officials, however, determined that the wells were safe. State toxicologists cannot explain the

discrepancy.

The federal report doesn't say that the contaminants in the area's water came from the Wiley Davis Landfill. Federal toxicologists didn't try to pinpoint the source of contamination.

But lead, which the federal report says is in dangerous levels in two of the wells, has shown up at high levels in test wells at the landfill for nearly a decade. High amounts of lead can damage the central nervous system and shut down the kidneys and other organs.

A chemical called tetrahydrofuran, which federal toxicologists say shows up in dangerous amounts in a third residential well, also pollutes the landfill's water. It's a solvent that can cause liver and kidney damage.

Near the contaminated sites, other wells also test positive for trace amounts of chemicals, like toluene, which comes from gasoline, and tetrachloroethene, a carcinogen which can come from dry-cleaning fluid.

The federal report recommends that alternate water sources be provided for the three homes with contaminated wells. And it recommends that the other nearby wells -- about 250 homes could potentially be affected -- be tested for contaminants four times a year. Current state plans call for testing about 30 of the neighborhood homes, those closest to the landfill, once or twice a year.

Guilford County health officials said this week that they would examine the federal report and the other recent report from the Center for Health, Environment and Justice in Falls Church, Va., a non-profit, independent group the landfill's neighbors called for help.

The county has no current plans, however, to provide alternate water to the three homes federal toxicologists classify as having contaminated wells. So far, county health inspectors, working from the state's findings, have

ruled that the drinking water around the Wiley Davis Landfill is safe to drink.

"I'm not a toxicologist; I don't know," said Eric Ireland, an environmental health manager for the county. "But state toxicologists tell us the water is safe for normal use."

The Health, Environment and Justice report, however, prepared by Harvard-trained toxicologist Stephen U. Lester, says the entire neighborhood's water is in jeopardy.

The report, which is based on the same state-analyzed water tests, lists chemicals like methylethyl ketone found in trace amounts in the neighbors' wells and in the landfill's. Methylethyl ketone is commonly found in paints and can cause kidney and central nervous system problems.

Lester's report also questions why state and county inspectors did not test for many of the 128 chemicals on the EPA's list of common groundwater pollutants. Contaminants like pesticides, PCBs, cadmium, mercury, cyanide and nickel weren't tested for, according to the documents Lester saw, which were taken from state environmental files.

"I suspect that what we are seeing with this limited picture of the groundwater contamination is the tip of the iceberg," Lester writes. Looking for answers

The neighbors want more testing. They believe that contaminants from the landfill are polluting their wells, but they don't know the extent of it or what other problems might lie ahead.

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Bullard bases his questions on a series of events that puzzle him.

According to documents at the state Department of Environment and Natural Resources:

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In January 1991, state officials ordered Griffin to produce a "remedial action plan" for cleaning up the landfill. A month later, a pollution incident report

written by a state water-quality inspector about the Wiley Davis Landfill notes that "on-site contamination has apparently been caused by what has been dumped there over the years."

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No explanation is given in state files.

Phone calls and letters

Today, state environmental officials -- even those who signed the closure and clean-up orders -- say they know little or nothing about contaminated water at Wiley Davis Landfill or any plan to clean it up.

"I know of the Wiley Davis Landfill and some problems there, but as far as any details, no," said Larry Coble, a regional supervisor for the state's environmental division. "You've got the wrong person."

Coble signed the state order in 1991 requiring that the landfill be cleaned up, but he says he doesn't remember it.

Most officials contacted say they're not surprised that the clean-up plan languished in a file for years.

"You could probably find 400 or 500 of those action plans in the files that we

can't follow up on," said Arthur Mouberry, chief of the state's groundwater protection division. "We don't have the manpower."

The Wiley Davis Landfill was shut down last month. It had operated for years under a permit that allowed dumping of harmless materials, like stumps and rocks. But since the landfill was opened in 1980, it accepted construction and demolition debris like roofing materials and metal.

Griffin was cited more than 30 times for illegal dumping and draining in his landfill. Fifteen years ago, inspectors found drums of hazardous solvents and resins illegally dumped in the Wiley Davis Landfill. Griffin was issued a violation for the incident, but wasn't fined. He's never been fined for violations at Wiley Davis.

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Holman also did not return a reporter's repeated calls. His assistant said he

was busy with clean-up from Hurricane Floyd. Deputy Director Diane Long said Holman has asked inspectors for a report on the Wiley Davis matter as part of "standard procedure."

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So far, only Guilford County Commissioner Phyllis Gibbs and North Carolina's U.S. senators, Jesse Helms and John Edwards, have responded.

Gibbs has written a letter to Holman's office, and she sent a memo Friday to the other county commissioners on behalf of the Wiley Davis neighbors.

"We have got to do something," Gibbs said. "These people must have safe water. We cannot continue to ignore this problem and hope it goes away."

Helms and Edwards both wrote Lenker. Helms told her that he's asked state officials for a full report.

"You may be assured of my interest," Helms wrote.

But Lenker says she's not assured of anything anymore.

Bob Landreth, the chairman of the Guilford Board of Commissioners, told the neighbors at a recent meeting that the board is not interested in hearing any more about Wiley Davis. Guilford's environmental officials say the water is safe. Landreth says there's nothing more commissioners can do unless those officials tell them something different.

State officials say they're not bound by the federal agency's recent report of contamination in the neighborhood. It's only a recommendation, they say.

"The people who are supposed to protect us have turned their heads," Lenker said. "They treat us like we're expendable. Maybe that's because they don't have to drink this water."

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Oct 21 1999

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Piedmont Triad, North Carolina



More Local/State News Stories

Local/State News

Two reports say some well water near landfill is unsafe to drink

10-2-99

By PARKER LEE NASH, Staff Writer
News & Record

Nearly a decade ago, environmental watchdogs discovered that groundwater at the Wiley Davis Landfill was polluted. They branded the site "contaminated" and ordered it cleaned up and shut down.

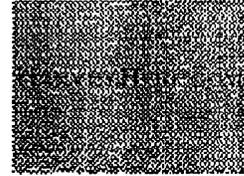
But for reasons no inspectors or their bosses now can explain, neither happened. A 1991 state-ordered plan for cleaning up the private landfill in Guilford County languished inside a musty, yellowing file. The plan was discovered recently by the News & Record.

Now, as controversy about Wiley Davis simmers, newly released reports say that some pollutants found in the landfill's wells in the early 1990s are turning up in dangerous levels in the nearby neighborhood's drinking water.

② Three families' wells are pumping water that's unsafe to drink, a federal health agency report says. Two are polluted by lead, and one by a toxic solvent, the report says.

④ Contaminated water from the Wiley Davis Landfill, off Groometown Road near Sedgfield, has "traveled off-site to several private drinking water wells located nearby," another report by an independent environmental group contends.

Folks living by the landfill are fed-up, frustrated and feeling helpless. State environmental officials won't return their



Related Info:
Redistricting
Our Schools
An In-Depth look at the redistricting process in Guilford County.

Triad 2000
A multimedia exploration of the Triad's past, present, and future.

phone calls, they say. Guilford County health inspectors say their water is safe. Guilford commissioners have told them their time to speak has come and gone.

"These chemicals don't belong in our wells, but they're there and we have to drink this water," said Nancy Lenker, whose well is contaminated with lead. "And nobody seems to care."

The man who owns the Wiley Davis Landfill, D.H. Griffin of Greensboro, has denied that his landfill has polluted anybody's water. Griffin, who wants to build a new landfill in northeast Guilford, did not return calls this week. The county planning board turned down his request for a new landfill last month.

Griffin recently said that state documents about contamination at the landfill are "all lies."

"If we was doing anything bad out there," Griffin said, "do you think they'd have let us stay open?"

Wiley Davis neighbors say they want two things: They want water clean of contaminants, and they want answers. They wonder how environmental inspectors could brand part of their neighborhood a contamination zone a decade ago, order the Wiley Davis Landfill closed and cleaned up, and now say they know nothing about it.

The neighbors think Guilford County, which has helped the state monitor the Wiley Davis Landfill on and off for 20 years, should pay to connect them to Greensboro city water.

⑦ A report by federal toxicologists at the Agency for Toxic Substances and Disease Registry in Atlanta says that three wells near the Wiley Davis Landfill are pumping dangerously polluted water. They based their findings on the same water tests state officials did on wells in the Wiley Davis neighborhood.

⑧ State officials, however, determined that the wells were safe. State toxicologists cannot explain the

discrepancy.

- ⑩ The federal report doesn't say that the contaminants in the area's water came from the Wiley Davis Landfill. Federal toxicologists didn't try to pinpoint the source of contamination.
- ⑪ But lead, which the federal report says is in dangerous levels in two of the wells, has shown up at high levels in test wells at the landfill for nearly a decade. High amounts of lead can damage the central nervous system and shut down the kidneys and other organs.
- ⑫ A chemical called tetrahydrofuran, which federal toxicologists say shows up in dangerous amounts in a third residential well, also pollutes the landfill's water. It's a solvent that can cause liver and kidney damage.
- ⑬ Near the contaminated sites, other wells also test positive for trace amounts of chemicals, like toluene, which comes from gasoline, and tetrachloroethene, a carcinogen which can come from dry-cleaning fluid.
- ⑭ The federal report recommends that alternate water sources be provided for the three homes with contaminated wells. And it recommends that the other nearby wells – about 250 homes could potentially be affected – be tested for contaminants four times a year. Current state plans call for testing about 30 of the neighborhood homes, those closest to the landfill, once or twice a year.

Guilford County health officials said this week that they would examine the federal report and the other recent report from the Center for Health, Environment and Justice in Falls Church, Va., a non-profit, independent group the landfill's neighbors called for help.

The county has no current plans, however, to provide alternate water to the three homes federal toxicologists classify as having contaminated wells. So far, county health inspectors, working from the state's findings, have

ruled that the drinking water around the Wiley Davis Landfill is safe to drink.

"I'm not a toxicologist; I don't know," said Eric Ireland, an environmental health manager for the county. "But state toxicologists tell us the water is safe for normal use."

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18 The Health, Environment and Justice report, however, prepared by Harvard-trained toxicologist Stephen U. Lester, says the entire neighborhood's water is in jeopardy.

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19 The report, which is based on the same state-analyzed water tests, lists chemicals like methylethyl ketone found in trace amounts in the neighbors' wells and in the landfill's. Methylethyl ketone is commonly found in paints and can cause kidney and central nervous system problems.

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20 Lester's report also questions why state and county inspectors did not test for many of the 128 chemicals on the EPA's list of common groundwater pollutants. Contaminants like pesticides, PCBs, cadmium, mercury, cyanide and nickel weren't tested for, according to the documents Lester saw, which were taken from state environmental files.

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21 "I suspect that what we are seeing with this limited picture of the groundwater contamination is the tip of the iceberg," Lester writes. Looking for answers

The neighbors want more testing. They believe that contaminants from the landfill are polluting their wells, but they don't know the extent of it or what other problems might lie ahead.

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According to documents at the state Department of Environment and Natural Resources:

- (24) In 1989, an engineering firm hired by Griffin, the owner of the Wiley Davis Landfill, discovered what it called "hazardous waste" at the site. The firm reported the finding to the state, and then quit working for the landfill, citing the hazardous waste -- chemicals found in a pond at the landfill -- as the reason.

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"You could probably find 400 or 500 of those action plans in the files that we

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magazine whose photographs of naked women, all agreed, are unfit for the eyes of children under 1

The issue in this case was never censorship. That means government action which eliminates a publication altogether. The policy of a city library not to stock Hustler magazine in no

one the burden of having to explain why the library was buying Playboy instead of a more upstanding periodical.

Someday it might be interesting to see how Playboy competes for funds with magazines that don't have nude centerfolds.

Closing of Wiley Davis small victory for residents

Now they deserve some answers.

The state's decision to close Guilford County's Wiley Davis Landfill for good certainly is welcome news for the residents who live near the contaminated site and fear their well water may be unsafe to drink.

That it took so long to shut it down is, at best, regrettable. At worst, the landfill's long and sordid history exposes serious flaws in the system designed to protect North Carolina's environment and its people.

Testing in 1989 first revealed that the site was contaminated with hazardous waste. In 1991 environmental inspectors determined that the landfill was leaking dangerous chemicals and ordered owner D.H. Griffin to close it down and clean it up. Neither ever happened. Over the years the state cited Griffin at least 30 times for illegal dumping and draining, yet he never paid a penny in fines. For reasons the state has yet to explain, it was business as usual at the landfill off Groometown Road near Sedgewfield.

Not so for the residents. The same dangerous chemicals discovered in test wells at the landfill more than a decade ago now are showing up in their wells,

according to federal toxicologists. They include high amounts of lead, which can damage the central nervous system, and the chemical tetrahydrofuran, a solvent that can cause liver and kidney damage. Testing of other wells in the neighborhood revealed trace amounts of chemicals that come from gasoline and dry-cleaning fluid. The landfill was permitted to accept only harmless materials such as stumps.

Residents still don't know whether the chemicals are at unsafe levels and whether the landfill is without a doubt the source of contamination. After seven months of pleas from citizens for help, however, the state finally has agreed to investigate the potential health risks in the neighborhood and to conduct an internal investigation of its handling of the case since 1989.

Residents deserve swift answers to these questions. And if the investigation finds that their well water is contaminated by the landfill and unsafe to drink, the state should pay for the city to run water lines to the neighborhood.

The decision to shut down Wiley Davis falls in the better-late-than-never category. The residents' ordeal, however, won't be over until they are assured a safe source of water.

vidual houses use only 200- daily.

It doesn't take a math deg that new housing developme or more home sites will, at t minimum estimate of dai exceed this limit. Even if, as tant said, private homes nor water from under their imme erty, the water comes from source. I fail to understand developers will escape the re to do an existing groundwa study.

Within a two-mile radius of in Oak Ridge, five sites a cleared, and on each there wi more homes.

Each house will have a spac and each will have a well, or vision will have communal will draw on existing, and sources of groundwater. If want to protect groundwa include developments like th new regulations.

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Partisansl

BY TOM TEEPEN

The first session of the Congress petered out in vague i and ill grace, having fussed r accomplished little. But it did d set a new standard for surly p ship.

Congress first wasted mont nation's time persisting in an i ment that was obviously doo over a president's attempt to c and when that wasn't working, his way out of admitting to an a didn't even have stylishness mend it to public prurience.

Then, to punish President Cli besting them, Congress's Rep



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Feds want tests at Wiley Davis Landfill

BY PARKER LEE NASH

Staff Writer

GREENSBORO — Water at three homes near the Wiley Davis Landfill might be safe to drink, but more testing is needed before anyone knows for sure.

Monday, a federal health agency issued that recommendation, amending its September report that said the homes' water was unsafe to drink.

Analysts at the Agency for Toxic Substances and Disease Registry in Atlanta based their latest findings on recent water tests that show lower levels of lead and chemicals than earlier tests.

However, since water contaminants at homes near the Guilford County landfill are "fluctuating" from sample to sample, the report states, more extensive water testing is needed to determine the area's water quality.

Plans for beginning that testing already are under way.

Acting on the ATSDR's earlier report, and information about the landfill's record of illegal dumping and contamination, North Carolina's health director earlier this month ordered comprehensive monitoring of the nearby neighborhood's water.

Those tests could begin in early December.

In September, state inspectors ordered the largest part of the 35-acre Wiley Davis Landfill closed after citing its owner, D.H. Griffin, more than 30 times for illegal dumping and draining.

The same month, Griffin asked the state for permission to keep dumping in a 16-acre section of the

landfill. A week ago, the state said no and shut down the site for good.

Griffin says nothing harmful ever was dumped in his landfill. But 15 years ago, state inspectors found drums of hazardous solvents and resins in the landfill, which by law was supposed to take only harmless debris like tree limbs.

Griffin was not fined.

People living near the landfill have worked for nearly eight months to stop dumping at Wiley Davis. They say harmful garbage is packed inside the 10-story mountain of trash that today is covered by grass. They point to the state's own landfill inspection reports as proof.

Water tests first detailed contamination at the landfill in 1989. That's when Griffin's own engineers reported to the state that the landfill was contaminated with hazardous waste.

In 1990, state inspectors found similar problems and said the landfill should be closed. In 1991, the state asked for and got from Griffin a plan for cleaning up contaminated water at the site.

But the plan was never carried out, and there is no record the state ever asked about the plan again after 1993.

State environmental investigators say they don't know why.

Bill Holman, the new head of the state Department of Environment and Natural Resources, recently ordered an investigation into his department's handling of the landfill. That investigation is ongoing.

A draft report from the investigation focuses on the "recent dedication by staff" that resulted in the landfill being closed.

Central File

North Carolina
Department of Environment and Natural Resources



Division of Waste Management

Michael F. Easley, Governor
William G. Ross Jr., Secretary
Dexter R. Matthews, Director

February 12, 2003

Mr. D.H. Griffin
D.H. Griffin Wrecking Company, Inc.
P.O. Box 4657
Greensboro, N.C. 27407

Re: Closed Wiley Davis Road Landfill (Permit # 41-B) - Phase II Groundwater Assessment

Dear Mr. Griffin:

As you are aware, the Wiley Davis Road Landfill is in the process of undergoing a water quality assessment that began in the Spring of 2000. The goal was to understand the extent of the contamination that had been detected during previous monitoring events. A number of contaminants were found in several of the wells. Of primary concern are the two widely used industrial solvents, tetrahydrofuran and chlorobenzene. Both were detected several times in groundwater at greater concentrations than regulatory limits allow and both are resistant to natural degradation.

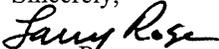
Although a significant amount of information has been generated by the work that has been done, the vertical and horizontal extent of the contamination has not been fully determined. NCAC Title 15A Subchapter 2L, *Classifications and Water Quality Standards Applicable To The Groundwaters of North Carolina*, requires that the areal extent of contamination be determined at a site with known contamination. Consequently it will be necessary to proceed with the assessment.

Please provide the Solid Waste Section within 60 days of receipt of this letter, an addition to the current environmental assessment plan that addresses the issues of contaminant extent, both vertically and horizontally, and groundwater flow direction at the site. Emphasis should be placed on the area across the creek that borders the landfill and separates it from the adjacent residential areas that are served by potable wells. Contaminants have already been detected across the creek at the southern end of the landfill and there is reason to believe, because of the water level measurements in wells MW-4 and MW-4D, that the contaminant plume could have migrated beneath the creek in the upper area.

The Department of Transportation has agreed to replace the monitoring wells that were abandoned at the south end of the landfill because of highway construction activities. It is my understanding that the construction is not due to be completed until the spring or summer of 2004. At that time all or some of the abandoned wells will be replaced.

Thank you for your past cooperation. The D.H. Griffin Construction Company, Inc. has been very diligent in resolving this matter. If you have any questions, please call me at (919) 733-0692, extension 257.

Sincerely,


Larry Rose

Environmental Compliance Unit
Solid Waste Section

cc: James C. Coffey - Chief, Solid Waste Section
Mark Poindexter - Head, Field Operations Branch
Brent Rockett - Western District Supervisor
Hugh Jernigan - Waste Management Specialist
Cheryl Marks, Hydrogeologist

1646 Mail Service Center, Raleigh, North Carolina 27699-1646
Phone: 919-733-0692 \ FAX: 919-733-4810 \ Internet: www.enr.state.nc.us/



NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES

DIVISION OF WASTE MANAGEMENT

May 23, 2000

JAMES B. HUNT JR.
GOVERNOR

Mr. D.H. Griffin
D.H. Griffin Wrecking Company, Inc.
Post Office Box 4657
Greensboro, North Carolina 27407

BILL HOLMAN
SECRETARY

Ref: Wiley Davis Landfill (Permit No. 41-B) Closure

Mr. Griffin:

WILLIAM L. MEYER
DIRECTOR

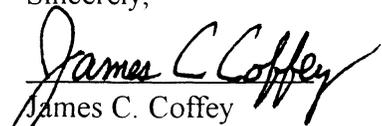
The Solid Waste Section (the Section) has received and reviewed documentation submitted by your consultant, EcoLogic Associates, P.A., on your behalf regarding the subject facility. Based on this documentation, dated 17 February 1999 and revised 26 July and 30 August 1999, the Section has determined that the demolition landfill at the subject facility has been closed in accordance with the applicable requirements. This determination may be rescinded should any of the documentation prove to be inaccurate.

The demolition landfill at the subject facility is considered closed subject to the following post closure conditions. The owner and/or operator of the facility, D.H. Griffin Wrecking Company, Inc., is responsible for compliance with these conditions. Condition #8 addresses continued water quality monitoring for the existing ground water monitoring system.

Please note, that this closure shall become effective upon written notification by the owner/operator that the facility shall be maintained in compliance with the post closure conditions specified in this letter. Rule .0510 also states that when a disposal unit is closed, the permit to operate that unit is terminated and any future disposal operations will require approval by the Section.

If there are questions regarding this closure letter please contact me at in Raleigh at (919) 733-0692 or Tim Jewett in Winston-Salem at (336)771-4608, ext. 204.

Sincerely,


James C. Coffey
Permitting Branch Supervisor
Solid Waste Section

cc: Phil Prete
Hugh Jernigan
Larry Rose

Brent Rocket
Mark Taylor, EcoLogic
Raleigh Central Files: Guilford County Permit #4



1646 MAIL SERVICE CENTER, RALEIGH, NORTH CAROLINA 27699-1646
401 OBERLIN ROAD, SUITE 150, RALEIGH, NC 27605
PHONE 919-733-4996 FAX 919-715-3605

POST CLOSURE CONDITIONS

1. **MANAGEMENT OF LANDFILL GAS:** The owner and/or operator shall take the measures necessary to ensure that the closed site shall continue to meet the design standards for landfill gas found in Rule .0503(2)(a).
2. **MANAGEMENT OF SURFACE WATER:** The owner and/or operator shall take the measures necessary to ensure that the closed site shall meet the requirements of Rule .0503(2)(c). In addition, the landfill unit shall be maintained such that surface water runoff occurs in a controlled manner, and surface water shall not be impounded over waste.
3. **AIR QUALITY:** The owner/operator shall ensure that landfill units do not violate any applicable requirements developed under a State Implementation Plan approved or promulgated by the U.S. EPA Administrator pursuant to Section 110 of the Clean Air Act, as amended.
4. **FINAL COVER SYSTEM:** The integrity and effectiveness of the final cover system and any permanent erosion control devices must be maintained. This could include making repairs to the cover as necessary to correct the effects of settlement, subsidence, erosion, or other events.
5. **PROPOSED USES:** The owner/operator shall submit a proposal for the Section's review and approval addressing post closures uses of the facility. Proposed post closure uses shall not violate any post closure conditions found in this letter. In particular, plans for post closure uses shall avoid possibilities for the entrapment of methane gas. Routine landfill gas monitoring within structures and at the facility boundary may not be sufficient to detect potentially dangerous situations.
6. **ONGOING SOLID WASTE MANAGEMENT ACTIVITIES:** No continuing solid waste management activities are approved for this facility at this time. Any future approved activities shall not violate any post closure conditions found in this letter, and must meet any other applicable requirements.
7. **RECORDATION:** The owner/operator shall ensure that the recordation requirements for land disposal sites found in Rule .0204 are met.

8. **WATER QUALITY MONITORING AND REPORTING REQUIREMENTS:**

- a. Groundwater quality at this facility is subject to the "Classification and Water Quality Standards Applicable to the Groundwaters of North Carolina," 15A NCAC 2L. This includes, but is not limited to, the provisions for detection monitoring, assessment, and corrective action.
- b. The permittee shall sample the detection monitoring wells and surface water sampling location(s) at a minimum on a semi-annual basis or as requested by the Solid Waste Section. Additional monitoring wells may be required based on the results of detection sampling.
- c. Water quality detection monitoring shall continue for a minimum of five years from the date of the Sections's receipt of the owner/operator's notification that the facility will be maintained in compliance with the post-closure conditions specified in this letter. After five years the Sections will determine if further monitoring is to be required.
- d. Sampling equipment and methods shall conform to specifications in Attachment 1, "North Carolina Water Quality Monitoring Guidance Document for Solid Waste Facilities." The sampling parameters and methods shall be those found in Attachment 2, "Sampling and Analysis Requirements for Construction and Demolition Landfills and Closed Sanitary Landfills," or an alternate list of sampling parameters as approved by the Solid Waste Section.
- e. The permittee shall maintain a record of all monitoring events and analytical data. Reports of the sampling events and analytical data shall be submitted to the Section in a timely manner.
- f. Past ground water quality data for this facility indicates that Groundwater Quality Standards have been exceeded for some chemical constituents. Additional water quality assessment and investigations will be necessary in the future. Until such time D.H. Griffin Wrecking Company, Inc. will continue to monitor and sample ground water consistent with Conditions b, c, and d of this section and consistent with any on-going investigations approved by the Solid Waste Section.



NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES

DIVISION OF WASTE MANAGEMENT

February 8, 2000

JAMES B. HUNT JR.
GOVERNOR

Ms. Nancy B. Lenker
4010 Sedgewood Lane
Greensboro, NC 27407-7932

BILL HOLMAN
SECRETARY

Re: Wiley Davis Road Landfill (Permit #41N)

WILLIAM L. MEYER
DIRECTOR

Dear Ms. Lenker,

I am writing in response to your letter that I received on January 18, 2000 regarding the small LCID landfill on Wiley Davis Road. My brief response follows each of your several questions repeated below.

Question 1: "Has closure been accomplished on the little landfill (i.e., has it been capped or covered with two feet of dirt)?"

Answer: The owner has been made aware of the closure requirements and has been told to provide a closure plan and schedule. His engineer is reportedly under contract to develop the closure plan and I anticipate submittal within the next two weeks.

Question 2: "Who is in charge of the post-closure site monitoring program?"

Answer: The NC Solid Waste Section will oversee compliance with post-closure site monitoring program.

Question 3: "Who is actually doing the monitoring?"

Answer: The owner is responsible for actually doing the monitoring.

Question 4: "Where can we obtain copies of the reports on this monitoring?"

Answer: You may make a file appointment with our file room clerk by calling (919) 733-0692 extension 310. The clerk will arrange for you to view any reports in our Central File Room at 401 Oberlin Road in Raleigh, after they have been submitted.

Question 5: In reference to my statement that "We have required an enhanced groundwater assessment...", you ask "Has this been accomplished?"



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Answer: The plan for the enhanced groundwater assessment has been approved for implementation. The contractor had equipment on site and on schedule for completion of well installation and sampling in December. We had planned to be on site to observe the sampling and to split samples with the contractor for independent analysis. The contractor reported a need to delay activities due to equipment getting stuck while attempting to get to the new well locations. Significant rain and snow events have prevented completion of the work. We expect work to resume at the earliest practical opportunity. It should be noted that the investigation will likely proceed in phases, with data gathered in earlier phases driving additional exploratory phases as warranted.

Question 6: “Since the groundwater was to be assessed semi-annually, where can we get a copy of the second assessment of this site for 1999?”

Answer: The second semi-annual sampling event was required by our agency to coincide with the first sampling event for the new monitoring system to provide better continuity. From a practical standpoint, the old monitoring plan has been suspended. The next sampling event will be under the new groundwater assessment plan and will occur as soon as the new wells can be constructed. We will receive the assessment report at our office in Raleigh and it can be viewed here once the data is available by making a file appointment as mentioned in the answer to question 4 above.

Question 7: “Have the new wells been installed?”

Answer: One new well has been installed, however, as explained in answers to questions 5 and 6, installation of two of the wells has been delayed.

Question 8: “If so, where can we obtain a copy of the Permit For The Construction Of A Monitoring Well Or Well System?”

Answer: Our agency does not issue a permit for monitoring wells other than to approve the proposed monitoring plan and to require that wells are constructed in accordance with well construction rules under Title 15A NCAC 2C. The proposed monitoring plan can be viewed in our file room at that time by making a file appointment as mentioned in the answer to Question 4 above.

Question 9: “Where can we get copies of the Well Construction Records?”

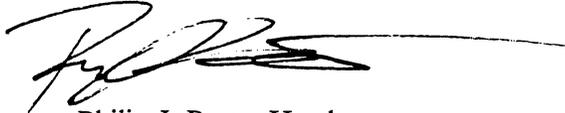
Answer: The well construction records will be submitted to our agency upon completion of the monitoring system installation and can be viewed in our file room

Ms. Nancy Lenker
February 8, 2000
Page 3

by making a file appointment as mentioned in the answer to Question 4 above.

I hope this answers some of your questions about the site. As always, I am very happy to speak with you at any time regarding your concerns. You may call me at 919-733-0692 extension 252.

Sincerely,

A handwritten signature in black ink, appearing to read 'Philip J. Prete', with a long horizontal flourish extending to the right.

Philip J. Prete, Head
Field Operations Branch
Solid Waste Section

CC: Don Reuter, NC DENR Public Information Officer
Dexter R. Matthews, DENR Solid Waste Section Chief
Larry Rose, Environmental Specialist, Solid Waste Section
Brent Rockett, Western District Supervisor, Solid Waste Section



RECEIVED
N.C. DEPARTMENT OF
JAN 21 2000
Winston-Salem
Regional Office

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WASTE MANAGEMENT

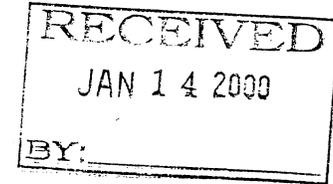
January 6, 2000

JAMES B. HUNT JR.
GOVERNOR

BILL HOLMAN
SECRETARY

WILLIAM L. MEYER
DIRECTOR

Mr. Gregory A. Smith, L.G.
Environmental Supervisor - Geotechnical Unit
N.C. Dept. of Transportation
Century Center - 1020 Birch Ridge Drive
P.O. Box 25201
Raleigh, North Carolina 27611



RE: Groundwater Monitoring Well Replacement - Wiley Davis Road Landfill -
Greensboro, N.C.

Dear Mr. Smith:

As you will recall, we had a meeting at your office on April 21, 1999 that focused on road construction activities near the Wiley Davis Road Landfill in Guilford County. I asked for the meeting to get a better understanding of the extent and effect those activities would have on the landfill and the groundwater assessment that was soon to begin at the site. For the record, also attending the meeting were Eugene Tarascio of your agency, Mark Taylor of Ecologic Associates (Greensboro), and Gary Babb of Babb & Associates (Raleigh).

The groundwater investigation at the site is necessary because a number of contaminants have been found during the required detection monitoring events. Since there was some preliminary evidence that contamination had moved past the permitted boundary, the direction and extent had to be determined. At the time we initiated the investigation we were unaware of the proposed road construction. In fact, at the time, we had concerns that contaminants might be moving under Wiley Davis Road at the southern end of the landfill and planned to explore that possibility. Samples from the three monitoring wells in that general location had the highest concentrations of contaminants.

The road construction project will require abandonment of three wells (WD-2S, WD-2D, and WD-6 - all located at the lower end of the landfill near the stream, with well WD-6 being across the stream from the landfill) resulting in temporary loss of ability to pursue contaminant delineation along that track.

At our April 21, 1999 meeting you agreed that DOT would replace, the three monitoring wells with similar wells with respect to type, depth, and location, at a later date when road construction would allow. It is important to understand that these monitoring wells are an integral part of the monitoring system for this area of the site. Without wells in this area, we lose the ability to monitor known contaminants moving



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Subject: heads up -Forwarded

Date: Wed, 08 Dec 1999 09:37:22 -0500

From: NANCY SCOTT <NSCOTT@MAIL.JUS.STATE.NC.US>

To: phil.prete@ncmail.net

RECEIVED
N.C. Dept. of ENVIRONMENTAL
DEC 16 1999
Winston-Salem
Regional Office

Hugh
F-T
P

FYI -- Am sure you are aware of this already.

Subject: heads up

Date: Wed, 08 Dec 1999 08:28:27 -0500

From: PHIL TELFER <PTELFER@MAIL.JUS.STATE.NC.US>

To: DOAKLEY@MAIL.JUS.STATE.NC.US, JBULLOCK@MAIL.JUS.STATE.NC.US

(give me
2
call on this
please)

Dan and Judy--This was in the Insider today. thought you'd be interested

#6 AGENCY WON'T HELP IN WELL TESTS: The state groundwater section won't analyze drinking water samples from homes around an abandoned Guilford County landfill where illegal dumping of hazardous materials went on for years. The Wiley Davis landfill had a permit to handle debris like bricks and stumps, but material ranging from paint buckets to drums of hazardous waste have been found. State inspectors ordered the landfill closed nearly 10 years go, but didn't enforce the order until September, when the site was shut down (Parker Lee Nash, GREENSBORO NEWS & RECORD, 12/7). The state health director ordered water tests because of neighbors' concerns that chemicals from the landfill had seeped into well water. State groundwater inspectors have helped monitor the site for years. But Sherri Knight, a supervisor in Winston-Salem, said the groundwater section would "bow out" because the landfill operated under a permit from the state solid-waste division. That division, will be responsible for monitoring the landfill. But inspectors in the state's waste management division say they aren't assisting with water tests. Instead, they're monitoring test wells, some of which have been contaminated for years. The job of analyzing the water tests falls to the state health laboratory, which is inundated with testing from the coastal following Hurricane Floyd.

NORTH CAROLINA DEPARTMENT OF ENVIRONMENT
HEALTH AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL MANAGEMENT

March 16, 1993

M E M O R A N D U M

TO: Larry D. Coble
Regional Supervisor

Through: Steve Mauney, Supervisor *SM*
WSRO, WQ

From: Art Hagstrom *Arthur R. Hagstrom*
Environmental Engineer, WSRO, WQ

Subject: Kent Wiggins' February 16, 1993, request for a response letter to a D.H.Griffin, Jr.'s request for records of EPA violations at their Wiley-Davis Landfill in Guilford County

The response letter needs other input from the Sections that have been involved at the site, but this is a review of what has been determined to date.

The D.H. Griffin Wrecking Co., Inc. (DHGW) has operated a landfill at a site off Wiley- Davis Road for many years. WSRO-WQ was involved in several problems via Complaint's regarding odor, surface water discharges, and on-site problems by the GCHD. Each episode was resolved with the cooperation of D.H Griffin. Several meetings were held.

Some of the corrective actions included:

- a. Location of a small stream into its original channel (it had been diverted when a small on-site bridge had been crushed and blocked the original creek bed).
- b. A small holding pond and a dike to hold the leachate were constructed and then the leachate was pumped onto the upper reaches of the landfill.
- c. DHGW dug a large pond for sediment, but it also received leachate. The pond soon gave off odors. They pumped leachate water back to the main, but poorly capped, landfill. They tried to divert the site's uncontaminated rain runoff from the sediment pond with some success and sealed the sediment pond's discharge pipe (with a locked valve and by plugs). They bought some odor masking materials and not only sprayed it as a mist but poured some into the sediment pond. The masking agents turned out to contain some chlorinated hydrocarbons.

D.W.Griffin,Jr./Wiley-Davis LF

March 16, 1993

Page 2 of 3

d. They agreed to properly cap the landfill to minimize the leachate generation.

e. Both Black & Veatch and Aquaterra were employed by Griffin to resolve the complex problems at the landfill. Black & Veatch dropped out when hazardous materials were found. Aquaterra may have also.

WQ withdrew when it appeared that DHGW, GCHD, Aquaterra and Four Seasons were able to solve the problems. WSRO-GW became involved in the problems due to contaminated wells in and around the site. GW rates it as a Class "A" site. Aquaterra was called on March 15, 1993, to find out about the clean-up status. Per a second call on March 16, 1993, they have no recent projects with DHGW. Persons that were with Aquaterra and wrote reports in 1990 and 1991 are no longer with Aquaterra.

The original site is still operating, and the new section of mine and landfill is also in operation. The Solid Waste Section (GCHD) issued a closure notice for the old section on July 20, 1990. The WSRO-AQ issued a NOV dated October 24, 1989, which has apparently been satisfied, regarding hydrogen sulfide at the site. The WSRO-WQ issued a NOV for discharges of leachate contaminated water dated April 17, 1990, with copies to LQ, GW, and GCHD. WQ recommended that the new section of sandrock mine not be used for a landfill and that the old section be closed. If mining continued then special handling of leachate was requested (separate collection, storage, and disposal).

The landfill was permitted by the Division of Health Services and was under the control of GCHD and is now under Solid Waste; whereas, the Sandrock Mining has been permitted by Land Quality. WSRO-WQ worked without authority over most of the site's problems except for sporadic discharges during heavy rainfall events. The only way to solve the discharge problems still appears to be closure of the old section, no land filling in the new sandrock section, properly capping the old section, and proper site cleanup. Many of these solutions await action.

Based upon talks with various Sections, the status of the sites appear to be follows:

a. No action by LQ or Solid Waste has been made to stop landfilling in spent sandrock mines as suggested. The landfill mountain grows higher and higher. LQ permits the mining. Solid Waste permits the landfilling.

D.H.Griffin,Jr./Wiley-Davis LF
March 16, 1993
Page 3 of 3

b. DHGW gathers the demolition waste from all types of sites in Guilford County and from other sources and areas that includes regular industrial routes.

c. GW is aware that it has a major problems and will work on it ASAP.

In closing:

No formal EPA WQ violations are pending. Some may have occurred since GCHD and consultants took over the final cleanup.

WSRO Solid Waste agrees that sandrock mines are not good for landfills, but there are several more in the same area of Guilford County and DHS will continue to permit them as "demolition" landfills. DHGW has ignored the closure letter.

WSRO-LQ indicates that Griffin's mining permit has expired, and they want Griffin to go through a complete permit procedure. The Central Office will probably not make Griffin do it.

GW will work on this major problem as time permits. Aquaterra hasn't worked at the site since 1991. Those that did, no longer work for Aquaterra. Four Seasons may have worked the site.

msm/arh

cc:Kent Wiggins , DEM
WSRO-AQ
WSRO-GW
WSRO-LQ
WSRO-Solid Waste
Central Files
WSRO-WQ

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES
WINSTON-SALEM REGIONAL OFFICE

MEMORANDUM



JAMES B. HUNT JR.
GOVERNOR

TO: Phil Prete

FROM: Hugh Jernigan *HJernigan*

DATE: November 24, 1999

SUBJECT: Documents relating to Nancy B. Leaker letter dated September 29, 1999

Attached are documents relating to Mrs. Leaker's letter as per requested. Also enclosed is a letter from the Guilford County Health Department dated August 15, 1991, officially rescinding the delegated Solid Waste Management program.



JAMES B. HUNT JR.
GOVERNOR

BILL HOLMAN
SECRETARY

WILLIAM L. MEYER
DIRECTOR



F. 16H

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES

DIVISION OF WASTE MANAGEMENT

RECEIVED
N.C. Dept. of EHNR
DEC 16 1999
Winston-Salem
Regional Office

November 23, 1999

Ms. Nancy B. Lenker
4010 Sedgewood Lane
Greensboro, NC 27407-7932

Re: Wiley Davis Road Landfill (Permit #41B)

Dear Ms. Lenker,

I am writing in response to your letter that I received on November 9, 1999. In that letter you requested a response to a letter that you reference as written on October 15, 1999 inquiring into the status of the remedial action plan for the Wiley Davis Road Landfill. I told you in a telephone conversation prior to your letter that I would look into the matter. There is a long history and considerable activity surrounding this site that we have been reviewing since your initial inquiry. We gathered information from the Winston-Salem Regional Office Groundwater Section files, from the Guilford County Health Department files and from our Solid Waste Section files. I have also discussed the plan in question with the Guilford County Health Department and with Arthur Mouberry, Chief of the Division of Water Quality Groundwater Section. I offer this letter to you as a single response to your letters addressing both Mr. Mouberry and me.

The Remedial Action Plan submitted in June 1991 on behalf of D. H. Griffin Co. to the Division of Water Quality, Winston-Salem Regional Office was a recommendation to evaluate remedial options. The report was considered by The Division of Water Quality and the Guilford County Health Department not complete enough to be evaluated for implementation as a remedial action plan and additional supporting information (additional sampling and well installations) was requested of the permittee on several occasions subsequent to the submittal of the plan and continuing through 1998 for the purpose of more thoroughly characterizing the contaminant plume

As of February 1998, the Groundwater Section and the Solid Waste Section of the Division of Waste Management are in agreement that the Solid Waste Section is the lead agency on groundwater issues at this site since it is permitted under our authority. In February 1998, the Solid Waste Section began requesting and reviewing water quality reports for this site. Subsequent to a review of the data, and as a requirement for proper closure of the site, the Solid Waste Section has required an expansion of the groundwater monitoring system and a more complete characterization of contamination.



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Ms. Nancy Lunker
November 17, 1999
Page 2

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SOLID WASTE SECTION
DEPARTMENT OF ENVIRONMENTAL AND NATURE
CONSERVATION
CRUCIAL water quality assessment activity is now in progress to increase our understanding of the direction of groundwater flow at the site, in particular to determine whether contaminants are migrating in the direction of nearby residential wells. This additional groundwater characterization will assist in determining the effectiveness of construction of the cap on the landfill in remediating groundwater at the site and will help steer us to appropriate additional remediative measures that might be needed at the site.

We intend to pay very close attention to the data once the upgrade to the monitoring system is in place and monitoring ensues. We will continue to require enhancements and modifications to the system if they are necessary to determine the extent and nature of any contamination at the site. We also are confident that the capping of the site with appropriate surface water diversion mechanisms is an effective remediation strategy and will result in a lessening over time of releases to the groundwater from that site. If further remedial measures are warranted based on our increasing understanding of the site, we will act accordingly.

I hope this answers some of your questions about the site. As always, I am very happy to speak with you at any time regarding your concerns. You may call me at 919-733-0692 extension 252.

Sincerely,



Philip Prete, Head
Environmental Compliance Unit
Solid Waste Section

CC: Dexter R. Matthews, DENR Solid Waste Section Chief
Arthur Mouberry, DENR Groundwater Section Chief
Ken Carter, Guilford County Health Department



JAMES B. HUNT JR.
GOVERNOR

BILL HOLMAN
SECRETARY

WILLIAM L. MEYER
DIRECTOR

RECEIVED
N.C. Dept. of HNR
NOV 23 1999

Winston-Salem
Regional Office
November 23, 1999

Mr. D. H. Griffin
D.H. Griffin Wrecking Co., Inc.
P.O. Box 7657
Greensboro, N.C. 27417-0657

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WASTE MANAGEMENT

Post-It® Fax Note	7671	Date	11/23/99	# of Pages	2
To	Hugh Jenigan	From	Phil Rele		
Co./Dept		Co.			
Phone #		Phone #			
Fax #		Fax #			

RE: Environmental Assessment Plan - Wiley Davis Road Landfill (Permit # 41-B)

Dear Mr. Griffin:

This is in response to the November 17, 1999 letter from Mr. Mark Taylor of Ecologic Associates, P.C. submitted on behalf of D.H. Griffin Wrecking Co., Inc. Mr. Taylor took exception in his letter to requirements by the Solid Waste Section supplemental to the Environmental Assessment Work Plan. Specifically, he objected to the necessity for a deep well associated with monitoring well WD-3, and the analysis for pesticides and PCBs.

Analytical data submitted to the Solid Waste Section indicates that synthetic organic chemicals that are not naturally occurring have been detected and reported at concentrations exceeding their respective groundwater standards in monitoring well samples during several sampling events. Data from monitoring wells WD-2s, WD-2d, and WD-6, demonstrate that not only have contaminants apparently migrated off site, they may also be migrating below the level of surficial flow. **Complete delineation of a contaminant plume is a requirement at all sites with confirmed contamination.** Consequently, installation of a deep monitoring well in association with well WD-3 is imperative to rule out similar contaminant travel under the creek in the direction of nearby residences and to compensate for the loss of monitoring wells WD-2s, WD-2d, and WD-6.

I would like to re-emphasize the need expressed to you in our phone conversation of November 18, 1999 to expedite the installation and sampling of the groundwater monitoring wells. All reasonable steps should be taken to install the new wells soon enough to ensure that all monitoring wells (including existing old wells prior to abandonment as well as new wells) can be sampled coincident with the required second semi-annual sampling event - before the end of this calendar year. This will be instrumental in evaluating the enhanced system and its ability to monitor the effectiveness of the newly installed cap as a remediation measure. As mentioned in previous correspondence to you, site investigation activities may require additional monitoring wells, sampling and analysis, and site characterization and may ultimately result in additional remediation phases. Timely implementation of this phase is critical to this determination.



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D.H. Griffin Wrecking Co., Inc.

November 23, 1999

Page 2

The second issue taken concerns our request to sample and analyze for pesticides and PCBs. To avoid any delays, the Solid Waste Section is willing to forego this requirement *at this time*, but reserves the right to require it in the future. Instead, we will arrange to split samples during the next sampling event and have the State Laboratory of Public Health analyze samples collected by our personnel for pesticides and PCBs. Future analytical requirements may depend on results from these analyses. Please coordinate the proposed sampling date with Larry Rose, providing sufficient lead time to allow him to be present during the event.

Thank you for your timely cooperation with this matter. If you have any questions, please call me at (919) 733-0692, extension 252, or Larry Rose at extension 257.

Sincerely,



Philip J. Prete, Head
Environmental Compliance
Solid Waste Section

cc: Larry Rose, Environmental Specialist
Hugh Jernigan, Waste Management Specialist
Mark Taylor, P.G. - Ecologic Associates, P.C.

State closes landfill

● A resident who lives near the Wiley Davis Landfill calls the decision "just wonderful."

BY PARKER LEE NASH

Staff Writer

GREENSBORO — Dump trucks can never again drop their garbage in any portion of Guilford County's Wiley Davis Landfill, state environmental officials ruled Friday.

The state has cited the landfill more than 30 times for illegal dumping, and some nearby residents say the landfill has made them sick.

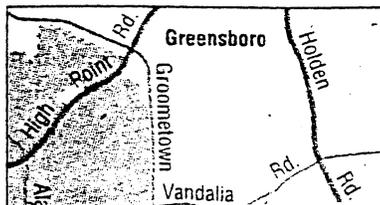
The site's owner, D.H. Griffin, had asked the state to let him reopen 16 acres — the smaller side of his 35-acre landfill off Groome-town Road — for dumping such harmless trash as bricks and stumps. That side of the landfill was closed in September because its permit had expired.

The other side of the landfill — the bigger side, which also was permitted to accept only harmless bricks and stumps — was closed in September, too. State environmental officials ordered it closed for good, however, because it had accepted illegal waste for nearly 20 years.

Griffin submitted the request to reopen the landfill's smaller side in October as controversy about the site brewed. Chemicals found in the landfill's test wells began showing up in the drinking water of people living nearby. The neighbors asked the state health department to investigate.

That investigation, led by the

Please see **LANDFILL**, Page B2



LANDFILL

Continued from page B1

state's top water analyst, began Monday after recent News & Record stories detailed years of environmental violations at the landfill. During one instance fifteen years ago, inspectors found drums of hazardous liquids dumped in the landfill.

Wiley Davis neighbors blame their worries and woes on state environmental watchdogs, who never fined Griffin for the illegal and hazardous waste they found in the landfill during more than a decade of monitoring it. Those same environmental officials have recently come under fire for their handling of the landfill. They ruled Friday to stop any future dumping at Wiley Davis but wouldn't give specific reasons.

"A landfill is not compatible there," said Phil Prete, a spokesman in the Division of Waste Management. Other officials in the division couldn't be reached for comment. The division is part of the N.C. Department of Environment and Natural Resources.

A landfill neighbor, Nancy Lenker, who has helped lead the fight to close the landfill, called the decision

"just wonderful."

"It's just the biggest relief to reach this point," Lenker said. "Now we can concentrate on the health risks out here."

Lenker and other neighbors believe the neighborhood's water and air is making some of them sick and putting them all at risk. And they believe that the landfill is to blame.

But no one knows that for sure. Water tests ordered by Dr. Kenneth Rudo, the toxicologist who is leading the state's investigation into the health risks in the neighborhood, could begin in two weeks.

Griffin has denied that anything harmful ever was dumped in the landfill.

David Griffin, D.H. Griffin's son who works with him in the family's wrecking and landfilling business, said they withdrew their request from the state Friday to reopen a portion of the landfill because it "was almost full anyway."

David Griffin said the state's decision to deny their permit had nothing to do with his family's decision to withdraw the permit application.

But the Griffins had been notified before they withdrew their permit application that the state would allow no more dumping at Wiley Davis, Prete said.

D.H. GRIFFIN WRECKING CO., INC.

"If It's Wrecking — Call Us"

4700 HILLTOP ROAD (27407)
PHONE: (336) 855-7030
FAX: (336) 855-9322

P.O. BOX 7857
GREENSBORO, N.C. 27417-0657

RECEIVED
C. Dept. of EHN
NOV 19 1999
Winston-Salem
Regional Office

Mr. James Coffey
NC Dept. of Env. And Natural Resources
Solid Waste Section
401 Oberlin Road, Suite 150
Raleigh, NC 27605

RE: Application for Permit - Wiley Davis LCID Landfill
Greensboro, NC

Dear Mr. Coffey,

On behalf of Wiley Davis Landfill, Inc., I would like to withdraw my permit application to operate an LCID Landfill (Landfill Permit #41-N).

Wiley Davis Landfill, Inc. appreciates your cooperation in this matter. The company will follow up with a letter to request what further steps shall be required for closure of this facility.

Thank you and please feel free to call me with questions.

Sincerely,



D. H. Griffin, Sr
Wiley Davis Landfill, Inc.

Cc: Phil Prete
Tim Jewett

Post-it® Fax Note		7671	Date	11/19/99	# of pages	2
To	Hugh Jensen		From	Phil Prete		
Co./Dept			Co.			
Phone #			Phone #			
Fax #			Fax #			

PJE



NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WASTE MANAGEMENT

MEMORANDUM

RECEIVED
N.C. Dept. of EHNR
NOV 19 1999
Winston-Salem
Regional Office

JAMES B. HUNT JR.
GOVERNOR

BILL HOLMAN
SECRETARY

WILLIAM L. MEYER
DIRECTOR

DATE: WEDNESDAY, NOVEMBER 17, 1999
TO: BILL HOLMAN, SECRETARY
DENR
THROUGH: ROBIN SMITH, ASSISTANT SECRETARY
DENR ENVIRONMENTAL PROTECTION
THROUGH: BILL MEYER, DIRECTOR *BM*
DENR DIVISION OF WASTE MANAGEMENT
FROM: DEXTER R. MATTHEWS, CHIEF *DTM*
DENR SOLID WASTE SECTION
RE: UPDATE ON WILEY DAVIS ROAD LANDFILL -
GREENSBORO

As you have requested, I am providing the following attached information for your review to bring you up to date on the activities we are monitoring in relation to the Wiley Davis Road Landfill in Greensboro.

1. November 15, 1999 update report
2. Revised draft report on health concerns related to private well water quality from the Agency for Toxic Substances and Disease Registry (ATSDR) of the US Department of Health and Human Services
3. Resolution passed by the Guilford County Board of Commissioners concerning extending public water supply to residents in the vicinity of the landfill.

There is a long history and considerable activity surrounding this site that we have been reviewing. Information was gathered from the Winston Salem Regional Office Groundwater Section files, from the Guilford County Health Department files and from our Solid Waste Section files. Much negative attention has been generated by the media's coverage of the site and its history. However, recent dedication by staff acting in the interest of the environment and public health has resulted in gaining an appropriate closure of the landfill as well as an aggressive post-closure site monitoring program.

While press coverage focused on a 1991 remediation plan that was "never implemented," Guilford County Health Department officials have reported that

Date	11/17/99	# of pages	2
From	Hugh Langley	Co.	Phyl Peck
Phone #		Fax #	
Postnet Fax No	7671		

FYI



MEMORANDUM: WILEY DAVIS ROAD LANDFILL UPDATE
NOVEMBER 16, 1999
PAGE 2

investigation subsequent to that plan revealed that contaminant levels were decreasing, prompting the County's determination that the 1991 proposal was not expedient or necessary and an enhanced groundwater assessment program was initiated instead. Based on the recent draft report by ATSDR, communications with DHHS Epidemiology Division and Guilford County Health officials, and our ongoing review of hydrogeological data, it appears that the contaminants that were detected earlier at levels of concern in the three residential wells in question are currently at levels *below* health concerns. Further, there is general agreement among the involved agencies that both the lead and the tetrahydrofuran that were detected in these wells are likely originating from the household plumbing and *not* from the landfill. We have required an enhanced groundwater assessment at the site to determine if potential releases are posing a risk and will require remediation as deemed appropriate.

I hope this update provides enough to give you a clear understanding of the current status. We will continue to keep you apprised on the status of our permit decision and our continuing examination of groundwater issues at the site. Please contact Phil Prete (733-0692 extension 252) or me (extension 256) directly at any time if you need additional information. If you would like, we can arrange for a more detailed briefing at your convenience.

cc: Dan McLawhorn
Diane Long
Don Reuter

DRM/pjp

ATTACHMENTS



NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WASTE MANAGEMENT



JAMES B. HUNT JR.
GOVERNOR

BILL HOLMAN
SECRETARY

WILLIAM L. MEYER
DIRECTOR

MEMORANDUM

RECEIVED

NOV 19 1999

DATE: NOVEMBER 19, 1999
TO: DEXTER MATTHEWS
FROM: PHILIP PRETE
RE: ADDENDUM TO UPDATE OF NOVEMBER 15, 1999: WILEY DAVIS ROAD LANDFILL - GUILFORD COUNTY

Winston-Salem
Regional Office

November 16, 1999 Dr. Ken Rudo, DHHS Division of Epidemiology met with concerned residents near the Wiley Davis Road Landfill to respond to their concerns regarding their drinking water.

November 18, 1999 Meeting at Guilford County Health Department with representatives of Guilford County Health Department, DHHS Division of Epidemiology, DENR Division of Waste Management to discuss agency roles and strategies.

My earlier report to you indicated that based on information available to us and written and verbal communications from ATSDR, DHHS and Guilford County Health Department that the residents water supply did not appear to be an immediate health threat. However, based on fluctuating levels of lead in two of the wells and the concern by residents regarding long-term safety of their drinking water, Dr. Rudo and the Guilford County Health Department have agreed to conduct further assessment of the residential drinking water. This additional analytical work will be conducted under the direction of Doctor Rudo and with the cooperation of the County Health Department. As a result, they expect to be able to advise the residents with confidence on whether or not they should pursue the option before the County Board of Commissioners to pay to hook up to public water supply.

As of the meeting yesterday, we have agreed that the issues surrounding the Wiley Davis Road Landfill are to be handled in two separate spheres:

- ① **Drinking water protection:** Lead Agency = DHHS Division of Epidemiology
Contact = Dr. Ken Rudo
- ② **Landfill environmental monitoring:** Lead agency = Division of Waste Management
Contact = Philip Prete

Work plans and public statements regarding activities directly related to these spheres of work will originate with the appropriate lead agency.

Date	11/19/99	Pages	1
From	Phil Prete	Phone #	
To	Hugh Jantzen	Fax #	
Co. Dept.			
Phone #			
Fax #			

Post-It Fax Note 7671



1848 MAIL SERVICE CENTER, RALEIGH, NORTH CAROLINA 27699-1646
401 OBERLIN ROAD, SUITE 150, RALEIGH, NC 27605
PHONE 919-733-4996 FAX 919-715-2605

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Fax #		Fax #			

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Piedmont Triad, North Carolina

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More Local/State News Stories

Local/State News

State water pollution specialist to visit Wiley Davis Landfill neighborhood

11-12-99

By PARKER LEE NASH, Staff Writer News & Record

GREENSBORO -- Nearly a decade after environmental watchdogs declared the Wiley Davis Landfill contaminated, a top state chemical analyst will investigate tainted drinking water pumping into nearby homes.

Dr. Kenneth Rudo will meet next week with residents living near the private landfill, off Groometown Road near Sedgefield. His inquiry comes more than seven months after the neighbors began pleading with state and county officials for help. Contaminants discovered at the landfill in the early '90s now show up in their drinking water.

It's still not clear whether their water is unsafe, but folks living beside the landfill say it's about time someone acted on their concerns.

"The people who are supposed to look after us have ignored our pleas for help," said Nancy Lenker, a neighbor whose well a federal agency recently found to be polluted with lead. "Thank goodness somebody is finally paying attention."

The owner of the landfill, businessman D.H. Griffin of Greensboro, has denied that his landfill has polluted anybody's water. Neither Griffin nor his assistant

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Related Info:

Redistricting Our Schools

An In-Depth look at the redistricting process in Guilford County.

Triad 2000

A multimedia exploration of the Triad's past, present, and future.

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- ▶ Classifieds
- ▶ Communications

returned phone calls Wednesday or Thursday.

Rudo's investigation comes on the heels of an Oct. 2 News & Record story describing a decade of environmental violations at the site, including an instance when inspectors found illegally dumped drums of hazardous liquids in the landfill. The state has cited Griffin more than 30 times for illegal dumping and draining. They never fined him, however, even though state inspectors declared the landfill contaminated in 1991. State environmental officials then ordered the site closed down and cleaned up. Neither happened. Those officials now say they don't know why.

Following that article, Bill Holman, the new head of the state Department of Environment and Natural Resources, ordered an investigation into his department's handling of the landfill. That investigation is on-going.

Meanwhile, Rudo, a toxicologist in the state's health department, is acting on orders from North Carolina's health director. Dr. Dennis McBride has asked Rudo to look into potential health risks facing the Wiley Davis neighbors. A resident asked McBride for help three weeks ago.

Rudo says he aims to "try to find out what's been going on" at the landfill that might have affected the area's drinking water supply.

Rudo, one of two toxicologists in the state's epidemiology section who evaluates potential environmental health risks, has known about water concerns in the Wiley Davis neighborhood since June. That's when he determined that the area's wells were safe.

Now, he says he's not so sure.

Soon after Rudo's findings were released

last summer, the Agency for Toxic Substances and Disease Registry in Atlanta, a testing arm of the EPA, reviewed the same test results and determined that water in three of the area's wells was unsafe.

Rudo says he can't explain why his findings were different from the federal toxicologist's.

The federal agency now is reviewing more tests from wells around Wiley Davis Landfill that could show lower levels of contamination in the three wells. The agency could issue an update next week.

But Rudo isn't waiting.

"There's obviously a lot more to this," Rudo said, although he wouldn't speculate on what more there might be.

Rudo said he made his initial finding that the neighborhood's water is safe without the benefit of key facts — namely that the neighborhood surrounds a landfill. Gullford County health inspectors sampled the neighbors' wells and forwarded the results to him for analysis. But water samples came in at different times and Rudo said he didn't evaluate them as a group.

Rudo said the state health director's recent questions about the landfill and neighboring wells prompted him to act. He will try to determine what, if any, potential health threat the area's water poses to residents.

The federal study said that three of the neighborhood's wells were unsafe to drink, and recommended that alternate water sources be provided to those residents.

High amounts of lead, which show up in the landfill's water and two of the neighboring wells, can damage the central nervous system and shut down

THE UNIVERSITY OF CHICAGO
DEPARTMENT OF CHEMISTRY
5800 S. UNIVERSITY AVENUE
CHICAGO, ILLINOIS 60637

RESEARCH ASSISTANT
JAMES M. HARRIS
1968-1970

RESEARCH ASSISTANT
JAMES M. HARRIS
1970-1972

RESEARCH ASSISTANT
JAMES M. HARRIS
1972-1974

RESEARCH ASSISTANT
JAMES M. HARRIS
1974-1976

RESEARCH ASSISTANT
JAMES M. HARRIS
1976-1978

RESEARCH ASSISTANT
JAMES M. HARRIS
1978-1980

That plan calls for more testing of the neighborhood's water, the development of a strategy to protect the health of the residents if their water is found to be unsafe, and a clean-up at the landfill if it's still contaminated.

Tests first detailed the landfill's contamination in 1989. According to state documents, that's when the state was informed by Griffin's own engineers that the landfill was contaminated with hazardous waste. In 1990, state inspectors found similar problems and said the landfill should be closed. In 1991, the state asked for and got from Griffin a plan for cleaning up contaminated water at the site. But the plan was never carried out, and there is no record that the state ever asked about the plan again after 1993.

State environmental investigators say they don't know why. But, they say, they're not surprised.

"You could probably find 400 or 500 of those action plans in the files that we can't follow up on," said Arthur Mouberry, chief of the state's ground-water protection division, when asked last month about the shut-down order. "We don't have the manpower."

Environmental officials say the report on the handling of the Wiley Davis Landfill could be finished next week.

A big portion of the Wiley Davis Landfill was closed for good in September. A protective cap of grass has been sown on top of the 10-story pile of garbage. Some contaminants discovered at the landfill in the early '90s still show up in test wells at the site today.

Rudo plans to meet with Wiley Davis neighborhood residents for the first time Tuesday night at the nearby Pinecroft-Sedgefield Fire Department.

To allow time for Rudo's investigation, Guilford County commissioners likely will postpone their Dec. 2 hearing on whether to extend water lines to the Wiley Davis neighbors until their Jan. 20 meeting.

Currently, the neighborhood's homes all are served by private wells. Neighbors may have to pay as much as \$3,100 for Greensboro to run water lines to their homes, unless Rudo or other state officials intervene. If the neighborhood's water is found to be contaminated by the landfill, or found to be a health risk by the state health director, the state could pay for the water lines.

That will only happen if Rudo, and other state officials, determine that there's a problem. Rudo said he needs a lot more information first.

"There are so many questions I've got to get answered," he said.

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NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES
WINSTON-SALEM REGIONAL OFFICE



JAMES B. HUNT JR.
GOVERNOR

WAYNE MCDEVITT
SECRETARY

FAX TRANSMITTAL

Winston-Salem Regional Office

Telephone: (336) 771-4600 FAX: (336) 771-4631

Date: 11/16/99

No. Of Pages (including this page) 2

TO: Phil Preti

FROM: Hugh Jerniga

Fax No. 919 733 4810

Telephone #: _____

Comments:

Inspection report from Land Quality
Co. Wiley Davis Landfill
→ Site found to be in compliance

(Should you not receive the number of pages indicated above, please call.)

SEDIMENTATION INSPECTION REPORT

NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

LAND QUALITY SECTION: 585 Waughtown St. Winston-Salem, NC 27107 (336)771-4600

County: GUILFORD Project: WILEY DAVIS LANDFILL River Basin: CAPE FEAR

Person Financially Responsible: DAVID H. GRIFFIN

Address: PO BOX 7657 GREENSBORO, N.C. 27417

1. Project Location: WILEY DAVIS RD. Pictures: Yes No Prints Slides Video

2. Weather and Soil Conditions: SUNNY 70's SOIL - WORKABLE

3. Is site currently under notice of violation? Yes No

4. Is the site in compliance with the S.P.C.A. and the rules? Yes No If No, check violations below:

5. Violations:

- a. No approved plan, G.S. 113A-57(4) and 15A NCAC 4B.0007(c)
- b. Failure to follow approved plan, G.S. 113A-61.1
- c. Failure to submit revised plan, G.S. 113A -54.1(b) and 15A NCAC 4B.0018(a)
- d. Failure to provide adequate groundcover, G.S. 113A-57(3) and 15A NCAC 4B.0007(b) or 15A NCAC 4B.0024(e)
- e. Insufficient measures to retain sediment on site, G.S. 113A-57(3)
- f. Failure to take all reasonable measures, 15A NCAC 4B.0005
- g. Inadequate buffer zone, G.S. 113A-57(1)
- h. Graded slopes and fills too steep, G.S. 113A-57(2) or 15A NCAC 4B.0024 (d)
- i. Unprotected exposed slopes, G.S. 113A-57(2)
- j. Failure to maintain erosion control measures, 15A NCAC 4B.0013
- k. Other (describe) _____

6. Has sedimentation damage occurred since the last inspection? Yes If yes, where? (check all that apply): No NONE OBSERVED

Lake/natural watercourse on the tract Lake/natural watercourse off the tract Other property

Description: N/A

Degree of damage: Slight Moderate Severe

7. Contact made with (Name) KIAYNE BROWN (D.H. GRIFFIN) Title MARK TAYLOR

Inspection report given or sent to the Person Financially Responsible Date given/sent 11-8-99

8. Corrective actions needed: _____

9. Comments: ① ADEQUATELY INSTALL SYNTHETIC DITCH LINING ALONG BOTH SIDES OF ACCESS ROAD TO TOP OF MOUND ② RESHAPE BOTH DITCHES ALONG SAME ACCESS ROAD TO ENSURE THAT RUNOFF IS CARRIED ALONG THE CENTERLINE OF THE DITCH ③ REGULARLY MAINTAIN ALL TEMP. SLOPE DRAIN INLETS TO ENSURE THAT PIPING DOES NOT OCCUR

Report by: A. OTTEN

Others present: ES Gray House

Date of Inspection: 11/4/99 Time arriving at site: 1 PM Time leaving site: 1:45 PM

cc: _____

Post-it® Fax Note	7671	Date	11/17/99	# of pages	2
To	Hugh Jennings		From	Phil Prete	
Co./Dept.	Jim Tennet		Co.		
Phone #			Phone #		
Fax #			Fax #		

DATE: 11/15/1999

TO: DEXTER MATTHEWS

FROM: PHILIP J. PRETE

RE: UPDATE ON WILEY DAVIS ROAD LANDFILL ISSUES AND INVESTIGATION

for records

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Closed Site (permit # 41-B):

- ▲ NOV issued by Land Resources on October 8, 1998 for failure to install all erosion and sedimentation control measures in accordance with approved plan. On October 20, 1999, site was inspected for compliance with NOV. Substantial progress toward compliance was noted resulting in an allowance of extension of deadline for compliance to November 3, 1999. A follow inspection was conducted on November 4, 1999 resulting in a finding that the site had achieved compliance with the Sedimentation Pollution Control Act and Rules.
- ▲ Groundwater investigation plan has been approved effective October 8, 1999 by the Solid Waste Section for immediate phased implementation. Subsequent to our discussion on October 15, 1999, we further requested that implementation be expedited, that additional wells be installed on the side of the site nearest the largest concentration of residences, and that the next sampling event be synchronized to include existing and new wells to facilitate evaluation of the new system.
- ▲ Implementation of groundwater investigation is under way with the second semi-annual sampling event, to include sampling of the new monitoring system components, to be completed by the end of the year.

New LCID landfill (expired permit # 41-N)

- ▲ Site is closed for business prior to September 13, 1999 permit expiration date. Observations made on subsequent visits to the site revealed no sign of operation.
- ▲ Permit application has been submitted. Permit decision is pending completion of exhaustive compliance review of site and operator.

Private Wells:

- ▲ Guilford County provided the Agency for Toxic Substances and Disease Registry (ATSDR) additional data from the same wells that were the subject of ATSDR previous "recommendation" and requested a new evaluation. Please note the new conclusion by ATSDR (attachment 1) that "levels of lead detected in water samples from residence # 3, and the level of lead detected in samples from residence # 7 do not represent a health hazard to adults or children. Furthermore, it is unlikely that tetrahydrofuran at 17 µg/l poses a health hazard following daily ingestion of the groundwater."

WILEY DAVIS ROAD LANDFILL UPDATE
NOVEMBER 16, 1999
PAGE 2

- ▲ Guilford County Board of Commissioners met on November 4, 1999 and passed a resolution entered by Commissioner Phyllis Gibbs to run a water line to the neighborhoods near the landfill site (Attachment 2). A public hearing originally scheduled for December 2, 1999 has been set for January 20, 2000.
- ▲ DHHS Epidemiologist is meeting with area residents November 16, 1999 to discuss water quality issues related to their wells.

cc: Bill Meyer

and industrial chemicals move in as civil-
sioned, someone could live work and
northeast, to set high standards and
commit to them now.

Greenbush N&R

1/15/99

Answers long overdue on Wiley Davis Landfill

● Will neighbors finally get results?

After months of getting the run-around, neighbors of the Wiley Davis Landfill finally may get some answers.

One state department is sending a toxicologist to town this week to investigate whether the landfill off Groometown Road near Sedgefield has contaminated neighbors' drinking water, and another is conducting an internal investigation into its handling of the case since 1989. Both investigations are long overdue.

It was in 1989 that an engineering firm hired by landfill owner D.H. Griffin first reported hazardous waste at the site. The state subsequently determined that Griffin was guilty of illegal dumping and that the landfill was leaking dangerous chemicals and should be closed.

Griffin, the owner of a demolition company, was cited at least 30 times for illegal dumping and drainage at the landfill but never paid any fines. And although he submitted a plan in 1991 for cleaning it up, he never carried the plan out and kept operating the site illegally until September.

With the same dangerous chemicals

found at the site more than a decade ago now showing up in their wells, the landfill's neighbors are understandably frustrated. Hopefully this week's visit by Dr. Ken Rudo of the state Health Department will be the beginning of an end to their frustration.

The area's residents have already waited too long for what most of us take for granted: a safe source of water. If their wells are too contaminated to provide it, then the state should pay to extend city water lines to their homes.

Rudo needs to quickly determine, once and for all, whether their well water is safe to drink. While he said in June that the water was safe, he's reconsidering now that toxicologists from a federal agency and an independent watchdog group say at least three of the wells are dangerously contaminated.

At the same time, Bill Holman, the new director of the state Department of Environment and Natural Resources, should act with equal haste to release the final report on how the system designed to protect the environment from polluters like Griffin failed so miserably, and how the state intends to make it right.

ODDS & ENDS

We're all excited about Hammond Bennett's new mega movie theater on Battleground. It's not the 15 screens but the fact that four of them are to be reserved for foreign and independent films. Why, it sounds as though he's reinvented the Janus of 30 years ago.

the team to beat. But then of course there's Duke coming up.

Garbage disposals may become historical artifacts if Raleigh City Manager Dempsey Benton has his way. He has proposed banning the ubiquitous devices in houses hooked to the Raleigh sewer system. Apparently disposals contribute to clogged sewers. Question is, what kind of machine diseases of disposals?

Rusiness school students were asked by Sen. Bob Kerry of Nebraska to state

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closes landfill

● A resident who lives near the Wiley Davis Landfill calls the decision "just wonderful."

BY PARKER LEE NASH
Staff Writer

GREENSBORO — Dump trucks can never again drop their garbage in any portion of Guilford County's Wiley Davis Landfill, state environmental officials ruled Friday.

The state has cited the landfill more than 30 times for illegal dumping, and some nearby residents say the landfill has made them sick.

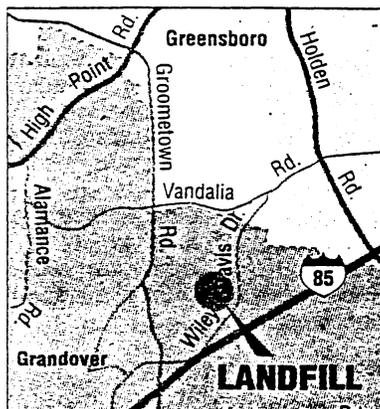
The site's owner, D.H. Griffin, had asked the state to let him reopen 16 acres — the smaller side of his 35-acre landfill off Groometown Road — for dumping such harmless trash as bricks and stumps. That side of the landfill was closed in September because its permit had expired.

The other side of the landfill — the bigger side, which also was permitted to accept only harmless bricks and stumps — was closed in September, too. State environmental officials ordered it closed for good, however, because it had accepted illegal waste for nearly 20 years.

Griffin submitted the request to reopen the landfill's smaller side in October as controversy about the site brewed. Chemicals found in the landfill's test wells began showing up in the drinking water of people living nearby. The neighbors asked the state health department to investigate.

That investigation, led by the

Please see **LANDFILL**, Page **B2**



LANDFILL

Continued from page B1

state's top water analyst, began Monday after recent News & Record stories detailed years of environmental violations at the landfill. During one instance fifteen years ago, inspectors found drums of hazardous liquids dumped in the landfill.

Wiley Davis neighbors blame their worries and woes on state environmental watchdogs, who never fined Griffin for the illegal and hazardous waste they found in the landfill during more than a decade of monitoring it. Those same environmental officials have recently come under fire for their handling of the landfill. They ruled Friday to stop any future dumping at Wiley Davis but wouldn't give specific reasons.

"A landfill is not compatible there," said Phil Prete, a spokesman in the Division of Waste Management. Other officials in the division couldn't be reached for comment. The division is part of the N.C. Department of Environment and Natural Resources.

A landfill neighbor, Nancy Lenker, who has helped lead the fight to close the landfill, called the decision

"just wonderful."

"It's just the biggest relief to reach this point," Lenker said. "Now we can concentrate on the health risks out here."

Lenker and other neighbors believe the neighborhood's water and air is making some of them sick and putting them all at risk. And they believe that the landfill is to blame.

But no one knows that for sure. Water tests ordered by Dr. Kenneth Rudo, the toxicologist who is leading the state's investigation into the health risks in the neighborhood, could begin in two weeks.

Griffin has denied that anything harmful ever was dumped in the landfill.

David Griffin, D.H. Griffin's son who works with him in the family's wrecking and landfilling business, said they withdrew their request from the state Friday to reopen a portion of the landfill because it "was almost full anyway."

David Griffin said the state's decision to deny their permit had nothing to do with his family's decision to withdraw the permit application.

But the Griffins had been notified before they withdrew their permit application that the state would allow no more dumping at Wiley Davis, Prete said.

Bored?

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November 12, 1999
08:24 AM

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Last 7 Days

State Toxicologist to Take Second Look at Tests

GREENSBORO (AP) – The state will take another look at a community's tainted drinking water nearly a decade after state environmental inspectors declared a nearby landfill contaminated, a state toxicologist says.

The inquiry by Dr. Kenneth Rudo comes more than seven months after the neighbors asked state and county officials for help. Contaminants discovered at the Wiley Davis Landfill in the early 1990s now show up in their drinking water.

It's still not clear whether their water is unsafe.

The owner of the landfill, businessman D.H. Griffin of Greensboro, has denied that his landfill has polluted anybody's water. The state has cited Griffin more than 30 times for illegal dumping and draining. In one instance, inspectors found illegally dumped drums of hazardous liquids in the landfill.

State inspectors declared the landfill contaminated in 1991. It was ordered closed down and cleaned up. But neither happened and state environmental officials say they don't know why. State environmental secretary Bill Holman has ordered an investigation into his department's handling of the landfill.

State health director Dr. Dennis McBride has asked Rudo to look into potential health risks facing the Wiley Davis neighbors. A resident asked McBride for help three weeks ago.

Rudo says he has known about water concerns in the Wiley Davis neighborhood since June. At the time he

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To	David McPherson	Date	11/12/99
Co/Dept.		From	Don Levitt
Phone #		Co.	
Fax #		Phone #	
		Fax #	

determined through tests that the area's wells were safe, but now Rudo says he's not so sure.

The Agency for Toxic Substances and Disease Registry, a testing arm of the U.S. Environmental Protection Agency, reviewed the same test results and determined that water in three of the area's wells was unsafe. Rudo says he can't explain the difference in the findings.

High amounts of lead show up in the landfill's water and two of the neighboring wells. High amounts can damage the central nervous system and shut down the kidneys and other organs. The chemical tetrahydrofuran, which federal toxicologists said shows up in dangerous amounts in a third residential well, also pollutes the landfill's water. It's a solvent that can cause liver and kidney damage.

A second preliminary, federal study based on another set of water tests shows that water in those same three wells may be safe, according to Dr. Robert Williams, the federal toxicologist analyzing the samples.

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Greensboro

www.news-record.com



BAB Igniting charges against...

GREENSBORO: DWI murder cases require more evidence and more investigation. **B3**

BUSINESS: Focus shifting from PCs to other Web-surfing gizmos. **B8**

373-7013

B

State will test water around dump

North Carolina's top chemical analyst orders tests and promises peace of mind to residents in the Wiley Davis neighborhood.

BY PARKER LEE NASH
Staff Writer

GREENSBORO — Safe water and peace of mind, starting in two weeks. That's what the state's top water analyst promised people living around the Wiley Davis Landfill, a site that environmental inspectors branded as contaminated nearly 10 years ago.

About 75 people who live near the landfill, off Groometown Road and the I-85 interchange, gathered at a community meeting

Tuesday night with Dr. Ken Rudo. After seven months of residents pleading with state officials for help, the leading toxicologist from the state's health department is launching an investigation into the quality of the neighborhood's drinking water.

Rudo promised to begin testing the area's drinking water within two weeks. He pledged to conduct similar tests — all at state and county expense — at least three times a year, indefinitely.

If he finds unsafe levels of contaminants in the resident's water now, or in the future, "you will hear from me first and immediately," he said.

Chemicals discovered in test wells at the landfill are showing up in the resident's wells, according to recent water tests by environmental officials. Whether those

chemicals are at unsafe levels, and whether they are coming from the now-closed landfill hasn't been determined.

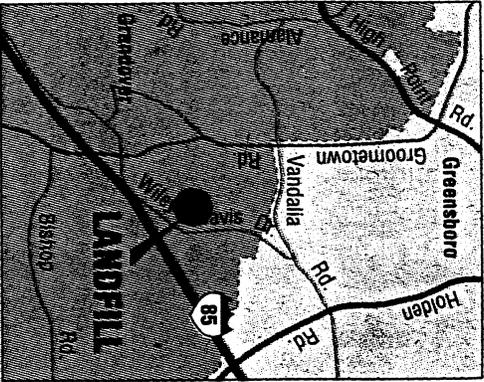
D.H. Griffin, who owns the landfill, said recently that nothing harmful ever was dumped in his landfill.

Griffin did not attend the Tuesday night meeting. But his engineer, Mark Taylor, said afterward that "we basically think this is good thing."

Taylor said a "careful, scientific evaluation" is critical to determining the condition of the neighborhood's water. However, recent water tests at the landfill, don't indicate that any contaminants have left the site, said.

Rudo's investigation comes on the heels of a similar one in the state's largest city. Please see **WATER**, Page

TIM RICKARD/News & Record



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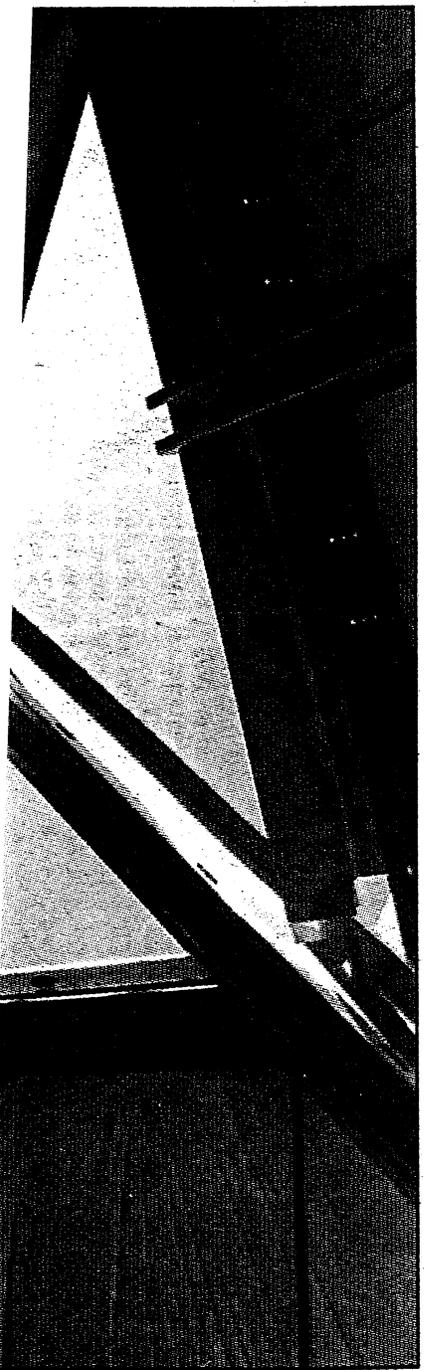
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**Suspect
arrested
in police
shooting**

Jimmy Lee Ford is jailed

basketball team, to get focused on the game.
 "In all honesty, if you're going to be a girl and you're going to play football," White said, "you just have to get rid of all the girl stuff before

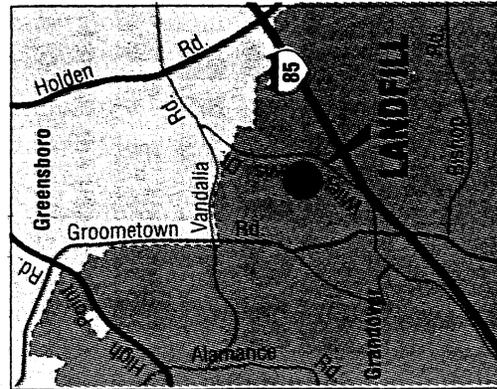
Please see **PLAYER**, Page **A4**

- ⊕ Eastern Randolph kicker is queen for a day. **A5**
- ⊕ Playoffs' serious challenges await high-scoring Eastern Randolph. **C1**
- ⊕ Preps Extra. **C8**



PHOTOS BY LYNN HEY/News & Record

Erin White (left) practices her defensive line maneuvers at Grimsley High this week. A senior, White has played three seasons of football at the high school. Top, White cleans up after practice in the locker room she shares with the girls basketball team.



TIM RICKARD/News & Record

Spurred by fears, state to test water

● A top state environmental official will investigate the neighborhood around the Wiley Davis Landfill.

BY PARKER LEE NASH
 Staff Writer

GREENSBORO — Nearly a decade after environmental watchdogs declared the Wiley Davis Landfill contaminated, a top state chemical analyst will investigate tainted drinking water pumping into nearby homes.

Dr. Kenneth Rudo will meet next week with residents living near the private landfill, off Groometown Road near Sedgefield. His inquiry comes more than seven months after the neighbors began pleading with state and county officials for help. Contaminants discovered at the landfill in the early '90s now show up in their drinking water.

It's still not clear whether their water is unsafe, but folks living beside the landfill say it's about time someone acted on their concerns.

"The people who are supposed to look

after us have ignored our pleas for help," said Nancy Lenker, a neighbor whose well a federal agency recently found to be polluted with lead. "Thank goodness somebody is finally paying attention."

The owner of the landfill, businessman D.H. Griffin of Greensboro, has denied that his landfill has polluted anybody's water. Neither Griffin nor his assistant returned phone calls Wednesday or Thursday.

Rudo's investigation comes on the heels

Please see **WATER**, Page **A6**

DO MORE

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INDEX

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CAROLINAS

State bows out of landfill water testing

State water monitors are saying that drinking water in the neighborhood of the Wiley Davis Landfill, which residents have questioned, is no longer their concern.

BY PARKER LEE NASH
Staff Writer

GREENSBORO — State water inspectors say they won't help analyze drinking water samples from homes around the Wiley Davis Landfill because it's not their responsibility.

As a result, only about 30 of the more than 200 nearby homes at risk for pumping contaminated water will be tested this month. State health officials had hoped to sample nearly twice that many homes.

"The state groundwater section didn't feel like this was a groundwater issue," said Eric Ireland, a Guilford County environmental

health manager.

North Carolina's health director ordered water tests in the neighborhood in November after the News & Record wrote about the neighbors' worries that chemicals from the landfill had seeped into their well water.

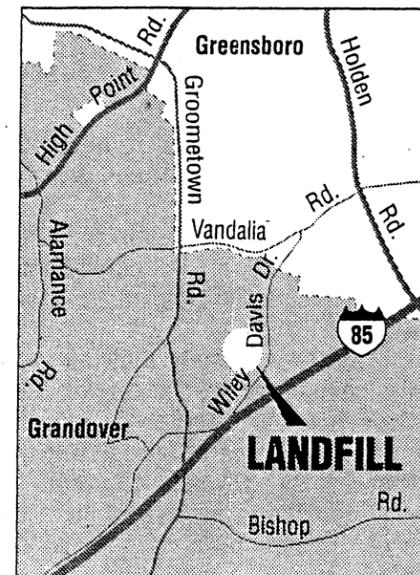
The newspaper documented years of illegal garbage — ranging from paint buckets to drums of hazardous waste — that had been discovered inside the landfill.

The site was supposed to accept only harmless debris like bricks and stumps.

The landfill's owner never was fined for the illegal dumping, however.

And the old rock pit at Interstate 85 and Groometown Road grew into a 10-story mountain of mystery garbage while state and county environmental officials tossed responsibility for monitoring the site back and forth like a steaming potato.

The ping-ponging continues to



TIM RICKARD/News & Record

day, even though the landfill has been closed. State groundwater inspectors have helped monitor the site for years.

But last week, Sherri Knight, a state groundwater supervisor in Winston-Salem, said, "The groundwater section, pretty much, is just

going to bow out at that site" because the landfill had operated under a permit issued by the state solid-waste division.

That division, she said, will be solely responsible for monitoring the landfill's closure.

But inspectors in the state's waste management division say they aren't assisting with the neighborhood's water tests, either.

Instead, they're monitoring well tests from inside the landfill. Some of those wells have been contaminated for years.

Nearly a decade ago state inspectors ordered the Wiley Davis Landfill shut down and cleaned up. But inspectors didn't enforce those orders until September, when the site was shut down for good.

The Wiley Davis Landfill still hasn't been cleaned up, however, because contamination at the site isn't serious enough to require a massive cleanup, state environmental inspectors now say.

Some of the contaminants that

show up in test wells at Wiley Davis now show up in the water of nearby homes. Different water tests have shown both unsafe and safe levels of contaminants in the area's water.

In November, the state's health director ordered massive, high-tech testing in the area to determine once and for all whether or not the area's water is safe. The size of the task prompted county health officials, who are helping the state health office gather the water samples, to ask the state's water division for help analyzing the water tests.

Now that those environmental monitors have said no, the job of analyzing the water tests falls to the state's health laboratory, which is inundated with testing from the hurricane-devastated coastline.

Health department analysts have pledged to evaluate as many Wiley Davis neighborhood tests as possible — about 30 tests in the next two months, they estimate.

WATER

Continued from page A1

of an Oct. 2 News & Record story describing a decade of environmental violations at the site, including an instance when inspectors found illegally dumped drums of hazardous liquids in the landfill. The state has cited Griffin more than 30 times for illegal dumping and draining. They never fined him, however, even though state inspectors declared the landfill contaminated in 1991. State environmental officials then ordered the site closed down and cleaned up. Neither happened. Those officials now say they don't know why. Following that article, Bill Holman, the new head of the state Department of Environment and Natural Resources, ordered an investigation into his department's handling of the landfill. That investigation is ongoing.

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Rudo, one of two toxicologists in the state's epidemiology section who evaluates potential environmental health risks, has known about water concerns in the Wiley Davis neighborhood since June. That's when he determined that the area's wells were safe.

Now, he says, he's not so sure. Soon after Rudo's findings were released last summer, the Agency for Toxic Substances and Disease Registry in Atlanta, a testing arm of the EPA, reviewed the same test results and determined that water in three of the area's wells was unsafe.

Rudo says he can't explain why his findings were different from the federal toxicologist's.

The federal agency now is reviewing more tests from wells around Wiley Davis Landfill that could show lower levels of contamination in the three wells. The agency could issue an update next week.

But Rudo isn't waiting.

"There's obviously a lot more to this," Rudo said, although he wouldn't speculate on what that might be.

Rudo said he made his initial finding that the neighborhood's water is safe without the benefit of key facts — namely that the neighborhood surrounds a landfill. Guilford County health inspectors sampled the neighbors' wells and forwarded the results to him for analysis. But water samples came in at different times and Rudo said he didn't evaluate them as a group.

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A second, still preliminary, federal study based on another set of water tests shows that water in those same three wells may be safe, according to Dr. Robert Williams, the federal toxicologist analyzing the samples. The agency hasn't released that report. Williams says extensive, carefully monitored water tests will have to be done in the neighborhood before anyone will know for sure the extent of the pollution.

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The neighbors want more tests to determine where the landfill's contamination has spread. Even though the state ordered Griffin to conduct those tests in 1991, they've never been done.

The investigation ordered by Holman could determine why the order was never enforced.

A report based on that investigation is pending. A preliminary draft, released last month, says, "The historical record of this site is admittedly long and convoluted."

The report says part of the "confusion" about the landfill stems from the fact that state and county environmental officials both have monitored the site in the past. It calls the confusion at the landfill "unfortunate," and offers a tentative plan to address potential public-health threats in the neighbor-

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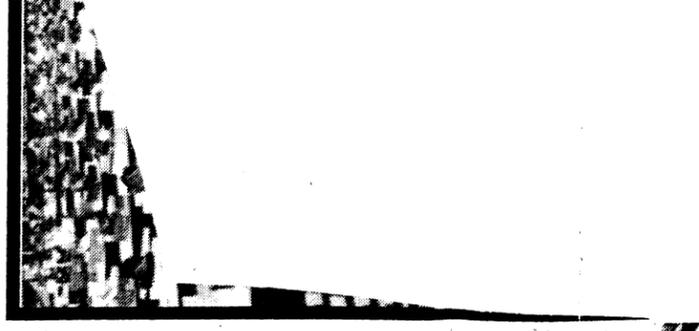
Sedgefield Fire Department.

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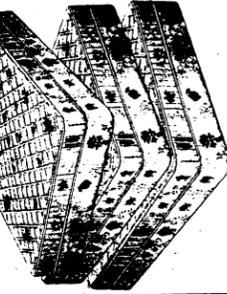
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WATER

Continued from page A1

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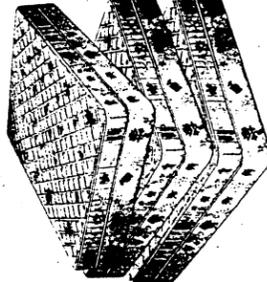
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FYI

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES
November 10, 1999 DIVISION OF WASTE MANAGEMENT



Mrs. Nancy B. Lenker
4010 Sedgewood Lane
Greensboro, NC 27407-7932

JAMES B. HUNT JR.
GOVERNOR

Re: Wiley Davis Landfill, Inc.

WAYNE MCDEVITT
SECRETARY

Dear Mrs. Lenker:

WILLIAM L. MEYER
DIRECTOR

This letter is in response to your letter dated November 5, 1999, requesting a written response to your previous letter dated October 13, 1999. I had assumed that your questions had been answered during our telephone conversation in mid-October. I apologize for the confusion.

As we discussed during our telephone conversation, all information regarding compliance has been forwarded to Phil Prete, Head, Field Operations Branch for review and consideration.

As for the other questions in your letter, I believe they could be summarized as follows:

Why is past compliance history not being considered in reissuing of the permit for the 41-N site?

As we discussed, the past compliance history is being considered prior to issuance of a permit for 41-N.

Why are buffer requirements not being required for both of these landfills?

When the permit for 41-B was issued, there were no buffer requirements in the rules. The current regulations for land-clearing-inert debris landfills, which replaced the old demolition rules in January, 1993, established the first buffer requirements for these types of landfills. These rules under which 41-N was permitted, require a 100-foot buffer from water wells and dwellings. The 500-foot buffer is a requirement for landfills accepting municipal solid waste, industrial waste or construction-demolition debris.

If there are any further questions, please contact me @ (919) 733-0692, extension 255.

Sincerely,

James C. Coffey, Head
Permitting Branch
Solid Waste Section

High
FYI

Ms. Nancy B. Lenker
4010 Sedgewood Lane
Greensboro, NC 27407-7932

DRAFT

Dear Ms. Lenker:

Thank you for your letter and your continued interest in issues that may effect your health and the health of your neighbors. I have received all 203 letters from your neighbors and made sure that your concerns were considered by the Division of Waste Management in evaluating the situation.

As you know, both landfills at the Wiley Davis Road site are now closed. The Division will continue to monitor activities at both sites to ensure that closure is complete and that the site is properly maintained. In addition, we have required a rigorous post-closure, environmental monitoring program at the site to assure that environmental releases are prevented, or detected early enough to prevent a public health threat.

It is my understanding that the Guilford County Health Department, and the NC Department of Health and Human Services are coordinating efforts under the direction of Dr. Ken Rudo for a continuing examination of the drinking water wells in your area. The two health departments and DENR are committed to keeping each other informed of activities and sharing data as the work progresses to ensure an informed approach.

I hope this will answer the questions and ease some of the concerns raised by you and your neighbors. I invite you to contact the Head of the Solid Waste Section Field Operations Branch, Mr. Philip J. Prete, at (919) 733-0692 extension 252 if you have any further questions regarding this matter. I want to thank you for your interest in protecting our environment and natural resources for the welfare of the people of this state.

Sincerely,

Bill Holman
Secretary

BH:wlm

cc: William L. Meyer, Director
Division of Waste Management

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RECEIVED
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Hugh
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Winston-Salem
Regional Office
Commissioner Phyllis Gibbs
Guilford County Board of County Commissioners
P. O. Box 3427
Greensboro, NC 27402

DRAFT

Dear Commissioner Gibbs:

Thank you for your letter of inquiry on behalf of your constituent, Ms. Nancy Lenker regarding environmental and public health concerns from operations at the Wiley Davis Road Landfill. I have received correspondence from Ms. Lenker, as well as dozens of her neighbors. I have asked my staff in the Solid Waste Section to look into the allegations and make sure that we are doing everything within our authority at this site to assure that the health of those residents is not put at risk from past, present or future operations.

My staff have informed me that due to direct agency involvement, we have caused the older facility (permit # 41-B) to close effective September 15, 1999. It is important to understand, however, that closed landfills are not forgotten. Activities will continue at that site for years to come to ensure that it is properly maintained and that environmental releases are prevented or detected early enough to prevent them from becoming a public health threat.

Additionally, I have asked my staff to make sure that the concerns raised by the citizens are taken into consideration along with the long and confusing compliance history of this site before another permit to operate is issued for the newer land clearing and inert debris landfill (Permit # 41-N). The enforcement staff within the Solid Waste Section are conducting an exhaustive compliance review going back to first operations of the older site. This is perhaps the most extensive compliance review ever conducted by that agency. The review will encompass an examination of records in the Division of Waste Management Central Office, the DENR Winston Salem Regional Office, and the Guilford County Health Department. I expect that they will make a decision on that permit sometime this month. The Section has required that the landfill close for business until they complete their review and determination.

Finally, with regards to the issue of residential wells, it is my understanding that the residents have petitioned your Board to have

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GUILFORD COUNTY
Board of County Commissioners

P.O. Box 3427
GREENSBORO, NORTH CAROLINA 27402

October 1, 1999

Mr. William Holman, Secretary
NC Department of Environment & Natural Resources
1601 Mail Service Center
Raleigh, NC 27699-1601

Re: Wiley Davis Landfill, Inc. (D.H. Griffin, Owner
Greensboro, NC

You should have received a letter dated September 5, 1999, from Mrs. Nancy Lenker, 4010 Sedgewood Lane, Greensboro, NC 27407-7932, regarding the problems encountered by the neighbors to this landfill. In this letter, she mentions that Mr. Griffin was cited over 30 times for environmental/operational violations on the "big landfill". (Mrs. Lenker and Mr. Dick Fayssoux have researched and located copies of violation citations, so they know of which they speak.) This same landfill was classified a "Class A" contamination site on February 11, 1991, due to chemicals and metals detected in the wells of many residences in the neighborhood.

Yet, your department continued to allow this landfill to be operated until September 1999. Attached is another copy of a report from the US Department of Health and Human Services, signed by Robert L. Williams, PHD, stating that three wells in the neighborhood are contaminated and recommends "...alternate water for residences 3, 7, and 1C". Many other wells in the area have traces of several chemicals that should not be showing up, had there not been a contaminated landfill next door. Many wells in the area adjacent to the landfill have not been tested because the homeowners have not requested it yet.

My question to you is, "Who will be responsible for providing this alternate water source, i.e. paying for extending water service from Greensboro?" The permitting department of the NC Department of Environment and Natural Resources has been responsible for permitting and inspecting landfills, and in spite of the landfill being deemed a "contamination site" in 1991, nothing has been done to force closure of the landfill and monitoring of well water in the immediate neighborhood. The homeowners have been forced to gather information and lobby the county commissioner to close the landfill, and to begin testing of their water supply. Now they are demanding action be taken to ensure them a safe supply of water, and rightly so.

To add insult to injury, Mr. Griffin has a "small" LCID landfill adjacent to the "big" landfill and has been slowly moving the "big" landfill into this small one. This LCID was permitted for just that, LCID material, but we don't know what is really in this landfill due to the encroachment of the large one. He is planning to request a permit to continue operation of the "small" landfill. Will we have to worry if this landfill will be declared contaminated in the future?

DRAFT

water lines run to their neighborhood. That seems like a good way to alleviate their concerns. There is not, however, adequate information at this time that links the landfill to any of the chemical constituents that have been reported at any levels of concern in residential well samples. The residents apparently received recommendations from outside organizations that failed to obtain all the information necessary to draw a credible conclusion. I have been assured that the Guilford County Health Department, the Solid Waste Section Environmental Compliance Unit, and the Department of Health and Human Services Division of Epidemiology are coordinating efforts on a continuing examination of the wells of concern in the area and will take action to protect the public and address releases from the site as the data warrants.

I hope you will pardon my delay while gathering enough information to prepare a meaningful response. I trust this will begin to answer the questions and concerns raised by you and your constituents. I invite you to contact the Head of the Solid Waste Section Field Operations Branch, Mr. Philip J. Prete, at (919) 733-0692 extension 252 if you have any further questions regarding this matter. Mr. Prete is responsible for overseeing operational and environmental compliance at this facility and is the agency contact for the continued investigation of this site.

I want to thank you for your interest in protecting our environment and natural resources for the welfare of the people of this state.

Sincerely,

Bill Holman
Secretary

BH:wlm

cc: William L. Meyer, Director
Division of Waste Management

**WILEY DAVIS LANDFILL
GREENSBORO, NORTH CAROLINA**

SEPTEMBER 2, 1999

**U. S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Agency for Toxic Substances and Disease Registry
Division of Health Assessment and Consultation
Atlanta, Georgia 30333**

Please let me hear from your office soon as action must be taken to provide the residents of this area with a safe supply of drinking water. Guilford County funds are being stretched, with huge demands for school construction as well as other capital needs in this county, and we need assistance to provide this neighborhood with municipal water (provided Greensboro will allow the hookups).

Thank you,

A handwritten signature in cursive script that reads "Phyllis P. Gibbs". The signature is written in dark ink and is positioned above the printed name.

Phyllis P. Gibbs
County Commissioner, District 5

PPG/rlr

Attachment

cc: Members of State Delegation

Background and Statement of Issues

A private citizen requested the Agency for Toxic Substances and Disease Registry (ATSDR) to review the results of groundwater samples obtained from several residential wells and monitoring wells and comment on the health implications associated with exposure to the contaminants reported.

Wiley Davis Landfill is an active landfill located at 4104 Wiley Davis Road in Greensboro, North Carolina. It is situated on 18.1 acres. The site was mined for sand rock from the 1950s until 1969. Sometime after 1969, a roofing company used this site to dump roofing materials [1]. Also it was open to anyone who used it for a dump. On May 8, 1980, the site was permitted as a demolition landscape landfill. On April 17, 1990, the state of North Carolina recommended that the landfill be closed by September 15, 1999 [1].

During March and April 1999, the North Carolina Department of Health and Human Services (NCDHHS) collected groundwater samples from 26 residential wells near Wiley Davis Landfill. On May 3, 1999, the NCDHHS collected groundwater samples from six monitoring wells that are located around the landfill. All samples were analyzed for volatile organic compounds (VOCs) and metals. There was no information provided to indicate the groundwater flow direction, nor was any information provided to indicate where the residential groundwater samples were collected from, or the depth of the wells. Table 1 shows the results of 10 residential wells sampled and the maximum concentrations of contaminants detected in the groundwater samples. The results of the other 16 residential wells sampled showed that no contaminants were present, or the contaminants detected were at very low levels which did not exceed any health based comparison values (see attachment 1 for residential identifications). The monitoring wells groundwater sampling results showed that iron ranged from 4,510 micrograms/liter ($\mu\text{g/l}$) to 22,227 $\mu\text{g/l}$, and tetrahydrofuran ranged from 16.3 $\mu\text{g/l}$ to 214.5 $\mu\text{g/l}$.

Table 1.

Maximum Levels of Contaminants Detected in Residential Groundwater Samples

Residence	2-Butanone	Copper	DBC	Lead	Iron	THF	Mn
1					450		
2					380		
3				34	8,560		
4					4,520		150
5					670		
6					900		
7		1,780		115	58,900		510
8					10,200		
9					550		
10	803.3		2			2,394	
CV/RAL		1,000***		15*	300***		50**

All values are expressed as micrograms/liter ($\mu\text{g/l}$).

DBC = Dibromochloropropane

THF = Tetrahydrofuran

Mn = Manganese

*RAL = Removal Action Level

**CV = Comparison Value

*** SMCL = Secondary Maximum Contaminant Level

Discussion

The results of groundwater sampling conducted at 26 residential wells indicate that lead was detected in a groundwater sample from one well at 115 $\mu\text{g/l}$, and from another residential well at 34 $\mu\text{g/l}$. Lead was not reported in any other groundwater samples at levels which exceeded the U.S. Environmental Protection Agency's (EPA) Removal Action Level (RAL) of 15 $\mu\text{g/l}$. Iron and copper were detected in groundwater samples from residential wells at levels that exceeded EPA's Secondary Maximum Contaminant Levels (SMCL) of 300 $\mu\text{g/l}$, and 1000 $\mu\text{g/l}$, respectively. Also, manganese was detected in a residential groundwater sample at 510 $\mu\text{g/l}$, which exceeded ATSDR's comparison value of 50 $\mu\text{g/l}$.

The RALs are drinking water concentrations of contaminants that are considered, along with other factors, in determining whether to provide alternate water supplies under Superfund removal authority. An SMCL is an unenforceable federal guideline regarding taste, odor, color and certain other non-aesthetic effects of drinking water. EPA recommends SMCLs to the States as reasonable goals, but federal law does not require water systems to comply with them, because they are not health based derived comparison values. Comparison values are considered to be safe under default conditions of exposure, and are used as screening values in the preliminary identification of site-specific contaminants of concern.

Exposure to lead may cause serious adverse health effects, particularly in fetuses and young children. Factors influencing this susceptibility include; (1) the immaturity of the blood brain barrier; (2) nutritional status of the child; (3) low body weight; and (4) passive diffusion of contaminants across the placenta to the developing fetus. Prenatal lead exposure is associated with premature delivery, decreased birth weight, impaired postnatal neurobehavioral development, and decreased postnatal growth rate [2]. Because of these factors, children are more at risk of developing adverse health effects than adolescents and adults.

Toxicity of a chemical depends on the dose, and although iron, copper and manganese are essential metals for humans, which are involved in many enzymes activities, sometimes acute or chronic overload may occur due to excessive levels of these chemicals in drinking water. Clinical signs of toxicity to iron overload include nausea, vomiting, severe gastroenteritis (inflammation of stomach and intestine), abdominal (stomach) pain, diarrhea, and lethargy (abnormal drowsiness) [3]. Currently, there are no federal drinking water standards for iron that are enforceable, but the state of North Carolina uses 300 µg/l as a reasonable goal. Prolonged exposure to copper has been linked to liver failure, renal (kidney) failure, and hemolysis (breakdown of the red blood cell) in adults and children [3]. Although humans are often exposed to significant quantities of manganese in food and water, reports of adverse effects in humans from ingestion of manganese are rare [4]. Because these chemical levels reported in groundwater samples from residential wells exceed their SMCLs, it would be prudent public practice to advise the residents of the potential of bad odor and unpleasant taste, and the potential of adverse health effects. The chemical 2-butanone was detected in residential drinking water at 803 µg/l which is below ATSDR's Reference Dose Media Evaluation Guide (RMEG) of 2,000 µg/l. An RMEG is an estimate of the daily exposure that is likely to be without a significant risk of non-cancerous adverse health effects over a lifetime.

The results of groundwater samples obtained from six monitoring wells indicate that tetrahydrofuran and iron were detected at elevated levels. Tetrahydrofuran was also detected in a residential groundwater sample at 2,394 µg/l. Tetrahydrofuran is a liquid with an ether like order which is used as a solvent for high polymers such as polyvinyl chloride [4].

Conclusions

Lead levels detected in groundwater samples from residences 3 and 7, pose health hazard to those persons (including children) who consume this water on a daily basis. In addition, tetrahydrofuran detected in groundwater from residence 10 poses a public health hazard to those persons (including children) who consume the water on a daily basis. Iron, copper and 2- butanone do not pose health hazard to those persons who consume the groundwater on a daily basis.

Recommendations

1. Provide alternate water for residences 3, 7 and 10. If re-sampling shows that the lead levels are still elevated in groundwater at residences 3 and 7, consider performing a blood lead screening test in children who live at these residences.
2. Monitor the residential wells on a quarterly basis until the source has been remediated.

Robert L. Williams
Robert L. Williams, Ph.D.

Attachment 1

WILEY DAVIS LANDFILL	
RESIDENT NUMBER	RESIDENT LAB ID#
1	991614
2	991008
3	991020
4	991194
5	991192
6	991615
7	991023
8	991332
9	991189
10	991557

References

1. Data Package for Wiley Davis Landfill Site, Greensboro, NC, June 11, 1999, submitted by Nancy Lenker, to Bob Safay (ATSDR's Region IV Representative).
2. Toxicological Profile for Lead, U.S. Public Health Service, ATSDR, Atlanta, Ga. February 17, 1998.
3. Mineral and Metal Neurotoxicology, edited by Masayuki Yasui et.al., CRC Press, Inc., 1997.
4. The Merck Index, An Encyclopedia of Chemicals, Drugs, and Biologicals, Published by Merck and Company, Incorporation, Rahway, NJ, 1989.

RECEIVED
N.C. Dept. of ENVIRONMENT
NOV - 5 1999

Hugh
RyI.
P-1

Winston-Salem
Regional Office

Commissioner Phyllis Gibbs
Guilford County Board of County Commissioners
P. O. Box 3427
Greensboro, NC 27402

DRAFT

Dear Commissioner Gibbs:

Thank you for your letter of inquiry on behalf of your constituent, Ms. Nancy Lenker regarding environmental and public health concerns from operations at the Wiley Davis Road Landfill. I have received correspondence from Ms. Lenker, as well as dozens of her neighbors. I have asked my staff in the Solid Waste Section to look into the allegations and make sure that we are doing everything within our authority at this site to assure that the health of those residents is not put at risk from past, present or future operations.

My staff have informed me that due to direct agency involvement, we have caused the older facility (permit # 41-B) to close effective September 15, 1999. It is important to understand, however, that closed landfills are not forgotten. Activities will continue at that site for years to come to ensure that it is properly maintained and that environmental releases are prevented or detected early enough to prevent them from becoming a public health threat.

Additionally, I have asked my staff to make sure that the concerns raised by the citizens are taken into consideration along with the long and confusing compliance history of this site before another permit to operate is issued for the newer land clearing and inert debris landfill (Permit # 41-N). The enforcement staff within the Solid Waste Section are conducting an exhaustive compliance review going back to first operations of the older site. This is perhaps the most extensive compliance review ever conducted by that agency. The review will encompass an examination of records in the Division of Waste Management Central Office, the DENR Winston Salem Regional Office, and the Guilford County Health Department. I expect that they will make a decision on that permit sometime this month. The Section has required that the landfill close for business until they complete their review and determination.

Finally, with regards to the issue of residential wells, it is my understanding that the residents have petitioned your Board to have



GUILFORD COUNTY
Board of County Commissioners

P.O. Box 3427
GREENSBORO, NORTH CAROLINA 27402

October 1, 1999

Mr. William Holman, Secretary
NC Department of Environment & Natural Resources
1601 Mail Service Center
Raleigh, NC 27699-1601

Re: Wiley Davis Landfill, Inc. (D.H. Griffin, Owner
Greensboro, NC

You should have received a letter dated September 5, 1999, from Mrs. Nancy Lenker, 4010 Sedgewood Lane, Greensboro, NC 27407-7932, regarding the problems encountered by the neighbors to this landfill. In this letter, she mentions that Mr. Griffin was cited over 30 times for environmental/operational violations on the "big landfill". (Mrs. Lenker and Mr. Dick Fayssoux have researched and located copies of violation citations, so they know of which they speak.) This same landfill was classified a "Class A" contamination site on February 11, 1991, due to chemicals and metals detected in the wells of many residences in the neighborhood.

Yet, your department continued to allow this landfill to be operated until September 1999. Attached is another copy of a report from the US Department of Health and Human Services, signed by Robert L. Williams, PHD, stating that three wells in the neighborhood are contaminated and recommends "...alternate water for residences 3, 7, and 1C". Many other wells in the area have traces of several chemicals that should not be showing up, had there not been a contaminated landfill next door. Many wells in the area adjacent to the landfill have not been tested because the homeowners have not requested it yet.

My question to you is, "Who will be responsible for providing this alternate water source, i.e. paying for extending water service from Greensboro?" The permitting department of the NC Department of Environment and Natural Resources has been responsible for permitting and inspecting landfills, and in spite of the landfill being deemed a "contamination site" in 1991, nothing has been done to force closure of the landfill and monitoring of well water in the immediate neighborhood. The homeowners have been forced to gather information and lobby the county commissioner to close the landfill, and to begin testing of their water supply. Now they are demanding action be taken to ensure them a safe supply of water, and rightly so.

To add insult to injury, Mr. Griffin has a "small" LCID landfill adjacent to the "big" landfill and has been slowly moving the "big" landfill into this small one. This LCID was permitted for just that, LCID material, but we don't know what is really in this landfill due to the encroachment of the large one. He is planning to request a permit to continue operation of the "small" landfill. Will we have to worry if this landfill will be declared contaminated in the future?

**WILEY DAVIS LANDFILL
GREENSBORO, NORTH CAROLINA**

SEPTEMBER 2, 1999

**U. S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Agency for Toxic Substances and Disease Registry
Division of Health Assessment and Consultation
Atlanta, Georgia 30333**

Background and Statement of Issues

A private citizen requested the Agency for Toxic Substances and Disease Registry (ATSDR) to review the results of groundwater samples obtained from several residential wells and monitoring wells and comment on the health implications associated with exposure to the contaminants reported.

Wiley Davis Landfill is an active landfill located at 4104 Wiley Davis Road in Greensboro, North Carolina. It is situated on 18.1 acres. The site was mined for sand rock from the 1950s until 1969. Sometime after 1969, a roofing company used this site to dump roofing materials [1]. Also it was open to anyone who used it for a dump. On May 8, 1980, the site was permitted as a demolition landscape landfill. On April 17, 1990, the state of North Carolina recommended that the landfill be closed by September 15, 1999 [1].

During March and April 1999, the North Carolina Department of Health and Human Services (NCDHHS) collected groundwater samples from 26 residential wells near Wiley Davis Landfill. On May 3, 1999, the NCDHHS collected groundwater samples from six monitoring wells that are located around the landfill. All samples were analyzed for volatile organic compounds (VOCs) and metals. There was no information provided to indicate the groundwater flow direction, nor was any information provided to indicate where the residential groundwater samples were collected from, or the depth of the wells. Table 1 shows the results of 10 residential wells sampled and the maximum concentrations of contaminants detected in the groundwater samples. The results of the other 16 residential wells sampled showed that no contaminants were present, or the contaminants detected were at very low levels which did not exceed any health based comparison values (see attachment 1 for residential identifications). The monitoring wells groundwater sampling results showed that iron ranged from 4,510 micrograms/liter ($\mu\text{g/l}$) to 22,227 $\mu\text{g/l}$, and tetrahydrofuran ranged from 16.3 $\mu\text{g/l}$ to 214.5 $\mu\text{g/l}$.

The RALs are drinking water concentrations of contaminants that are considered, along with other factors, in determining whether to provide alternate water supplies under Superfund removal authority. An SMCL is an unenforceable federal guideline regarding taste, odor, color and certain other non-aesthetic effects of drinking water. EPA recommends SMCLs to the States as reasonable goals, but federal law does not require water systems to comply with them, because they are not health based derived comparison values. Comparison values are considered to be safe under default conditions of exposure, and are used as screening values in the preliminary identification of site-specific contaminants of concern.

Exposure to lead may cause serious adverse health effects, particularly in fetuses and young children. Factors influencing this susceptibility include; (1) the immaturity of the blood brain barrier; (2) nutritional status of the child; (3) low body weight; and (4) passive diffusion of contaminants across the placenta to the developing fetus. Prenatal lead exposure is associated with premature delivery, decreased birth weight, impaired postnatal neurobehavioral development, and decreased postnatal growth rate [2]. Because of these factors, children are more at risk of developing adverse health effects than adolescents and adults.

Toxicity of a chemical depends on the dose, and although iron, copper and manganese are essential metals for humans, which are involved in many enzymes activities, sometimes acute or chronic overload may occur due to excessive levels of these chemicals in drinking water. Clinical signs of toxicity to iron overload include nausea, vomiting, severe gastroenteritis (inflammation of stomach and intestine), abdominal (stomach) pain, diarrhea, and lethargy (abnormal drowsiness) [3]. Currently, there are no federal drinking water standards for iron that are enforceable, but the state of North Carolina uses 300 µg/l as a reasonable goal. Prolonged exposure to copper has been linked to liver failure, renal (kidney) failure, and hemolysis (breakdown of the red blood cell) in adults and children [3]. Although humans are often exposed to significant quantities of manganese in food and water, reports of adverse effects in humans from ingestion of manganese are rare [4]. Because these chemical levels reported in groundwater samples from residential wells exceed their SMCLs, it would be prudent public practice to advise the residents of the potential of bad odor and unpleasant taste, and the potential of adverse health effects. The chemical 2-butanone was detected in residential drinking water at 803 µg/l which is below ATSDR's Reference Dose Media Evaluation Guide (RMEG) of 2,000 µg/l. An RMEG is an estimate of the daily exposure that is likely to be without a significant risk of non-cancerous adverse health effects over a lifetime.

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Attachment 1

WILEY DAVIS LANDFILL	
RESIDENT NUMBER	RESIDENT LAB ID#
1	991614
2	991008
3	991020
4	991194
5	991192
6	991615
7	991023
8	991332
9	991189
10	991557

Phone: 919-733-0692 ext. 252
Fax: 733-4810

RECEIVED
N.C. Dept. of EHNR
OCT 26 1999
Winston-Salem
Regional Office

facsimile transmittal

To: Hugh Jernigan From: Philip J. Prete

with: Solid Waste --- WSRO with: NC DENR Solid Waste Section

Fax: Date: October 26, 1999

Phone: Pages: 17

Re: Wiley Davis Rd. Landfill CC:

Urgent For Review As Requested Please Reply Please Recycle

Notes: Attached for your review are the following:

1. Point-by-point objective response based on current understanding to the October 2, 1999 News and Record article.
2. Outline of actions to date to remedy the site and intended actions.
3. Copy of text of News and Record article with key allegations and comments keyed numerically for context reading with item # 1 above.

These documents were provided to DENR PIO and as I understand it, have been released externally.



Subject: [Fwd: Wiley Davis Landfill]

Date: Fri, 22 Oct 1999 13:12:03 -0400

From: Tim Jewett <tim.jewett@ncmail.net>

Organization: NC DENR Solid Waste

To: PHIL PRETE <PHIL.PRETE@ncmail.net>,
HUGH JERNIGAN <HUGH.JERNIGAN@ncmail.net>

Phil,

This is the status of compliance for the Land Quality NOV for Wiley Davis site.

Let me know if you need additional info.

Tim

----- Original Message -----

Subject: Wiley Davis Landfill

Date: Fri, 22 Oct 1999 12:25:52 -0400

From: Aaron Otten <aaron.otten@ncmail.net>

Organization: NC DENR Land Quality

To: TIM JEWETT <TIM.JEWETT@ncmail.net>

Sorry I didn't respond earlier-I was in Raleigh. All of the NOV requirements had not been met on the date of the compliance inspection-Wed. 10/20. However, significant effort had been made, therefore the deadline has been extended once, to November 3 with the compliance inspection being done on November 4th. Please let me know if you need additional information. Thanks, Aaron

.....

Memorandum

RECEIVED
N.C. Dept. of EMNR
OCT 26 1999
Winston-Salem
Regional Office

Date: October 14, 1999
To: Dexter Matthews
From: Philip Prete
Subject: Preliminary Review of Wiley Davis Road Landfill Issues

Response to highlighted comments in the October 2, 1999 article in the Greensboro News & Record newspaper.

The numbered comments in bold type are statements that were made in the newspaper article. These statements are followed by comments that are based on the information we have been able to gather to date. The article is attached for reading in context. We are continuing to explore the historical record of this site. A chronology of events and supporting documentation are still in development.

- 1. "...pollutants found in the landfill's wells in the early 1990s are turning up in the nearby neighborhood's drinking water."**

The landfill monitoring wells were installed in 1990. Several organics and metals were detected in groundwater samples. From 1990 until 1995 ("early 1990s") the following analytes were found in the monitoring wells that have subsequently been reported in the various drinking water wells: 1,1-dichloroethane, and lead. More recent analyses with lower detection limits and slightly different analyte lists have shown more analytes found in both types of wells.

- 2. "Three families are pumping water that's unsafe to drink, a federal health agency report says."**

This is probably based on the conclusions in the Health Consultation Report written by Dr. Robert Williams of the Federal Agency for Toxic Substances and Disease Registry (ATSDR). He conducted a review of the private well data and concluded that lead and tetrahydrofuran would pose a health hazard for the residents if this was representative of water they are consuming on a daily basis. It should be noted that this review by ATSDR was apparently based solely on information provided by the residents.

- 3. "Two are polluted by lead and one by a toxic solvent, the report says."**

Residence 1 - lead---34 ppb
Residence 2 - lead---115 ppb
Residence 3 - THF---2394 ppb

The private well contaminated by THF showed much lower levels in sampling subsequent to the analysis referenced. The well in question is of new construction, and in reviewing the data, the Solid Waste Section has determined that the presence of THF is likely derived from the adhesives used in the installation of the well.

Wiley Davis Road Landfill Preliminary Report

Page 2

4. **"Contaminated water from the Wiley Davis Road Landfill ... has "traveled off-site to several private drinking water wells located nearby...."**

This statement was made in a letter to Mr. Richard Fayssoux from Mr. Stephen Lester of the Center for Health, Environment and Justice, Falls Church, VA. Mr. Lester reviewed information and monitoring reports submitted by Mr. Fayssoux. Evidently the conclusion was based groundwater flow directions included in monitoring well reports and similarities found in analytes detected in private wells and monitoring wells. So far we can only say for certain that the data from monitoring wells verifies off-site contamination at the lower end of the landfill near monitoring well 6. We cannot say for certain that groundwater from the landfill has moved to the private wells.

5. **"State environmental officials won't return their phone calls..."**

We do not know who the "state officials" are that she refers to and have no way of responding to this allegation. Everyone in the Solid Waste Section claims to have returned any calls she might have placed.

6. **"...Nancy Lenker, whose well is contaminated with lead."**

We cannot verify this statement. Although we have a report for two different organic analyses for this residence, we do not have any inorganic data.

7. **A report by federal toxicologists at the Agency for Toxic Substances and Disease Registry in Atlanta says that three wells near the Wiley Davis Road Landfill are pumping dangerously polluted water.**

See response for statement number 2 above. The report states that lead levels detected in groundwater samples from two residences and tetrahydrofuran levels detected from one residence pose a health hazard to those who consume the water on a daily basis.

8. **"State officials, however determined that the wells were safe."**

We have not seen any health risk evaluation report for the private well data. We called Dr. LuAnne Williams - Div. Epidemiology. She said Dr. Ken Rudo probably reviewed the data. We are continuing to pursue this issue.

9. **"State toxicologists cannot explain the discrepancy."**

Same response as to number 8 above.

10. **"The federal report doesn't say that the contaminants in the area's water came from the Wiley Davis Road Landfill"**

This statement is correct. The ATSDR report states that no information was provided to indicate groundwater flow direction or was any information provided about residential wells such as depth of collection points.

11. **"But lead, which the federal report says is in dangerous levels in two of the wells, has shown up in high levels in test wells at the landfill for nearly a decade."**

Lead was detected in a sample from monitoring well WD-2D in August 1990 at a concentration of 440 ppb. This was shortly after the well was installed and probably had an elevated turbidity. Since then, it has been reported twice - the highest concentration being 15 ppb. Lead has also been found in the upgradient/background well

12. **"A chemical called tetrahydrofuran, which the federal toxicologists say shows up in dangerous amounts in a third residential well, also pollutes the landfill's water."**

THF was detected in samples sent to the State Laboratory of Public Health. That was the first time it had been detected because it had not been analyzed for previously. Concentrations in monitoring well samples ranged from 214 ppb to 16.3 ppb. It should be noted that it was also detected in the trip blank.

13. **"Near the contaminated sites, other wells also test positive for trace amounts of chemicals, like toluene, which comes from gasoline, and tetrachloroethene...."**

Several of the private well samples were positive for *trace* amounts of both compounds.

14. **"The federal report recommends that alternate water sources be provided for the three homes with contaminated wells."**

The ATSDR report recommends that "alternate water be provided for residences 3, 7, and 10" - the houses with elevated concentrations of lead and/or tetrahydrofuran. This is based on the assumption that the analyses presented are in fact representative of the water that is produced from those wells on a daily basis.

15. **"And it recommends that the other nearby wells - about 250 homes could be potentially affected - be tested for contaminants four times a year."**

ATSDR report recommendation number 2 - "monitor the residential wells on a quarterly basis until the source has been remediated." There is no recommendation in the report for quarterly monitoring of 250 residential wells or that they could be potentially effected. It is assumed from reading the report that the recommendation was intended to be for the *three* wells that were considered effected.

16. **"Current state plans call for testing about 30 of the neighborhood homes, those closest to the landfill, once or twice a year."**

We are not aware of the source of these plans. They may be coming from Epidemiology in response to a review of the data. We are pursuing this issue.

17. **"But state toxicologists tell us the water is safe for normal use."**

No response. We have not seen Dr. Rudo's - Div. Epidemiology - report from his review of the private well data. We are still pursuing this issue.

18. **"The Health, Environment and Justice report, however, prepared by Harvard-trained toxicologist, Stephen U. Lester, says the entire neighborhood's water is in jeopardy."**

The letter from Mr. Lester to Mr. Fayssoux states that "groundwater has become contaminated by chemicals leaking from the landfill." He also states that "it is clear that chemicals leaking from the Wiley Davis Landfill have leaked into the groundwater at the site and have traveled off-site to several private drinking water wells located nearby." He does not provide the usual documentation for the allegation of off-site movement other than previously mentioned groundwater flow direction and similarities in analytes found in the private wells and monitoring wells. Our review of the data does not allow this conclusion to be made.

19. "The report, which is based on the same state-analyzed water tests, lists chemicals like methyl ethyl ketone found in trace amounts in the neighbor's wells and in the landfill's."

MEK was found in private well and monitoring well samples. The highest concentration in a private well was from the newly constructed well with the new plumbing. The highest concentration in a monitoring well was in the *upgradient/background* well indicating that it is more likely present in this well from a source other than the landfill

20. "Lester's report also questions why state and county inspectors did not test for many of the 128 chemicals on the EPA's list of common groundwater pollutants."

The Solid Waste Section now requires C&D sites with monitoring wells to analyze groundwater samples for a list of analytes similar to that required by EPA for municipal solid waste landfills. It is considered by EPA to be a good indicator of the composition of landfill leachate. It includes chemicals found on the priority pollutant list alluded to in the report. The list is made up of metals and volatile organic compounds that are commonly found in leachate.

21. "I suspect that what we are seeing with this limited picture of the groundwater contamination is the tip of the iceberg," Lester writes."

This appears to be a personal opinion of what the situation could be at the site. He goes on to speculate that "the contamination is just beginning to reach the private wells." No documentation to support the statement was included. There is no verifiable evidence that any of the analytes found in the private well data is attributable to the landfill.

22. "Recent state and county tests, however, done after his water had run from the tap for 20 minutes, show higher levels of lead than tests of water that had been sitting in the pipes."

We have no way of responding to this statement since we do not have the referenced data or any indication of well sampling procedures. Studies have shown that lead levels in a sample taken from someplace within the plumbing system usually decrease as water in the system is purged.

23. "Bullard wants to know why the Wiley Davis landfill wasn't cleaned up years ago when the state ordered it done."

We have effectively required the landfill to close and upgrade the current groundwater monitoring system to protect the health of residents in the vicinity. The previous order was under authority transferred to Guilford County by the Groundwater Section. The County may have had authority to close the landfill in the past under delegated authority. All closure and post-closure activities are now under jurisdiction of the Solid Waste Section.

24. "In, 1989, an engineering firm hired by Griffin, the owner of the Wiley Davis Road Landfill, discovered what was called "hazardous waste" at the site. The firm reported the finding to the state, and then quit working for the landfill, citing the hazardous waste - chemicals found in the pond at the landfill - as the reason."

We have a telephone log dated November 3, 1989 filed by L.G. Spencer of the Land Quality Section describing a conversation with Jesse Wilson of Black & Veatch about the above referenced situation. Apparently, Mr. Wilson advised that Black & Veatch did withdraw from a project to modify site drainage and build a new sediment pond because of confirmed on-site hazardous waste. The waste was thought to have come from improper application, by D.H. Griffin personnel, of the deodorizing material applied in response to odor complaints. We do not have any direct information other than this phone log

25. "State inspectors did nothing."

Based on correspondence in our files, it appears that after Black & Veatch dropped the project Aquaterra did additional testing of the pond and recommended a meeting between themselves, D.H. Griffin, and the Guilford Co. Health Department, to develop a plan of action for the landfill. In a letter dated May 22, 1990 to Doug Holifield of the Hazardous Waste Section, the Health Department requested an evaluation and formal ruling on whether or not the leachate/sludge was considered a hazardous waste. The state responded by letter May 25, 1990 stating that the material could not be declared as hazardous waste. On May 23, 1990 Julian Foscoe of the Solid Waste Section met on-site with D.H. Griffin, and the Health Department and a number of operational recommendations were made. Another site visit was made on June 26, 1990 by Suzanne Malloy, an environmental engineer for the Solid Waste Section. As required by the state, a groundwater monitoring system for the site was installed in 1990 and in general water quality monitoring has been ongoing since then.

26. "A year later, the state issued Griffin a violation for discharging...leachate and pond water contaminated with chemicals into the nearby stream."

A Notice of Violation was issued on April 17, 1990 by DEM for illegal discharge of leachate. The landfill was directed to immediately cease the discharge of leachate and a recommendation was made to close the landfill. A written response concerning actions taken was required to be submitted to DEM.

27. "Other similar violations already had been issued. That was in April 1990. Officials noted "potential discharge problems" and said that the landfill should be closed. "

This statement is in reference to the pond containing leachate and odor treatment chemicals and its proximity to the stream. There was concern to potential additional discharges. As mentioned above, closure of the landfill was "recommended".

28. "In January 1991, state officials ordered Griffin to produce a "remedial action plan" for cleaning up the landfill. A month later, a pollution incident report written by a state water quality inspector about the Wiley Davis Landfill notes that "on-site contamination has apparently been caused by what has been dumped there over the years."

The NOV was issued January 31, 1991 by DEM for groundwater violations. The NOV also required a corrective action plan to be submitted. The pollution incident form was completed by DEM (April 30, 1991).

29. "In May 1991, Griffin submitted the clean-up plan. It stated that "groundwater at the Wiley Davis Landfill is currently contaminated with metals and organic compounds."

The Remedial Action Plan submitted to D.H. Griffin Wrecking Co. by Aquaterra, Inc. does make the statement that groundwater at the landfill is contaminated with metals and organic compounds. It was based on the results of two sampling events of monitoring wells previously installed. The detected metals were barium, chromium and lead. All of these metals are frequently found in turbid monitoring well samples. It should be noted that all three metals were also detected in the upgradient well. Several organic compounds were in the downgradient well samples.

30. "The plan called for sucking the contaminated water out of the ground and filtering it."

The plan called for the installation of a groundwater extraction system, conducting an aquifer pump test, and installing an air stripping system to treat contaminated groundwater.

31. "Again nothing happened. The landfill continued to operate."

The authority to approve the plan had been transferred to the Guilford County Health Department by DEM. The plan was never approved or implemented.

32. "Two years later, in April 1993, state officials wrote Griffin a letter asking him what had been done about the "chemically contaminated water" that was being "generated at the site." When, they asked, was the company planning to close the landfill?"

Larry Coble - DEM - wrote Mr. Griffin requesting explanations about current violations of continuing to mine the site and failure to submit groundwater monitoring reports. He also asked for information regarding leachate management and the status of closing the landfill.

33. "Today, state environmental officials - even those who signed the closure and clean-up orders - say they know little or nothing about contaminated water at Wiley Davis Landfill or any plan to clean it up."

We are attempting to piece together all the historical events and communications. The primary difficulty lies in the transference of responsibility from the state to the County prior to the Solid Waste Section more recently assuming responsibility for the site and taking actions to close the site and upgrade the monitoring system.

34. "But since the landfill was opened in 1980, it accepted construction and demolition debris like roofing materials and metal."

The Solid & Hazardous Waste Management Branch of the Environmental Health Section issued a permit (41-B) for a sanitary landfill ("Demolition-Landscape") in 1980. Disposed waste was limited to demolition, stumps, limbs, leaves, wood, concrete, and asphalt. Earlier that year, Guilford County approved the dumping of "old roofing, stumps, and concrete in the old pit on Wiley Davis Road" - (January 1980 letter to Mr. Griffin). However, in a 1990 letter to Mr. Griffin, Guilford Co. prohibited the disposal of shingles in the landfill.

35. Griffin was cited more than 30 times for illegal dumping and draining in his landfill.

The landfill has been inspected over the years under varying authorities, including DWM, DWQ-Groundwater Section, Division of Air Quality, Division of Land Resources, and Guilford County - either for operational requirements, or in response to specific complaints or problems. We are conducting a full compliance review for the site that will include examining all violations for operational requirements. This is currently still under review.

36. Fifteen years ago, inspectors found drums of hazardous solvents dumped in the Wiley Davis Landfill.

In March 1984, in response to a complaint, Steve Phibbs of the Division of Health Services visited the landfill and found approximately 80 drums that had been disposed by W.H. Weaver Construction Co. Samples were collected for analysis. The material in the drums was thought to be lacquer, glues, and resins. Mr. Griffin agreed to cooperate in the removal and disposal of the containers. The analyses indicated the materials met the definition of hazardous waste according to April 1984 letter from Steve Phibbs to Mr. Griffin. A June 1984 letter by Steve Phibbs indicates all of the containers had been removed and there were "no visible signs of contamination at the site."

37. "Griffin was issued a violation for the incident, but wasn't fined."

Mr. Griffin was told in a April 1984 letter from Steve Phibbs that the site was not permitted to receive any type of liquid or chemical waste and a compliance deadline was set

Wiley Davis Road Landfill Preliminary Report
Page 7

for the removal and disposal of the materials. It also stated that non-compliance was a violation of Solid Waste Management Rules. Mr. Griffin cooperated fully with the requirements of the letter, thus avoiding an administrative penalty.

38. "A small portion of the Wiley Davis Landfill, which operates under a separate permit...."

Referencing the LCID Landfill which is a separate disposal unit operating under Permit # 41N

39. "... also has received violations for illegal dumping...."

A NOV was issued in July 1995 by Hugh Jernigan for the landfill [41-B] receiving waste it was not permitted to receive. Inspection sheets from different inspections indicate [no] other similar violations.

40. "Lenker... says she has telephoned state and local officials scores of times. Most either don't return her calls...."

Everyone in the Solid Waste Section that recalls having received a phone call from Ms. Lenker claims they returned any calls received.

41. "In a recent letter to Bill Holman...I am wondering if you have seen these letters since I have no response from you about them."

This refers to September 1999 letter from Ms. Nancy Lenker to the Secretary. The letter petitions Mr. Holman for help in stopping the LCID landfill permit from being renewed. Previously Ms. Lenker sent Mr. Holman 168 letters that were part of a letter writing campaign requesting help in closing the Wiley Davis Road Landfill. Mr. Holman has referred the correspondence to the Solid Waste Section for proper handling.

42. Deputy Director Diane Long said Holman has asked inspectors for a report on the Wiley Davis matter as part of "standard procedure."

Mr. Kelly was overseeing this report until assigned to Philip Prete on or about October 4, 1999.

43. "Gibbs (Guilford Co. Commissioner) has written a letter to Holman's office. -- Helms told her that he's asked state officials for a full report"

Mr. Holman has asked the Solid Waste Section to address the issues raised by Commissioner Gibbs and Senator Helms so that he may respond.

44. State officials say they are not bound by the federal agency's recent report of contamination in the neighborhood.

The ATSDR report concluded that lead in groundwater samples from two residences and tetrahydrofuran from another well sample pose a health threat for persons consuming the water daily. The report recommended that alternate water be provided for the three residences and that the wells be monitored quarterly until the source has been remediated. The Solid Waste Management Rules require the enforcement of 2L Water Quality Standards at permitted landfill sites. The Rules do not use drinking water standards or cover water quality requirements for private wells. The data available from monitoring at this site does not indicate contamination that reaches the threshold at which the Solid Waste Section would require remediation that might include provision of alternate source of potable water.

Conclusion

The historical record of this site is admittedly long and convoluted. It is unfortunate that changes in regulatory agency responsibility and multiple agency involvement have led to so much confusion. However, to bring the discussion out of the past and into current terms, the following summary of actions since the problems at the site were brought to the attention of our agency are outlined:

1. *Effectively accomplished closure at the site consistent with current standards for a sanitary landfill*
2. *Landfill has been graded and capped to actively reduce the amount of infiltration of rainwater into the waste and hence reduce the potential for release from the site.*
3. *Required and have received an acceptable plan for a more rigorous and enhanced groundwater monitoring program with provisions for additional requirements as needed to delineate the extent and degree of contamination*
4. *Prompted acquisition by owner of additional land outside the permitted boundary that will enable more aggressive monitoring between the landfill and nearby residential wells*
5. *Required and have received a plan for monitoring of methane gas at the landfill site.*

Next Steps

In response to the concerns raised by nearby residents, we are moving forward on the following plan to address potential public health threats from private drinking water sources:

1. *Conduct a thorough investigation into the available data.*
2. *Expedite the water quality assessment to determine if the landfill is compromising private wells.*
3. *Coordinate an expedited decision from the Epidemiology Section regarding the safety of private well use.*
4. *Facilitate development of strategy to assure safe water for those residents determined by Epidemiology Section to have unsafe wells.*
5. *Take appropriate action to remediate site if assessment demonstrates off site contamination.*

Additional information will be provided as it becomes available.

October 19, 1999

TDIAD

**HIGH POINT: Prices are down, but
owners say market rentals are still**

NEWS & RECORD, Tuesday, October 19, 1999

GREENSBORO

Landfill may not be built after all

Editor's note: A portion of this story was inadvertently left out of Saturday's newspaper. We reprint it here in its entirety.

● Parts of the land would be zoned for industry, but the plan would prohibit anything requiring a special use permit.

By MEREDITH BARKLEY
Staff Writer

Greensboro businessman D.H. Griffin may not be building a landfill near Browns Summit after all. A local partnership has submitted a plan to develop a 1,700-acre tract that includes both the Griffin property and the adjoining Reedy Fork Ranch property on Greensboro's northern edge. The land would be annexed into

the city and zoned for a mixed of residential, commercial, retail and industrial uses.

The 185-acre Griffin site would remain zoned for heavy industry, but it would carry a stipulation that nothing requiring a special use permit could go on the property. Landfills require a special use permit.

"This represents planning at its best," said Ron Wilson, vice president for residential development for Starmount Co., one of the partners in the project. "This is one of the few areas in which Greensboro can grow."

Wilson has been a vocal opponent of Griffin's plan to build a landfill on his property. Wilson says an adjacent landfill could scuttle plans for a residential development on the Reedy Fork property. "As much as this county needs a landfill, this location is not the right

place for it," Wilson said Friday. "Mr. Griffin has been extremely cooperative and we've provided him an alternative use for his property."

Griffin said Friday he would continue to own the property, which is not served by city utilities. By allowing his property to become part of the larger plan, he would gain access to city sewers. A water line from Reidsville would pass near the property.

Theoretically, the Griffin property would become more attractive to some industrial users.

Starmount is partnering with Hubbard Realty of Winston-Salem in the project. They have contracts to buy the Reedy Fork property. The partners filed a request Oct. 8 that the tract be annexed into the city. That request will be heard by the city Planning Board next

Wednesday. On Friday, the partners asked that the city zone the Griffin land for heavy industrial use, a 43-acre parcel on the west side of U.S. 29 for light industrial use and the remainder of the property — about 1,500 acres — for planned unit development-mixed. That would include all property on the east side of U.S. 29 and a large tract on the west side of the highway.

The zoning request will be heard by the city Zoning Board in November.

Both the annexation and zoning requests must ultimately be decided by the city council, which is scheduled to consider them in December.

The landfill request is still before the county commissioners. They, however, are not expected to con-

sider it before their December meeting. But if the annexation and rezonings are successful, the commissioners won't have to take a landfill issue up again. Griffin said Friday that "it was possible" if a landfill is a dead issue.

Bill Ruska, the city's zoning administrator, predicted the matter would be looked on favorably by city officials.

The 1,700-acre project would be developed in three phases that would begin in 2000 and stretch over at least 20 years. It would include up to 3,500 homes priced from \$90,000 to \$175,000, about 2.5 million square feet of businesses space in two corporate parks and the Griffin site, up to 350,000 square feet of retail uses and two hotels, and 450 acres of open space.

Post-it [®] Fax Note	7671	Date	10-13-99	# of pages	4
To	James C. Coffey	From	Nancy Lanier		
Co./Dept.		Co.			
Phone #		Phone #			
Fax #	919-715-3605	Fax #			

Hugh J.
FY Htel.

4010 Sedgewood Lane
Greensboro, NC 27407-7932
October 13, 1999

P

Mr. James C. Coffey, Supervisor
Permitting Branch, Solid Waste Section
N. C. Department of Environment
and Natural Resources
1646 Mail Service Center
Raleigh, NC 27699-1646

RE: Wiley Davis Landfill, Inc.

Dear Mr. Coffey:

I have called you and left a message for you to return my call, but I have not heard from you. I decided to write you this letter instead.

I am writing to you about the reissuing of the permit on the LCID (#41-N) section of the Wiley Davis Landfill, Greensboro, N. C. Tim Jewett has told us that unless he is directed otherwise he will have to prepare a permit for this landfill and submit it to his supervisor for his signature.

I would like to give you a short history on the #41-B landfill which is also at this site.

1. This site was permitted on May 28, 1980, as a Demolition-Landscape Landfill and was permitted to dispose of demolition, stumps, limbs, leaves, wood, concrete, and asphalt.
2. On April 23, 1990, Terry Cole, of the Toxic and Health Hazard Unit of the Guilford County Health Department asked D. H. Griffin to immediately begin closure of this site because it was felt by his division that the lifespan of this landfill had come to an end. Larry Coble, Regional Supervisor of the Winston-Salem Regional Office of DENR, had requested that this landfill be closed in a letter dated April 17, 1990. Through the years correspondence has referred to closure of this site, but the State was not able to accomplish this until September 15, 1999.
3. In late 1990 monitoring wells were installed at this landfill and the first analyses of the water from them showed that the groundwater at this site was contaminated. On February 11, 1990, this site was declared a "Class A" contamination site. The State ordered that a Remedial Action Plan be prepared. This was done on May 7, 1990. This Plan was placed in the file and has been forgotten.
4. On May 3, 1999, the Guilford County Health Department took water samples from these monitoring wells. The results of these analyses were received by the Center

for Health, Environment and Justice. Their report says: "Overall, this testing shows that groundwater at the site has been contaminated by chemicals leaking from the landfill."

5. The Guilford County Health Department also took water samples from a limited number of residential wells around this landfill. The report from the Center for Health, Environment and Justice also included these analyses and says: "it is clear that chemicals leaking from the Wiley Davis Landfill have leaked into the groundwater at the site and have traveled off-site to several private water wells located nearby." These water analyses were reviewed by the Agency for Toxic Substances and Disease Registry. They report that three of the residential wells are contaminated, and they recommend an alternate water source for these homes and quarterly testing for the rest of the residential wells in this neighborhood.

6. On January 30, 1998, this landfill caught on fire. The fire department worked nine hours to contain this fire. In December, 1998, this landfill again began to burn and burned until April, 1999, when it was finally covered. It was set on fire again on July 26, 1999. All the fires at this landfill have filled our neighborhood with toxic fumes that have permeated our homes and made the residents ill with upper-respiratory illnesses.

7. This landfill has been cited over 30 times for environmental and operational violations. Although a number of Notices of Violations are included among these violations, very few of them have had a follow-up to see if they have been corrected.

8. The most recent violation was written about in a letter from Garris Evans of the Guilford County Health Department to Julian Foscue. His letter says: "Recent visits to the above site (#41-N) revealed that there may be a violation in buffer requirements between site 41-N and 41-B. It appears that site 41-B had encroached within the boundary requirements of site 41-N."

Tim Jewett of the Winston-Salem Regional Office of NCDENR wrote a letter to Ken Carter of the Guilford County Health Department on June 14, 1999, answering the question: "What is the basis for denying a request to renew the permit for the newer LCID facility?" Part of his answer is: "Past compliance history can play a factor, but compliance at the 41-N site has been satisfactory to date." I wrote a letter to Bill Holman on September 5, 1999, outlining the compliance history of the 41-N site. It is:

1. Notice of Violation dated July 13, 1995, for "non conforming unpermitted waste being disposed of in the landfill." This violation occurred ten months after this landfill was permitted on September 13, 1994.

2. Solid Waste Management Facility Evaluation Report dated October 25, 1994, signed

by Hugh Jernigan which cites the landfill for "Signage Requirements not met."

3. Solid Waste Management Facility Evaluation Report dated September 26, 1996, signed by Garris Evans which states: "Landfill has large amount of particle board. This not an approved solid waste for this landfill."

4. Solid Waste Management Facility Evaluation Report dated March 20, 1997, signed by Garris Evans which states: "The facility shall only accept those solid waste it is permitted to receive. Particle board, plywood, and painted wood from industrial sources is in the waste stream flow."

5. Solid Waste Management Facility Evaluation Report dated May 24, 1995, signed by Hugh Jernigan cites the landfill for "Unpermitted material at site included furniture, painted wood, metals, plastics, and misc. building materials." This was followed-up by a report dated May 25, 1995, which reports: "Compliance met from previous day inspection." The landfill was given 24 hours to remove the waste, so they must have been expecting the inspector to return the next day.

These six inspection reports are the only ones we have found for the 41-N site since it was permitted on September 13, 1994, and five of them cite this landfill for an environmental/operational violation.

Why is this past compliance history not being considered in the reissuing of the permit for the 41-N site? Since there are no inspection reports in the files since May 25, 1995, I have to assume that the inspectors gave up writing them since nothing was ever being done about them.

Why are the buffer requirements not being required for both of these landfills? The 41-B site is within 200 feet of one house in our neighborhood and within 300 feet of several others. If this new permit is granted for the 41-N site, this landfill will come within 300 feet of houses on Sedgewood Land. I understand that a 500 foot buffer is required between a landfill and private dwellings and wells. How can this be allowed?

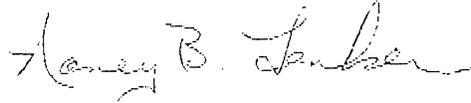
The neighbors in our neighborhood feel very strongly that the permit for the 41-N site should be denied given the track record on both landfills and the problems that they are causing in our area. I have written several letters to Bill Holman and sent him 203 letters signed by residents of the neighborhood surrounding this landfill requesting that this permit not be reissued. There are over 250 homes within one mile of this landfill, and most of them use wells for drinking water. Does the State of North Carolina care so little about the health of the residents of this area? You are the people who are supposed to protect us, but you are treating us like we are expendable.

Since it takes three days for our mail to reach its destination in Raleigh, I am going to fax this letter to you today. I will mail another copy of my letter along with some of the copies of the

material to which I have referred for your information.

I am looking forward to your answers to my questions.

Sincerely,

A handwritten signature in cursive script that reads "Nancy B. Lenker". The signature is written in dark ink and is positioned above the typed name.

(Mrs.) Nancy B. Lenker

Copy to: Bill Holman
Diane Long



NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

DIVISION OF WASTE MANAGEMENT

RECEIVED

N.C. Dept. of EHNR

OCT 7 8 1999

**Winston-Salem
Regional Office**

October 8, 1999

Mr. D.H. Griffin
D.H. Griffin Wrecking Company, Inc.
P.O. Box 4657
Greensboro, N.C. 27407

RE: Wiley Davis Road Landfill (Permit # 41-B) Environmental Assessment Plan

Dear Mr. Griffin:

The revised Environmental Assessment Plan submitted by Ecologic Associates, P.C. for the Wiley Davis Road Landfill has been reviewed. The revised plan addressed concerns transmitted by letter dated July 7, 1999. Briefly, the primary concern was the need to shift the focus of the investigation to the southwest side of the landfill because of DOT's plans along Wiley Davis Road and because of the proximity of the private wells across the stream.

In the revised plan one deep monitoring well was proposed to be installed near well WD-4; well WD-7 was to be abandoned and a replacement well installed nearby; and the replacement of wells WD-2d and WD-2s delayed. The Solid Waste Section approves these revisions.

Because monitoring wells WD-2d and WD-2s must be abandoned and will not be immediately replaced, there will not be any monitoring of the deeper part of the aquifer on the south/southwest side of the landfill. To compensate for this and to provide additional information of contaminant flow in the area, a deep well should also be installed near well WD-3. Monitoring well nests in both locations will strengthen the detection monitoring capability between the landfill and off-site private wells and supply a much better understanding of the vertical component of groundwater flow direction along the stream.

With the inclusion of the installation of a deep monitoring well at the well WD-3 location the the revised Environmental Assessment/Monitoring Plan for the Wiley Davis Road Landfill may be implemented as otherwise proposed. Implementation of the plan should begin within the next 60 days. Based on the information supplied by your attorney it is accepted that ownership of the property west of the landfill is imminent, thereby allowing unrestricted access if necessary.

All monitoring wells must be designed and constructed according to specifications cited in 15A NCAC 2C. Boring logs and well construction records should be



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91-11-17

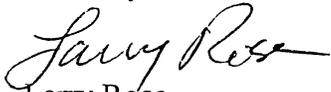
submitted after the wells are installed.

The well to be abandoned must be abandoned by being fully grouted from the bottom to top in a manner consistent with the procedures in 15A NCAC 2C .0113 (a) (2). A completed Well Abandonment Form should also be submitted.

Because environmental assessments and investigations are by nature dynamic, additional monitoring wells and sampling and analysis may be necessary as information is generated. If measurements indicate groundwater and contaminant flow is downward in the area of monitoring wells WD-3 and WD-4, it will be necessary to install wells on the opposite side of the stream. A downward flow would suggest the stream is not serving as a discharge point for contaminated water coming from under the landfill. Because of the private wells in the area, it is necessary to determine vertical and horizontal flow directions and the areal extent of any possible contamination. The issue of possible off-site migration of contaminants south and southeast of the landfill may have to be addressed after the completion of the road construction.

Thank you for your cooperation in resolving this matter. If you have any questions, please call me at (919) 733-0692, extension 257.

Sincerely,



Larry Rose
Environmental Specialist
Solid Waste section

cc: Phil Prete, Head - Field Operations Branch
Hugh Jernigan - Waste Management
Mark A Taylor, P.E. - Ecologic Associates, P.C.
Gary D Babb, P.G. - Babb & Associates, P.A.

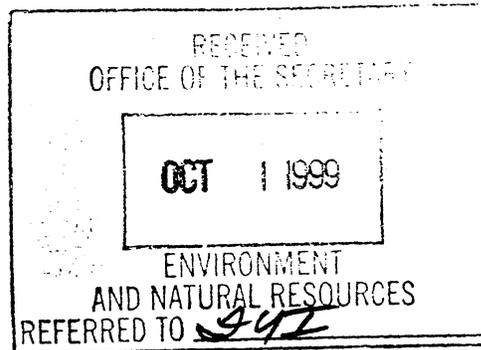
GRIFFIN4.WPD

4010 Sedgewood Lane
Greensboro, NC 27407-7932
September 29, 1999

Mr. Arthur Mouberry
Groundwater Section
N. C. Department of Environment
And Natural Resources
1636 Mail Service Center
Raleigh, NC 27699-1636

RE: Wiley Davis Landfill, Inc.

Dear Mr. Mouberry:



On September 9 I called you about the groundwater contamination in the neighborhood around the Wiley Davis Landfill in Greensboro, N. C. You asked me to call Sherri Knight and ask her to investigate this situation and make a report to you. I talked to Sherri on September 10 and relayed your message.

Sherri told me that the Groundwater files were at the Guilford County Health Department but that she would get the files and make a report based on her investigation. She also told me that she would call me on September 17 about this report. I have not heard from Sherri again.

I have been through the information we have copied from the Groundwater files at the Guilford County Health Department, the Guilford County Health Department files, and the files in the Winston-Salem Regional Office of DENR. I have made a list of the correspondence that we have found in these files that pertain to groundwater. (I am enclosing a copy of this report.)

This report raises several questions:

1. Why was the Remedial Action Plan dated May 7, 1991, never implemented in order to clean up this contamination? The North Carolina Administrative Code T15A:02L.0106 (a) and (b) says: "Where groundwater quality has been degraded, the goal of any required corrective action shall be restoration to the level of the standards, or as closely thereto as is economically and technologically feasible. Any person conducting or controlling an activity which results in the discharge of a waste or hazardous substance or oil to the groundwater of the State, or in proximity thereto, shall take immediate action to terminate and control the discharge, mitigate any hazards resulting from exposure to the pollutants and notify the Division of the discharge."
2. Why was this turned over to the Guilford County Health Department in 1995 which has done nothing about the contamination at this landfill?

3. Why has nothing ever been done about this contamination to prevent it from spreading to the residential wells in our neighborhood?

We have had the Agency for Toxic Substances and Disease Registry review the water analyses of the residential wells of the homes around this landfill. This report says that there are three contaminated wells in this neighborhood and recommends, "Provide alternate water for residents 3, 7, and 10." It also recommends, "Monitor the residential wells on a quarterly basis until the source has been remediated." (I am enclosing a copy of this report.)

We have also had the Center For Health, Environment and Justice review these same analyses. This report says, "it is clear that chemicals leaking from the Wiley Davis Landfill have leaked into the groundwater at the site and have traveled off-site to several private drinking water wells located nearby. This contamination poses health risks to people using the private wells for drinking and other purposes." (I am enclosing a copy of this report also.)

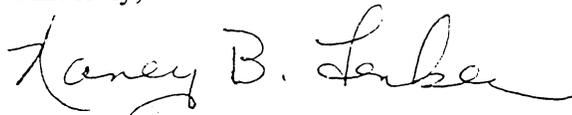
These water analyses show that 23 chemicals and 4 metals have been detected in the residential wells. Some of these wells have only one chemical in them, but many have three, four, or five. One well has six chemicals, and one has nine. Most of these wells are still being used for drinking water.

The big questions become:

1. What is the State of North Carolina planning to do about this contamination?
2. Are people in this neighborhood going to have to die from drinking this water before the State does anything about the contamination?

I look forward to your answers to my questions.

Sincerely,



(Mrs.) Nancy B. Lenker

P.S. I have the correspondence that this report mentions. It is 61 pages. I have not included copies with this letter because of the length but can provide you copies upon request.

Copy to: Bill Holman
Diane Long
Sherri Knight

**GROUNDWATER INVOLVEMENT
AT
WILEY DAVIS LANDFILL, INC.**

- 9-19-90 Letter from Aquaterra to NCDEHNR - "Based on the results of the analyses (of monitoring wells), several noted violations to Class GA water quality standards have been noted. Barium, chromium and lead were found in several wells at concentrations in excess of N. C. standards."
- 10-31-90 Letter from Aquaterra to D. H. Griffin - "The results of the ground water analyses indicated organic and metal contaminants in varying degrees in all installed monitoring wells. Levels of several contaminants exceed N. C. State ground water standards. Remediation of these contaminants is recommended to reduce their concentrations to either below state standards or to demonstrate that these contaminants do not pose potential negative impacts to the environment and human health."
- 1-31-91 Notice of Violation from Larry Coble, Regional Supervisor, NCDEHNR, Groundwater Section - "These contaminate concentrations exceed the maximum allowable concentrations for such substances. Therefore, they are in violation of the water quality standards for the groundwaters of the State. A corrective action plan (remedial action plan) should be submitted to this office by March 30, 1991. Failure to submit the report required or failure to expeditiously eliminate the contaminate source and restore groundwater quality in the affected area may result in the recommendation of enforcement action."
- 2-11-91 Declared Class A/110 contamination site. Remedial Action Plan due by 3-30-91. (Changed to 4-30-91)
- 5-7-91 Letter from Aquaterra enclosing Ground Water Remedial Action Plan.
- 5-20-91 Letter from Aquaterra to D. H. Griffin - "Aquaterra anticipates that remediation of the organic constituents will be required. Based on the concentrations of total barium and chromium as well as the proximity of drinking water wells to the site, remediation of these metals may also be warranted."
- 3-16-93 Letter from Art Hagstrom, Environmental Engineer, WSRO, WQ, NCDEHNR, to Larry Coble - "GW is aware that it has a major problem and will work on it ASAP."
- 4-2-93 Letter from Larry Coble, Regional Supervisor, NCDEHNR - "2. required groundwater monitoring associated with the old portion of the sandrock mine and landfill has not been done (required reports have not been received by this Office)." (No reports since 4-24-91 in the files.) "1. What is being done or what has been done with the leachate and chemically contaminated water that was/is being generated at the site? What is the current status of the on-site chemical/leachate contaminated pond?"

- 4-5-93 Letter from W. Waddell Watters, Hydrogeologist, Groundwater Section, NCDEHNR - "The Winston-Salem Office of the Division of Environmental Management is reviewing the status of D. H. Griffin Wrecking Co.'s activities for the remediation of the groundwater at the Wiley Davis Road landfill site. This office is in receipt of Remedial Action Plan; 5-7-91; by Aquaterra Environmental Consultants. No Corrective Action Plan can be accepted by this office until a comprehensive Site Assessment (CSA) report is submitted. A CSA must include a full delineation of the contamination plume."
- 4-29-93 Letter from D. H. Griffin to Larry Coble - "Information regarding over-all sites: 1. A pump has been installed in the pond, with six (6) sprinklers, and water is being pumped back onto dump. 2. The "smell" problem has been corrected. State inspector agreed to allow us to continue filling. Dump is scheduled to close within twelve (12) months."
- 4-29-93 Letter from D. H. Griffin to W. Waddell Waters replying to letter of 4-5-93 - "We have enclosed another copy of results. Supply wells have not been resampled. We were under the impression that the original results were not serious and that resampling could be accomplished after closing site. Site is scheduled to be closed in next 12 months." (Question in letter of 4-5-93 about remediation was not answered.)
- 5-6-93 Letter from W. Waddell Watters to D. H. Griffin regarding letter of 4-29-93 - "You are hereby reminded that you are still responsible for fulfilling the requirements outlined in 1-31-91 Notice of Violation. Requested to: Resample all monitoring wells and previously tested supply wells during a single sampling episode; Submit isocon plume maps showing the full extent of each contaminant; Review RAP that was submitted in June 1992 for updating and amending the present version or resubmit a new one; and Submit a proposed timetable for initiation of remedial activities." (No answer to this letter in the files.)
- 9-7-93 Letter from W. Waddell Watters to D. H. Griffin - "I am in receipt of Ground Water Assessment 7-14-93 by Ware Lind Furlow Engineers, Inc. This report does not meet the requirements outlined in my 5-6-93 letter to you. You are to submit a complete report to this office within 30 days of receipt of this letter."
- 2-22-94 Aquaterra letter - Ground Water Assessment dated 2-22-94 - "The groundwater assessment indicates several constituents were detected in the groundwater that exceed state groundwater standards. The subsequent analysis of the drinking water wells in the area did not indicate any compounds were detected. We recommend that the groundwater monitoring be performed on an annual basis until closure of the landfill and then determine if groundwater remediation is warranted."

- 3-22-94 Letter from Sherri V. Knight to D. H. Griffin - "I am in receipt of Ground Water Assessment 2-22-94, Aquaterra. Three concerns have come to light: 1. The sample analyses methods used were not the ones approved by the Groundwater Section. 2. Violations of NCAC2L standards have occurred in monitoring wells WD-2s and WD-2d located at the downgradient margin of the landfill. This contamination necessitates further groundwater assessment both to the south and within the bedrock aquifer. 3. Finally, why did it take 10 months after groundwater sample collection to submit this report? You need to submit a scope of services for the next phase of assessment to this office within 30 days from receipt of this letter. A completed assessment report must be submitted within 90 more days."
- 5-6-94 Letter from Aquaterra to Waddell Watters - "We have reviewed the 3-22-94 correspondence to D. H. Griffin from Ms. Sherri V. Knight of your office. Aquaterra conducted ground water sampling activities at the site on 4-14-94. Ground water samples were collected from the appropriate monitoring wells and adjacent domestic wells and submitted for laboratory analysis as directed in the correspondence. Aquaterra is awaiting the results of this sampling event prior to initiating further well installation or assessment activities. Based on the low levels previously detected, we feel this most recent sampling event will allow us to determine the current status of the site and develop an appropriate plan for the site." (No water sampling results in file from 4-14-94.)
- 4-25-95 Letter from Sherri Knight to D. H. Griffin (Incident #6357) - "This letter is to acknowledge the receipt of Ground Water Assessment for the referenced site on 8-12-94. As stated in the letters of 9-7-93 and 3-22-94 to you, Wiley Davis Landfill, Inc. is required to determine the vertical and horizontal extent of each contaminant and submit a complete report for the site. Therefore, a Comprehensive Site Assessment report is due for the subject site and should be received in this office within 60 days of receipt of this letter. Review of the CSA may be expedited due to the existence of a Memorandum of Agreement between Guilford County and the Division of Environmental Management." (No CSA found in files.)
- 6-11-97 Letter from Hugh Jernigan to Phil Prete - "There are monitoring wells at the site which have shown contamination. The Groundwater Section in the WSRO has delegated authority to the Guilford County Environmental Health Department. According to Gene Mile of Guilford County, the landfill is currently on a quarterly groundwater monitoring schedule. Should the Solid Waste Section be responsible for evaluating groundwater monitoring at the site?"
- 2-17-98 Letter from Sherri Knight to Evelyn Walker - "This office acknowledges the receipt of the Semi-Annual Groundwater Monitoring report on 2-12-98. After reviewing the report, we found that the detection limits for certain contaminants are higher than the NC groundwater standards. The detection limits for any contaminants should be

below the State 2L standards. Therefore, you need to use a NC certified laboratory which is able to analyze any contaminants of concern below the State groundwater standards.”

11-23-98

Letter from Hugh Jernigan to D. H. Griffin Re: Closure Requirements - “Submittal of new ground water monitoring plan. The Solid Waste Section has reviewed the groundwater monitoring system and data which indicates contamination at the site. An upgrade of the existing monitoring system is necessary to determine the nature and extent of contaminant migration and to adequately monitor groundwater at and around the Wiley Davis Landfill. Therefore the Solid Waste Section requires that a new groundwater monitoring plan be submitted for the disposal site that is protective of public health and the environment and addresses the possibility of off-site contamination. The proposed monitoring plan should be certified by a licensed professional geologist with experience in assessment and remediation of groundwater. The proposed system should include incorporation or proper closure of the existing monitoring wells.”

4-6-99

Letter from Larry Rose to D. H. Griffin RE: Environmental Assessment Monitoring Plan - “Although the potentiometric map indicates groundwater flow is primarily south and southwest toward the creek there is some evidence that this may be only shallow flow. Topographic maps of the area show a feature that suggests flow to the southeast is possible. Since flow direction has been based on measurements from a monitoring well system with no wells along the eastern side of the landfill, perceived flow direction may be more skewed to the south and southwest while a large component of flow may move unmonitored below Wiley Davis Road. Because of this possibility, additional potentiometric data to establish groundwater flow direction east of the landfill is necessary.”



ECOLOGIC ASSOCIATES, P.C.
2007 Yanceyville Street, Ste. 223
Greensboro, NC 27405-5004
336-271-3093 • Fax 336-271-3094
ecologic@compuserve.com
www.ecologic-nc.com

September 15, 1999

Mr. Timothy A. Jewett
NC Dept. of Env. and Natural Resources
Solid Waste Section
585 Waughtown Street
Winston-Salem, North Carolina 27107

**RE: Notification of Closure - Wiley Davis Landfill (Permit #41-B)
Greensboro, North Carolina**

Dear Tim:

On behalf of Wiley Davis Landfill, Inc., EcoLogic Associates, P.C. is pleased to notify you that the demolition landfill (Permit #41-B) has been closed in accordance with the revised Closure Plan dated July, 1999. Waste receipt ceased on August 24 as planned.

In spite of several days lost to wetness and repairs of erosion from heavy rains, the work is 95+ percent complete, with only a few items associated with stormwater management and erosion and sediment control to be completed. All disturbed areas have been seeded and mulched; however, some rework of damage from Hurricane Floyd is anticipated.

A 'punchlist' of items to be completed is outlined below. Note that some of these (e.g. diversion berms, slope drains) will necessarily be delayed until final improvements to final cover grades on top of the fill are made to achieve efficient stormwater management and erosion and sediment control. As discussed, maintenance of the final cover and erosion and sediment control measures will also require periodic activity at the site.

1. Make final (minor) modifications to sediment basin and dam
2. Complete installation of temporary sediment traps
3. Complete installation of inlet protections and grates
4. Install outlet protections
5. Add fill to south corner to improve drainage as needed
6. Repair/relocate/install slope drains as needed
7. Complete grading of northern access road and channel
8. Add diversion berms on final cover as needed

9. Add all-weather surface to access roads
10. Install rock check dams per E&SC Plan

Construction quality assurance (CQA) has been provided by EcoLogic, consisting of frequent site inspections, survey measurement of completed construction, and soil investigations by Geoscience Group, Inc. A report of soil investigations is enclosed demonstrating adequate final soil cover thickness and documenting edge-of-waste measurements along the northern margin of the fill.

By signing and affixing my seal below, I certify that all construction has been done in substantial compliance with the project plans and specifications. Minor modifications to accommodate field conditions were made, and a record drawing will be forwarded soon to document some of the more significant final features and modifications.

If there are any questions regarding this letter or the enclosure, please contact the undersigned at (336) 271-3093.

Respectfully,



Mark A. Taylor, P.E.
Project Manager



Seal, Signature and Date

C: D.H. Griffin

Enclosure

Geotechnical, Civil,
Environmental &
Construction Materials
Engineering

September 15, 1999

**GEO SCIENCE
GROUP**

Ecologic
2007 Yanceyville Street
Suite 223
Greensboro, North Carolina 27405-5004

Attention: Mr. Mark A. Taylor, PE

Reference: Report of Hand Auger Borings
Wiley Davis Landfill
Greensboro, North Carolina
Geoscience Project No. 39024.GSO

Dear Mr. Taylor:

Geoscience Group, Inc. (Geoscience) has completed hand auger borings between the existing debris landfill and the proposed debris landfill and the hand auger borings to confirm the soil cover depth. The purpose of the first set of hand auger borings was to determine the edge of the waste for the existing landfill in order to locate the edge of the proposed landfill at least 100 feet away. The second set of hand auger borings was used to confirm the required 2 feet of soil cover. This letter summarizes our field activities.

On September 2, 1999, a representative of this firm was on-site and performed approximately 45 hand auger borings up and down the existing landfill slope until the residual soil/waste intercept was found at the ground surface. These borings ranged in depth from 3 to 6 feet. This operation was performed a total of seventeen times along the existing fill embankment. Each of these intercept points was flagged with an orange-topped pin flag.

To verify that the required 2 feet of soil cover was present over the waste, 67 hand auger borings were performed at different times during August and September. Of the 67 locations, only two exhibited less than the 2 feet. These locations were re-check, and at least 2 feet of cover was present at that time. It should be noted that two borings were extended to the bottom of the cover soil in Area-3 on September 14, 1999. The depth of soil cover at these two locations was approximately 3.5 feet.

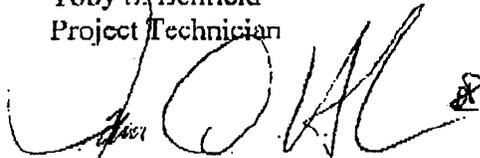
Mr. Mark A. Taylor, P.E.
September 15, 1999
Page 2

Geoscience appreciates this opportunity to be of continued assistance to you on this project. If you have any questions or require additional information in this regard, please contact us.

Respectfully,
GEOSCIENCE GROUP, INC.



Toby S. Benfield
Project Technician



James D. Hoskins, III, PE
Senior Geotechnical Engineer

TSB/JDH/lml

Griffin should give up battle to open landfill

● If D.H. Griffin decides to pitch his plan to open a landfill near Browns Summit to the Guilford County commissioners, they should say no.

The Guilford County Planning Board made the right decision when it rejected a Greensboro businessman's request to open a demolition landfill on 185 acres that adjoin the city's largest park and its largest water source.

Guilford may well need a new landfill, but the land next to Bryan Park and Lake Townsend would be a poor place to put it. And, based on his record of violating state environmental rules, D.H. Griffin would be a poor choice to run it.

The battle, unfortunately, may not be over. Griffin has said he would appeal the planning board's decision — if it didn't go his way — to the Guilford County Board of Commissioners. That's certainly his right. But if he chooses to appeal, the commissioners should likewise reject his request for the special-use permit required for the project.

The land in question is close to Reedy Fork Creek, numerous homes and the 534 acres of donated land that the city and county plan to develop as additional parkland. A landfill would not be in harmony with the area, one of the legal criteria necessary for approval of the permit. And there are serious questions about public health and safety.

Griffin, the owner of a demolition company, has been cited at least 30 times for illegal dumping and drainage

at the Wiley Davis Landfill he runs off Groometown Road near Sedgefield. Although Griffin has promised to follow the environmental laws to the letter if his new landfill is approved, his record of disregarding those laws speaks louder than his words.

Over the years, state environmental inspectors have found illegal building materials and drums of hazardous solvents and resins in the Wiley Davis Landfill. Petroleum chemicals and arsenic turned up in test wells at the site, and now traces of the same chemicals have begun to surface in neighbors' drinking water. Griffin's proposed landfill would be nine times bigger than the Wiley Davis site.

At last week's planning board meeting, opponents of Griffin's plan presented a petition signed by 345 people. It's not unusual for residents to complain that a landfill will increase truck traffic, devalue their property and possibly even contaminate their drinking water. But these folks have history on their side, as well as a powerful ally in the Greensboro City Council, which approved a resolution asking the planning board to reject Griffin's request. The council said it worried about smell and truck traffic, too.

Griffin is fighting an uphill battle. After members of the planning board patiently heard out both sides — the public hearing went on for nearly 3½ hours — it took them less than five minutes to decide unanimously to reject the request. Griffin should raise the white flag now and spare Guilford County another protracted debate.

Developer, neighbors fight plans for dump

● Three opposition camps prepare to fight a landfill proposal tonight. One opponent says he might buy the proposed site.

BY PARKER LEE NASH
Staff Writer

A local developer, Greensboro officials and a group of worried Browns Summit residents are vowing to pack the Guilford County Planning Board meeting tonight to oppose a proposed 185-acre dump.

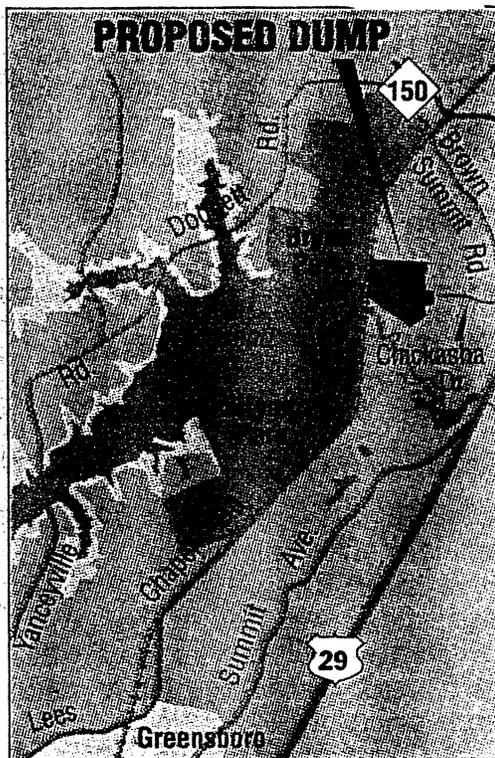
D.H. Griffin, the Greensboro demolition company owner who wants to build the landfill, thinks he's found a good spot for his new dump in rural northeast Guilford County, just off U.S. 29.

"It's close enough, but out of the way enough, too," he said recently.

But since he applied to the county for a special permit three months ago to build the dump, opposition to the landfill has swelled.

Developer Ron Wilson fears a landfill will doom a massive 1,500-acre housing project his company is planning for the area.

Greensboro officials fear something else: an eyesore. The proposed dump, which could pile as high as the treetops, backs up to Bryan Park, Greensboro's biggest



TIM RICKARD/News & Record

recreational area.

Neighbors of the proposed dump — about 350 so far have signed petitions to stop the landfill — have a different set of worries. They fear truck traffic, falling property values and groundwater contamination from the proposed dump.

After two earlier delays at Griffin's request, the maximum allowed, the planning board's vote tonight could prolong the battle

Please see **DUMP**, Page B2

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● The co deal may Greensbo

BY AMY J Staff Write

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Co bes

● Som Council must 1 its res

BY SC Staff

Th vote low the bef saic ing ne



Bowlers to hold fund-raiser

Caregivers of Rockingham County is sponsoring a fund-

Or

Jones' case.
The N.C. Court of Appeals refused in

night. Jones later admitted to having taken
in the assault on Tiffany, according to

Bureau of Investigation lab matched hairs in
ence with Bynum's hair.

st make restitution

voluntary manslaughter
th of Neil Davis of Fay-
ast November but con-
lunt of misdemeanor
and entering.

10, was one of several
who entered a house
vis, 21, lived across the
n the off-campus party
ts were attending Nov.
ired a gun into the party,
said, and a bullet frag-
k one of the partygoers.
others who entered the
gged with Davis before
ent off, killing Davis.

lawyers during Blunt's
ed his acts were lawful
tried to detain someone
i had committed unlaw-

sentencing, Blunt told
he deeply regrets the
loes not regret his own

actions.

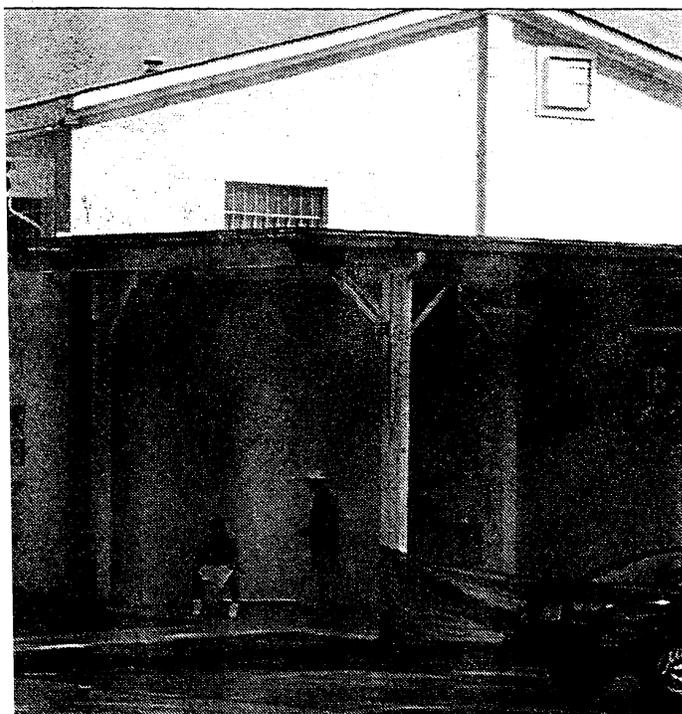
"I feel very relieved," Blunt said.
Jurors "came out with the decision
that they felt was just and right,
and my condolences go out to the
Davis family."

Family members of Davis were
not in the courtroom Tuesday.

Blunt faced the most serious
charge levied against 10 former
N.C. State athletes related to the
death of Davis. Eight athletes were
disciplined for their roles in the
fracas and shooting.

Six besides Blunt were charged
with breaking and entering and
other crimes. One football player,
Willie Kinte Wright of Greensboro,
was charged with felony larceny of
a firearm and is waiting for his trial
to be scheduled.

Blunt, of Modesto, Calif., said he
hopes to re-enroll at N.C. State in
January and wrestle again.



SCOTT HOFFMANN/News & Record

Oakland Avenue near UNCG has been the site of alcohol,
mplaints and riots.

nearby businesses and
s. One property owner
b wasn't able to lease
roperty because of ac-
nightclub, Isom said.
lly, crowds from the
pill outside the club,
king lot and even into
lot of a Crown gas
pring Garden Street.

the parking lot of the
ere so bad one evening
that a worker at the

resort.

"The problems were just too bad
over too long a period of time,"
Kimel said.

Although the lawsuit was filed by
the district attorney's office, the
investigative work that led to it was
done by Greensboro police officers
and agents with the ALE.

ALE has a special five-agent in-
vestigative team that specializes in
nuisance abatement cases. The
unit, based in Greensboro, has 30 to

DUMP

Continued from page B1

further.

Griffin and his opponents both
have vowed to appeal the planning
board's decision to the Guilford
County Commissioners if it doesn't
go their way. But there may be an
alternative solution in the works.

Wilson confirmed Tuesday that
he's held discussions with Griffin
about buying the land if it's not
approved for a landfill. He would
only hint at Griffin's reception to
the idea.

"Mr. Griffin may well decide
that the property no longer meets
his requirements," Wilson said. If
that happens, and Wilson can se-
cure commitments from Guilford
County and Greensboro to extend
water and sewer lines and help
improve the area's roads, the
northeast corridor could eventually
be home to a massive housing de-
velopment instead of a dump.

Griffin didn't return phone calls
Tuesday. Griffin's attorney, Charlie
Melvin, wouldn't comment on the
discussions either. Up to now, Mel-
vin has represented Griffin before
the board. Melvin said he would not
make Griffin's presentation tonight
because he also represents Wilson
in land deals.

Melvin said Griffin has a "very
impressive" presentation prepared
for the planning board. Griffin's
engineer, Mark Taylor, will be the
presenter.

"Then we'll see what happens,"
Melvin said.

Griffin and his opponents all will
get time to speak. The opponents,
particularly those folks living
around the proposed dump site,
vow to be the loudest.

"We're going to launch an all-out
attack," said Bill Mericka, manag-
ing partner of a 1,600-acre farm
beside the proposed dump.

"Bring the women and children
and come on," Mericka said.

A Greensboro official also will
speak out about the city's concerns
over Griffin's proposal, said City
Councilman Robbie Perkins.

Griffin currently operates the
Wiley Davis Landfill on Groome-
town Road, near Sedgfield. A big
portion of that dump is being shut
down by state environmental
watchdogs because it's operating
with an outdated permit.

WANT TO GO?

What: Guilford County Planning
Board Meeting

When: 7 tonight

Where: Guilford County Courthouse,
Board of Commissioners chambers
on the second floor

For more than a decade, Griffin
dumped debris not allowed by law
into the landfill. But for reasons no
state or county environmental offi-
cials can explain, Griffin's landfill
wasn't ordered shut down until re-
cently.

Griffin never was fined for the
violations, even though the landfill
was permitted to accept only harm-
less materials like tree limbs and
stumps.

Griffin has been cited at least 30
times for illegal dumping and
drainage at the site. Inspectors say
most of the dump's violations posed
no health threat.

Fifteen years ago, however, in-
spectors found illegal drums of
hazardous solvents and resins
dumped in Griffin's Wiley Davis
Landfill. Repeatedly, the same en-
vironmental watchdogs spotted
smelly goo from the landfill trick-
ling into a nearby stream.

Petroleum chemicals and arsenic
showed up in water tests at the
landfill 10 years ago. Since then,
chemicals have routinely shown up
in the dump's water tests.

Many of those same chemicals
recently started showing up in the
drinking water of neighbors living
near the Wiley Davis dump. Those
neighbors now are trying to prove
that the dump contaminated their
water.

Griffin said nothing harmful ever
was dumped in his Wiley Davis
Landfill. He vowed that his pro-
posed construction and demolition
landfill, if approved, will be run in
strict adherence to the state's
newer, stricter environmental
laws.

If approved by county officials,
the proposal then goes to the state
for a final OK.

The new dump would be nine
times bigger than the Wiley Davis
site and could be operating by next
year.

The dump would be permitted to
allow only construction and dem-
olition debris, which is considered
less hazardous than household
waste.

AIRLINE

twind announced it was suspending
flights. They plan to visit friends
for a few weeks and then book a
return flight on another airline

D.H. GRIFFIN WRECKING CO., INC.

"If It's Wrecking — Call Us"

4700 HILLTOP ROAD (27407)

PHONE: (336) 855-7030

FAX: (336) 855-9322

P.O. BOX 7657

GREENSBORO, N.C. 27417-0657

September 8, 1999

RECEIVED
N.C. Dept. of EHN&A

SEP 10 1999

Winston-Salem
Regional Office

Mr. Timothy A. Jewett
NCDENR
Solid Waste Section
585 Waughtown Street
Winston-Salem, NC 27107

RE: Letter of August 25, 1999 – Wiley Davis Landfill, Inc LCID (Permit no. 41-N)

Dear Tim,

I appreciate the reminder regarding the above-mentioned LCID permit. Wiley Davis Landfill, Inc. plans to apply for an extension. You will receive this soon.

In compliance with the permit of the North Carolina Solid Waste Management Rules, the landfill will not accept waste, after September 13, 1999, while awaiting your approval of the application.

Please feel free to call me with questions. I await your response.

Sincerely,



D. H. Griffin, Sr.

Attachment 1

WILEY DAVIS LANDFILL	
RESIDENT NUMBER	RESIDENT LAB ID#
1	991614
2	991008
3	991020
4	991194
5	991192
6	991615
7	991023
8	991332
9	991189
10	991557

State Health Director
State Health Department
2001 Mail Service Center
Raleigh, NC 27699-2001

RECEIVED
N.C. Dept. of EHNR
OCT 28 1999
Winston-Salem
Regional Office

Dear Dr. Dennis McBride:

Enclosed are two reports from Mr. Stephen U. Lester of the Center for Health, Environment and Justice and Dr. Robert Williams of the Agency for Toxic Substances and Disease Registry concerning test results on the monitoring wells and private drinking water wells at and near the Wiley Davis Landfill. We live near the Wiley Davis Landfill which was classified a "Class A" contamination zone on February 11, 1991. Our home sits directly in the area designated by the county as a "contaminant zone" and it is our neighborhood where wells have shown to contain trace amounts of contaminants and 3 houses with contaminants above levels. Given the conclusions and recommendations that Mr. Lester and Dr. Robert Williams makes, and the fact that Guilford County and the State have been aware of the contamination by the Wiley Davis Landfill since 1991, we are requesting that our water be tested by the county and/or state at least every three months for the next three years.

We have two young children and we are very concerned about the quality of our water. We do not know what may have been in our well 10 years, 5 years ago or what might show up tomorrow. I called Garris Evans on Friday September 17 to inquire about when our well will be tested again. Mr. Evans left me a voice mail on Monday September 20 informing me that they would not be further testing our well. Only those wells recommended by Mr. Rudo would be further tested. I was informed we could contact the Water Quality Department and have our water tested and we would have to incur the cost.

We are not pleased that Guilford County has decided that this case is closed. To add further insult to injury, we are very unhappy that the county has concluded that the trace amounts found in the drinking water in the wells of homes in the contamination zone of the Wiley Davis Landfill, are not significant enough to warrant continued monitoring or further evaluation of all wells in our neighborhood. We fear that this conclusion is based not on a true belief by the county that there is no health risk, but that the county does not want to have to admit that it failed in its responsibility to prevent the contamination in the first place. The foremost fact to bear in mind is that it was both the county and the state's responsibility to properly monitor this landfill and the drinking water of the residents within this "contamination zone" and both failed to carry out that responsibility.

We think that it is important to look at the conclusions and recommendations of Stephen U. Lester, Science Director for the Center for Health, Environment and Justice; first, because he is an authority in his field, and secondly, because of his impartiality. He concludes that "while these levels (trace levels) may be considered low, they are not necessarily 'safe' or inconsequential....Exposure to the chemicals found in the monitoring wells even at the levels found pose some health risks." He goes on to say that "It is clear from the data that this already occurred and since the chemicals are already showing up in private drinking wells off-site, you cannot afford to wait until levels exceed drinking water standards before taking action. At that point, it will be too late."

He finally concludes that "it is clear that chemicals leaking from the Wiley Davis Landfill have leaked into the groundwater at the site and have traveled off-site to several drinking water wells located nearby. This contamination poses health risks to people using the private wells for drinking and other purposes. In order to define the scope of these risks, additional testing and information is needed." Mr Lester suggests that much of the data is lacking and that more consistent and broader testing needs to be ongoing. We suspect as does he that "what we are seeing with this limited picture of the groundwater contamination is the tip of the iceberg."

We are requesting that the county and/or state continue to monitor our well for this very reason. Since it was both the county and the state that allowed this situation to happen, we feel that either or both owe it to us as taxpayers to monitor the situation for our well-being. We also request that the monitoring continue because as it is suggested in the enclosed report that "it may be that the contamination is just beginning to reach the private wells". Since the county and the state failed to monitor the Wiley Davis Landfill properly, they in essence share the responsibility for the contamination. This was preventable. The contamination never should have been allowed to happen.

Inasmuch as the county and the state failed in their duty to protect its citizens from the violations of this landfill, which led to the contamination, they must now take responsibility to protect its citizens by continued monitoring of private drinking wells. And especially, since Mr. Lester suggests that the contamination could just be reaching the private wells, it is highly possible that although there may be no signs (or at least "trace" elements) of contamination now, there may very well be signs of contamination in the future. Also Dr. Williams recommends the residential wells be monitored on a quarterly basis. Therefore, we request that either one or both of you continue to monitor our drinking water every three months for at least the next three years. Should it prove that our water is contaminated we request that you would take steps to rectify the contamination by connecting us to city water at county and/or state expense. We also would like to request that in the testing process that semi-volatile organics be added to the list of substances looked for as outlined by Mr. Lester's report. As he states, "additional testing needs to be done as well as significant information needs to be obtained....to understand the extent and dimensions of the contaminant plume....and rate of flow of the plume."

We look forward to your written response as soon as possible.

Sincerely,



Ben and Teresa Hodges

Cc: Governor Jim Hunt
H. David Bruton
Bill Holman
Hugh Jernigan
Ken Carter
Eric Ireland
Garris Evans

BUSINESS

■ N.C. Trust completes merger with U.S. Trust. B8

Triad

B

Planning board rejects proposed landfill

● The decision can be appealed to the Guilford County Board of Commissioners.

By PARKER LEE NASH
Staff Writer

The Guilford County Planning Board voted unanimously late Wednesday night to deny a proposal for a construction and demolition landfill in Browns Summit.

Greensboro demolition company owner, D.H. Griffin, proposed putting the dump on 185 acres in the northeast section of the county, just off U.S. 29.

Mark Taylor, Griffin's engineer, presented a two-hour pitch for the landfill's approval. It was filled with statistical data and computer-generated charts showing a possible landfill's minimal impact on the community.

But about 100 opponents of the plan, including residents of the area and a local developer, spoke out against the landfill, citing concerns about increased traffic, falling property values and potential groundwater contamination. Some pleaded with the board to save their neighborhood. "I'm afraid one of my grandchildren will

get killed," said Dot Lambeth, telling the board about the "flying" garbage trucks she feared. Lambeth lives about a mile from the proposed site. Her three grandchildren live across the street from her.

The seven-member board deliberated less than five minutes after the nearly 3½-hour hearing before taking the unanimous vote at about 11:20 p.m.

The proposed landfill has stirred controversy for weeks. People living near the site have organized, circulated petitions, and lobbied city and county officials to help them fight the landfill.

At Wednesday's meeting, they presented

345 signatures opposing the landfill.

Griffin currently operates the Wiley Davis Landfill on Groometown Road near Sedgefield. A big portion of that landfill is being shut down by state environmental watchdogs because it's operating with an outdated permit.

For more than a decade, Griffin acknowledges, debris not allowed by law has been dumped into the landfill. But for reasons no state or county environmental officials can explain, his landfill wasn't ordered shut down until recently.

The landfill was permitted to accept only harmless materials like tree limbs and

stumps. Griffin was cited for allowing other debris, but never was fined.

He has been cited at least 30 times for illegal dumping and drainage at the site. Inspectors say most of the dump's violations posed no health threat.

Griffin says nothing harmful ever was dumped in his Wiley Davis Landfill. He vows that his proposed construction and demolition landfill, if approved, will be run in strict adherence to the state's newer, tougher environmental laws.

The Planning Board's decision can be appealed to the Guilford County Board of Commissioners.



CENTER FOR HEALTH, ENVIRONMENT AND JUSTICE

P.O. Box 6806 FALLS CHURCH, VA 22040-6806

August 9, 1999

Mr. Richard Fayssoux, Jr.
4005 Sedgewood Lane
Greensboro, NC 27407

Dear Mr. Fayssoux:

I have reviewed the test results that you sent to CHEJ that were taken from the monitoring wells at the Wiley Davis Landfill located in Guilford County and from private drinking water wells located nearby. The Wiley Davis Landfill accepted primarily construction and demolition waste, though there are reports of other waste being dumped in the landfill as well. The data I have reviewed provides analytical results of samples collected from 7 groundwater monitoring wells located on the landfill property and from 21 private wells that provide drinking water to residents living near the landfill site. These samples were collected from April to June of this year and were analyzed primarily for volatile organic chemicals (VOCs) and a limited number of heavy metals and other parameters. These two analytical groups (VOCs and heavy metals) include many common contaminants found in leachate generated by solid waste landfills. Most of the analyses were done by the State Laboratory of Public Health for state of North Carolina. The only exception is the May 1999 on-site groundwater testing which was conducted by Pace Analytical Services, Inc.

Overall, this testing shows that groundwater at the site has been contaminated by chemicals leaking from the landfill. The contamination appears to be the heaviest on the western and southwestern side of the landfill where monitoring wells MW-2S, MW-2D, MW-4 and MW-6 are located. Well MW-6 has the highest level of contamination closely followed by MW-4. It is also apparent that some of the same chemicals that were found in the groundwater monitoring wells at the landfill site are also showing up in the several of the private wells located on the western side of the landfill. In general, the direction of groundwater flow across the landfill is towards the west.

One contaminant was found at levels well above any other. This contaminant was tetrahydrofuran which was found at 214 parts per billion (ppb) in MW-6, 187 ppb in MW-2S, and 154 ppb in MW-2D. It was also found in MW-3 and MW-4. Several other contaminants were found in MW-2S, MW-2D, MW-3, MW-4, and MW-6: benzene, 1,1-dichloroethane (DCA), chloroethane, and methyl ethyl ketone (MEK). All of these chemicals affect the central nervous system and liver; benzene is a known human carcinogen; 1,1-DCA and chloroethane can cause kidney damage. Brief toxicity information on these substances is enclosed. Additional substances were found in MW-4 and MW-6, though at low levels.

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Unfortunately, the documents I received did not include much specific information about the monitoring wells including how the wells were installed, water depth, soil type surrounding the well, well depth, depth of the screen in the well (the portion of the well where water enters). Most of this information would be available in what are referred to as "well borings" or log borings. Later, I did obtain the depths of the monitoring wells which was useful.

In addition, the wells were generally sampled during the same time period from April to June of this year. This one time snap-shot of the groundwater gives a very limited picture of the overall groundwater status at the landfill. Additional samples taken during other seasons and over time can help establish if there are seasonal changes in the water level and in the direction and rate of groundwater flow. Such changes could result in significant changes in contaminant movement at the site which would be reflected in different contaminant levels detected in the monitoring wells.

One interesting observation about the contamination in the monitoring wells is that the highest contamination occurred in two areas. One area is clustered in the southwest corner of the site as reflected in wells MW-2S, MW-2D, and MW-6. The second area is reflected by well MW-4. Between these two areas is another well, MW-3, that is only slightly contaminated. Since the groundwater flow is moving generally to the west and southwest, this observation is puzzling. However, there may be a different soil type that slows the groundwater flow towards MW-3, as compared to well MW-4 and the cluster of wells MW-2S, MW-2D, and MW-6. This observation may also be partially explained by the depth of the wells. The information I had on well depths was incomplete and not helpful in addressing this question.

The results of the testing of the private drinking water wells are difficult to evaluate without more information about the house location, the depth of the well, and specific information about the contaminant plume including its location and dimensions and the direction and rate of groundwater flow. Several points are clear, however. First, the wells on the western side of the landfill, apparently down gradient from the landfill, are consistently more contaminated than wells in other areas. Second, several of the same contaminants, tetrahydrofuran and methyl ethyl ketone in particular, that are found in the private wells are also present in the groundwater monitoring wells. In addition, several contaminants are consistently found at low levels in the private wells, but not in the groundwater monitoring wells. These include perchlorethylene (PCE), methyl tert-butyl ether, and chloroform.

I suspect that what we are seeing with this limited picture of the groundwater contamination is the tip of the iceberg. It may be that the contamination is just beginning to reach the private wells. Whether contamination reaches these wells depends on the depth of the well and the dimensions

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and rate of movement of the contaminant plume. However, this information is not known and until it is defined, the threat posed by contaminants leaking from the landfill will remain unknown.

There are two significant concerns I have about the data itself. First, the number of substances that were looked for in the wells is limited. In both the on-site groundwater monitoring wells and in the private drinking water wells, only a limited number of substances were analyzed for. The lab looked primarily for volatile organic chemicals (VOCs) and some heavy metals. What's missing is the semi-volatile organics such as polynuclear aromatic hydrocarbons (PAHs) and chlorinated benzenes, pesticides, PCBs and the metals chromium, cadmium, mercury, cyanide, and nickel. The testing conducted by Pace Analytical Services did include more VOCs and all of the heavy metals, but no pesticides, PCBs, or PAHs. What you want them to test for is a group of chemicals known as priority pollutants. This is a list of 128 chemical substances that are commonly found in contaminated groundwater. A general description and a list of these chemicals is enclosed.

The second major concern I have with the data is the detection limits used by Pace Analytical. Detection limits define the lowest level of contamination that can be identified with accuracy by the testing. These limits are generally set before the testing begins. If they are set too high, then contamination below this level will not be detected even when it's there. Pace used different detection limits for different samples with values ranging from 5 to 100 ppb for VOCs. The state lab used a detection limit of 0.5 ppb VOCs.

Although there are no specific standards for what detection level to use in analyzing groundwater, the detection limits should not vary from sample to sample. They should remain the same for all samples. There are, however, several guidelines that can be used in deciding what detection limit to use. First, the USEPA has set detection limits for testing at Superfund sites that EPA contract laboratories are required to use. A list of these limits is included on the priority pollutant list. A second alternative is to use no more than 20% of the drinking water standard. One problem with this approach is that there are standards for only a small number of substances (see enclosed list). Often, industry will set the detection limits at the drinking water standard which is too high. In this instance, the detection limits used by PACE Analytic are too high and should be lowered. The detection level used by the state lab was more appropriate and should be used in any future sampling.

Lastly, for many of the substances found in the wells, the level of contamination was described as a "trace" amount. While it is certainly better that trace amounts rather than in higher levels were found, I would not be comforted by this information alone. Additional testing needs to be done as well as significant information needs to be obtained and to understand the extent and dimensions of the contaminant plume as well as define the direction and rate of flow of the plume.

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Furthermore, while these levels may be considered low, they are not necessarily "safe" or inconsequential. Exposure to the chemicals found in the monitoring wells even at the levels found pose some health risks. What those risks are depend on the levels of the chemicals, how many chemicals you are exposed to, how long you are exposed to them, and individual susceptibility which varies widely from person to person.

The important point here is not whether the chemicals found in the monitoring wells exceed drinking water standards, but rather whether the groundwater has become contaminated by chemicals leaking from the landfill. It is clear from the data that this has already occurred and since the chemicals are already showing up in private drinking water wells off-site, you cannot afford to wait until levels exceed drinking water standards before taking action. At that point, it will be too late.

In closing, it is clear that chemicals leaking from the Wiley Davis Landfill have leaked into the groundwater at the site and have traveled off-site to several private drinking water wells located nearby. This contamination poses health risks to people using the private wells for drinking and other purposes. In order to define the scope of these risks, additional testing and information is needed. Additional testing for a broader range of substance, namely the priority pollutants, needs to be conducted for both the private drinking water wells and on-site groundwater monitoring wells. Samples should be taken immediately and during other seasons and over time to help establish if there are seasonal changes in water levels and in the direction and rate of groundwater flow. Such changes could result in significant changes in contaminant movement at the site. Specific information on how the monitoring wells were installed, water depth, soil type surrounding the well, well depth, depth of the screen in the well should be made available for all testing in order to make transparent the location and dimensions of the contaminant plume, how fast it is moving and in what direction. With this information, it is possible to evaluate the risks posed by the contaminants found in the private drinking water wells and the general public health risks posed by the contamination leaking from the landfill site.

I hope these comments are helpful. Feel free to contact me if you have any questions or need any additional information.

Sincerely,



Stephen U. Lester
Science Director



BAFFLED BY THE TERMS

Priority Pollutants

Of all the tests that can be done to detect water contamination, we recommend looking for "priority pollutants." If you've ever been involved in evaluating monitoring data from a hazardous waste site, you are probably already familiar with the term. The 129 priority pollutants were selected in 1976 by a group of government, industry and environmental scientists as part of a "consent decree" issued by a judge. Three public interest environmental organizations had sued EPA to force the agency to carry out the Clean Water Act of 1972, requiring EPA to set standards for plant discharges in rivers and other waterways. As part of the settlement of this case, the judge ordered EPA to determine and set standards on the pollutants most likely (and thus the priority) to be in the wastewater discharges of industrial plants. This list of 129 chemicals were considered inclusive enough to provide protection of public health and the environment from most wastewater products of a list of 21 industries, considered for regulation under the Clean Water Act.

Eight years later, EPA has established guidelines, or water quality criteria, for 65 of the 129 substances. These criteria were established "for the maximum protection of human health . . . due to exposure through ingestion of contaminated water and contaminated aquatic organisms." Although these criteria are not standards enforceable by law, but rather guidelines established to help evaluate the risks of contaminated water, the scientific

documentation and research involved in determining the criteria is the same as for a legally enforceable standard.

Although this list is fairly extensive, some chemical wastes from *all* industries are not included: formaldehyde, ethylene dibromide (EDB), vinyl bromide, and most pesticides and herbicides.

In general, the priority pollutants consist of 114 organic chemicals, dioxin and 14 metals, including asbestos. The 114 organics are further divided into 4 categories based on the ability of (expensive) analytical (or measuring) instruments to detect them. These categories are acid extractables, base neutrals, pesticides and volatiles. It costs the same to test for one compound in a category as it does to measure *all* the compounds in that same category.

Dioxin, or TCDD is the only exception to the rule. It is very expensive to test for and is considered separately.

The priority pollutants are useful in providing a broad listing of likely constituents of leachate from a waste landfill. This may be helpful when you know little or nothing about what to test for. But it's important to remember, there are many toxic chemicals *not* on this list, and the ones on it were selected *not* for their potential harm to human health, but rather because they were likely to be discharged from the 21 industries regulated under the Clean Water Act.

For a complete listing of the priority pollutants, including water quality criteria established by EPA for 65 of these pollutants, contact CCHW. □

PRIORITY POLLUTANTS

Parameter	EPA Contract Lab Analytical Method Detection Limit (ug/liter - ppb)	EPA Ambient Water Quality Criteria (ug/liter - ppb)
<u>Extractable Volatile Organics</u>		
Acrolein	10	320
Acrylonitrile	10	0.058
Benzene	1	0.66
Bromodichloroethane	1	.19a
Bromoform	1	.19a
Bromoethane (methyl bromide)	1	.19a
Carbon Tetrachloride	1	0.4
Chlorobenzene	1	488.0
Chloroethane	1	
2-Chloroethylvinyl ether	1	
Chloroform	1	.19a
Chloroethane	1	.19a
Dibromochloroethane	1	.19a
1,1-Dichloroethane	1	.19a
1,2-Dichloroethane	1	.94
Trans-1,2-Dichloroethane	1	
1,1-Dichloroethene	1	87
1,2-Dichloropropane	1	
Trans-1,3-Dichloropropene	1	87
Dichlorodifluoroethane	1	.19a
Ethyl Benzene	1	1400
Methylene Chloride (dichloroethane)	1	.19a
1,1,2,2-Tetrachloroethane	1	.17
Tetrachloroethane	1	.8
Toluene	1	14,300
1,1,1-Trichloroethane	1	18,400
1,1,2-Trichloroethane	1	.6
Trichloroethylene	1	2.7
Trichlorofluoroethane	1	.19a
Vinyl Chloride	1	2.0
<u>Base Neutral Extractable Organics</u>		
Anthracene	10	0.0028b
Acenaphthene	10	
Acenaphthylene	10	0.0028b
Benzdine	25	.00012
Benzo(a)anthracene	10	0.0028b
Benzo(b)fluoranthene	25	0.0028b
Benzo(k)fluoranthene	10	0.0028b
Benzo(a)pyrene	10	0.0028b
Benzo(g,h,i)perylene	25	0.0028b
Benzyl butyl phthalate	10	
Bis (2-chloroethoxy) methane	10	.19a
Bis (2-chloroethyl) ether	10	.03
Bis (chloroethyl) ether	10	.0000038
Bis (2-chloro-isopropyl) ether	10	4360
Bis (2-ethylhexyl) phthalate	10	15,000
4-Bromophenyl phenyl ether	10	.19a
2-Chloronaphthalene	10	
4-Chlorophenyl phenyl ether	10	.19a
Chrysene	10	0.0028b
Dibenzo(a,h)anthracene	25	0.0028b
1,2-Dichlorobenzene	10	400
1,3-Dichlorobenzene	10	400
1,4-Dichlorobenzene	10	400
2,3'-Dichlorobenzidine	10	0
Diethyl phthalate	10	350,000
Di-n-butylphthalate	10	34,000
Dimethyl phthalate	10	313,000
2,4-Dinitrotoluene	10	.11
2,6-Dinitrotoluene	10	.11
Di-n-octylphthalate	10	
1,2-Diphenylhydrazine	10	.11
Fluoranthene	10	42
Fluorene	10	.0028b
Hexachlorobenzene (HCB)	10	.00072
Hexachlorocyclopentadiene	10	.45
Hexachloroethane	10	1.9
Hexachlorocycloheptadiene (HCCP)	10	1.
Indeno(1,2,3-cd)pyrene	25	.0028b
Isoprene	10	.0052
Naphthalene	10	
Nitrobenzene	10	19,300
N-Nitrosodimethylamine	10	0.0014
N-Nitrosodiphenylamine	10	4.9
N-Nitrosopyrrolidine	10	.16
Phenanthrene	25	0.0028b
Pyrene	25	0.0028b
1,2,4-Trichlorobenzene	10	

Phenols (Acids)

4-Chloro-3-methylphenol	20	
2-Chlorophenol	10	
2,4-Dichlorophenol	10	
2,4-Dimethylphenol	10	70
2,4-Dinitrophenol	40	
2-Methyl-4,6-Dinitrophenol	20	
2-Nitrophenol	10	
4-Nitrophenol	90	1,010
Pentachlorophenol	25	
Phenol	10	3,500
2,4,6-Trichlorophenol		1,200

Pesticides and Metabolites

Aldrin	.1	.000071
Alpha-BHC	.1	.0092
Beta-BHC	.1	.0163
Gamma-BHC (lindane)	.1	.0186
Delta-BHC	.1	
Chlordane	.1	.00046
4,4'-DD (p,p'-DDD)	.1	.000024c
4,4'-DDE (p,p'-DDE)	.1	.000024c
4,4'-DDT (p,p'-DDT)	.1	.000024c
Dieldrin	.1	.0000741
Endosulfan I (alpha)	.1	74d
Endosulfan II (beta)	.1	74d
Endosulfan sulfate	.1	74d
Endrin	.1	1
Endrin aldehyde	.1	1
Heptachlor	.1	.0002
Heptachlor epoxide	.1	.0002
TCDD (dioxin)	.1	
Toxaphene	.4	.00051

PCBs

PCB-1242 (aroclor 1242)	.1	
PCB-1254 (aroclor 1254)	.1	
PCB-1221 (aroclor 1221)	.1	
PCB-1232 (aroclor 1232)	.1	0.000079
PCB-1248 (aroclor 1248)	.1	(combined total)
PCB-1260 (aroclor 1260)	.1	
PCB-1016 (aroclor 1016)	.1	

Metals

Antimony	3	146
Arsenic	1	.0022
Asbestos		
Beryllium	.2	.0068
Cadmium	.1	10
Chromium	1	50
Copper	1	1,000
Cyanide		200
Lead	1	50
Mercury	.2	.144
Nickel	1	13.4
Selenium	2	10
Silver	.2	50
Thallium	1	13
Zinc	.05	500

**WILEY DAVIS LANDFILL
GREENSBORO, NORTH CAROLINA**

SEPTEMBER 2, 1999

**U. S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Agency for Toxic Substances and Disease Registry
Division of Health Assessment and Consultation
Atlanta, Georgia 30333**

Background and Statement of Issues

A private citizen requested the Agency for Toxic Substances and Disease Registry (ATSDR) to review the results of groundwater samples obtained from several residential wells and monitoring wells and comment on the health implications associated with exposure to the contaminants reported.

Wiley Davis Landfill is an active landfill located at 4104 Wiley Davis Road in Greensboro, North Carolina. It is situated on 18.1 acres. The site was mined for sand rock from the 1950s until 1969. Sometime after 1969, a roofing company used this site to dump roofing materials [1]. Also it was open to anyone who used it for a dump. On May 8, 1980, the site was permitted as a demolition landscape landfill. On April 17, 1990, the state of North Carolina recommended that the landfill be closed by September 15, 1999 [1].

During March and April 1999, the North Carolina Department of Health and Human Services (NCDHHS) collected groundwater samples from 26 residential wells near Wiley Davis Landfill. On May 3, 1999, the NCDHHS collected groundwater samples from six monitoring wells that are located around the landfill. All samples were analyzed for volatile organic compounds (VOCs) and metals. There was no information provided to indicate the groundwater flow direction, nor was any information provided to indicate where the residential groundwater samples were collected from, or the depth of the wells. Table 1 shows the results of 10 residential wells sampled and the maximum concentrations of contaminants detected in the groundwater samples. The results of the other 16 residential wells sampled showed that no contaminants were present, or the contaminants detected were at very low levels which did not exceed any health based comparison values (see attachment 1 for residential identifications). The monitoring wells groundwater sampling results showed that iron ranged from 4,510 micrograms/liter ($\mu\text{g/l}$) to 22,227 $\mu\text{g/l}$, and tetrahydrofuran ranged from 16.3 $\mu\text{g/l}$ to 214.5 $\mu\text{g/l}$.

Table 1.

Maximum Levels of Contaminants Detected in Residential Groundwater Samples

Residence	2-Butanone	Copper	DBC	Lead	Iron	THF	Mn
1					450		
2					380		
3				34	8,560		
4					4,520		150
5					670		
6					900		
7		1,780		115	58,900		510
8					10,200		
9					550		
10	803.3		2			2,394	
CV/RAL		1,000***		15*	300***		50**

All values are expressed as micrograms/liter ($\mu\text{g/l}$).

DBC = Dibromochloropropane

THF = Tetrahydrofuran

Mn = Manganese

*RAL = Removal Action Level

**CV = Comparison Value

*** SMCL = Secondary Maximum Contaminant Level

Discussion

The results of groundwater sampling conducted at 26 residential wells indicate that lead was detected in a groundwater sample from one well at 115 $\mu\text{g/l}$, and from another residential well at 34 $\mu\text{g/l}$. Lead was not reported in any other groundwater samples at levels which exceeded the U.S. Environmental Protection Agency's (EPA) Removal Action Level (RAL) of 15 $\mu\text{g/l}$. Iron and copper were detected in groundwater samples from residential wells at levels that exceeded EPA's Secondary Maximum Contaminant Levels (SMCL) of 300 $\mu\text{g/l}$, and 1000 $\mu\text{g/l}$, respectively. Also, manganese was detected in a residential groundwater sample at 510 $\mu\text{g/l}$, which exceeded ATSDR's comparison value of 50 $\mu\text{g/l}$.

The RALs are drinking water concentrations of contaminants that are considered, along with other factors, in determining whether to provide alternate water supplies under Superfund removal authority. An SMCL is an unenforceable federal guideline regarding taste, odor, color and certain other non-aesthetic effects of drinking water. EPA recommends SMCLs to the States as reasonable goals, but federal law does not require water systems to comply with them, because they are not health based derived comparison values. Comparison values are considered to be safe under default conditions of exposure, and are used as screening values in the preliminary identification of site-specific contaminants of concern.

Exposure to lead may cause serious adverse health effects, particularly in fetuses and young children. Factors influencing this susceptibility include: (1) the immaturity of the blood brain barrier; (2) nutritional status of the child; (3) low body weight; and (4) passive diffusion of contaminants across the placenta to the developing fetus. Prenatal lead exposure is associated with premature delivery, decreased birth weight, impaired postnatal neurobehavioral development, and decreased postnatal growth rate [2]. Because of these factors, children are more at risk of developing adverse health effects than adolescents and adults.

Toxicity of a chemical depends on the dose, and although iron, copper and manganese are essential metals for humans, which are involved in many enzymes activities, sometimes acute or chronic overload may occur due to excessive levels of these chemicals in drinking water. Clinical signs of toxicity to iron overload include nausea, vomiting, severe gastroenteritis (inflammation of stomach and intestine), abdominal (stomach) pain, diarrhea, and lethargy (abnormal drowsiness) [3]. Currently, there are no federal drinking water standards for iron that are enforceable, but the state of North Carolina uses 300 $\mu\text{g/l}$ as a reasonable goal. Prolonged exposure to copper has been linked to liver failure, renal (kidney) failure, and hemolysis (breakdown of the red blood cell) in adults and children [3]. Although humans are often exposed to significant quantities of manganese in food and water, reports of adverse effects in humans from ingestion of manganese are rare [4]. Because these chemical levels reported in groundwater samples from residential wells exceed their SMCLs, it would be prudent public practice to advise the residents of the potential of bad odor and unpleasant taste, and the potential of adverse health effects. The chemical 2-butanone was detected in residential drinking water at 803 $\mu\text{g/l}$ which is below ATSDR's Reference Dose Media Evaluation Guide (RMEG) of 2,000 $\mu\text{g/l}$. An RMEG is an estimate of the daily exposure that is likely to be without a significant risk of non-cancerous adverse health effects over a lifetime.

The results of groundwater samples obtained from six monitoring wells indicate that tetrahydrofuran and iron were detected at elevated levels. Tetrahydrofuran was also detected in a residential groundwater sample at 2,394 $\mu\text{g/l}$. Tetrahydrofuran is a liquid with an ether like order which is used as a solvent for high polymers such as polyvinyl chloride [4].

Conclusions

Lead levels detected in groundwater samples from residences 3 and 7, pose health hazard to those persons (including children) who consume this water on a daily basis. In addition, tetrahydrofuran detected in groundwater from residence 10 poses a public health hazard to those persons (including children) who consume the water on a daily basis. Iron, copper and 2- butanone do not pose health hazard to those persons who consume the groundwater on a daily basis.

Recommendations

1. Provide alternate water for residences 3, 7 and 10. If re-sampling shows that the lead levels are still elevated in groundwater at residences 3 and 7, consider performing a blood lead screening test in children who live at these residences.
2. Monitor the residential wells on a quarterly basis until the source has been remediated.

Robert L. Williams

Robert L. Williams, Ph.D.

References

1. Data Package for Wiley Davis Landfill Site, Greensboro, NC, June 11, 1999, submitted by Nancy Lenker, to Bob Safay (ATSDR's Region IV Representative).
2. Toxicological Profile for Lead, U.S. Public Health Service, ATSDR, Atlanta, Ga. February 17, 1998.
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4. The Merck Index, An Encyclopedia of Chemicals, Drugs, and Biologicals, Published by Merck and Company, Incorporation, Rahway, NJ, 1989.

MAR 16 1999



Recycling Works

RECYCLING BUSINESS ASSISTANCE CENTER

Volume 5, Number 1

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A cooperative effort of the North Carolina Department of Environment and Natural Resources and the North Carolina Department of Commerce.

Sticking with the business plan: a look at P&R Environmental Industries five years later

Two entrepreneurs who started from square one in 1993 have achieved success recycling plastic bottles in Youngsville, N.C.

By Matt Ewadinger, RBAC Manager

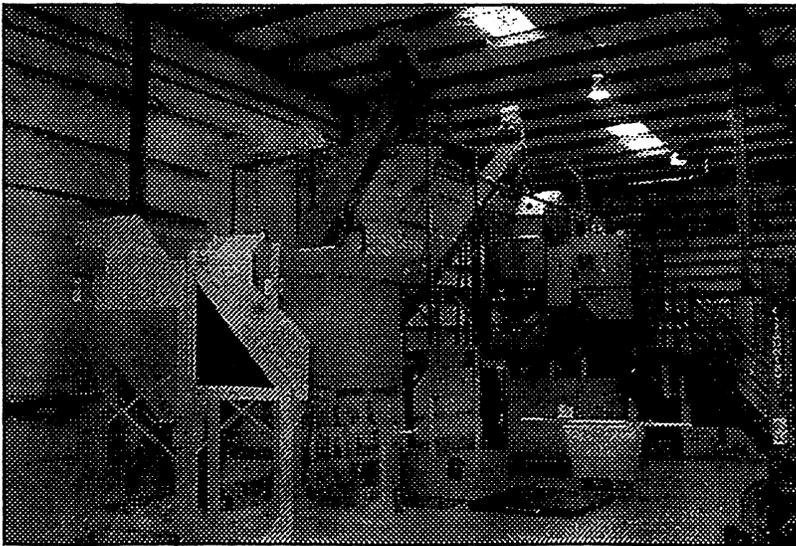
When I first met Gary Pratt, president of P&R Environmental Industries Inc. (PREI), in the summer of 1993 he was working out of a small office (or was it a large storage closet?) within the Franklin County Economic Development Commission building. Armed initially with a unique idea, a business plan, and a building site outlined by stakes in the ground, he and his partner Dwight King have developed a state-of-the-art auto-

ated plastic bottle recycling operation that is the envy of the industry.

That Was Then

When production began in December 1993, PREI's \$1.5 million investment was housed in a 38,400 square foot facility, employed approximately 50 people, and processed about 1.6 million pounds of

(See PREI, page 6)



The PET/PVC flake sorter system depicted above reduces PVC contamination to less than 200 parts per million.

Inside

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CORRECTION

The November issue of *Recycling Works* featured an article about AlliedSignal. The phone number given in the article for the company contained a typographical error. The correct phone number for AlliedSignal is (804) 520-3028.

Federal government requires recycled paper purchases

Executive Order to strengthen federal environmental protection and economic growth efforts

By Kathleen Gray, Former Market Development Specialist

On September 14, 1998, President Clinton issued Executive Order (EO) 13101, which strengthens federal efforts to protect the environment and promote economic growth through the purchase of recycled and other environmentally preferable products. This EO revokes EO 12873.

The new EO directs agencies to purchase recycled paper only. Specifically, the minimum content standard for printing and writing paper shall be no less than 30 percent postconsumer materials. Effective Jan. 1, no executive branch shall purchase, sell or arrange for the purchase of printing and writing paper that fails to meet the minimum requirements of the EO. If paper containing 30 percent postconsumer material is not reasonably available, does not meet reasonable performance requirements, or is available only at an unreasonable price, then the agency shall purchase paper containing no less than 20 percent postconsumer material.

According to the General Services Administration (GSA), copier paper accounts for more than 28 percent of all the paper purchased by the federal government; with approximately 10 million sheets being used every work hour. Total government purchases of recycled content copier paper almost doubled in fiscal year 1997 to 39 percent, as compared with 20 percent in fiscal year 1996.

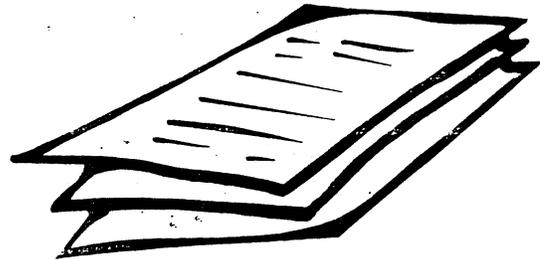
The White House estimates this action will save as much as half a million trees annually, reduce air and water pollution, and curb emissions that contribute to global warming. Additionally, government will harness its tremendous purchasing power to spur the growing market for recycled products.

To further promote the use of environmentally preferable products, the EO also directs agencies to establish recycling targets, encourages them to purchase biobased and other "green" products, and creates a White House task force to oversee federal recycling efforts.

“As the nation’s largest paper purchaser, the federal government has a special responsibility to lead the way in building markets for recycled goods. By redoubling our efforts to ‘green the government,’ we are demonstrating once again that the environment and the economy go hand in hand and helping to promote a more sustainable future for America.”

~ President Clinton

Executive Order 13101



Recycling Works is published by the N.C. Recycling Business Assistance Center (RBAC), a program of the Division of Pollution Prevention and Environmental Assistance of the N.C. Department of Environment and Natural Resources (DENR). For more information call (919) 715-6500 or (800) 763-0136, or write to DPPEA, P.O. Box 29569, Raleigh, NC 27626-9569.

James B. Hunt, Jr., Governor

R. Wayne McDevitt, Secretary, DENR

Division of Pollution Prevention and Environmental Assistance

Gary Hunt, Director

Scott Mouw, Chief, Community & Business Assistance Section

Matt Ewadinger, RBAC Manager

John Blaisdell, RBAC Market Development Specialist

John Nelms, RBAC Industrial Development Specialist

Sharon Gladwell, Information & Communications Specialist

Retread tires safe and environmentally friendly

By John Nelms, Industrial Development Specialist

The use of retread tires often has suffered bad perception. The image of tire carcasses on roadways leaves many believing retread tires are an inferior product and, thus, unsafe. This perception is far from the truth. Retread tires are safe, economical, and environmentally friendly.

Tire carcasses seen on roadways actually can be attributed to a combination of factors unrelated to the tire being a retread. According to data gathered by the Tire Debris Task Force, a group representing trucking companies, retreaders, trucking and tire industry associations, new tire manufacturers and government agencies, most tire debris on highways is caused by nail punctures, something that can happen to any tire, new or retread.

Although the public perceives retreads to be responsible for tire debris, facts lead to a different conclusion, according to Peggy Fisher, president of Roadway Tire Company, Columbus, Ohio. Fisher reports task force members and their employees recently collected 1,070 pieces of rubber from heavy and medium truck tires at nine sites nationwide.

Only 11, or one percent, of the 1,070 pieces analyzed could be attributed to retread failure. "This speaks well for retreads," Fisher said. "We in the tire and trucking industries know how good our product is. We will continue to educate the public to the fact that retreads offer the same safety and performance as new tires, but at a far lower price, and are not the cause of [loose] rubber on the road."

Passenger and truck tires go through extensive inspection and rigorous safety testing. Passenger tires are retreaded according to the U.S. Department of Transportation's (USDOT) standards and carry a code number on the side wall indicating where and when the tire was retreaded. Each tire's maintenance record is tracked throughout its history of use. Due in part to standards established by the truck retread tire industry, USDOT has not developed regulations for manufacturing retreaded truck tires. Overall quality of retreaded truck tires has increased dramatically in recent years with the introduction of high technology, including the use of computers in manufacturing and non-destructive tire testing.

The performance of retread tires is equal to and, in some cases, exceeds that of new tires. Retreads can be driven at the same legal speed of new tires with no loss in safety, performance, or comfort. A study by White's Tire Service of Wilson, N.C., shows that White's bead-to-bead retread outperforms new tires on school buses.

Also, White's figures show a bead-to-bead retread can provide as much as 25 to 35 percent more mileage on average than a new tire. In addition it provides a \$48.32 cost savings per tire.

The use of retread tires also provides tremendous environmental benefit. Manufacturing a typical retread truck tire requires only seven gallons of oil, while manufacturing a new truck tire requires 22 gallons. Recent figures from the Tire Retread Bureau estimate more than 400 million gallons of oil are saved annually as a result of retread tires. Also, a truck tire can be retreaded more than once.

Retread tire use is widespread. The federal government, military, U.S. Postal Service, airlines worldwide, and companies such as Federal Express and UPS all presently use retread tires with great results. According to Fran McPoland, federal environmental executive, all federal and military aircraft use retreads, including the President's plane, Air Force 1.

For more information about retread tires, call John Nelms of RBAC at (919) 715-5904 or Harvey Brodsky of the Tire Retread Information Bureau at (408) 372-1917.

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DH Griffin salvages demolition materials

By John S. Blaisdell, Market Development Specialist



Left: A view of DH Griffin's Greensboro salvage yard where demolition materials are recycled.

Below: DH Griffin recovers material from a commercial demolition site in Raleigh.



DH Griffin stands out as one of North Carolina's largest construction and demolition debris recycling businesses. Started in Greensboro nearly 40 years ago by one individual, David Griffin Sr., the company has grown into an international business with more than 700 employees. The company prides itself in being highly integrated, offering a full range of services, including lead and asbestos abatement, construction services, demolition services, materials salvage and recycling, and landfill disposal.

DH Griffin's salvage yard and main business offices are located in Greensboro, N.C. The company also maintains satellite offices throughout the United States.

The Business of Demolition

According to David Griffin Jr., vice president of DH Griffin Wrecking Inc., approximately 60 percent of their demolition work is industrial, 35 percent commercial, and five percent residential. He estimates that 60 percent of business comes from Fortune 500 companies. Also, the Department of Energy creates a lot of decommissioning and dismantling (D&D) work for their company with the removal of power plants.

DH Griffin specifically targets commercial, residential, and publicly-owned structures with a high salvage

content. Before a building is demolished, they carefully extract directly re-usable materials such as windows, doors, antique timbers, piping, and light fixtures. Materials are transported back to their 37-acre salvage yard in Greensboro, where they are re-sold directly to the public.

Structures then are torn down using large excavators with attached grapples or shears to properly sort and size reduce the material. Recyclable materials such as metals are separated onsite from residuals destined for the landfill. Some metals are baled at the demolition job site using portable baling equipment and sent directly to local markets. Other metals are delivered to Griffin's

Continued on next page.

Continued from previous page.

Greensboro salvage yard for further processing. Some aggregates, such as concrete and brick, are also recovered on-site and sold or given away as solid fill material.

The Salvage Yard

DH Griffin's massive 37-acre site in Greensboro houses the main business offices for the demolition and asbestos abatement, scrap metal salvage, building materials salvage and re-sale, and the automobile and parts recycling and salvage operations. At the yard, DH Griffin receives metal and other recyclable materials from their own demolition work, as well as from other recycling businesses and industrial, commercial, or residential sources.

Ferrous metals are processed using a large stationary shear to size reduce the materials before being shipped to market. Non-ferrous metals such as aluminum and copper are baled on site. The yard has railroad line connections, allowing them to transport materials directly to the mills. Approximately 60,000 tons of metals are handled per year.

Environmental Remediation Services

In 1985, DH Griffin decided to get into remediation services to further integrate the company. Demolition and Asbestos Removal Inc. (DARI) was created to handle all their own abatement work that must be completed prior to demolition projects. DH Griffin assesses asbestos and lead content in buildings and completes the state's required abatement procedures.

Landfill Operations

DH Griffin owns and operates a construction and demolition debris landfill in Greensboro that accepts materials from their own demolition jobs, as well as from other customers. Currently, they are salvaging cardboard and metals at the landfill. According to Griffin Jr., the company plans to site several new construction and demolition landfills in and around North Carolina within the next five years.

Construction & Demolition (C&D) Debris Recycling

Very little infrastructure exists for C&D debris recycling in North Carolina. However, among the few companies involved, DH Griffin stands out as being one of the largest in the state today.

It recently has been estimated that the demolition portion of the C&D waste stream is approximately 1.4

Business Summary

Company Name:	DH Griffin Wrecking, Inc.
Started:	1959
Type of Business:	Environmental Services/Demolition/Salvage
Ownership:	Private
Employees:	Nationally, 700 North Carolina and South Carolina, 350
Company Growth Rate:	20-25% per year
Nationwide Offices:	15
Demolitions Per Year:	300
Material Recovered Per Year (Nationally):	Metal, 200,000 tons Concrete, 500,000 tons
Rank Among Demolition Contractors in the U.S.:	Among Top 3

million tons in North Carolina. Recovering additional amounts of material from demolition sites will depend primarily on increases in the recovery of two main materials: aggregates and wood. DH Griffin already is recovering large amounts of concrete and other aggregates and plans to increase the amount being recovered within the next few months.

The Future of DH Griffin

Unlike most other individual construction or demolition contractors, DH Griffin has found a competitive advantage in integrating the businesses. Integration apparently has been a successful move for the company, which has seen 20-25 percent annual growth in recent years. "As of the beginning of December, we had 40 projects started in 14 states," Griffin Jr. said.

As for the future, according to Griffin Jr., "We plan to offer design and build services to our customers so they can have one stop shopping. We will be able to offer remediation, demolition, recycling, and salvage, as well as design and build services for the new building."

Most recently, Griffin has involved in several multi-million dollar general contracting/construction projects in the Raleigh area, including the new Centennial High School and the new Student Health Center at North Carolina State University. These projects are being done by DH Griffin Construction Company, the company's contracting division based in Raleigh.

For more information about DH Griffin's services, call the company's Greensboro office at (336) 855-7030.

PREI, from page 1

commingled bales of plastic bottles per month. At that time the heart of the operation was and remains the sorting equipment supplied by Magnetic Separation Systems, Inc. (MSS), of Nashville, Tenn. MSS allows PREI to accept bales of mixed plastic bottles regardless of resin type.

In November 1995, PREI completed the first expansion of its Youngsville, N.C., facility. The \$510,000 expansion included a 15,000 square foot addition and a new production line that more efficiently processes bales of plastic bottles received in a pre-sorted form. This expansion was the first in a number of incremental additions. The company was able to increase production to 2.3 million pounds per month, add 20 new jobs, and give MRFs up and down the east coast a variety of options for supplying material to PREI.

This Is Now

PREI has recently completed another ambitious expansion that includes retaining a facility in Louisburg, N.C., for warehousing and distribution and moving into two additional buildings in the Franklin County Industrial Park. The expansion will provide the company with an additional 76,000 square feet of production and storage capacity under roof. One of the two facilities has been in operation since October 1998 and uses the MSS technology described previously. The other new facility, which came online in December 1998, is used exclusively to separate PVC from PET flake. "Recycling PVC is a major problem in the industry and the flake-sorter system gives us the ability to 'polish' PET flake that previously had no market value and was destined for the landfill," according to King, PREI's vice president.

King estimates that to date, overall capital investment in all four facilities is in excess of \$3 million, and processing capability is up to seven million pounds per month. PREI currently processes six million pounds per month and employs a work force of approximately 170 people.

Lesson Learned

"The importance of writing, reviewing, continually updating, and in our case sticking to the basics developed within a company's business plan cannot be emphasized too strongly," Pratt advises. "As we established in our business plan five years ago, our one and only product is post-consumer plastic flake from our sorting and grinding operations. We have never considered washing and pelletizing [to make a higher value-added product] because we feel that we have developed our own unique and successful niche within the industry," Pratt said.

PREI	PREI's Growth During Five Years		
	Dec. 1993	Nov. 1995	Dec. 1999
Investment	\$1.5 million	\$2 million	\$3 million +
Employees	50	70	170
Lbs./Mo.	1.6 million	2.3 million	6-7 million

4th Annual Southeast Recycling Investment Forum

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Select Southeastern recycling businesses seeking capital will present their business plans at this upcoming forum. Networking and educational opportunities for private investors also will be provided. Call for business plans by June 1, 1999. For presenter applications, registration, or

sponsorship opportunities, contact Ted Campbell, Recycling Market Development Advisory Council, P.O. Box 927, Columbia, SC 29202 ■ (803) 737-0477; Fax (803) 806-3455 ■ tcampbel@commerce.state.sc.us ■ www.state.sc.us/commerce/recycle

Dates, locations, and contact information for other Regional Recycling Investment Forums are:

Rocky Mountain Southwest March 29, 1999; Phoenix, Ariz., www.commerce.state.ar.us

West May 17, 1999; San Francisco, Calif.; www.materials4future.org

Northeast May 5, 1999; Boston, Mass.; www.NERC.org

Southeast August 23, 1999; Kiawah Island, S.C.;

www.state.sc.us/commerce/recycle

Midwest September 1999; Cincinnati, Ohio; www.NERC.org

Wooden pallets: supply and demand in North Carolina

By Kathleen Gray, Former Market Development Specialist, and Scott Mouw, CBAS Chief

North Carolina's pallet recycling infrastructure appears healthy and growing. Similarly, market demand for pallets appears strong and probably will increase. Factors like third party management may decrease new pallet production and also should reduce pallet discards. Because of the growing and multi-faceted recovery infrastructure, a much higher diversion rate for pallets is possible and will be an important part of North Carolina's overall management of wood resources.

1997 Pallet Recovery in North Carolina

	Tons	% of Generation
Total private sector recovery	120,182	27.7%
Reuse/refurbishing	104,558	24.1%
Other uses: mulch, boiler fuel	15,624	3.6%
Total public sector recovery	31,479	7.3%
Reuse/refurbishing	2,540	0.6%
Other uses: mulch, boiler fuel	28,939	6.7%
Total Recovery	151,661	35%

Supply

Wooden pallet generation estimates for North Carolina can be extrapolated from national survey data. In 1997, approximately 433,665 tons of pallets were generated, and this number is expected to increase to 474,863 tons in 2002. This projection is based on per capita growth from 1997 to 2002. However, wooden pallets may experience slower growth due to a number of factors, including movement in the industry to alternative materials and the emergence of large "third party" management companies.

National recovery surveys have documented the rapid rise of pallet recovery — from an estimated 65.8 million in 1992 to 65.3 million in 1993 to 171.1 million in 1995. Nearly 151,661 tons of pallets were recovered in North Carolina in 1997, or about 35 percent of the 433,665 tons of pallets generated. Private sector recovery was estimated using data from a survey by the Division of Pollution Prevention and Environmental Assistance (DPPEA), and public sector data were reported by North Carolina local governments in 1996-97 solid waste management annual reports.

North Carolina has a strong and growing pallet recycling infrastructure. North Carolina's Directory of Markets for Recyclable Materials report lists 41 companies that accept pallets. The 1995-96 Buyer's Guide from NWPCA (The National Wooden Pallet and Container Association) lists four additional recyclers, and the 1997 SIC code listings for North Carolina identify 78 companies in the 2448 code category (wooden pallets and skid).

Demand

Market demand for pallets follows a management hierarchy of direct reuse, refurbishing (then reuse), and finally processing into other products (e.g., mulch, boiler fuel). These varying levels of potential market uses mean a high degree of flexibility in diverting pallets from disposal. The trajectory of overall market

demand through the early to mid 1990s was positive, and it is expected that demand will continue to expand.

Direct Reuse and Refurbishing

As mentioned earlier, pallet recycling grew tremendously in the 1990s. A national survey documented annual dollar growth rates in the pallet recycling business, ranging from 12 to 26 percent between 1992 and 1995. One survey found private recyclers use about 87 percent of recovered pallet wood in making new or repaired pallets, and they landfill less than one percent of their recovered stock.

A significant development in pallet recycling is the emergence of "third-party" management and "networks" of individual pallet companies, which expands marketing and sales and extends management reach over the pool of discarded pallets. As third party management develops, greater overall recovery of wooden pallets will result. These developments signal a form of consolidation among pallet companies. The industry seems to be moving from many small family operations to larger companies and networks that reduce the independent nature of individual firms.

Fuel, Mulch, and Other Markets

Wooden pallets recovered by pallet recycling companies that cannot be directly reused or repaired are usually processed for other uses such as mulching, composting, and boiler fuel. In contrast to high recovery rates indicated by private recyclers, landfills tend to consign discarded pallets directly to grinding operations. A recent study indicated about 41 percent of pallets recovered at municipal solid waste landfills was used for fuel, while another 38 percent went into mulch, animal bedding, composting, soil amendment, and material in particleboard. At construction and demolition debris facilities, more than 38 percent of recovered pallet material was processed for fuel, while another 33 percent went for the other uses listed above.

Reuse will continue to be the higher value market for pallets, but fuel and mulch markets will play an important role in disposal diversion for the foreseeable future.



The Recycling Business Assistance Center (RBAC) is a program of the North Carolina Division of Pollution Prevention and Environmental Assistance.

Call (919) 715-6500 or 1-800-763-0136 for free technical assistance and information about preventing, reducing, and recycling waste.

North Carolina market prices for recyclables

Prices current as of Feb. 8

Item	Western Region	Central Region	Eastern Region
METALS			
Aluminum Cans, lb. loose	\$0.40	\$0.42	\$0.46
Steel cans, gross ton baled	\$7	\$3	\$0
PLASTICS			
PETE, lb. baled	\$0.065	\$0.05	\$0.06
HDPE, lb. baled	\$0.06	\$0.040	\$0.090
PAPER			
Newsprint, ton baled	\$35	\$20	\$30
Corrugated, ton baled	\$35	\$10	\$30
Office, ton baled	\$130	n/a	\$125
Magazines, ton baled	n/a	n/a	**
Mixed, ton baled	\$10	n/a	\$10
GLASS			
Clear, ton crushed	\$42	\$40	\$25
Brown, ton crushed	\$24	\$33	\$21
Green, ton crushed	\$15	\$8	\$2

**Facility sells magazines with newsprint.
 Note: Prices listed above are compiled by RBAC and are for reference only. These prices are not firm quotes. RBAC obtained pricing information from processors for each category and developed a pricing range.

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August 25, 1999

Mr. Michael Kelly, Deputy Director
Solid Waste Division, NCDENR
1624 Mail Service Center
Raleigh, N.C. 27699-1624

Dear Mr. Kelly,

This letter is to confirm our phone conversation the afternoon of August 11, 1999 regarding the Wiley Davis Landfill. I understood you would investigate some of the points/questions I had raised and that you were to contact me by phone this past week. I was particularly interested in the future status of the 41-N site ("The Little Dump"), but various points regarding the 41-B site ("The BIG Dump") were also discussed.

We discussed the question of whether or not "unapproved/possibly harmful" waste stream materials had been buried in either the 41-B or 41-N sites. I referred to numerous inspection reports being in the State/County files that confirmed such materials had been reported in both sites. I also stated that our neighborhood group of concerned citizens had provided Diane Long, Deputy Director, NCDENR Department of Intergovernmental Affairs a large notebook of State/County documents on the Wiley Davis Landfill for use in confirming these and other issues. Regarding "unapproved waste", I suggested you contact Chief Vernon Ward or Assistant Chief Tim Fitts of the Pineroft-Sedgefield Fire Department regarding what they have observed while fighting fires at the Wiley Davis Landfill. I felt such a conversation would give you an unbiased, first hand report from an authoritative source with "no agenda" regarding the landfill.

You told me you were to attend a meeting of Fire Chiefs in Hickory, N.C. on August 12 or 13, and that you would attempt to contact suggested personnel from the Pineroft-Sedgefield Fire Department. Since I had not heard from you as of last Thursday, I spoke with Vernon Ward by phone on August 19. Vernon said your paths did not cross in Hickory but that he would be happy to discuss the Wiley Davis Landfill with you at any time. I urge you to contact Vernon at his office (336-299 4421) as soon as possible, and ask in particular about the BIG fire of January 30, 1998. I sincerely believe you will find Vernon's description of the debris that was uncovered during this fire in stark contrast to the "clean/sanitized reports" received from the County and State inspectors who were both on site at various times while this fire was in progress.

During our phone conversation you mentioned one of your first recollections of the Wiley Davis Landfill was the finding of some 80, 55-gallon drums of "lacquer, glues and resins" from Dunning Industries on the landfill site. This was in March of 1984. I may be making a leap here, but I gained the impression from your remarks that you have been involved with or aware of the operations at the Wiley Davis Landfill since that time.

2

Perhaps then, you will be able to give me a long sought after answer to the question as to why this landfill was not closed as directed by the Guilford County Health Department and the State of North Carolina during the early 1990s? All I have heard when posing this question to individuals I felt were in a position to know are weak, inadequate excuses! The answer to this question is very important to those of us who live near the landfill.

Based on available documents, the whole matter of closure of the landfill seems to have become a low priority issue starting in July of 1991 when the State Division of Solid Waste Management reassumed inspection duties from Guilford County. Activity regarding closure resurfaced in the spring of 1993 when Mr. Griffin was asked to respond to questions regarding EPA violations and County incident report number 6357. In an NCDENR document dated March 16, 1993 various problems at the landfill were discussed. This document noted that, "DHGW (D.H. Griffin Wrecking Co.) has ignored the closure letter." Then, in a letter dated 29 April 1993, Mr. Griffin stated; "Site is scheduled to be closed within the next twelve (12) months." At this point in time the urgency to close the site seemingly went into limbo for about five years. Is there any wonder why those of us living near the two dumps question the word of the County, the State and Mr. Griffin? Please read on.

At our first neighborhood meeting on April 8, 1999 we were addressed by both State and County representatives who definitely had not done their homework on the history and problems at the Wiley Davis Landfill. A very significant result of this meeting was the deepening distrust it engendered between the citizens present and State and County officials defending their position regarding "the neighborhood's perceived problems" at the Wiley Davis Landfill. Misleading, and in at least one instance, totally false information was given in answer to questions from the floor regarding the history of the 41-B site's waste stream. Information that was quickly and easily refuted by the inspection reports filed by the individuals making the statements. Later, when confronted with the reports they had written, these same inspectors acknowledged the "non-approved" materials in the waste stream at the dumpsites, but authoritatively added, "but they won't hurt you." Do you think the North Carolina Attorney General would back up these public servants on statements like this? I don't think I would hold my breath awaiting an affirmative answer.

Next there were unnecessary misunderstandings regarding the sampling of drinking water in neighborhood wells. As I'm sure you are aware, the Guilford County Health Dept. is dependent on the state laboratories for the testing of drinking water from wells for anything other than coliform bacteria and fecal E. coli. With regard to the water testing in our neighborhood, some state laboratory reports indicated the receipt of a number of samples from the County Health Department in apparently unapproved bottles, wet (non-iced) containers and with no blank or control samples being provided. In several instances test results were labeled as probably due to "laboratory error". Such statements are certainly not confidence builders and beg the question, "should re-testing have been done to assure accuracy"? If re-testing is not required, more carefully crafted statements or explanations are in order so as not to cause unnecessary alarm.

3

There is a stigma in living near a dump that can not be erased despite all the rhetoric to the contrary. The residential neighborhood for which I speak existed long before an old sand-rock mine became Wiley Davis Landfill, Inc. As a neighborhood, we are tired of living in an area where we feel our quality of life has been compromised to a great extent by the indifference of those in authority. Whether we live within or near Guilford County Groundwater Contamination Zone Number 36, better known as the Wiley Davis Landfill site, we share common problems. The noise, foul odors, and all too often the toxic fumes from fires impose a negative impact on our daily quality of life. In addition there is an economic impact on our property value which is now being compounded by the trace contaminants showing up in our drinking water as a result of the seepage of chemicals from the landfill. But the Health Department says we should not be alarmed.

We are now being told by the State and County "Authorities" that our well water is safe to drink and that with the closure and capping of the "Big Dump" our problems will be solved once and for all, even with the continued operation of the "Little Dump". This being the case one would have to assume, among many other things, that on September 15, 1999 the B-41 site would suddenly cease to be an "A-1" contamination site.

Further, we would have to believe natural chemical production due to decomposition common to all "C&D landfills would cease. The dump would, therefore, produce no more leachate and the existing contamination plume would withdraw and remain within the landfill site. No further danger of fires would exist since no additional methane gas would be generated. The Monstrous Mountain of trash would hereafter serve as a sound barrier for the neighborhood protecting it from traffic noise pollution generated on I-85 and therefore property values would again increase.

After September 13, 1999, the "Little Dump" would utilize totally silent earth moving and waste hauling equipment. The "improper waste" now in this section of the landfill would be removed and properly disposed of off site. The hiring of additional inspectors by the State and County just for this dumpsite would assure the implementation of super stringent operational procedures. Strict inspection of the incoming waste stream by landfill personnel would be an absolute assurance to nearby residents that the operation will only enhance the environment and their quality of life. Surrounding property values would continue to increase as the height of LCID landfill rises to compliment the sound barrier effect of the adjacent "Big Dump." Fat chance!

In summary, there are no "totally safe" landfills regardless of their construction and the composition of the incoming waste stream. The relative safety of such operations is dependent on site location, proper supervision and regulation by appropriate governmental authorities, the diligence of the landfill operator plus the integrity of those using the landfill with regard to the hauling and disposal of illegal materials.

Mr. Griffin has told me that his company is a charter member of the National Association of Demolition Contractors. This organization has very succinct guidelines with regard to the suggested operating practices for their members. A copy of these guidelines is

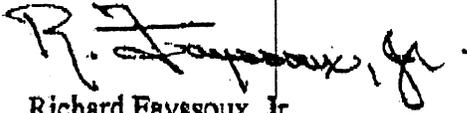
4

attached. Mr. Griffin appears to be very proud of his association with this organization. But unfortunately, to me at least, this pride did not translate into action.

The State and County records simply do not reflect a sincere desire on the part of Mr. Griffin to comply with NADC suggested guidelines. In fact I feel his actions have been quite to the contrary. Based on statements made to me by some NCDENR personnel and the public records I have reviewed, Mr. Griffin has appeared to take advantage of every possible loophole in the "vague permit" issued to him in 1980. In fact NCDENR personnel often cite the "vague permit" as the reason they were legally unable to prevent "questionable" operations at the landfill site. This being the case and apparent attitude of Griffin Management, just what leads your department to believe they would operate any differently with a renewal of the 41-N permit?

As I interpreted your remarks on August 11, your department does not currently have or expect to have the personnel to adequately inspect landfills in the foreseeable future. In addition, past operational history of a landfill should be a major factor when considering permit renewal. On this basis alone, I do not see how anyone can review the public records and even consider the D.H. Griffin organization a suitable candidate for continued operation of the 41-N (LCID) site at the Wiley Davis Landfill. Renewal of the permit should not even be an option.

Sincerely,



Richard Fayssoux, Jr.

Cc. Mr. Bill Holman
Mr. William Meyer
Ms. Diane Long
Ms. Phyllis Gibbs

What are the operating practices and design characteristics of a state-of-the-art landfill serving the demolition industry?

Based on the experience of the demolition industry, the NADC has identified an inventory of the operating practices and design characteristics that it considers to be representative of a demolition landfill that reflects current industry standards. For many situations, these attributes would exceed the minimum existing regulatory requirements. However, they are viewed by the NADC as representing an industry guideline for prudent, environmentally responsible operations.

Responsible, trained personnel	Appropriate supervision of facility operations; training requirements for all on-site employees
Routine Procedures and Protocols	Plan of Operations or Operations Manual; training in site safety/operational practices required of all staff
Defined Listing of Acceptable and Unacceptable Wastes	Wastes allowable for receipt well defined; personnel trained in identification
Inspection of All Incoming Waste Loads	Required disclosure of waste type and source; visual inspection of material when delivered also when placed on working face
Isolation and Analysis of Suspect Materials	Requirements for and routine practice of isolation of suspect materials; documented procedures for identification, isolation, testing, and disposal of unacceptable and suspect wastes
Siting	Suitable site surface and subsurface conditions; Compatible with adjacent land uses
Leachate Containment	Capacity to contain leachate either through native soil conditions, compaction of native soils, or other containment system
Groundwater Monitoring	Upgradient (background) and downgradient groundwater monitoring for appropriate parameters, tested at least annually
Record Keeping	Maintenance of records of waste receipts and waste placements
Financial Assurance	Long-term funding for post-closure cover maintenance
Closure Plan	Design for installation and maintenance of final cover

These standards and practices provide an assurance that demolition landfills are repositories of only those wastes appropriate for disposal at these sites and the corresponding assurance that unacceptable materials are diverted to proper management alternatives; long-term monitoring of the environment; and assurance of permanent facility care.

DUMP

Continued from page A1

same environmental watchdogs spotted smelly goo from the landfill trickling into a nearby stream.

For reasons no state or county environmental officials can explain, Griffin's landfill wasn't shut down, even though the landfill was permitted to accept only harmless materials like tree limbs and stumps. A big portion of the landfill routinely accepted banned construction materials, like roofing and metal. But Griffin never was fined for the violations.

Petroleum chemicals and arsenic showed up in water tests at the landfill 10 years ago. Since then, chemicals have routinely shown up in the dump's water tests. Many of those same chemicals recently started showing up in the drinking water of neighbors living near the Wiley Davis dump. Those neighbors now are trying to prove that the dump contaminated their water.

State environmental inspectors acted last year and ordered a large portion of Griffin's landfill shut down in September.

Griffin says that nothing harmful ever was dumped in his Wiley Davis Landfill, pointing out that he was never fined by state inspectors. He vows that his proposed construction and demolition land-

fill, if approved, will be run in strict adherence to the state's newer, stricter environmental laws. A high-tech recycling operation also is planned at the site.

Griffin, who owns D.H. Griffin Wrecking Co., decided to build a new dump near his boyhood home in Browns Summit after the state ordered his current site shut down. If approved by county officials, the new dump will be nine times bigger than the Wiley Davis site and could be operating by next year. The dump would be permitted to allow only construction and demolition debris, which is considered less hazardous than household waste.

The dump's opponents are vowing to jam the county planning board's meeting Sept. 8 in protest. If they fail, they say they will appeal the planning board's decision to the county Board of Commissioners.

In the meantime, they're hoofing the country neighborhood off U.S. 29 with pens and petitions, dodging tricycles and Big Wheels as they go.

The largest subdivision in the area, Rolling Woods, is located just north of the proposed dump. It's a station-wagon community tucked into the county's northeast corner, dotted with stray soccer balls and perfectly painted mailboxes.

Deer and wild turkey wander into backyards in early evening.

"We really thought this was par-

adise," said Hughes, a stay-home mom.

She learned of the proposed dump at Pop's Texaco, the store up the street, just days after moving to the neighborhood in June.

"Now we're a community on bended knee, facing Mr. Griffin and his lawyers and specialists," Hughes said.

But face them, they will, says Horace Faucette, who owns 50 acres beside the proposed dump site.

"We're worried about everything — flood plains, contamination, the underground water supply," Faucette said. "The state does not have enough inspectors to control or monitor any of this stuff."

State environmental managers agree that they're strapped for people.

"Our inspectors have a lot on their plate," said Philip Prete, a solid waste specialist at the N.C. Division of Waste Management. "It's a matter of trying to juggle resources and hit the highest priorities."

Ruby Lewis-Dodd, a mother of two small boys whose family moved to the neighborhood two years ago, is afraid a construction dump tucked a mile off a main road in the corner of the county won't be high on that priority list.

She's determined to fight.

"We're not going to lie down and take this," Lewis-Dodd said.

ARENA

Continued from page

football right now. V ball deal is done, he the ThunderCats, i team that lasted one Florida.

"I have no reason won't have accept Donaldson said. "It's of going through the

Donaldson and hi which includes Gre minority owner John to own all three of principal tenants.

"We're trying to sional sports in vari Greensboro," Donal having professional f are affordable, we ab sity have to have the chises because we personnel and cross-cutting down on c which we can pass fans."

For the coliseum, dates are essential. team will play eight games from April o the end of August, most hockey and bas in the country lack n The soccer team, wh 22 home contests, ment the Greensboro ECHL club.

"Traditionally, sp mer dates in second- markets are a very s. Mary Ellen Garling, sioner. "This (af2)



PHONE

Continued from page

star 69 to trace the call.

SBC Communica western Bell, the ma local phone service i sas, Missouri, Okla Kansas, boasts an Caller ID rate: Mor their customers hav with 70 percent sub: redo, Texas.

Phone companies : to demand by devel: tures.

The latest exampl

NEWS & RECORD

TUESDAY, August 24, 1999

Greensboro, North Carolina

50 CENTS

C

www.greensboro.com

Residents mount campaign against dump

● A battle is brewing in northeast Guilford County over a proposed landfill.

BY PARKER LEE NASH
Staff Writer

Several hundred folks in northeast Guilford County hear the rumbling of garbage trucks in the distance, and they're begging county officials to send the trucks away.

Residents in and around bucolic Browns Summit, on Greensboro's fringe, are rallying to stop a 185-

acre dump that a Greensboro man wants to build.

Like most not-in-my-backyard opponents to proposed dumps, folks living in this area where wild turkeys wander fear a landfill will bring truck traffic and falling property values. But they fear something more — illegal dumping and contaminated water.

"I wish we had X-ray vision and could look into the ground and know that our water isn't getting contaminated, but we don't," said Becky Hughes, whose family moved to the neighborhood in June. "We're defenseless."

The man representing the dump's backers, Greensboro land-use attorney Charlie Melvin, says he understands the neighbors' concerns. Melvin and D.H. Griffin, the man who wants to build the dump, plan to address the neighbors' worries Sept. 8, when the matter comes before the county planning board.

"We will have to give a full explanation of our plans," Melvin said. "We're hoping that these folks will come to listen with an open mind."

The dump's permit also can be written to address the neighbors' specific concerns, like where de-

bris will come from, he said. But, Melvin added, the proposed site already is zoned for heavy industrial uses, like a dump, so the neighbors' case is limited.

Bill Mericka, managing partner of a 1,600-acre farm beside the proposed dump, doesn't see it that way. A new dump could blow an 1,100-acre land sale for Mericka. He's trying to sell the land for a subdivision.

"I told D.H. when he came by to talk about it that my mind isn't closed completely to this, but he's got one hell of a hill to climb," said Bill Mericka. "The whole tract of

land they want to turn into a dump drains into my 170-acre lake. That's the lake where my cows drink."

Water, and Griffin's record while operating his current dump, are key concerns of residents embroiled in the dump dispute.

Griffin has been cited at least 30 times for illegal dumping and drainage at his current landfill on Wiley Davis Road, near Sedgefield. Fifteen years ago, inspectors found illegal drums of hazardous solvents and resins dumped in Griffin's Wiley Davis Landfill. Repeatedly, the

Please see **DUMP**, Page A4



TIM RICKARD/News & Record

Consumers are hooked on phones' new tricks

● Technology can tell you lots

The "calm" following the storm





EcoLogic Associates, P.C.
2007 Yanceyville Street, Ste. 223
Greensboro, NC 27405-5004
336-271-3093 • Fax 336-271-3094
ecologic@compuserve.com
www.ecologic-nc.com

August 23, 1999

Mr. Timothy A. Jewett
NC Dept. of Env. and Natural Resources
Solid Waste Section
585 Waughtown Street
Winston-Salem, North Carolina 27107

**RE: Termination of Waste Receipt
Wiley Davis Demolition Landfill (Permit #41-B)
Greensboro, North Carolina**

Dear Tim:

On behalf of Wiley Davis Landfill, Inc., I am notifying you that the owner/operator plans for Tuesday, August 24, 1999 to be the last day that commercial and D.H. Griffin Wrecking Co. wastes (wastes generated off site) will be received at the 41-B disposal site. Some additional transfer of wastes from the adjacent LCID landfill (Permit #41-N) may continue to provide the required horizontal separation and improve final slopes on top of the mound. Work is proceeding with due haste to achieve the deadline for closure of September 15, 1999.

We welcome you and other representatives of DENR to visit the site in the interim to assess the progress, and we will be happy to meet with you on site. If there are any questions regarding this letter, please contact the undersigned at (336) 271-3093.

Sincerely,

A handwritten signature in black ink that reads "Mark A. Taylor". The signature is written in a cursive style with a long horizontal flourish extending to the right.

Mark A. Taylor, PE
Project Manager

C: D.H. Griffin

4010 Sedgewood Lane
Greensboro, NC 27407-7932
August 16, 1999

RECEIVED
N.C. Dept. of EHNR
AUG 20 1999
Winston-Salem
Regional Office

Mr. Bill Holman, Secretary
N. C. Department of Environment
and Natural Resources
1601 Mail Service Center
Raleigh, NC 27699-1601

Dear Mr. Holman:

On August 9 I mailed you 131 letters signed by the residents of Southwest Guilford County living near the Wiley Davis Landfill, Inc., Greensboro, N. C. This letter requested your help in assuring that the "Big" landfill is closed on time and that the permit for the "Little" landfill is not renewed.

Since last week a number of the residents of this area have contacted me saying that they were on vacation and wanted to sign a letter to be included with the ones I previously sent to you.

I am enclosing 37 letters that have been signed this week to be included with the ones that I sent to you last week.

The residents and I thank you very much for your help.

Sincerely,

Nancy B. Lenker
(Mrs.) Nancy B. Lenker

Copy to: Diane Long

Post-It® Fax Note	7671	Date	8/20/99	# of pages	1
To	Julian Foscoe	From	Paul Pote		
Co./Dept.		Co.			
Phone #		Phone #			
Fax #		Fax #			

108 letters
on my desk.
Share this with
Mr. Griffin, please.
- Paul

Hugh:
FYI FILE!
JF

D. H. Griffin Wrecking Co., Inc.
Post Office Box 7657
4700 Hilltop Road (27407)
Greensboro, North Carolina 27417-0657
Ph. (336) 855-7030
Fax (336) 855-9322

RECEIVED
N.C. Dept. of EHNF
AUG - 4 1999
Winston-Salem
Regional Office

Date: 8/4/99
To: Julian Foscoe ~~Edwards~~
Company: E Hugh Jernigan
Fax No: _____
From: D. H. Griffin, Sr
Subject: _____

There are _____ pages including cover page.

Message: Got a copy of this letter
thought you'd be interested
in seeing what is going
on!

If you have any problems receiving this fax, please contact us at (336) 855-7030. Our fax numbers are: DHG (336) 855-9322, DARI (336) 855-9309, Operations (336) 632-3047 Trucking Divisions (336) 855-1680, Scales Room (336) 218-5296 & Asb. Whse. (336) 632-3046.

Mr. Wayne McDevitt
North Carolina DENR
512 North Salisbury Street
Raleigh, NC 27604-1148

Dear Mr. McDevitt:

As a resident of Southwest Guilford County living near the Wiley Davis Landfill, Inc. I am concerned about the impact this facility is having on the surrounding environment, my health and the value of my property. Mr. D.H. Griffin, owner/operator of the landfill was requested to close the facility in 1990 by Guilford County and the State of North Carolina "since it had outlived its usefulness". Yet, nearly a decade later, the landfill is still operating even though the Groundwater Division of the NCDENR declared the Landfill a Class "A" Contamination Site in 1991.

Mr. Griffin has been cited over 30 times for environmental/operational violations since his landfill permit No. 41-B was issued on May 28, 1980. Since May 28, 1980 over 60 chemical contaminants have been identified in the environs of this landfill. The chemical concentrations have been reported over a range from "trace" amounts to amounts far exceeding North Carolina drinking water standards. Since mid April of this year 36 residential wells in the neighborhoods near the landfill have been tested and 26 have shown contamination with metals /organic compounds previously detected in the landfill. Though most of the chemical compounds in the residential wells have been reported to be in the "trace" or "safe zone", this determination was made on the basis of a single contaminate. Many of the residential wells have multiple contaminates. Synergistic or additive effects caused by simultaneous exposure to more than one chemical compound have not been investigated since there are presently no "standards" covering this potential health threat. Thus, this health issue remains unresolved.

The Wiley Davis Landfill, Inc. site is actually comprised of two landfills. The "Big" landfill (permit No.41-B) and the "Little" landfill (permit No.41-N). The "Big" landfill is scheduled to close September 15, 1999, but at a recent public hearing the engineer in charge of the closure said they may not be able to meet this closure date. Mr. Griffin has already been granted extension after extension of the closure dates and there should be no further delays granted.

Permit 41-N for the "Little" landfill will expire September 13, 1999. Based on the operating history of Mr. Griffin's two landfills as reported in public documents there has been an apparent lack of concern on the part of public officials to effectively regulate these operations. Guilford County and State officials have time and again ignored the seriousness of violations that were potential threats to the public health. They have "looked the other way" when unapproved/illegal materials showed up in the landfill waste stream. The public records demonstrate actions on the part of the State and County officials that kept this landfill operating with no apparent concern for the nearby neighborhoods or the overall environment.

The Neighborhood is fearful of this landfill, the contamination it has caused in our wells, the noise, foul odors and toxic fumes from fires. There have been three sizeable fires since January 30 of 1998, the last on July 26, 1999, reportedly caused by "improper" incoming waste. Therefore, it is requested you take whatever action is necessary to accomplish the following:

- A. An on-time closure of the "Big" landfill (No.41-B). The severest of penalties should be imposed for any deviations from the September 15, 1999 closure date.
- B. Order closure of the "Little" landfill (Permit No.41-N) September 13, 1999. Under no circumstances should the 41-N permit be renewed since public documents demonstrate Mr. Griffin has either been unable or unwilling to abide by State or County regulations in the past.

Sincerely,
(Signature)

Name(Please Print) _____ Date _____
* _____
Address _____
City _____ State _____ Zip _____

TO: NEIGHBORS LIVING NEAR THE WILEY DAVIS LANDFILL
IMPORTANT * PLEASE READ! *** IMPORTANT**

The Permit for the "Little" dump of the Wiley Davis Landfill expires on September 13, 1999. To prevent the permit from being renewed for another five (5) years we need to put additional pressure on the "powers-that-be" in the DENR office in Raleigh. We have been advised that a letter writing campaign is an effective way to accomplish this goal of "NO RENEWAL of PERMIT No. 41-N".

The attached letter has been written to expedite this purpose. It is written so that you may sign it, then print your name and address and return it to us for mailing. If you wish, you may write your own letter using this one as an example. In either case please return the signed letter to Nancy Lenker or Dick Fayssoux for mailing. This is important since the mail system to State Government offices has been changed and the use of a special delivery code is required.

PLEASE RETURN YOUR LETTER BY SATURDAY, AUGUST 7, 1999.

Now for an update on the LANDFILL PROJECT:

The "BIG DUMP" is scheduled for closure by September 15, 1999. We are keeping pressure on the State to see that there are no more extensions granted.

Thirty-six (36) residential wells have been analyzed in our neighborhood. Twenty-six (26) wells have shown some degree of contamination. The County Health Department has said the water in these wells is "safe to drink" because only "trace amounts of organic chemicals and/or metals are present". Since some of the wells tested had five or more contaminants identified we have sent test data off to two outside toxicologist for opinions. This is because the County Health Department did not take "simultaneous exposure" to multiple chemical compounds into account. Additive or synergistic effects in such cases can make a BIG difference in the toxic effects on the human body. In the twenty-six (26)-contaminated wells, eighteen (18) chemicals were identified. Five of these chemicals are known or suspected carcinogens.

If your well has been tested and you have not received the results call Eric Ireland (574-3540). Also, call Mr. Ireland to have your well tested if you were missed on the first go-around. The County Health Department made the offer to do this "for free" for those living in the neighborhood of the landfill. By having the test done we can get a better picture as to how far the contaminants have traveled from the Wiley Davis road area. This is important data for those outside sources we are having evaluate our situation.

Regarding the effect on or the devaluation of real estate because of living near the Wiley Davis Landfill, this is definitely no pipe dream but a reality! One house on Sedgewood Lane that was up for sale by a very reputable real estate firm was taken off the market when it became known the well was within the County Groundwater Contamination Zone #36. Just another reason to keep behind our mutual problem until justice prevails! It took years for the "Trinity Foam" project to be "won" and the individuals involved say the fight was well worth the effort.

Please do not forget the August 7 deadline for returning the letter. It really is important that we have 75 or 100 (or more) of these letters to mail at one time to The Department of Environment and Natural Resources in Raleigh. The numbers really make a big impression on the "powers-that-be" when it comes to getting results in efforts such as ours!

Thanks for your help.

Nancy Lenker
4010 Sedgewood Lane
292-7198

Dick Fayssoux
4005 Sedgewood Lane
299-4885



NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES
WINSTON-SALEM REGIONAL OFFICE

August 2, 1999



JAMES B. HUNT JR.
GOVERNOR

WAYNE McDEVITT
SECRETARY

Mr. D.H. Griffin
D.H. Griffin Wrecking Company, Inc.
Post Office Box 4657
Greensboro, North Carolina 27407

Ref: C&D Treatment and Processing Permit Requirements and closure activities at
the Wiley Davis Landfill (Permit #41-B).

Mr. Griffin:

This letter is in reference to our meeting on 27 July 1999 at the Wiley Davis Landfill and our discussion of the current closure activities. During the site visit, many questions were brought up concerning the final placement of cover soil and cap requirements for closure. Specifically, it was asked if areas with established vegetation could be left "as-is" and undisturbed. The established slopes I viewed looked adequate with the exception of a slumped or cut area on the southeast slope near Monitoring Well No. 3. However, I did not walk the entire site and your consulting engineer, Mark Taylor, has accepted the responsibility of certifying that the landfill closure has or will be done according to the approved plan. For this reason, and due to the fact that I received the most recent plan revisions during the site visit, I must stress that all slopes conform to the plan including vegetated portions of the landfill and construction must meet the certification requirements of your engineer. The toe of slopes must also conform to the plan requirements and must not be shortened on the north side adjacent to the LCID unit to accommodate the access road. Additionally, the slopes should not be shortened to reduce the amount of LCID material needed for re-establishing the 100 foot buffer between the two units. The access road and removal of LCID material in the buffer area need to be completed in conjunction with closure of the demolition unit.

Also, it was noted during the visit that a "natural" slope in the drainage way and along path of the proposed access road on the northeast corner of the landfill actually consisted of broken concrete slabs. Due to the presence of the concrete, I do not view this small area to be a natural slope. Therefore, the 3:1 slope requirement will apply.

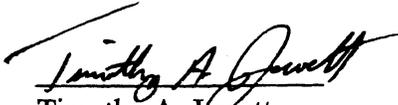
As you requested during the site visit, I am enclosing a copy of the guidance for preparing a C&D Treatment and Processing (T&P) Permit Application. I must note, however, that Permit # 41-N is an LCID facility permit and the type of material allowed is strictly limited to inert debris, land clearing waste, unpainted or untreated wood, and yard trash. No C&D material should be accepted at this site until all of the

Mr. D.H. Griffin
August 2, 1999
Page 2

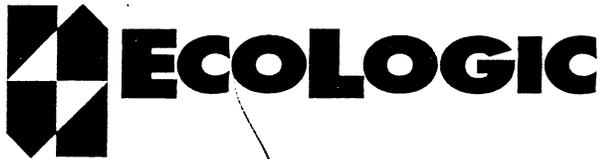
requirements for a T&P facility have been met and a permit issued. Based on experience with these facilities over the last five years, the Section has serious concerns about the economic viability and the potential environmental impact that these facilities may cause. Therefore, the Section is currently reviewing the effectiveness of its permitting process with regard to T&P facilities.

If you have any questions or comments concerning this letter, please feel free to call me at (336) 771-4608 ext. 204.

Sincerely,


Timothy A. Jewett
Western Area Engineer
Solid Waste Section

cc: Jim Coffey, SWS
Phil Prete, SWS
Julian Foscue, SWS
Hugh Jernigan, SWS
Mark Taylor, EcoLogic, Inc.
Raleigh Central Files - Guilford County Permit #41-B



EcoLOGIC ASSOCIATES, P.C.
2007 Yanceyville Street, Ste. 223
Greensboro, NC 27405-5004
336-271-3093 • Fax 336-271-3094
ecologic@compuserve.com
www.ecologic-nc.com

July 26, 1999

04 555 9309
RECEIVED
N.C. Dept. of EHNR
JUL 28 1999
Winston-Salem
Regional Office

Mr. Larry Rose
NC Dept. of Env. and Natural Resources
Solid Waste Section
P.O. Box 27687
Raleigh, North Carolina 27611-7687

**RE: Environmental Assessment Monitoring Plan - Wiley Davis Landfill
(Permit #41-B) Greensboro, North Carolina**

Dear Larry:

This letter documents our conversation today regarding our planned submittal of a revised Groundwater Assessment Plan and Water Quality Monitoring Plan for the referenced project. Your comment letter to Mr. D.H. Griffin dated July 7, 1999 requests a response by July 31.

Due to heavy workloads, summer vacations and the change of focus for the assessment from the southeast to the west side of the site, we request a 30-day extension to that submittal timeframe. This will give us time to review all pertinent information, consult with our full team and prepare a thoughtful plan without rushing. You indicated today that this would be an acceptable delay. Your understanding and consideration are greatly appreciated.

Please call if you have any questions, or if this is not consistent with your understanding of our agreement and/or the project status.

Respectfully,

Mark A. Taylor, PE
Project Manager

C: D.H. Griffin
Gary Babb, PG – Babb and Associates. P.A.
Julian Foscue – NCDENR/DWM/SWS Western Area Supervisor

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES

DIVISION OF WASTE MANAGEMENT

RECEIVED
N.C. Dept. of EHNR

July 7, 1999

JUL 12 1999

Winston-Salem
Regional Office

Mr. D.H. Griffin
D.H. Griffin Wrecking Company, Inc.
P.O. Box 4657
Greensboro, N.C. 27407

RE: Wiley Davis Road Landfill (Permit # 41-B) Environmental Assessment Plan

Dear Mr. Griffin:

Since the initial submittal and review of the Environmental Assessment Monitoring Plan for the Wiley Davis Road Landfill, additional information has been made available that warrants a reassessment of the primary focus of the site investigation. We have new data from the landfill monitoring wells and private wells adjacent to the landfill from recent sampling events, information about possible contaminant sources has been provided, and we have a better understanding of the Department of Transportation's (DOT) plans in the area. Several meetings have occurred between your consultants (Mark Taylor of Ecologic Associates and Gary Babb of Babb & Associates) and the Division and we as a group have met with DOT personnel about their plans for the proposed road construction around the site.

The initial response from the review of the assessment monitoring plan focused on possible off-site contaminant migration in the direction of the DOT property along Wiley Davis Road. Topographic features suggested groundwater flow to the southeast was possible. However, after discussions with DOT personnel it does not seem feasible to pursue a groundwater investigation in this area at this time. Monitoring well integrity cannot be guaranteed while road construction is ongoing and it is not reasonable to install monitoring wells only to have them damaged or destroyed before an investigation is completed. Consequently any possible investigation of groundwater contamination on DOT property may be delayed until the road construction is finished. After such time, the situation will be reviewed to determine if additional investigations in the area are necessary.

Monitoring well samples analyzed by the State Laboratory of Public Health indicate contaminants in all downgradient well samples, including WD-6, the well across the stream at the base of the landfill. In general this data shows more compounds than previous monitoring data because of the use of lower detection limits and a slightly different analyte list. Benzene and chlorobenzene were detected in several wells at concentrations exceeding their respective groundwater standards.

In addition, copies of private well data obtained from the Guilford County Health Department show the presence of a number of volatile organic compounds at trace concentrations from several wells on property west of the landfill. The source of the reported compounds has not been determined at this time. Prior to receiving this data, water quality from the surrounding private wells was unknown.

As a result of this additional information, the current focus of the water quality assessment plan should be shifted from the DOT property to the area on the west-southwest side of the landfill. This is necessary because samples from monitoring wells in the area (WD-3 and WD-4) had measurable concentrations of contaminants at the last sampling event and private drinking water wells with questionable sample data are located on nearby property. Information provided should give a better level of confidence of the extent of any contaminants and their movement in this

direction of concern.

Since both monitoring wells WD-3 and WD-4 are shallow and monitor only the upper portion of the aquifer, the vertical extent of groundwater contamination detected in the area is not known. Part of the disposal area was once a mine and there are questions about the depth of waste as related to groundwater elevation. This causes some concern about contaminants in deeper fractured bedrock. The issue could be addressed by installing one or more deep monitoring wells such as the one recommended in the Environmental Assessment Monitoring Plan. This could provide data on the vertical extent of any contaminants in addition to vertical flow direction of groundwater. The problem with the location of monitoring well WD-4 still must be resolved however, either by an easement or legal agreement or the acquisition of property allowing continued usage of the well.

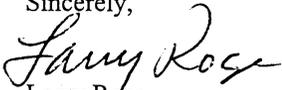
As outlined in the review letter of April 6, 1999, wells WD-2S and WD-2D (to be eliminated by road construction) will need to be replaced. Both of the existing wells have contaminants exceeding groundwater standards and the monitoring data from well WD-6 indicates contaminants have moved off-site. The replacement wells should be installed as close to the original monitored location as road construction plans will allow.

The Landfill Gas Monitoring Plan also should be revised to include monitoring on the western side of the landfill unless there is a change in the property boundary.

Please provide the Solid Waste Section with a response to the above comments and concern by July 31. The response may be incorporated in a revised version of the Environmental Assessment Monitoring Plan.

Thank you for your cooperation. If you have any questions please call me at (919) 733-0693.

Sincerely,



Larry Rose
Environmental Specialist
Solid Waste Section

cc: Phil Prete - Head, Field Operations Branch
Julian Foscue - Western Area Supervisor
Hugh Jernigan - Waste Management Specialist
Mark Taylor, P.E. - Ecologic Associates, P.C.
Gary Babb, P.G. - Babb and Associates, P.A.

DEPARTMENT OF HUMAN RESOURCES
DIVISION OF HEALTH SERVICES
ENVIRONMENTAL HEALTH SECTION



#14
REPORT OF INVESTIGATION OR INSPECTION OF D.H. Griffin Demolition Site

Place visited D.H. Griffin Property Date March 13 1984

Address Wiley Davis Rd., Greensboro, N.C. 27407 Time spent 1.5 hours

By whom Steve Phibbs, Division of Health Services; Tony Hancock, Guilford Co. Health Dept.

Persons contacted D.H. Griffin, owner; Art Crider, W.H. Weaver Construction Co.
(Owner, agent, tenant, manager, other)

Reason for visit Complaint Investigation - Disposal of Liquids in 55 gallon drums

Copies to: O.W. Strickland, Head, Solid and Hazardous Waste Management Branch
D.H. Griffin, 4700 Hilltop Rd., Greensboro
Tom Owens, Guilford County Health Dept., Greensboro, N.C.
Joseph Bryant, Dept. of Emergency Services, P.O. Box 18807, Greensboro, N.C.
Marilyn Braun, Office of Emergency Management, Greensboro, N.C.
Art Crider, W.H. Weaver Construction Company, 324 W. Wendover Ave.,
Park Center Bldg., Greensboro, N.C.
Dabney Smith, N.C.N.B., 101 W. Friendly Ave., Greensboro, N.C.
Glenn Dunn, Attorney, Solid and Hazardous Waste Management Branch

REPORT:

On March 13, 1984, our office responded to a complaint investigation at the D.H. Griffin Demolition Landfill on Wiley Davis Road, Greensboro, N.C. Approximately 80 55-gallon drums were placed in the demolition site by employees of the W.H. Weaver Construction Company. Mr. Art Crider with Weaver Construction Company stated that the containers came from the old Dunning Industries facility on West Market Street in Greensboro, N.C. Dunning, which was listed with our office as a small generator, has gone out of business and filed for bankruptcy through North Carolina National Bank in Greensboro, N.C. Reported, there are also 5 55-gallon drums labeled hazardous wastes remaining at the Dunning plant.

Samples were collected from open containers at Mr. Griffin's demolition site. The samples were taken by state courier to the North Carolina Division of Health Services Laboratory in Raleigh, N.C. for analysis. Dunning manufactured wooden lamps which required lacquer coating of the lamp base. The suspected material in the drums that were sampled appeared to be water, lacquer, glues and resins.

Mr. Griffin and Mr. Crider assured us that their companies would cooperate with our office in the proper disposal of these materials. The initial operation will be moving all drums to one side of the property and separating the empty containers from those containing liquids.

I contacted Mr. Steve Pachurski, now at New Age Furniture Company in Lexington, N.C., formerly employed at Dunning Industries, who stated that Dunning had filed for bankruptcy and was now controlled by N.C.N.B. in Greensboro. I contacted Mr. Dabney Smith

Report of Investigation or Inspection of D.H. Griffin Demolition Site
March 15, 1984
Page Two

with N.C.N.B. concerning this matter and explained to him about the proper disposal of these materials. He stated his company would cooperate as fully as possible in this matter.

On March 15, 1984, I met with Robert Fields, D.H. Griffin Company, as the drums were separated, with the empty containers transported to the Greensboro Landfill for disposal. No liquids or sludges were removed from the site.

There were 55 containers remaining on site as of March 15, 1984. Follow-up inspections will be conducted at the earliest possible time. Disposal of the materials will be determined as soon as the laboratory analysis has been returned.

SP:kd



Ronald H. Levine, M.D., M.P.H.
STATE HEALTH DIRECTOR

DIVISION OF HEALTH SERVICES
NORTH CENTRAL REGIONAL OFFICE
310 East Third Street, Suite 200
Winston-Salem, N.C. 27101
(919) 761-2390

July 24, 1984

Mr. William Paige, Chemist
Solid & Hazardous Waste Management Branch
P.O. Box 2091
Raleigh, N.C. 27602

William:

On Friday, July 20, 1984, I inspected the D.H. Griffin Demolition Landfill on Wiley Davis Road in Guilford County. This site was the location of the illegal disposing of solid and hazardous wastes from the old Dunning Industrial facility in Greensboro, N.C.

The following materials were removed from the site:

1. 1,493 gallons of D001 solvent - went to Oldover Corporation for disposal.
2. Two (2) bulk liquid tanks (one of rinse water and one containing 1,1,1 trichloroethane and acetate) and one (1) container consisting of 100 lbs. of cement - shipped to 1st Piedmont in Virginia for disposal.
3. Eighteen (18) containers of non-hazardous solids and forty-six (46) empty drums were transported to 1st Piedmont for disposal.
4. Five (5) 55 gallon containers of flammable wastes (D001) that were left at the Dunning facility - shipped to the Stablex Corporation in Rock Hill, S.C. for treatment and disposal.

All containers have been removed with no visible signs of contamination observed; clean-up appears to be complete. Contact me if you require additional information.

Signed,

Steve Phibbs, R.S.
Waste Management Specialist

SP:kd

cc: Julian Foscue, Supervisor, Solid & Hazardous Waste Branch, Raleigh, N.C.
Mike Kelly, Ecoflo, Inc., Greensboro, N.C.
Jim Trogdon, Weaver Construction Company, 324 W. Wendover Ave., Greensboro, N.C.
D.H. Griffin, 4700 Hilltop Road, Greensboro, N.C.
Tom Owens, Guilford County Health Department, Greensboro, N.C.

Griffin file

#5



North Carolina Department of Human Resources

North Central Regional Office • 310 East Third Street • Winston-Salem, N. C. 27101

James G. Martin, Governor

April 16, 1987

Phillip J. Kirk, Jr., Secretary

Mr. Thomas F. Owens, Director Environmental Health
Guilford County Health Department
P.O. Box 3508
Greensboro, North Carolina 27410-3508

RE: D.H. Griffin Demolition Landfill

Dear Mr. Owens:

On February 09, 1987, Andrew Hutchinson of Guilford County Health Department and myself investigated a complaint about leachate from D.H. Griffin Demolition Landfill being discharged into a nearby creek. The results of that investigation confirmed the complaint. D.H. Griffin's supervisory personnel was instructed to take immediate and corrective measures to prevent leachate from leaving the landfill site.

On February 16, 1987, Andrew Hutchinson reported that leachate was not evident in the nearby stream.

On March 5, 1987, I visited D.H. Griffin Demolition Landfill to suggest further corrective measures to prevent any further leachate problems.

On March 10, 1987, the following people met at D.H. Griffin Demolition Landfill to discuss corrective measures for a leachate problem: Dalton Flowers, D.H. Griffin, Inc.; Art Hagstorm, N.R.C.D.; Andrew Hutchinson, Guilford County Health Department; Terry Waddell, Division of Health Services.

Mr. Flowers agreed to perform the following actions to correct the leachate problem as soon as possible.

- 1) Divert all surface water from fill areas.
- 2) Rework the surface over fill areas to prevent impoundment of water.
- 3) Remove leachate to a non-fill impoundment.
- 4) Fill leachate collection areas at toe of working face slope with virgin soil.
- 5) Restrict working face to smallest area feasible.

Mr. Thomas F. Owens
April 16, 1987
Page Two

On March 27, 1987, I investigated a complaint of a strong odor coming from the creek near D.H. Griffin Demolition Landfill. That investigation revealed large amounts of leachate from D.H. Griffin Landfill was entering the nearby creek. There was a strong odor coming from the leachate.

Mr. Griffin reported a discovery of a small branch had cut beneath the landfill and was a major contributor to the leachate production.

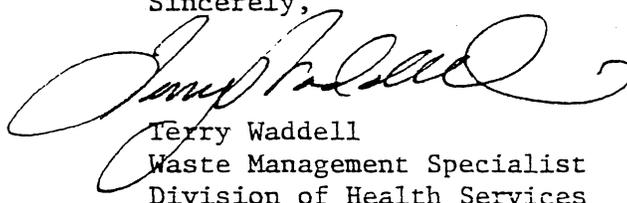
Mr. Griffin admitted very few of the March 10, 1987 suggestions were performed for reasons of weather and procrastination. He assured me that those suggestions were being performed and would continue until the problem was corrected. In addition to the March 10, 1987 suggestions, the following actions were also performed:

- 1) Re-channeling of the branch so that it will not cut beneath the landfill.
- 2) Installation of erosion controls to prevent off-site siltation.

Subsequent visits on March 28 and March 30, 1987 revealed corrective actions were completed and successful. Leachate was not evident.

On April 13, 1987, Paul Marlow and myself inspected D.H. Griffin Demolition Landfill. The inspection revealed no leachate entering the nearby stream.

Sincerely,



Terry Waddell
Waste Management Specialist
Division of Health Services

TW:kd

cc: D.H. Griffin
Julian Foscue

#2
D. H. GRIFFIN WRECKING CO., Inc.

"If It's Wrecking — Call Us"

4700 HILL TOP ROAD

PHONE: 855-7030

P. O. BOX 7657
GREENSBORO, N. C. 27407

March 27, 1980

Mr. Gordon Layton
North Carolina Division Of Health Service
Solid and Hazardous Waste Management Branch
Raleigh, N. C.



Dear Sir:

I wish to transfer the permit from the name of Mr. Emory to
D. H. Griffin for Wiley Davis Road property.

I intend to control errosion on the site with brush barriers
or sediment basins.

Sincerely,

A handwritten signature in cursive script that reads "D. H. Griffin".

D. H. Griffin

#1

(Street & Number) (City) (State) (Zip)

ADDRESS OF GRANTEE P. O. Box 7656, Greensboro, N. C. 27407

This Deed, Made this 25th day of January, 1980, by and between John T. Nunn and wife, Ethel C. Nunn

of Guilford County and State of North Carolina hereinafter called Grantor, and David H. Griffin, Sr., and wife, Marylene Fields Griffin

of Guilford County and State of North Carolina, hereinafter called Grantee. WITNESSETH: That the Grantor, for and in consideration of the sum of Ten Dollars and other good and valuable considerations to him in hand paid by the Grantee, the receipt whereof is hereby acknowledged, has given, granted, bargained, sold and conveyed, and by these presents does give, grant, bargain, sell, convey and confirm unto the Grantee, his heirs and/or successors and assigns, premises in Sumner Township, Guilford County, North Carolina, described as follows:

BEGINNING at an iron pipe in the center of the dirt road leading from Greensboro to the Groometown Road; corner with Russell F Hall; and running thence with the center line of said road North 41 deg. 13 min. East 1462.55 feet to an iron pipe in the center of the said road; corner with W. N. East; thence with the old W. N. East line North 82 deg. 3 min. West 1167.2 feet to an iron pipe, corner with Russell F. Hall; thence with the line of said Russell F. Hall the following courses and distances; South 7 deg. 38 min. West 765.0 feet; South 43 deg. 45 min. East 144.2 feet South 26 deg. 1 min. East 443.9 feet to the point of BEGINNING containing 19 acres more or less.

95346

STATE OF NORTH CAROLINA Real Estate Excise Tax 55.00 FEB 14 '80 PB. 10671

555 1485149 000033.00 555 1485149 000031.00 555 1485149 000035.00

The above land was conveyed to Grantor by William N. East et ux See Book No. 1305, Page 94 TO HAVE AND TO HOLD The above described premises, with all the appurtenances thereunto belonging, or in any wise appertaining, unto the Grantee, his heirs and/or successors and assigns forever. And the Grantor covenants that he is seized of said premises in fee, and has the right to convey the same in fee simple; that said premises are free from encumbrances (with the exceptions above stated, if any); and that he will warrant and defend the said title to the same against the lawful claims of all persons whomsoever. When reference is made to the Grantor or Grantee, the singular shall include the plural and the masculine shall include the feminine or the neuter.

IN WITNESS WHEREOF, The Grantor has hereunto set his hand and seal, the day and year first above written. Ethel C. Nunn (SEAL) John T. Nunn (SEAL)

STATE OF NORTH CAROLINA—GUILFORD COUNTY

I, Coy W Hennis a notary public of said county do hereby certify that John T. Nunn and wife, Ethel C. Nunn Grantor(s), personally appeared before me this day and acknowledged the execution of the foregoing deed. Witness my hand and notarial seal-stamp. This 28th day of FEBRUARY, 1980 My Commission Expires: Notary Public Signature Coy W Hennis



STATE OF NORTH CAROLINA—GUILFORD COUNTY

I, a notary public of said county do hereby certify that Grantor(s), personally appeared before me this day and acknowledged the execution of the foregoing deed. Witness my hand and notarial seal-stamp. This day of 19 My Commission Expires: Notary Public Signature

STATE OF NORTH CAROLINA—GUILFORD COUNTY

The foregoing certificate(s) of Coy W Hennis is (are) certified to be correct. This the day of



GUILFORD COUNTY
DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH

November 21, 1988

D. H. Griffin Wrecking Co., Inc.
4700 Hilltop Road
Greensboro, NC 27417-0657

RE: Disposal of Tobacco Dust

Dear Mr. Griffin:

Based on the information in your letter of November 21, 1988, and the verbal approval from Terry Waddell, North Carolina Waste Management Specialist, you will be allowed to dispose of uncontaminated tobacco dust from the R. J. Reynolds Tobacco Company in your permitted Demolition Landfill located on Wiley Davis Road, Greensboro, NC

Although Guilford County does not feel there are any hazardous substances contained within the materials, the County will not assume any responsibility for any situations resulting from the disposal of said materials.

Sincerely,

Terry B. Cole
Solid Waste

/hn

301 North Eugene Street
P.O. Box 3508
Greensboro, N. C. 27401
Phone: (919) 373-3771



GUILFORD COUNTY, NORTH CAROLINA

P.O. BOX 3427 • GREENSBORO, NORTH CAROLINA 27402

January 22, 1980

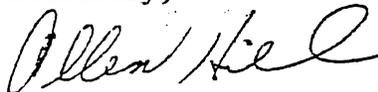
Mr. D. H. Griffin
Post Office Box 7657
Greensboro, North Carolina 27407

Dear Mr. Griffin:

Per our phone conversation concerning the dumping of old roofing, stumps, and concrete in the old pit on Wiley Davis Road, I have checked with the Soil Erosion Department and zoning, and in my opinion there will not be any problems with this being done.

If I can be of further assistance, please let me know.

Sincerely,



Allen Hill, Assistant Director
Guilford County Inspections Department

AH:jc

#3

PERMIT NO. 41-B

DATE ISSUED 5/28/80

STATE OF NORTH CAROLINA
DEPARTMENT OF HUMAN RESOURCES
Division of Health Services
P.O. Box 2091 Raleigh 27602

SOLID WASTE MANAGEMENT
PERMIT

David H. Griffin is hereby issued a permit to
operate a Demolition-Landscape Landfill in Guilford County
located State Road 1383, in accordance
with Article 13B of the General Statutes of North Carolina and all rules promul-
gated thereunder. The facility is located on the below described property.

BEGINNING at an iron pipe in the center of the dirt road leading from Greensboro to the Groometown Road; corner with Russell F. Hall; and running thence with the center line of said road North 41 degrees 13 minutes East 1462.55 feet to an iron pipe in the center of the said road; corner with W. N. East; thence with the old W. N. East line North 82 degrees 3 minutes West 1167.2 feet to an iron pipe, corner with Russell F. Hall; thence with the line of said Russell F. Hall the following courses and distances; South 7 degrees 38 minutes West 765.0 feet; South 43 degrees 45 minutes East 144.2 feet South 26 degrees 1 minute East 443.9 feet to the point of BEGINNING containing 19 acres more or less.

Hugh H. Tilson
Hugh H. Tilson, M.D.
Director
Division of Health Services

O. W. Strickland
O. W. Strickland, Head
Solid & Hazardous Waste Management
Branch
Environmental Health Section

D. Ford

SW & V.C.

Wonder how
this was defined
in 1980?

Hugh -
This is the entire
file from Raleigh

Permits

May 28, 1980

Mr. D. H. Griffin, Sr.
P. O. Box 7657
Greensboro, NC 27407

Dear Mr. Griffin:

The plan submitted for a sanitary landfill (Demolition-Landscape) on Wiley Davis Road is approved and Permit No. 41-B is issued with the following conditions:

1. Filing of the permit with Guilford County Register of Deeds.
2. Waste to be disposed limited to demolition, stumps, limbs, leaves, wood, concrete, and asphalt.

If you have any questions, please advise.

Respectfully,

J. Gordon Layton, Environmental Engineer
Solid & Hazardous Waste Management Branch
Environmental Health Section

TCK:ns
Enclosure
cc: Mr. Stephen E. Phibbs

1000
A

Jim



RECEIVED
N.C. Dept. of EHNR
JUN 23 1999
Winston-Salem
Regional Office

GUILFORD COUNTY
DEPARTMENT OF PUBLIC HEALTH
ENVIRONMENTAL HEALTH DIVISION

June 18, 1999

Mr. Julian Foscue:
Western Area Supervisor
North Carolina Department of
Environment and Natural Resources
Division of Waste Management
585 Waughtown Street
Winston Salem, NC 27107-2241

Re: Wiley Davis Landfill #41-N

Dear Mr. Foscue

Recent visits to the above site revealed that there may be a violation in buffer requirements between site 41-N and 41-B. It appears that site 41-B has encroached within the boundary requirements of site 41-N.

We request that a site visit be made to determine if these conditions exist. If there has been a violation to buffer requirements, we request that enforcement action be taken to correct any violation to buffer requirements between the two (2) permitted sites.

We will appreciate your help in this matter.

Sincerely,

A handwritten signature in cursive script, appearing to read "P. Garris Evans, R.S.".

P. Garris Evans, R.S.
Environmental Health Program Specialist

Cc: Hugh Jernigan
Eric Ireland

DELEGATION OF AUTHORITY TO
GUILFORD COUNTY HEALTH DEPARTMENT

AUTHORITY

This delegation is made pursuant to the authority granted by
G.S. 130A-294(a)(5c).

DELEGATION

The Department of Human Resources hereby delegates the authority and the responsibility to the Guilford County Health Department, hereinafter "the Health Department", through the Guilford County Board of Health, to perform a solid waste management program as described herein, within its jurisdictional area. The Department of Human Resources shall retain exclusive authority and responsibility for the regulation of sanitary landfills and incinerators. The permit authority delegated, herein, shall not pertain to sanitary landfills and incinerators.

SCOPE

The following functions as described in the North Carolina Solid Waste Management Rules, 10 NCAC 10G, are delegated to the Health Department.

SECTION .0100 - GENERAL PROVISIONS

- .0101 Definitions
- .0102 Applicability
- .0103 General Conditions
- .0104 Solid Waste Storage
- .0105 Collection and Transportation of Solid Waste
- .0106 Generator of Solid Waste

SECTION .0200 - PERMITS FOR SOLID WASTE MANAGEMENT FACILITIES

- .0201 Permit Requirements
- .0202 Permit Application
- .0203 Permit Approval or Denial
- .0204 Recordation of Land Disposal Permits
- .0205 Variances

SECTION .0300 - TREATMENT AND PROCESSING

- .0301 Application Requirements
- .0302 Operational Requirements

SECTION .0400 - TRANSFER FACILITIES

- .0401 Application Requirements
- .0402 Operational Requirements

SECTION .0500 - DISPOSAL SITES

- .0501 Acceptable Disposal Methods
- .0502 Non-Conforming Sites/Open Dump
- .0503 Siting and Design Requirements for Disposal Sites
- .0506 Application Requirements for Demolition Landfills
- .0507 Operational Requirements for Demolition Landfills

SECTION .0600 - MONITORING REQUIREMENTS

- .0601 Ground Water Monitoring
- .0602 Surface Water Monitoring

The Department of Human Resources shall retain exclusive authority and responsibility for the assessment under .0700 of administrative penalties for violations of the Solid Waste Management Act or Rules. The Department of Human Resources shall exercise joint authority to have its representatives make periodic inspections of disposal sites subject to this delegation.

It is understood that the Environmental Health staff shall be agents of the Health Department and shall not be considered agents of the State for purposes of implementing the authority and responsibility herein delegated to the Health Department.

TERMINATION

The Department of Human Resources or the Health Department, without giving cause, may terminate this delegation by providing written notice at least thirty (30) days before termination.

This delegation shall become effective May 1, 1987.

Ronald H. Levine for the Department of Human Resources.
Ronald H. Levine

4/16/87
DATE

J. L. Halliday, MD for the Guilford County Health Department

4/20/87
DATE



GUILFORD COUNTY
DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH

February 10, 1987

Mr. Bill Meyer, Head
Solid and Hazardous Waste Management
P. O. Box 2091
Raleigh, N.C. 27602-2091

Dear Mr. Meyer:

At its meeting on January 7, the Guilford County Board of Health decided unanimously to request delegation of authority from the Division of Health Services to the Guilford County Health to enforce certain sections of the North Carolina Solid Waste Management Rules.

Our primary aim is to regulate demolition landfills and we are requesting delegation of authority for the following sections:

Section .0100 - General Provisions

- .0101 Definitions
- .0102 Applicability
- .0103 General Conditions
- .0104 Solid Waste Storage
- .0105 Collection and Transportation of Solid Waste

Section .0200 - Permits for Solid Waste Management Facilities

- .0201 Permit Requirements
- .0202 Permit Application
- .0203 Permit Approval or Denial
- .0204 Recordation of Land Disposal Permits
- .0205 Variances

Section .0300 - Treatment and Processing

- .0301 Application Requirements
- .0302 Operational Requirements ?

Section .0400 - Transfer Facilities

- .0401 Application Requirements
- .0402 Operational Requirements

301 North Eugene Street
P.O. Box 3508
Greensboro, N. C. 27401
Phone: (919) 373-3771

Mr. Bill Meyer
February 10, 1987
Page 2

Section .0500 - Disposal Sites

- .0501 Acceptable Disposal Methods
- .0502 Non-Conforming Sites/Open Dumps
- .0503 Siting and Design Requirements for Disposal Sites-
- .0506 Application Requirements for Demolition Landfills
- .0507 Operational Requirements for Demolition Landfills

Section .0600 - Monitoring Requirements

- .0601 Ground Water Monitoring
- .0602 Surface Water Monitoring

We understand that your department will retain authority and control for sanitary landfills and for administrative penalties.

We have previously discussed this matter with Mr. Julian Foscue of your staff and wish to express our appreciation for his help and assistance.

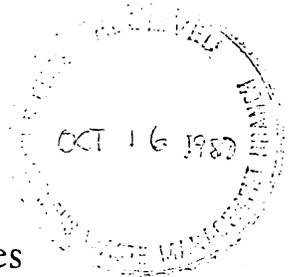
Thank you for your attention to this matter. We look forward to hearing from you as soon as possible.

Sincerely,

Thomas F. Owens

Thomas F. Owens, R.S.

/hn



North Carolina Department of Human Resources

North Central Regional Office • 310 East Third Street • Winston-Salem, N. C. 27101

James G. Martin, Governor

October 15, 1987

David T. Flaherty, Secretary



MEMORANDUM

TO: Julian Foscoe, Western Regional Supervisor
Solid and Hazardous Waste Management Branch
FROM: Terry Waddell, Waste Management Specialist
Solid Waste Unit
SUBJECT: Terry Cole Solid Waste Rules Enforcement Authorization

I recommend that Terry Cole of the Guilford County Health Department, Environmental Health Division, be authorized to implement and enforce Solid Waste Management Rules concerning non-conforming sites and demolition landfills.

TWW:kd

NORTH CAROLINA DEPARTMENT OF HUMAN RESOURCES

TO: Dr. Levine DATE: 10/19/87
FROM: Julian Foscoe - Solid Waste Unit
Solid & Hazardous Waste Mngt. Branch
Environmental Health Section / 733-2178
For your information, File, Note and see me about this, Prepare a reply, Your comments, Take charge of this, Attach requested information, Initial and route to

North Carolina Department of Human Resources
Division of Health Services

TEMPORARY AUTHORIZATION

EXPIRES 10-89

NAME: Terry Cole
TITLE: Guilford County Health Department
DEPT.: Environmental Health Division

is delegated the authority pursuant to G.S. 130A-4(b) and G.S. 130A-6 to enforce the specific laws and rules and exercise the powers indicated below:

The following Sections of the N.C. Solid Waste Management Rules, 10 NCAC 10G: Section .0100; .0300; .0400; .0600; .0500 Except .0503 and .0504 for Demolition Landfills only; and .0200 for Demolition Landfills only.

DHS 3305 (2/85)
SHWM (Review 2/87)

Signature of Donald W. Levine, STATE HEALTH DIRECTOR

THANK YOU!

Guilford



State of North Carolina
Department of Environment, Health, and Natural Resources
North Central Regional Office

James G. Martin, Governor
William W. Cobey, Jr., Secretary

August 13, 1991

Margaret Foster
Regional Director

Mr. Brian Greene, Interim Health Director
Guilford County Department of Public Health
P.O. Box 3508
Greensboro, N.C. 27401

RE: Termination of Delegated Solid Waste Management
Program in Guilford County

Dear Mr. Greene:

It has been brought to my attention that the Guilford County Board of Health has determined to officially rescind the Delegated Solid Waste Management Program granted by Ronald H. Levine, M.D., M.P.H., State Health Director, through the former North Carolina Department of Human Resources on May 1, 1987 (copy enclosed).

Pursuant to the terms of the Delegation Agreement, the Guilford County Health Department shall provide written notice at least thirty (30) days before termination of the Delegation Agreement.

As a matter of record, please submit to me a letter with the date of this determination to officially rescind or terminate the Delegated Solid Waste Program.

If there are any questions, please contact me at (919)761-2390.

Sincerely,

N.C. DIVISION OF SOLID WASTE MANAGEMENT

A handwritten signature in cursive that reads "Jeff Rodgers" with the initials "KA" written below it.

Jeff Rodgers
Waste Management Specialist
Solid Waste Section

JDR:ka
Enclosure
cc: Julian Foscoe
Dexter Matthews
Central Files, Raleigh



AQUATERRA

Environmental Consultants

January 30, 1991

D.H. Griffin Wrecking Company, Inc.
Post Office Box 4657
Greensboro, North Carolina 27407

Attention: Mr. David H. Griffin, Sr.

Reference: Laboratory Analytical Results of
Off-site Potable Wells and
Stream Samples
Wiley Davis Landfill, Inc. Site
Greensboro, North Carolina
Aquaterra Job No. 417A

Dear Mr. Griffin:

Enclosed are the analytical results for ground water samples associated with the Wiley Davis Landfill, Inc. The samples were obtained from potable water wells located on the following properties: Carolina Freight (Carolina Well), Roger Rentals (Rental Well), George and Martha Watson residence (Watson Well), and the David and Effie Lundsford residence (Lundsford Well). These potable wells are located hydraulically downgradient of the site.

Before a sample was collected from each well, the well tap was opened for approximately five minutes to purge stagnant water from the well. The sampler wore clean disposable vinyl gloves during sampling activities. In accordance with EPA protocols, all samples were placed in laboratory provided bottles, labeled, and stored in an ice filled cooler for preservation.

Two stream samples (LF-US, upstream sample) and (LF-DS, downstream sample) were collected by partially submerging the sample bottles into the stream. Stream sample locations are shown in the attached figure.

Based upon the analytical results of the August 1990 ground water assessment, samples were analyzed for the possible presence of volatile and semivolatile compounds as well as analysis of total metal concentrations of barium, chromium, and lead. Samples were analyzed for volatile organic compounds (VOCs) in accordance with SW-846 Method 8010 analysis and semivolatile compounds in accordance with SW-846 Method 8270 (Base/Neutral extractable compounds plus library search).

Corporate Office:

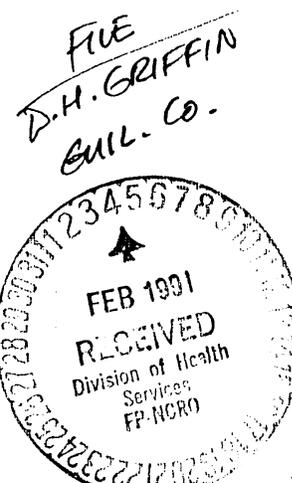
P O Box 50328
Raleigh, NC 27650
(919) 859-9987
FAX (919) 859-9930

Charlotte Office:

P O Box 668107
Charlotte, NC 28266-8107
(704) 525-8680
FAX (704) 527-2792

Greensboro Office:

P O Box 16241
Greensboro, NC 27416-0241
(919) 273-5003
FAX (919) 271-8138



FAX to:
Doug Guild Investigations
Environmental Drive, Suite 250
1911 Meredith 27713
Durham, NC
FAX # 919-544-2199

3/8/91
Doug - Here is info. you requested.
Jut Rodgers
(4 pages total)

The analytical results did not indicate any contaminants found during the leachate collection pond water and sludge characterizations or the ground water assessment. One volatile organic compound (tetrachloroethene) was found in the Carolina Freight well at a concentration of one $\mu\text{g/L}$ ($1 \mu\text{g/L}$ equals one part per billion, ppb). The North Carolina Groundwater Standard for tetrachloroethene is 0.7 ppb.

Although tetrachloroethene was not indicated in the characterization and assessment of the Wiley Davis landfill site, Aquaterra recommends that you notify Mr. Brent Kaiser of Carolina Freight for his information.

Two possible explanations for the presence of this contaminant exist. First, the compound detected at this relatively low quantity may be attributed to laboratory contamination. Secondly, tetrachloroethane is commonly used as a degreaser of metal parts. It seems possible that this may have been used on-site. Our sampling technician stated that he saw no obvious indication of a chemical spill near the well head. Aquaterra recommends resampling the well and analyzing for SW-846 Method 8010 compounds.

Aquaterra recommends that you forward a copy of this letter to Carolina Freight and the other well owners soon after receipt. The letter and analytical results should also be forwarded to the North Carolina Department of the Environment, Health, and Natural Resources (DEHNR), Division of Environmental Management (DEM) Groundwater Section; DEHNR Solid Waste Section; and the Guilford County Health Department.

Sincerely,

AQUATERRA, INC.

Steve J. Czekalski

Steve J. Czekalski
Project Geologist

Senior Peer Review By:

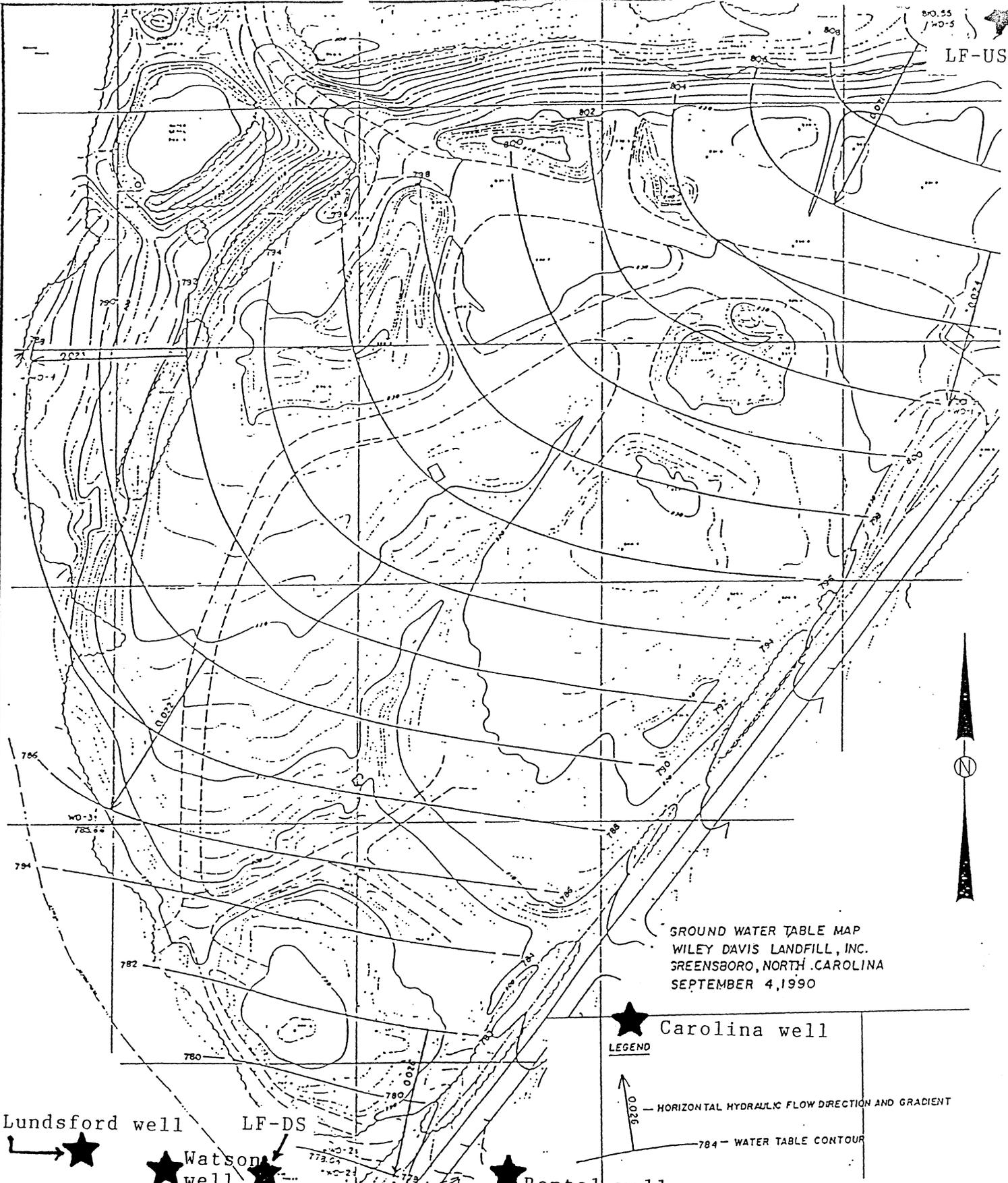
Phillip L. Rahn

Phillip L. Rahn, P.G.
President

SJC/cbb

cc: Mr. Terry Cole - Guilford County Health
Mr. Jeff Rodgers - DEHNR, Solid Waste Section ✓
Mr. Steve Weiss - DEHNR, Groundwater Section





GROUND WATER TABLE MAP
WILEY DAVIS LANDFILL, INC.
GREENSBORO, NORTH CAROLINA
SEPTEMBER 4, 1990

★ Carolina well

LEGEND

- HORIZONTAL HYDRAULIC FLOW DIRECTION AND GRADIENT
- 784 - WATER TABLE CONTOUR

★ Lundsford well LF-DS

★ Watson well

★ Rental well

PROJECT: Wiley Davis Landfill Guilford Co., NC	Stream Sample Locations			 AQUATERRA, INC. RALEIGH, GREENSBORO, CHARLOTTE NORTH CAROLINA
	JOB: 417A	DRAWING:	FIGURE:	



PURGEABLE HALOCARBONS
SW-846 METHOD 8010 COMPOUNDS

IEA Sample Number: 196-182-1
Sample Identification: Carolina Well
Date Analyzed: 01/12/91 By: Averill

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Bromodichloromethane	1.0	BQL
2	Bromoform	1.0	BQL
3	Bromomethane	1.0	BQL
4	Carbon tetrachloride	1.0	BQL
5	Chlorobenzene	1.0	BQL
6	Chloroethane	1.0	BQL
7	2-Chloroethylvinyl ether	1.0	BQL
8	Chloroform	1.0	BQL
9	Chloromethane	1.0	BQL
10	Dibromochloromethane	1.0	BQL
11	1,2-Dichlorobenzene	1.0	BQL
12	1,3-Dichlorobenzene	1.0	BQL
13	1,4-Dichlorobenzene	1.0	BQL
14	1,1-Dichloroethane	1.0	BQL
15	1,2-Dichloroethane	1.0	BQL
16	1,1-Dichloroethene	1.0	BQL
17	total 1,2-Dichloroethene	1.0	BQL
18	1,2-Dichloropropane	1.0	BQL
19	cis-1,3-Dichloropropene	1.0	BQL
20	trans-1,3-Dichloropropene	1.0	BQL
21	Methylene chloride	1.0	BQL
22	1,1,2,2-Tetrachloroethane	1.0	BQL
23	Tetrachloroethene	1.0	BQL
24	1,1,1-Trichloroethane	1.0	BQL
25	1,1,2-Trichloroethane	1.0	BQL
26	Trichloroethene	1.0	BQL
27	Trichlorofluoromethane	1.0	BQL
28	Vinyl Chloride	1.0	BQL

1

Comments:

BQL = Below Quantitation Limit

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES
WINSTON-SALEM REGIONAL OFFICE



November 23, 1998

CERTIFIED MAIL Z-064 496 448
RETURN RECEIPT REQUESTED

JAMES B. HUNT JR.
GOVERNOR

Mr. D.H. Griffin
D.H. Griffin Wrecking Company, Inc.
Post Office Box 4657
Greensboro, NC 27407

WAYNE McDEVITT
SECRETARY

Re: Wiley Davis Landfill (Permit # 41-B)
Closure Requirements

Dear Mr. Griffin:

Reference is made to our meeting of October 20, 1998, and the discussion concerning the closure of the Wiley Davis Landfill (Permit # 41-B). The purpose of this letter is to summarize the results of the meeting. It was agreed that a closure for the landfill plan be submitted for approval within 90 days (January 18, 1999). The closure plan should contain the following:

- I The agreed upon closure date of May 1, 1999 at which time no further waste shall be received at the facility.
- II A detailed site plan prepared by a registered professional engineer and submitted to the section for approval. The description should include a site map with final contours at a minimum of five foot intervals and should describe activities and a schedule achieving final contours. In addition to final contours, the site plan should include proposed sedimentation and erosion control features such as slope drains, benches, diversion berms and ditches. Existing surface water features, streams waste boundaries, property lines, proposed side slopes (not to exceed three to one), and other pertinent information should be included on the site plan. Vegetative cover and post-closure maintenance should also be addressed in the plan. You should contact Matthew Gantt of the Land Quality Section at the Winston-Salem Regional Office at (336) 771-2608 Ext 247 to discuss requirements for sedimentation control rules. Beneficial fill (strictly limited to concrete, brick, concrete block, uncontaminated soil, rock and gravel) may be utilized after the May 1, 1999 date to achieved the final contours, but all closure activities should be completed in a short period of time as set forth in the approved closure plan.

- III Submittal of a new ground water monitoring plan. The Solid Waste Section has reviewed the groundwater monitoring system and data which indicates contamination at the site. An upgrade of the exiting monitoring system is necessary to determine the nature and extent of contaminant migration and to adequately monitor groundwater quality at and around the Wiley Davis Landfill.

Therefore the Solid Waste Section requires that a new groundwater monitoring plan be submitted for the disposal site that is protective of public health and the environment and addresses the possibility of off-site contamination. The proposed monitoring plan should be certified by a licensed professional geologist with experience in assessment and remediation of groundwater. The plan must be approved by the Solid Waste Section before implementation and before additional wells are installed. Your consultant should call Mr. Larry Rose at (919) 733-0697 ext. 257 to discuss the plan before completion of the design. All monitoring wells must comply with well construction standards of 15A NCAC 2C .0108.

The proposed system should include incorporation or proper closure of the existing monitoring wells. Proper maintenance of wells is necessary and includes providing adequate safe access for sampling purposes. The North Carolina Water Quality Monitoring Guidance Document for Solid Waste Facilities addresses maintenance factors that are critical for helping insure proper monitoring.

- IV Submittal of a methane monitoring plan. Landfills have the potential to generate methane gas from the decomposition of organic matter. Methane gas concentrations in excess of 5% are explosive and under the right conditions can migrate for long distances and in unpredictable directions. Solid Waste Management Rule .0503 states "the concentration of explosive gases generated by the site shall not exceed... the lower explosive limit for gases at the property boundary." Since the methane gas situation is not known at the site and there exists the possibility of methane generation with off-site migration, an explosive gas monitoring plan is necessary. The plan should address monitoring as well as corrective action in the event that methane detected at levels greater than regulatory limits.

Thank you for your cooperation in resolving this matter. If you have any questions, please call me at (336) 771-4608 ext. 206. For questions concerning groundwater or methane monitoring, you should contact Larry Rose at (919) 733-0692 ext. 257

Sincerely,



Hugh Jernigan
Waste Management Specialist
Solid Waste Section

cc: Dexter Matthews
Philip J. Prete
Julian Foscue
Larry Rose
Matthew Gantt

TJ/rt

D.H. GRIFFIN WRECKING CO., INC.

"If It's Wrecking — Call Us"

4700 HILLTOP ROAD (27407)

PHONE: (336) 855-7030

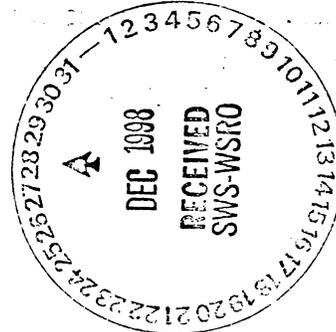
FAX: (336) 855-9322

P.O. BOX 7657

GREENSBORO, N.C. 27417-0657

December 22, 1998

Mr. Hugh Jernigan
Waste Management Specialist
NCDENR Solid Waste Section
585 Waughtown St.
Winston-Salem, NC 27107



RE: Wiley Davis Landfill (Permit # 41-B)
Closure Plan Schedule

Dear Mr. Jernigan:

We are pleased to inform you that we are making good progress on the work preparatory to closure of the Wiley Davis Landfill as outlined in your letter to us dated November 23, 1998. We have hired EcoLogic Associates of Greensboro as our consultant to address the items set forth in that letter.

With regard to the schedule for submittal of the closure plan, we hereby request a 30-day extension, or until February 17, 1999. The reason for the extension is to provide adequate time for our consultant to prepare the plan and us to review it prior to submittal. We are having the site flown for detailed topographic mapping to assist in the effort, and the mapping will not be received until around the first of the year.

We appreciate your patience and look forward to a favorable response to this request. Please call if you have any questions or concerns.

Sincerely,

A handwritten signature in dark ink, appearing to read "D.H. Griffin, Sr." with a stylized flourish at the end.

D.H. Griffin, Sr.
President

DHG/mat

C: Mark Taylor, EcoLogic Associates

D. H. GRIFFIN WRECKING CO., Inc.

"If It's Wrecking — Call Us"

#7
4700 HILL TOP ROAD
PHONE: (919) 855-7030

P. O. BOX 7657
GREENSBORO, N. C. 27417-0657

August 15, 1989

Environmental Health Division of Guilford County
c/o Terry Cole

RE: D. H. Griffin
Wiley Davis Road Landfill

Gentlemen:

We would like to thank you for your help and assistance with our problem in our landfill, and to provide your department with a brief summary of the measures we have taken and are prepared to take if necessary to clear it up. We have had a problem with Leachate in our landfill for some time now, but we have always been able to keep it in control by treating it with lime and regular treatment of a chemical called Hilcotrol Concentrate #85, which is specifically for control of obnoxious odors generated from septic tanks, sewage plants, landfills, and waste lagoons. Due to the extraordinary amount of rainfall we have received over the past months, our landfill has become saturated and our problem is now one of major proportions.

Our first problem was encountered when the water level of the holding pond reached the spillway, thus allowing a small amount of leachate to leave our property. We remedied that problem by welding the spillway opening shut and installing a six inch valve, so in the future we can control the flow. Our second problem was dealing with the large amounts of water, leachate, and odor. We attempted to lower the water level and filter out some of the leachate by pumping the water from the holding pad up onto the landfill. At the same time we trucked in 300 tons of lime and commenced covering the landfill. We managed to lower the water level by approximately 18 inches before the areas we were pumping to became saturated and began breaking out. In attacking the odor problem, we contacted Henry Smith, a Product Representative with Hill Manufacturing Company of Atlanta, Georgia. We arranged for Henry Smith to come to the landfill and supervise the task of getting the odor under control. We first treated the holding pond with a concentrated liquid enzyme which is to digest the hydrogen sulfide (rotten egg odor). Next we treated the pond and landfill with a concentrated form of the Hilcotrol chemical and set up a sprayer unit to cover the entire landfill with a diluted mixture of RPD-255 (industrial odor control concentrate) and water. Guilford Labs, on Patterson Street, is presently running tests on the water from the holding pond. Once we have the results, we are

planning to either remove the water by a method of irrigation, or trucking it to a waste water facility. Once we have the water out, we are planning to drag the pond, slope the landfill, and install a pump to pump on a regular bases along with regular treatment of the chemicals mentioned. We assure you that we are going to do what ever we must to clean up this problem, and to prevent the re-occurrence of it in the future.

Sincerely,

A handwritten signature in cursive script, appearing to read "D. H. Griffin Sr.", with a large initial "D" and a flourish at the end.

D. H. Griffin Sr.

#10



Guilford



GUILFORD COUNTY
DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH

April 23, 1990

Mr. D. H. Griffin
4700 Hilltop Road
P. O. Box 7657
Greensboro, NC 27417-0657

CERTIFIED MAIL

Return Receipt Requested

Dear Mr. Griffin:

This letter is in reference to your Demolition Landfill located on Wiley Davis Road, Greensboro, North Carolina.

It is the opinion of the Guilford County Division of Environmental Health, that the lifespan of this landfill has come to an end. The landfill is currently at road level and has reached its original elevation before the sandrock mining operation began. We also believe that the introduction of any additional material would only contribute to the leachate problem already existing at this site. For these reasons, our office hereby requests that you immediately begin closure of the site.

To insure a timely and proper closure of the site we have requested the assistance of the North Carolina Solid Waste Management Section, (NCSW), in seeing that the objectives outlined below are met. In addition, we have requested that the NCSW Management Section assess the need for Groundwater Monitoring at this site.

In conjunction with the NCSW Management Rules G.S. 130A-294 Section .0502 the site must be closed in accordance with the following requirements:

1. Implement effective vector control, including baiting for at least two (2) weeks after closing, to prevent vector migration to adjacent properties;
2. If the site is deemed suitable by the division, compact and cover existing solid waste in place with two (2) feet or more of suitable compacted earth; a condition of closing the site by compacting and covering the waste in place shall be recordation of the waste disposal location by the property owner with the Register of Deeds in the county where the land lies. Copies of the recordation procedure may be obtained from and inspected at the Solid and Hazardous Waste Management

301 North Eugene Street
P.O. Box 3508
Greensboro, N. C. 27401
Phone: (919) 373-3771

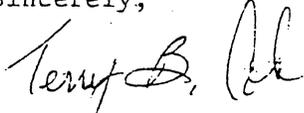
Mr. D. H. Griffin
Demolition Landfill
April 23, 1990
page 2

Branch, Division of Health Services, P.O. Box 2091, Raleigh, NC 27602;

3. If the site is deemed unsuitable by the division, remove and place solid waste in an approved disposal site or facility;
4. Implement erosion control measures by grading and seeding; and
5. Prevent unauthorized entry to the site by means of gates, chains, berms, fences, and other security measures approved by the division and post signs indicating closure for a period designated by the division not to exceed one (1) year.

If you have any questions please feel free to contact our office at (919) 373-3771 Monday through Friday from 8:00 a.m. to 5:00 p.m.

Sincerely,



Terry B. Cole
Toxic and Health Hazard Unit Specialist

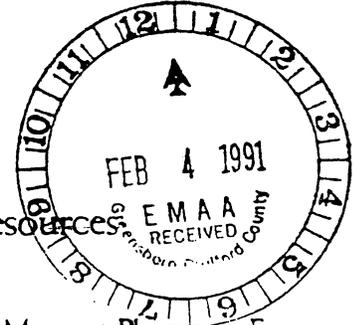
/hn

cc: Larry Leach, MPS, RS
Director, Environmental Health
Julian Foscue
Western Regional Supervisor
Jeff Rodgers

11



1271



State of North Carolina
Department of Environment, Health, and Natural Resources
Winston-Salem Regional Office

James G. Martin, Governor
William W. Cobey, Jr., Secretary

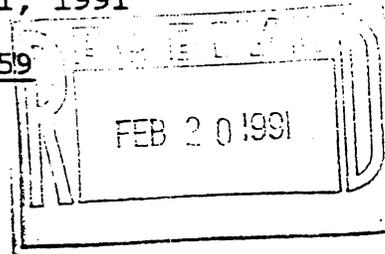
Margaret Plimmings Foster
Regional Manager

DIVISION OF ENVIRONMENTAL MANAGEMENT
GROUNDWATER SECTION

NOTICE OF VIOLATION OF N.C.A.C. TITLE 15A SUBCHAPTER 2L
CLASSIFICATIONS AND WATER QUALITY STANDARDS
APPLICABLE TO THE GROUNDWATERS OF NORTH CAROLINA

January 31, 1991

CERTIFIED MAIL NUMBER P-614 922 859
RETURN RECEIPT REQUESTED



Mr. D.H. Griffin, Sr.
D.H. Griffin Wrecking Co., Inc.
P.O. Box 4657
Greensboro, NC 27407

Subject: Groundwater Contamination At Wiley Davis Landfill,
Wiley Davis Road, Greensboro, Guilford County

Dear Mr. Griffin:

Chapter 143, North Carolina General Statutes, authorizes and directs the Environmental Management Commission of the Department of Environment, Health, and Natural Resources to protect and preserve the water and air resources of the State. The Division of Environmental Management has the delegated authority to enforce adopted pollution control rules and regulations.

The purpose of N.C.A.C. Title 15A Subchapter 2L is to maintain and preserve the quality of the groundwaters, prevent and abate pollution and contamination of the waters of the State, protect public health, and permit management of the groundwaters for their best usage by the citizens of North Carolina.

Wiley Davis Landfill has presented the Winston-Salem Regional Office with results of laboratory analyses of groundwater samples collected from monitoring wells installed at the above-referenced site. These analyses revealed chlorobenzene at 350 parts per billion (ppb) and 1,4-dichlorobenzene at monitor well (MW) 2s; lead at 440 ppb in MW-2d; and chromium at 160 ppb in MW-1.

These contaminate concentrations exceed the maximum allowable concentrations for such substances as specified in N.C.A.C. Title 15A 2L .0202. Therefore, they are in violation of the water quality standards for the groundwaters of the State. Please reference the following excerpt from Subchapter 2L which specifies corrective action as follows:

N.C.A.C. Title 15A 2L .0106 Corrective Action

- (a) The goal of actions taken to restore groundwater quality shall be restoration to the level of the standards, or as close thereto as is economically and technologically feasible.
- (b) Any person conducting or controlling an activity which results in the discharge of a waste or hazardous substance or oil to the groundwaters of the state or in proximity thereto, shall take immediate action to terminate and control the discharge, mitigate any hazards resulting from exposure to the pollutants and notify the Department of the discharge.
- (c) Any person conducting or controlling an activity which results in an increase in the concentration of a substance in excess of the groundwater standard:
 - (1) as the result of activities, other than agricultural operations, not permitted by the state, shall assess the cause, significance and extent of the violation; submit a plan for eliminating the source of contamination and for restoration of groundwater quality; and implement the plan in accordance with a Special Order by Consent or a Special Order of the Commission.

It is our understanding that you and/or your firm are responsible for the aforementioned violations. Subsequently, you are considered as the party responsible for eliminating the source of contamination and restoring groundwater quality.

An adequate report describing the horizontal and vertical extent was received by this office on October 31, 1990. This office understands that Aquaterra, Inc., has done further work to define the contaminated area. A corrective action plan (remedial action plan) should be submitted to this office by March 30, 1991. The plan must be implemented in accordance with a Special Order by Consent (SOC) or a Special Order of the Commission.

Should you dispute our assessment of responsibility, please include documentation of your position in your response.

Failure to submit the report required or failure to expeditiously eliminate the contaminate source and restore groundwater quality in the affected area may result in the recommendation of enforcement action including: (1) the issuance of a special order against you under the authority of G.S. 143-215.2, (2) a request to the Attorney General to institute an action for injunctive relief, and (3) a civil penalty of up to \$10,000 per day in accordance with G.S. 143-215.6.

Please do not hesitate to contact Steve Weiss or Larry K. Lucas regarding any questions you may have about this matter.

Sincerely,

Larry D. Coble

Larry D. Coble
Regional Supervisor

LDC/ahl

Enclosure

cc: Office of General Counsel
Incident Management Unit
WSRO Files
~~County Health Department~~



State of North Carolina
Department of Environment, Health, and Natural Resources
North Central Regional Office

Governor
Boyer, Jr., Secretary

August 13, 1991

Margaret Foster
Regional Director

12
Mr. Brian Greene, Interim Health Director
Guilford County Department of Public Health
P.O. Box 3508
Greensboro, N.C. 27401

RE: Termination of Delegated Solid Waste Management
Program in Guilford County

Dear Mr. Greene:

It has been brought to my attention that the Guilford County Board of Health has determined to officially rescind the Delegated Solid Waste Management Program granted by Ronald H. Levine, M.D., M.P.H., State Health Director, through the former North Carolina Department of Human Resources on May 1, 1987 (copy enclosed).

Pursuant to the terms of the Delegation Agreement, the Guilford County Health Department shall provide written notice at least thirty (30) days before termination of the Delegation Agreement.

As a matter of record, please submit to me a letter with the date of this determination to officially rescind or terminate the Delegated Solid Waste Program.

If there are any questions, please contact me at (919)761-2390.

Sincerely,

N.C. DIVISION OF SOLID WASTE MANAGEMENT

Jeff Rodgers
KA

Jeff Rodgers
Waste Management Specialist
Solid Waste Section

JDR:ka

Enclosure

cc: Julian Foscue
Dexter Matthews
Central Files, Raleigh

#13



file

State of North Carolina
Department of Environment, Health, and Natural Resources
Winston-Salem Regional Office

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary

April 27, 1993

Margaret Plemmons Foster
Regional Manager

CERTIFIED MAIL P - 536 304 683
RETURN RECEIPT REQUESTED

Mr. D. H. Griffin, Sr.
D. H. Griffin Wrecking Company
P.O. Box 4657
Greensboro, N. C. 27407

Subject: Warning Letter
Wiley Davis Road Landfill
Greensboro, N. C.

Dear Mr. Griffin:

Reference is made to visits made to your landfill operation on Wiley Davis Road by Hugh Jernigan and Brent Burch on April 16, 1993 and by Hugh Jernigan and Julian Foscoe on April 21, 1993.

As a result of these visits and discussions with you on April 21, there are several areas which require your prompt attention and corrective actions regarding the operation of the landfill.

1) Acceptable Waste

North Carolina Solid Waste Management Rules 15A NC Admin. Code 13B .0566(2) states that "The facility shall only accept those wastes which it is permitted to receive." It was observed that solid waste which is not permitted and is unacceptable for the site is being disposed of in the landfill. These materials include, but were not limited to cardboard, sheetrock, various types of plastics including discarded buckets, insulation, carpet, household waste, and roofing materials. Monitoring of vehicles entering the site may be necessary to prevent the disposal of these wastes. Landfilling of unacceptable waste can greatly increase the probability of creating groundwater contamination and leachate problems. The employees on site appeared to be doing an excellent job in segregating and removing metals for recycling.

- 2) Site Soil Coverage and Grading
North Carolina Solid Waste Management Rules 15A NC Admin. Code 13B .0566(10) states that "Surface water shall be diverted from the working face and shall not be impounded over the waste." Current observed operations allow for rainwater and water runoff to infiltrate the solid waste being disposed. The working face should be kept as small as possible, while inactive disposal areas should be capped with a suitable cover of soil. Those areas of solid waste disposal which are covered with soil should be graded to divert water away from working areas and graded to prevent impoundment of water over disposal areas.

- 3) Leachate Control
North Carolina Solid waste Management Rules 15A NC Admin. Code 13B .0566(14) states that "Leachate shall be properly managed on site through the use of best management practices." On both April 16 and 21, 1993 leachate was observed on the south side of the fill area. This leachate was being collected in a holding pond. On April 16 the leachate was observed being pumped directly into the adjacent stream and on April 21 the leachate from the holding pond was observed to be overflowing directly into the stream. You are advised to take immediate actions to prevent discharges to the stream as we discussed on April 21 which may include spray irrigation (evaporation) of liquids and maintenance of the holding pond. Corrective actions listed in the first two items may be of significant benefit in controlling potential leachate problems. The Water Quality Section has been notified of the discharge.

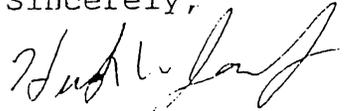
Concerning other subjects discussed on April 21, 1993, the Land Quality Section has been contacted in reference to utilizing soil from the site of the former mining operation for cover of the

Mr. D. H. Griffin
Page 3

solid waste disposal area. You should be receiving a letter shortly from the Land Quality on a ruling. We are inquiring on the status of your submitted construction and demolition landfill application, and should report to you within the week.

If you have any questions concerning this matter please call me at 919/896-7007.

Sincerely,



Hugh W. Jernigan, Jr.
Waste Management Specialist

HWJ/pw

cc: Julian M. Foscue, III
Dexter Matthews
Doug Miller
Jan McHargue
Larry Coble
David Barnes

REC'D
N.C. JUN 15 1999
Win Regional Office



Memo

HUGH:
FYI
THANKS, Clyde

To: Ken Carter
From: Clyde Harding
CC: Jim Elza, Mul Wyman, Betty Garrett, Mark Kirstner, Randy Stanley
Date: 06/14/99
Re: D.H. Griffin Landfill at Wiley Davis Road

In the meeting at the Environmental Health office on 5-26-99, you asked me to find out if it was possible to revoke a Special Use Permit. As you stated—if possible—this might be one option for consideration for the County Commissioners in addressing public complaints associated with the landfill.

According to 3-13.4(L) of the Guilford County Development Ordinance, permit revocation by the Planning Board is possible under blatant non-compliant permit conditions (see bottom of Page 2). However, there is currently no outstanding Special Use Permit Notice of Violation that would support permit revocation.

Also, notice on the attached map the area is divided into two separate landfills. The portion to the north zoned AG-SP encompasses the area covered by the Guilford County Special Use Permit. The northern section was permitted in 1994 as a Land Clearing & Inert Debris (LCID) landfill under State Permit No. 41-N. The southern section zoned AG was permitted in 1980 as a Construction & Demolition (C&D) landfill under State Permit 41-B and is scheduled for closure on September 15, 1999. This area is not included in the GC Special Use Permit.

Attached is the summary of the complaint I received on 5-20-99 that explains my involvement in this zoning issue, along with a copy of the Special Use Permit approval letter dated 12-15-88. Randy Stanley, a GC Zoning Investigator, sent a copy of the approval letter to the D.H. Griffin Wrecking Company office and reminded them of the approved hours of operation. A copy of the response from D.H. Griffin is included.

3-13.4 Special Use Permits

- (A) Approval Procedure: Applications for Special Use Permits shall be processed in accordance with the procedures used for the review of applications for zoning map amendments. All evidence presented at the public hearing in regard to applications for Special Use Permits shall be under oath. The Chairman of the Board or any member temporarily acting as Chairman shall administer oaths to witnesses.
- (B) Conditions for Approval: An application for a Special Use Permit shall be approved by the Planning Board if and only if the Planning Board finds that:
- 1) The proposed use is represented by an "S" in the column for the district in which it is located on the Permitted Use Schedule in this Ordinance.
 - 2) The proposed conditions meet or exceed the development standards found in Article VI (Development Standards).
 - 3) Either the use as proposed, or the use as proposed subject to such additional conditions as the owner may propose or the Planning Board may impose, is consistent with the purposes of the District and compatible with surrounding uses.
 - 4) The Special Use Permit shall be granted when each of the following Findings of Fact have been made by the Planning Board:
 - a) That the use will not materially endanger the public health or safety if located where proposed and developed according to the plan submitted;
 - b) That the use meets all required conditions and specifications;
 - c) That the use will not substantially injure the value of adjoining or abutting property, or that the use is a public necessity; and
 - d) That the location and character of the use, if developed according to the plan submitted, will be in harmony with the area in which it is to be located and in general conformity with the plan of development of the Jurisdiction and its environs.
- (C) Greater Restrictions: In granting a Special Use Permit, the Planning Board may impose more restrictive requirements upon such permit as it may deem necessary in order that the purpose and intent of this Ordinance are served.
- (D) Permit Denial: If the Planning Board fails to make the findings required by paragraph (B) or makes other findings inconsistent with the required findings, then such proposed permit shall be denied.
- (E) Permit Applicability: Any Special Use Permit so authorized shall be perpetually binding upon the property included in such permit unless subsequently changed or amended through application for a new or amended Special Use Permit or until a use otherwise permitted in the district is established.
- (F) Compliance with Approved Permit: No building or other subsequent permit or approval shall be issued for any development on property subject to a Special Use Permit except in accordance with the terms of the permit and the district.
- (G) Submission of Site Plans: Site plans for any development made pursuant to any Special Use Permit shall be submitted for review in the same manner as other development plans required by this Ordinance.
- (H) Minor Modification(s): In approving such Site Plans, the Technical Review Committee may make minor modifications to the requirements of such Special Use Permit where such modification will result in equal or better performance and provided that the objective and purpose of the requirements and conditions of the Special Use Permit are maintained.
- (I) Amendment of Permit: The Planning Board may change or amend any Special Use Permit subject to the same consideration as provided for in this Ordinance for the original issuance of a Special Use Permit.
- (J) Timing of Amendment Proposal: No proposal to change or amend any Special Use Permit shall be considered within a one (1) year period after the date of the original authorization of such permit or within a one (1) year period after the hearing of any previous proposal to change or amend any such permit.
- (K) Effect of Invalidity: If for any reason any condition imposed pursuant to these regulations is found to be illegal or invalid, such Special Use Permit shall be null and void and of no effect.
- (L) Non-compliance with Permit Conditions: If after receiving a Notice of Violation for violation of the terms or conditions of a Special Use Permit, the owner fails to correct such violations within a reasonable time, then the Special Use Permit may, after a hearing, be revoked by the Planning Board. The Planning Board shall revoke such permit on all or part of a development if it finds that there has been a violation that: was intentional; or continued for an unreasonable time after the owner had notice thereof; or was substantially inconsistent with the purposes of the district and continued for any time after the owner had notice thereof and the opportunity to cure. All of the other remedies of this ordinance for a zoning violation shall apply to a violation of the terms of a Special Use Permit. Civil and/or criminal penalties may accrue pending the correction of a violation of a Special Use Permit, notwithstanding the fact that the owner may correct the violation within a reasonable time for purposes of the revocation provisions of this paragraph.

Citizen Complaint 5-20-99

Teresa Hodges called this morning to complain about the D.H. Griffin Construction & Demolition Landfill operating hours on Wiley Davis Road. She said there have been several incidents, but the most recent was about 9:30 p.m. on 5-18-99. Ms. Hodges said that a very loud noise shook her house and she thought it was an explosion. She also said that after dark the heavy equipment lights shine through her windows and the noise disturbs her.

Ms. Hodges wanted me to find out if the landfill had restricted operating hours. I told her that I would check with Hugh Jernigan and Garris Evans and also the Zoning Division of the Planning and Development Department. She said that she had already contacted Hugh and Garris but was not satisfied with their answers. She said that she wasn't sure that I was the person she needed to be asking about a landfill and I told her I would check into the situation.

First I called Hugh Jernigan to see if the State had set restrictions on the operating hours. Hugh said he had talked to Teresa Hodges, and that the State permit had no operating hours listed. Then I contacted Garris Evans of Environmental Health. He also said he knew of no restriction on the operating hours for the landfill.

On 5-21-99, I asked Michael Brandt if he could help me determine if the Zoning Department had set operating hours for the landfill. Michael and I went to talk to Randy Stanley and Randy lead us in the right direction and Michael found Case No. 90-88SP in the Zoning files. In a letter to D.H. Griffin, Mul Wyman detailed the location of the landfill and also stipulated the operating hours to be 7:00 a.m. to 8:00 p.m. Monday through Friday and 7:00 a.m. to 12:00 noon on Saturday.

I called Ms. Hodges and told her that I did not work in the Zoning Department, but I gave her the information I had found and instructed her to call Randy Stanley at 574-3578 the next time she observed activity at the landfill outside the normal operating hours.

I gave Randy Stanley a copy of the letter and briefed him on the complaint.



GUILFORD COUNTY

December 15, 1988

D. H. Griffin, Sr.
4700 Hilltop Road
Greensboro, NC 27407

Dan Purcell
Borum and Associates
405-D Parkway
Greensboro, NC 27401

RE: CASE #90-88SP

Gentlemen:

Following a public hearing on December 14, 1988 requesting a Special Use Permit for a Demolition Landfill on your property, the Guilford County Planning Board approved the request for the Special Use Permit on the following property:

Located on the west side of Wiley Davis Road (SR 1383) approximately 1,600 feet south of Clair Place (SR 1391) in Sumner Township. Randleman Dam Watershed. Being Guilford County Tax Map 3-183, Block 756, Parcel 7.

USE(S): Commercial Sandrock Pit and Demolition Landfill.

The following conditions were added by the Planning Board as part of the Special Use Permit:

Hours of Operation - Monday thru Friday: 7:00 a.m. to 8:00 p.m.
Saturday: 7:00 a.m. to 12 noon

If this decision is not appealed within 15 days from the date of the public hearing, the decision will be final.

Very truly yours,

DeLacy M. Wyman, Secretary
Guilford County Planning Board

bh/l

cc: Norma Bodsford, Clerk to Board of County Commissioners

D.H. G. IFFIN WRECKING CO., INC.

"If It's Wrecking — Call Us"

4700 HILLTOP ROAD (27407)

PHONE: (336) 855-7030

FAX: (336) 855-9322

P.O. BOX 7657

GREENSBORO, N.C. 27417-0657

May 26, 1999

Guilford County Planning and Development Department
Mr. Randy Stanley – Zoning Investigator
Post Office Box 3427
Greensboro, North Carolina 27402

Dear Mr. Stanley,

Thank you for the copy of the Board's approval letter dated December 15, 1988. The Wiley Davis Landfill's normal business hours are from 7:00 a.m. to 5:00 p.m. - Monday thru Friday and 7:00 a.m. to noon - Saturday. Every effort is made to comply with the "Hours of Operation" set forth in the Special Use Permit issued by the Guilford County Planning Board. There had been occasions, including some emergency requests from the City and the County, which have required the landfill to operate beyond those hours.

The Wiley Davis Landfill will continue to operate the facility in compliance with the conditions stated in the above referenced letter.

Thank you,



Mr. D.H. Griffin, Sr. ^{SST}

201 South Eugene Street
P.O. Box 3427
Greensboro, NC 27402

Phone: (336) 373-3792
Fax: (336) 333-8988



Fax

RECEIVED
N.C. Dept. of EHNR
JUN 14 1999
Winston-Salem
Regional Office

To: Hugh Jemigan	From: Clyde Harding
Fax: (336) 771-4631	Date: June 14, 1999
Phone: (336) 771-4608	Pages: 2
Re: Wiley Davis Landfill Zoning Map	CC:

Urgent For Review Please Comment Please Reply Please Recycle

Hugh: Look inside the circle.



Ecc
200
Gr
7
ASSOCIATES, P.C.
Myrtle Street, Ste. 223
Raleigh, NC 27405-5004
Tel 336-271-3093 • Fax 336-271-3094
@compuserve.com
ecologic-nc.com

June 8, 1999

Mr. Larry Rose
NC Dept. of Env. and Natural Resources
Solid Waste Section
P.O. Box 27687
Raleigh, North Carolina 27611-7687

RECEIVED
N.C. Dept. of EHNR
JUN - 9 1999
Winston-Salem
Regional Office

**RE: Environmental Assessment Monitoring Plan - Wiley Davis Landfill
(Permit #41-B) Greensboro, North Carolina**

Dear Larry:

This letter documents our conversation yesterday regarding our planned submittal of a revised Groundwater Assessment Plan and Water Quality Monitoring Plan for the referenced project. Your comment letter to Mr. D.H. Griffin dated April 6, 1999 requests a response within 60 days. To that end, our recent meetings and conversations with you have been helpful in developing a mutually agreeable strategy for completing the assessment.

As agreed, we will delay our written response until we have had the opportunity to discuss the plans with you in consideration of the water quality data introduced by the Guilford County Environmental Health Department. In recent discussions, you stated that you had not seen or reviewed the County data, but you expect to receive it this week. We agreed that it would facilitate the plans' completeness and approval if you and we could evaluate all available information before finalizing the revised plans. Most of the issues raised in your letter have been resolved, so finalizing the plans should not take long after we discuss the implications of the County data.

Please call if you have any questions, or if this is not consistent with your understanding of our agreement and/or the project status.

Respectfully,

A handwritten signature in black ink, appearing to read "Mark A. Taylor".

Mark A. Taylor, PE
Project Manager

C: D.H. Griffin
Gary Babb, PG – Babb and Associates. P.A.
Julian Foscoe – NCDENR/DWM/SWS Western Area Supervisor

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES
WINSTON-SALEM REGIONAL OFFICE

June 2, 1999



JAMES B. HUNT JR.
GOVERNOR

WAYNE McDEVITT
SECRETARY

Mr. Mark Taylor
Ecologic Associates, P.C.
2007 Yanceyville Street - Suite 223
Greensboro, North Carolina 27405-5004

Ref: Revised Closure Plan for the Wiley Davis Landfill (Permit No. 41-B)

Mr. Taylor:

The Solid Waste Section (the Section) has completed the review of your revised closure plan dated 26 April 1999 for the above referenced facility. Several items in the revised plan need to be clarified before approval can be granted. These items correspond to the number sequence of your April 26, 1999 letter as follows:

- 1) The agreed upon closure date for the facility is 15 September 1999. All plans for completing construction and having stabilizing vegetation established should take into account possibilities for contractor delays and adverse weather conditions. No extension of this closure date will be considered by the Section. Also, beneficial fill material is "allowed as needed to repair or further improve slopes and drainage," as agreed in our March 26, 1999 meeting (refer to page 4 and page 6 of text). However, disposal activities and stockpiling of this type of material at the site after the closure date was not agreed upon. Please revise the plan accordingly.
- 2) Whereas other federal and state regulations may differ in how a facility is defined, NC Solid Waste Management Rules require that separately deeded pieces of property have separate permit numbers and meet the individual requirements for the specified type of landfill. According to the current situation, the adjacent LCID landfill (Permit #41-N) is also out of compliance with the Rules since the Wiley Davis Landfill (Permit #41-B) has crossed the property boundary and encroached upon the LCID buffer areas. Until a satisfactory resolution to this encroachment is made, the LCID is subject to receiving notice of violations (NOV's), penalties, and possible inability to renew the permit when the existing permit expires on September 13, 1999.

In your April 26, 1999 response letter and on page 4 and page 8 of the revised Closure Plan, you refer to the Wiley Davis facility as a C&D landfill. Although the Wiley Davis Landfill may have taken C&D waste, it was never permitted as such and this is one of the reasons for our current effort in closing the facility. Please remove any reference to the facility as being a C&D landfill. The Section views the site as a

Mr. Taylor
June 2, 1999
Page 2

non-complying facility due to the type of waste accepted and the January 1, 1998 deadline for meeting new landfill requirements. Also, due to the LCID landfill requirements (.0563 and .0566), please adjust your closure plans to provide side slopes no steeper than 3 (horizontal): 1 (vertical) in the northeastern area currently proposed with 2.5:1 side slopes. The Section accepts the proposed 2:1 side slopes on the northwestern corner of the facility due to property boundary restraints and the desire to maintain proper sediment and erosion control devices. However, future instability of this slope and/or purchase of adjacent land to accommodate monitoring wells may necessitate reconfiguring this slope to a flatter grade.

If you have any questions or comments concerning this letter, please feel free to call me at (336) 771-4608 ext. 204.

Sincerely,



Timothy A. Jewett
Western Area Engineer
Solid Waste Section

cc: Jim Coffey
Phil Prete
Julian Foscue
Larry Rose
Hugh Jernigan
Raleigh Central Files

D.H. GRIFFIN WRECKING CO., INC.

"If It's Wrecking — Call Us"

4700 HILLTOP ROAD (27407)
PHONE: (336) 855-7030
FAX: (336) 855-9322

P.O. BOX 7657
GREENSBORO, N.C. 27417-0657

May 26, 1999

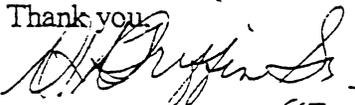
Guilford County Planning and Development Department
Mr. Randy Stanley – Zoning Investigator
Post Office Box 3427
Greensboro, North Carolina 27402

Dear Mr. Stanley,

Thank you for the copy of the Board's approval letter dated December 15, 1988. The Wiley Davis Landfill's normal business hours are from 7:00 a.m. to 5:00 p.m. - Monday thru Friday and 7:00 a.m. to noon - Saturday. Every effort is made to comply with the "Hours of Operation" set forth in the Special Use Permit issued by the Guilford County Planning Board. There had been occasions, including some emergency requests from the City and the County, which have required the landfill to operate beyond those hours.

The Wiley Davis Landfill will continue to operate the facility in compliance with the conditions stated in the above referenced letter.

Thank you



Mr. D.H. Griffin, Sr. ^{SSr}

Neighbors ask county for help to close dump

● Residents of a Guilford County neighborhood say a private dump is a menace.

BY PARKER LEE NASH
Staff Writer

Just off of Groometown Road near the Interstate 85 interchange sits a dump, mounded several stories high, with a big American flag gracing its top.

Neighbors call the private landfill "Mount Griffin," after its operator, David Griffin. Thursday night, citing a stack of public documents showing that health officials recommended that the dump be closed a decade ago, those neighbors called on the Guilford County Board of Commissioners for help.

"No one at either the state or county seems to care what is going on in our neighborhood," Lenker said. "We need your help. We are becoming scared to live in this neighborhood."

People living near the dump suspect that illegal materials, like barrels of chemicals, mattresses and drywall, have been buried in the landfill. The neighbors say their drinking water wells have become contaminated by the dump. They say the stench from the landfill stinks up the neighborhood and wafts over I-85. They provided complaint reports filed with county officials from drivers on the interstate who smelled odors.

Lenker ticked off a series of county and state inspection reports, dating back to 1990, citing the landfill for violations and urging that it be closed.

"The dates come and go without anything happen-

ing," Lenker said. "This is 1999, and the landfill is operating every day, and some nights."

County health officials told the Board of Commissioners that the neighborhoods encircling the dump do not appear to be in danger. Only "trace" amounts of compounds are being found in the neighbors' water wells.

The officials assured the Commissioners that the biggest portion of the dump will be closed in September. Then it will be properly "capped" to avoid water run-off.

Griffin, the landfill operator, plans to continue operating a portion of the dump after the larger section is closed.

Commissioner Bob Landreth asked Griffin to come forward and address the board.

Landreth told the audience he'd known Griffin since the 1950s.

"Have you closely monitored what went into this landfill?" Landreth asked Griffin.

"Very closely. Every day," Griffin replied. "We check every load."

Commissioner John Parks urged county health officials to bring more information about the landfill back to the board in 30 days.

Commissioner Mary Rakestraw asked the other board members to consider the seriousness of the neighbors' charges.

"I don't want anybody to think that we're going to let this go away," Rakestraw said. "We have to assume responsibility."

Landreth echoed that sentiment.

"Let's don't sweep this under the rug," he said.

S.C. school bonds sought by



**NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES**

DIVISION OF WASTE MANAGEMENT



**JAMES B. HUNT JR.
GOVERNOR**

**WAYNE MCDEVITT
SECRETARY**

**WILLIAM L. MEYER
DIRECTOR**

MEMORANDUM

DATE: MAY 20, 1999
TO: HUGH JERNIGAN
THROUGH: JULIAN FOSCUE
FROM: PHILIP J. PRETE 
RE: STATEMENT ON WILEY DAVIS ROAD / DH GRIFFIN LANDFILL
(PERMIT # 41-B) GUILFORD COUNTY

The D. H. Griffin Landfill has operated under an evolving program and due to changes in the rules that were intended to upgrade the environmental protective attributes of various classes of landfills, the landfill has been determined by the Division to be non-conforming as of January 1, 1998. The Division began internal discussions to develop a strategy to address the inconsistencies in late 1997 and entered into negotiations with the permittee on or about 20 October, 1998 to find reasonable alternatives to close the landfill in compliance with the rules and to implement a post-closure monitoring program. The Divisions attention in 1998 was directed at assuring that all municipal solid waste landfills closed in accordance with the rules. Upon completing those priority activities the Division began to attend to the non-municipal solid waste landfills that were non-conforming based on the new rules. The Wiley Davis Road landfill became the highest priority in this class of facility.

The Division currently is reviewing a closure plan, and plans for post-closure environmental monitoring submitted by the permittee at the request of the Division. The permittee has been fully cooperating with the Division to accomplish complete closure of the old unit at an economic loss to the permittee. The site will be phased into closure with stabilization and vegetation of final contours.

PJP

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES
WINSTON-SALEM REGIONAL OFFICE



JAMES B. HUNT JR.
GOVERNOR

WAYNE McDEVITT
SECRETARY

January 14, 1998

Mr. Juan Carroll
D.H. Griffin Company
4700 Hilltop Road
Greensboro, NC 27407

Dear Mr. Carroll:

To date, the D.H. Griffin LCID Landfill Permit #41-N located near Greensboro, NC has been operating in a satisfactory manner. For additional information, please schedule a file search by calling this office.

Sincerely,

Julian M. Foscue, III
Western Area Supervisor
Solid Waste Section

JMF/grh

State of North Carolina
Department of Environment,
Health and Natural Resources
Winston-Salem Regional Office

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary



**DIVISION OF WASTE MANAGEMENT
SOLID WASTE SECTION**

June 11, 1997

MEMO

TO: Phil Prete
FROM: Hugh Jernigan
THROUGH: Julian Foscue
SUBJECT: Wiley Davis Landfill
Permit No. 41-B

The permit for a sanitary landfill was issued on May 28, 1980, and was an existing landfill at the time of issuance. There are several issues and questions that should be resolved for the site:

1) Waste Acceptance

The permit was issued as a sanitary landfill (demolition-landscape landfill) and it appears the site has accepted C & D waste since the ^{inception} inspection of the landfill in that the interpretation of "demolition waste" was C & D. There are also written approvals for the acceptance of roofing materials by Guilford County. Review of Regional Office and Central Files reveal no permit application which could address this issue and questions remain over types of acceptable waste.

2) Groundwater

There are monitoring wells at the site which have shown contamination. The Groundwater Section in the Winston-Salem Regional Office has delegated authority to the Guilford County Environmental Health Department. According to Gene Mile of Guilford County, the landfill is currently on a quarterly groundwater monitoring schedule. Should the Solid Waste Section be responsible for evaluating groundwater monitoring at the site?



3) Elevation Limitations/Side slopes

There are no final contours listed for the site; waste disposal is currently being conducted on a plateau, and could go much higher based on the size of the site. The side slopes of the landfill are very steep which could possibly result in a slide in the future. Is there any way to regulate the height of the landfill?

4) Operational Requirements

Operational plans were not required at the time of permit issuance and there are none in effect. Should the facility operate under LCID rules or Sanitary Landfill rules and could the facility be required to submit operational plans (all other issues concerning the site need to be clarified first)?

5) Roadway Construction

Part of the Greensboro Urban Loop Highway Plans call for an interchange which would intersect with a portion of the landfill. Unless these highway plans are modified, a significant amount of waste will be moved to make way for the interchange.

It appears the site may meet buffer requirements concerning the siting requirements of 0563(6)(c).

Apparently a call for a permit renewal is not an option in that due to the heavy workload, the permitting staff has to consider a permit renewal for this type site a low priority.

Any assistance and direction concerning this facility would be greatly appreciated.

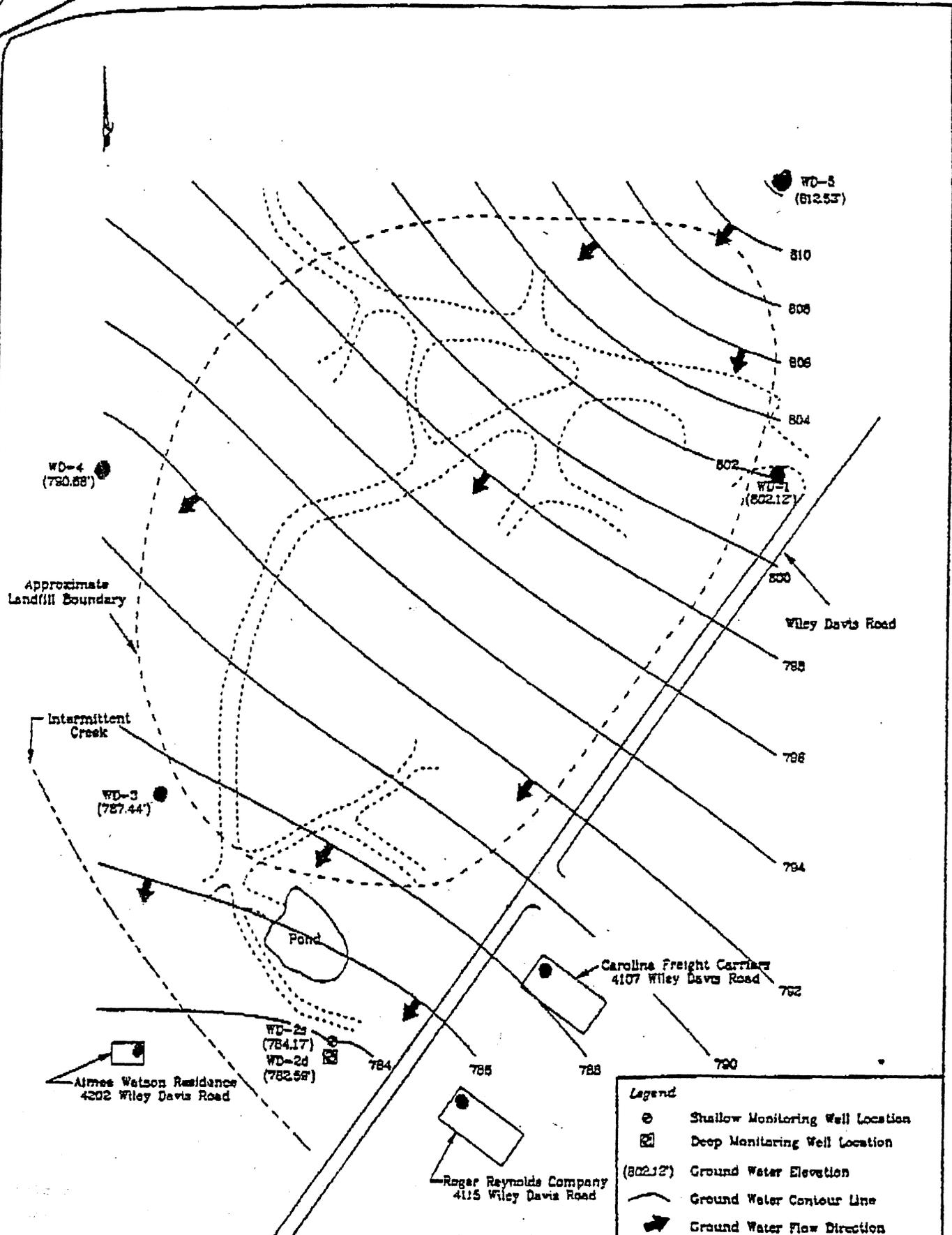
HJ/mrw

Table 2. Laboratory Analytical Results

Well Id	Parameters										
	1,1-Dichloro-ethane (ug/L)	Benzene (ug/L)	Chloro-benzene (ug/L)	1,2-Dichloro-benzene (ug/L)	Arsenic (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Lead (mg/L)	Barium (mg/L)	Mercury (mg/L)	Silver (mg/L)
WD-1	<1.0	<1.0	<1.0	<5.0	<0.003	0.006	0.110	<0.003	0.291	<0.0002	<0.0
WD-2s	1.19	2.24	110	5.0	<0.003	0.003	0.005	0.005	2.127	<0.0002	<0.0
WD-2d	1.81	1.79	94.0	15.0	<0.003	<0.001	<0.005	<0.003	0.158	<0.0002	<0.0
WD-3	<1.0	<1.0	<1.0	<5.0	0.004	0.006	0.007	<0.003	0.778	0.0008	<0.0
WD-4	<1.0	<1.0	2.09	<5.0	<0.003	0.002	<0.005	<0.003	0.706	<0.0002	<0.0
WD-5	<1.0	<1.0	<1.0	<5.0	<0.003	0.002	0.021	0.004	0.191	<0.0002	0.1
CF-7	<1.0	<1.0	<1.0	<5.0	<0.003	<0.001	<0.005	<0.003	0.018	<0.0002	0.
RR-8	<1.0	<1.0	<1.0	<5.0	<0.003	<0.001	<0.005	0.004	0.019	<0.0002	<0.
AW-9	<1.0	<1.0	<1.0	<5.0	<0.003	0.001	<0.005	<0.003	0.065	<0.0002	0
NC Standard	700	1	50	620	0.05	0.005	0.05	0.015	2.00	0.0011	0

Analytical Laboratory: Hydrologic, Inc.
Morrisville, NC

Aquaterra Job No. 6300700



Legend

- Shallow Monitoring Well Location
- ◻ Deep Monitoring Well Location
- (802.12') Ground Water Elevation
- Ground Water Contour Line
- ➔ Ground Water Flow Direction



AWAUST EVC	Drawing 6818-1	Layers 0.13	Date 7-8-83	Title Ground Water Flow Map (April 14, 1994)
Job No 3100518	Revision 7-15-94	Plots 3	Scale 1" = 200'	Project Wiley Davis Landfill Greensboro, North Carolina

Title Ground Water Flow Map (April 14, 1994)	
Project Wiley Davis Landfill Greensboro, North Carolina	

James B. Hunt, Jr., Governor



FAX TRANSMITTAL SHEET

FAX #910-771-4631

DATE: January 14, 1998

*FACILITY
PERMIT # 41-N*

TO: Juan Carroll
FAX #: 910-855-9322 PHONE #: 855-7030
FROM: Julian Foscoe
SUBJECT: _____
COMMENTS: _____

THE WIZARD OF ID

by Brant Parker and Johnny Hart



"By permission of Johnny Hart and NAS, Inc."

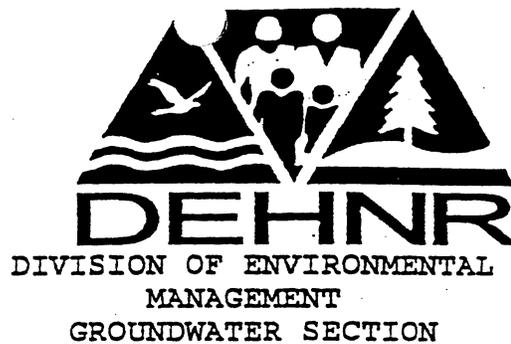
ANY QUESTIONS, PLEASE CALL George Hans

(910) 771-4608, Ext. 216

NUMBER OF PAGES INCLUDING COVER SHEET 2

State of North Carolina
Department of Environment,
Health and Natural Resources
Regional Health Office

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
Leesha L. Fuller, Regional Manager



April 25, 1995

CERTIFIED MAIL: P 013 326 032
RETURN RECEIPT REQUESTED

D.H. Griffin, Sr.
Wiley Davis Landfill, Inc.
P.O. Box 7657
Greensboro, NC 27417

Subject: Wiley Davis Landfill, Wiley Davis Road, Greensboro,
Guilford County, North Carolina
Incident # 6357

Dear Mr. Griffin:

This letter is to acknowledge the receipt of "Ground Water Assessment..." for the referenced site on August 12, 1994. Your cooperation is appreciated.

As stated in the letters of September 7, 1993 and March 22, 1994 to you, Wiley Davis Landfill, Inc. is required to determine the vertical and horizontal extent of each contaminant and submit a complete report for the site. North Carolina Administrative Code 15A 2L .0111 (a) states that "any person subject to the requirements for corrective action specified in Rule .0106 shall submit in such detail as the Director may require, a written report...". Therefore, a Comprehensive Site Assessment report is due for the subject site and should be received in this office within sixty (60) days of receipt of this letter. Review of the Comprehensive Site Assessment may be expedited due to the existence of a Memorandum of Agreement between Guilford County and the Division of Environmental Management.

If you have any questions, please contact Lunjin Mao at (910) 373-3771.

Sincerely,

Sherri V. Knight
Sherri Knight
Regional Section Supervisor

cc: WSRO Files

NC DEPARTMENT OF ENVIRONMENT, HEALTH AND NATURAL RESOURCES

Division of Solid Waste Management

Solid Waste Section

SOLID WASTE MANAGEMENT FACILITY EVALUATION REPORT

Type of Facility plastic permitted waste Gen Inv (LEED) Permit # 41-B County Caldwell

Name of Facility Wiley Bros. Co. LLC Location Wiley Lane Rd

Date of Last Evaluation 7/20/93

I. Permit Conditions Followed Yes No N/A

A. Specific Condition(s) Violated

II. Operational Requirements Followed Yes No

15A N.C. Admin. Code 13B Section 0566

A. Specific Violation(s) by number and letter.

III. Other Violations of Rule or Law

IV. Evaluator's Comments Noncombusting waste being refused (6 loads in last 30 days)

Metals, cardboard, plastic particles in receipt being removed for recycling
Mobile (21-40)pt. Assessment in progress (August) Flammable liquid spillage investigation
and temporary seeding being conducted

V. Continuation Page Required? Yes No Receiving Signature [Signature]

Evaluation Date 7/28/94 Solid Waste Section [Signature]

May 6, 1994

Mr. Waddell Watters
North Carolina Department of Environment,
Health, and Natural Resources
Division of Environmental Management
Winston-Salem Regional Office
8025 North Point Boulevard
Suite 100
Winston-Salem, North Carolina 27106-3203

Reference: Ground Water Assessment Activities
Wiley Davis Landfill
Incident No. 6357
Greensboro, North Carolina
Aquaterra Job No. 4303600

Dear Mr. Watters:

Aquaterra, Inc., (Aquaterra) would like to update you on the status of the ground water assessment program at the Wiley Davis Landfill site (site) located in Greensboro, North Carolina (Incident No. 6357). We have reviewed the March 22, 1994, correspondence to Mr. D.H. Griffin from Ms. Sherri V. Knight of your office. In order to address the issues raised by Ms. Knight, Aquaterra conducted ground water sampling activities at the site on April 14, 1994. Ground water samples were collected from the appropriate monitoring wells and adjacent domestic wells and submitted for laboratory analysis as directed in the correspondence.

Aquaterra is awaiting the results of this sampling event prior to initiating further well installation or assessment activities. Based on the low levels previously detected, we feel this most recent sampling event will allow us to determine the current status of the site and develop an appropriate plan for the site. We will forward the results of this sampling event as well as our plan for the next phase of assessment to you following our evaluation of the current analytical data.

If you have any questions or require additional information, please contact us at (910) 852-5003.

Sincerely,

AQUATERRA, INC.

Susan Kite

Susan Kite, P.G.
Project Manager

cc: Ms. Evelyn Walker, DARI

GL4060/SK/hmk

RECEIVED
N.C. Dept. of EHNR

MAY 9 1994

Winston-Salem
Regional Office

State of North Carolina
Department of Environment,
Health and Natural Resources
Winston-Salem Regional Office

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
Leesha Fuller, Regional Manager



March 22, 1994

CERTIFIED MAIL NUMBER: P-536 302 787
RETURN RECEIPT REQUESTED

D. H. Griffin, Sr.
Wiley Davis Landfill, Inc.
PO Box 7657
Greensboro, NC 27417

SUBJECT: Wiley Davis (Road) Landfill, Wiley Davis Road, Greensboro, Guilford County, North Carolina, Incident Number 6357

Dear Mr. Griffin:

I am in receipt of GROUND WATER ASSESSMENT...; February 22, 1994, Aquaterra Engineers, Inc. Three concerns have come to light during the review of the report.

1. The sample analyses methods used were not the ones approved by the Groundwater Section in the GROUNDWATER SECTION GUIDELINES FOR THE INVESTIGATION AND REMEDIATION OF SOILS AND GROUNDWATER, March 1993, (June 1993 revision). Please refer to this document for the proper application of sample methodology in future sampling episodes.
2. Violations of NCAC 2L standards have occurred in monitoring wells WD-2s and WD-2d located at the downgradient margin of the landfill. This contamination necessitates further groundwater assessment both to the south and within the bedrock aquifer.

(Chlorinated solvents are generally 'sinkers' and will require well nests to determine the vertical extent of contamination.)

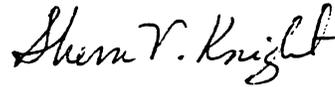
3. Finally, why did it take ten months after groundwater sample collection to submit this report?

You need to submit a scope of services for the next phase of assessment to this office within thirty days from receipt of this letter. A completed assessment report must be submitted

D. H. Griffin
Wiley Davis Road Landfill
page 2

within ninety more days. If you have any questions, please contact Waddell Watters at the letterhead address or telephone number.

Sincerely,



Sherri V. Knight
Regional Section Supervisor

cc: WSRO

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 2, 1994

Mr. D.H. Griffin
D.H. Griffin Wrecking Company, Inc.
P.O. Box 4657
Greensboro, N.C. 27407

Re: Water Quality Monitoring Data from the Wiley Davis Landfill
(Permit No. 41-B)

Dear Mr. Griffin:

Per our telephone conversation today the Solid Waste Section requests copies of the analytical data from each of the ground water monitoring episodes at the Wiley Davis landfill. Please forward the information to the Solid Waste Section Hydrogeologist, Solid Waste Section, P.O. Box 27687, Raleigh, North Carolina 27611-7687.

Thank you for your response. If you have any questions or comments, please call this office at (919) 733-0692.

Sincerely,

Larry Rose
Larry Rose
Hydrogeological Technician
Solid Waste Section

cc: Julian Foscue

February 22, 1994

Mr. D. H. Griffin, Sr.
Wiley Davis Landfill, Inc.
Post Office Box 4657
Greensboro, North Carolina 27407

Reference: Ground Water Assessment
Wiley Davis Landfill, Inc.
Guilford County, North Carolina
Aquaterra Engineering Job No. 3106518

Dear Mr. Griffin:

Aquaterra Engineering, Inc., (formerly Ware Lind Furlow Engineers, Inc.) has completed a ground water assessment of the Wiley Davis Landfill, Inc. facility. Aquaterra Engineering is the engineering group associated with Aquaterra, Inc. Enclosed you will find a draft copy of the report for your review. The ground water assessment indicates several constituents were detected in the ground water that exceed state ground water standards. The subsequent analysis of the drinking water wells in the area did not indicate any compounds were detected. We recommend that the ground water monitoring be performed on an annual basis until closure of the landfill and then determine if ground water remediation is warranted. A copy of this report has been submitted to the North Carolina Department of Environment, Health, and Natural Resources, Division Environmental Management and the Division of Solid Waste Management.

Aquaterra Engineering appreciates this opportunity to be of service to Wiley Davis Landfill, Inc. If you have any questions regarding this report, or if we can be of further assistance, please call us at (919) 859-0608.

Sincerely,

AQUATERRA ENGINEERING, INC.


Kenneth L. Jesneck, P.E.
Senior Engineer/Project Manager



440017/KLJ/alh

cc: North Carolina Department of Environment, Health, and Natural Resources,
Division of Environmental Management - Winston-Salem Regional Office
North Carolina Department of Environment, Health, and Natural Resources,
Division of Solid Waste Management - Winston-Salem Regional Office

State of North Carolina
Department of Environment,
Health and Natural Resources
Winston-Salem Regional Office

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
Leesha Fuller, Regional Manager



September 7, 1993

CERTIFIED MAIL NUMBER: P-536 302 602
RETURN RECEIPT REQUESTED

D. H. Griffin, Sr.
Wiley Davis Landfill, Inc.
PO Box 7657
Greensboro, NC 27417

SUBJECT: Wiley Davis (Road) Landfill, Wiley Davis Road, Greensboro, Guilford County,
North Carolina, Incident Number 6357

Dear Mr. Griffin:

I am in receipt of GROUND WATER ASSESSMENT...; July 14, 1993, Ware Lind Furlow Engineers, Inc. This report does not meet the requirements outlined in my May 6, 1993 letter to you (copy enclosed). You are to submit a complete report to this office within thirty days of receipt of this letter.

If you have any questions, please contact me at (919)896-7007.

Sincerely,

W. Waddell Watters
Hydrogeologist

cc: WSRO

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



August 25, 1993

D. H. Griffin
D. H. Griffin Wrecking Company, Inc.
Post Office Box 4657
Greensboro, North Carolina 27407

Ref: Construction and Demolition Landfill Application

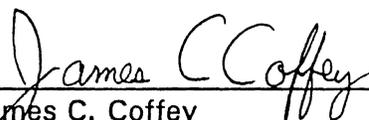
Mr. Griffin:

The Division of Solid Waste Management, Solid Waste Section, has completed the review of the above referenced permit application. Ground water samples from adjacent wells have detected the presence of existing contamination. Field reconnaissance of the site and in the immediate vicinity indicates that the underlying ground and soil conditions consists of loose porous material. Based upon the information submitted, staff field reconnaissance, and test results from adjacent ground water samples, the Section has determined that this site is not suitable for a Construction and Demolition (C&D) landfill.

The Solid Waste Section encourages your efforts to obtain a site which would be suitable for a C&D landfill. Should you wish to investigate other sites, Section staff is available to assist you in your efforts. For your convenience, we have enclosed the most recent printing of the North Carolina Solid Waste Management Rules, 15A NCAC 13B, and Policy Memorandum 16.

If you have any questions or if we can provide any assistance, please do not hesitate to contact this office or our staff in the Winston-Salem Regional Office.

Thank you,



James C. Coffey
Supervisor
Permitting Branch

enclosures

copy: Hugh Jernigan - DEHNR
Jan McHargue - DEHNR
Gene Mustin - Borum, Wade and Associates

C:\SESSOMS\PROJECTS\GRIFFIN\LTR.2



State of North Carolina
Department of Environment, Health, and Natural Resources

512 North Salisbury Street • Raleigh, North Carolina 27604
Division of Solid Waste Management

James B. Hunt, Jr., Governor

Solid Waste Section
Telephone (919) 733-4996

Jonathan B. Howes, Secretary

May 25, 1993

Gene Mustin
Borum, Wade and Associates
405-D Parkway Avenue
Greensboro, North Carolina 27405

Ref: D. H. Griffin
Construction and Demolition Landfill Application

Mr. Mustin:

As per our telephone conversation, enclosed please find one copy each of the following:

- North Carolina Solid Waste Management Rules, 15A NCAC 13B
- Policy Memorandum 16, Management of Construction, Demolition, Land Clearing, Inert, and Yard Trash Debris
- Sanitary Landfill Guidance Document
- North Carolina Water Quality Monitoring Guidance Document for Solid Waste Facilities

Policy Memorandum 16 outlines the general requirements for Construction and Demolition (C&D) landfill. Essentially, C&D landfills (and applications) must meet all the requirements of Sections .0503 and .0504 of the Solid Waste Management Rules except that liner-leachate collection systems are not required and airport location restrictions do not apply.

Upon your review of the enclosed items, please call me in order to discuss the status of your client's application. If you have any other questions or if we can provide additional assistance, please do not hesitate to contact this office.

Thank you,

A handwritten signature in black ink that reads "William D. Sessoms".

William D. Sessoms, PE

enclosures

copy: Jan McHargue

C:\SESSOMS\PROJECTS\GRIFFIN\LTR.1

P.O. Box 27687, Raleigh, North Carolina 27611-7687 Telephone 919-733-4984 Fax # 919-733-0513

An Equal Opportunity Affirmative Action Employer



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State of North Carolina
Department of Environment,
Health and Natural Resources
Division of Land Resources

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary



May 11, 1993

RECEIVED
N.C. Dept. of EHNR

MAY 19 1993

Winston-Salem
Regional Office

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. D.H. Griffin, Sr.
D.H. Griffin Wrecking Co., Inc.
P.O. Box 4657
Greensboro, North Carolina 27407

RE: Expired Mining Permit No. 41-14
Griffin Pit
Guilford County

Dear Mr. Griffin:

This office received your April 29, 1993 letter on May 6, 1993 which you sent in response to the April 5, 1993 Notice of Violation (Notice) for the above referenced site. Our records indicate that the above Notice was received on April 8, 1993 which gave you a deadline for compliance of May 8, 1993.

However, to date, you have failed to adequately address the corrective actions outlined in the Notice by the May 8th deadline. As you have chosen the option to reclaim this site rather than applying for and obtaining a new mining permit to allow continued mining at this site, you must provide the following information to this office by May 28, 1993:

- 1) You must provide a detailed map of the entire permitted site, at a scale of 1 inch equals 100 feet, that clearly indicates a) all areas at the site where landfilling activities and final stabilization have been completed, b) all disturbed areas at the site at the time the mining permit expired (February 8, 1992) and c) how and when all disturbed areas affected under the permit will be completely reclaimed. An approximate acreage for each area must be indicated on the map.
- 2) The 19 acres covered by the Solid Waste Permit (No. 41-B) must be clearly identified on the map in order to locate those disturbed areas that will be reclaimed as an approved landfill under said permit. Two (2) copies of the final approved landfill plans for the 19 acre area

Mr. Griffin
May 11, 1993
Page 2

must be provided to this office for our review to ensure that the reclamation of this area to a landfill will meet the requirements of the Mining Act of 1971.

- 3) A time frame for completion of landfilling activities in the 19 acre area, including final capping and revegetation, must be provided.
- 4) For the remaining disturbed areas at the site that are not presently covered by the Solid Waste Permit No. 41-B, a detailed description, location and acreage must be provided to this office as to how these areas will be reclaimed in a timely manner. Please note that if a Solid Waste Permit has not been issued for these areas, specifically the 16.03 acres referred to in your expired mining permit's reclamation conditions, proposed landfilling activities will not be considered acceptable reclamation by this office. Therefore, said areas must be regraded and revegetated according to the reclamation conditions of the expired permit. Please be advised that the reclamation conditions of the expired permit still apply until the site has been deemed adequately reclaimed by the Department and the reclamation bond subsequently released.
- 5) As you have indicated that no excavated material will be removed from the site and that you will only use excavated material from the site for cover on the landfill, this office needs a notarized letter, under your signature, legally confirming your intentions regarding this issue.

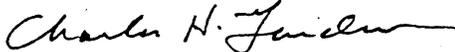
Please be advised that if any excavated material is removed from the site and is confirmed by Land Quality Section personnel without you first applying for and obtaining a valid mining permit from the Department, you will be considered in direct violation of the Mining Act for mining without a permit and subject to a civil penalty of up to \$5,000.00 per day for each day the violation continues. In addition, further enforcement actions such as injunctive relief and bond forfeiture proceedings could also be taken by this office to gain compliance at this site.

Please note that no further extensions will be granted. If the above information is not received, in duplicate, by this office by May 28, 1993, this matter will be referred to the Attorney General's Office for initiation of the above referenced actions.

Mr. Griffin
May 11, 1993
Page 3

Your prompt cooperation in this matter will be greatly appreciated. If you should have any questions on the above, please contact Mr. Doug Miller at (919) 896-7007 or Mr. Tracy Davis at (919) 733-4574.

Sincerely,


Charles H. Gardner, P.G., P.E.

CHG/TED/td
cc: Mr. Tracy Davis
Mr. Doug Miller

WILEY DAVIS LANDFILL, INC.

POST OFFICE BOX 7657
GREENSBORO, NORTH CAROLINA 27417-0657
919-855-7030

RECEIVED
N.C. Dept. of EHNR

APR 29 1993

Winston-Salem
Regional Office

29 April 1993

Mr. W. Waddell Watters, Hydrogeologist
State of North Carolina
Department of Environment, Health
and Natural Resources
Division of Environmental Management
8025 North Point Boulevard, Suite 100
Winston Salem, North Carolina 27106-3203

Reference: Wiley Davis (Road) Landfill, Wiley Davis Road, Greensboro,
Guilford County, North Carolina, Incident Number 6357, Your
Letter of 5 April 1993

Dear Mr. Watters:

The following is in response to your above referenced letter:

1. We have enclosed another copy of results. The original copies were mailed to your Mr. Larry Lucas at the time of receipt.
2. Supply wells have not been resampled. We were under the impression that the original results were not serious and that resampling could be accomplished after closing site.
3. Site is scheduled to be closed within the next twelve (12) months.

For your information, I have also enclosed copies of the "Articles of Incorporation" and "Solid Waste Management Permit". Wiley Davis Landfill, Inc. is not affiliated with D. H. Griffin Wrecking Company, Inc. but is a separate entity.

If any further information is required, please advise.

Sincerely,

WILEY DAVIS LANDFILL, INC.



D. H. Griffin, Sr.
President

DHG,Sr/mg

HUGA-4 12/12

MAY 04 1993

WILEY DAVIS LANDFILL, INC.

POST OFFICE BOX 7657
GREENSBORO, NORTH CAROLINA 27417-0657
919-855-7030

RECEIVED
N.C. Dept. of EHNR

APR 20 1993

Winston-Salem
Regional Office

29 April 1993

Mr. Larry D. Coble
Regional Supervisor
State of North Carolina
Department of Environment, Health, and
Natural Resources
Division of Environmental Management
8025 North Point Blvd., Suite 100
Winston Salem, NC 27106-3203

Reference: Response to EPA Violations' Inquiry
Wiley Davis Landfill, Inc.
Guilford County
Your Letter of 2 April 1993

Dear Mr. Coble:

The following is in response to your above referenced letter.

Apparent current violations:

1. On 22 April 1993, I talked with Mr. Tracy Davis, State Mining Specialist, in Raleigh, regarding the mining permit. He advised that as we are using the mining material for reclaiming the dump no permit was required.
2. Please see enclosed copy of letter to Mr. W. Waddell Watters.

Information regarding over-all sites:

1. A pump has been installed in the pond, with six (6) sprinklers, and water is being pumped back onto dump.
2. The "smell" problem has been corrected. State inspector agreed to allow us to continue filling. Dump is scheduled to close within twelve (12) months.

29 April 1993
Mr. Larry D. Coble
Page 2

Also, please find enclosed copies of "Articles of Incorporation" and "Solid Waste Management Permit". Wiley Davis Landfill, Inc. is not affiliated with D. H. Griffin Wrecking Company, Inc.

Should you have any additional questions, please do not hesitate to contact the writer.

Sincerely,

WILEY DAVIS LANDFILL, INC.

A handwritten signature in black ink, appearing to read "D. H. Griffin, Sr.", written over a circular stamp or mark.

D. H. Griffin, Sr.
President

DHG, Sr/mg

Enclosures

WILEY DAVIS LANDFILL, INC.

POST OFFICE BOX 7657
GREENSBORO, NORTH CAROLINA 27417-0657
919-855-7030

29 April 1993

Mr. W. Waddell Watters, Hydrogeologist
State of North Carolina
Department of Environment, Health
and Natural Resources
Division of Environmental Management
8025 North Point Boulevard, Suite 100
Winston Salem, North Carolina 27106-3203

Reference: Wiley Davis (Road) Landfill, Wiley Davis Road, Greensboro,
Guilford County, North Carolina, Incident Number 6357, Your
Letter of 5 April 1993

Dear Mr. Watters:

The following is in response to your above referenced letter:

1. We have enclosed another copy of results. The original copies were mailed to your Mr. Larry Lucas at the time of receipt.
2. Supply wells have not been resampled. We were under the impression that the original results were not serious and that resampling could be accomplished after closing site.
3. Site is scheduled to be closed within the next twelve (12) months.

For your information, I have also enclosed copies of the "Articles of Incorporation" and "Solid Waste Management Permit". Wiley Davis Landfill, Inc. is not affiliated with D. H. Griffin Wrecking Company, Inc. but is a separate entity.

If any further information is required, please advise.

Sincerely,

WILEY DAVIS LANDFILL, INC.

D. H. Griffin, Sr.
President

DHG,Sr/mg



file

State of North Carolina
Department of Environment, Health, and Natural Resources
Winston-Salem Regional Office

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary

April 27, 1993

Margaret Plemmons Foster
Regional Manager

CERTIFIED MAIL P - 536 304 683
RETURN RECEIPT REQUESTED

Mr. D. H. Griffin, Sr.
D. H. Griffin Wrecking Company
P.O. Box 4657
Greensboro, N. C. 27407

Subject: Warning Letter
Wiley Davis Road Landfill
Greensboro, N. C.

Dear Mr. Griffin:

Reference is made to visits made to your landfill operation on Wiley Davis Road by Hugh Jernigan and Brent Burch on April 16, 1993 and by Hugh Jernigan and Julian Foscue on April 21, 1993.

As a result of these visits and discussions with you on April 21, there are several areas which require your prompt attention and corrective actions regarding the operation of the landfill.

1) Acceptable Waste

North Carolina Solid Waste Management Rules 15A NC Admin. Code 13B .0566(2) states that "The facility shall only accept those wastes which it is permitted to receive." It was observed that solid waste which is not permitted and is unacceptable for the site is being disposed of in the landfill. These materials include, but were not limited to cardboard, sheetrock, various types of plastics including discarded buckets, insulation, carpet, household waste, and roofing materials. Monitoring of vehicles entering the site may be necessary to prevent the disposal of these wastes. Landfilling of unacceptable waste can greatly increase the probability of creating groundwater contamination and leachate problems. The employees on site appeared to be doing an excellent job in segregating and removing metals for recycling.

2) Site Soil Coverage and Grading

North Carolina Solid Waste Management Rules 15A NC Admin. Code 13B .0566(10) states that "Surface water shall be diverted from the working face and shall not be impounded over the waste." Current observed operations allow for rainwater and water runoff to infiltrate the solid waste being disposed. The working face should be kept as small as possible, while inactive disposal areas should be capped with a suitable cover of soil. Those areas of solid waste disposal which are covered with soil should be graded to divert water away from working areas and graded to prevent impoundment of water over disposal areas.

3) Leachate Control

North Carolina Solid waste Management Rules 15A NC Admin. Code 13B .0566(14) states that "Leachate shall be properly managed on site through the use of best management practices." On both April 16 and 21, 1993 leachate was observed on the south side of the fill area. This leachate was being collected in a holding pond. On April 16 the leachate was observed being pumped directly into the adjacent stream and on April 21 the leachate from the holding pond was observed to be overflowing directly into the stream. You are advised to take immediate actions to prevent discharges to the stream as we discussed on April 21 which may include spray irrigation (evaporation) of liquids and maintenance of the holding pond. Corrective actions listed in the first two items may be of significant benefit in controlling potential leachate problems. The Water Quality Section has been notified of the discharge.

Concerning other subjects discussed on April 21, 1993, the Land Quality Section has been contacted in reference to utilizing soil from the site of the former mining operation for cover of the

Mr. D. H. Griffin
Page 3

solid waste disposal area. You should be receiving a letter shortly from the Land Quality on a ruling. We are inquiring on the status of your submitted construction and demolition landfill application, and should report to you within the week.

If you have any questions concerning this matter please call me at 919/896-7007.

Sincerely,



Hugh W. Jernigan, Jr.
Waste Management Specialist

HWJ/pw

cc: Julian M. Foscue, III
Dexter Matthews
Doug Miller
Jan McHargue
Larry Coble
David Barnes



State of North Carolina
Department of Environment, Health, and Natural Resources
Winston-Salem Regional Office
Division of Environmental Management

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary

Groundwater Section

Margaret Plemmons Foster
Regional Manager

April 5, 1993

D. H. Griffin
D. H. Griffin Wrecking Co., Inc.
PO Box 7657
Greensboro, NC 27417

SUBJECT: Wiley Davis (Road) Landfill, Wiley Davis Road, Greensboro, Guilford County,
North Carolina, Incident Number 6357

Dear Mr. Griffin:

The Winston-Salem Office of the Division of Environmental Management is reviewing the status of D. H. Griffin Wrecking Company's activities for the remediation of the groundwater at the Wiley Davis Road landfill site. This office is in receipt of Remedial Action Plan...; May 7, 1991; by Aquaterra Environmental Consultants. No Corrective Action Plan can be accepted by this office until a comprehensive Site Assessment (CSA) report is submitted. A CSA must include a full delineation of the contamination plume. Also:

1. What were the results of the groundwater sampling episode that took place on April 24, 1991?
2. Have the four supply wells located within 1,500 feet down-gradient of the site been resampled since January 1990?
3. What further action has Griffin initiated to remediate the site?

This office has been unsuccessful in getting in touch with the project manager at Aquaterra. Either you or your project manager should respond to this letter within 30 days.

D. H. Griffin
Wiley Davis Road Landfill
page 2

If you have any questions, please contact me during the hours of 9:00 to 10:00 a.m.
and 1:30 to 2:30 p.m.

Sincerely,

A handwritten signature in black ink, appearing to read "W. Waddell Watters". The signature is written in a cursive style with a long horizontal stroke extending to the right.

W. Waddell Watters
Hydrogeologist

cc: WSRO

enclosure



State of North Carolina
Department of Environment, Health, and Natural Resources
Winston-Salem Regional Office

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary

Margaret Plemmons Foster
Regional Manager

DIVISION OF ENVIRONMENTAL MANAGEMENT
April 2, 1993

Mr. David H. Griffin, Jr. Dr. Estimator/Project Manager
P. O. Box 7657 (4700 Hill Top Road)
Greensboro, NC 27417

Subject: Response to EPA Violations' inquiry
D. H. Griffin Wrecking Co., Inc.'s Wiley-Davis Road Dump,
Guilford County

Dear Mr. Griffin:

This reply is in regard to your letter to Mr. A. Preston Howard, Jr., P.E., dated February 8, 1993, that was received by this Office on February 23, 1993.

The WSRO has reviewed files, earlier Notices of Violation in Air and Water Quality, permits, and requested environmental evaluations. Please explain the apparent current violations that were found:

1. That the Mining Permit for the new section of the site has expired and any further mining at this site is in violation.
2. That required groundwater monitoring associated with the old portion of the sandrock mine and landfill has not been done (required reports have not been received by this Office).

This Office requests the following information regarding the over-all sites:

1. What is being done or what has been done with the leachate and chemically contaminated water that was/is being generated at the site? What is the current status of the on-site chemical/leachate contaminated pond?

David H. Griffin, Jr.
April 2, 1993
Page 2 of 2

2. A request for D.H. Griffin Wrecking Co.Inc. to close the landfill was made on July 20, 1990, by the Guilford County Health Department. When is your Company planning to begin closure? Recent observations indicate only continued business-as-usual. Please explain your Company's plans for this site.

With the current information now available plus the new information requested by this letter, this Department will be better prepared to render decisions regarding the operations at your Company's Wiley-Davis Mining/Landfill sites.

If you have any questions regarding this letter, please call M. Steven Mauney, Arthur R. Hagstrom, or me at this Office.

Sincerely,



Larry D. Coble
Regional Supervisor

msm
msm/arh

cc: Steve Tedder
Guilford County Emergency Management
WSRO-GWQ
WSRO-LQ
WSRO-Solid Waste
Central Files
WSRO

ATTACHMENT

AQUATERRA, INC.
SITE SPECIFIC HEALTH & SAFETY PLAN
ATTACHMENT

SUBSTANCES	TOXICITY (PEL/TLV)	QUANTITY
CHLOROBENZENE	75	PPM
1,2, DICHLOROBENZENE	50	PPM
HYDROGEN SULFIDE	10	PPM
111 TCA	350	PPM
CARBON DISULFIDE	10	PPM
ACETONE	750	PPM
2 - BUTANONE (MEK)	200	PPM
CHLOROFORM	10	PPM
TULUENE	100	PPM
BENZONIC ACID	NA	
1,2 - DICHLOROBENZENE	NA	
4 - METHYLPHENOL	NA	
PHENOL	5	PPM

EQUIPMENT CHECKLIST

- o Six well-dedicated decontaminated Teflon bailers
- o New nylon rope (approximately 250 feet)
- o Sampling notebook
- o Knife
- o Ball point pen
- o Hand held calculator
- o One box of vinyl gloves
- o Tyveks
- o Bucket (5 gallon)
- o Spanner wrench
- o Health and safety plan
- o Water level indicator
- o Steel tape graduated in tenths of a foot
- o Decontaminated gear (spray bottle of isopropyl alcohol, spray bottle of diionized water, paper towels)
- o pH, conductivity and temperature meters
- o Wet ice, plastic bags
- o Laboratory bottles
- o Chronograph
- o Two 55 gallon drums

DATA TO BE ENTERED INTO LOGBOOK

- o Date on top of every page.
- o Sampler's names.
- o Time arrived.
- o Weather conditions.
- o Table of water level depths in the wells.
- o Table of three calculated well volumes.
- o Actual volume of purged water.
- o Times purged each well.
- o Times sample each well.
- o pH, EC and T values for each well

AQUATERRA, INC.
PROPOSAL ACCEPTANCE SHEET

Wiley Davis Landfill, Inc.

THIS AGREEMENT is by and between ~~XXXXXX Environmental Services Company, Inc.~~ with an office at 4700 Hilltop Road Greensboro, North Carolina ("Client") and Aquaterra, Inc., with an office at P. O. Box 50328, Raleigh, North Carolina 27650 ("AQUATERRA, INC.") who agree as follows:

- I. **ENGAGEMENT.** Client desires to engage AQUATERRA, INC. to provide certain services (the "Services") in connection with Client's project (the "Project"), set forth in an AQUATERRA, INC. proposal (the "Proposal"):

Proposal Number P455-90 Proposal Date 5-8-90

Project Name Proposal to Prepare a Ground Water Assessment Work Plan

Short Description of Services Wiley Road Debris Landfill

Project Site Greensboro, North Carolina

For performance of Services, Client shall pay AQUATERRA, INC. as set forth in the Proposal and in accordance with the terms and conditions referenced below.

- II. **CONTRACT DOCUMENTS.** The following documents form a part of this Agreement and are incorporated herein by reference:

- A. The Proposal, attached hereto
B. The plans, reports, specifications, and other documents provided by Client and described in an exhibit marked _____ and attached hereto

In the event of any inconsistency or conflict among Contract Documents, the provision in that Contract Document first listed above shall govern.

III. **TO BE COMPLETED BY CLIENT**

- A. For payment of Services, invoice to the account of:

Firm WILEY DAVIS LANDFILL, INC.

Address 4700 Hilltop Road GREENSBORO NC Zip 27407

Phone # ⁹¹⁹ 855

Attention D. H. GRIFFIN, SR. Title PRESIDENT

B. If the invoice is to be mailed for approval to some one other than the account charged, please indicate where to mail the invoice in the space below.

Firm _____

Address _____ Zip _____

Phone # _____

Attention _____ Title _____

C. Unless referenced by number in the following space, Client waives any requirement that AQUATERRA, INC. execute an acceptance copy of Client's purchase order, numbered _____, presented to AQUATERRA, INC. for the sole purpose of expediting payment, which purchase order shall not be construed to interpreted to amend, modify, or waive any of the Terms and Conditions referenced in Section II.A., above.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized representatives this _____ day of _____, 19_____.

CLIENT _____

AQUATERRA, INC.

BY _____

BY _____

Phillip L. Rahn, P.G.
President

TITLE _____

AQUATERRA, INC.
PROPOSAL ACCEPTANCE SHEET

THIS AGREEMENT is by and between Wiley Davis Landfill, Inc. with an office at 4700 Hilltop Road Greensboro, North Carolina ("Client") and Aquaterra, Inc., with an office at P. O. Box 50328, Raleigh, North Carolina 27650 ("AQUATERRA, INC.") who agree as follows:

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Proposal Number P455-90 Proposal Date 5-8-90

Project Name Proposal to Prepare a Ground Water Assessment Work Plan

Short Description of Services Wiley Road Debris Landfill

Project Site Greensboro, North Carolina

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 - B. The plans, reports, specifications, and other documents provided by Client and described in an exhibit marked _____ and attached hereto

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III. **TO BE COMPLETED BY CLIENT**

- A. For payment of Services, invoice to the account of:

Firm _____

Address _____ Zip _____

Phone # _____

Attention _____ Title _____

B. If the invoice is to be mailed for approval to some one other than the account charged, please indicate where to mail the invoice in the space below.

Firm _____

Address _____ Zip _____

Phone # _____

Attention _____ Title _____

C. Unless referenced by number in the following space, Client waives any requirement that AQUATERRA, INC. execute an acceptance copy of Client's purchase order, numbered _____, presented to AQUATERRA, INC. for the sole purpose of expediting payment, which purchase order shall not be construed to interpreted to amend, modify, or waive any of the Terms and Conditions referenced in Section II.A., above.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized representatives this 14th day of MAY, 19 90.

CLIENT Wiley Davis Landfill, Inc.

AQUATERRA, INC.

BY D. H. Gaffin, Jr.

BY _____

TITLE PRESIDENT

Phillip L. Rahn, P.G.
President

GENERAL TERMS AND CONDITIONS
Consulting Agreement
Aquaterra, Inc.

1. DEFINITIONS:

A. "Contract Documents" shall mean the Terms and Conditions set forth herein as well as proposals, exhibits, addenda, and all other documents and materials provided by the Client in furtherance of the services contemplated by this Consulting Agreement.

B. "Hazardous Materials" shall mean any materials at the Site and any leachate or other substances produced or resulting from such materials which contain constituents, have characteristics, or are present in quantities that materially increase the risk or hazard to human health, property or the environment, or which are defined as such under applicable local, state or federal law or regulation.

2. RESPONSIBILITIES OF CONSULTANT:

A. Consultant shall perform services for Client in a professional manner, using that degree of care and skill ordinarily exercised by and consistent with the standards of competent consultants practicing in the same or similar locality of the Site. Consultant makes no warranties, either express or implied, other than as set forth herein and in the contract documents.

B. In connection with the performance of the services, Consultant may deliver to Client one or more reports or other written documents reflecting services provided, the results of such services or Consultant's evaluation of the results of such services. All such reports or other written documents shall become the property of Client upon delivery; however, all original data gathered by Consultant and work papers produced by Consultant in the performance of the services are, and shall remain, the sole and exclusive property of Consultant. Consultant may retain a copy of all reports or documents prepared by it for its files.

C. Subject to any obligation Consultant may have under applicable law or regulation, Consultant agrees to release information relating to the services only to its employees and subcontractors in the performance of the services or to Client's authorized representative and to persons designated by Client or by Client's representative to receive such information.

D. Consultant shall not be responsible for Site safety and shall have no right to direct or stop the work of Client's contractors, agents or employees. Consultant shall take reasonable safety precautions with respect to the performance of the services contained in any project safety plan agreed to by Client and Consultant or equivalent document, including modifications thereto. In the absence of any written project safety plan, Consultant agrees to abide by all reasonable safety procedures requested by Client. The presence of field personnel at the Site will be for the purpose of providing observation and field testing of specific aspects of the services.

E. Consultant will, upon request, file certification of Consultant's insurance coverage with Client or Client's authorized representative. Consultant to undertake the performance of services and as further consideration therefore, Client hereby agrees to limit consultant's liability to Client or to any third party, such that Consultant's losses, liabilities and costs (including, without limitation, attorneys' fees) resulting from Consultant's negligence, professional or otherwise, shall not exceed the sum of \$1,000,000 or Consultant's total fees, whichever amount is greater. In no event shall Consultant be liable for consequential or incidental damages.

3. RESPONSIBILITIES OF CLIENT:

A. The Client agrees to provide Consultant, its employees and subcontractors full and uninhibited access to the Site and a safe working environment for performance of the services.

B. Client agrees to notify Consultant in writing of any potentially Hazardous Material known to exist or which may be present on or in the ground at the Site. If any known Hazardous Materials at the Site are disclosed to Consultant after the execution of this agreement, or if any such Hazardous Materials or unforeseen conditions are discovered by Consultant after commencement of the services, the scope of services and other provisions of this agreement shall be modified in a manner to be agreed upon by Client and Consultant, and obligations under this agreement will be suspended pending such modification.

C. Client agrees to supply necessary Material Safety Data Sheets to the Consultant of any chemical which client uses or produces.

D. Client expressly assumes any and all responsibility for changed conditions or Hazardous Materials introduced by Client or other persons after completion of the services.

E. It shall be the responsibility of the Client to notify the appropriate federal, state, or local public agencies as required by law, or otherwise, to disclose in a timely manner any information that may be necessary to prevent any danger to health, safety or the environment.

F. Client acknowledges that Consultant's compensation is in part commensurate with the potential for liability involved in the performance of its services and that such risks cannot adequately be covered by liability insurance currently available. In order to induce Consultant to undertake the performance of services and as further consideration, Client agrees to indemnify and hold harmless and defend Consultant from and against any and all losses, liabilities, and costs (except for any losses, liabilities, and costs arising from consultant's negligence, recklessness or intentional tort) which Consultant may incur, become responsible for, or pay out as a result of any claim (including claims by third parties) related to the services, the Site, or any Hazardous Materials, and from any breach by Client of any provision of this agreement.

4. ACCESS TO PREMISES:

Client grant to Consultant, its agents and employees, during the term of this agreement, reasonable access to the Client's premises, facilities and vehicles for the purpose of fulfilling Consultant's obligations under this agreement. Consultant shall comply with the Client's safety procedures while on the Client's premises, and upon request of Consultant, Client will make available to Consultant copies of the Client's safety procedures.

5. TERMINATION OF CONTRACT:

This agreement may be terminated by either party upon seven days' written notice in the event of substantial failure by the other party to perform in accordance with the terms hereof.

Such termination shall not be effective if that substantial failure has been remedied before expiration of the period specified in the written notice. In the event of termination, Consultant shall be paid for services performed to the termination notice date plus actual expenses incurred and reasonable termination expenses.

In the event of termination, or suspension for more than one month, prior to completion of all reports contemplated by this agreement, Consultant may complete such analyses and records as are necessary to complete its files and may also complete a report on the services performed to the date of notice of termination or suspension. The expenses of termination or suspension shall include all direct costs of Consultant in completing such analyses, records and reports. Client shall assume full responsibility for site restoration, and Consultant shall have no liability therefore.

6. SUBTERRANEAN STRUCTURES:

Consultant shall have no liability to Client for damage or injury resulting from damage to subterranean structures or utilities which are not called to Consultant's attention and correctly shown in the Contract Documents or other wise furnished to Consultant in writing by Client. Client agrees that its authorized representative will review all proposed boring locations in the field and either approve such locations or designate alternate locations, and that Client will undertake to locate all subterranean structures or utilities prior to any boring or like activity. Client further agrees to indemnify any hold harmless Consultant from any damage to any subterranean structures or utilities not properly located before work commences, and to indemnify and hold harmless Consultant in accordance with Section 3.F. hereunder.

7. SUBCONTRACTS:

Consultant may at any time, upon written notice to Client, delegate, orally or in writing, the performance of the services, or any portion thereof. Except for the right to payment, neither party may assign its rights under this agreement without the consent of the other unless it is on express agreement.

8. DISPOSAL OF HAZARDOUS OR POTENTIALLY HAZARDOUS SAMPLES:

In the event that samples contain or may contain Hazardous Materials, Consultant shall, after completion of testing and at Client's expense, (a) return such samples to Client, or (b) using a manifest signed by Client as generator, have such samples transported to an approved location selected by Client for final disposal. Client recognizes and agrees that Consultant at no time assumes or accepts title to said samples.

9. AUTHORIZED REPRESENTATIVES:

Promptly following the execution of this agreement, each party shall designate an authorized representative to represent and act for it with respect to matters relating to this agreement. Each party may, from time to time, designate a new authorized representative by providing the other party with the name, address, and telephone number of such designated person by written notice.

10. FORCE MAJEURE:

Should completion of any portion of the services be delayed beyond the estimated date of its completion beyond control of or without fault or negligence of Consultant, the parties shall mutually agree on the terms and conditions upon which the services may be continued or terminated. Force majeure includes unforeseeable causes beyond the control or without the fault or negligence of Consultant, including, without limitation, acts of God, or the public enemy, acts of the Government of the United States or of the several states, or any foreign country, or any of them acting in their sovereign capacity, acts of Client's contractors, fires, floods, epidemics, riots, quarantine restrictions, strikes, civil insurrections, freight embargoes, and unusually severe weather.

11. NOTICE:

Any notice to be given under this agreement shall be in writing and shall be deemed given and received when delivered in person or deposited in the United States mail, certified mail, with proper postage paid, addressed to the appropriate party at the address set forth in this agreement.

12. INDEPENDENT CONTRACTOR:

Consultant shall be deemed to be and shall, in all respects, remain an independent contractor in connection with all services performed by it for the Client. Nothing herein shall be construed to constitute either party the agent, employee, servant or partner of the other party, nor to create a joint venture between the Consultant and the Client.

13. CAPTIONS AND HEADINGS:

The captions and headings throughout this agreement are for convenience and reference only, and the words contained herein shall in no way be held or deemed to define, limit, describe, modify, or add to the interpretation, construction, or meaning of any provision of or scope or intent of this agreement.

14. LAW TO APPLY:

The validity, interpretation, and performance of this agreement shall be governed by and construed in accordance with the laws of the State of North Carolina.

15. NO WAIVER:

No waiver by either party in any default by the other party in the performance of any provision of this agreement shall operate as or be construed as a waiver of any future default, whether like or different in character.

16. SEVERABILITY:

If any provision of this agreement, or application hereof to any person or circumstance, shall to any extent be invalid, the remainder of this agreement, or the application of such provision to persons or circumstances other than those as to which it is held invalid, shall not be affected thereby, and each provision of this agreement shall be valid and enforced to the fullest extent permitted by law.

17. ENTIRE AGREEMENT:

This agreement, including the Contract Documents, represents the entire understanding and agreement between the parties hereto relating to the services and supersedes any and all prior agreements whether written or oral, that may exist between the parties regarding same. To the extent that any additional different terms or conditions conflict with the Terms and Conditions of this agreement, the Terms and Conditions of this agreement shall govern. No amendment or modification to this agreement or any waiver of any provisions hereof shall be effective unless in writing signed by both parties.

18. PAYMENT TERMS:

A. Client will pay Consultant for services and expenses in accordance with the Contract Documents. Consultant will submit progress invoices to Client monthly and final invoice upon completion of its services. Each invoice, on presentation, is due and payable by Client or its authorized representative. Invoices are past due after 30 days. Past due amounts are subject to a service charge of one and one-half percent (1-1/2%) per month (eighteen percent (18%) per annum) on the outstanding balance.

B. Consultant shall be paid in full for all services under this agreement, including any additional services in excess of those stated in this agreement as specifically authorized by Client.

C. The Client's obligation to pay for the services contracted is in no way dependent upon the Client's ability to obtain financing, approval of governmental or regulatory agencies, or upon the Client's successful completion of the Project.

AQUATERRA, INC.

BY: _____

ATTEST: _____ President

Secretary

Wiley Davis Landfill, Inc.

CLIENT: ~~By: Griffin Trucking Company, Inc.~~

BY: D. H. Griffin, Sr. Pres.

ATTEST: Margaret E. Griffin _____ President

Secretary ✓

5. Communicative Disease Center.....1-404-633-5313
(Biological Agents)
6. National Response Center, NRC.....1-800-424-3802
(Oil/Hazardous Substances)
7. DOT, Off of Hazardous Operations.....1-202-426-0656
DOT, (Regulatory Matters).....1-202-426-9280
8. U.S. Coast Guard (Major Incidents).....1-800-424-8802
9. National Agricultural Chemical Association.....1-513-961-4300
10. Aquaterra Corp. Health & Safety Officer.....1-919-839-0199
Four Seasons Corp. Health & Safety Officer.....1-919-273-2718
11. Georgia Occupational Medicine.....1-404-458-7041

C. Special First Aid or Evacuation Procedures: If hydrogen sulfide odor detected, monitor w/ dragor tube. Once reading is at 5PPM or higher leave area.

XI. AMENDMENTS TO SITE SPECIFIC HEALTH & SAFETY PLAN

- A. This Site Specific Health & Safety Plan is based on information available at the time of preparation. Unexpected conditions may arise. It is important that personnel protective measures be thoroughly assessed by the Aquaterra Field Team Leader prior to and during the planned activities. Unplanned activities and/or changes in the hazard status should initiate a review of and may initiate changes in this plan.
- B. Changes in the hazard status or unplanned activities are to be submitted on "Amendments to Site Specific Health and Safety Plan" which is included as Page 8 of this Plan.
- C. Amendments must be approved by the plan author prior to implementation of amendment.

SITE SPECIFIC HEALTH & SAFETY PLAN

JOB NAME:
LOCATION:

AMENDMENTS TO SITE SPECIFIC HEALTH & SAFETY PLAN

Changes in field activities or hazards:

Proposed Amendment:

Proposed By:

Date:

Approved By:

Accepted:

Declined:

Amendment Number:

Amendment Effective Date:



Guilford



State of North Carolina
Department of Environment, Health, and Natural Resources
Division of Solid Waste Management
P.O. Box 27687 · Raleigh, North Carolina 27611-7687

James G. Martin, Governor
William W. Cobey, Jr., Secretary

William L. Meyer
Director

May 25, 1990

Mr. Paul Marlow, R.S.
Toxic and Health Hazard Unit Manager
Guilford County Health Department
301 North Eugene Street
P.O. Box 3508
Greensboro, N.C. 27401

RE: D.H. Griffin Demolition Landfill

Dear Mr. Marlow:

Thank you for your letter of May 22, 1990 referencing the noted site. I have reviewed the submittal and at this time I cannot support declaring this material as hazardous waste. I have based this determination on the following:

- The inorganic water analyses indicates only Arsenic and Barium. Both of these constituents are less than the Interim Primary Drinking Water Standards.
- The volatile and semi-volatile water and sludge analyses indicates the presence of hazardous constituents, however, without knowing from what source (i.e., process) the materials were generated from, these contaminants cannot be considered "listed hazardous waste".
- There were no inorganic extractable results for the sludges, therefore, I cannot determine if the sludge is hazardous by characteristic (RCRA heavy metals). I would suggest that this analysis be conducted to complete the review.

In consideration of the levels of contaminants, I would suggest that any sludges or contaminated debris be managed like a hazardous waste to prevent any further migration of contamination to surface/groundwaters. By copy of this letter I am notifying our Solid Waste Section for their information on this matter. In conclusion,

if you have not already, I would suggest that you contact the Division of Environmental Management for their support on the surface/groundwater issues. Please contact me at (919)733-2178 if you should have any questions or comments.

Sincerely,

A handwritten signature in cursive script that reads "R. Douglas Holyfield".

R. Douglas Holyfield, Head
Waste Management Branch
N.C. Hazardous Waste Section

cc: Joe Deakins
Larry Perry
Julian Foscue

D. H. GRIFFIN WRECKING CO., Inc.

"If It's Wrecking — Call Us"

4700 HILL TOP ROAD
PHONE: (919) 855-7030

P. O. BOX 7657
GREENSBORO, N. C. 27417-0657

May 23, 1990

Mr. Bruce D. Reilly
Aquaterra, Inc.
Post Office Box 50328
Raleigh, N.C. 27628

Dear Mr. Reilly

When you have finished with you plans for putting in the Wells at the Wiley Road Debris Landfill, would you please send me a copy.

Also, Please send a copy to:

Mr. Paul M. Marlow, R.S.
Guilford County Department
of Public Health
Post Office Box 3508
301 North Eugene Street
Greensboro, N.C. 27402

Sincerely,


D.H. Griffin Sr.
President

DHG/gab

CC: Mr. Paul M. Marlow R.S.

D. H. GRIFFIN WRECKING CO., Inc.

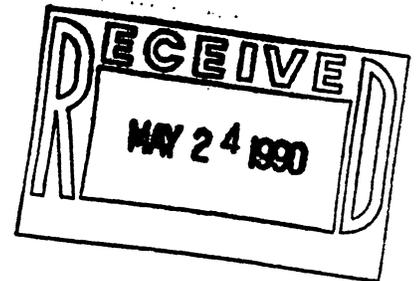
"If It's Wrecking - Call Us"

4700 HILL TOP ROAD
PHONE: (919) 855-7030

P. O. BOX 7657
GREENSBORO, N. C. 27417-0657

May 23, 1990

Mr. Paul M. Marlow, R.S.
Guilford County Dept. Of Public Health
Post Office Box 3508
301 North Eugene Street
Greensboro, North Carolina 27402



Dear Mr. Marlow:

I very much enjoyed our meeting this morning at Wiley Davis Landfill and I really feel that we can now move in a positive direction. Paul, I think it goes without saying that I am more than willing to work with you and your department in order to solve and/or remedy any situations as they arise.

As you requested I am enclosing a copy our proposal from Aquaterra, Inc. As well as copies of letter from the Guilford County Planning Board and the state of North Carolina Department of Natural Resources and Community Development.

Please review the enclosed and if you should need additional information please give me a call.

Sincerely,

D.H. Griffin Sr.
President

DHG/gab

Enclosure



GUILFORD COUNTY
DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH

May 22, 1990

Mr. Doug Holyfield
Hazardous Waste Management Section
DEHNR
P. O. Box 27687
Raleigh, NC 27611-7687

Dear Mr. Holyfield:

On April 27, 1990 the Guilford County Division of Environmental Health received a report from Aquaterra, Inc. Consultants, regarding the D. H. Griffin demolition debris landfill in Greensboro. At our request, Mr. Griffin engaged Aquaterra, Inc. to conduct a study of a chronic leachate and odor problem at the landfill.

As a part of the study, Aquaterra collected and analyzed various samples of leachate and sludge from the on-site lagoon. I have enclosed copies of several pages from the referenced report for your review. As you can see, a variety of contaminants were detected, including RCRA metals, volatile and semi-volatile organics. Most of these were detected at the ppb level however.

The source of these contaminants is unknown at this time. We are currently working with the Solid Waste Section to ensure a proper closure of the landfill.

Our most immediate concern and question is whether the leachate/sludge is a hazardous waste. Aquaterra does not believe the lagoon qualifies as a hazardous waste site under the definition of 40 CFR Parts 260 and 261.

Our office would like to request an evaluation and formal ruling on the matter from your staff. I can provide you a copy of the report in its entirety if needed.

RECEIVED
MAY 23 1990

HAZARDOUS WASTE SECTION

301 North Eugene Street
P.O. Box 3508
Greensboro, N. C. 27401
Phone: (919) 373-3771

Please contact myself or Mr. Todd Davidson, if you should have questions.
Thank you in advance.

Sincerely,

A handwritten signature in cursive script that reads "Paul M. Marlow".

Paul M. Marlow, R.S.
Toxic and Health Hazard Unit Manager

/hn

enclosure

cc: Larry A. Leach, MPS, RS
Todd Davidson

D.H. Griffin Wrecking Company, Inc.
Leachate Collection Pond Sampling
Wiley Road Debris Landfill
Greensboro, North Carolina
Page 2

All of the collected samples were stored and transported in an insulated cooler filled with ice until delivery to the analytical laboratory. Complete Chain of Custody protocols were followed and the samples were maintained at approximately 4^o.

2.3 Hydrogen Sulfide Monitoring

Since the pond was reported to have problems with hydrogen sulfide odors, Aquaterra performed field screening for hydrogen sulfide gas emissions during and after the sampling. The screening was done using a U.S. Drager standard hand pump and colorimetric detection tubes (Part No. 67 28041) with a detection range for hydrogen sulfide gas of 0.5 to 15 parts per million (ppm).

The procedure used to sample for the presence of hydrogen sulfide was a direct reading measurement done at the surface of the sample. Headspace concentrations were not done for this measurement. Background air at the landfill was sampled first for hydrogen sulfide.

The background air around the pond was below the detection limit of the tube. Surface water and sludge samples were below the 0.5 ppm detection limit.

Several leachate plumes were present between the landfill slope and the pond edge. All of the leachate plumes were gray in color and effervescing off gas (see photographs - Attachment B). The off gases from these plumes were monitored for hydrogen sulfide using the pump and tubes. This off gas sampling detected hydrogen sulfide in the range of 3 to 5 ppm.

3.0 Analytical Results

The samples collected were analyzed by Industrial and Environmental Analysts, Inc. of Research Triangle Park, North Carolina. Their laboratory is regularly performing analysis such as those performed for this project and they are certified to perform hazardous waste analysis in the state of North Carolina. Complete analytical data and a copy of the chain of custody form are included in Attachment C.

3.1 Surface Water Results

Analytical work performed on the water samples resulted in detectable levels of Total Petroleum Hydrocarbons, RCRA Total Metals, Volatile Organics (no positives in library search), and Base/Neutral/Acid Extractable semi-volatile Organics (approximately 20 compounds in library search).

Total Petroleum Hydrocarbon analysis by Extraction Methods 3550 (diesel, kerosene) and 5030 (gasoline) followed by gas chromatography using a flame ionization detector resulted in a level of 1.9 ppm detected in both samples. The laboratory commented that both samples contained a petroleum hydrocarbon blend with a distillation range higher than diesel or #2 fuel oil which would be better suited for analysis by infrared spectroscopy.



D.H. Griffin Wrecking Company, Inc.
Leachate Collection Pond Sampling
Wiley Road Debris Landfill
Greensboro, North Carolina
Page 3

*possibly
decolorizer*

*was calcium or other
hydroxide compounds
added as an
oxidizer?*

*what are
barium
stabs
for
purpose
H₂O?*

*Source
?*

RCRA Total Metal analysis resulted in detectable levels of two metals (arsenic and barium) in the water samples. The arsenic levels were 0.009 and 0.008 ppm. The barium results were 0.37 and 0.31 ppm. No other RCRA Total Metals were found above the standard quantification limits.

Volatile organic analysis (Method 8240 GC/MS) resulted in detectable levels of acetone, chlorobenzene and chloroform in both samples. The levels were determined to be 220 and 270 ug/L for acetone, 30 and 27 ug/L for chlorobenzene, and 12 and 10 ug/L for chloroform. In addition, the laboratory noted the presence of carbon disulfide at 5 & 4 ug/L, and 2-butanone (methyl ethyl ketone) at 73 and 71 ug/L ppb. No compounds were identified during the volatile organic library searches.

Base/Neutral/Acid Extractable semi-volatile organic analysis resulted in the detection of benzoic acid, 1,2-dichlorobenzene, 4-methylphenol, and phenol. The levels were determined to be 1600 and 420 ug/L for benzoic acid, 81 and 56 ug/L for dichlorobenzene isomer, 190 and 64 ug/L for methylphenol, and 50 ug/L and Not Detected for phenol. In addition, the library searches conducted identified approximately 20 compounds meeting the criteria for a library search. Most of these compounds are organic acids or derivatives of them and would be expected to be present in a facultative pond in either in aerobic or anaerobic condition.

3.2 Sludge Results

Analytical work performed on the sludge samples resulted in detectable levels of Total Petroleum Hydrocarbons, Volatile Organics (one compound detected by the library search), and Base/Neutral/Acid Extractable Organics (approximately 15 compounds in library search).

Total Petroleum Hydrocarbon analysis by Extraction Methods 3550 (diesel, kerosene) and 5030 (gasoline) followed by gas chromatography using a flame ionization detector resulted in levels of 4.3 and 3.2 mg/Kg detected in the samples. The laboratory commented that both samples contained a petroleum hydrocarbon blend which would be better suited for analysis by infrared spectroscopy.

Volatile organic analysis (Method 8240 GC/MS) resulted in detectable levels of acetone, chlorobenzene and chloroform in both samples. The levels were determined to be 290 and 220 ug/Kg for acetone, 320 and 150 ug/Kg for chlorobenzene, and 12 and 13 ug/Kg for chloroform. In addition, the laboratory noted the presence of toluene at 25 ug/Kg and 2-butanone at 110 ug/Kg in one sample (number 3). One compound was identified during the volatile organic library search (substituted benzene at 68 ug/Kg).

Base/Neutral/Acid Extractable semi-volatile organic analysis resulted in the detection of benzoic acid, 1,2-dichlorobenzene, 4-methylphenol, and phenol. The levels were determined to be 2200 and 1800 ug/Kg for benzoic acid, 100 and 120 ug/Kg for dichlorobenzene isomer, 290 and 210 ug/Kg for methylphenol and 80 and 72 ug/Kg for phenol. In addition, the library searches conducted identified approximately 15 compounds. Most of these compounds are organic acids or derivatives of them and would be expected to be present in a facultative pond either in aerobic or anaerobic condition.





ANALYSTS, INC.
1901 NORTH HARRISON AVE.
CARY, N.C. 27513

NO:

3397

PROJECT #		PROJECT NAME		CONTAINERS		MATRIX		REQUESTED PARAMETERS										
SAMPLE ID.	DATE	TIME	COMP	STATION	STATION LOCATION	OF	SOL	WATER	TPH by GC	8240 ⁴ TIC	8270 ⁴ TIC	TOTAL RCRA METALS	EPTOX RCRA METALS					
371					DH GRIFFIN													
SAMPLERS / SIGNATURE				[Signature]														
1	3-12	12:45	X		WEST SIDE LAGOON	11		X	X	X	X	X						
2	3-12	13:45	X		EAST SIDE LAGOON	11		X	X	X	X	X						
3	3-12	14:30	X		WEST SIDE LAGOON	6		X	X	X	X	X						
4	3-12	15:30	X		EAST SIDE LAGOON	6		X	X	X	X	X						
RELINQUISHED BY (SIGNATURE)		DATE	TIME	RECEIVED BY	DATE	TIME	IEA QUOTE NO.	IEA RUSH NO.										
[Signature]		3/12	1735	[Signature]														
RELINQUISHED BY (SIGNATURE)		DATE	TIME	RECEIVED FOR LAB BY	DATE	TIME	PROJECT MANAGER (PLEASE PRINT)	PO. NO.										
[Signature]				[Signature]	3/12/14	1741	BRUCE REILLY	R-2014										
IEA REMARKS		IEA REMARKS																
		IEA # 196-887 & -887(0)																
		SAMPLERS 3 & 4 - ANAEROBIC POND SLUDGE MAR																



GUILFORD COUNTY
DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH

MEMORANDUM

TO: Larry A. Leach, MPS, RS
Director, Environmental Health

FROM: Paul M. Marlow, R.S. *P.M.*
Toxic and Health Hazard Unit Manager

DATE: May 7, 1990

RE: Update - D.H. Griffin Demolition Debris Landfill
Wiley Davis Road, Greensboro

Our office recently received a summary report on activities conducted by Aquaterra Consultants at the above referenced site. The site has been operated as a demolition debris landfill for several years by Mr. Griffin, since receiving a permit from the N.C. Solid Waste office.

The landfill developed a chronic leachate and associated odor problem last year. Aquaterra's study was the result of a request to Mr. Griffin from this office, in hopes of finding long and short term solutions to the leachate problem. Aquaterra's findings confirmed our suspicions that the leachate pond is anaerobic and the cause of the odor emissions. The levels of hydrogen sulfide gas from the leachate pond present no immediate health concern.

Treatment of the leachate for odor control will require the addition of hydrogen peroxide on a monthly basis as a short term solution. The best long term solution involves the installation of floating aerators to provide oxidation. In addition to odor control, this would increase pond evaporation and freeboard for rainy periods.

Samples of the leachate and sludge resulted in the detection of petroleum hydrocarbons, metals, volatile and semi-volatile organics, all in the ug/L (part per billion) range. Although Aquaterra does not believe the pond qualifies as a hazardous waste site, our office will request a formal ruling on the matter from the N.C. Hazardous Waste office.

301 North Eugene Street
P.O. Box 3508
Greensboro, N. C. 27401
Phone: (919) 373-3771

In the interim, we hope to meet with Mr. Griffin and officials from the Solid Waste office to agree on a timely closure of the existing landfill. Also, we hope to discuss plans for establishing a new landfill site and methods of avoiding a similar leachate problem.

/hn

cc: Brian Greene
 Todd Davidson



Guilford



GUILFORD COUNTY
DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH

April 23, 1990

Mr. D. H. Griffin
4700 Hilltop Road
P. O. Box 7657
Greensboro, NC 27417-0657

CERTIFIED MAIL

Return Receipt Requested

Dear Mr. Griffin:

This letter is in reference to your Demolition Landfill located on Wiley Davis Road, Greensboro, North Carolina.

It is the opinion of the Guilford County Division of Environmental Health, that the lifespan of this landfill has come to an end. The landfill is currently at road level and has reached its original elevation before the sandrock mining operation began. We also believe that the introduction of any additional material would only contribute to the leachate problem already existing at this site. For these reasons, our office hereby requests that you immediately begin closure of the site.

To insure a timely and proper closure of the site we have requested the assistance of the North Carolina Solid Waste Management Section, (NCSW), in seeing that the objectives outlined below are met. In addition, we have requested that the NCSW Management Section assess the need for Groundwater Monitoring at this site.

In conjunction with the NCSW Management Rules G.S. 130A-294 Section .0502 the site must be closed in accordance with the following requirements:

1. Implement effective vector control, including baiting for at least two (2) weeks after closing, to prevent vector migration to adjacent properties;
2. If the site is deemed suitable by the division, compact and cover existing solid waste in place with two (2) feet or more of suitable compacted earth; a condition of closing the site by compacting and covering the waste in place shall be recordation of the waste disposal location by the property owner with the Register of Deeds in the county where the land lies. Copies of the recordation procedure may be obtained from and inspected at the Solid and Hazardous Waste Management

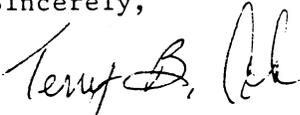
301 North Eugene Street
P.O. Box 3508
Greensboro, N. C. 27401
Phone: (919) 373-3771

Mr. D. H. Griffin
Demolition Landfill
April 23, 1990
page 2

- Branch, Division of Health Services, P.O. Box 2091, Raleigh, NC 27602;
3. If the site is deemed unsuitable by the division, remove and place solid waste in an approved disposal site or facility;
 4. Implement erosion control measures by grading and seeding; and
 5. Prevent unauthorized entry to the site by means of gates, chains, berms, fences, and other security measures approved by the division and post signs indicating closure for a period designated by the division not to exceed one (1) year.

If you have any questions please feel free to contact our office at (919) 373-3771 Monday through Friday from 8:00 a.m. to 5:00 p.m.

Sincerely,



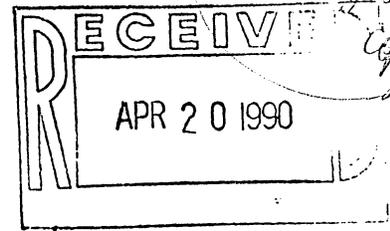
Terry B. Cole
Toxic and Health Hazard Unit Specialist

/hn

cc: Larry Leach, MPS, RS
Director, Environmental Health
Julian Foscue
Western Regional Supervisor
Jeff Rodgers



*File in
DH GRIFFIN
DENIS LF*



State of North Carolina
Department of Natural Resources and Community Development
Winston-Salem Regional Office

James G. Martin, Governor

William W. Cobey, Jr., Secretary

DIVISION OF ENVIRONMENTAL MANAGEMENT

April 17, 1990

CERTIFIED MAIL NO. P-536 300 956
RETURN RECEIPT REQUESTED

Mr. D. H. Griffin, Sr., President
D. H. Griffin Wrecking Company, Inc.
4700 Hilltop Road
P. O. Box 4657
Greensboro, NC 27407

SUBJECT: Notice of Violation
Illegal discharges of landfill leachate
from the D.H. Griffin Wrecking Company, Inc.'s
demolition landfill and sandrock mine
located off Wiley Davis Road, Greensboro, N.C.
Guilford County

Dear Mr. Griffin:

Based upon information gained from complaints by neighbors, complaints and reports from the Guilford County Health Department, and on-site observations by various Division of Environmental Management (DEM) employees, there has been a number of water discharges from the subject site containing leachate. Each of the violations was a violation of North Carolina General Statute (NCGS) 143-215.1.

There have been partially effective efforts to contain possible discharges, but the continued presence of a large pond containing leachate and treatment chemicals adjacent to a small creek suggests additional potential discharges and problems.

This letter is your notice to immediately cease discharges of leachate contaminated water from your over-all site.

We recommend that the demolition land filling operations be stopped and that the site be properly closed. We recommend that the new sand rock mine section of the over-all site be used for mining only with no demolition land fill or other land fill operations.

Mr. D. H. Griffin
Page #2
April 17, 1990

In closing the existing sand rock and demolition land fill you must make certain that competent technical evaluations are made regarding the land fill's effects on ground water, surface water, and health and that remediation operations are taken when indicated.

You must submit a written response to the Winston-Salem Regional Office to the attention of Mr. Larry D. Coble, Regional Supervisor, at the address shown on our letterhead regarding the actions taken to date and what are planned to eliminate your Company's violations by May 31, 1990. Your corrective actions should show completion dates for each activity proposed.

Until such time as these facilities are either properly permitted or the discharges are eliminated, your Company is considered to be in violation of and, therefore, subject to enforcement action pursuant to the North Carolina General Statutes 143-215 et al.

If you have any questions about this letter, please contact Mr. A. R. Hagstrom or Mr. M. Steven Mauney at this office on (919) 761-2351.

Sincerely,

Larry D. Coble

Larry D. Coble
Regional Supervisor

LDC/MSM/ARH/vm

cc: Guilford County Emergency Management
Permits and Engineering
Central Files
WSRO

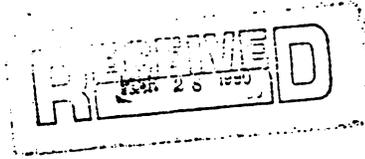
Terry Cole (GCAD) ✓



Industrial & Environmental Analysts, Inc.

P.O. Box 12846
Research Triangle Park, North Carolina 27709
(919) 677-0090
FAX (919) 677-0427

March 27, 1990



Bruce Reilly
Aquaterra, Inc.
P.O. Box 50328
Raleigh, NC 27650

Reference IEA Report No.: 196887
Project ID: 371

Dear Mr. Reilly,

Transmitted herewith are the results of analyses on four samples submitted to our laboratory.

Please see the enclosed reports for your results.

Very truly yours,

INDUSTRIAL & ENVIRONMENTAL ANALYSTS, INC.

Linda F. Mitchell
Director, Technical Support Services

State Certification:

Alabama - #40210	New Jersey - #67719	South Carolina - #99021
Georgia - #816	Tennessee - #00296	North Carolina - #37720
Kansas - #E-158	Virginia - #00179	#84



Total Petroleum Hydrocarbon Analysis

IEA Sample No:	196-887(Ø)-1	Date Received:	3-13-9Ø
Client Sample No:	1	Date Extracted:	3-14-9Ø
Client Project No:	371	Date Analyzed:	3-16-9Ø

Extraction (SW 846 - 355Ø) / GC-FID analysis (for diesel, kerosene)

The sample contains a petroleum hydrocarbon blend with a distillation range similar to #2 fuel oil. The concentration is 1.9 mg/L. The quantitation limit is 0.050 mg/L.

Purge and Trap (SW 846 - 5Ø3Ø) / GC-FID analysis (for gasoline only)

The sample does not contain a petroleum hydrocarbon blend with a distillation range similar to gasoline. The quantitation limit is 0.050 mg/L.

Comment:

The sample contains a petroleum hydrocarbon blend which does not match any of the standards normally run with this method. The distillation range is closest to #2 fuel oil. TPHC-IR is recommended for confirmation of the presence of petroleum products.



Total Petroleum Hydrocarbon Analysis

IEA Sample No:	196-887(0)-2	Date Received:	3-13-90
Client Sample No:	2	Date Extracted:	3-14-90
Client Project No:	371	Date Analyzed:	3-16-90

Extraction (SW 846 - 3550) / GC-FID analysis (for diesel, kerosene)

The sample contains a petroleum hydrocarbon blend with a distillation range similar to #2 fuel oil. The concentration is 1.9 mg/L. The quantitation limit is 0.050 mg/L.

Purge and Trap (SW 846 - 5030) / GC-FID analysis (for gasoline only)

The sample does not contain a petroleum hydrocarbon blend with a distillation range similar to gasoline. The quantitation limit is 0.050 mg/L.

Comment:

The sample contains a petroleum hydrocarbon blend which does not match any of the standards normally run with this method. The distillation range is closest to #2 fuel oil. TPHC-IR is recommended for confirmation of the presence of petroleum products.



Total Petroleum Hydrocarbon Analysis

IEA Sample No:	196-887(Ø)-3	Date Received:	3-13-9Ø
Client Sample No:	3	Date Extracted:	3-14-9Ø
Client Project No:	371	Date Analyzed:	3-16-9Ø

Extraction (SW 846 - 355Ø) / GC-FID analysis (for diesel, kerosene)

The sample contains a petroleum hydrocarbon blend with a distillation range similar to #2 fuel oil. The concentration is 4.3 mg/L. The quantitation limit is 0.1Ø mg/L.

Purge and Trap (SW 846 - 5Ø3Ø) / GC-FID analysis (for gasoline only)

The sample does not contain a petroleum hydrocarbon blend with a distillation range similar to gasoline. The quantitation limit is 0.1Ø mg/L.

Comment:

The sample contains a petroleum hydrocarbon blend which does not match any of the standards normally run with this method. The distillation range is closest to #2 fuel oil. TPHC-IR is recommended for confirmation of the presence of petroleum products.



Total Petroleum Hydrocarbon Analysis

IEA Sample No:	196-887(Ø)-4	Date Received:	3-13-90
Client Sample No:	4	Date Extracted:	3-14-90
Client Project No:	371	Date Analyzed:	3-16-90

Extraction (SW 846 - 3550) / GC-FID analysis (for diesel, kerosene)

The sample contains a petroleum hydrocarbon blend with a distillation range similar to #2 fuel oil. The concentration is 3.2 mg/L. The quantitation limit is 0.10 mg/L.

Purge and Trap (SW 846 - 5030) / GC-FID analysis (for gasoline only)

The sample does not contain a petroleum hydrocarbon blend with a distillation range similar to gasoline. The quantitation limit is 0.10 mg/L.

Comment:

The sample contains a petroleum hydrocarbon blend which does not match any of the standards normally run with this method. The distillation range is closest to #2 fuel oil. TPHC-IR is recommended for confirmation of the presence of petroleum products.



IEA LABORATORY RESULTS

IEA Project #: 196-887
Client Name: Aquaterra, Inc.

Sample #	Client ID	Parameter	Results	Date Analyzed
1	1	Arsenic	0.009 mg/L	03/18/90
2	2	Arsenic	0.008 mg/L	03/18/90
1	1	Barium	0.37 mg/L	03/22/90
2	2	Barium	0.31 mg/L	03/22/90
1	1	Cadmium	<0.01 mg/L	03/22/90
2	2	Cadmium	<0.01 mg/L	03/22/90
1	1	Chromium	<0.03 mg/L	03/22/90
2	2	Chromium	<0.03 mg/L	03/22/90
1	1	Mercury	<0.0005 mg/L	03/20/90
2	2	Mercury	<0.0005 mg/L	03/20/90
1	1	Lead	<0.005 mg/L	03/19/90
2	2	Lead	<0.005 mg/L	03/19/90
1	1	Selenium	<0.01 mg/L	03/22/90
2	2	Selenium	<0.01 mg/L	03/22/90
1	1	Silver	<0.05 mg/L	03/22/90
2	2	Silver	<0.05 mg/L	03/22/90
3	3	Arsenic - EP TOX	<0.50 mg/L	03/22/90
4	4	Arsenic - EP TOX	<0.50 mg/L	03/22/90
3	3	Barium - EP TOX	<10 mg/L	03/22/90
4	4	Barium - EP TOX	<10 mg/L	03/22/90
3	3	Cadmium - EP TOX	<0.10 mg/L	03/22/90
4	4	Cadmium - EP TOX	<0.10 mg/L	03/22/90
3	3	Chromium -EP TOX	<0.50 mg/L	03/22/90
4	4	Chromium -EP TOX	<0.50 mg/L	03/22/90
3	3	Mercury - EP TOX	<0.0005 mg/L	03/20/90
4	4	Mercury - EP TOX	<0.0005 mg/L	03/20/90
3	3	Lead - EP TOX	<0.50 mg/L	03/22/90
4	4	Lead - EP TOX	<0.50 mg/L	03/22/90
3	3	Selenium - EP TOX	<0.10 mg/L	03/22/90
4	4	Selenium - EP TOX	<0.10 mg/L	03/22/90
3	3	Silver - EP TOX	<0.50 mg/L	03/22/90
4	4	Silver - EP TOX	<0.50 mg/L	03/22/90



GC/MS PURGEABLES
SW-846 METHOD 8240

IEA Sample Number: 196-887-1
Sample Identification: 1
Date Analyzed: 03/23/90 By: Stephenson

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Acetone	100	220
2	Benzene	5	BQL
3	Bromodichloromethane	5	BQL
4	Bromoform	5	BQL
5	Bromomethane	10	BQL
6	2-Butanone	100	73 J
7	Carbon disulfide	5	5
8	Carbon tetrachloride	5	BQL
9	Chlorobenzene	5	30
10	Dibromochloromethane	5	BQL
11	Chloroethane	10	BQL
12	2-Chloroethylvinyl ether	10	BQL
13	Chloroform	5	12
14	Chloromethane	10	BQL
15	1,1-Dichloroethane	5	BQL
16	1,2-Dichloroethane	5	BQL
17	1,1-Dichloroethene	5	BQL
18	1,2-Dichloroethene (total)	5	BQL
19	1,2-Dichloropropane	5	BQL
20	cis-1,3-Dichloropropene	5	BQL
21	trans-1,3-Dichloropropene	5	BQL
22	Ethylbenzene	5	BQL
23	2-Hexanone	50	BQL
24	Methylene chloride	5	BQL
25	4-Methyl-2-pentanone	50	BQL
26	Styrene	5	BQL
27	1,1,2,2-Tetrachloroethane	5	BQL
28	Tetrachloroethene	5	BQL
29	Toluene	5	BQL
30	1,1,1-Trichloroethane	5	BQL
31	1,1,2-Trichloroethane	5	BQL
32	Trichloroethene	5	BQL
33	Vinyl acetate	50	BQL
34	Vinyl chloride	10	BQL
35	Xylenes (total)	5	BQL

Comments:

BQL = Below Quantitation Limit
J = Estimated Value



TENTATIVELY IDENTIFIED COMPOUNDS

IEA Sample Number: 196-887-1
Sample Identification: 1
Applicable Fraction: Volatile X Base/Neutral Acid Other

Tentatively Identified Compound (TIC) refers to substances which are not present in the list of target compounds. Therefore, not all TIC's are identified and quantitated using individual standards. TIC listings are prepared utilizing a computerized library search of electron impact mass spectral data and evaluation of the relevant data by a mass spectral data specialist.

Quantitation is accomplished by relative peak height of the compound compared to that of the nearest internal standard from the total ion chromatogram. TIC's are identified and quantitated only if the peak height is equal to or greater than 10% of that of the nearest internal standard.

TIC Compound Name	Concentration (ug/L)
None per above criteria	<5



BASE/NEUTRAL/ACID EXTRACTABLES
SW-846 METHOD 8270

IEA Sample Number: 196-887-1
Sample Identification: 1
Date Extracted: 03/19/90
Date Analyzed: 03/22/90 By: Schemmer

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Acenaphthene	50	BQL
2	Acenaphthylene	50	BQL
3	Anthracene	50	BQL
4	Benzoic acid	250	1600
5	Benzo(a)anthracene	50	BQL
6	Benzo(b)fluoranthene	50	BQL
7	Benzo(k)fluoranthene	50	BQL
8	Benzo(g,h,i)perylene	50	BQL
9	Benzo(a)pyrene	50	BQL
10	Benzyl alcohol	100	BQL
11	bis(2-Chloroethoxy)methane	50	BQL
12	bis(2-Chloroethyl)ether	50	BQL
13	bis(2-Chloroisopropyl)ether	50	BQL
14	bis(2-Ethylhexyl)phthalate	50	BQL
15	4-Bromophenyl phenyl ether	50	BQL
16	Benzyl butyl phthalate	50	BQL
17	4-Chloroaniline	100	BQL
18	2-Chloronaphthalene	50	BQL
19	4-Chloro-3-methylphenol	100	BQL
20	2-Chlorophenol	50	BQL
21	4-Chlorophenyl phenyl ether	50	BQL
22	Chrysene	50	BQL
23	Dibenzo(a,h)anthracene	50	BQL
24	Dibenzofuran	50	BQL
25	Di-n-butylphthalate	50	BQL
26	1,3-Dichlorobenzene	50	BQL
27	1,4-Dichlorobenzene	50	BQL
28	1,2-Dichlorobenzene	50	81
29	3,3'-Dichlorobenzidine	100	BQL
30	2,4-Dichlorophenol	50	BQL
31	Diethyl phthalate	50	BQL
32	2,4-Dimethylphenol	50	BQL
33	Dimethyl phthalate	50	BQL
34	4,6-Dinitro-2-methylphenol	250	BQL
35	2,4-Dinitrophenol	250	BQL
36	2,4-Dinitrotoluene	50	BQL
37	2,6-Dinitrotoluene	50	BQL
38	Di-n-octylphthalate	50	BQL
39	Fluoranthene	50	BQL



BASE/NEUTRAL/ACID EXTRACTABLES
SW-846 METHOD 8270

IEA Sample Number: 196-887-1
Sample Identification: 1
Date Extracted: 03/19/90
Date Analyzed: 03/22/90 By: Schemmer

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
40	Fluorene	50	BQL
41	Hexachlorobenzene	50	BQL
42	Hexachlorobutadiene	50	BQL
43	Hexachlorocyclopentadiene	50	BQL
44	Hexachloroethane	50	BQL
45	Indeno(1,2,3-cd)pyrene	50	BQL
46	Isophorone	50	BQL
47	2-Methylnaphthalene	50	BQL
48	2-Methylphenol (o-cresol)	50	BQL
49	4-Methylphenol (p-cresol)	50	190
50	Naphthalene	50	BQL
51	2-Nitroaniline	250	BQL
52	3-Nitroaniline	250	BQL
53	4-Nitroaniline	250	BQL
54	Nitrobenzene	50	BQL
55	2-Nitrophenol	50	BQL
56	4-Nitrophenol	250	BQL
57	N-Nitroso-di-n-propylamine	50	BQL
58	N-Nitrosodiphenylamine	50	BQL
59	Pentachlorophenol	250	BQL
60	Phenanthrene	50	BQL
61	Phenol	50	50
62	Pyrene	50	BQL
63	1,2,4-Trichlorobenzene	50	BQL
64	2,4,5-Trichlorophenol	50	BQL
65	2,4,6-Trichlorophenol	50	BQL

Comments:

BQL = Below Quantitation Limit

Quantitation limit elevated due to extract dilution prior to analysis.
Extract diluted due to high concentration of acid target compounds
present.



TENTATIVELY IDENTIFIED COMPOUNDS

IEA Sample Number: 196-887-1
Sample Identification: 1
Applicable Fraction: Volatile ___ Base/Neutral X Acid X Other ___

Tentatively Identified Compound (TIC) refers to substances which are not present in the list of target compounds. Therefore, not all TIC's are identified and quantitated using individual standards. TIC listings are prepared utilizing a computerized library search of electron impact mass spectral data and evaluation of the relevant data by a mass spectral data specialist.

Quantitation is accomplished by relative peak height of the compound compared to that of the nearest internal standard from the total ion chromatogram. TIC's are identified and quantitated only if the peak height is equal to or greater than 10% of that of the nearest internal standard.

TIC Compound Name	Concentration (ug/L)
1 Unknown organic acid	49
2 Substituted acetic acid	58
3 Unknown organic acid	150
4 Unknown	83
5 Unknown organic acid	95
6 Unknown	63
7 Substituted 1,4-dioxane	130
8 Unknown	1400
9 Unknown	59
10 Benzene acetic acid	100
11 Terpin hydrate	180
12 Unknown	99
13 Unknown	180
14 Unknown	110
15 Substituted benzene	58
16 Unknown	74
17 Unknown ester of benzenebutanoic acid	180



TENTATIVELY IDENTIFIED COMPOUNDS

IEA Sample Number: 196-887-2
Sample Identification: 2
Applicable Fraction: Volatile X Base/Neutral Acid Other

Tentatively Identified Compound (TIC) refers to substances which are not present in the list of target compounds. Therefore, not all TIC's are identified and quantitated using individual standards. TIC listings are prepared utilizing a computerized library search of electron impact mass spectral data and evaluation of the relevant data by a mass spectral data specialist.

Quantitation is accomplished by relative peak height of the compound compared to that of the nearest internal standard from the total ion chromatogram. TIC's are identified and quantitated only if the peak height is equal to or greater than 10% of that of the nearest internal standard.

TIC Compound Name	Concentration (ug/L)
None per above criteria	<5



GC/MS PURGEABLES
SW-846 METHOD 8240

IER Sample Number: 196-887-2
Sample Identification: 2
Date Analyzed: 03/23/90

By: Casto

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Acetone	100	270
2	Benzene	5	BQL
3	Bromodichloromethane	5	BQL
4	Bromoform	5	BQL
5	Bromomethane	10	BQL
6	2-Butanone	100	71 J
7	Carbon disulfide	5	4 J
8	Carbon tetrachloride	5	BQL
9	Chlorobenzene	5	27
10	Dibromochloromethane	5	BQL
11	Chloroethane	10	BQL
12	2-Chloroethylvinyl ether	10	BQL
13	Chloroform	5	10
14	Chloromethane	10	BQL
15	1,1-Dichloroethane	5	BQL
16	1,2-Dichloroethane	5	BQL
17	1,1-Dichloroethene	5	BQL
18	1,2-Dichloroethene (total)	5	BQL
19	1,2-Dichloropropane	5	BQL
20	cis-1,3-Dichloropropene	5	BQL
21	trans-1,3-Dichloropropene	5	BQL
22	Ethylbenzene	5	BQL
23	2-Hexanone	50	BQL
24	Methylene chloride	5	BQL
25	4-Methyl-2-pentanone	50	BQL
26	Styrene	5	BQL
27	1,1,2,2-Tetrachloroethane	5	BQL
28	Tetrachloroethene	5	BQL
29	Toluene	5	BQL
30	1,1,1-Trichloroethane	5	BQL
31	1,1,2-Trichloroethane	5	BQL
32	Trichloroethene	5	BQL
33	Vinyl acetate	50	BQL
34	Vinyl chloride	10	BQL
35	Xylenes (total)	5	BQL

Comments:

BQL = Below Quantitation Limit
J = Estimated Value



BASE/NEUTRAL/ACID EXTRACTABLES
SW-846 METHOD 8270

IEA Sample Number: 196-887-2
Sample Identification: 2
Date Extracted: 03/19/90
Date Analyzed: 03/22/90 By: Schemmer

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Acenaphthene	20	BQL
2	Acenaphthylene	20	BQL
3	Anthracene	20	BQL
4	Benzoic acid	100	420
5	Benzo(a)anthracene	20	BQL
6	Benzo(b)fluoranthene	20	BQL
7	Benzo(k)fluoranthene	20	BQL
8	Benzo(g,h,i)perylene	20	BQL
9	Benzo(a)pyrene	20	BQL
10	Benzyl alcohol	40	BQL
11	bis(2-Chloroethoxy)methane	20	BQL
12	bis(2-Chloroethyl)ether	20	BQL
13	bis(2-Chloroisopropyl)ether	20	BQL
14	bis(2-Ethylhexyl)phthalate	20	BQL
15	4-Bromophenyl phenyl ether	20	BQL
16	Benzyl butyl phthalate	20	BQL
17	4-Chloroaniline	40	BQL
18	2-Chloronaphthalene	20	BQL
19	4-Chloro-3-methylphenol	40	BQL
20	2-Chlorophenol	20	BQL
21	4-Chlorophenyl phenyl ether	20	BQL
22	Chrysene	20	BQL
23	Dibenzo(a,h)anthracene	20	BQL
24	Dibenzofuran	20	BQL
25	Di-n-butylphthalate	20	BQL
26	1,3-Dichlorobenzene	20	BQL
27	1,4-Dichlorobenzene	20	BQL
28	1,2-Dichlorobenzene	20	56
29	3,3'-Dichlorobenzidine	40	BQL
30	2,4-Dichlorophenol	20	BQL
31	Diethyl phthalate	20	BQL
32	2,4-Dimethylphenol	20	BQL
33	Dimethyl phthalate	20	BQL
34	4,6-Dinitro-2-methylphenol	100	BQL
35	2,4-Dinitrophenol	100	BQL
36	2,4-Dinitrotoluene	20	BQL
37	2,6-Dinitrotoluene	20	BQL
38	Di-n-octylphthalate	20	BQL
39	Fluoranthene	20	BQL



BASE/NEUTRAL/ACID EXTRACTABLES
SW-846 METHOD 8270

IEA Sample Number: 196-887-2
Sample Identification: 2
Date Extracted: 03/19/90
Date Analyzed: 03/22/90 By: Schemmer

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
40	Fluorene	20	BQL
41	Hexachlorobenzene	20	BQL
42	Hexachlorobutadiene	20	BQL
43	Hexachlorocyclopentadiene	20	BQL
44	Hexachloroethane	20	BQL
45	Indeno(1,2,3-cd)pyrene	20	BQL
46	Isophorone	20	BQL
47	2-Methylnaphthalene	20	BQL
48	2-Methylphenol (o-cresol)	20	BQL
49	4-Methylphenol (p-cresol)	20	64
50	Naphthalene	20	BQL
51	2-Nitroaniline	100	BQL
52	3-Nitroaniline	100	BQL
53	4-Nitroaniline	100	BQL
54	Nitrobenzene	20	BQL
55	2-Nitrophenol	20	BQL
56	4-Nitrophenol	100	BQL
57	N-Nitroso-di-n-propylamine	20	BQL
58	N-Nitrosodiphenylamine	20	BQL
59	Pentachlorophenol	100	BQL
60	Phenanthrene	20	BQL
61	Phenol	20	BQL
62	Pyrene	20	BQL
63	1,2,4-Trichlorobenzene	20	BQL
64	2,4,5-Trichlorophenol	20	BQL
65	2,4,6-Trichlorophenol	20	BQL

Comments:

BQL = Below Quantitation Limit

Quantitation limit elevated due to extract dilution prior to analysis.
Extract diluted due to high concentration of acid target compounds
present.



TENTATIVELY IDENTIFIED COMPOUNDS

IEA Sample Number: 196-887-2
Sample Identification: 2
Applicable Fraction: Volatile ___ Base/Neutral X Acid X Other ___

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Quantitation is accomplished by relative peak height of the compound compared to that of the nearest internal standard from the total ion chromatogram. TIC's are identified and quantitated only if the peak height is equal to or greater than 10% of that of the nearest internal standard.

TIC Compound Name	Concentration (ug/L)
1 Substituted acetic acid	45
2 Unknown	60
3 Unknown	110
4 Unknown organic acid	49
5 Unknown organic acid	53
6 Unknown	83
7 Unknown	47
8 Unknown	54
9 Unknown organic acid	110
10 Cyclohexanecarboxylic acid	990
11 Substituted hexanoic acid	70
12 Benzeneacetic acid	52
13 Terpin hydrate	140
14 Unknown	67
15 Unknown	87
16 Unknown	80
17 Unknown	65
18 Unknown	65
19 Unknown benzenebutanoic acid ester	130
20 Substituted cyclohexanecarboxylic acid	44



GC/MS PURGEABLES
SW-846 METHOD 8240

IEA Sample Number: 196-887-3
Sample Identification: 3
Date Analyzed: 03/23/90

By: Stephenson

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Acetone	200	290
2	Benzene	10	BQL
3	Bromodichloromethane	10	BQL
4	Bromoform	10	BQL
5	Bromomethane	20	BQL
6	2-Butanone	200	110 J
7	Carbon disulfide	10	BQL
8	Carbon tetrachloride	10	BQL
9	Chlorobenzene	10	320
10	Dibromochloromethane	10	BQL
11	Chloroethane	20	BQL
12	2-Chloroethylvinyl ether	20	BQL
13	Chloroform	10	12
14	Chloromethane	20	BQL
15	1,1-Dichloroethane	10	BQL
16	1,2-Dichloroethane	10	BQL
17	1,1-Dichloroethene	10	BQL
18	1,2-Dichloroethene (total)	10	BQL
19	1,2-Dichloropropane	10	BQL
20	cis-1,3-Dichloropropene	10	BQL
21	trans-1,3-Dichloropropene	10	BQL
22	Ethylbenzene	10	BQL
23	2-Hexanone	100	BQL
24	Methylene chloride	10	BQL
25	4-Methyl-2-pentanone	100	BQL
26	Styrene	10	BQL
27	1,1,2,2-Tetrachloroethane	10	BQL
28	Tetrachloroethene	10	BQL
29	Toluene	10	25
30	1,1,1-Trichloroethane	10	BQL
31	1,1,2-Trichloroethane	10	BQL
32	Trichloroethene	10	BQL
33	Vinyl acetate	100	BQL
34	Vinyl chloride	20	BQL
35	Xylenes (total)	10	BQL

Comments:

BQL = Below Quantitation Limit

J = Estimated Value

Quantitation limit elevated due to sample dilution prior to analysis.

Sample diluted due to high concentration of target compounds present.



TENTATIVELY IDENTIFIED COMPOUNDS

IEA Sample Number: 196-887-3
Sample Identification: 3
Applicable Fraction: Volatile X Base/Neutral Acid Other

Tentatively Identified Compound (TIC) refers to substances which are not present in the list of target compounds. Therefore, not all TIC's are identified and quantitated using individual standards. TIC listings are prepared utilizing a computerized library search of electron impact mass spectral data and evaluation of the relevant data by a mass spectral data specialist.

Quantitation is accomplished by relative peak height of the compound compared to that of the nearest internal standard from the total ion chromatogram. TIC's are identified and quantitated only if the peak height is equal to or greater than 10% of that of the nearest internal standard.

TIC Compound Name	Concentration (ug/L)
1 Substituted benzene	68



BASE/NEUTRAL/ACID EXTRACTABLES
SW-846 METHOD 8270

IEA Sample Number: 196-887-3
Sample Identification: 3
Date Extracted: 03/19/90
Date Analyzed: 03/23/90 By: O'Toole

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Acenaphthene	100	BQL
2	Acenaphthylene	100	BQL
3	Anthracene	100	BQL
4	Benzoic acid	500	2200
5	Benzo(a)anthracene	100	BQL
6	Benzo(b)fluoranthene	100	BQL
7	Benzo(k)fluoranthene	100	BQL
8	Benzo(g,h,i)perylene	100	BQL
9	Benzo(a)pyrene	100	BQL
10	Benzyl alcohol	200	BQL
11	bis(2-Chloroethoxy)methane	100	BQL
12	bis(2-Chloroethyl)ether	100	BQL
13	bis(2-Chloroisopropyl)ether	100	BQL
14	bis(2-Ethylhexyl)phthalate	100	BQL
15	4-Bromophenyl phenyl ether	100	BQL
16	Benzyl butyl phthalate	100	BQL
17	4-Chloroaniline	200	BQL
18	2-Chloronaphthalene	100	BQL
19	4-Chloro-3-methylphenol	200	BQL
20	2-Chlorophenol	100	BQL
21	4-Chlorophenyl phenyl ether	100	BQL
22	Chrysene	100	BQL
23	Dibenzo(a,h)anthracene	100	BQL
24	Dibenzofuran	100	BQL
25	Di-n-butylphthalate	100	BQL
26	1,3-Dichlorobenzene	100	BQL
27	1,4-Dichlorobenzene	100	BQL
28	1,2-Dichlorobenzene	100	100
29	3,3'-Dichlorobenzidine	200	BQL
30	2,4-Dichlorophenol	100	BQL
31	Diethyl phthalate	100	BQL
32	2,4-Dimethylphenol	100	BQL
33	Dimethyl phthalate	100	BQL
34	4,6-Dinitro-2-methylphenol	500	BQL
35	2,4-Dinitrophenol	500	BQL
36	2,4-Dinitrotoluene	100	BQL
37	2,6-Dinitrotoluene	100	BQL
38	Di-n-octylphthalate	100	BQL
39	Fluoranthene	100	BQL



BASE/NEUTRAL/ACID EXTRACTABLES
SW-846 METHOD 8270

IEA Sample Number: 196-887-3
Sample Identification: 3
Date Extracted: 03/19/90
Date Analyzed: 03/23/90 By: O'Toole

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
40	Fluorene	100	BQL
41	Hexachlorobenzene	100	BQL
42	Hexachlorobutadiene	100	BQL
43	Hexachlorocyclopentadiene	100	BQL
44	Hexachloroethane	100	BQL
45	Indeno(1,2,3-cd)pyrene	100	BQL
46	Isophorone	100	BQL
47	2-Methylnaphthalene	100	BQL
48	2-Methylphenol (o-cresol)	100	BQL
49	4-Methylphenol (p-cresol)	100	290
50	Naphthalene	100	BQL
51	2-Nitroaniline	500	BQL
52	3-Nitroaniline	500	BQL
53	4-Nitroaniline	500	BQL
54	Nitrobenzene	100	BQL
55	2-Nitrophenol	100	BQL
56	4-Nitrophenol	500	BQL
57	N-Nitroso-di-n-propylamine	100	BQL
58	N-Nitrosodiphenylamine	100	BQL
59	Pentachlorophenol	500	BQL
60	Phenanthrene	100	BQL
61	Phenol	100	80 J
62	Pyrene	100	BQL
63	1,2,4-Trichlorobenzene	100	BQL
64	2,4,5-Trichlorophenol	100	BQL
65	2,4,6-Trichlorophenol	100	BQL

Comments:

BQL = Below Quantitation Limit

J = Estimated Value

Quantitation limit elevated due to extract dilution prior to analysis.
Extract diluted due to high concentration of acid target compounds present.



TENTATIVELY IDENTIFIED COMPOUNDS

IEA Sample Number: 196-887-3
Sample Identification: 3
Applicable Fraction: Volatile ___ Base/Neutral X Acid X Other ___

Tentatively Identified Compound (TIC) refers to substances which are not present in the list of target compounds. Therefore, not all TIC's are identified and quantitated using individual standards. TIC listings are prepared utilizing a computerized library search of electron impact mass spectral data and evaluation of the relevant data by a mass spectral data specialist.

Quantitation is accomplished by relative peak height of the compound compared to that of the nearest internal standard from the total ion chromatogram. TIC's are identified and quantitated only if the peak height is equal to or greater than 10% of that of the nearest internal standard.

TIC Compound Name	Concentration (ug/L)
1 Unknown	89
2 Unknown organic acid	310
3 Unknown organic acid	120
4 Cyclohexanecarboxylic acid	1000
5 Unknown	960
6 Substituted cyclohexane	120
7 Unknown	97
8 Substituted cyclohexane	100
9 Benzeneacetic acid	210
10 Unknown aromatic compound	96
11 Unknown	240
12 Benzenepropanoic acid	82
13 Unknown	130
14 Unknown	100
15 Unknown	110
16 Unknown benzenebutanoic acid ester	140



GC/MS PURGEABLES
SW-846 METHOD 8240

IEA Sample Number: 196-887-4
Sample Identification: 4
Date Analyzed: 03/23/90 By: Stephenson

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Acetone	200	220
2	Benzene	10	BQL
3	Bromodichloromethane	10	BQL
4	Bromoform	10	BQL
5	Bromomethane	20	BQL
6	2-Butanone	200	BQL
7	Carbon disulfide	10	BQL
8	Carbon tetrachloride	10	BQL
9	Chlorobenzene	10	150
10	Dibromochloromethane	10	BQL
11	Chloroethane	20	BQL
12	2-Chloroethylvinyl ether	20	BQL
13	Chloroform	10	13
14	Chloromethane	20	BQL
15	1,1-Dichloroethane	10	BQL
16	1,2-Dichloroethane	10	BQL
17	1,1-Dichloroethene	10	BQL
18	1,2-Dichloroethene (total)	10	BQL
19	1,2-Dichloropropane	10	BQL
20	cis-1,3-Dichloropropene	10	BQL
21	trans-1,3-Dichloropropene	10	BQL
22	Ethylbenzene	10	BQL
23	2-Hexanone	100	BQL
24	Methylene chloride	10	BQL
25	4-Methyl-2-pentanone	100	BQL
26	Styrene	10	BQL
27	1,1,2,2-Tetrachloroethane	10	BQL
28	Tetrachloroethene	10	BQL
29	Toluene	10	21
30	1,1,1-Trichloroethane	10	BQL
31	1,1,2-Trichloroethane	10	BQL
32	Trichloroethene	10	BQL
33	Vinyl acetate	100	BQL
34	Vinyl chloride	20	BQL
35	Xylenes (total)	10	BQL

Comments:

BQL = Below Quantitation Limit
Quantitation limit elevated due to sample dilution prior to analysis.
Sample diluted due to high concentration of target compounds present.



TENTATIVELY IDENTIFIED COMPOUNDS

IEA Sample Number: 196-887-4
Sample Identification: 4
Applicable Fraction: Volatile X Base/Neutral Acid Other

Tentatively Identified Compound (TIC) refers to substances which are not present in the list of target compounds. Therefore, not all TIC's are identified and quantitated using individual standards. TIC listings are prepared utilizing a computerized library search of electron impact mass spectral data and evaluation of the relevant data by a mass spectral data specialist.

Quantitation is accomplished by relative peak height of the compound compared to that of the nearest internal standard from the total ion chromatogram. TIC's are identified and quantitated only if the peak height is equal to or greater than 10% of that of the nearest internal standard.

TIC Compound Name	Concentration (ug/L)
None per above criteria	<10



BASE/NEUTRAL/ACID EXTRACTABLES
SW-846 METHOD 8270

IEA Sample Number: 196-887-4
Sample Identification: 4
Date Extracted: 03/19/90
Date Analyzed: 03/22/90 By: Schemmer

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Acenaphthene	100	BQL
2	Acenaphthylene	100	BQL
3	Anthracene	100	BQL
4	Benzoic acid	500	1800
5	Benzo(a)anthracene	100	BQL
6	Benzo(b)fluoranthene	100	BQL
7	Benzo(k)fluoranthene	100	BQL
8	Benzo(g,h,i)perylene	100	BQL
9	Benzo(a)pyrene	100	BQL
10	Benzyl alcohol	200	BQL
11	bis(2-Chloroethoxy)methane	100	BQL
12	bis(2-Chloroethyl)ether	100	BQL
13	bis(2-Chloroisopropyl)ether	100	BQL
14	bis(2-Ethylhexyl)phthalate	100	BQL
15	4-Bromophenyl phenyl ether	100	BQL
16	Benzyl butyl phthalate	100	BQL
17	4-Chloroaniline	200	BQL
18	2-Chloronaphthalene	100	BQL
19	4-Chloro-3-methylphenol	200	BQL
20	2-Chlorophenol	100	BQL
21	4-Chlorophenyl phenyl ether	100	BQL
22	Chrysene	100	BQL
23	Dibenzo(a,h)anthracene	100	BQL
24	Dibenzofuran	100	BQL
25	Di-n-butylphthalate	100	BQL
26	1,3-Dichlorobenzene	100	BQL
27	1,4-Dichlorobenzene	100	BQL
28	1,2-Dichlorobenzene	100	120
29	3,3'-Dichlorobenzidine	200	BQL
30	2,4-Dichlorophenol	100	BQL
31	Diethyl phthalate	100	BQL
32	2,4-Dimethylphenol	100	BQL
33	Dimethyl phthalate	100	BQL
34	4,6-Dinitro-2-methylphenol	500	BQL
35	2,4-Dinitrophenol	500	BQL
36	2,4-Dinitrotoluene	100	BQL
37	2,6-Dinitrotoluene	100	BQL
38	Di-n-octylphthalate	100	BQL
39	Fluoranthene	100	BQL



BASE/NEUTRAL/ACID EXTRACTABLES
SW-846 METHOD 8270

IEA Sample Number: 196-887-4
Sample Identification: 4
Date Extracted: 03/19/90
Date Analyzed: 03/22/90 By: Schemmer

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
40	Fluorene	100	BQL
41	Hexachlorobenzene	100	BQL
42	Hexachlorobutadiene	100	BQL
43	Hexachlorocyclopentadiene	100	BQL
44	Hexachloroethane	100	BQL
45	Indeno(1,2,3-cd)pyrene	100	BQL
46	Isophorone	100	BQL
47	2-Methylnaphthalene	100	BQL
48	2-Methylphenol (o-cresol)	100	BQL
49	4-Methylphenol (p-cresol)	100	210
50	Naphthalene	100	BQL
51	2-Nitroaniline	500	BQL
52	3-Nitroaniline	500	BQL
53	4-Nitroaniline	500	BQL
54	Nitrobenzene	100	BQL
55	2-Nitrophenol	100	BQL
56	4-Nitrophenol	500	BQL
57	N-Nitroso-di-n-propylamine	100	BQL
58	N-Nitrosodiphenylamine	100	BQL
59	Pentachlorophenol	500	BQL
60	Phenanthrene	100	BQL
61	Phenol	100	72 J
62	Pyrene	100	BQL
63	1,2,4-Trichlorobenzene	100	BQL
64	2,4,5-Trichlorophenol	100	BQL
65	2,4,6-Trichlorophenol	100	BQL

Comments:

BQL = Below Quantitation Limit

J = Estimated Value

Quantitation limit elevated due to extract dilution prior to analysis.
Extract diluted due to high concentration of acid target compounds
present.



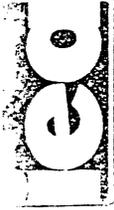
TENTATIVELY IDENTIFIED COMPOUNDS

IEA Sample Number: 196-887-4
Sample Identification: 4
Applicable Fraction: Volatile ___ Base/Neutral X Acid X Other ___

Tentatively Identified Compound (TIC) refers to substances which are not present in the list of target compounds. Therefore, not all TIC's are identified and quantitated using individual standards. TIC listings are prepared utilizing a computerized library search of electron impact mass spectral data and evaluation of the relevant data by a mass spectral data specialist.

Quantitation is accomplished by relative peak height of the compound compared to that of the nearest internal standard from the total ion chromatogram. TIC's are identified and quantitated only if the peak height is equal to or greater than 10% of that of the nearest internal standard.

TIC Compound Name	Concentration (ug/L)
1 Unknown	85
2 Unknown	160
3 Hexanoic acid	180
4 Unknown organic acid	160
5 Unknown	200
6 Cyclohexanecarboxylic acid	1900
7 Benzeneacetic acid	170
8 Terpin hydrate	220
9 Benzenepropanoic acid	97
10 Unknown	96
11 Unknown	82
12 Unknown benzenebutanoic acid ester	94
13 Unknown	95



INDUSTRIAL & ENVIRONMENTAL ANALYSTS, INC.
1901 NORTH HARRISON AVE.
GARY, N.C. 27513

CHAIN OF CUSTODY RECORD

NO: 3397

PROJECT #	PROJECT NAME	STATION LOCATION	# OF VIEWS	MATRIX	TPH by GC	82404TK	8290BNH	TPH KEPA	TPH METALS	TPH KEPA	TPH METALS	IEA QUOTE NO.	IEA RUSH NO.
371	PH 60177 M	WEST SIDE LAGOON	11	SOIL	X	X	X	X	X	X	X		
		EAST SIDE LAGOON	11	WATER	X	X	X	X	X	X	X		
		WEST SIDE LAGOON	6			X	X	X	X	X	X		
		EAST SIDE LAGOON	6			X	X	X	X	X	X		

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY	DATE	TIME
<i>James D. Kelly</i>	3/12	1735			
			James Hays	3/12/98	1741

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED FOR LAB BY	DATE	TIME
			James Hays	3/12/98	1741

IEA REMARKS

PROJECT: MANAGER (PLEASE PRINT) BRUCE REILLY R-2814

FIELD REMARKS SAMPLES 3 & 4 - ANALYTICAL POND SURFACE MATTER

IEA # 196-8874-887(0)



GUILFORD COUNTY
DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH

February 27, 1990

Mr. Julian Foscue
NC Solid Waste Management Section
P. O. Box 2091
Raleigh, NC 27602-2091

RE: D. H. Griffin Demolition Landfill
Wiley Davis Road, Guilford County

Dear Mr. Foscue:

As you are aware, the D. H. Griffin Demolition Landfill has experienced many problems during its years of operation. The most recent problem has been that of leachate management and its associated odor.

Mr. Griffin has been most cooperative in our efforts to address this problem. At this time we feel that an adequate short term solution has been implemented and efforts are underway to develop a long term solution as well.

Currently, we feel that the life span of this landfill is quickly coming to an end. The available space for landfiling has nearly been exhausted and the site is quickly approaching its original elevation before the sandrock mining operation began years ago. Mr. Griffin has indicated that his landfiling operation may continue to the point where mounding of demolition debris and cover will actually exceed the original elevation of the site. However, we would on the other hand prefer to see Mr. Griffin begin working toward closure of the site.

Since the landfill was originally permitted by the Solid Waste Section, we would like to request your assistance in assuring a timely and proper closure of the Griffin site. Also, we feel that it would be more appropriate for your office to assess the site for the need of groundwater monitoring. In addition, we would also request the assistance of your office in the review and permitting of a new site that Mr. Griffin has recently begun mining for sandrock.

With the recent passage of Senate Bill 111, our office would like to inquire as to the implications for operations such as Mr. Griffin's and other demolition debris landfills. Do you anticipate the establishment of a third

301 North Eugene Street
P.O. Box 3508
Greensboro, N. C. 27401
Phone: (919) 373-3771

Mr. Julian Foscue
February 27, 1990
RE: D.H. Griffin Landfill
page 2

type of landfill beyond sanitary and demolition debris type landfill? Our office is currently developing the draft of a County Solid Waste Ordinance, which will hopefully be comprehensive in nature. Our hope is that the local ordinance will not only compliment State Solid Waste Management Laws, but also allow for local enforcement actions. We will pass along a copy of the draft for your review and comment, once we have reached that stage.

In the meantime any information and assistance you can render regarding the Griffin Landfill and the other issues mentioned in this letter will be greatly appreciated.

Sincerely yours,



Paul M. Marlow, R.S.
Toxic and Health Hazard Unit Manager II

/hn

cc: Larry A. Leach, MPS, RS
Director, Environmental Health
Terry Cole
Todd Davidson
file



FOUR SEASONS INDUSTRIAL SERVICES, INC.

P.O. Box 16590 • 207 Robbins St. • Greensboro, NC 27416-0590 • 919-273-2718
Fax Number 919-274-5798

February 16, 1990



COPY

Guilford County Department of Public Health
Division of Environmental Health
301 North Eugene Street
Post Office Box 3508
Greensboro, North Carolina 27401

Attention: Mr. Terry B. Cole
Toxic and Health Hazard Specialist

Reference: D. H. Griffin Wrecking Company, Inc.
Demolition Landfill
Wiley Davis Road
Greensboro, North Carolina

Dear Mr. Cole:

In accordance with your correspondence submitted to Mr. D. H. Griffin dated January 23, 1990, this text is intended to resolve potential regulatory compliance issues at the above referenced site. It is our understanding that the pond is utilized to contain leachate generated from adjacent landfill operations. On October 24, 1989 the North Carolina Department of Natural Resources and Community Development - Division of Environmental Management issued a Notice of Violation which asserted that the pond was emitting extremely high levels of hydrogen sulfide and was therefore operating in violation of Title 15, North Carolina Administrative Code 2D .0522 "Control and Prohibition of Odorous Emissions." Accordingly, D. H. Griffin Wrecking Company, Inc. has retained the services of Four Seasons to assist in the investigation and subsequent remediation of these concerns.

Four Seasons believes the odor problem at the leachate holding pond is due to anaerobic bacterial action in the pond. Due to the pond's depth and the pond's stagnant nature, it is probable insufficient oxygen transfer is taking place in the pond bottom. In this environment sulfide generating bacteria will be active consuming sludge and biomass accumulated in the pond bottom. During temperature swings and under certain wind conditions the pond will "turnover" exposing sulfide laden bacteria and sludge to the atmosphere. During these turnovers, the pond is discharging sulfide, most likely hydrogen sulfide, vapors. Since the odor threshold for hydrogen sulfide is so low, 4.7 parts per billion, complaints concerning the odor are likely. However, the threshold exposure limit for the gas is 10 parts per million or approximately 2000 times greater than the odor threshold. Four Seasons believes, based upon this reasoning, that there is no immediate health concerns due to the pond vapors.

To temporarily alleviate the odor problems a peroxide solution was added to the pond followed by the aeration of the water phase. These activities were conducted on December 7, 1990 and appear to have minimized the associated odor problems. However, further investigatory and sampling activities are proposed in order to implement a permanent corrective action. To verify the pond off gassing is due to the anerobic conditions Four Seasons proposes to monitor dissolved oxygen levels as a function of water depth during the pond water and sludge sampling program outlined below in this text. A standard dissolved oxygen probe will be used and the water temperature recorded as well. This data will then be used to determine the optimum corrective action needed for the pond condition.

1.0 Sludge Sampling

Based on our present understanding of the site, Four Seasons recommends that two water and two sludge samples be collected from the existing lagoon. Since ~~the lagoon presently contains in excess of three feet of water~~, the geologists will use a boat to extract samples from the lagoon. The samples will be collected with a decontaminated collwasa-type sampling device from various locations in the lagoon to ensure that representative samples are obtained.

The collected samples will be composited into two separate sludge samples. Both sludge samples will be placed in clean glass jars and labeled with a tag identifying sample number, date, time, location, method of collection, analysis to be conducted, samplers and remarks. The samples will be kept in a cooler, chilled to approximately 4°C and transported to the analytical laboratory utilizing EPA approved chain-of-custody procedures. The two composited sludge samples will be analyzed for the following chemical constituents:

- i) Volatile organic compounds in accordance with SW-846 Method 8240 accompanied by a library search.
- ii) Base neutral/acid extractable compounds in accordance with SW-846 EPA Method 8270 accompanied by a library search.
- iii) RCRA primary metals in extracted leachate in accordance with SW-846 EPA Method 1310.
- iv) Total Petroleum Hydrocarbons (TPH) in accordance with SW-846 Methods 3550 and 5030.

2.0 Surface Water Sampling

In addition to the sludge samples, Four Seasons recommends that surface water samples be collected from the lagoon. The sampler will collect the water samples in accordance with the sampling method specified in Section 1.0.

The collected water samples will be composited into two samples. The samples will be labeled with a tag identifying sample number, date, time, location, method of collection, analysis to be conducted, samplers and remarks. The samples will be kept in a cooler, chilled to approximately 4°C and transported to the analytical laboratory utilizing EPA approved chain-of-custody procedures. The composited water samples will be analyzed for the following chemical constituents:



- i) Volatile organic compounds in accordance with SW-846 Method 8240 accompanied by a library search.
- ii) Base neutral/acid extractable compounds in accordance with SW-846 EPA Method 8270 accompanied by a library search.
- iii) Total RCRA primary metals.
- iv) Total Petroleum Hydrocarbons (TPH) in accordance with SW-846 Methods 3550 and 5030.

3.0 Report Preparation

Upon completion of this field investigation and reception of the laboratory analytical results, Four Seasons will submit a report detailing all field activities including sampling methodology, OVA readings, soil and water laboratory analytical results and our conclusions and recommendations. Such conclusions and recommendations will focus upon the proposed methodology to permanently minimize associated odor problems. In addition, if the field investigation confirms elevated levels of contaminants, we would review several different remedial alternatives for the disposition of the water and sludge including a written discussion on the regulatory scenario required for completion of proper impoundment closure. Also, a ground water monitoring plan will be submitted in the event regulated constituents are detected in the sludge and/or water phase.

4.0 Schedule

Based on the aforementioned sludge and water sampling work tasks, Four Seasons anticipates the following schedule:

I.	Field Sampling Tasks	<u>Week</u>
	<ul style="list-style-type: none"> - preparation of site specific health and safety plan - mobilization to and from site - field services of staff environmental technicians - sampling equipment/usage - sampling decontamination - sample vials, bottles and miscellaneous - sample collection and preservation - sample preparation and shipment chain of custody - per diem and expenses, staff environmental technician - project management, scheduling, coordination 	February 19, 1990
II.	Laboratory/Analytical <ul style="list-style-type: none"> - analyzation of two water sample as specified herein - analyzation of two sludge samples as specified herein - report of quantification and confirmation 	March 5, 1990



- III. Report, Summary & Conclusions
- interpretation of analytical results
 - summary of procedures and protocols
 - conclusions based on analytical data
 - recommendations

March 12, 1990

All personnel assigned to this project have completed a base-line medical examination in accordance with our Medical Monitoring Program which exceeds the requirements of OSHA 29 CFR 1910.120. Additionally, these personnel are in compliance with the 40 hour health and safety training requirements contained in OSHA 29 CFR 1910.120 "Hazardous Waste Operations and Emergency Response".

Mr. Cole, thank you for your assistance in this matter. It is our intent to keep your office fully advised through this assessment process. In the event you have any questions and/or concerns relating to this project, please contact my office.

Sincerely,

Quint M. Barefoot
Chemical Engineer

/dw

c: Mr. D. H. Griffin
D. H. Griffin Wrecking Company, Inc.

Mr. Bruce Riley, P.E.
Aquaterra, Inc.

L90-160



MATERIAL SAFETY DATA SHEET

U. S. DEPARTMENT OF LABOR

COMPLIES WITH OSHA SAFETY AND HEALTH REGULATIONS, (29 CFR 1910.1200)

IMPORTANT: THIS IS YOUR ONLY COPY. PLEASE DISTRIBUTE TO ALL PLANT LOCATIONS

OSHA 309-200

REV. 001

DATE SENT: 03/09/87

SECTION I: PRODUCT DESCRIPTION: NO. 255 RPD-255 DEODORANT

MANUFACTURER:
HILL MANUFACTURING CO., INC.
1500 JONESBORO ROAD
ATLANTA, GA 30315
EMERGENCY PHONE (MON-FRI: 9-5)
(404) 522-8364
PREPARED BY: RICK GLISSON

DATE PREPARED: 07/17/85

SECTION II:

HAZARDOUS INGREDIENTS:	CAS #:	%:	TLV, (IN PPM):
ISOPROPANOL	67-63-0	5-6	400

SECTION III: PHYSICAL DATA

BOILING POINT (DEG. F.): 200
VAPOR PRESSURE (MM HG.): 33
VAPOR DENSITY (AIR=1): GREATER THAN 1.
SOLUBILITY IN WATER: COMPLETE
SPECIFIC GRAVITY (WATER=1): 1
PERCENT, VOLATILE BY VOLUME (%): 80
EVAPORATION RATE (ETHYL ETHER=1): SLOWER THAN ETHER.
APPEARANCE AND ODOR: THIN GREEN LIQUID WITH PLEASANT CITRUS ODOR.
PH: NEUTRAL

SECTION IV: FIRE AND EXPLOSION DATA

FLASH POINT (METHOD USED): NONE.
FLAMMABLE LIMITS: N/A
EXTINGUISHING MEDIA: WATER, DRY CHEMICAL, FOAM, WATER FOG
SPECIAL FIRE FIGHTING PROCEDURES: SELF CONTAINED BREATHING APPARTUS
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE
TRANSPORTATION: DOT HAZARD CLASSIFICATION: NOT REGULATED.

MATERIAL SAFETY DATA SHEET

U. S. DEPARTMENT OF LABOR

COMPLIES WITH USDL SAFETY AND HEALTH REGULATIONS, (29 CFR 1910.1200)

IMPORTANT! THIS IS YOUR ONLY COPY. PLEASE DISTRIBUTE TO ALL PLANT LOCATIONS

CODE #: 1953

REV: 001

DATE SENT: 03/09/87

SECTION I: PRODUCT DESCRIPTION: NO. 1953 LIQUID ENZYMES

MANUFACTURER:
HILL MANUFACTURING CO., INC.
1500 JONESBORO ROAD
ATLANTA, GA 30315
EMERGENCY PHONE (MON-FRI: 9-5)
(404) 522-8364
PREPARED BY: RICK GLISSON

()- -

DATE PREPARED: 06/06/86

SECTION II:

HAZARDOUS INGREDIENTS: CAS #: %: TLV, (IN PPM):

SEE NOTE

NOTE: THIS PRODUCT CONTAINS NO HAZARDOUS COMPONENTS AS DEFINED BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, (29 CFR SECTION 1910.1200)

SECTION III: PHYSICAL DATA

BOILING POINT (DEG. F.): 212 (WATER)
VAPOR PRESSURE (MM HG.): 2
VAPOR DENSITY (AIR=1): HEAVIER
SOLUBILITY IN WATER: COMPLETE
SPECIFIC GRAVITY (H2O=1): 1.05
PERCENT, VOLATILE BY VOLUME (%): 80-90
EVAPORATION RATE (ETHER=1): LESS THAN ETHER
APPEARANCE AND ODOR: SLIGHTLY HAZY COLORLESS LIQUID WITH CHERRY ODOR.
ODOR.
PH: 9

SECTION IV: FIRE AND EXPLOSION DATA

FLASH POINT (METHOD USED): NONE
FLAMMABLE LIMITS: NOT APPLICABLE
EXTINGUISHING MEDIA : 1) DRY CHEMICAL; 2) FOAM; 3) CO2
SPECIAL FIRE FIGHTING PROCEDURES: WEAR SELF-CONTAINED BREATHING APPARATUS.
UNUSUAL FIRE AND EXPLOSION HAZARDS : NONE
TRANSPORTATION: DOT HAZARD CLASSIFICATION: NOT REGULATED

SECTION V : HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE : NOT ESTABLISHED.
EFFECTS OF OVEREXPOSURE: EYES: IRRITATION. SKIN: MILD IRRITATION WITH
PROLONGED EXPOSURE. INHALATION: MAY BE HARMFUL IF INHALED. INGESTION: MAY
BE HARMFUL IF INGESTED. AVOID CONTACT WITH OPEN WOUNDS.
EMERGENCY & FIRST AID PROCEDURES: EYES: FLUSH WITH WATER FOR AT LEAST 15
MINUTES.. IF IRRITATION PERSISTS GET MEDICAL ATTENTION. SKIN: WASH WITH
WATER. IF IRRITATION PERSISTS GET MEDICAL ATTENTION. INHALATION: GET
MEDICAL ATTENTION. INGESTION: GET MEDICAL ATTENTION.
CARCINOGENICITY: NONE KNOWN.

SECTION VI : REACTIVITY DATA

STABILITY: STABLE CONDITIONS TO AVOID: N/A
INCOMPATIBILITY: NONE
HAZARDOUS DECOMPOSITION PRODUCTS: CARBON DIOXIDE
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR. CONDITIONS TO AVOID: N/A

SECTION VII: SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
SMALL SPILL: WASH WITH WATER.
LARGE SPILL: SOAK UP WITH ABSORBENT MATERIAL AND PUT IN DRUM.
WASTE DISPOSAL METHOD:
SMALL SPILL: FLUSH DOWN DRAIN.
LARGE SPILL: TAKE DRUM TO APPROVED LANDFILL IN ACCORDANCE WITH LOCAL, STATE
AND FEDERAL REGULATIONS.

SECTION VIII: SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE): NONE NORMALLY NEEDED.
VENTILATION (LOCAL, MECHANICAL, SPECIAL): NONE NORMALLY NEEDED
PROTECTIVE GLOVES: RUBBER GLOVES
EYE PROTECTION: CHEMICAL SPLASH PROOF GOGGLES.
OTHER PROTECTIVE EQUIPMENT: NONE REQUIRED

SECTION IX: SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
STORE IN COOL, DRY PLACE.
NEVER STORE IN UNLABELED OR IMPROPERLY LABELED CONTAINER
OTHER PRECAUTIONS:
KEEP OUT OF REACH OF CHILDREN. FOR COMMERCIAL/INDUSTRIAL USE ONLY.

SECTION V: HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: 400 PPM (2-PROPANOL)
EFFECTS OF OVEREXPOSURE: SKIN: MILD IRRITATION WITH PROLONGED CONTACT.
EYES: IRRITATION. INHALATION: MAY BE HARMFUL IF INHALED. INGESTION:
MAY BE HARMFUL IF INGESTED.
PRIMARY ROUTE OF EXPOSURE: SKIN AND INHALATION.

EMERGENCY & FIRST AID PROCEDURES: EYES: FLUSH WITH WATER FOR AT LEAST 15
MINUTES. IF IRRITATION PERSISTS, GET MEDICAL ATTENTION. SKIN: WASH WITH
SOAP AND WATER. INGESTION: GET MEDICAL ATTENTION. INHALATION: REMOVE TO
FRESH AIR. IF IRRITATION PERSISTS, GET MEDICAL ATTENTION.

CARCINOGENICITY: NONE KNOWN.

SECTION VI: REACTIVITY DATA

STABILITY: STABLE CONDITIONS TO AVOID: NONE
INCOMPATIBILITY: STRONG OXIDIZERS.
HAZARDOUS DECOMPOSITION PRODUCTS: NONE
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR. CONDITIONS TO AVOID: NONE

SECTION VII: SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: PICK-UP EXCESS
WITH SHOVEL OR ABSORBENT MATERIAL. FLUSH EXCESS WITH WATER.
WASTE DISPOSAL METHOD: DISPOSE IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL
REGULATIONS.

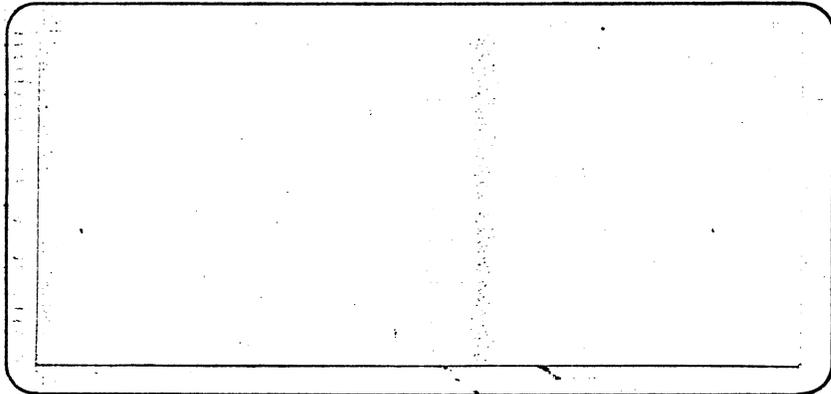
SECTION VIII: SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE): NONE NORMALLY NEEDED.
VENTILATION (LOCAL, MECHANICAL, SPECIAL): NONE NORMALLY NEEDED.
PROTECTIVE GLOVES: RUBBER GLOVES
EYE PROTECTION: CHEMICAL SPLASH PROOF GOGGLES.
OTHER PROTECTIVE EQUIPMENT: RUBBER APRON IF NEEDED.

SECTION IX: SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: ALWAYS STORE UNUSED
PORTION IN ORIGINAL CONTAINER WITH CAP SECURE. NEVER STORE IN UNLABELED
OR IMPROPERLY LABELED CONTAINER. STORE IN COOL, DRY PLACE. DO NOT
STORE IN ALUMINUM, BRASS, COPPER, BLACK IRON AND PLAIN STEEL, AS THEY
MAY RUST.
OTHER PRECAUTIONS: AS WITH ALL CHEMICALS, USE WITH DUE CARE ACCORDING TO
LABEL INSTRUCTIONS AND PRECAUTIONS.
KEEP OUT OF REACH OF CHILDREN. FOR COMMERCIAL/INDUSTRIAL USE ONLY.

RECEIVED
APR 27 1990



AQUATERRA

Aquaterra, Inc. • P.O. Box 50328 • Raleigh, NC 27650 • 919-839-0199

PHOTOCOPIED

**LEACHATE COLLECTION POND SAMPLING
WILEY ROAD DEBRIS LANDFILL
GREENSBORO, NORTH CAROLINA
April 25, 1990**

Prepared For:

**D.H. Griffin Wrecking Company, Inc.
Greensboro, North Carolina**

Prepared By:

**Aquaterra, Inc.
Raleigh, North Carolina**





AQUATERRA

Aquaterra, Inc. • P.O. Box 50328 • Raleigh, NC 27650 • 919-839-0199

April 25, 1990

D.H. Griffin Wrecking Company, Inc.
4700 Hilltop Road
Post Office Box 4657
Greensboro, North Carolina 27407

Attention: Mr. D.H. Griffin, Sr., President

Reference: Leachate Collection Pond Sampling
Wiley Road Debris Landfill
Greensboro, North Carolina
Aquaterra Job No. 371

Dear Mr. Griffin:

Aquaterra, Inc. (Aquaterra) has completed the sampling of the subject pond and has documented the results in the attached report. The report also includes recommendations on the treatment of the pond contents to further reduce any odor emissions.

Water and sludge samples were collected and analyzed in accordance with the Four Seasons Industrial Services, Inc (Four Seasons) letter dated February 16, 1990 to the Guilford County Health Department. While some organic compounds were detected in both the water and sludge samples, no additional compounds of concern were found to be present in the pond.

Dissolved oxygen levels were monitored at the pond surface, at a depth of four inches, and at the water sampling depth of two feet. The maximum oxygen level measured was 3.6 parts per million at one surface monitoring point. The remaining sampling depths had no detectable levels of dissolved oxygen which confirms the main premise of the February letter that the pond is currently anaerobic and the cause of the odor emissions.

Also during the sampling, surface plumes of leachate were found to be draining into the pond. The leachate plumes were monitored for hydrogen sulfide emissions. Levels of hydrogen sulfide were found to range from 0 to 5 parts per million. Any comprehensive plan for the landfill and the pond must address these leachate plumes. Sampling of these plumes is recommended.

Also recommended is a meeting between D.H. Griffin, Four Seasons, Aquaterra and the Guilford County Health Department to discuss the overall plan of action for the landfill. It is apparent from conversations with the department that better communication between the parties would serve to address everyone's concern on the operation and future of the landfill.

It has been a pleasure to work on this project and Aquaterra looks forward to continuing working with D.H Griffin and assisting you at the landfill. If you have questions on the report or other issues, please contact me in Raleigh.

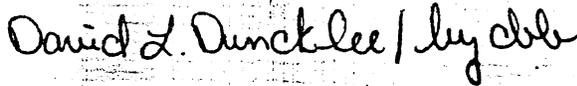
Sincerely,

AQUATERRA, INC.



Bruce D. Reilly, P.E.
Project Manager
Senior Chemical Engineer

Peer Review:



Dave Duncklee, P.G.
Senior Project Manager

cc: Quint Barefoot, Four Seasons
Larry Coble, DEM WSRO
Tod Davidson, Guilford County Health Department

BDR/mdy

R962-90



**D.H. GRIFFIN WRECKING COMPANY, INC.
LEACHATE COLLECTION POND SAMPLING
WILEY ROAD DEBRIS LANDFILL
GREENSBORO, NORTH CAROLINA
APRIL 24, 1990**

1.0 Introduction

Aquaterra, Inc. (Aquaterra) was retained by Four Seasons Industrial Services, Inc. (Four Seasons) to perform sampling of the water and sludge phases of the Leachate Collection Pond at the Wiley Road Debris Landfill in Greensboro, North Carolina. The Scope of Work for the project was as detailed in the Four Season's letter of February 16, 1990 to the Guilford County Department of Public Health, Attention: Mr. Terry B. Cole (see Attachment A). Briefly, the scope included the sampling of the water and sludge phases of the pond, laboratory analysis of the samples, and field measurements of pond depth and dissolved oxygen levels as a function of pond depth. This work was being performed to determine the levels of possible hazardous constituents in the two phases of the pond and the determination of the probable cause of the odor problem identified with the pond.

The work was authorized by Four Season's Ed Setzer the first week of March and the field work performed on March 12, 1990.

2.0 Sample Collection

The samples were collected from the pond via a flat bottom boat. Prior to sampling, the pond dimensions were measured, the pond divided, and equidistant sampling locations staked out on the perimeter of the pond. This dividing of the pond resulted in two rows of sample locations across the width of the pond and three rows along the length of the pond giving six sampling locations. Figure 1 shows the location of the sampling grid and the dimensions used in establishing the grid.

2.1 Surface Water Sampling

Surface water samples were collected first. Precleaned, labelled and preservative added sample bottles obtained from the laboratory were filled with water phase samples along the pond width rows. A decontaminated Teflon bailer was used to collect the water phase samples. Sample bottles for volatile organic analysis were filled directly at two of the three locations along a row. Other samples for the balance of the analytical work were composited in equal portions at each of the three locations. Dissolved oxygen levels were measured at each location at the surface at a depth of approximately four inches, and at the sample collection depth (approximately two feet). The results of the dissolved oxygen survey can be found in Table 1.

2.2 Sludge Sampling

Sludge samples were collected last. Samples were collected at the same locations as the water samples. Sampling was done using a section of 1.25 inch diameter PVC pipe which was manually pushed into the sludge layer and the sludge collected into a plastic bucket. Sample bottles, again supplied by the laboratory, were filled from the bucket. Volatile organic sample containers were filled at two of the three sampling locations along each row. The balance of the samples were composited in equal portions at all three locations along each row.



All of the collected samples were stored and transported in an insulated cooler filled with ice until delivery to the analytical laboratory. Complete Chain of Custody protocols were followed and the samples were maintained at approximately 4°.

2.3 Hydrogen Sulfide Monitoring

Since the pond was reported to have problems with hydrogen sulfide odors, Aquaterra performed field screening for hydrogen sulfide gas emissions during and after the sampling. The screening was done using a U.S. Drager standard hand pump and colorimetric detection tubes (Part No. 67 28041) with a detection range for hydrogen sulfide gas of 0.5 to 15 parts per million (ppm).

The procedure used to sample for the presence of hydrogen sulfide was a direct reading measurement done at the surface of the sample. Headspace concentrations were not done for this measurement. Background air at the landfill was sampled first for hydrogen sulfide.

~~The background air around the pond was below the detection limit of the tube. Surface water and sludge samples were below the 0.5 ppm detection limit.~~

Several leachate plumes were present between the landfill slope and the pond edge. All of the leachate plumes were gray in color and effervescing off gas (see photographs - Attachment B). The off gases from these plumes were monitored for hydrogen sulfide using the pump and tubes. ~~This off gas sampling detected hydrogen sulfide in the range of 3 to 5 ppm.~~

3.0 Analytical Results

The samples collected were analyzed by Industrial and Environmental Analysts, Inc. of Research Triangle Park, North Carolina. Their laboratory is regularly performing analysis such as those performed for this project and they are certified to perform hazardous waste analysis in the state of North Carolina. Complete analytical data and a copy of the chain of custody form are included in Attachment C.

3.1 Surface Water Results

Analytical work performed on the water samples resulted in detectable levels of ~~Total Petroleum Hydrocarbons, RCRA Total Metals, Volatile Organics~~ (no positives in library search), and ~~Base/Neutral/Acid Extractable semi-volatile Organics~~ (approximately 20 compounds in library search).

~~Total Petroleum Hydrocarbon~~ analysis by Extraction Methods 3550 (diesel, kerosene) and 5030 (gasoline) followed by gas chromatography using a flame ionization detector resulted in a level of ~~19 ppm detected in both samples~~. The laboratory commented that both samples contained a petroleum hydrocarbon blend with a distillation range higher than diesel or #2 fuel oil which would be better suited for analysis by infrared spectroscopy.



D.H. Griffin Wrecking Company, Inc.
Leachate Collection Pond Sampling
Wiley Road Debris Landfill
Greensboro, North Carolina
Page 3

possibly desulfurizer

*was calcium or other compounds
hypochlorite added as an
oxidizer?*

*what are
barium
stable
for
surface
H₂O?*

RCRA Total Metal analysis resulted in detectable levels of two metals (arsenic and barium) in the water samples. The arsenic levels were 0.009 and 0.008 ppm. The barium results were 0.37 and 0.31 ppm. No other RCRA Total Metals were found above the standard quantification limits.

Source?

Volatile organic analysis (Method 8240 GC/MS) resulted in detectable levels of acetone, chlorobenzene and chloroform in both samples. The levels were determined to be 220 and 270 ug/L for acetone, 30 and 27 ug/L for chlorobenzene, and 12 and 10 ug/L for chloroform. In addition, the laboratory noted the presence of carbon disulfide at 5 & 4 ug/L, and 2-butanone (methyl ethyl ketone) at 73 and 71 ug/L ppb. No compounds were identified during the volatile organic library searches.

Base/Neutral/Acid Extractable semi-volatile organic analysis resulted in the detection of benzoic acid, 1,2-dichlorobenzene, 4-methylphenol, and phenol. The levels were determined to be 600 and 420 ug/L for benzoic acid, 81 and 56 ug/L for dichlorobenzene isomer, 190 and 64 ug/L for methylphenol, and 50 ug/L and Not Detected for phenol. In addition, the library searches conducted identified approximately 20 compounds meeting the criteria for a library search. Most of these compounds are organic acids or derivatives of them and would be expected to be present in a facultative pond in either in aerobic or anaerobic condition.

3.2 Sludge Results

Analytical work performed on the sludge samples resulted in detectable levels of Total Petroleum Hydrocarbons, Volatile Organics (one compound detected by the library search), and Base/Neutral/Acid Extractable Organics (approximately 15 compounds in library search).

Total Petroleum Hydrocarbon analysis by Extraction Methods 3550 (diesel, kerosene) and 5030 (gasoline) followed by gas chromatography using a flame ionization detector resulted in levels of 4.3 and 3.2 mg/Kg detected in the samples. The laboratory commented that both samples contained a petroleum hydrocarbon blend which would be better suited for analysis by infrared spectroscopy.

Volatile organic analysis (Method 8240 GC/MS) resulted in detectable levels of acetone, chlorobenzene, and chloroform in both samples. The levels were determined to be 290 and 220 ug/Kg for acetone, 320 and 150 ug/Kg for chlorobenzene, and 12 and 13 ug/Kg for chloroform. In addition, the laboratory noted the presence of toluene at 25 ug/Kg and 2-butanone at 110 ug/Kg in one sample (number 3). One compound was identified during the volatile organic library search (substituted benzene at 68 ug/Kg).

Base/Neutral/Acid Extractable semi-volatile organic analysis resulted in the detection of benzoic acid, 1,2-dichlorobenzene, 4-methylphenol, and phenol. The levels were determined to be 2200 and 1800 ug/Kg for benzoic acid, 400 and 120 ug/Kg for dichlorobenzene isomer, 290 and 210 ug/Kg for methylphenol and 80 and 72 ug/Kg for phenol. In addition, the library searches conducted identified approximately 15 compounds. Most of these compounds are organic acids or derivatives of them and would be expected to be present in a facultative pond either in aerobic or anaerobic condition.

4.0 Conclusions

Three separate conclusions can be reached from the results of the sampling and analytical work. The first of these involves the water and sludges within the ponds. The lack of dissolved oxygen just beneath the surface of the pond confirms the earlier postulation made in the February 16 letter ~~that the pond is anaerobic.~~

The second conclusion involves the status of the ponds. The majority of the constituents present in the samples taken are listed in Appendix VIII of 40 CFR Part 261 as hazardous constituents. However, ~~no activity is present on site which can be used to identify the landfill and leachate collection pond as a hazardous waste site.~~ Therefore, Aquaterra believes the pond does not qualify as a hazardous waste site under the definition of 40 CFR Parts 260 & 261. This issue will need to be further discussed with the state regulatory agencies, Hazardous Waste Branch & Division of Environmental Management, to establish the nonhazardous status of the pond.

The third conclusion involves the treatment of the pond contents and the prevention of future hydrogen sulfide emissions from the pond. ~~The treatment of the pond for hydrogen sulfide emissions is relatively simple and easy to perform as well as being inexpensive.~~ The presence of leachate plumes discharging from the landfill on the surface of the surrounding soil requires further study and sampling to determine the optimum collection and treatment systems to handle the leachate.

5.0 Recommendations

The overall recommendations for the site have been broken down into two areas. The primary area is the remediation of the current pond condition to prevent any further hydrogen sulfide emissions. The second item is the collection and treatment of the leachate present along the surface of the landfill. Both of these recommendation areas are dependent upon the future of the landfill and the leachate collection pond as it currently exists. ~~The future of the site needs to be resolved prior to the development of any long term comprehensive plan.~~ To determine the future of the site, a meeting is recommended between D.H. Griffin, Four Seasons, Aquaterra, Guilford County, and the Solid Waste Management Branch, and the Division of Environmental Management.

5.1 Leachate Collection Pond

~~Treatment of the pond contents to prevent the further release of hydrogen sulfide emissions requires only the addition of an oxidizing compound into the pond water.~~

Several methods are feasible to perform the addition, ~~the short term method of choice would be the addition of hydrogen peroxide to the pond water.~~ This is essentially a duplication of the action taken in December as a temporary measure. Mixing of the peroxide into the pond could be accomplished by using a temporary pump system which would feed the peroxide into the discharge of the pump. ~~Operation of the system would probably be required at least once a month and require approximately 220 gallons of 52% peroxide.~~

Copy of this for meeting

X what type of treatment of leachate and how soon anticipated to be in place?

Resolve 5/3/90 close & install monitor wells.

The best long term solution to provide oxidation of the pond is the installation of floating aerators. These aerators would oxidize the pond water by oxygen mass transfer due to the solubility of oxygen in water. These units would be permanently installed in the pond and would be operated automatically on timers. In addition to providing oxidation of the pond water, the aerators will increase the pond evaporation rate providing more freeboard on the pond for storage of rainfall runoff. Definitive sizing of the aerators will require determination of the leachate flow rate and chemical composition. *(recommend proceed) now*

5.2 Leachate Collection & Treatment

Since the sampling field activity determined the presence of surface plumes of leachate with hydrogen sulfide emissions, remediation of the pond will not completely remove the hydrogen sulfide emissions from the landfill. Collection and treatment of the leachate surface plumes is required to prevent any further release of hydrogen sulfide from the landfill site. The future of the pond and the landfill must be considered in determining the best choice for treating the leachate.

Both treatment of the leachate plumes and the pond, if the pond is to remain in operation, require the determination of the leachate flow rate and chemical composition. The leachate flow rate will be estimated using both field observations and literature search. Sampling of the leachate should be done and the same parameters analyzed for as in the pond samples adding sulfide, Total Petroleum Hydrocarbons by infrared spectroscopy, and several inorganic parameters.

5/3/90
The definitive sizing of the aerators and the sampling of the leachate should only be performed after the review meeting on the status of the landfill and pond. The addition of the hydrogen peroxide should be implemented and continue on a monthly basis until a permanent solution is finalized. Any final solution must include the surface plumes of leachate to effectively eliminate the hydrogen sulfide emissions from the site. *> Yes*



Toxic & Health Hazard Unit
Site Assessment Report

*File Name: D.H. GRIFFIN *Date 2-27-90

*Company/Property Owner: D.H. GRIFFIN

*Address/Location: Wiley Davis Rd.

*Purpose: Sampling _____ Compliance ✓
Source ID _____ Monitoring ✓

*Action Taken: Conference _____ Sample _____
Survey ✓ Photo _____

*Samples Collected: Well _____ Stream _____
N.A. Air _____ Soil _____

*Evidence of: Spill _____ Liquid Discharge _____
Drums _____ Air Discharge _____
Solid Waste ✓ Chemicals _____
U.S.T. _____

*Summary: Survey to determine if leachate has left site; No evidence of leachate leaving site

*Referral: Yes _____ No ✓ Date 2-28-90
Agency _____ Contact _____

Further Action Needed: Monitor progress made towards Containment + I.D. of leachate;

*Staff Member: Terry B. Cole

*Date to Unit Manager: 2-28-90

*Unit Manager: P. Marlow

*Date Returned: 2/28/90

*Remarks: _____

Toxic & Health Hazard Unit
Site Assessment Report

*File Name: D.H. Griffin Demolition Rm 111 *Date 2-5-90

*Company/Property Owner: D.H. Griffin

*Address/Location: Wiley Davis Road, Greensboro

*Purpose: Sampling _____ Compliance _____
Source ID _____ Monitoring

*Action Taken: Conference _____ Sample _____
Survey Photo _____

*Samples Collected: Well _____ Stream _____
N.A. Air _____ Soil _____

*Evidence of: Spill _____ Liquid Discharge _____
Drums _____ Air Discharge _____
Solid Waste Chemicals _____
U.S.T. _____

*Summary: routine site visit; some erosion, unapproved debris; told operator to maintain erosion control devices, monitor debris disposed of, and remove unapproved debris.

*Referral: Yes _____ No Date 2-5-90
Agency N.A. Contact _____

Further Action Needed: routine monitor site; recommend official inspection within two weeks.

*Staff Member: Terry B. Cah / Todd Dawson

*Date to Unit Manager: 2-6-90

*Unit Manager: P. Marlow

*Date Returned: 2/7/90

*Remarks: Need written action plan for leachate-odor work w/ Todd on inspection



GUILFORD COUNTY
DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH

January 23, 1990

Mr. D. H. Griffin
4700 Hilltop Road
P. O. Box 7657
Greensboro, NC 27417-0657

Certified Mail
Return Receipt Requested

Dear Mr. Griffin:

This letter is in reference to your Demolition Landfill located on Wiley Davis Road, Greensboro, NC. It is the understanding of this office that you hired Four Seasons Industrial Services as of November 13, 1989 to handle the odor problems at your landfill.

As of this writing we have not received any documentation on any steps taken by Four Seasons Industrial Services to address your problems. Therefore, in an effort to continue work at the landfill, our office requests that you send us written documentation by January 31, 1990 concerning your plans to remedy the leachate odor problem at you landfill.

In your correspondence please include the following:

1. Documentation on actions already taken by Four Seasons and any sampling results already taken;
2. The plan of action that Four Seasons is pursuing along with deadlines for your objectives;
3. Plans for any groundwater monitoring along with deadlines for your objectives; and
4. Plans for disposal of the leachate already collected and a deadline for this action.

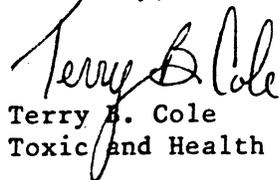
Although our office recognizes that the odor problem at your landfill is not prevalent at this time, we feel that immediate actions need to be taken in order to correct your problems before the change of seasons brings your problems to the forefront again. Upon receipt of your action plan we will be monitoring your objectives to insure that deadlines are met in an effort to bring a timely resolution to your problems.

301 North Eugene Street
P.O. Box 3508
Greensboro, N. C. 27401
Phone: (919) 373-3771

Mr. D. H. Griffin
Landfill
page 2

If you should have any questions concerning this matter, please do not hesitate to contact our office between 8:00 a.m. and 5:00 p.m. Monday through Friday.

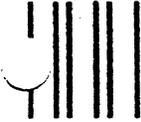
Sincerely,

A handwritten signature in cursive script that reads "Terry B. Cole". The signature is written in dark ink and is positioned above the typed name.

Terry B. Cole
Toxic and Health Hazard Specialist

/hn

UNITED STATES POSTAL SERVICE
OFFICIAL BUSINESS



PENALTY FOR PRIVATE
USE, \$300

SENDER INSTRUCTIONS

Print your name, address and ZIP Code
in the space below.

- Complete items 1, 2, 3, and 4 on the reverse.
- Attach to front of article if space permits, otherwise affix to back of article.
- Endorse article "Return Receipt Requested" adjacent to number.

E.H.

RETURN
TO



Print Sender's name, address, and ZIP Code in the space below.

HEALTH
Box 3508
361 N. Eugene St.

● **SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.

Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. Show to whom delivered, date, and addressee's address. (Extra charge) 2. Restricted Delivery (Extra charge)

3. Article Addressed to: <i>D. H. Griffiel</i>	4. Article Number <i>304 505</i>
Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise	
Always obtain signature of addressee or agent and <u>DATE DELIVERED</u> .	
5. Signature - Address <i>X</i>	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent <i>X</i> <i>James Hawk</i>	
7. Date of Delivery <i>1-29-90</i>	