LF
GUILFORD 6.
41-N

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

LCID N41-N Permit Wiley Davis Landfill

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).

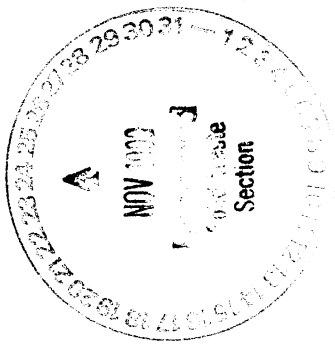
Wiley Davis Landfill, Inc. appreciates your cooperation in this matter. The company will follow up with a letter to request what further steps shall be required for closure of this facility.

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



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GREENSBORO, N.C. 27417-0657

RECEIVED
N.C. Dept. of EHNR
SEP 10 1999
Winston-Salem
Regional Office

September 8, 1999

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

D. H. Griffin, Sr.

& Record, Saturday, October 2, 1999

Cleanup order is signed, forgotten

Old documents show that the Wiley Davis Landfill's water was contaminated nearly a decade ago.

BY PARKER LEE NASH
Staff Writer

Nearly a decade ago, environmental watchdogs discovered that ground water 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 the landfill simmers, newly released reports say that some pollutants found in its wells in the early 1990s are turning up at 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.

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

Please see **LANDFILL,** *Page* **A10**

FROM A 1

LANDFILL

Continued from page A1

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 owner of 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 Landfill neighbors say they want two things: They want water clean of contaminants, and they want answers. They wonder how environmental inspectors could designate 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.

First, clean water

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 at 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.

The chemical 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 nonprofit, 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 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 ground water 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.

"It's a worry that just hangs over you," said Jim Bullard, who's 71 and has lived in the neighborhood for four decades.

County officials have told Bullard that unusually high levels of lead in his water are probably coming from his old pipes. 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.

"They can't explain that," Bullard said.

Bullard wants to know why the Wiley Davis Landfill wasn't cleaned up years ago when the state ordered it done.

"The officials know they've got a problem out here, but they haven't wanted to do anything about it for some reason," said Bullard, whose well is one of the three deemed unsafe by federal officials.

Bullard won't drink his well water now. He buys it in gallon jugs.

"These county and state guys have taken the easy way out for years," he said. "It makes you wonder just what has been going on."

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

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

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.

State inspectors did nothing.

A year later, the state issued Griffin a violation for discharging smelly landfill juices, called leachate, and pond water contaminated by chemicals into a nearby stream. Other similar violations already had been issued. That was in April 1990. The officials noted "potential discharge problems" and said that the landfill should be closed.

It wasn't.

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."

In May 1991, Griffin submitted the cleanup plan. It stated that "groundwater at the Wiley Davis Landfill is currently contaminated with metals and organic compounds." The plan called for sucking the contaminated water from the ground and filtering it.

Again, nothing happened. The landfill continued to operate.

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?

Soon after, state officials stopped asking. Letters about closing and cleaning up the Wiley Davis Landfill stopped coming to Griffin altogether.

No explanation is given in state files.

Phone calls and letters

Today, state environmental officials — even those who signed the closure and cleanup 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 cleanup 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 ground water 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.

A small portion of the Wiley Davis landfill, which operates under a separate permit, could reopen soon as a stump and rock landfill. State officials are deciding now whether to extend the permit for that portion of the landfill — which also has received violations for illegal dumping — for another five years.

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

TOM COPELAND
News & Record

Lenker is leading the neighbors' efforts to keep the landfill closed and get different water for area residents. She says she has telephoned state and local environmental officials scores of times.

Most either don't return her calls, she says, or shuffled her through the system.

In a recent letter to Bill Holman, the new head of the state Department of Environment and Natural Resources, Lenker wrote, "In the past few weeks I have sent you 203 letters signed by residents of this area. ...I am wondering if you have seen these letters, since I have no response from you about them."

Lenker hasn't heard back from Holman, who took office this year.

Holman also did not return a reporter's repeated calls. His assistant said he was busy with cleanup 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."

Lenker also has written more than 25 federal, state and local politicians asking for help.

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."

NCDENR

JAMES B. HUNT JR.
GOVERNOR

WAYNE MCDEVITT
SECRETARY

WILLIAM L. MEYER
DIRECTOR

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

August 25, 1999

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

Ref: Wiley Davis Landfill, Inc. LCID (Permit No. 41-N) Expiration

Mr. Griffin:

I am writing this letter as a courtesy to remind you that your permit for the above referenced LCID expires on 13 September 1999. Normally the permittee is responsible for initiating any action related to permit applications prior to expiration dates. Coincidentally, this date occurs just two days prior to the agreed upon closure date for the adjacent Wiley Davis Landfill - Permit No. 41-B. Since North Carolina Solid Waste Management Rules (Section .0563(4)) stipulate that LCID permits are issued for maximum of five (5) years, a new application must be submitted and approved for the site before any waste can be accepted after the expiration date. The application must satisfy all the requirements of the LCID Rules.

Due to other ongoing projects throughout the state, you must take into account the time needed by the Section to complete a review of your application. From the date of this letter only 12 working days remain before your permit expires and Section employees will have limited availability from September 8 through the 10th due to an annual meeting. If you have any questions or comments concerning this letter, please feel free to call me at (336) 771-4608 ext. 204. For any questions regarding compliance, please contact Julian Foscue at ext. 209 or Hugh Jernigan at ext. 206.

Sincerely,

Timothy A. Jewett
Western Area Engineer
Solid Waste Section

cc: Jim Coffey
Phil Prete
Julian Foscue
Hugh Jernigan
Raleigh Central Files: Guilford County Permit No. 41-N A:\LCIDPERM\41-NLCID.INF

401 OBERLIN ROAD, SUITE 150, RALEIGH, NC 27605
PHONE 919-733-4996 FAX 919-715-3605
AN EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER - 50% RECYCLED/10% POST-CONSUMER PAPER

TIM

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 maybe 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,

P. Garris Evans, R.S.
Environmental Health Program Specialist

Cc: Hugh Jernigan
Eric Ireland

1100 E. Wendover Avenue • Greensboro, North Carolina 27405
373-3771 - 884-3771
333-6026 • Director, Environmental Health

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 13, 1994

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

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

Dear Mr. Griffin:

This permit is issued in accordance with N.C.G.S. 130A-294 and the North Carolina Solid Waste Management Rules, codified at 15A NCAC 13B. The Solid Waste Section has reviewed documents and plans submitted in support of the proposed landfill unit.

Please review the conditions of permit carefully, and notify us if you have any questions about the construction and operation of this facility. If your questions pertain to the permit or its conditions, please contact me at (910) 896-7007. If you have questions about the operational aspects of your facility, please contact the waste management specialist for this facility, Hugh Jernigan, at the same number.

Sincerely,

Janis D. McHargue, P.E.
Western Area Engineer
Solid Waste Section

cc: Jim Coffey
Julian Foscue
Hugh Jernigan
Central Files

8025 North Point Boulevard, Suite 100, Winston-Salem, North Carolina 27106-3203
Telephone 910-896-7007 FAX 910-896-7005
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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

DEHNR

PERMIT NUMBER 41-N
ISSUED SEPT 13, 1994

SOLID WASTE PERMIT

WILEY DAVIS LANDFILL, INC.

is hereby issued a permit to operate a

LAND CLEARING AND INERT DEBRIS LANDFILL

located on Wiley Davis Road, Guilford County, North Carolina in accordance with Article 9, Chapter 130A of the General Statutes of North Carolina and all rules promulgated thereunder and subject to the conditions set forth in this permit.

James C. Coffey

James C. Coffey, Supervisor
Permitting Branch
Solid Waste Section

PERMIT NUMBER 41-N
ISSUED 13 SEPT 1994

WILEY DAVIS ROAD LANDFILL, INC
LAND CLEARING AND INERT DEBRIS LANDFILL

CONDITIONS OF PERMIT

GENERAL

1. This permit is issued for a period not to exceed five years from date of issuance. This permit is for the construction of the landfill according to the approved plans. Any revisions of these approved plans must be approved by the North Carolina Solid Waste Section.

2. Amendments or revisions to the NC Solid Waste Management Rules or any violation of groundwater standards may necessitate modification of the approved plans or closure of the facility.

3. The approved plan is described by Attachment 1, "List of Documents for Approved Plan". A copy of the approved plan, as well as the permit and its conditions, shall be maintained at the facility.

OPERATIONAL

5. This facility is permitted to receive land clearing waste, yard trash, untreated and unpainted wood, and inert debris such as rock, brick, concrete, concrete block, and uncontaminated soil. Waste acceptance requirements may be affected by future revisions and amendments to the NC General Statutes, or to the NC Solid Waste Management Rules.

6. Waste shall be placed a minimum of four (4) feet above the seasonal high water table.

7. This facility shall conform to the operational requirements of the NC Solid Waste Management Rules, 15A NCAC 13B .0566, and to the operational plan required by 15A NCAC 13B .0565(4) (Document 2).

8. The following requirements shall be met **prior** to receiving solid waste at the site:

   a. A site inspection and pre-operative meeting shall be conducted by a representative of the Solid Waste Section.
   b. A sign shall be posted at the entrance as required by the NC Solid Waste Management Rules Operational Requirements, 15A NCAC 13B .0566 (16).

9. During the operation of this facility, waste placement shall not occur within 100 feet of any property boundary.

10. Ground water quality at this facility is subject to the classification and remedial action provisions of 15 NCAC 2L.

11. An approved sedimentation and erosion control plan shall be obtained prior to the beginning of earth disturbing activities and all such activities shall be conducted in accordance with the Sedimentation Pollution Control Act of 1973 (15 NCAC 4).

12. The applicant is responsible for obtaining any and all permits and approvals necessary for the development of this project prior to the commencement of construction activities including approval from appropriate agencies for a General or Individual NPDES Stormwater Discharge Permit.

ATTACHMENT 1

LIST OF DOCUMENTS FOR THE APPROVED PLAN

1. Drawings titled "D.H. Griffin LCID Landfill" originally prepared September 1988, revised July 1994.

2. Accompanying narrative report including transmittal letter, boring logs, letter from NC Department of Cultural Resources, and zoning approval.

3. Written operational plan.

DOCUMENT 5

WILEY DAVIS LANDFILL, INC.

POST OFFICE BOX 7657
GREENSBORO, NORTH CAROLINA 27417-0657
910-292-0216

9 September 1994

North Carolina Department of Environment,
Health and Natural Resources
8025 North Point Boulevard, Suite 100
Winston Salem, North Carolina 27106

Reference: Wiley Davis Landfill, Inc.
(Land Clearing/Inert Debris (LCID) Landfill
Per Drawings Revised 26 July 1994 (On File)

OPERATING PLAN

Mr. David H. Griffin, Sr.	910-855-7030 Office
2022 Shimer Drive	910-292-1944 Home
Jamestown, North Carolina 27282	
Wiley Davis Landfill, Inc.	910-292-0216
Mr. Tommy Coleman, General Manager	910-294-5593 Home
Mr. Charles Shirley, Supervisor	910-674-6133 Home
Mr. Lawrence Fields	910-454-2227 Emergency Contact
Sedgefield Fire Department	910-299-4421

1. The following operational plan will be followed as specified for the referenced facility.
2. The facility will accept only the following solid wastes:
   Land Clearing Debris, Inert Debris, Untreated Wood, Yard Trash, Used Asphalt, Concrete, Brick and Stumps
   A. We expect 15 to 30 loads daily to be pushed off and covered.
3. Solid waste shall be restricted to the smallest area feasible and compacted as densely as practical into cells.
4. Adequate soil cover shall be applied monthly, or when the active area reaches one acre in size, whichever occurs first.
5. 120 calendar days after completion of operations, or upon revocation of a permit, the disposal area shall be covered with a minimum of one foot of suitable soil cover sloped to allow surface water runoff in a controlled manner.
6. Adequate erosion control measures, structures, or devices shall be utilized to prevent silt from leaving the site and to prevent excessive on site erosion.

WILEY DAVIS LANDFILL, INC.

POST OFFICE BOX 7657
GREENSBORO, NORTH CAROLINA 27417-0657
910-292-0216

7. Sufficient ground cover will be provided to restrain erosion within 30 working days or 120 calendar days upon completion of any phase of landfill development.
8. The facility will be adequately secured by a fence and gate to prevent unauthorized access except when an operator is on duty. An attendant shall be on duty at all times while the landfill is open for public use to assure compliance with operational requirements and to prevent acceptance of unauthorized wastes.
9. Access roads shall be of all-weather construction and properly maintained.
10. Surface water shall be diverted from the working face and shall not be impounded over waste.
11. Solid waste shall not be disposed of in water.
12. Open burning of solid waste is prohibited.
13. The concentration of explosive gases generated by the facility shall not exceed:
    A. Twenty five percent (25%) of the lower explosive limit for the gases in facility structures.
    B. The lower explosive limit for the gases at the property boundary.
14. Leachate shall be properly managed on site through the use of current best management practices.
15. Should the Division deem it necessary, we will provide ground water or surface water monitoring, or both, as provided for under Rules .0601 and .0602 of this Sub-chapter.
16. A sign is posted at the facility entrance showing the contact name and telephone number in case of an emergency and the permit number.
17. When operations cease at this facility entire area will be graded and covered with a minimum of one foot of suitable soil, mulched, seeded and trees planted.
18. There are no immediate plans for use of this property after facility is closed.
19. Monthly safety meetings are held for all on site employees. Instruction is given on the procedures for emergencies as well as training for small fires. All fire, ambulance and police telephone numbers are posted in a place that is readily accessible.

DOCUMENT 2:
- ZONING APPROVAL
- CULTURAL RESOURCES APPROVAL
- FIRE FIGHTERS LETTER
- SUBSURFACE REPORT

BORUM, WADE AND ASSOCIATES, P.A.
ENGINEERS — PLANNERS — SURVEYORS
405-D PARKWAY
GREENSBORO, N. C. 27401

MAILING ADDRESS:
P. O. BOX 14215
GREENSBORO, N. C. 27415-4215

TELEPHONE 919-275-0471
919-272-3115
FAX 919-275-3719

October 14, 1993

North Carolina Department of Environment,
Health and Natural Resources
Division of Solid Waste Management
8025 North Point Boulevard-Suite 100
Winston Salem, North Carolina 27107

Attention: Ms. Jan McHargue

Re: D.H. Griffin LCID Landfill
Guilford County, North Carolina

Dear Ms. McHargue:

Enclosed are five sets of the LCID Landfill Permit Application package for the above mentioned project. Please review this application package and notify me of your comments and/or decisions.

If you need any additional information regarding the facility's compliance with Rule .0564 of the Solid Waste Management Rules issued on January 4, 1993, please notify my office.

Should you have any questions, please do not hesitate to call.

Very truly yours,

BORUM, WADE AND ASSOCIATES, P.A.

Homer S. Wade, P.E.

HSW/cc

Enclosures

41-N

WDLF

Nov. 27, 2001

030 - corner of LF

031 - ditto

032 - top of leachate breakout

033 - bottom " " "

034 - concrete drain top

035 - end of " line

036 - edge of creek

037 - top NW corner of LF (over looking sed b

038 - " W edge - LF gas odors

039 - edge of LF along SS (toe)

040 - NE corner - top edge

- Rework slope from line up on south side

- SE corner - re work drainage design

- 2-3 new wells. - nested pair on corner

- deep well on SE side btw #3 & 4

- improve runoff control around perimeter top

- Semi-annual sampling

041 - NE Corner - toe

042 - corner CC Lt Near (200') from well #7 on road

043 - corner of NW sed basin (on road)

044 - MW 4D

045 - MW 4S

046 - edge of intermittent branch creek adj. 4S

047 MW # 3D

048 MW # 3S

049 - top of creek bank near 3S

050 - vicinity of proposed new deep well

051 - bottom corner - potential replacement well site

052 - on side of creek - " " " "

10-15 TTL

MF page 412-1401

· LC 7 Dec. 2001
New Hanley
Gregory Poole - 77,000 judgment
- trying to figure out if they want to take property
- 200-300 T. waste
- Tip fee ?
* Estimates for cleanup → to LC
= Creditors meeting Thurs.

SR 1142 Rock Ridge School Rd.

7 Dec 2001 12:50
AT Phoenix Wilson site MF/PS
= GATE OPEN
① - [060] - edge of scrap metal pile 1 - 2-3 tractor (TTL) trailer loads
② concrete pile - stay [061] S. edge of pile - rebar needs to come out
③ trash pile - < ½ TTL
④ trash pile - > ½ TTL
⑤⑥ windrows - mostly block/brick/wood/soil (50% dirt
⑦ Major disposal area 50-60% brick blk dir
30-40% wood
< 5% metal plastic
[062] edge of ⑦ adjacent to 8
⑧ scrap metal pile - 1 TTL
⑨ multiple small {scrap trash} metal piles - 2-3 TTL
⑩ small trash pile - 1 TTL
⑪ soil pile - use for cover

(12) pile of asphalt

[63] back corner of windrows

[64] end of middle windrow (NE)

(13) two small trash piles (metal ~ 90%) ~ 1 TTL

[65] center of LC1)

LC1)

↳ pull off trash

↳ KNock the material on western edge to form suitable slope

↳ may be soil suitable for cover in LC

(14) soil pile on back of (4) — cover

~15 miles to C&D LF - w/son Co.

12/11 LC : file motion ? — Relief from auto stay

file against Ruby Coleman and Rob Coleman

Phoenix

5 December 2001

	Time	Probe	CH_4					
53	10:58	GP-1	: 0.00	Key Lock #1	59		GP-6	: damaged
~~54 11:14~~		GP-2	: ~~0.00~~ Lost		58	12:02	GP-7	: 0,00
		GP-3			57	11:55	GP-8	: 0,00
54	11:14	GP-4	: 0.00		56	11:47	GP-9	: 0:00
55	11:22	GP-5	: 0,00					

Key Lock # 2

- Pump for 2 minutes prior to recording readings
- Machin Read 15.1 on 15% Compressed methane @ 12:51

This is (not legible) key to Phoenix Wilson notes.

new SOLID WASTE SECTION LANDFILLS

PERMIT INFORMATION

P0579

Permit Number: 41-N Permit Date: 9/13/94 Opening Date:

Facility Type: LCID Name: Wiley Davis Landfill, Inc County Code: 41 W

Location(Street, State Road): Wiley Davis Rd Town/County: Guilford

Staff ID: Hugh J Latitude: — Longitude: —

Monitoring Wells: NA Waste Type: LCID Inspection Frequency: —

Type(P,I,C,S,F):

Permit Holder
Name: David H. Griffin, Sr.
Street: P.O. Box 7657
City, State, Zip: Greensboro NC 27417-0657

Property Owner same

Operator
Name: same
Street:
City, State, Zip:
Phone: ( )

Contact Person
Name:
Street:
City, State, Zip:
Phone: ( )

Deactivication:
Official Closing:

Reactiviation:
Actual Closing: Active (Y/N)

GC/MS PURGEABLES
SW-846 METHOD 8240

IEA Sample Number: 196-062-6
Sample Identification: WD-1
Date Analyzed: 09/05/90 By: Harris

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Acetone	100	BQL
2	Benzene	5	BQL
3	Bromodichloromethane	5	BQL
4	Bromoform	5	BQL
5	Bromomethane	10	BQL
6	2-Butanone	100	BQL
7	Carbon disulfide	5	BQL
8	Carbon tetrachloride	5	BQL
9	Chlorobenzene	5	BQL
10	Dibromochloromethane	5	BQL
11	Chloroethane	10	BQL
12	2-Chloroethylvinyl ether	10	BQL
13	Chloroform	5	BQL
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

GC/MS PURGEABLES
SW-846 METHOD 8240

IEA Sample Number: 196-062-1
Sample Identification: WD-2s
Date Analyzed: 09/05/90 By: Harris

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Acetone	200	BQL
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	350
10	Dibromochloromethane	10	BQL
11	Chloroethane	20	BQL
12	2-Chloroethylvinyl ether	20	BQL
13	Chloroform	10	BQL
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	BQL
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.

GC/MS PURGEABLES
SW-846 METHOD 8240

IEA Sample Number: 196-062-2
Sample Identification: WD-2d
Date Analyzed: 09/05/90 By: Casto

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Acetone	100	BQL
2	Benzene	5	BQL
3	Bromodichloromethane	5	BQL
4	Bromoform	5	BQL
5	Bromomethane	10	BQL
6	2-Butanone	100	BQL
7	Carbon disulfide	5	BQL
8	Carbon tetrachloride	5	BQL
9	Chlorobenzene	5	47
10	Dibromochloromethane	5	BQL
11	Chloroethane	10	BQL
12	2-Chloroethylvinyl ether	10	BQL
13	Chloroform	5	BQL
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

GC/MS PURGEABLES
SW-846 METHOD 8240

IEA Sample Number: 196-062-3
Sample Identification: WD-3
Date Analyzed: 09/05/90 By: Harris

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Acetone	100	BQL
2	Benzene	5	BQL
3	Bromodichloromethane	5	BQL
4	Bromoform	5	BQL
5	Bromomethane	10	BQL
6	2-Butanone	100	BQL
7	Carbon disulfide	5	BQL
8	Carbon tetrachloride	5	BQL
9	Chlorobenzene	5	BQL
10	Dibromochloromethane	5	BQL
11	Chloroethane	10	BQL
12	2-Chloroethylvinyl ether	10	BQL
13	Chloroform	5	BQL
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

TENTATIVELY IDENTIFIED COMPOUNDS

IEA Sample Number: 196-062-5
Sample Identification: WD-5
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	18
2 2-Butoxy ethanol	12
3 Unknown organic acid (approx. C8)	10
4 Unknown	15

Comments:

Not all quantitated results can be accompanied by complete identification. Further investigation should be discussed with your client services representative.

FORM TIC Rev. 050589

TENTATIVELY IDENTIFIED COMPOUNDS

IEA Sample Number: 196-062-7
Sample Identification: WD-2s-B
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)
None per above criteria	<8

TENTATIVELY IDENTIFIED COMPOUNDS

IEA Sample Number: 196-062-6
Sample Identification: WD-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	2-Butoxy ethanol	11
2	Unknown	18
3	Unknown organic acid (approx. C8)	9

Comments:

Not all quantitated results can be accompanied by complete identification. Further investigation should be discussed with your client services representative.

AQUATERRA, INC.

CHAIN OF CUSTODY RECORD

PROJ. NO. 417-A

PROJECT NAME: Wiley Davis Landfill

SAMPLERS: (Signature) James H. Crews

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	8240	8270 BNA w/ Library Search	Total RCRA Metals				REMARKS
WD-2s-B	8-22-90	9:19a			WD-2s	3	✓	✓					
WD-2s	"	10:40a			WD-2s	4	✓	✓	✓				
WD-2d	"	11:00a			WD-2d	4	✓	✓	✓				
WD-3	"	12:55p			WD-3	5	✓	✓	✓				
WD-4	"	3:00p			WD-4	4	✓	✓	✓				
WD-5	"	4:30p			WD-5	4	✓	✓	✓				
WD-1	"	5:00p			WD-1	4	✓	✓	✓				
													IEA #196-062

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
James H Crews	8-22-90 5:55pm	Burt Brown		8-23 8:32	Bob Stephan
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Elizabeth O. Gray	Date / Time 8/23/90 12:00n	Remarks P.O. R-3333	

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory: Pink copy retained by laboratory: Yellow copy retained by samplers.

Project Mgr Steve Czekalski

TENTATIVELY IDENTIFIED COMPOUNDS

IEA Sample Number: 196-062-1
Sample Identification: WD-2s
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	35
2	Substituted 2-propenoic acid	15
3	Unknown	29
4	Unknown	15
5	Unknown	110
6	Unknown	20
7	Unknown	16
8	Unknown organic acid	10
9	Unknown	8
10	Unknown	10

Comments:

Not all quantitated results can be accompanied by complete identification. Further investigation should be discussed with your client services representative.

FORM TIC Rev. 050589

TENTATIVELY IDENTIFIED COMPOUNDS

IEA Sample Number: 196-062-2
Sample Identification: WD-2d
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 cyclic compound	10
2 Unknown cyclic compound	20

Comments:

Not all quantitated results can be accompanied by complete identification. Further investigation should be discussed with your client services representative.

FORM TIC Rev. 050589

TENTATIVELY IDENTIFIED COMPOUNDS

IEA Sample Number: 196-062-3
Sample Identification: WD-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	34
2	Unknown	90
3	Unknown	41
4	Unknown	49
5	Unknown	56
6	Unknown	31
7	Substituted benzamide	26
8	Unknown	36
9	Unknown cyclic compound	49
10	Unknown cyclic compound	70
11	Unknown	49
12	Unknown	27
13	Unknown	34
14	Unknown	52
15	Substituted biphenyl	85
16	Unknown	120
17	Unknown	34
18	Unknown	30
19	Unknown	55
20	Unknown	73

Comments:

Not all quantitated results can be accompanied by complete identification. Further investigation should be discussed with your client services representative.

TENTATIVELY IDENTIFIED COMPOUNDS

IEA Sample Number: 196-062-4
Sample Identification: WD-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 cyclic compound	68
2	Unknown	35
3	Unknown cyclic compound	32
4	Unknown	37
5	Unknown	29
6	Unknown	42
7	Unknown	30
8	Unknown	31
9	Unknown	69
10	Unknown	45
11	Unknown	32
12	Unknown	28
13	Unknown cyclic compound	46
14	Unknown	29
15	Substituted benzene	86
16	Unknown	56
17	Unknown	38
18	Unknown naphthalene	80
19	Unknown	58
20	Unknown	91

Comments:

Not all quantitated results can be accompanied by complete identification. Further investigation should be discussed with your client services representative.

FORM TIC Rev. 050589

NORTH CAROLINA DEPARTMENT OF NATURAL RESOURCES AND COMMUNITY DEVELOPMENT
DIVISION OF ENVIRONMENTAL MANAGEMENT GROUNDWATER SECTION
P.O. BOX 27687 - RALEIGH,N.C. 27611, PHONE (919)733-3221

FOR OFFICE USE ONLY
Quad. No. _____ Serial No. _____
Lat. _____ Long. _____ Pc _____
Minor Basin _____
Basin Code _____
Header Ent. _____ GW-1 Ent. _____

WELL CONSTRUCTION RECORD

WD-2d

DRILLING CONTRACTOR Environmental Drilling Corp.
DRILLER REGISTRATION NUMBER NC Reg 1095
STATE WELL CONSTRUCTION PERMIT NUMBER: 40-0887-WM-0249

1. WELL LOCATION: (Show sketch of the location below)
Nearest Town: Greensboro, NC
Wiley Davis Road
(Road, Community, or Subdivision and Lot No.)
County: Guilford

2. OWNER D H Griffin, Inc.
ADDRESS P.O.Box 7657 (Street or Route No.)
Greensboro, NC 27417-0657
City or Town State Zip Code

3. DATE DRILLED 8-15-90 USE OF WELL Monitoring
4. TOTAL DEPTH 75.0' CUTTINGS COLLECTED ☐ Yes ☒ No
5. DOES WELL REPLACE EXISTING WELL? ☐ Yes ☒ No
6. STATIC WATER LEVEL: 6.75 FT. ☐ above ☒ below TOP OF CASING,
TOP OF CASING IS 2.79 FT. ABOVE LAND SURFACE.
7. YIELD (gpm): _____ METHOD OF TEST _____
8. WATER ZONES (depth): _____
_____
CHLORINATION: Type _____ Amount _____
9. CASING:

	Depth From	To	Diameter	Wall Thickness or Weight/Ft.	Material
	0	40.0 Ft.	2"	Sch 40	PVC
		Ft.			
		Ft.			

10. GROUT:

	Depth From	To	Material	Method
	37.0	39.0 Ft.	Bentonite	Pour
	0	37.0 Ft.	Portland	Tremie

11. SCREEN:

	Depth From	To	Diameter	Slot Size	Material
	40	45 Ft.	2" in.	0.010 in.	PVC
		Ft.	in.	in.	
		Ft.	in.	in.	

12. GRAVEL PACK:

	Depth From	To	Size	Material
	39.0'	48.0 Ft.	Medium	Sand
		Ft.		

13. REMARKS: _____

DRILLING LOG

Depth From	To	Formation Description
0	3	Lt. Brown clayey SILT
3	12.3	Lt. Gray GRANITE
12.3	13	Tan SAPROLITE
13	18	Lt. Gray GRANITE
18	19.5	Tan SAPROLITE (Wet)
19.5	23.7	Lt. GRay GRANITE
23.7	24.8	Tan SAPROLITE (Wet)
24.8	36.3	APLITE DIKE
36.3	43.5	Lt. Gray GRANITE
43.5	44	APLITE DIKE
44	75	Lt. Gray GRANITE
		Boring terminated at 75'

If additional space is needed use back of form.

LOCATION SKETCH
(Show direction and distance from at least two State Roads, or other map reference points)

See reverse side

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15 NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Steve Cyrkalski 9-19-90
SIGNATURE OF CONTRACTOR OR AGENT DATE

W-1 Revised 6/88

Submit original to Division of Environmental Management and copy to well owner.

NORTH CAROLINA DEPARTMENT OF NATURAL RES[illegible]CES AND COMMUNITY DEVELOPMENT
DIVISION OF ENVIRONMENTAL MANAGEME[illegible]GROUNDWATER SECTION
P.O. BOX 27687 - RALEIGH,N.C. 2761[illegible]HONE (919)733-3221

FOR OFFICE USE ONLY
Quad. No. _____ Serial No. _____
Lat. _____ Long. _____ Pc ____
Minor Basin _____
Basin Code _____
Header Ent. _____ GW-1 Ent. _____

WELL CONSTRUCTION RECORD WD-3

DRILLING CONTRACTOR Environmental Drilling Corp.
DRILLER REGISTRATION NUMBER NC Reg 1095
STATE WELL CONSTRUCTION PERMIT NUMBER: 40-0887-WM-0249

1. WELL LOCATION: (Show sketch of the location below)
Nearest Town: Greensboro, NC
Wiley Davis Road
(Road, Community, or Subdivision and Lot No.)
County: Guilford

2. OWNER D H Griffin, Inc.
ADDRESS P.O.Box 7657 (Street or Route No.)
Greensboro, NC (City or Town) 27417-0657 (Zip Code)
State

4. DATE DRILLED 8-14-90 USE OF WELL Monitoring
5. TOTAL DEPTH 17.5' CUTTINGS COLLECTED ☐ Yes ☒ No
6. DOES WELL REPLACE EXISTING WELL? ☐ Yes ☒ No
8. STATIC WATER LEVEL: 5.84 FT. ☐ above ☒ below TOP OF CASING,
TOP OF CASING IS 2.13 FT. ABOVE LAND SURFACE.
7. YIELD (gpm): _____ METHOD OF TEST _____
9. WATER ZONES (depth): _____
_____
9. CHLORINATION: Type _____ Amount _____
10. CASING:

	Depth		Diameter	Wall Thickness or Weight/Ft.	Material
From	0	To 3.5 Ft.	2"	Sch 40	PVC
From		To Ft.			
From		To Ft.			

11. GROUT:

	Depth		Material	Method
From	3.5	To 5.5 Ft.	Bentonite	Pour
From	0	To 3.5 Ft.	Portland	Tremie

12. SCREEN:

	Depth		Diameter	Slot Size	Material
From	7.5	To 17.5 Ft.	2" in.	0.010 in.	PVC
From		To Ft.	in.	in.	
From		To Ft.	in.	in.	

13. GRAVEL PACK:

	Depth		Size	Material
From	5.5	To 17.5 Ft.	Medium	Sand
From		To Ft.		

14. REMARKS: _____

Depth From	Depth To	DRILLING LOG Formation Description
0	4	Brown silty CLAY
4	4.5	Red to Tan silty CLAY
4.5	8	Tan silty CLAY with grave
8	13	Tan SAPROLITE
13	16	Red to TAn SAPROLITE
16	17	Tan SAPROLITE (DRY)
17	17.8	GRANITE (WET)
		Boring terminated at 17.8

If additional space is needed use back of form.

LOCATION SKETCH
(Show direction and distance from at least two State Roads, or other map reference points)

See reverse side

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15 NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Steve Czekalski 9-19-90
SIGNATURE OF CONTRACTOR OR AGENT DATE

GW-1 Revised 6/88
Submit original to Division of Environmental Management and copy to well owner.

NORTH CAROLINA DEPARTMENT OF NATURAL RESOURCES AND COMMUNITY DEVELOPMENT
DIVISION OF ENVIRONMENTAL MANAGEMENT GROUNDWATER SECTION
P.O. BOX 27687 – RALEIGH,N.C. 27611, PHONE (919)733-3221

FOR OFFICE USE ONLY
Quad. No. _____ Serial No. _____
Lat. _____ Long. _____ Pc _____
Minor Basin _____
Basin Code _____
Header Ent. _____ GW-1 Ent. _____

WELL CONSTRUCTION RECORD WD-4

DRILLING CONTRACTOR Environmental Drilling Corp.
DRILLER REGISTRATION NUMBER NC Reg 1095
STATE WELL CONSTRUCTION PERMIT NUMBER: 40-0887-WM-0249

WELL LOCATION: (Show sketch of the location below)
Nearest Town: Greensboro, NC
Wiley Davis Road
(Road, Community, or Subdivision and Lot No.)
County: Guilford

OWNER D H Griffin, Inc.
ADDRESS P.O.Box 7657 (Street or Route No.)
Greensboro, NC 27417-0657
City or Town State Zip Code

DATE DRILLED 8-14-90 USE OF WELL Monitoring
TOTAL DEPTH 21.5 CUTTINGS COLLECTED ☐ Yes ☒ No
DOES WELL REPLACE EXISTING WELL? ☐ Yes ☒ No
STATIC WATER LEVEL: 5.37 FT. ☐ above ☒ below TOP OF CASING,
TOP OF CASING IS 2.79 FT. ABOVE LAND SURFACE.
YIELD (gpm): _____ METHOD OF TEST _____
WATER ZONES (depth): _____
CHLORINATION: Type _____ Amount _____

CASING:

	Depth From	To	Diameter	Wall Thickness or Weight/Ft.	Material
	0	6.0 Ft.	2"	Sch 40	PVC
		Ft.			
		Ft.			

GROUT:

	Depth From	To	Material	Method
	2.0	4.5 Ft.	Bentonite	Pour
	0	2.0 Ft.	Portland	Tremie

SCREEN:

	Depth From	To	Diameter	Slot Size	Material
	6.0	16.0 Ft.	2" in.	0.010 in.	PVC
		Ft.	in.	in.	
		Ft.	in.	in.	

GRAVEL PACK:

	Depth From	To	Size	Material
	4.5	21.5 Ft.	Medium	Sand
		Ft.		

REMARKS: _____

Depth From	To	DRILLING LOG Formation Description
0	2	Lt. Brown silty CLAY
2	3.5	Gray silty CLAY
3.5	21.5	Gray to Tan SAPROLITE
		Boring terminated at 21.5'

If additional space is needed use back of form.

LOCATION SKETCH
(Show direction and distance from at least two State Roads, or other map reference points)

See reverse side

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15 NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Steve Gzkalski 9-19-90
SIGNATURE OF CONTRACTOR OR AGENT DATE

W-1 Revised 6/88
Submit original to Division of Environmental Management and copy to well owner.

NORTH CAROLINA DEPARTMENT OF NATURAL RESOURCES AND COMMUNITY DEVELOPMENT
DIVISION OF ENVIRONMENTAL MANAGEMENT GROUNDWATER SECTION
P.O. BOX 27687 - RALEIGH,N.C. 27611, PHONE (919)733-3221

FOR OFFICE USE ONLY
Quad No. _____ Serial No. _____
Lat. _____ Long. _____ Pc _____
Minor Basin _____
Basin Code _____
Header Ent. _____ GW-1 Ent. _____

WELL CONSTRUCTION RECORD

WD-5

DRILLING CONTRACTOR Environmental Drilling Corp.

DRILLER REGISTRATION NUMBER NC Reg 1095

STATE WELL CONSTRUCTION PERMIT NUMBER: 40-0887-WM-0249

1. WELL LOCATION: (Show sketch of the location below)
Nearest Town: Greensboro, NC
Wiley Davis Road
(Road, Community, or Subdivision and Lot No.)

County: Guilford

2. OWNER D H Griffin, Inc.
ADDRESS P.O.Box 7657 (Street or Route No.)
Greensboro, NC 27417-0657
City or Town State Zip Code

3. DATE DRILLED 8-13-90 USE OF WELL Monitoring

4. TOTAL DEPTH 26.0' CUTTINGS COLLECTED ☐ Yes ☒ No

5. DOES WELL REPLACE EXISTING WELL? ☐ Yes ☒ No

6. STATIC WATER LEVEL: 10.30 FT. ☐ above ☒ below TOP OF CASING,
TOP OF CASING IS 2.73 FT. ABOVE LAND SURFACE.

7. YIELD (gpm): _____ METHOD OF TEST _____

8. WATER ZONES (depth): _____

9. CHLORINATION: Type _____ Amount _____

10. CASING:

	Depth		Diameter	Wall Thickness or Weight/Ft.	Material
From	0	To 8.0 Ft.	2"	Sch 40	PVC
From		To Ft.			
From		To Ft.			

11. GROUT:

	Depth		Material	Method
From	4.0	To 6.0 Ft.	Bentonite	Pour
From	0	To 4.0 Ft.	Portland	Tremie

12. SCREEN:

	Depth		Diameter	Slot Size	Material
From	8.0	To 18.0 Ft.	2" in.	0.010 in.	PVC
From		To Ft.	in.	in.	
From		To Ft.	in.	in.	

13. GRAVEL PACK:

	Depth		Size	Material
From	6.0	To 26.0 Ft.	Medium	Sand
From		To Ft.		

14. REMARKS: _____

Depth From	Depth To	DRILLING LOG Formation Description
0	1	Brown silty clay with gravel
1	3.5	Tan clayey SAND
3.5	8.5	Red Tan medium soft SAND
8.5	12	Lt. Brown clayey SILT
12	26	Brown SAPROLITE
		Boring terminated at 26'

If additional space is needed use back of form.

LOCATION SKETCH
(Show direction and distance from at least two State Roads, or other map reference points)

See reverse side

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15 NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Steve Czekalski 9-19-90
SIGNATURE OF CONTRACTOR OR AGENT DATE

GW-1 Revised 6/88

Submit original to Division of Environmental Management and copy to well owner.

Industrial & Environmental Analysts, Inc.
P.O. Box 12846
Research Triangle Park, North Carolina 27709
(919) 677-0090
FAX (919) 677-0427

September 11, 1990

Steve Czekalski
Aquaterra, Inc.
P.O. Box 50328
Raleigh, NC 27650

Reference IEA Report No.: 196062
Project ID: 417-A

Dear Mr. Czekalski,

Transmitted herewith are the results of analyses on seven 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

IEA LABORATORY RESULTS

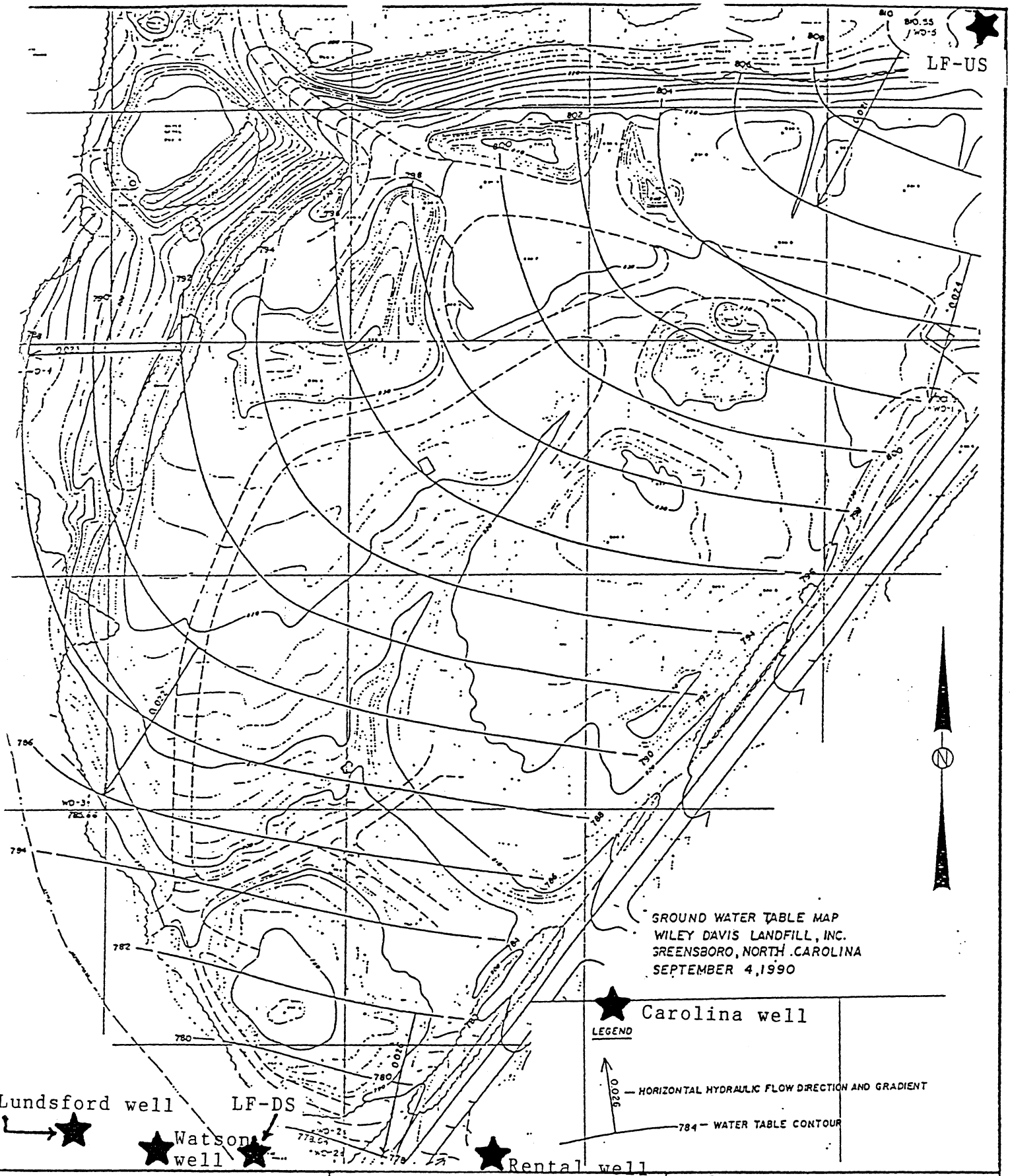
IEA Project #: 196-062
Client Name: Aquaterra, Inc.

Sample #	Client ID	Parameter	Results		Date Analyzed
		TOTAL METALS:			
1	WD-2s	Mercury	<0.0005	mg/L	08/30/90
2	WD-2d	Mercury	<0.0005	mg/L	08/30/90
3	WD-3	Mercury	<0.0005	mg/L	08/30/90
4	WD-4	Mercury	<0.0005	mg/L	08/30/90
5	WD-5	Mercury	<0.0005	mg/L	08/30/90
6	WD-1	Mercury	<0.0005	mg/L	08/31/90
1	WD-2s	Silver	<0.05	mg/L	08/26/90
2	WD-2d	Silver	<0.05	mg/L	08/26/90
3	WD-3	Silver	<0.05	mg/L	08/26/90
4	WD-4	Silver	<0.05	mg/L	08/26/90
5	WD-5	Silver	<0.05	mg/L	08/26/90
6	WD-1	Silver	<0.05	mg/L	08/26/90
1	WD-2s	Arsenic	<0.005	mg/L	08/26/90
2	WD-2d	Arsenic	<0.005	mg/L	08/26/90
3	WD-3	Arsenic	<0.005	mg/L	08/26/90
4	WD-4	Arsenic	<0.005	mg/L	08/26/90
5	WD-5	Arsenic	<0.005	mg/L	08/26/90
6	WD-1	Arsenic	<0.005	mg/L	08/26/90
1	WD-2s	Barium	0.80	mg/L	08/26/90
2	WD-2d	Barium	0.20	mg/L	08/26/90
3	WD-3	Barium	1.5	mg/L	08/26/90
4	WD-4	Barium	1.3	mg/L	08/26/90
5	WD-5	Barium	0.46	mg/L	08/26/90
6	WD-1	Barium	0.38	mg/L	08/26/90
1	WD-2s	Cadmium	<0.01	mg/L	08/26/90
2	WD-2d	Cadmium	<0.01	mg/L	08/26/90
3	WD-3	Cadmium	<0.01	mg/L	08/26/90
4	WD-4	Cadmium	<0.01	mg/L	08/26/90
5	WD-5	Cadmium	<0.01	mg/L	08/26/90
6	WD-1	Cadmium	<0.01	mg/L	08/26/90
1	WD-2s	Chromium	<0.03	mg/L	08/26/90
2	WD-2d	Chromium	<0.03	mg/L	08/26/90
3	WD-3	Chromium	<0.03	mg/L	08/26/90
4	WD-4	Chromium	0.11	mg/L	08/26/90
5	WD-5	Chromium	0.05	mg/L	08/26/90
6	WD-1	Chromium	0.16	mg/L	08/26/90
1	WD-2s	Lead	<0.005	mg/L	08/29/90
2	WD-2d	Lead	0.44	mg/L	08/29/90
3	WD-3	Lead	<0.005	mg/L	08/29/90
4	WD-4	Lead	0.010	mg/L	08/29/90
5	WD-5	Lead	0.009	mg/L	08/29/90
6	WD-1	Lead	<0.005	mg/L	08/29/90
1	WD-2s	Selenium	<0.01	mg/L	08/27/90
2	WD-2d	Selenium	<0.01	mg/L	09/05/90

IEA LABORATORY RESULTS

IEA Project #: 196-062
Client Name: Aquaterra, Inc.

Sample #	Client ID	Parameter	Results		Date Analyzed
3	WD-3	Selenium	<0.01	mg/L	08/27/90
4	WD-4	Selenium	<0.01	mg/L	08/27/90
5	WD-5	Selenium	<0.01	mg/L	08/27/90
6	WD-1	Selenium	<0.01	mg/L	08/27/90



PROJECT: Wiley Davis Landfill Guilford Co., NC	Stream Sample Locations			AQUATERRA, INC. RALEIGH, GREENSBORO, CHARLOTTE NORTH CAROLINA
	JOB: 417A	DRAWING:	FIGURE:	SCALE: 1"=150

GUILFORD COUNTY
DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH

August 30, 1990

D. H. Griffin Wrecking Company
P. O. Box 4657
Greensboro, NC 27407

Dear Mr. Griffin:

On August 20, 1990, our department met with Julian Foscue and Jeff Rodgers of the State Solid Waste Division to talk about your site, and latest proposal.

If your new site is approved you would be able to dispose of the following items only: stumps. limbs, leaves, concrete, brick, uncontaminated wood and uncontaminated earth.

Various items could be pulled out and recycled if you have a designated area or a concrete pad on which to do this. This area could not be in the landfill area itself. You also could pull out items to be recycled at the job site itself.

I suggest that you contact Jeff Rodgers of the State Solid Waste Division, if you would like to dispose of materials other than what has been mentioned above. I recommend that you look into establishing a Type II Landfill. Jeff Rodgers can help you if you have any questions about the Type II Landfill requirements.

If I can be of any additional assistance to you, please feel free to contact me.

Sincerely,

Todd W. Davidson

Todd W. Davidson
Toxic and Health Hazard Unit Specialist

/hn

301 North Eugene Street
P.O. Box 3508
Greensboro, N. C. 27401
Phone: (919) 373-3771

GUILFORD COUNTY
DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH

August 30, 1990

Mr. Walter Baynes
Route 8, Box 246-A
Reidsville, NC 27320

Certified Mail
Return Receipt Requested

Dear Mr. Baynes:

Pursuant to N.C.G.S. 130A-22(a) and to 15A NCAC 13B, You are hereby informed that you improperly disposed of solid waste on William Reid's property, which is located in Center Grove Township described on County Tax Map 9-611, Block 652N, Parcel P-2V. You are in violation of the North Carolina Solid Waste Management Rules 15A NCAC 13B.

15A NCAC 13B.0105(a) requires that the solid waste collector shall be responsible for the satisfactory collection and transportation of all solid waste to a permitted disposal site or facility. You are in violation of 15A NCAC 13B.0105(a) in that you collected and transported solid waste to an unpermitted disposal site or facility.

Based on the foregoing, you are hereby ordered to comply with 15A NCAC 13B.0105(a) by taking the following action:

1. Immediately discontinue all dumping operations at this site.
2. Remove all waste that you have disposed on this property and dispose of the waste properly at an approved facility within thirty (30) days of receiving this letter.

301 North Eugene Street
P.O. Box 3508
Greensboro, N. C. 27401
Phone: (919) 373-3771

Pursuant to N.C.G.S. 130A-22(a) and 15A NCAC Section .0701 - .0707, an administrative penalty of up to five thousand (5000) dollars per day may be assessed for the violation of the Solid Waste Law or Regulation.

If you have any questions concerning this matter, please feel free to contact our office at (919) 373-3771.

Sincerely,

Todd Davidson

Todd Davidson
Toxic and Health Hazard Unit Specialist

/hm

GUILFORD COUNTY
DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH

July 20, 1990

D.H. Griffin Wrecking Co.
P. O. Box 4657
Greensboro, NC 27407

Dear Mr. Griffin:

On July 12, 1990. an inspection was done at your permitted Demolition Landfill located on Wiley Davis Road, Greensboro, NC to see if your facility is in compliance with the NC Solid Waste Rules and Regulations.

Erosion control devices must be maintained.
Unapproved debris such as: shingles, plastics and paper should not be disposed of in your landfill.

Proper closure of your site should begin as soon as possible.

If I can be of any additional assistance to you, please contact me fro. 8:00 a.m. to 5:00 p.m. Monday through Friday.

Sincerely,

Todd W. Davidson
Toxic and Health Hazard Unit Specialist

/hn

enclosure: Inspection Report

301 North Eugene Street
P.O. Box 3508
Greensboro, N. C. 27401
Phone: (919) 373-3771

From: NC EHNR/GWS

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 Plemmons Foster
Regional Manager

DIVISION OF ENVIRONMENTAL MANAGEMENT
GROUNDWATER SECTION

RECEIVED JUL 30 1990

152

July 13, 1990

AUG 6 1990

David H. Griffin, Sr.
Hilltop Road
P.O. Box 7657
Greensboro, NC 27417-0657

Dear Mr. Griffin:

SUBJECT: MONITOR WELL CONSTRUCTION
PERMIT NO. 40-0887-WM-0249
GUILFORD COUNTY

In accordance with your application received July 10, 1990, we are forwarding herewith Monitor Well Construction Permit No. 40-0887-WM-0249 for the construction of six monitor wells in the Carolina Slate Belt Hydrogeologic Unit.

Henceforth, correspondence and data relating to these wells shall be designated D.H. Griffin Wrecking Company, Inc., including incident number or water quality number, if appropriate.

This Permit will be effective from the date of its issuance and shall be subject to the conditions and limitations as specified therein.

Sincerely,

Andrew M Raring

Andrew M. Raring
Hydrogeological Regional Supervisor

AMR/LDC/ahl
Enclosure
cc: Groundwater Section - Central Office
WSRO
[redacted] Division of Emergency Management
Aquaterra, Inc.

NORTH CAROLINA

ENVIRONMENTAL MANAGEMENT COMMISSION

DEPARTMENT OF ENVIRONMENT, HEALTH AND NATURAL RESOURCES

JUL 30 1990

APPROVED

252-A

PERMIT FOR THE CONSTRUCTION OF A MONITOR WELL OR WELL SYSTEM

In accordance with the provisions of Article 7, Chapter 87, North Carolina General Statutes, and other applicable Laws, Rules, and Regulations.

PERMISSION IS HEREBY GRANTED TO

D.H. Griffin Wrecking Company, Inc.

FOR THE CONSTRUCTION OF SIX MONITOR WELLS in the Carolina Slate Belt Hydrogeologic unit located at Wiley Davis Road, Sedgefield, North Carolina in Guilford County in accordance with the application dated July 3, 1990, and in conformity with the specifications and supporting data, all of which are filed with the Department of Environment, Health and Natural Resources and are considered a part of this Permit.

This Permit is for well construction only, and does not waive any provisions or requirements or any other applicable laws or regulations.

Construction of a well under this Permit shall be in compliance with the North Carolina Well Construction Regulations and Standards, and any other laws and regulations pertaining to well construction.

This Permit will be effective from the date of its issuance until January 13, 1991, and shall be subject to other specified conditions, limitations or exceptions as follows:

1. A permanent identification plate with the date of construction, depth of well, screen interval, depth of grout, drilling contractor, and his registration number shall be attached to the well head or the outer protective steel casing.

2. The well construction completion form and all water quality data are to be submitted to the Central Office of the Groundwater Section P. O. Box 27687, Raleigh, North Carolina 27611.

3. All laboratory analysis of Groundwater samples collected from the permitted monitor wells are to be submitted to North Carolina Department of Environment, Health, and Natural Resources, Groundwater Section, P. O. Box 27687, Raleigh, N. C. 27611 with a copy to the North Carolina Department of Environment, Health and Natural Resources, Groundwater Section, 8025 North Point Boulevard, Suite 100, Winston-Salem, N. C. 27106 within 60 days of well completion, and quarterly thereafter.

4. All additional investigative findings in relation to the pollution sources being monitored, as indicated in item J of permit application, are to be submitted to North Carolina Department of Environment, Health and Natural Resources, Groundwater Section, P. O. Box 27687, Raleigh, N. C. 27611 with a copy to North Carolina Department of Environment, Health, and Natural Resources, Groundwater Section, 8025 North Point Boulevard, Suite 100, Winston-Salem, N. C. 27106 within 60 days of well completion, and quarterly thereafter.

5. The well shall be afforded a means of protection against vandalism, damage, or unauthorized use.

6. When any monitor well is no longer useful for its intended purpose, it shall be abandoned in compliance with North Carolina Administrative Code 15. 2C.0113 and a well abandonment form sent to the North Carolina Department of Environment, Health, and Natural Resources, Groundwater Section, P. O. Box 27687, Raleigh, N. C. 27611 with a copy to North Carolina Department of Environment, Health and Natural Resources, Groundwater Section, 8025 North Point Boulevard, Suite 100, Winston-Salem, N. C. 27106.

7. The monitor well shall be constructed in accordance with the Groundwater Section's recommended construction details as outlined in attachment #1.

Permit issued this the 13th day of July 1990

FOR THE NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

Larry D. Coble

Larry D. Coble, Regional Supervisor
Division of Environmental Management

By Authority of the Environmental Management Commission

Permit No. 40-0887-WM-0249

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 Plemmons Foster
Regional Manager

DIVISION OF ENVIRONMENTAL MANAGEMENT
GROUNDWATER SECTION

July 5, 1990

Mr. Paul Marlow
Guilford County Health Department
P.O. Box 3508
Greensboro, NC 27401

Subject: Comments on the Groundwater Monitoring Plan for the D.H. Griffin Demolition Landfill

Dear Mr. Marlow:

The WSRO Groundwater Section has reviewed the groundwater monitoring plan as part of the Groundwater Assessment Workplan submitted by Aquaterra, Inc. This plan meets the recommendations of our office.

The WSRO Groundwater Section participated in the site visit of May 14, 1990, along with the Solid Waste Section, Water Quality Section and Guilford County Environmental Health Department. The necessity for a system of monitoring wells defining the groundwater conditions following closure of the landfill, and particularly the leachate containment pond was established at that time.

The workplan submitted by Aquaterra located on a site map six proposed monitoring wells which appeared to cover the drainages as well as the pond. Upon field inspection by Bobby Lutfy, Hydrogeologist with the Solid Waste Section, the location of the upgradient well turned out to be in the area of waste disposal.

Aquaterra responded to the request for locating the well further to the northeast, and requested the comments of WSRO Groundwater on the final plan.

With the relocation of the upgradient monitoring well, the WSRO concurs with the Solid Waste Section approval of the monitoring well plan as submitted by Aquaterra.

Sincerely,

Steve Weiss.

Steve Weiss
Hydrogeologist I

SW/al

cc: Bobby Lutfy - Division of Solid Waste Management
Steve J. Czekalski - Aquaterra, Inc.

GUILFORD COUNTY

DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH

June 29, 1990

D. H. Griffin Wrecking Co., Inc.
P. O. Box 4657
Greensboro, NC 27407
Attn: Mr. D.H. Griffin, Sr., President

Dear Mr. Griffin:

On June 20, 1990, I met with Bobby Lutfy (State Ground Water Division) at your site to look over the monitoring well locations. We were in agreement that the well locations at your site were suitable and approved.

I have reviewed Aquaterra's Ground Water Assessment Work Plan and it meets the approval of our office.

If I can be of further assistance to you, please contact me.

Sincerely,

Todd W. Davidson
Toxic and Health Hazard Unit Specialist

/hn

cc: file

301 North Eugene Street
P.O. Box 3508
Greensboro, N. C. 27401
Phone: (919) 373-3771

AQUATERRA
Aquaterra, Inc. • P.O. Box 50328 • Raleigh, NC 27650 • 919-839-0199

May 31, 1990

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

Attention: Mr. D.H. Griffin, Sr., President

Reference: Ground Water Assessment Workplan
Wiley Davis Landfill
Greensboro, North Carolina
Aquaterra Job No. 417

Dear Mr. Griffin:

Aquaterra, Inc. (Aquaterra) has completed a site visit of the referenced facility and the subsequent ground water assessment workplan. Enclosed are detailed descriptions of field tasks to be completed as part of the investigation. If you have any questions regarding this plan, please do not hesitate to contact us at (919) 839-0199.

Sincerely,

AQUATERRA, INC.

Steve J. Czekalski

Steve J. Czekalski
Project Manager

Bruce D. Reilly, P.E.

Bruce D. Reilly, P.E.
Senior Chemical Engineer

Peer Review By:

PLR

Phillip L. Rahn, P.G.
President

cc: Mr. Larry D. Coble - NCDEHNR - DEM, Winston-Salem, North Carolina
Mr. Paul M. Marlow, R.S. - Guilford County Health Department
Mr. Jeff Rodgers - NCDEHNR - Solid Waste Section, Winston-Salem, North Carolina
Mr. Julian Foscue - NCDEHNR - Solid Waste Section, Winston-Salem, North Carolina

SJC/BDR/cbb
R1010-90

GROUND WATER ASSESSMENT WORKPLAN
WILEY DAVIS LANDFILL, INC.
GREENSBORO, NORTH CAROLINA
May 31, 1990

1.0 Introduction

The Wiley Davis Landfill Inc. is owned by the D.H. Griffin Wrecking Company, Inc. of Greensboro, North Carolina (D.H. Griffin). D.H. Griffin operates the approximate 19 acre demolition landfill near Greensboro as shown in Figure 1. A pond is utilized onsite to contain leachate generated from landfill operations. On October 24, 1989, the North Carolina Department of Environment, Health and Natural Resources, Division of Environmental Management (DEM) issued a Notice of Violation stating that extremely high levels of hydrogen sulfide were being emitted from the pond and was therefore in violation of Title 15, North Carolina Administrative Code 2D .0522.

In response, D.H. Griffin contracted Four Seasons Industrial Services, Inc. of Greensboro, North Carolina and subsequently Aquaterra, Inc. (Aquaterra) of Raleigh, North Carolina to access the contents of the pond and sludge. Sampling of the pond was conducted by Aquaterra on March 12, 1990. Results of the pond sampling indicated detected levels of total petroleum hydrocarbons (TPH) as determined by Extraction Method 3550 at 1.9 milligrams per litre (mg/L) total arsenic at 0.0009 and 0.0008 mg/L and barium at 0.37 and 0.31 mg/L, and volatile and semivolatile organic compounds. 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 micrograms per litre (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 (methylethyl ketone) at 73 and 71 ug/L.

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.

Laboratory analysis of the sludge showed detectable levels of TPH, volatile and semivolatile organics. 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 milligrams per kilogram detected in the samples.

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 micrograms per kilogram (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.

In addition to the laboratory analysis, field testing for hydrogen sulfide gas was conducted during and after sampling. Surface water and sludge samples were below the 0.5 parts per million (ppm) detection limit. Samples collected of the leachate plumes draining into the pond had detectable levels of hydrogen sulfide ranging from 3.0 to 5.0 parts per million.

As recommended by the DEM, closure activities are to be conducted of the landfill and leachate containment pond and local ground water conditions are to be defined. The workplan will address the assessment of the ground water quality.

2.0 Site Visit

For the purpose of obtaining the general hydrogeologic conditions at the site, a project geologist and engineer conducted a site visit on May 16, 1990. The visit consisted of a tour of landfill operations and conditions, a walkthrough of the site perimeter and an inspection of rock outcrops to assess ground water movement.

Results of the visit indicated that the landfill and cap which is covering the inactive portions of the landfill, have a general southwest topographic slope which mimics the preexisting topography. The estimated thickness of the combined fill and cap materials is between 40 to 50 feet. The approximate fill area is as depicted in Figure 2.

The area surrounding the fill is mostly wooded with sloping topography. Surface water runoff from the fill area discharges to unnamed creeks which eventually flow south to the Deep River.

Geologically, local bedrock was described by the inspection of outcrop exposed on the northwest quarter of the site. Based on the observed rock types, the predominate rock type is a weathered metamorphosed granite. Also exposed were a granite aplite dike and basalt dike. All of the outcrop exposed were highly weathered with numerous fractures.

3.0 Health and Safety Plan

A copy of the Health and Safety (H&S) Plan has been prepared as described under 29 CFR Part 1910 and is included in Attachment A. The H&S Plan must be read and then signed upon arrival onsite by all participants of the assessment. All participants will participate in an approved medical monitoring program including baseline and annual physicals. A 40 hour hazardous waste health and safety training program with annual 8 hour refresher training must also be complete by all personnel.

4.0 Ground Water Assessment Workplan

Based on the location and area of the fill and topography surrounding the landfill, six ground water monitoring wells as located in Figure 2 are proposed to define ground water conditions surrounding the landfill. Five of the six wells are planned to monitor shallow conditions (within 10 feet from the water table) and one well will be constructed to monitor ground water conditions in the fractured bedrock.

Monitoring wells shall be installed by first drilling through the residual soil and rock utilizing a decontaminated high pressure air rig. Shallow wells will be drilled to approximately 10 feet past the water table. As this depth is achieved, a two inch inner diameter polyvinyl chloride (PVC) well pipe and screen will be installed in the borehole. Screen length will be ten feet for each shallow well.

A typical well construction of the planned shallow wells is included as Figure 3. The location of the deep well is also shown in Figure 2. Drilling and construction of the well will be similar to the shallow wells, except that the deep well will be continued to the base of the highly fracture bedrock or to a depth not to exceed 75 feet and a five foot screen will be place immediately above that base. A deep well schematic is shown in Figure 4.

The drill rig and associated equipment shall be steam cleaned after drilling and installing each well. A proper decontamination area will be established with the site coordinator upon arrival onsite.

5.0 Purging and Sampling Procedures

5.1 Purging

Sampling for these parameters will be conducted on all six wells approximately one week after well installation to allow for well development.

Prior to sampling, wells will be purged of three to five well volumes of water to introduce water representative of ground water conditions of the general area. Purging will be accomplished using the dedicated decontaminated Teflon bailers provided and new nylon rope. The equipment is needed to conduct the purging activity is summarized in Attachment B.

Purging will be conducted in the following manner:

- Obtain depth to water levels in all six wells, making sure to decontaminate water level probe in between wells.
- Record in log book, include date.
- Calculate well volumes for the six wells using the following formula:

$$\text{Well Volume} = (\text{depth to screen bottom} - \text{depth to water}) \times 0.1632 \text{ gallons/foot}$$

This calculation represents one well volume and will be multiplied by three

IMPORTANT -

Before purging the shallow well WD-2s (WD = Wiley Davis) immediately downgradient of the lagoon, an equipment blank is to be collected standing near that well. Pour the laboratory provided deionized water into the orifice in the bailer top and allow 10 to 12 seconds for the water to mix in the bailer. Pour the water into three 40 ml. vials for subsequent Method 8240 analysis. Label the bottles WD-2s-B. Record in log book the purpose of this sample. Once finished, place the bailer attached to the nylon rope into well WD-2s for purging.

The sampler must first take the precaution of changing vinyl sampling gloves in between wells to reduce cross contamination samples and equipment. Purge the minimum water volume from each well. Measure the volume based on filling the five gallon bucket (it is recommended to mark a bucket in gallon increments intended for this purpose). Pour any purging water into the 55 gallon drums for later disposal. Make sure the drums are sealed after purging.

Once a minimum three well volumes are removed, check the water pH, electrical conductivity (EC) and temperature (T). It will be assumed that representative ground water has entered the well when successive values of these parameters reproduce to the following tolerances:

$$pH \pm 0.1 \text{ units}$$

$$EC \pm 5\%$$

$$T \pm 5\% \text{ (degrees Celsius)}$$

Make sure that entries are entered in ink. If an error in recording is done, eliminate the entry by drawing a single line through the entry. Record the data summarized in Attachment B into the log book.

5.2 Sampling

Ground water quality will be determined using the following analytical test methods:

- Total RCRA metals
- Volatile organic analysis per EPA Method 8240
- Semi-Volatile Organic analysis (Base/Neutral/Acid Extractables) per Method 8270 plus library search.

Well sampling will be conducted between one and three hours after purging. A one hour minimum waiting period is recommended so as to let any fine particles in the monitoring well to settle. The three hour maximum period is recommended to reduce any effects that the PVC well may have on the water. Sample bottles should be labeled prior to sampling and wet ice is to be placed in the sample coolers prior to conducting the sampling. Samples will be collected in the following order:

- Volatile Organics (EPA Method 8240)
- Semi Volatile Organics (EPA Method 8270)
- Total RCRA Primary Metals

Lower the bailer gently three to four feet past the water table. Allow approximately five seconds for the bailer to fill with water before retrieving. Pour the water gently into the glassware. Tilt the bottles to minimize volatilization of the suspected organic contaminants. The 40 ml. vials should be filled so that a meniscus appears on the top portion of the open bottle. Recap the bottles and ensure that the 40 ml. vials have zero headspace to again minimize volatilization. Zero headspace is not needed for the 8270 and total RCRA primary metals samples. Finally, the bottles will be placed in the cooler filled with ice for sample preservation. The sampling data will be recorded onto the Chain-of-Custody record.

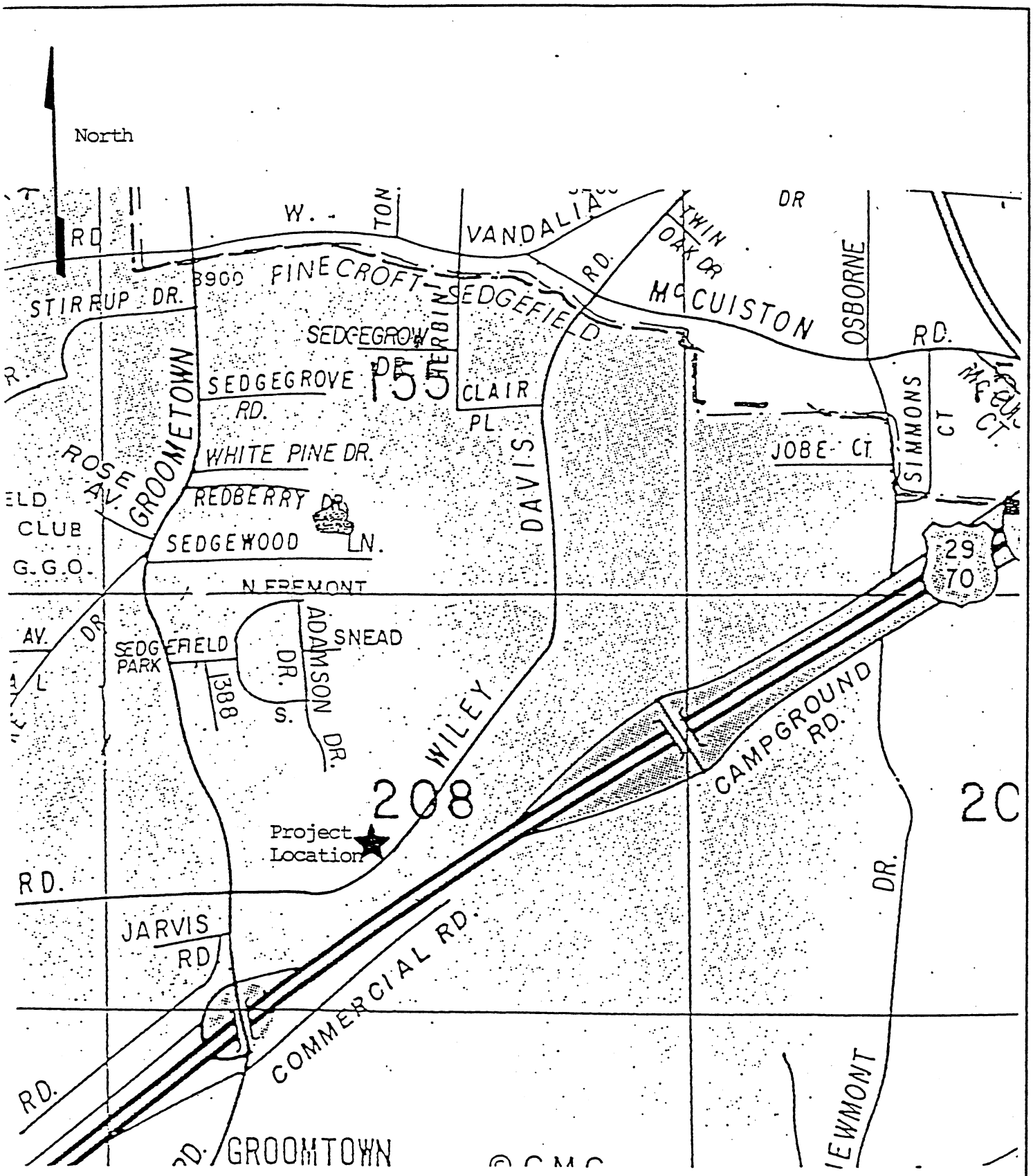
5.3 Field Test To Determine Hydraulic Conductivity

A rising head permeability test will be conducted after completion of sampling on shallow wells WD-2s, 3, 4 and 5 and deep well WD-2d to establish the hydraulic conductivity of the shallow and fractured bedrock aquifers.

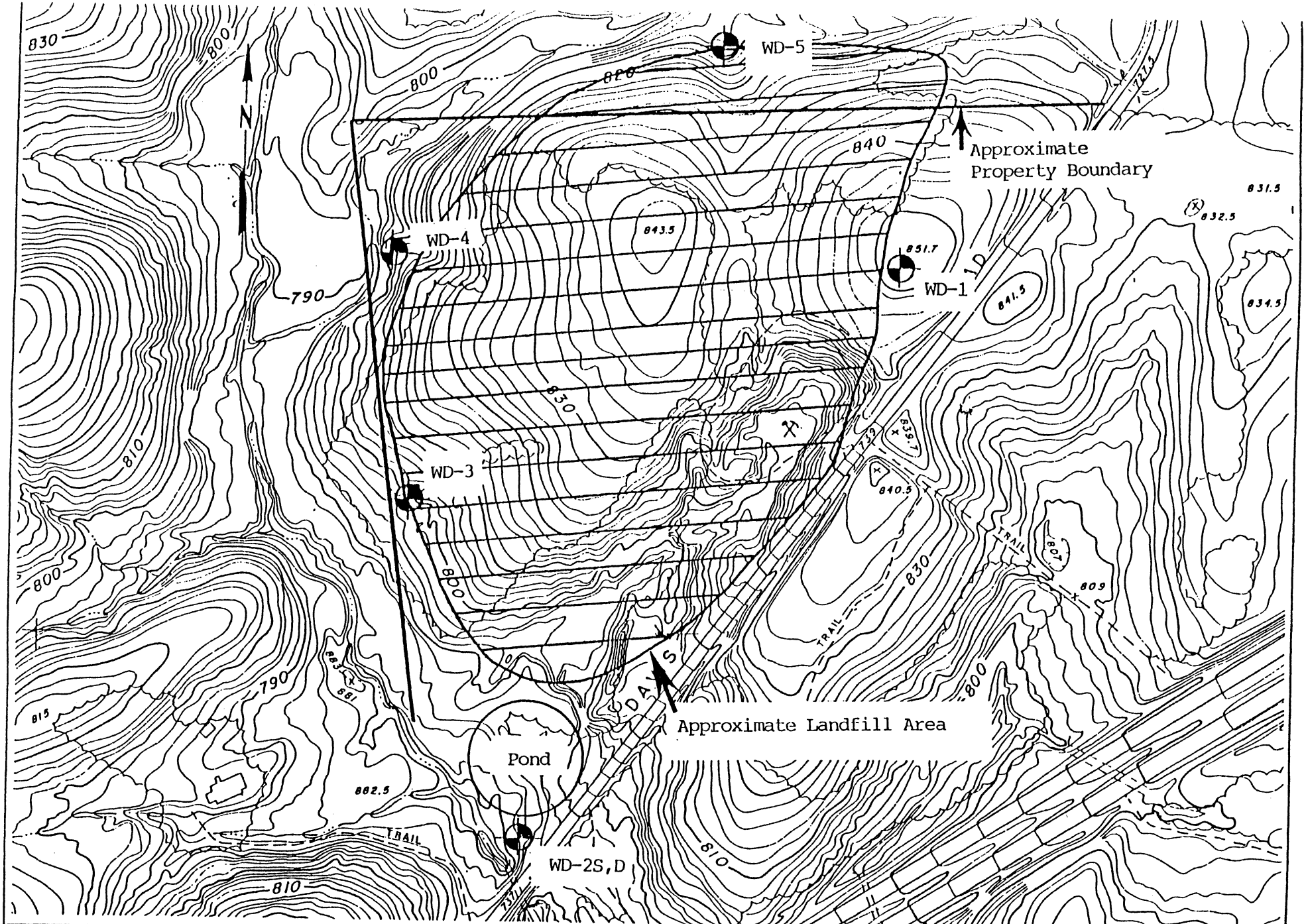
This parameter will be established by bailing the wells until a minimum water column depression of three feet is achieved. If this column depression is unattainable by bailing the well for 30 minutes, the test will be discontinued.

As soon as the water column is depressed sufficiently, record the time of day for this test. Record the depth to water for a minimum of six one minute increment periods for the first 10 minutes, at five minute increments until 40 minutes after the test began and at 15 minutes until the test is complete. The test will be conducted until a minimum of 63% of the water column has recovered to the static water level measured before purging was conducted.

For later calculation of hydraulic conductivity, the height of the water column depression is needed. This is calculated by subtracting the static water level from the greatest depth to water obtained at the beginning of the test. Record corresponding time and depth to water measurements on the form photocopied in Attachment C.



PROJECT:	TITLE:				
Wiley Davis Landfill Greensboro, North Carolina	Project Location Map				AQUATERRA, INC. RALEIGH, GREENSBORO, CHARLOTTE NORTH CAROLINA
	JOB: 417	DRAWING:	FIGURE: 1	SCALE: NTS	



PROJECT: Wiley Davis Landfill Greensboro, North Carolina	TITLE: Proposed Monitoring Well Locations			
	JOB: 417	DRAWING:	FIGURE: 2	SCALE:appr 1"=200'

AQUATERRA, INC.
RALEIGH, GREENSBORO, CHARLOTTE
NORTH CAROLINA

WELL NUMBER: Shallow Wells
DATE STARTED:
DATE FINISHED:
GEOLOGIST/ENG
REMARKS:

DRILLING METHOD: Air/Mud Rotary
DRILLING FLUIDS: Air/Mud
STATIC WATER LEVEL: DATE:
OBSERVED BY:

O.D. OF BOREHOLE: 6"
O.D. OF CASING: 6"

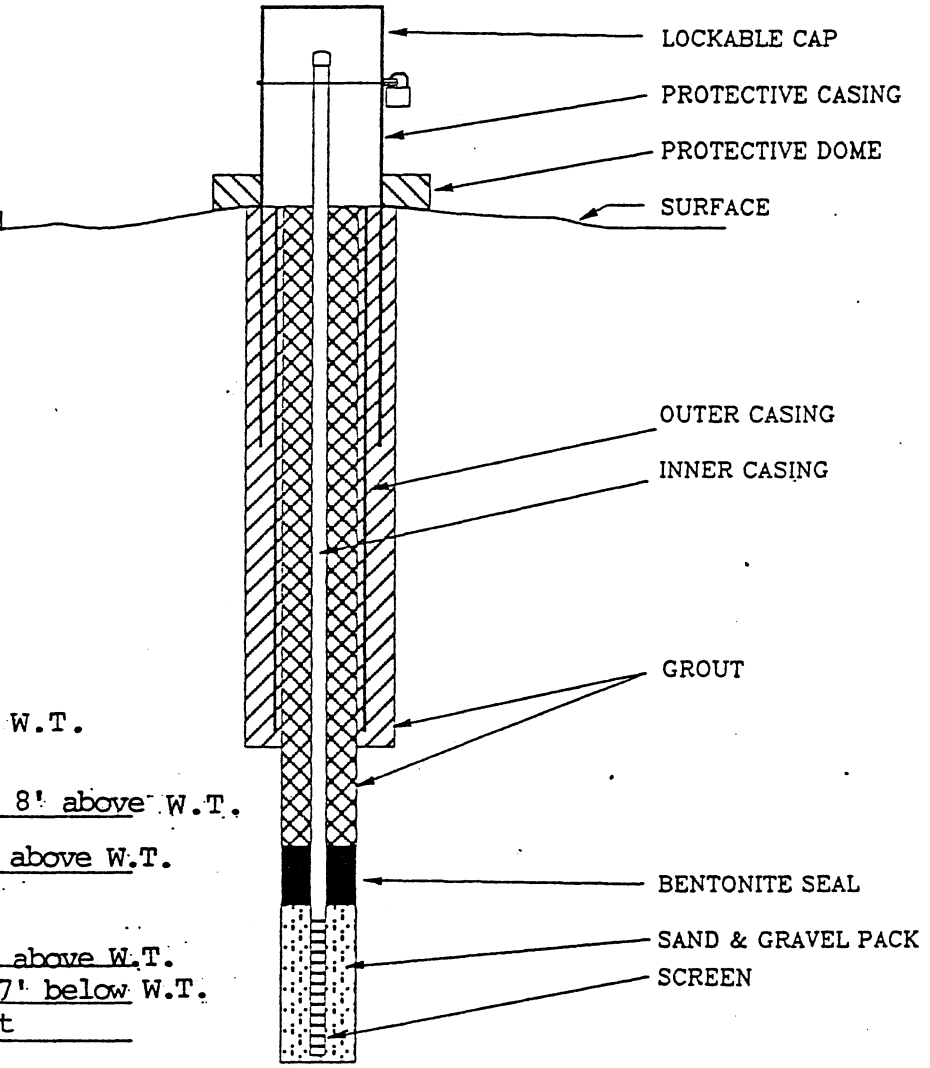
PIPE STICKUP: 2'
SURFACE ELEVATION:
GROUT TYPE: No. 1 Portland

* (INNER)
CASING TYPE: PVC
CASING SIZE: 2"
BOREHOLE DIAMETER: 6"
* (OUTER)
CASING TYPE: Steel
CASING SIZE: 6"
BOREHOLE DIAMETER: 6"

DEPTH TO BOTTOM
OF OUTER CASING 6' - 8
DEPTH TO BOTTOM
OF INNER CASING 3' above W.T.

DEPTH TO TOP OF BENTONITE 8' above W.T.
DEPTH TO TOP OF GRAVEL 5' above W.T.

DEPTH TO TOP OF SCREEN 3' above W.T.
DEPTH TO BOTTOM OF SCREEN 7' below W.T.
LENGTH OF SCREEN: 10 feet
SCREEN OPENING SIZE: 0.010"
SCREEN TYPE: PVC Sch. 40
SCREEN SIZE: 2"



Note; Depths are approximate

PROJECT: Wiley Davis Landfill Greensboro, NC	TITLE: Proposed Shallow Well Schemati				AQUATERRA, INC. RALEIGH, GREENSBORO, CHARLOTTE NORTH CAROLINA
	JOB: 417	DRAWING:	FIGURE: 3	SCALE: NTS	

WELL NUMBER: Deep Well
DATE STARTED:
DATE FINISHED:
GEOLOGIST/ENG
REMARKS:

DRILLING METHOD: Air/Mud Rotary
DRILLING FLUIDS: Air/Mud
STATIC WATER LEVEL: _____ DATE: _____
OBSERVED BY:

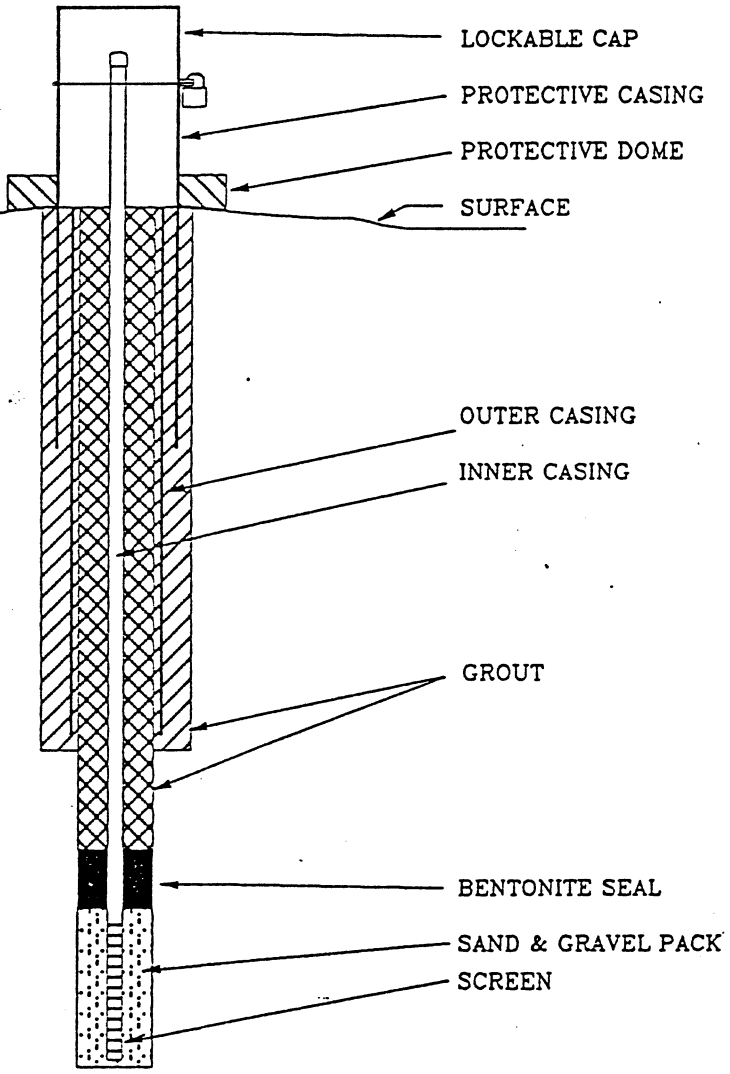
O.D. OF BOREHOLE: 6"
O.D. OF CASING: 6"

PIPE STICKUP: 2'
SURFACE ELEVATION:
GROUT TYPE: No. 1 Portland

* (INNER)
CASING TYPE: PVC
CASING SIZE: 2"
BOREHOLE DIAMETER: 6"
* (OUTER)
CASING TYPE: Steel
CASING SIZE: 6"
BOREHOLE DIAMETER: 6"

DEPTH TO BOTTOM OF OUTER CASING 6'-8'
DEPTH TO BOTTOM OF INNER CASING 60'-70' (base of fractured bedrock)
DEPTH TO TOP OF BENTONITE 55'
DEPTH TO TOP OF GRAVEL 58'

DEPTH TO TOP OF SCREEN 60'
DEPTH TO BOTTOM OF SCREEN 65'
LENGTH OF SCREEN: 5 feet
SCREEN OPENING SIZE: 0.010"
SCREEN TYPE: PVC Schedule 40
SCREEN SIZE: 2"



Note: Depths are approximate

PROJECT: Wiley Davis Landfill Greensboro, NC	TITLE: Proposed Deep Well Schematic				AQUATERRA, INC. RALEIGH, GREENSBORO, CHARLOTTE NORTH CAROLINA
	JOB: 417	DRAWING:	FIGURE: 4	SCALE: NTS	

COPIES TO: _____ DATE: _____
COPIES TO: _____ DATE: _____
COPIES TO: _____ DATE: _____
COPIES TO: _____ DATE: _____
COPIES TO: _____ DATE: _____
COPIES TO: _____ DATE: _____
COPIES TO: _____ DATE: _____

SITE SPECIFIC HEALTH & SAFETY PLAN

PREPARED FOR:

Wiley Davis Landfill, Inc.

PREPARED BY:

Steve Czekalski

PREPARATION DATE:

5-30-90

AQUATERRA JOB NO.:

417

HASP NO.:

The undersigned have read and understood this Site Specific Health and Safety Plan:

Signature	Date	Signature	Date

AMENDMENTS MUST BE APPROVED BY PLAN AUTHOR PRIOR TO IMPLEMENTATION OF EACH AMENDMENT.

AMENDMENT NUMBER	EFFECTIVE DATE	SUBJECT

Approved: _____ Date: _____
Corporate Health & Safety Officer

AQUATERRA JOB # 417

JOB NAME: Wiley Davis Landfill
(location) Wiley Davis Rd.
Greensboro, NC

I. SITE HISTORY AND DESCRIPTION:

A. Type of Site (Spill, HW Site, etc.):
Solid Waste Landfill and Landfill Leacheate Collection Pond - Also collects runoff from around Landfill

Description of Site:
Nineteen acre property with rolling topography. Landfill and cap comprise approximately one-half the property.

B. Activities Performed on Site Prior to Investigation/Cleanup:
Site has been sampled three times.

C. Unusual Features (Containers, Buildings, Dikes, Power Lines, Terrain, Bodies of Water, etc.):
Telephone line running along Wiley Davis Rd., terrain potentially dangerous for mobilization of drilling rig.

D. Results of Previous Surveys:
See Attached sampling results of pond water and sludge.

E. Waste Types (Liquid, Solid, Gas Vapor):
Liquid/sludge in pond.

F. Characteristics (Toxic, Flammable/Volatile, Radioactive, Reactive, Corrosive):
Toxic - H_2S, 1,2 DCB, CB, Toluene, 111 TCA
Flammable - H_2S LEL 4.3 HEL 46%

G. Substances Toxicity (PEL/TLV) Quantity
See Attached.

H. Physical Hazards (Heat, Cold, Noise, Radiation, etc.)

I. Weather:
Not considered a Health and Safety problem except for the possiblity of a thunderstorm, if this occurs seek shelter in building.

II. SITE ORGANIZATION and CONTROL:

A. Work Areas Identified: See Figure 2 for Well Placements

B. Decontamination Areas Identified: To Be Determined

C. Support Areas Established:

D. Site Security Established:

E. Sketch of Site Available:

III. JOB ACTIVITIES/WORK PLANS:

A. Types of Activities to be Performed: Monitoring well drilling and sampling.

1. Drums (staging/treatment/disposal): Drums to be placed at truck accessible areas near well.
2. Soil (excavation/treatment/disposal): Drill cuttings to be placed in drums or hauled to approved area site for temporary storage.
3. Water Treatment: N/A
4. Spill Cleanup: N/A
5. Well Installation: Install six monitoring wells.
6. Other (Specify): N/A

Comments:

IV. EDUCATION AND TRAINING

Special Training Required for this Site (yes or no, specify if so): No

Types:

V. MEDICAL SURVEILLANCE:

Special Medical Monitoring Required (yes or no, specify if so): No

VI. AMBIENT FIELD MONITORING

A. Field Monitoring Equipment Needed for this Site:
OVA, Drager Tubes for H_2S.

B. Monitoring Protocol (Should Correspond with Work Plans):
Monitoring breathing zones for organic vapors and H_2S during drilling.

VII. LEVELS OF PROTECTION:

A. Job Activity: Sample Collection

Level: "D" W/ "C" Available

List of Personal Protective Equipment: Boots, respirator W/organic vapor tyveks, surgical and neoprene gloves, goggles/faceshield

B. Job Activity: Sample packing/labeling

Level: B

List of Personal Protective Equipment: Surgical Gloves

C. Job Activity:_____

Level:_____

List of Personal Protective Equipment:_____

VIII. Safety Equipment List:

A. First Aid: STD Kit

B. Fire Fighting: In truck

C. Communications (Radios/Signs):_____

D. Personal Protective Equipment (SCBA, Respirators/Cartridges, Suits, Boots, Gloves, Hard Hats, Face Shields, Goggles, Hearing Protection, etc.):
As above.

E. Decontamination Equipment: Steam Cleaner for Drill Rig - Clean on site.

F. Sanitation (Latrines Showers Hand Washing):_____

IX. DECONTAMINATION PROCEDURES:

A. Work Activities:_____

Level of Protection:_____

Decontamination Solutions:_____

Procedures (By Station):_____

B. Work Activities:_____

Level of Protection:_____

Decontamination Solutions:_____

Procedures (By Station):_____

X. CONTINGENCY PLANS:

A. Local Sources of Assistance:

1. Hospital (Name, Address, Telephone):
Richardson Hospital
2401 South Side Blvd.
Greensboro, NC

Directions:
Get on I85 east bound/north exit 421/Asheboro/ Martin Luther King Dr. Head north (left turn) follow hospital signs ½ mile.

2. Ambulance (Name and Phone): 911

3. Fire Department (Name and Phone): Greensboro Fire 911

4. Local Police (Name and Phone): Greensboro Police 911

5. State Police (Phone): 334-5500

6. Job Site (Contact and Phone):_____

B. National or Regional Sources of Assistance:

1. Aquaterra, Inc.....1-919-839-0199

2. EPA RCRA/Superfund Hotline.....1-800-424-9346

3. Chemtrec (24-Hours).....1-800-424-9300

4. Bureau of Explosives (24 Hours).....1-202-293-4048
(Association of American Railroads)

North Carolina Department of Human Resources
Division of Health Services
Laboratory Section
P.O. Box 28047, Raleigh, N.C. 27611

Environmental Sciences Analysis Report

Name of Owner, Patient or Supply: MS. Topping
Address: 4106 Adamson Rd, GSO 27407
County: Guilford
Report to: TERRY Cole, Guilford C. Env. Health
Address: 301 N. Eugene St.
Greensboro, NC 27401
Date Collected: 10-4-89
Collected By: TERRY Cole
Analysis Desired: VOA

VOC Analysis

Laboratory Number	Sample Number	Sample Description or Remarks	Results In
902953			SEE ATTACHED SHEET(S)

Date Received 10-6-89 BL
Date Extracted
Date Reported 10-23-89
Date Analyzed VOC 10/19/89 pm
Reported By: John L. Hall

DHS Form 2364 Revised (5/89)
Laboratory

STATE LABORATORY OF PUBLIC HEALTH
DIVISION OF HEALTH SERVICES, N.C. DEPARTMENT OF HUMAN RESOURCES
P.O. BOX 28047 - 306 N. WILMINGTON ST., RALEIGH, N.C. 27611

Laboratory No. 902953 PURGEABLE COMPOUNDS Date of Analysis 10/19/89

COMPOUND	µg/l
Dichlorodifluoromethane	U
Chloromethane	"
✓Vinyl Chloride	"
Bromomethane	"
Chloroethane	"
Trichlorofluoromethane	"
✓1,1-Dichloroethylene	"
Methylene Chloride	"
tert-Butyl Methyl Ether	"
(Trans)1,2-Dichloroethylene	"
Isopropyl ether	"
1,1-Dichloroethane	1K
2,2-Dichloropropane	U
(Cis) 1,2-Dichloroethylene	"
Chloroform	"
(BCM) Bromochloromethane	"
✓1,1,1-Trichloroethane	"
1,1-Dichloropropene	"
✓Carbon Tetrachloride	"
✓Benzene	"
✓1,2-Dichloroethane	"
✓Trichloroethylene	trace
1,2-Dichloropropane	U
Bromodichloromethane	"
Dibromomethane	"
Toluene	"
1,1,2-Trichloroethane	"
Tetrachloroethene	trace
1,3-Dichloropropane	U
Dibromochloromethane	"
1,2-Dibromoethane (EDB)	"
1-Chlorohexane	"

COMPOUND	µg/l
Chlorobenzene	U
Ethylbenzene	"
1,1,1,2-Tetrachloroethane	"
p-Xylene	"
m-Xylene	"
o-Xylene	"
Styrene	"
Bromoform	"
Isopropylbenzene	"
1,1,2,2-Tetrachloroethane	"
Bromobenzene	"
n-Propylbenzene	"
1,2,3-Trichloropropane	"
2-Chlorotoluene	"
1,3,5-Trimethylbenzene	"
4-Chlorotoluene	"
(Tert) Butyl Benzene	"
Pentachloroethane	"
1,2,4-Trimethylbenzene	"
(Sec) Butyl Benzene	"
p-Isopropyltoluene	"
1,3-Dichlorobenzene	"
✓1,4-Dichlorobenzene	"
n-Butylbenzene	"
1,2-Dichlorobenzene	"
(Bis) 2 Chloroisopropyl Ether	"
1,2-Dibromo-3 Chloropropane	"
1,2,4-Trichlorobenzene	"
Hexachlorobutadiene	"
Naphthalene	"
1,2,3-Trichlorobenzene	✓

COMMENTS:

MDL - Minimum Detection Limit for water (EPA Method 502.2), is 1.0 µg/l.

J - Estimated value.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected.
NA - Not analyzed.
1/ - Tentative identification.
✓ - Regulated VOC
T - Trihalomethane

N.C. Division of Health Services
DHS 3068-O (1/89 Laboratory)

Guilford Co.
Demo LF

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

June 26, 1990

William L. Meyer
Director

Mr. Todd Davidson
Health Department
P.O. Box 3508
Greensboro, North Carolina 27401

RE: Proposed D.H. Griffin Demolition Landfill

Dear Mr. Davidson:

Pursuant to our recent site visit, the Solid Waste Section extends the following comments to the Guilford County Health Department concerning the proposal for the above referenced site.

Due to the proximity of the existing demolition landfill site, the Solid Waste Section recommends that all drainage ditches on the proposed site remain undisturbed and natural vegetation be incorporated into the design. A 50 foot minimum buffer should be extended from the center of each drainage swale (on both sides) to all disposal boundaries (toe of disposal).

The definition of "demolition waste" as referenced on the proposal needs to be altered to limit incoming waste to the definition of "demolition waste" as described in 10 NCAC 10G. A sign stating that only "stumps, limbs, concrete, brick, wood(untreated), and uncontaminated earth shall be accepted as this site" shall be posted. The operator will be responsible for closely monitoring incoming waste. If proper monitoring is not maintained, ground water monitoring of the site will be imperative due to the high permeability of the soils on site.

The bottom elevation of the waste disposal site shall not exceed the already established excavation depth.

These comments are intended to expedite your review of the application. If all conditions are met, the site should be in compliance with all existing solid waste management rules for a demolition landfill. These comments, however, do not restrict the Solid Waste Section's right to verify compliance in the future and request additional information in the case of non-compliance.

If you have any questions, please feel free to contact our office at (919)733-0692 or contact your local waste management specialist.

Sincerely,

Suzanne Molloy

Suzanne Molloy
Environmental Engineer
Solid Waste Section

cc: Julian Foscue
Jeff Rogers

RECEIVED
N.C. Dept. NRCD
JUN 2 6 1990
Winston-Salem
Regional Office

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

June 25, 1990

Mr. Paul Marlow
Guilford County Health Dept.
P.O. Box 3508
Greensboro, N.C. 27401

Re: Ground-water Monitoring Plan for the D.H. Griffin Demolition Landfill on Wiley Davis Road in Greensboro (Permit #41-B)

Dear Mr. Marlow,

The Solid Waste Section has reviewed the Ground-water Monitoring Plan submitted by Aquaterra, Inc. on behalf of the D.H. Griffin Demolition Landfill in Guilford County. This plan has the approval of our office.

During the field inspection of the site this past week, it appeared that the only problem with the proposed plan is the location of the upgradient well (WD-1). Based on visual observations in the field and discussion with Mr. Lawrence Fields of D.H. Griffin Wrecking Company, it appears that the location of the upgradient well, as shown on the map in the proposed plan, would still be in an area of waste disposal. This well should be located further to the northeast in order to be placed outside of the waste disposal area.

With this one modification the Solid Waste Section approves the Monitoring Plan as submitted by Aquaterra. Our office should be sent copies of all Well Completion Records, boring logs, sampling data, and correspondence from the D.H. Griffin Demolition Landfill. If you have any questions or comments, please contact our office at (919) 733-0692.

Sincerely,

Bobby Lutfy

Bobby Lutfy
Hydrogeologist
Solid Waste Section

cc: Julian Foscue
Jeff Rogers
D.H. Griffin
Larry Coble

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. Me
Direct

June 25, 1990

Mr. Paul Marlow
Guilford County Health Dept.
P.O. Box 3508
Greensboro, N.C. 27401

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Sincerely,

Bobby Lutfy

Bobby Lutfy
Hydrogeologist
Solid Waste Section

cc: Julian Foscue
Jeff Rogers
D.H. Griffin
Larry Coble

GUILFORD COUNTY
DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH

June 5, 1990

D.H. Griffin
4700 Hilltop Road
Greensboro, NC 27407

Dear Mr. Griffin:

After meeting with you on May 23, 1990 at your demolition landfill site on Wiley Davis Road, and with Julian Foscue (State Solid Waste), Paul Marlow and myself from Guilford County Health Department, we have made the following conclusions and recommendations:

1. Present demolition landfill needs to be filled and properly closed within eight (8) to ten (10) months.
2. Continue monthly treatments of hydrogen peroxide to the leachate lagoon for odor control.
3. Guilford County, along with the State, will need to review plans for monitoring wells placement and receive copies of all analytical results.
4. Divert surface run off water from leachate lagoon.
5. Recommend seeking a larger site with better engineering and control devices to accommodate the wastes that are presently being accepted.
6. New site proposed on Wiley Davis Road if approved, shall only accept: stumps, limbs, leaves, concrete, brick, wood and uncontaminated soil.

Our office along with State representatives, will begin reviewing your application and plans as soon as possible. If you have any questions, please feel free to call me at 373-3771.

Sincerely,

Todd W. Davidson

Todd W. Davidson
Toxic and Health Hazard Unit Specialist

/hn

cc: Larry Leach
Paul Marlow

301 North Eugene Street
P.O. Box 3508
Greensboro, N. C. 27401
Phone: (919) 373-3771

GUILFORD COUNTY

DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH

November 15, 1989

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 our telephone conversation on November 13, 1989 concerning your Demolition Landfill located on Wiley Davis Road, Greensboro, NC. As you recall, our office has not received any documentation from you regarding the completion of the short term objectives stated in our meeting of October 9, 1989. We realize that you have taken measures to cover the landfill with soil, seed completed areas, and divert surface water from the leachate lagoon. However, to date, you have failed to address the odor problem at your site. Therefore, in an effort to continue work at the landfill, our office requests that you send us written documentation by November 22, 1989 concerning your plans to remedy the odor problem at the landfill.

Failure to meet this deadline, could constitute a violation of Guilford County Regulations Governing Air Pollution Control.

If you should have any questions concerning this matter, please do not hesitate to contact our office.

Sincerely,

Terry B. Cole

Terry B. Cole
Toxic and Health Hazard Specialist

cc: Brian Greene
Paul Marlow

/hn

301 North Eugene Street
P.O. Box 3508
Greensboro, N. C. 27401
Phone: (919) 373-3771

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

November 14, 1989

Mr. Paul Marlow
Guilford County Department of Public Health
301 North Eugene Street
Greensboro, NC 27407

RE: D. H. Griffin Landfill
Wiley Davis Road

Dear Mr. Marlow:

Please note the following items concerning the above referenced project:

1. All surface water and any run-off accumulations have been diverted and controlled by the installation of 187 feet of 14 inch pipe construction of beams, and raising the level of graders. A sediment pond has also been constructed.
2. The entire perimeter of the holding pond has been raised in height in increments ranging from five to seven feet. This improvement serves as an increased protection against heavy rainfall.
3. Grass has been reseeded over the entire area (4 varieties of cool-season cultivars).
4. Pond ordors are at a low minimum level. There is no ordor at all on many days.
5. The firm of Black & Veech is no longer employed as a consultant/engineering firm for this project.
6. As of November 13, 1989 the company Four Seasons Environmental (Mr. Robert Barefoot, President) has been employed to help with our project.

Thank you for your cooperation in this matter.

Sincerely,

Lawrence Fields

Lawrence Fields
Project Manager

LF/cf

c.c. Terry Waddell
Department of Human Resources

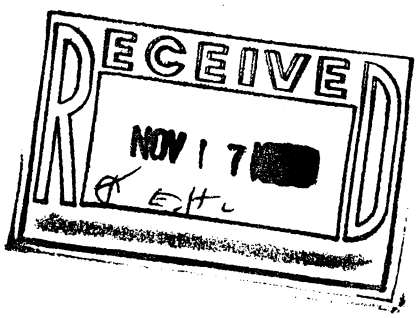
COGGIN, HOYLE, BLACKWOOD & BRANNAN
ATTORNEYS AT LAW
108 COMMERCE PLACE
GREENSBORO, NORTH CAROLINA 27401

GEORGE W. COGGIN
WILLIAM R. HOYLE
L. JAMES BLACKWOOD II
W. SCOTT BRANNAN

MAILING ADDRESS:
P. O. BOX 2307
GREENSBORO, NC 27402-23

(919) 272 1135

November 14, 1989



Hill Manufacturing Company, Inc.
1500 Jonesboro Road, S.E.
Atlanta, GA 30315

Re: D. H. Griffin Wrecking Company
Greensboro, NC

Dear Sir:

Our law firm represents D. H. Griffin Wrecking Company. It is our understanding that late this summer D. H. Griffin Wrecking Company purchased several 55-gallon drums of 85 Hilcotrol which, pursuant to direction on from your regional sales rep, was applied to treat odors emanating from a pond at its landfill.

Subsequent to application of Hilcotrol #85, certain chemicals have been detected in the landfill pond which may require treatment and removal and further elimination of the source. As it is particularly a concern of our client to determine the source of these chemicals, it is important that they be advised as to the chemicals present in Hilcotrol #85, specifically and most importantly those chemicals constituting chlorinated hydrocarbons or aromatic hydrocarbons as indicated on your safety data sheet.

It is my understanding that this response has previously been given to you by my client. If Hill Manufacturing is unwilling to disclose the chemicals that are present in Hilcotrol #85, then it may be necessary for complicated and expensive lab analysis to be performed to determine the same. In addition, if it is necessary for D. H. Griffin Wrecking Company to investigate all other sources of possible contamination of its pond from the landfill, and it is further determined that the presence of chemicals detected in the pond were a result of the use of Hilcontrol #85, then D. H. Griffin Wrecking Company will hold Hill Manufacturing responsible for all such costs.

It is hereby requested that an immediate listing of all hazardous chemicals or other chemicals which in any way could be determined to be toxic, pollutant or hazardous and its constituent breakdown chemicals be provided to D. H. Griffin Wrecking Company. Your failure to respond to this request within five (5) days of the date of this letter will be taken to be an intentional decision on your part to not disclose what chemicals could be present in D. H. Griffin Wrecking Company's demolition landfill pond and any resulting costs D. H. Griffin incurs as a result of your failure to so disclose will be your responsibility.

Very truly yours,

COGGIN, HOYLE, BLACKWOOD & BRANNAN

L. James Blackwood, II

LJB/cps

cc: Mr. Lee G. Spencer
Mr. Larry D. Coble
Mr. Terry Waddell
Mr. Paul M. Marlow
Mr. D. H. Griffin

North Carolina Department of Human Resources
Division of Health Services
Environmental Epidemiology Branch
Drinking Water Health Risk Evaluation
General

DATE: 10/31/89 LABORATORY NUMBER 902953 902948, 902949, 902950, 902951, 90

(✓) Based on these analytical results, this water should be considered safe for normal usage.

( ) Chemical analysis did not show any contamination. Water should be resampled if odor or taste persists.

( ) The water should not be used for drinking or cooking purposes, avoid prolonged bathing/showering.

( ) Based on these analytical results, this water is highly contaminated and should not be used for drinking, cooking, or bathing/showering.

( ) The laboratory results are not conclusive, please resample:

PLEASE INDICATE ON LAB SHEET THAT IT IS A RESAMPLE AND PROVIDE PREVIOUS SAMPLE NUMBER(S).

( ) Comments:

For further information, contact Dr. Ken Rudo or Dr. Ted Taylor, Environmental Epidemiology Branch, (919) 733-3410.

DHS T474 (Revised 5/89)
Environmental Epidemiology Branch

GUILFORD COUNTY
DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH

October 25, 1989

Mr. William C. Nuckles
3924 Wiley Davis Road
Greensboro, NC 27407

Dear Mr. Nuckles:

The results of the water sample collected at your residence on October 4, 1989 show no volatile organic compounds present at this time.

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,

Terry B. Cole

Terry B. Cole
Toxic and Health Hazard Specialist

enclosure

/hn

301 North Eugene Street
P.O. Box 3508
Greensboro, N. C. 27401
Phone: (919) 373-3771

GUILFORD COUNTY
DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH

October 25, 1989

Carolina Freight CArriers, Inc.
4107 Wiley Davis Road
Greensboro, NC 27407

Dear Sirs:

The results of the water sample collected at your facility on October 4, 1989 show no volatile organic compounds present at this time.

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,

Terry B. Cole

Terry B. Cole
Toxic and Health Hazard Specialist

enclosure

/hn

301 North Eugene Street
P.O. Box 3508
Greensboro, N. C. 27401
Phone: (919) 373-3771

Sample # 2

North Carolina Department of Human Resources
Division of Health Services
Laboratory Section
P.O. Box 28047, Raleigh, N.C. 27611

Environmental Sciences Analysis Report

Name of Owner, Patient or Supply: Carolina Freight Carriers Inc
Address: 4107 Wiley Davis Rd.
County: Guilford
Report to: TERRY Cole, Guilford Co. Env. Health
Address: 301 N. Eugene St
Greensboro, NC 27401
Date Collected: 10-4-89
Collected By: Terry R Cole
Analysis Desired: VOA

VOC Analysis

Laboratory Number	Sample Number	Sample Description or Remarks	Results In
902949			SEE ATTACHED SHEET(S)

Date Received 10-16-89 BD
Date Extracted
Date Reported 10-23-89
Date Analyzed VOC 10/19/89 pm
Reported By: John O'Neal

DHS Form 2364 Revised (5/89)
Laboratory

STATE LABORATORY OF PUBLIC HEALTH
DIVISION OF HEALTH SERVICES, N.C. DEPARTMENT OF HUMAN RESOURCES
P.O. BOX 28047 - 306 N. WILMINGTON ST, RALEIGH, N.C. 27611

Laboratory No. 902949 PURGEABLE COMPOUNDS Date of Analysis 10/19/89

COMPOUND	µg/l
Dichlorodifluoromethane	4
Chloromethane	
✓Vinyl Chloride	
Bromomethane	
Chloroethane	
Trichlorofluoromethane	
✓1,1-Dichloroethylene	
Methylene Chloride	
tert-Butyl Methyl Ether	
(Trans)1,2-Dichloroethylene	
Isopropyl ether	
1,1-Dichloroethane	
2,2-Dichloropropane	
(Cis) 1,2-Dichloroethylene	
Chloroform	
(BCM) Bromochloromethane	
✓1,1,1-Trichloroethane	
1,1-Dichloropropene	
✓Carbon Tetrachloride	
✓Benzene	
✓1,2-Dichloroethane	
✓Trichloroethylene	
1,2-Dichloropropane	
Bromodichloromethane	
Dibromomethane	
Toluene	
1,1,2-Trichloroethane	
Tetrachloroethene	
1,3-Dichloropropane	
Dibromochloromethane	
1,2-Dibromoethane (EDB)	
1-Chlorohexane	

COMPOUND	µg/l
Chlorobenzene	4
Ethylbenzene	
1,1,1,2-Tetrachloroethane	
p-Xylene	
m-Xylene	
o-Xylene	
Styrene	
Bromoform	
Isopropylbenzene	
1,1,2,2-Tetrachloroethane	
Bromobenzene	
n-Propylbenzene	
1,2,3-Trichloropropane	
2-Chlorotoluene	
1,3,5-Trimethylbenzene	
4-Chlorotoluene	
(Tert) Butyl Benzene	
Pentachloroethane	
1,2,4-Trimethylbenzene	
(Sec) Butyl Benzene	
p-Isopropyltoluene	
1,3-Dichlorobenzene	
✓1,4-Dichlorobenzene	
n-Butylbenzene	
1,2-Dichlorobenzene	
(Bis) 2 Chloroisopropyl Ether	
1,2-Dibromo-3 Chloropropane	
1,2,4-Trichlorobenzene	
Hexachlorobutadiene	
Naphthalene	
1,2,3-Trichlorobenzene	

COMMENTS:

MDL - Minimum Detection Limit for water (EPA Method 502.2), is 1.0 µg/l.

J - Estimated value.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected.
NA - Not analyzed.
1/ - Tentative identification.
✓ - Regulated VOC
T - Trihalomethane

N.C. Division of Health Services
DHS 3068-O (1/89 Laboratory)

GUILFORD COUNTY
DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH

October 25, 1989

Roger Rental Co.
P. O. Box 10241
Greensboro, NC 27404

Dear Sirs:

The results of the water sample collected at your facility on October 4, 1989 show no volatile organic compounds present at this time.

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,

Terry B. Cole

Terry B. Cole
Toxic and Health Hazard Specialist

enclosure

/hn

301 North Eugene Street
P.O. Box 3508
Greensboro, N. C. 27401
Phone: (919) 373-3771

S. Box 10241
GSO 27404

North Carolina Department of Human Resources
Division of Health Services
Laboratory Section
P.O. Box 28047, Raleigh, N.C. 27611

Environmental Sciences Analysis Report

Name of Owner, Patient or Supply: Roger Rental Co.
Address: 4115 Wiley Davis Rd., GSO 27407
County: Guilford
Report to: Terry B. Cole, Guilford Co. Env. Health
Address: 301 N. Eugene St.
Greensboro, NC 27401
Date Collected: 10-4-89
Collected By: TERRY B. Cole
Analysis Desired: VOA

VOC Analysis

Laboratory Number	Sample Number	Sample Description or Remarks	Results In
902950			SEE ATTACHED SHEET(S)

Date Received 10-6-89 BD
Date Reported 10-23-89
Date Extracted
Date Analyzed VOC 10/19/89 JPM
Reported By: John R. Neal

DHS Form 2364 Revised (5/89)
Laboratory

STATE LABORATORY OF PUBLIC HEALTH
DIVISION OF HEALTH SERVICES, N.C. DEPARTMENT OF HUMAN RESOURCES
P.O. BOX 28047 - 306 N. WILMINGTON ST, RALEIGH, N.C. 27611

Laboratory No. 902950 PURGEABLE COMPOUNDS Date of Analysis 10/19/89

COMPOUND	µg/l
Dichlorodifluoromethane	U
Chloromethane	
✓Vinyl Chloride	
Bromomethane	
Chloroethane	
Trichlorofluoromethane	
✓1,1-Dichloroethylene	
Methylene Chloride	
tert-Butyl Methyl Ether	
(Trans)1,2-Dichloroethylene	
Isopropyl ether	
1,1-Dichloroethane	
2,2-Dichloropropane	
(Cis) 1,2-Dichloroethylene	
Chloroform	
(BCM) Bromochloromethane	
✓1,1,1-Trichloroethane	
1,1-Dichloropropene	
✓Carbon Tetrachloride	
✓Benzene	
✓1,2-Dichloroethane	
✓Trichloroethylene	
1,2-Dichloropropane	
Bromodichloromethane	
Dibromomethane	
Toluene	
1,1,2-Trichloroethane	
Tetrachloroethene	
1,3-Dichloropropane	
Dibromochloromethane	
1,2-Dibromoethane (EDB)	
1-Chlorohexane	↓

COMPOUND	µg/l
Chlorobenzene	U
Ethylbenzene	
1,1,1,2-Tetrachloroethane	
p-Xylene	
m-Xylene	
o-Xylene	
Styrene	
Bromoform	
Isopropylbenzene	
1,1,2,2-Tetrachloroethane	
Bromobenzene	
n-Propylbenzene	
1,2,3-Trichloropropane	
2-Chlorotoluene	
1,3,5-Trimethylbenzene	
4-Chlorotoluene	
(Tert) Butyl Benzene	
Pentachloroethane	
1,2,4-Trimethylbenzene	
(Sec) Butyl Benzene	
p-Isopropyltoluene	
1,3-Dichlorobenzene	
✓1,4-Dichlorobenzene	
n-Butylbenzene	
1,2-Dichlorobenzene	
(Bis) 2 Chloroisopropyl Ether	
1,2-Dibromo-3 Chloropropane	
1,2,4-Trichlorobenzene	
Hexachlorobutadiene	
Naphthalene	
1,2,3-Trichlorobenzene	↓

COMMENTS:

MDL - Minimum Detection Limit for water (EPA Method 502.2), is 1.0 µg/l.

J - Estimated value.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected.
NA - Not analyzed.
1/ - Tentative identification.
✓ - Regulated VOC
T - Trihalomethane

N.C. Division of Health Services
DHS 3068-O (1/89 Laboratory)

GUILFORD COUNTY
DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH

October 25, 1989

Mr. William C. Nuckles
3924 Wiley Davis Road
Greensboro, NC 27407

Dear Mr. Nuckles:

The results of the water sample collected at your residence on October 4, 1989 show no volatile organic compounds present at this time.

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,

Terry B. Cole

Terry B. Cole
Toxic and Health Hazard Specialist

enclosure

/hn

301 North Eugene Street
P.O. Box 3508
Greensboro, N. C. 27401
Phone: (919) 373-3771

North Carolina Department of Human Resources
Division of Health Services
Laboratory Section
P.O. Box 28047, Raleigh, N.C. 27611

Environmental Sciences Analysis Report

Name of Owner, Patient or Supply: William C. Nuckles (Homeowner)
Address: 3924 Wiley Davis Rd, Gso 27407
County: Guilford
Report to: TERRY Cole, Guilford Co. Env. Health
Address: 301 N. Eugene St.
Greensboro NC 27401
Date Collected: 10-4-89
Collected By: TERRY Cole
Analysis Desired: VOC

VOC Analysis

Laboratory Number	Sample Number	Sample Description or Remarks	Results In
902948			SEE ATTACHED SHEET(S)

Date Received 10-6-89 BD
Date Extracted
Date Reported 10-23-89
Date Analyzed VOC 10/18/89 pm
Reported By:

DHS Form 2364 Revised (5/89)
Laboratory

STATE LABORATORY OF PUBLIC HEALTH
DIVISION OF HEALTH SERVICES, N.C. DEPARTMENT OF HUMAN RESOURCES
P.O. BOX 28047 - 306 N. WILMINGTON ST, RALEIGH, N.C. 27611

Laboratory No. 902948 PURGEABLE COMPOUNDS Date of Analysis 10/18/89

COMPOUND	µg/l
Dichlorodifluoromethane	U
Chloromethane	
✓Vinyl Chloride	
Bromomethane	
Chloroethane	
Trichlorofluoromethane	
✓1,1-Dichloroethylene	
Methylene Chloride	
tert-Butyl Methyl Ether	
(Trans)1,2-Dichloroethylene	
Isopropyl ether	
1,1-Dichloroethane	
2,2-Dichloropropane	
(Cis) 1,2-Dichloroethylene	
Chloroform	
(BCM) Bromochloromethane	
✓1,1,1-Trichloroethane	
1,1-Dichloropropene	
✓Carbon Tetrachloride	
✓Benzene	
✓1,2-Dichloroethane	
✓Trichloroethylene	
1,2-Dichloropropane	
Bromodichloromethane	
Dibromomethane	
Toluene	
1,1,2-Trichloroethane	
Tetrachloroethene	
1,3-Dichloropropane	
Dibromochloromethane	
1,2-Dibromoethane (EDB)	
1-Chlorohexane	↓

COMPOUND	µg/l
Chlorobenzene	U
Ethylbenzene	
1,1,1,2-Tetrachloroethane	
p-Xylene	
m-Xylene	
o-Xylene	
Styrene	
Bromoform	
Isopropylbenzene	
1,1,2,2-Tetrachloroethane	
Bromobenzene	
n-Propylbenzene	
1,2,3-Trichloropropane	
2-Chlorotoluene	
1,3,5-Trimethylbenzene	
4-Chlorotoluene	
(Tert) Butyl Benzene	
Pentachloroethane	
1,2,4-Trimethylbenzene	
(Sec) Butyl Benzene	
p-Isopropyltoluene	
1,3-Dichlorobenzene	
✓1,4-Dichlorobenzene	
n-Butylbenzene	
1,2-Dichlorobenzene	
(Bis) 2 Chloroisopropyl Ether	
1,2-Dibromo-3 Chloropropane	
1,2,4-Trichlorobenzene	
Hexachlorobutadiene	
Naphthalene	
1,2,3-Trichlorobenzene	↓

COMMENTS:

MDL - Minimum Detection Limit for water (EPA Method 502.2), is 1.0 µg/l.

J - Estimated value.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected.
NA - Not analyzed.
1/ - Tentative identification.
✓ - Regulated VOC
T - Trihalomethane

N.C. Division of Health Services
DHS 3068-O (1/89 Laboratory)

GUILFORD COUNTY
DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH

October 25, 1989

Mr. H. Tom Parrish
4107 Adamson Road
Greensboro, NC 27407

Dear Mr. Parrish:

The results of the water sample collected at your residence on October 4, 1989 show no volatile organic compounds present at this time.

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,

Terry B. Cole
Toxic and Health Hazard Specialist

enclosure

/hn

301 North Eugene Street
P.O. Box 3508
Greensboro, N. C. 27401
Phone: (919) 373-3771

Sample #3

North Carolina Department of Human Resources
Division of Health Services
Laboratory Section
P.O. Box 28047, Raleigh, N.C. 27611

Environmental Sciences Analysis Report

Name of Owner, Patient or Supply: H. Tom Parrish
Address: 4107 Adamson Rd., Gso 27407
County: Guilford
Report to: Terry Cole, Guilford Co. Env. Health
Address: 301 N. Eugene St.
Greensboro, NC 27401
Date Collected: 10-4-89
Collected By: Terry Cole
Analysis Desired: VOA.

VOC Analysis

Laboratory Number	Sample Number	Sample Description or Remarks	Results In
902952			SEE ATTACHED SHEET(S)

Date Received 10-6-89 RBQ
Date Extracted
Date Reported 10-23-89
Date Analyzed VOC 10/19/89 gpm
Reported By: John P. Nall

DHS Form 2364 Revised (5/89)
Laboratory

STATE LABORATORY OF PUBLIC HEALTH
DIVISION OF HEALTH SERVICES, N.C. DEPARTMENT OF HUMAN RESOURCES
P.O. BOX 28047 - 306 N. WILMINGTON ST, RALEIGH, N.C. 27611

Laboratory No. 902952 PURGEABLE COMPOUNDS Date of Analysis 10/19/89

COMPOUND	µg/l
Dichlorodifluoromethane	U
Chloromethane	
✓Vinyl Chloride	
Bromomethane	
Chloroethane	
Trichlorofluoromethane	
✓1,1-Dichloroethylene	
Methylene Chloride	
tert-Butyl Methyl Ether	
(Trans)1,2-Dichloroethylene	
Isopropyl ether	
1,1-Dichloroethane	
2,2-Dichloropropane	
(Cis) 1,2-Dichloroethylene	
Chloroform	
(BCM) Bromochloromethane	
✓1,1,1-Trichloroethane	
1,1-Dichloropropene	
✓Carbon Tetrachloride	
✓Benzene	
✓1,2-Dichloroethane	
✓Trichloroethylene	
1,2-Dichloropropane	
Bromodichloromethane	
Dibromomethane	
Toluene	
1,1,2-Trichloroethane	
Tetrachloroethene	
1,3-Dichloropropane	
Dibromochloromethane	
1,2-Dibromoethane (EDB)	
1-Chlorohexane	

COMPOUND	µg/l
Chlorobenzene	U
Ethylbenzene	
1,1,1,2-Tetrachloroethane	
p-Xylene	
m-Xylene	
o-Xylene	
Styrene	
Bromoform	
Isopropylbenzene	
1,1,2,2-Tetrachloroethane	
Bromobenzene	
n-Propylbenzene	
1,2,3-Trichloropropane	
2-Chlorotoluene	
1,3,5-Trimethylbenzene	
4-Chlorotoluene	
(Tert) Butyl Benzene	
Pentachloroethane	
1,2,4-Trimethylbenzene	
(Sec) Butyl Benzene	
p-Isopropyltoluene	
1,3-Dichlorobenzene	
✓1,4-Dichlorobenzene	
n-Butylbenzene	
1,2-Dichlorobenzene	
(Bis) 2 Chloroisopropyl Ether	
1,2-Dibromo-3 Chloropropane	
1,2,4-Trichlorobenzene	
Hexachlorobutadiene	
Naphthalene	
1,2,3-Trichlorobenzene	✓

COMMENTS:

MDL - Minimum Detection Limit for water (EPA Method 502.2), is 1.0 µg/l.

J - Estimated value.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected.
NA - Not analyzed.
1/ - Tentative identification.
✓ - Regulated VOC
T - Trihalomethane

N.C. Division of Health Services
DHS 3068-O (1/89 Laboratory)

GUILFORD COUNTY
DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH

October 25, 1989

Ms. Amy Watson
4202 Wiley Davis Road
Greensboro, NC 27407

Dear Ms. Watson:

The results of the water sample collected at your residence on October 4, 1989 show no volatile organic compounds present at this time.

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,

Terry B. Cole

Terry B. Cole
Toxic and Health Hazard Specialist

enclosure

/hn

301 North Eugene Street
P.O. Box 3508
Greensboro, N. C. 27401
Phone: (919) 373-3771

North Carolina Department of Human Resources
Division of Health Services
Laboratory Section
P.O. Box 28047, Raleigh, N.C. 27611

Environmental Sciences Analysis Report

Name of Owner, Patient or Supply: Amy Watson
Address: 4202 Wiley Drive Rd, Gso 27407
County: Guilford
Report to: Terry Cole, Guilford Co. Env. Health
Address: 301, N. Eugene St.
Greensboro, NC 27401
Date Collected: 10-4-89
Collected By: TERRY Cole
Analysis Desired: VOA

VOC Analysis

Laboratory Number	Sample Number	Sample Description or Remarks	Results In
902951			SEE ATTACHED SHEET(S)

Date Received 10-6-89 BJD
Date Extracted
Date Reported 10-23-89
Date Analyzed VOC 10/19/89 @ PM
Reported By: John R. Neal

DHS Form 2364 Revised (5/89)
Laboratory

STATE LABORATORY OF PUBLIC HEALTH
DIVISION OF HEALTH SERVICES, N.C. DEPARTMENT OF HUMAN RESOURCES
P.O. BOX 28047 - 306 N. WILMINGTON ST, RALEIGH, N.C. 27611

Laboratory No. 902951 PURGEABLE COMPOUNDS Date of Analysis 10/19/89

COMPOUND	µg/l
Dichlorodifluoromethane	U
Chloromethane	
✓Vinyl Chloride	
Bromomethane	
Chloroethane	
Trichlorofluoromethane	
✓1,1-Dichloroethylene	
Methylene Chloride	
tert-Butyl Methyl Ether	
(Trans)1,2-Dichloroethylene	
Isopropyl ether	
1,1-Dichloroethane	
2,2-Dichloropropane	
(Cis) 1,2-Dichloroethylene	
Chloroform	
(BCM) Bromochloromethane	
✓1,1,1-Trichloroethane	
1,1-Dichloropropene	
✓Carbon Tetrachloride	
✓Benzene	
✓1,2-Dichloroethane	
✓Trichloroethylene	
1,2-Dichloropropane	
Bromodichloromethane	
Dibromomethane	
Toluene	
1,1,2-Trichloroethane	
Tetrachloroethene	
1,3-Dichloropropane	
Dibromochloromethane	
1,2-Dibromoethane (EDB)	
1-Chlorohexane	↓

COMPOUND	µg/l
Chlorobenzene	U
Ethylbenzene	
1,1,1,2-Tetrachloroethane	
p-Xylene	
m-Xylene	
o-Xylene	
Styrene	
Bromoform	
Isopropylbenzene	
1,1,2,2-Tetrachloroethane	
Bromobenzene	
n-Propylbenzene	
1,2,3-Trichloropropane	
2-Chlorotoluene	
1,3,5-Trimethylbenzene	
4-Chlorotoluene	
(Tert) Butyl Benzene	
Pentachloroethane	
1,2,4-Trimethylbenzene	
(Sec) Butyl Benzene	
p-Isopropyltoluene	
1,3-Dichlorobenzene	
✓1,4-Dichlorobenzene	
n-Butylbenzene	
1,2-Dichlorobenzene	
(Bis) 2 Chloroisopropyl Ether	
1,2-Dibromo-3 Chloropropane	
1,2,4-Trichlorobenzene	
Hexachlorobutadiene	
Naphthalene	
1,2,3-Trichlorobenzene	↓

COMMENTS:

MDL - Minimum Detection Limit for water (EPA Method 502.2), is 1.0 µg/l.

J - Estimated value.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected.
NA - Not analyzed.
1/ - Tentative identification.
✓ - Regulated VOC
T - Trihalomethane

N.C. Division of Health Services
DHS 3068-O (1/89 Laboratory)

GUILFORD COUNTY
DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH

October 25, 1989

Roger Rental Co.
P. O. Box 10241
Greensboro, NC 27404

Dear Sirs:

The results of the water sample collected at your facility on October 4, 1989 show no volatile organic compounds present at this time.

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,

Terry B. Cole

Terry B. Cole
Toxic and Health Hazard Specialist

enclosure

/hn

301 North Eugene Street
P.O. Box 3508
Greensboro, N. C. 27401
Phone: (919) 373-3771

P. Box 10241
GSO 27404

North Carolina Department of Human Resources
Division of Health Services
Laboratory Section
P.O. Box 28047, Raleigh, N.C. 27611

Environmental Sciences Analysis Report

Name of Owner, Patient or Supply: Roger Rental Co.
Address: 4115 Wiley Davis Rd., GSO 27407
County: Guilford
Report to: Terry B. Cole, Guilford Co. Env. Health
Address: 201 N. Eugene St.
Greensboro, NC 27401
Date Collected: 10-4-89
Collected By: TERRY B Cole
Analysis Desired: VOA

VOC Analysis

Laboratory Number	Sample Number	Sample Description or Remarks	Results In
902950			SEE ATTACHED SHEET(S)

Date Received 10-6-89 BD
Date Extracted
Date Reported 10-23-89
Date Analyzed VOC 10/19/89 JPM
Reported By: John L. Real

DHS Form 2364 Revised (5/89)
Laboratory

STATE LABORATORY OF PUBLIC HEALTH
DIVISION OF HEALTH SERVICES, N.C. DEPARTMENT OF HUMAN RESOURCES
P.O. BOX 28047 - 306 N. WILMINGTON ST, RALEIGH, N.C. 27611

Laboratory No. 902950 PURGEABLE COMPOUNDS Date of Analysis 10/19/89

COMPOUND	µg/l
Dichlorodifluoromethane	U
Chloromethane	
✓Vinyl Chloride	
Bromomethane	
Chloroethane	
Trichlorofluoromethane	
✓1,1-Dichloroethylene	
Methylene Chloride	
tert-Butyl Methyl Ether	
(Trans)1,2-Dichloroethylene	
Isopropyl ether	
1,1-Dichloroethane	
2,2-Dichloropropane	
(Cis) 1,2-Dichloroethylene	
Chloroform	
(BCM) Bromochloromethane	
✓1,1,1-Trichloroethane	
1,1-Dichloropropene	
✓Carbon Tetrachloride	
✓Benzene	
✓1,2-Dichloroethane	
✓Trichloroethylene	
1,2-Dichloropropane	
Bromodichloromethane	
Dibromomethane	
Toluene	
1,1,2-Trichloroethane	
Tetrachloroethene	
1,3-Dichloropropane	
Dibromochloromethane	
1,2-Dibromoethane (EDB)	
1-Chlorohexane	↓

COMPOUND	µg/l
Chlorobenzene	U
Ethylbenzene	
1,1,1,2-Tetrachloroethane	
p-Xylene	
m-Xylene	
o-Xylene	
Styrene	
Bromoform	
Isopropylbenzene	
1,1,2,2-Tetrachloroethane	
Bromobenzene	
n-Propylbenzene	
1,2,3-Trichloropropane	
2-Chlorotoluene	
1,3,5-Trimethylbenzene	
4-Chlorotoluene	
(Tert) Butyl Benzene	
Pentachloroethane	
1,2,4-Trimethylbenzene	
(Sec) Butyl Benzene	
p-Isopropyltoluene	
1,3-Dichlorobenzene	
✓1,4-Dichlorobenzene	
n-Butylbenzene	
1,2-Dichlorobenzene	
(Bis) 2 Chloroisopropyl Ether	
1,2-Dibromo-3 Chloropropane	
1,2,4-Trichlorobenzene	
Hexachlorobutadiene	
Naphthalene	
1,2,3-Trichlorobenzene	↓

COMMENTS:

MDL - Minimum Detection Limit for water (EPA Method 502.2), is 1.0 µg/l.

J - Estimated value.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected.
NA - Not analyzed.
1/ - Tentative identification.
✓ - Regulated VOC
T - Trihalomethane

N.C. Division of Health Services
DHS 3068-O (1/89 Laboratory)

GUILFORD COUNTY
DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH

October 25, 1989

Carolina Freight CArriers, Inc.
4107 Wiley Davis Road
Greensboro, NC 27407

Dear Sirs:

The results of the water sample collected at your facility on October 4, 1989 show no volatile organic compounds present at this time.

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,

Terry B. Cole

Terry B. Cole
Toxic and Health Hazard Specialist

enclosure

/hn

301 North Eugene Street
P.O. Box 3508
Greensboro, N. C. 27401
Phone: (919) 373-3771

Ref: Code 885-7601 (H)

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

October 24, 1989

CERTIFIED MAIL NUMBER P-614 922 473
RETURN RECEIPT REQUESTED

Mr. D.H. Griffin, Sr.
D.H. Griffin Wrecking Company
4700 Hilltop Road
Greensboro, N.C. 27417-0657

Dear Mr. Griffin:

Subject: Notice of Violation
D.H. Griffin Wrecking Company Demolition Landfill
Greensboro, North Carolina
Guilford County

On October 11, 1989, Mr. Earl McCune of the North Carolina Division of Environmental Management Air Toxics Analytical Survey Team, performed air sampling near the pond located at D.H. Griffin Wrecking Company Demolition Landfill, Wiley Davis Road, Greensboro, North Carolina. The sampling was conducted in response to neighbors complaints and at the request of the Guilford County Division of Environmental Health. The results of Mr. McCune's investigation indicate that the pond is emitting extremely high levels of hydrogen sulfide and is therefore operating in violation of Title 15, North Carolina Administrative Code 2D .0522 "Control and Prohibition of Odorous Emissions".

You are requested to consider this problem and initiate corrective action to abate the odors. Please notify this office in writing by November 6, 1989, of the action taken.

This violation is subject to enforcement action, including injunctive relief, pursuant to G.S. 143-215.114.

8025 North Point Boulevard, Suite 100, Winston-Salem, N.C. 27106-3295 • Telephone 919-761-2351

An Equal Opportunity Affirmative Action Employer

Please contact Steve Moser, Myron Whitley or me if you have any questions.

Sincerely,

Larry D. Coble

Larry D. Coble
Regional Supervisor

LDC/MGW/ahl

cc: Lee Daniel
Guilford County Division of Environmental Health

RECEIVED
OCT 23 1989
℄ Env. Hlth

October 20, 1989

Mrs. D. H. Griffin
P. O. Box 7657
Greensboro, N. C. 27417-0657

Mr. A. R. Hagstrom
Enviromental Engineer
North Carolina Department of Environmental
Helath and Natural Resources
WSRO
8025 North Point Boulevard, Suite 100
Winston-Salem, North Carolina 27106

Re: Wiley Davis Landfill
Greensboro, N. C.

Dear Sir:

This is to confirm my telephone conversation with you this morning concerning the holding pond at the above captioned property.

As you know we had 4.6" of rain on Wednesday and Wednesday night of this week. With all the rainfall a small amount of water went over the dam of our holding pond. The silt fence behind the pond kept any silt from leaving the property. Our employees were at the site and immediately corrected the problem.

Terry Cole from your Greensboro office visited the site and found no problem.

Enclosed is a copy of the Laboratory test of the water from our Holding pond. I have also provided Mr. Cole with a copy of the test results.

If you have any questions please call me.

Sincerely,

Mrs D. H. Griffin

Mrs. D. H. Griffin

Encl: 1
CC: Mr. Terry Cole
File

10-23-89

Note: This letter is not exact
Right! I did go out, but did
Say that it was O.K. to discharge
leachate into the creek; As a
of fact, I stated that they w
need to get with DEHNR co.
the Release ℄

GUILFORD COUNTY
DIVISION OF ENVIRONMENTAL HEALTH

No. ___

DATE 10-20-89 RECEIVED _____

ENVIRONMENTAL COMPLAINT INVESTIGATION

SECTION T&H/H ASSIGNED 10-23-89

PROPERTY CONCERNED: D.H GRIFFIN LANDFILL

LOCATION: Wiley Davis Rd.

OWNER: _____ ADDRESS: _____

TENANT: _____ ADDRESS: _____

COMPLAINT: Pungent Odors detected Coming to work, Could something be done - is this injurious to a person Health

REPORTED BY: Mrs Bonnie Atwood PHONE: 275-8437

ADDRESS: _____

REMARKS: _____

INVESTIGATION REPORT: _____

ACTION TAKEN - Recommendations - Referrals: _____

RESULTS: Follow-up visits - DATE:_____, DATE:_____, DATE:_____, DATE: _____

INVESTIGATION COMPLETED BY: _____ DATE: _____

COMPLAINTANT CONTACTED BY: _____ DATE: _____

FINAL DISPOSITION: _____ CORRECTED / _____ ACTIVE / AUTHORIZED BY:_____ DATE: _____

6/86

PROJECT	TITLE:				
DH Griffin Leachate Collection Pond	Attachment B - Page 1 of 2				AQUATERRA, INC. RALEIGH, GREENSBORO, CHARLOTTE NORTH CAROLINA
	JOB: 371	DRAWING:	FIGURE:	SCALE:	

PROJECT	TITLE				
DH Griffin Leachate Collection Pond	Attachment B - Page 2 of 2				AQUATERRA, INC. RALEIGH, GREENSBORO, CHARLOTTE NORTH CAROLINA
	JOB 371	DRAWING	FIGURE	SCALE	

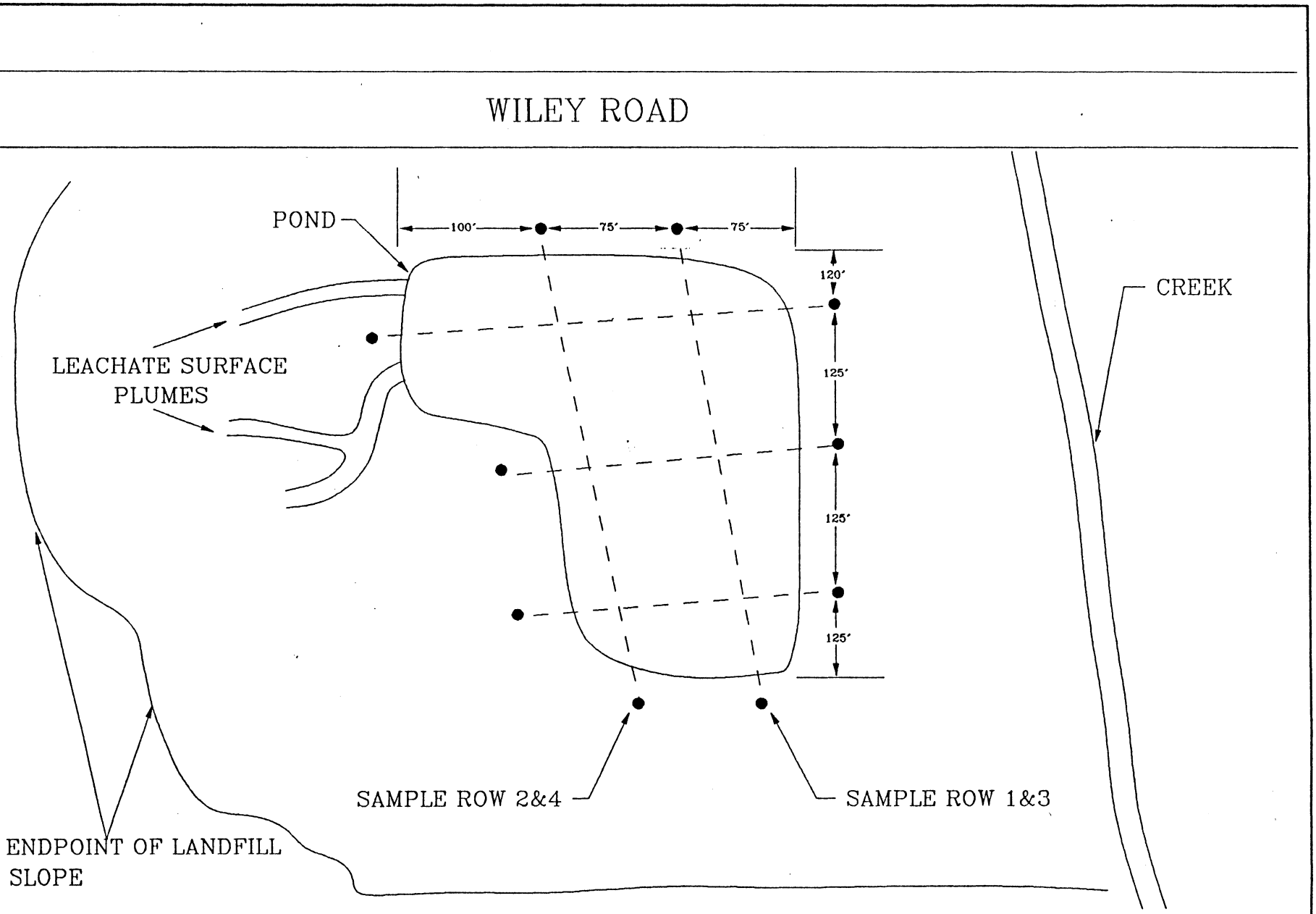
TABLE 1

Dissolved Oxygen Levels During Surface Water Sampling

Sample		Dissolved Oxygen Levels in mg/L		
Row	Point	Surface	4" Depth	2' Depth
1	1	3.0	1.8	ND
1	2	3.4	1.2	ND
1	3	3.6	1.1	ND
2	1	3.1	2.0	ND
2	2	3.2	1.7	ND
2	3	3.0	1.6	ND

Field Measured using portable Dissolved Oxygen Meter
Water Temperature 21-23°C

ND = Not Detected above the instrument quantitation limit of 1.0 mg/L



PROJECT: DH GRIFFIN LEACHATE COLLECTION POND	TITLE: POND SAMPLING MATRIX			
	JOB: 371	DRAWING: 371-1	FIGURE: 1	SCALE: N.T.S.

AQUATERRA, INC.
RALEIGH, GREENSBORO, CHARLOTTE
NORTH CAROLINA

STATE LABORATORY OF PUBLIC HEALTH
DIVISION OF HEALTH SERVICES, N.C. DEPARTMENT OF HUMAN RESOURCES
P.O. BOX 28047 - 306 N. WILMINGTON ST, RALEIGH, N.C. 27611

Laboratory No. 902952 PURGEABLE COMPOUNDS Date of Analysis 10/19/89

COMPOUND	µg/l		COMPOUND	µg/l
Dichlorodifluoromethane	U		Chlorobenzene	U
Chloromethane			Ethylbenzene	
✓Vinyl Chloride			1,1,1,2-Tetrachloroethane	
Bromomethane			p-Xylene	
Chloroethane			m-Xylene	
Trichlorofluoromethane			o-Xylene	
✓1,1-Dichloroethylene			Styrene	
Methylene Chloride			Bromoform	
tert-Butyl Methyl Ether			Isopropylbenzene	
(Trans)1,2-Dichloroethylene			1,1,2,2-Tetrachloroethane	
Isopropyl ether			Bromobenzene	
1,1-Dichloroethane			n-Propylbenzene	
2,2-Dichloropropane			1,2,3-Trichloropropane	
(Cis) 1,2-Dichloroethylene			2-Chlorotoluene	
Chloroform			1,3,5-Trimethylbenzene	
(BCM) Bromochloromethane			4-Chlorotoluene	
✓1,1,1-Trichloroethane			(Tert) Butyl Benzene	
1,1-Dichloropropene			Pentachloroethane	
✓Carbon Tetrachloride			1,2,4-Trimethylbenzene	
✓Benzene			(Sec) Butyl Benzene	
✓1,2-Dichloroethane			p-Isopropyltoluene	
✓Trichloroethylene			1,3-Dichlorobenzene	
1,2-Dichloropropane			✓1,4-Dichlorobenzene	
Bromodichloromethane			n-Butylbenzene	
Dibromomethane			1,2-Dichlorobenzene	
Toluene			(Bis) 2 Chloroisopropyl Ether	
1,1,2-Trichloroethane			1,2-Dibromo-3 Chloropropane	
Tetrachloroethene			1,2,4-Trichlorobenzene	
1,3-Dichloropropane			Hexachlorobutadiene	
Dibromochloromethane			Naphthalene	
1,2-Dibromoethane (EDB)			1,2,3-Trichlorobenzene	✓
1-Chlorohexane	✓			

COMMENTS:

MDL - Minimum Detection Limit for water (EPA Method 502.2), is 1.0 µg/l.

J - Estimated value.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected.
NA - Not analyzed.
1/ - Tentative identification.
✓ - Regulated VOC
T - Trihalomethane

N.C. Division of Health Services
DHS 3068-O (1/89 Laboratory)

GUILFORD LABORATORIES, INC.
P.O. Box 9735/Plaza Station/Greensboro, N.C. 27408

EPA Method 624
October 16, 1989

JOB#: DHG91005
Sample: #4376 Leachate pond 10/05/89

Compound	Micrograms/liter
Acrolien	BDL
Benzene	BDL
Bromodichloromethane	BDL
Bromoform	BDL
Bromomethane	BDL
Carbon tetrachloride	BDL
Chlorobenzene	401
Chloroethane	BDL
2-chloroethylvinyl ether	BDL
Chloroform	BDL
Chloromethane	BDL
Dibromochloromethane	BDL
1,2-dichlorobenzene	2007
1,3-dichlorobenzene	BDL
1,4-dichlorobenzene	BDL
1,1-dichloroethane	BDL
1,2-dichloroethane	BDL
1,1-dichloroethene	BDL
trans-1,2-dichloroethene	BDL
1,2-dichloropropane	BDL
cis-1,3-dichloropropene	BDL
trans-1,3-dichloropropene	BDL
Ethyl Benzene	BDL
Methylene chloride	BDL
1,1,2,2-tetrachloroethane	BDL
Tetrachloroethene	BDL
Toluene	16
1,1,1-trichloroethane	BDL
1,1,2-trichloroethane	BDL
1,1,2-trichloroethene	BDL
Trichlorofluoromethane	BDL
Vinyl chloride	BDL

BDL= below detection limit (5ug/liter)

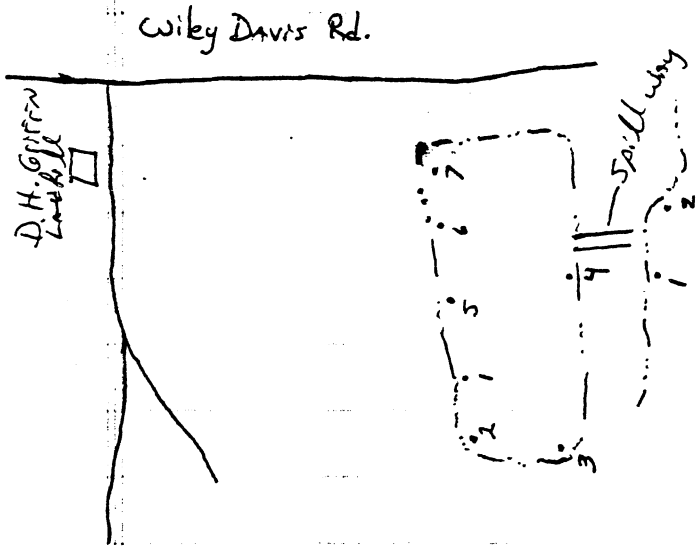
GUILFORD LABORATORIES, INC.

J. A. Rayburn

RECEIVED
OCT 20 1989
@ ENV. Health.

10-5-89

D.H. Griffin Demolition Landfill



* Calibration: 7.00 pH

Leachate Pond Samples		pH	Temp. °C
Recalibrate ←	#1	= 7.13	21.0° C
	#2	= 7.10	20.3° C
	#3	= 7.17	20.1° C
Recalibrate ←	#4	= 7.24	20.3° C
	#5	= 7.05	20.7° C
	#6	= 7.13	20.9° C
Recalibrate ←	#7	= 7.18	21.0° C

* Creek Samples; At discharge pt.

#1 = above discharge pt. = 6.86 pH; Temp. 14.5

#2 = below discharge pt. = 6.84 pH; Temp. 14.5

Rechecked calibration after all sampling = 6.99 pH.

GUILFORD LABORATORIES, INC.
P.O. Box 9735/Plaza Station/Greensboro, N.C. 27408

RECEIVED
SEP 27 1989

EPA Method 624
September 27, 1989

Sample: #3763 Water holding pond on Wiley Davis road

Compound	Micrograms/liter
Acrolien	BDL
Benzene	BDL
Bromodichloromethane	BDL
Bromoform	BDL
Bromomethane	BDL
Carbon tetrachloride	BDL
Chlorobenzene	111
Chloroethane	BDL
2-chloroethylvinyl ether	BDL
Chloroform	BDL
Chloromethane	BDL
Dibromochloromethane	BDL
1,2-dichlorobenzene	>40,000
1,3-dichlorobenzene	BDL
1,4-dichlorobenzene	BDL
1,1-dichloroethane	BDL
1,2-dichloroethane	BDL
1,1-dichloroethene	BDL
trans-1,2-dichloroethene	BDL
1,2-dichloropropane	BDL
cis-1,3-dichloropropene	BDL
trans-1,3-dichloropropene	BDL
Ethyl Benzene	BDL
Methylene chloride	BDL
1,1,2,2-tetrachloroethane	BDL
Tetrachloroethene	BDL
Toluene	8
1,1,1-trichloroethane	6
1,1,2-trichloroethane	BDL
1,1,2-trichloroethene	BDL
Trichlorofluoromethane	BDL
Vinyl chloride	BDL

BDL= below detection limit (5ug/liter)
Also detected: CS2, 2-Propanol, Acetone
GUILFORD LABORATORIES, INC.

J. A. Rayburn

GUILFORD LABORATORIES, INC.
P.O. Box 9735/Plaza Station/Greensboro, N.C. 27408

RECEIVED
[illegible]

September 27, 1989

REPORT OF ANALYSIS

JOB #: DHG90816

CUSTOMER: D. H. Griffin Iron & Metal

SAMPLES: #3763 Water holding pond on Wiley Davis road

RESULTS:

	#3763
pH	7.1
Arsenic (ppm)	0.024
Barium (ppm)	<1
Cadmium (ppm)	<0.08
Chromium (ppm)	<0.2
Mercury (ppm)	<0.02
Lead (ppm)	<0.2
Selenium (ppm)	0.021
Silver (ppm)	<0.36
Copper (ppm)	<0.2
Nickel (ppm)	<0.4
Iron (ppm)	0.36
Manganese (ppm)	0.44
Antimony (ppm)	<1
Beryllium (ppm)	<0.2
Oil & Grease (ppm)	15
EPA 624 Purgeables	See attached data sheet

GUILFORD LABORATORIES, INC.

J. A. Rayburn

NORTH CAROLINA DEPARTMENT OF NATURAL
RESOURCES AND COMMUNITY DEVELOPMENT

Mail

Date Oct. 4, 1989

To: Terry Cole,

~~From:~~ Guilford County Health Dept.,
Greensboro, N.C

Remarks: Information on several materials found in D.H. Griffin's land-fill pond.

from

Art Hagstrom WSRO
WQ

ACTION

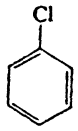
☐ Note and file	☐ Note, initial and forward
☐ Note and return to me	☐ Your comments, please
☐ Note and see me about this	☑ For your information
☐ For your approval	☐ Prepare reply for my signature
☑ Per our conversation 10/4	☐ Prepare information for me to reply
☐ Per your request	☐ Please answer, with copy to me
☐ Return with more details	☐ To be filed

Use: Intermediate in the preparation of triphenyl methane and related dyes, organic intermediate.

3-chloro-4-benzamido-6-methylaniline. $ClC_6H_2NH_2CH_3(NHCOC_6H_5)$.
Properties: White solid, mp 198–199C.
Use: Azoic dyes, pigments.

chlorobenzanthrone. $C_{17}H_9ClO$.
Properties: All isomers: yellow needles; soluble in alcohol, benzene, toluene, acetic acid.
Derivation: From benzanthrone by treatment with chlorine.

chlorobenzene. (monochlorobenzene; phenyl chloride). CAS: 108-90-7. C_6H_5Cl.



Properties: Clear, volatile liquid. Almond-like odor, d 1.105 (25/25C), bp 131.6C, fp −45C, wt/gal 9.19 lb (25C), refr index 1.5216 (25C), flash p 85F (29.4C) (CC), autoign temperature 1180F (637C). Miscible with most organic solvents, insoluble in water.
Derivation: By passing dry chlorine into benzene with a catalyst.
Grade: Technical.
Hazard: Moderate fire risk. Explosive limits 1.8 to 9.6% in air. Avoid inhalation and skin contact. TLV: 75 ppm in air.
Use: Phenol, chloronitrobenzene, aniline, solvent carrier for methylene diisocyanate, solvent, pesticide intermediate, heat transfer.

o-chlorobenzylidene malononitrile. (CS; OCBM). CAS: 2698-41-1. $ClC_6H_4CH{=}C(CN)_2$.
Properties: White crystals with the odor of pepper. Mw 189, mp 93–95C, bp 310–315C. Insoluble in water.
Available forms: Available both unground and ground with 5% silica aerogel or treated "Cab-O-Sil".
Hazard: Strong irritant to eyes and mucous membranes. TLV: ceiling 0.05 ppm.
Use: An incapaciting agent used by the military and law enforcement officers.

p-chlorobenzenesulfonamide. $ClC_6H_4SO_2NH_2$.
Properties: White, odorless powder; mp 145–148C; soluble in alcohol.
Grade: 98–99% purity.
Use: Intermediate for pharmaceuticals and resins.

o-chlorobenzenethiol. See p-chlorothiophenol.

p-chlorobenzhydrol. (p-chlorobenzohydrol). $ClC_6H_4C(C_6H_5)HOH$.
Properties: White to off-white, crystalline powder; mp 57–61C; insoluble in water; soluble in ether, alcohol, and benzene.
Use: Organic synthesis.

"Chlorobenzilate."[219] TM for ethyl-4,4'-dichlorobenzilate. $(C_6H_4Cl)_2C(OH)COOC_2H_5$.
Properties: Viscous, yellow liquid; bp 141–142C (0.06 mm); d (technical 90%) 1.2816 (20/4C). Slightly soluble in water; soluble in acetone, benzene, methanol.
Hazard: Carcinogen. Caused testicular damage in farm workers. Use has been restricted.
Use: Pesticide, acaricide.

p-chlorobenzohydrol. See p-chlorobenzhydrol.

chlorobenzoic acid. ClC_6H_4COOH.
Properties: Nearly white, coarse powder, mp (o-) 142C, (m-) 158C, (p-) 243C. Soluble in methanol, alcohol, ether, and hot water.
Use: Intermediate for the preparation of dyes, fungicides, pharmaceuticals, and other organic chemicals; preservative for adhesives and paints.

p-chlorobenzophenone. $ClC_6H_4COC_6H_5$.
Properties: White to off-white, crystalline powder; mp 73–78C; bp 332C. Soluble in acetone, benzene, carbon tetrachloride, ether, and hot alcohol. Insoluble in water.
Use: Intermediate.

chlorobenzotriazole. $ClC_6H_4NHN{:}N$.
Properties: White solid, mp 157–159C.
Use: Intermediate and photographic chemical.

o-chlorobenzotrichloride. $ClC_6H_4CCl_3$.
Properties: Colorless liquid or solid, mp 29.37C, bp 264.3C, d 1.5131 (25/4C), refr index 1.5856 (20C). Soluble in alcohol, ether, and acetone; decomposed by water.
Use: Intermediate for pharmaceuticals, dyes, and other organic chemicals.

p-chlorobenzotrichloride. $ClC_6H_4CCl_3$.
Properties: Water-white liquid, boiling range 248–257C, fp approximately 3.8C, d 1.480–1.490 (25/25C). Soluble in alcohol, ether, and acetone; insoluble in water.
Use: Same as o-chlorobenzotrichloride.

m-chlorobenzotrifluoride. (m-chlorotrifluoromethylbenzene; m-chloro-α,α,α-trifluoroto-

Derivation: Nitration of o-dichlorobenzene with subsequent reduction.
Hazard: See aniline.
Use: Intermediate for manufacture of dyes and pesticides.

dichlorobenzaldehyde. $C_6H_3CHOCl_2$.
(2,4-, 2,5-, and 3,4-isomers).
Properties: White, crystalline solid; bp 233C; mp 65–67C (2,4-), 35C (3,4-); 2,4-isomer soluble in methanol, ethanol, ether, and acetone, insoluble in water. 2,5-isomer soluble in ethanol and ether. 3,4-isomer soluble in ethanol, ether, and acetone; slightly soluble in methanol and amyl ether; insoluble in water.
Use: Intermediate in the manufacture of pharmaceuticals, dyes, and other organic chemicals.

dichlorobenzalkonium chloride. $C_{21}H_{36}Cl_3N$.
Properties: Colorless crystals, very bitter taste, soluble in alcohol and water.
Derivation: Reaction of N-dimethyldodecylamine with 3,4-dichlorobenzyl chloride.
Hazard: Skin irritant.
Use: Algicide, antiseptic, sterilant.

m-dichlorobenzene. (1,3-dichlorobenzene).
CAS: 541-73-1. $C_6H_4Cl_2$.
Properties: Colorless liquid, d 1.288 (20/4C), bp 172C, fp −24C, refr index 1.547 (20.9C), soluble in alcohol and ether, insoluble in water. Combustible.
Derivation: Chlorination of monochlorobenzene.
Use: Fumigant and insecticide.

o-dichlorobenzene. (1,2-dichlorobenzene).
CAS: 95-50-1. $C_6H_4Cl_2$.
Properties: Colorless liquid, pleasant odor, a mixture of isomers containing at least 85% o- and varying percentages of p- and m-. Flash p 150F (65.5C). Combustible, miscible with most organic solvents, insoluble in water, autoign temperature 1198F (647C), d 1.284, wt/gal 10.7 lb, bp 172–179C, fp −17C.
Derivation: Chlorination of monochlorobenzene.
Method of purification: Rectification.
Grade: Purified, technical.
Hazard: Toxic by inhalation and ingestion. TLV: ceiling of 50 ppm in air.
Use: Manufacture of 3,4-dichloroaniline, solvent for a wide range of organic materials and for oxides of nonferrous metals, solvent carrier in production of toluene diisocyanate, dye manufacture, fumigant and insecticide, degreasing hides and wool, metal polishes, industrial odor control, heat transfer.

p-dichlorobenzene. (1,4-dichlorobenzene; PDB). CAS: 106-46-7. $C_6H_4Cl_2$.
Properties: White crystals, volatile (sublimes readily), penetrating odor, d 1.458, bp 173.7C, mp 53C, flash p 150F (65.5C) (closed cup). Soluble in alcohol, benzene, and ether; insoluble in water. Combustible.
Derivation: Chlorination of monochlorobenzene.
Grade: Technical.
Hazard: Toxic by ingestion, irritant to eyes. TLV: 75 ppm in air.
Use: Moth repellent, general insecticide, germicide, space odorant manufacture of 2,5-dichloroaniline, dyes, intermediates, pharmacy, agriculture (fumigating soil).

N,N-dichlorobenzenesulfonamide.
$C_6H_5SO_2NCl_2$.
Properties: Solid, fine, white crystals; mp 68–71C.
Use: A source of positive chlorine.

3,3'-dichlorobenzidine. CAS: 91-94-1.
$C_6H_3ClNH_2C_6H_3ClNH_2$.
Properties: Gray to purple, crystalline solid; insoluble in water; soluble in alcohol and ether; mp 165C.
Hazard: A tumorigen and carcinogen; absorbed by skin. TLV: Suspected human carcinogen.
Use: Intermediate for dyes and pigments, curing agent for isocyanate-terminated resins for urethane plastics.

2,4-dichlorobenzoic acid. $Cl_2C_6H_3COOH$.
Properties: White to slightly yellowish powder; mp 158–162C; soluble in alcohol, ether, acetone, 5% caustic; insoluble in water and heptane.
Use: Intermediate for antimalarials, dyes, fungicides, pharmaceuticals and other organic chemicals.

3,4-dichlorobenzoic acid. $Cl_2C_6H_3COOH$.
Properties: White to slightly yellowish powder; mp 202–204C; soluble in alkali, alcohol, ether, and acetone; slightly soluble in diacetone; insoluble in water ethylene dichloride, and toluene.
Use: Intermediate for pharmaceuticals, dyes, etc.

2,6-dichlorobenzonitrile. See dichlobenil.

3,4-dichlorobenzotrichloride. $Cl_2C_6H_3CCl_3$.
Properties: Water-white liquid, boiling range 276–285C, fp approximately 24.0C, d 1.585–1.590 (25/15C). Soluble in alcohol, ether, and acetone; insoluble in water. Combustible.
Use: Intermediate for pharmaceuticals, dyes, etc.

ichlorobenzoyl chlori
Properties: Colorless
260C, fp 15–16C, d
ble in alcohol, ether,
in heptane; insoluble
Use: Intermediate in t
ceuticals, dyes, and

dichlorobenzyl chloride
Properties: Colorless
252C; d 1.415–1.420
hol, ether, and acetor
bustible.
Use: Intermediate for
ceuticals and dyes, ir

1,1-dichloro-2,2-bis(p-cl
TDE.

1,1-dichloro-2,2-bis(p-et
ethyldiphenyldichlorc
$C_{16}H_{20}Cl_2$.
Properties: Crystals; m
soluble in acetone, ke
Hazard: Toxic. Absort
Use: Insecticide, formu
centrate or wettable
against insects, includ

1,4-dichlorobutane. (te
DCB). $ClCH_2(CH$
Properties: Colorless, m
d 1.141(20/4C); boilin
(40C) (Tagliabue ope
(20C). Insoluble in wa
mon organic solvents.
Hazard: Moderate fire
Use: Organic synthesis,

1,3-dichlorobutene-2. C
Properties: Clear to stra
130C, insoluble in wat
vents, flash p 80F (26
Hazard: Flammable, m
inhalation.

1,4-dichlorobutene-2. C
$ClH_2CCH{:}CHCH_2Cl$.
Properties: Colorless liqu
with benzene, alcohol,
miscible with ethylene
ter; bp 158C (60C) (20
(25/4C); refr index 1.
Grade: Available as 95–
cis-isomer. Above cor
trans-isomer.
Hazard: Irritant to skin
Moderate fire hazard.
Use: Intermediate.

"Tolpit."[79] TM for a tall oil pitch used in roofing cements, caulking compounds, shoemaker's wax, asphalt emulsions and anti-stripping agents, coal dust briquetting.

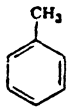
Topfer's reagent. Dimethylaminoazobenzene 0.5 g in 100 cc 95% ethanol.
Use: To test acidity of stomach contents.

tolualdehdye. See tolyl aldehydes.

toluazotoluidine. See o-aminoazotoluene.

tolu balsam. See balsam.

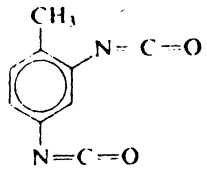
toluene. (methylbenzene; phenylmethane).
CAS: 108-88-3. $C_6H_5CH_3$ 27th highest-volume chemical produced in US (1985).



Properties: Colorless liquid, benzene-like odor, d 0.866 (20/4C), fp −94.5C, bp 110.7C, refr index 1.497 (20C), aniline equivalent 15, flash p (CC) 40F (4.4C), autoign temperature 997F (536C). Soluble in alcohol, benzene and ether; insoluble in water.
Derivation: (a) By catalytic reforming of petroleum. (b) By fractional distillation of coal-tar light oil.
Method of purification: Rectification.
Grade (usually defined in terms of boiling ranges): Pure, commercial, straw-colored, nitration, scintillation, industrial.
Hazard: Flammable, dangerous fire risk. Explosive limits in air 1.27–7%. Toxic by ingestion, inhalation, and skin absorption. TLV: 100 ppm in air.
Use: Aviation gasoline and high-octane blending stock; benzene, phenol, and caprolactam; solvent for paints and coatings, gums, resins, most oils, rubber, vinyl organosols; diluent and thinner in nitrocellulose lacquers; adhesive solvent in plastic toys and model airplanes; chemicals (benzoic acid, benzyl and benzoyl derivatives, saccharin, medicines, dyes, perfumes); source of toluenediisocyanates (polyurethane resins); explosives (TNT); toluene sulfonates (detergents); scintillation counters.

toluene-2,4-diamine. (m-tolylenediamine; MTD; m-toluylenediamine; diaminotoluene).
CAS: 95-80-7. $CH_3C_6H_3(NH_2)_2$.
Properties: Colorless crystals; soluble in water, alcohol, and ether; mp 99C; bp 280C.
Derivation: Reduction of m-dinitrotoluene with iron and hydrochloric acid.
Hazard: A carcinogen.
Use: Chain extender and crosslinker, intermediate in organic synthesis of dyes, polymers, especially polyurethanes.

toluene-2,4-diisocyanate. (2,4-tolylene diisocyanate; m-tolylene diisocyanate; TDI).
CAS: 584-84-9. $CH_3C_6H_3(NCO)_2$.



Properties: Water-white to pale yellow liquid, sharp pungent odor, bp 251C, 120C (10 mm), flash p 270F (132C), mp 19.4–21.5C (pure isomer), d 1.22 (25/15.5C), vap press 0.01 mm at 20C. Reacts with water producing carbon dioxide; reacts with compounds containing active hydrogen (may be violent); soluble in ether, acetone, and other organic solvents. Combustible.
Derivation: Reaction of 2,4-diaminotoluene with phosgene.
Method of purification: Distillation to remove hydrogen chloride.
Grade: 100% 2,4-isomer; 80% and 65% 2,4-isomer both mixed with 2,6-isomer.
Hazard: Toxic by ingestion and inhalation, strong irritant to skin and tissue, especially to eyes. TLV: 0.005 ppm in air.
Use: Polyurethane foams, elastomers and coatings, crosslinking agent for nylon 6.

toluene-2,6-diisocyanate. See toluene-2,4-diisocyanate.

p-toluenesulfamine. See p-toluenesulfonamide.

p-toluenesulfanilide. $CH_3C_6H_4SO_2C_6H_4NH_2$.
Properties: White to pink crystalline solid, mp 103C, soluble in most lacquer solvents. Combustible.
Derivation: p-Toluene sulfonchloride treated with aniline in presence of lime or carefully regulated amounts of alkalies.
Grade: Technical.
Use: Softener for acetylcellulose in proportions up to 50%, dyestuff intermediate.

o-toluenesulfonamide. CAS: 88-19-7.
$CH_3C_6H_4SO_2NH_2$.
Properties: Colorless crystals, mp 156.3C, soluble in alcohol, slightly soluble in water and ether. Combustible.
Use: Plasticizer.

Use: Bacteriostat in soaps and detergents, plastics.

1,1,1-trichloroethane. (methyl chloroform). CAS: 71-55-6. CH_3CCl_3.
Properties: Colorless liquid, d 1.325, bp 75C, fp −38C, insoluble in water, soluble in alcohol and ether, flash p none. Nonflammable.
Hazard: Irritant to eyes and tissue. TLV: 350 ppm in air.
Use: Solvent for cleaning precision instruments, metal degreasing, pesticide, textile processing.

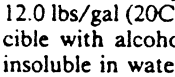
1,1,2-trichloroethane. (vinyl tichloride; β-trichloroethane). CAS: 79-00-5. $CHCl_2CH_2Cl$.
Properties: Clear, colorless liquid, characteristic sweet odor, bp 113.7C, d 1.4432 (20C/4C), refr index 1.4458, vap press 16.7 mm (20C), bulk d 12.0 lbs/gal (20C), fp −36.4C, flash p none. Miscible with alcohols, ethers, esters and ketones; insoluble in water. Nonflammable.
Grade: Technical.
Hazard: Irritant, absorbed by skin. TLV: 10 ppm in air.
Use: Solvent for fats, oils, waxes, resins, other products; organic synthesis.

trichloroethanol. CAS: 115-20-8. CCl_3CH_2OH.
Properties: Viscous liquid, ether-like odor, hygroscopic. Slightly soluble in water, miscible with alcohol, ether, and carbon tetrachloride. Bp 150C, fp 13C, d 1.541 (25/4C). Combustible.
Use: Intermediate, anesthetic.

trichloroethylene. (tri). CAS: 79-01-6. $CHCl{:}CCl_2$.
Properties: Stable, low-boiling, colorless, photoreactive liquid; chloroform-like odor; will not attack the common metals even in the presence of moisture. Bp 86.7C, fp −73C, d 1.456–1.462 (25/25C), refr index 1.4735 (27C), miscible with common organic solvents, slightly soluble in water. Nonflammable.
Derivation: From tetrachloroethane by treatment with lime or alkali in the presence of water, or by thermal decomposition, followed by steam distillation.
Grade: USP, technical, high purity, electronic, metal degreasing, extraction.
Hazard: Toxic by inhalation. Use as solvent not permitted in some states. FDA has prohibited its used in foods, drugs, and cosmetics. TLV: 50 ppm in air.
Use: Metal degreasing; extraction solvent for oils, fats, waxes; solvent dyeing; dry cleaning; refrigerant and heat exchange liquid; fumigant; cleaning and drying electronic parts; diluent in paints and adhesives; textile processing; chemical intermediate; aerospace operations (flushing liquid oxygen).

trichlorofluoromethane. (fluorotrichloromethane; fluorocarbon-11). CAS: 75-69-4. CCl_3F.
Properties: Colorless, nearly odorless, volatile liquid. Bp 23.7C, fp −111C, d 1.494 (17.2C), critical pressure 43.2 atmospheres. Noncombustible.
Derivation: From carbon tetrachloride and hafnium, in the presence of fluorinating agents such as antimony tri- and pentafluoride.
Grade: Technical, 99.9% min.
Hazard: TLV: CL of 1000 ppm in air.
Use: Solvent, fire extinguishers, chemical intermediate, blowing agent.

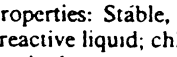
trichloroisocyanuric acid. (1,3,5-trichloro-s-triazine-2,4,6-trione). CAS: 87-90-1.



$OCNClCONClCONCl$.
Properties: White, slightly hygroscopic, crystalline powder or granules; loose bulk d 31 lbs/cu ft, granular 60 lbs/cu ft; available chlorine 85%; decomposes 225C.
Hazard: Fire risk in contact with organic materials, strong oxidizing agent. Toxic by ingestion.
Use: Active ingredient in household dry bleaches, dishwashing compounds, scouring powders, detergent-sanitizers, commercial laundry bleaches, swimming pool disinfectant, bactericide, algicide, bleach, and deodorant.

trichloroisopropyl alcohol. See isopral.

trichloromelamine. (N,N',N'-trichloro-2,4,6-triamine-1,3,5-triazine).



$NC(NHCl)NC(NHCl)NC(NHCl)$.
Properties: Fine, white powder, slightly soluble in water and glacial acetic acid, insoluble in carbon tetrachloride and benzene, pH of saturated aqueous solution 4, autoign temperature 320F (160C).
Derivation: By chlorination of melamine.
Grade: 89% available chlorine.
Hazard: Dangerous fire risk, can ignite spontaneously in contact with reactive organic materials.
Use: Chlorine bleach and bactericide.

trichloromethane. See chloroform.

α-(trichloromethyl)benzyl acetate. See trichloromethylphenylcarbinyl acetate.

trichloromethyl chloroformate. (diphosgene). $ClCOOCCl_3$.
Properties: Colorless liquid; odor similar to phosgene (new mown hay); decomposed by heat, po-

rous substar
tion of pho
soluble in a
(15C), bp 1
(air = 1), ref
ible.
Derivation: (a
(b) by chlo
both method
is then separ
Grade: Techni
Hazard: Toxic
irritant to tis
Use: Organic s

trichloromethyl
Properties: Liq
bp 130–132C
ether; insolub
Hazard: Strong
lachrymatory

N-(trichlorometh
mide. See ca

trichloromethylp
(α-[trichlorom
CAS: 90-17-5.
Properties: Whi
odor; mp 86–8
alcohol.
Use: Perfumes,
fumes.

trichloromethylph
$CCl_3PO(OH)_2$.
Properties: Solub
in benzene and
Use: Catalyst an

1,1,1-trichloro-2-m
butanol.

trichloromethylsul
methyl mercapt
$ClSCCl_3$.
Properties: Yello
Mildly decompo
action of oxidizi
rine, etc. D 1.7
poses), vap d 6.
(20C), insoluble
supports combu
Derivation: Chlor
phosgene, or me
Grade: Technical.
Hazard: Toxic by
irritant to eyes a
Use: Organic syn
gant.

GUILFORD COUNTY

DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH

October 11, 1989

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 to confirm items which were discussed at our meeting of October 9, 1989. As you are aware the Guilford County Division of Environmental Health has received numerous complaints regarding the odor originating from your landfill operation on Wiley Davis Road. These complaints have come not only from residents living near the landfill, but also passing motorists on Interstate 85.

As a result of our investigation, we feel that the odor problem at your landfill is the result of hydrogen sulfide gas which is being released from the leachate lagoon on-site. While at present, we have no evidence to indicate that this gas poses a threat to public health, nonetheless we feel that you will agree the odor is most unpleasant.

In an effort to address the leachate and resultant odor problem at your landfill the Guilford County Division of Environmental Health requests that you complete the following items:

1. Obtain and place clay containing soil over the completed areas of the landfill;
2. Take measures to divert all surface run-off water from the landfill and leachate lagoon areas;
3. Discontinue use of your irrigation system for the leachate until you receive further instructions;
4. As a short term solution to the odor problem we suggest that you cover the leachate lagoon with tarps, polyethylene, or similar material; or cover the surface of the leachate lagoon with polystyrene balls as discussed in today's meeting. The agreed upon deadline for this effort will be Friday October 13, 1989;
5. Take immediate measures to find and hire an environmental engineer or consulting firm with experience in landfill operations and preferably odor control from similar leachate problems. The agreed deadline for this action will be Friday October 20, 1989.

301 North Eugene Street
P.O. Box 3508
Greensboro, N. C. 27401
Phone: (919) 373-3771

6. The request that once your consultant/engineer has been hired for the project that our office be notified in order that we might meet with the consultant/engineer and discuss our requirements and desires for the outcome of this project.

We feel that this will be the most timely and cost effective solution to this problem and we appreciate your cooperation in this matter. If you are able to obtain the services of an environmental engineer/consultant in a timely fashion you may chose to forego the requested short term action listed in item 4 above.

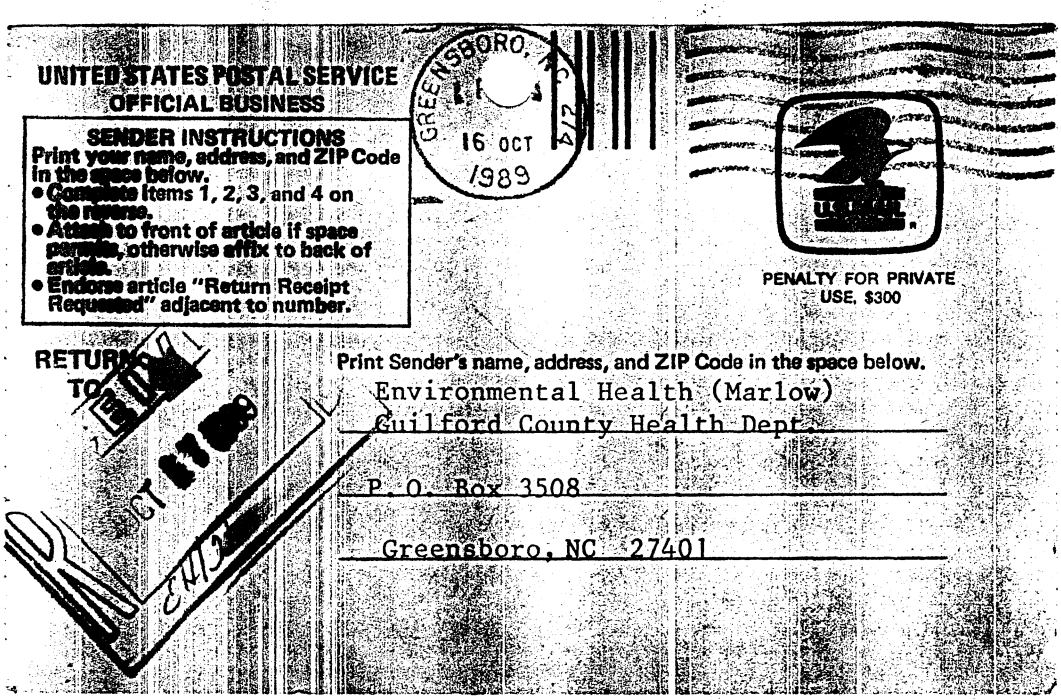
If you should have trouble obtaining the services of the consultant prior to the October 20, 1989 deadline please contact our office. In the meantime if we may be of further assistance please do not hesitate to call Mr. Terry Cole or myself at this office.

Sincerely,

Paul M. Marlow

Paul M. Marlow, R.S.
Environmental Health Manager II

cc: Brian Greene
Terry Cole
Ron Hill C.I.H.
Earl Tysinger, R.S.



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OFFICIAL BUSINESS

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- 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.

GREENSBORO, N.C. 274
16 OCT
1989

PENALTY FOR PRIVATE USE, $300

RETURN TO

Print Sender's name, address, and ZIP Code in the space below.

Environmental Health (Marlow)
Guilford County Health Dept
P. O. Box 3508
Greensboro, NC 27401

SENDER: Complete items 1 and 2 when additi[illegible]ervices 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. 2. ☐ Restricted Delivery.

3. Article Addressed to: Mr. D.H. Griffin P. O. Box 7657 Greensboro, NC 2714-0657	4. Article Number 314-271 Type of Service: ☐ Registered ☐ Insured ☒ Certified ☐ COD ☐ Express Mail Always obtain signature of addressee or agent and DATE DELIVERED.
5. Signature — Addressee X	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature — Agent X James Harris	
7. Date of Delivery GREENSBORO, NC Hilltop Sta. 27417 OCT 16 1989 USPS	

PS Form 3811, Feb. 1986 DOMESTIC RETURN RECEIPT

Control Copy

GUILFORD COUNTY

DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH

October 11, 1989

Dear

Our records indicate that you recently filed a complaint regarding offensive odors. Our investigation has determined that this odor is the result of leachate at the D. H. Griffin demolition landfill located on Wiley Davis Road.

While leachate is a normal by-product of any landfilling operation the amount of leachate at the D.H. Griffin site is unusually high due to the large amount of rainfall our area received this summer.

While at this time we have no evidence to indicate that the odor poses a threat to public health we are seeking ways to control the odor due to its offensive nature. Air samples taken at the site by members of our staff indicate no chemicals present in the air which would pose a health risk. Nonetheless the Division of Environmental Health has requested that the State of North Carolina Air Toxics Unit come to the site for further air monitoring and analysis.

On October 9, 1989 members of the Guilford County Division of Environmental Health met with Mr. D.H. Griffin to discuss the situation. As a result of our meeting the following items were discussed and agreed upon:

1. Place clay containing soil cover over completed areas of the landfill;
2. Divert all surface run-off water from the landfill and leachate lagoon;
3. Discontinue irrigation of the leachate onto the landfill surface;
4. Cover the leachate lagoon with tarps, polyethylene sheets of plastic or similar material or place polystyrene balls on the surface of lagoon to decrease surface area and odor producing gases.
5. Obtain the services of an environmental engineer/consultant to study the problem and propose solutions. The deadline will be October 20, 1989.
6. The environmental engineer/consultant retained by Mr. Griffin will meet with representatives of our staff prior to beginning the project so that a clear understanding is reached of our expectations.

301 North Eugene Street
P.O. Box 3508
Greensboro, N. C. 27401
Phone: (919) 373-3771

7. The consultant/engineer will again meet with our staff prior to implementing any recommendations for resolving the leachate and odor problem at the landfill.

We feel that this will be the most timely and cost effective means of addressing the odor problem. In the meantime if our office may be of further assistance please call 373-3771.

Sincerely,

Paul M. Marlow

Paul M. Marlow, R.S.
Environmental Health Manager II

cc: Dr. Holliday
Brian Greene
Mr. D. H. Griffin
Earl Tysinger, R.S.
Terry Cole
Ron Hill

/hn

AQ-1C REVISED 5/1/84

NORTH CAROLINA DIVISION OF ENVIRONMENTAL MANAGEMENT

Air Quality Action Request

Computer ____

Name	Location	Reg/Co./Prem. No.
D.H. Griffin Wrecking Company Demolition Landfill, Greensboro, Guilford County		
Contact		Telephone
See Report		

Type Action: CI x EE ___ SR ___ PC ___ VE ___ PI ___ Other ___

Air Program Status ___ ___ ___ ___ ___ Class ___ Chg ___

Action Requested By:	Address/Phone	Rec'd Date
J.L. Holliday, M.D.	Greensboro/(919) 373-3771	10-2-89

Last Insp. Date ___ Action Date 10-11-89 Next Insp. Date ___

Permit # NA Issued ___ Expires ___ Stip. # ___ Met Y/N ___

Recommendations:	Signature	Date
Send NOV	Stephen M. Moser	10-18-89

Dist: Yellow (Central File) - Blue (Region) - White (Opt.) Specify ___

On 10-11-89 the Air Toxics Survey Team investigated odor compliants at D.H. Griffin Wrecking Company Demolition Landfill, Wiley Davie Road, Greensboro, N.C. The investigation was performed at the request of Guilford County Dept. of Public Health due to numerous odor complaints. The following people were contacted:

(1) M.W. Fields - D.H. Griffin Wrecking Company
(2) Julian Foscue - Division of Health Services
(3) Terry Waddell - Division of Health Services
(4) Earl McCune - Division of Environmental Management
(5) Don Johnson - Division of Environmental Management
(6) Sharon Johnson - Division of Environmental Management
(7) Bill Prentice - Guilford County Division of Environmental Health
(8) Terry Cole - Guilford County Division of Environmental Health
(9) Paul Marlowe - Guilford County Division of Environmental Health
(10) Ron Hill - Guilford County Division of Environmental Health

The source of the odors is a pond located at the lowest part of the landfill. Apparently lechate and runoff from the fill has caused the pond to go anerobic (septic). The company has tried surface treating the pond with lime and enzimes, and fogging the air with deodorant spray, but these measures have not been successful.

The toxics team measures significant amounts of hydrogen sulfide in the air near the pond. Although the report is not in Earl McCune said the hydrogen sulfide concentration in the air was about 1000 times over the odor threshold, and about 1/2 the proposed toxic limit (at the edge of the pond.)

4/-N

Wiley Davis Landfill, Inc.
R1128-90
October 31, 1990

North Carolina Department of Environment, Health,
and Natural Resources
Division of Environmental Management
8025 North Point Boulevard
Suite 100
Winston-Salem, NC 27106
Attn: Mr. Larry Coble

North Carolina Department of Environment, Health,
and Natural Resources
Division of Solid Waste Management
310 E. Third Street
Suite 200
Winston-Salem, North Carolina 27106
Attn: Mr. Jeff Rodgers

Aquaterra appreciates this opportunity to be of service to the D.H. Griffin Wrecking Company, Inc. If you have any questions regarding this report, or if we can be of further assistance, please call us at (919) 859-9987.

Sincerely,

AQUATERRA, INC.

Steve J. Czekalski

Steve J. Czekalski
Project Manager

Senior Peer Review By:

Bryson D. Trexler, Jr., Ph.D., P.G.
Senior Hydrogeologist/Program Manager

SJC/BDR/cbb

Ground Water Site Assessment
Wiley Davis Landfill
Greensboro, North Carolina
October 31, 1990

1 Introduction

1.1 Site Location

The Wiley Davis Landfill, Inc. (Wiley Davis) site is a 16 acre property located in southwestern Guilford County, North Carolina, approximately 0.5 mile southwest from the Greensboro city limits (see Figure 1). The property lies immediately north of Wiley Davis Road, which parallels Interstate 85/U.S. 70 approximately 0.25 mile to the east. The property is surrounded by woodlands, except to the southeast where the land is used as a terminal station for a truck line. An unnamed creek encompasses the north and western portions of the property and flows south to the Deep River located approximately 2 miles south.

1.2 Site History

The Wiley Davis landfill has accepted construction debris hauled in from demolition projects conducted by the D.H. Griffin Wrecking Company (D.H. Griffin), the parent organization to the Wiley Davis Landfill, Inc. As of August 1990 when this investigation was conducted, the facility continued to receive construction debris. Construction debris accepted into the landfill typically consists of brick, concrete, tree stumps, asphalt shingles, and scrap metal. The landfill is not lined. When an area of the site is discontinued for deposition use, it is capped with soil.

On October 24, 1989, the North Carolina Department of Environment, Health, and Natural Resources, Division of Environmental Management (DEM) issued a Notice of Violation stating that high levels of hydrogen sulfide were being emitted from a leachate collection pond location on-site, which was a violation of Title 15, North Carolina Administrative Code 2D .0522.

In response, D.H. Griffin contracted Four Seasons Industrial Services, Inc. (Four Seasons) of Greensboro, North Carolina, and subsequently Aquaterra, Inc. (Aquaterra) of Raleigh, North Carolina, to assess the contents of the pond and sludge. Aquaterra sampled the pond on March 12, 1990.

1.3 Results of Pond Sampling

Results of the pond sampling indicated levels of total petroleum hydrocarbons (TPH) as determined by a gas chromatography and Extraction Method 3550 at 1.9 milligrams per liter (mg/L), total arsenic at 0.0009 and 0.0008 mg/L, barium at 0.37 and 0.31 mg/L, and volatile and semivolatile organic compounds. Volatile organic analysis (Method 8240 for GC/MS) detected levels of acetone, chlorobenzene, and chloroform in both samples. The levels were determined to be 220 and 270 micrograms per liter (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 and 4 ug/L, and 2-butanone (methyl ethyl ketone) at 73 and 71 ug/L.

Base/neutral/acid extractable (BNA) semivolatile organic analysis detected benzoic acid, 1,2-dichlorobenzene, 4-methylphenol, and phenol. The levels were determined to be 1,600 and 420 ug/L for benzoic acid, 81 and 56 ug/L for dichlorobenzene, 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 that are commonly found in a holding pond (Reilly 1990).

1.4 Results of Sludge Sampling

Laboratory analyses of the sludge showed detectable levels of TPH, volatile organics and semivolatile organics. Total petroleum hydrocarbon analysis by Extraction Methods 3550 (used to detect diesel, kerosene, and #2-6 fuel oils) and 5030 (gasoline) followed by gas chromatography using a flame ionization detector indicated levels of 4.3 and 3.2 milligrams per kilogram (mg/Kg) in the samples.

Volatile organic analysis (Method 8240) detected the following contaminant levels in both samples 290 and 220 micrograms per kilogram (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. One compound was identified during the volatile organic library search (substituted benzene at 68 ug/Kg).

The BNA Extractable semivolatile organic analysis detected benzoic acid, 1,2-dichlorobenzene, 4-methylphenol, and phenol. The levels were determined to be 2,200 and 1,800 ug/Kg for benzoic acid, 100 and 120 ug/Kg for dichlorobenzene, 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.

In addition to the laboratory analyses, field testing for hydrogen sulfide gas was conducted during and after sampling. Surface water and sludge samples were below the 0.5 parts per million (ppm) detection limit. Samples collected of the leachate plumes draining into the pond had detectable levels of hydrogen sulfide ranging from 3.0 to 5.0 ppm.

On April 17, 1990, the president of the D.H. Griffin received a Notice of Violation from the North Carolina Department of Environment, Health, and Natural Resources, Division of Environmental Management (DEM) concerning the discharge of landfill leachate from the Wiley Davis Landfill. DEM recommended to stop landfill operations and to properly close the facility. As part of closure activities, DEM suggested that the environmental impacts from landfill operations be determined. The DEM required that a corrective action plan be submitted for their approval pending the results of the ground water quality assessment. Aquaterra was contracted to prepare and implement the work plan and assessment.

1.5 Geology

Local geology consists of igneous rocks that are part of the Carolina Slate Belt. Bedrock along the site consists mainly of a weathered metamorphosed granite. This rock was exposed along the northwestern portion of the site. Rock situated along this outcrop is covered by approximately 5 feet of soil. In addition to the host rock, granite aplite and basalt dikes ranging between 0.5 to 2 feet wide were noted intruding into the granite with near vertical dips. As determined during the drilling program of this study, soil thickness ranged from 3 to greater than 47.5 feet and aplite dikes at up to 12 foot intervals.

2 Field Assessment

In order to assess ground water quality at the site, six ground water monitoring wells were located at strategic points along the periphery of the landfill. One well (WD-1) was located at an apparent hydrologic upgradient position to allow water migrating onto the site to be monitored. Four wells were placed at locations downgradient of the landfill to determine if an impact to the ground water table occurred from activities conducted at the site. One deep well was also located in the apparent hydrologic downgradient position to provide information on ground water at depth.

2.1 Well Installation

Between August 13 and 16, 1990, a drilling program was conducted under the direction of an Aquaterra staff geologist. Utilizing a truck mounted drilling rig and crew subcontracted from Environmental Drilling Corporation of North Carolina, the six monitoring wells were installed along the periphery of the landfill locations (see Figure 2).

A prerequisite to drilling at each of the six locations was thorough cleaning of the drill rig and drilling equipment using a pressurized steam cleaning unit.

Well construction was performed by first completing a 6.5-inch diameter bore hole to the desired depth. A 6.5-inch diameter bore hole was drilled using a pneumatic hammer. The pneumatic hammer is activated by the high pressure air from the drill rig that causes the pneumatic hammer to strike and pulverize the rock. The air driving the hammer lifts the rock cuttings up the annular space around the drill rods to the ground surface. When the drilling was completed, decontaminated poly vinyl chloride (PVC) schedule 40 screen and casing sections were assembled and placed in the boreholes. To minimize the chance of introducing outside contaminants, new vinyl disposable gloves were used during well construction. Quartz filter sand was then poured into the annular space between the side wall of the borehole and PVC screen until a level of sand approximately 2 feet over the screen was achieved. Approximately 2 feet of bentonite was placed on top of the sand and allowed to hydrate a minimum of 30 minutes before the remainder of the annulus space was filled with a Portland cement and bentonite slurry. A concrete pad and protective casing were placed around the above ground portion of the casing to prevent tampering of the wells. Construction schematics for these wells are located in Attachment A.

2.2 Ground Water Sampling

Ground water samples were collected from the monitoring wells by an Aquaterra staff geologist on August 22, 1990. Prior to sampling, static water level measurements were taken from all wells in order to calculate the water volume held by each well. Decontaminated Teflon bailers and new nylon string were then used to purge the wells in order to introduce water representative of local ground water conditions.

Purging continued until a minimum of three well volumes were removed or until the well was bailed dry. After allowing sufficient time for the water level in the wells to recharge, the ground water was sampled by gently lowering the bailers into the upper 3 feet of the water column and retrieving the water for analysis. Water recovered for the samples was poured into prelabeled laboratory glassware with minimal agitation to limit volatilization of the suspected contaminants. The glassware was then sealed and stored in an insulated cooler filled with ice for transfer to the analytical laboratory. Sample identification, date, time, location, and analytical analysis to be conducted was recorded onto a chain-of-custody form that accompanied the samples to the laboratory. Ground water samples were delivered to and analyzed by Industrial & Environmental Analysts, Inc. of Cary, North Carolina.

Samples were collected from each well for volatile organic compounds per SW-846 Method 8240; semivolatile organic compounds (Base/Neutral/Acid Extractables) per SW-846 Method 8270 plus library search, and total RCRA metals. An equipment blank (WD-2s-B) was also collected to determine if the dedicated bailer for well WD-2s showed any evidence of volatile or semivolatile organic contamination. Organic free water was supplied by Industrial & Environmental Analysts, Inc. (IEA) of Cary, North Carolina for the test. The water was poured into the bailer and held for approximately 10 to 12 seconds. Samples were then poured into two 40 ml vials intended for volatile analysis. More water was poured into the bailer using the same procedure and then poured into one 1-liter amber glass bottle intended for semivolatile analysis.

2.3 Hydraulic Conductivity Testing

The horizontal hydraulic conductivity of the saturated zone of the water bearing formation was approximated by conducting variable head tests as described by Hvorslev (1951). Field procedures involved changing the hydraulic head by either removing ground water from the well or introducing inorganic and organic free water into the well. The recharge versus time was then measured.

Hydraulic conductivity tests were conducted on wells WD-2s, WD-3, WD-4, WD-5, and WD-2d. Static water levels were recorded prior to testing. After a change in water level of at least 3 feet was achieved, depth to water versus time was recorded. Readings were obtained at approximate 0.5, 1 and 5 hour intervals; the less frequent intervals were used later in each test. Tests were conducted until at least 63 percent of the water columns recovered for each well. Worksheets from the hydraulic conductivity tests are included in Attachment B.

3 Results of the Assessment

3.1 Results of Ground Water Analysis

Ground water analytical results are summarized in Table 1 (the results are included in Attachment C). Results of the analysis detected metals and organic compounds in ground water derived from all six wells. The number of individual compounds found along with amounts of contamination did vary considerably. Metals contamination consisted of barium, chromium, and lead. Barium occurred in excess of the North Carolina Water Quality Standard for Class GA Waters (1.0 mg/L) in wells WD-3 and WD-4 at respective concentrations of 1.5 and 1.3 mg/L. Chromium was observed in levels equal to or in excess of its respective standard of 0.05 mg/L in wells WD-1, WD-4, and the upgradient well, WD-5, at respective concentrations of 0.16 mg/L, 0.11 mg/L and 0.05 mg/L. Lead was observed in levels exceeding its respective standard of 0.05 mg/L only in the deep well (WD-2d) at a concentration of 0.44 mg/L.

Three volatile organic compounds (chlorobenzene, chloroethane, and 1,1-dichloroethane) were indicated in the analytical report. Of these three compounds, only chlorobenzene exceeded the water quality standard of 300 ug/L (350 ug/L in the deep well WD-2s).

Semivolatile (Method 8270) organic compounds occurred in all six wells; the greatest amount of semivolatile compounds were found as result of the laboratory search. Target compounds positively identified were bis (2-ethylhexyl) phthalate; di-n-butyl phthalate; and 1,2-, 1,3-, and 1,4-dichlorobenzenes. Of these compounds, 1-4 dichlorobenzene exceeded its 1.8 ug/L maximum allowable concentration, with a concentration of 25 ug/L in well WD-2s.

Total non-target semivolatile organic compounds ranged in the five shallow wells from 38 ug/L in well WD-1 to 1,041 ug/L in well WD-3. The majority of these non-target compounds were not effectively identified due to the background effect of the compounds (coelution) present that limited positive identification.

3.2 Ground Water Flow and Velocity

Based on the ground water table map (Figure 2 and Plate 1) constructed from depth to water data collected on September 22, 1990, the predominant flow direction is to the southwest. Ground water flow generally mimics the topography, except for the norther portion of the site between wells WD-1 and WD-5. Ground water in this area flows from WD-5 to WD-1, which is not in agreement with local topographic expressions. The surface elevation of WD-1 (834.09 feet) is higher than WD-5 (817.61 feet); it appears that ground water flow between these wells is influenced by the regional topographic slope. The horizontal hydraulic gradient across the site ranges from 0.021 to 0.026 ft/ft.

The results of the hydraulic conductivity testing of the shallow wells are summarized below.

Table 1. Hydraulic Conductivity Test Values.

Well	Hydraulic Conductivity	Hydraulic Conductivity
WD-2s	2.14×10^{-4} cm/s	$.607 \times 10^{0}$ ft/day
WD-3	4.55×10^{-5} cm/s	0.129×10^{0} ft/day
WD-4	1.27×10^{-4} cm/s	0.36×10^{0} ft/day
WD-5	1.42×10^{-4} cm/s	0.40×10^{0} ft/day
WD-2d	4.95×10^{-7} cm/s(p)	1.41×10^{-3} ft/day

(p) Projected value as test values did not reach 63% of total well head recovery.

Ground water seepage velocity (v) was determined using the equation:

$$v = \frac{K}{n} \cdot \frac{dh}{dl}$$

where K represents hydraulic conductivity in ft/day.
n represents the effective porosity in percent (Assumed 25 to 30 % from Todd (1959) for saprolite and 10% for fractured rock)
dh/dl represents horizontal hydraulic gradient in ft/ft.

Based on the obtained data, ground water seepage velocity along the site ranges from 3.45 to 23.03 feet/year, with an average velocity of 11.43 ft/year.

The vertical hydraulic gradient near the WD-2s, 2d well cluster has been calculated to be 0.94 ft/ft. Using the hydraulic conductivity for WD-2s, and assuming that the hydraulic conductivity is uniform in the vertical and horizontal directions, the vertical ground water velocity is 4.32×10^{-6} cm/s or 4.46 ft/year.

The hydraulic conductivity of the fractured rock is much lower than the conductivity of the water table aquifer. Therefore, it appears likely that any contaminants that may enter into the fracture zone will less likely migrate from the landfill.

4 Potential Receptors

Six ground water wells are known to exist within 1,500 feet of the landfill. Four wells are on properties located along Wiley Davis Road, and the other two belong to residential sites on Adamson Road (400 feet west of the landfill). Of these three well

sites (Carolina Freight Carries, 4107 Wiley Davis Road; The Roger Reynolds Company, 4115 Wiley Davis Road; and the Aimee Watson residence, 4202 Wiley Davis Road) are downgradient and in the direction of ground water flow coming from the landfill.

The wells were sampled by the Guilford County Department of Public Health on October 4, 1989, and were analyzed for volatile organic compounds. According to Mr. Todd Davidson, of the health department, only the well belonging to the Ms. Topping, 4106 Adamson Road, showed trace levels of perchloroethene (tetrachloroethene) and 1,1,1-trichloroethane. However, the laboratory analysis conducted as part of this ground water assessment indicated that these two compounds were not present in the wells surrounding the landfill.

5 Conclusions

Ground water along the perimeter of the Wiley Davis landfill has been observed to be contaminated with organic compounds and metals. Although all ground water monitoring wells show these contaminants to some degree, the apparent source of this contamination is the landfill operation. This is based on the increasing number of chemicals identified and the increase in the contaminant levels in wells located hydraulically downgradient of the landfill. Several violations to ground water quality standards were observed from the laboratory analytical report. Barium, chromium, and lead total metal concentrations exceeded state standards as defined in NCAC Title 15 Subchapter 2C. WD-2s contained the organic compounds chlorobenzene and 1,4-dichlorobenzene in concentrations that exceeded state ground water standards in the shallow well situated 50 feet south of the leachate collection pond.

The contaminant plume is anticipated to travel in the same direction as ground water flow. Therefore, the contaminants are migrating in a southwest direction from the property.

6 Recommendations

Based on the data obtained during the ground water investigation, Aquaterra recommends that the following actions be taken.

Because the upgradient wells WD-1 and WD-5 show evidence of ground water contamination, install one ground water monitoring well in the hydraulically upgradient direction of well WD-1 to act as a more representative background well. Collect water samples of this well and the surface water from the creek at the point of entrance and exit point to the Wiley Davis site. Analyze the ground and surface water for volatile and semivolatiles using SW-846 8240 and 8270 base/neutral method analyses and a total metal analysis for barium, chromium, and lead. A library search with the Method 8270 analysis should also be conducted.

Sample the following potable wells for the same analysis intended for the creek sampling. The wells to be sampled are

- Carolina Freight Carriers, 4107 Wiley Davis Road
- The Roger Reynolds Company, 4115 Wiley Davis Road
- The Aimee Watson residence, 4202 Wiley Davis Road

This information should provide information on the urgency for ground water remediation.

Incident Name: Wiley Davis Landfill Region/County: WSRO, Guilford

Groundwater Incident File # 6357 Ranking Performed by: C. Greene

NORTH CAROLINA
GROUNDWATER CONTAMINATION INCIDENT MANAGEMENT
SITE PRIORITY RANKING SYSTEM

(To be completed by Regional Office)

		Points Awarded
I.	IMMINENT HAZARD ASSESSMENT	
A.	Explosion - free product in confined areas or vapor phase product detected at or above 20% of the lower explosive limit; award 50 points total	
B.	Fire - free product subject to ignition in exposed areas such as surface water impoundments, streams, excavations, etc.; award 50 points total	
II.	EXPOSURE ASSESSMENT	
A.	Contaminated Drinking Water Supplies	
1.	Private, domestic water supply well containing substances in con cenirations exceeding Class GA underground water quality standards; award 10 points per well	
2.	Public or institutional water supply well containing substances in concentrations exceeding Class GA underground water quality standards; award 30 points per well	
3.	Exceedances of Class WS-1 surface water quality standards as a result of groundwater discharge; award 20 points per surface water body impacted	
4.	If a water supply well identified in items II.A.1 and II.A.2 cannot be replaced by an existing public water supply source requiring hook-up only; award additional 10 points per irreplaceable well	
B.	Threat to Uncontaminated Drinking Water Supplies	
1.	Private, domestic water supply well located within 1500 feet down gradient of contaminant source; award 10 points per well	20
2.	Public or institutional water supply well located within 1/2 mile downgradient of contaminant source; award 15 points per well	
3.	Raw surface water intake for public water supply located within 1/2 mile downgradient of contaminant source; award 5 points per water supply system	
4.	If any well identified in items II.B.1 and II.B.2 is located within 250 feet of contaminant source; award additional 20 points total	
C.	Vapor Phase Exposure	
1.	Product vapors detected in inhabitable building(s); award 30 points total	

Points Awarded

2. Product vapors detected in other confined areas (uninhabitable buildings, sewer lines, utility vaults, etc.); award 5 points total _____

III. CONTAMINANT HAZARD ASSESSMENT (chemical groups are categorized based on toxicity, mobility and persistance in the environment). Evaluate the most hazardous substances detected and select only one of the following:

A. Award 30 points total if contaminants detected are identified with any of the following groups: When 30

1. Aromatic (Benzene) Acids
2. Aromatic Hydrocarbons (Benzene Derivatives)
3. Sulfonated Hydrocarbons
4. Halogenated Hydrocarbons
5. Alkaloids
6. Amines
7. Phenols
8. Aldehydes
9. Ketones
10. Organic Sulfur Compounds (Sulfides, Mercaptans)
11. Organometallic Compounds
12. Cyanides
13. Esters
14. Metal Salts, Including Heavy Metals

B. Award 20 points total if contaminants detected are identified with any of the following groups: _____

1. Aliphatic (Fatty) Acids
2. Alcohols
3. Aliphatic Hydrocarbons (Petroleum Derivative)
4. Pyridines
5. Thiocyanides
6. Mineral and Metal Acids
7. Mineral and Metal Bases
8. Oxides
9. Sulfides

C. Award 10 points total if contaminants detected are identified with any of the following groups: _____

1. Aliphatic Amines and Their Salts
2. Sugars and Cellulose
3. Carbon and Graphite

IV. SOURCE ASSESSMENT

A. Free product thickness of ≥ 1/4 inch detected on water table in observation or monitoring well; award 20 points total _____

B. Contaminated Soil (select only one answer)

1. Soil saturated with product (saturation determined by release of free liquid upon compaction of a soil sample by hand pressure); award 10 points total _____

Points Awarded

2. Soil exhibiting organic vapor content above 100 ppm as measured by organic vapor or volatile organic detection equipment; award 5 points total _____

C. Uncontrolled or Unabated Primary Source (including dumpsites, stockpiles, lagoons, land applications, septic tanks, landfills, underground and above ground storage tanks, etc.)

1. Suspected or confirmed source remains in active use and continues to receive raw product, wastewater or solid waste; award 20 points per source 20

2. Active use of suspected or confirmed source has been discontinued or source was caused by a one-time release of product or waste, however, source continues to release product or contaminants into the environment; award 10 points per source _____

V. ENVIRONMENTAL VULNERABILITY ASSESSMENT

A. Vertical Contaminant Migration - Literature or well logs indicate that no confining layer is present above bedrock or above twenty feet below land surface; award 10 points total 10

B. Horizontal Contaminant Migration - Data or observations indicate that no discharge points or aquifer discontinuities exist between the source and the nearest downgradient drinking water supply; award 10 points total 10

C. Hydraulic Gradient Is Determined by (select only one answer):

1. Calculations based on groundwater level measurements; award 10 points total 10

2. Observation of significant recharge/discharge features in the vicinity of contaminant source and local topographic features; award 5 points total _____

3. Observation of local topographic features only; award 0 points _____

D. Existing Groundwater Quality

1. Analytical test(s) performed on groundwater sample(s) obtained from site confirm presence of substances in concentrations exceeding Class GA underground water quality standards; award 10 points total 10

2. Source(s) identified in Section IV constitute the only known source(s) of contamination resulting in exposure or potential exposure identified in Section II; award 10 points total _____

TOTAL POINTS AWARDED 110

AQUATERRA
Aquaterra, Inc. • P.O. Box 50328 • Raleigh, NC 27650 • 919-839-0199

September 19, 1990

North Carolina Department of Environment, Health,
and Natural Resources
Division of Environmental Management
Groundwater Section
8025 North Point Boulevard
Suite 100
Winston-Salem, North Carolina 27106-3203

Attention: Mr. Andrew Raring

Reference: Well Construction Completion Form and
Associated Water Quality Data
Wiley Davis Landfill, Inc.
Greensboro, North Carolina
Aquaterra Job No. 417A

Dear Andrew:

As required under monitoring well construction permit number 40-0887-WM-0249, Aquaterra, Inc. (Aquaterra) is forwarding well construction records (Form GW-1) for six monitoring wells constructed at the referenced site along with a map showing the approximate locations of the wells and a photocopy of the ground water analytical results. Based on the results of the analyses, 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 North Carolina standards as per North Carolina Administrative Code Title 15 Subchapter 2L Section 0.200 g. The organic compounds chlorobenzene and 1,4-dichlorobenzene were noted also in excess of their respective water quality standards.

Aquaterra and Wiley Davis Landfill, Inc. will continue to keep your organization informed on any further assessment activities conducted on the site. We anticipate a report summarizing the results of this assessment to be completed by mid October, 1990.

Wiley Davis Landfill, Inc.
L1414-90
September 19, 1990

Please call of you have any questions.

Sincerely,

AQUATERRA, INC.

Steve J. Czekalski

Steve J. Czekalski
Project Manager

Senior Peer Review By:

David L. Duncklee, P.G.
Senior Project Manager

cc: Mr. Todd Davidson - Guilford County Health Department
Mr. David H. Griffin, Sr. - D.H. Griffin Wrecking Company, Inc.
Mr. Bobby Lufty - NC Division of Solid Waste Management

SJC/DLD/cbb

L1414-90

NORTH CAROLINA DEPARTMENT OF NATURAL RESOURCES AND COMMUNITY DEVELOPMENT
DIVISION OF ENVIRONMENTAL MANAGEME GROUNDWATER SECTION
P.O. BOX 27687 - RALEIGH,N.C. 2761 PHONE (919)733-3221

FOR OFFICE USE ONLY
Qua o. _____ Serial No. _____
Lat. _____ Long. _____ Pc _____
Minor Basin _____
Basin Code _____
Header Ent. _____ GW-1 Ent. _____

WELL CONSTRUCTION RECORD

WD-1

DRILLING CONTRACTOR Environmental Drilling Corp.

DRILLER REGISTRATION NUMBER NC Reg 1095

STATE WELL CONSTRUCTION PERMIT NUMBER: 40-0887-WM-0249

1. WELL LOCATION: (Show sketch of the location below)

Nearest Town: Greensboro, NC
Wiley Davis Road
(Road, Community, or Subdivision and Lot No.)

County: Guilford

2. OWNER D H Griffin, Inc.

ADDRESS P.O.Box 7657 (Street or Route No.)

Greensboro, NC 27417-0657
City or Town State Zip Code

3. DATE DRILLED 8-14-90 USE OF WELL Monitoring

4. TOTAL DEPTH 47.0 CUTTINGS COLLECTED ☐ Yes ☒ No

5. DOES WELL REPLACE EXISTING WELL? ☐ Yes ☒ No

6. STATIC WATER LEVEL: 35.22 FT. ☐ above ☒ below TOP OF CASING,
TOP OF CASING IS 2.56 FT. ABOVE LAND SURFACE.

7. YIELD (gpm): _____ METHOD OF TEST _____

8. WATER ZONES (depth): _____

9. CHLORINATION: Type _____ Amount _____

10. CASING:

	Depth		Diameter	Wall Thickness or Weight/Ft.	Material
From 0	To 34.0	Ft.	2"	Sch 40	PVC
From _____	To _____	Ft.	_____	_____	_____
From _____	To _____	Ft.	_____	_____	_____

11. GROUT:

	Depth		Material	Method
From 30.0	To 32.1	Ft.	Bentonite	Pour
From 0	To 30.0	Ft.	Portland	Tremie

12. SCREEN:

	Depth		Diameter		Slot Size		Material
From 34.0	To 44	Ft.	2"	in.	0.010	in.	PVC
From _____	To _____	Ft.	_____	in.	_____	in.	_____
From _____	To _____	Ft.	_____	in.	_____	in.	_____

13. GRAVEL PACK:

	Depth		Size	Material
From 32	To 47	Ft.	Medium	Sand
From _____	To _____	Ft.	_____	_____

Depth From	Depth To	DRILLING LOG Formation Description
0	1.7	Lt. Brown, silty CLAY with gravel
1.7	40.5	Gray to Tan SAPROLITE
40.5	42	Medium Hard GRANITE
42	47.5	TAN SAPROLITE
		Boring terminated at 47.5'

If additional space is needed use back of form.

LOCATION SKETCH
(Show direction and distance from at least two State Roads, or other map reference points)

See reverse side

14. REMARKS: _____

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15 NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Steve Czekalski 9-19-90
SIGNATURE OF CONTRACTOR OR AGENT DATE

GW-1 Revised 6/88

Submit original to Division of Environmental Management and copy to well owner.

NORTH CAROLINA DEPARTMENT OF NATURAL RESOURCES AND COMMUNITY DEVELOPMENT
DIVISION OF ENVIRONMENTAL MANAGEMENT GROUNDWATER SECTION
P.O. BOX 27687 - RALEIGH, N.C. 27611, PHONE (919)733-3221

FOR OFFICE USE ONLY
Quad. No. _____ Serial No. _____
Lat. _____ Long. _____ Pc _____
Minor Basin _____
Basin Code _____
Header Ent. _____ GW-1 Ent. _____

WELL CONSTRUCTION RECORD

WD-2s

DRILLING CONTRACTOR Environmental Drilling Corp.
DRILLER REGISTRATION NUMBER NC Reg 1095

STATE WELL CONSTRUCTION PERMIT NUMBER: 40-0887-WM-0249

1. WELL LOCATION: (Show sketch of the location below)
Nearest Town: Greensboro, NC
Wiley Davis Road
(Road, Community, or Subdivision and Lot No.)

County: Guilford

2. OWNER D H Griffin, Inc.
ADDRESS P.O.Box 7657 (Street or Route No.)
Greensboro, NC 27417-0657
City or Town State Zip Code

3. DATE DRILLED 8-16-90 USE OF WELL Monitoring
4. TOTAL DEPTH _____ CUTTINGS COLLECTED ☐ Yes ☒ No
5. DOES WELL REPLACE EXISTING WELL? ☐ Yes ☒ No
6. STATIC WATER LEVEL: _____ FT. ☐ above ☒ below TOP OF CASING,
TOP OF CASING IS _____ FT. ABOVE LAND SURFACE.
7. YIELD (gpm): _____ METHOD OF TEST _____
8. WATER ZONES (depth): _____
9. CHLORINATION: Type _____ Amount _____
10. CASING:

	Depth		Diameter	Wall Thickness or Weight/Ft.	Material
From	0	To 6.0 Ft.	2"	Sch 40	PVC
From		To Ft.			
From		To Ft.			

11. GROUT:

	Depth		Material	Method
From	6.0	To 8.0 Ft.	Bentonite	Pour
From	0	To 6.0 Ft.	Portland	Tremie

12. SCREEN:

	Depth		Diameter	Slot Size	Material
From	10.0	To 20.0 Ft.	2" in.	0.010 in.	PVC
From		To Ft.	in.	in.	
From		To Ft.	in.	in.	

13. GRAVEL PACK:

	Depth		Size	Material
From	8.0	To 20.0 Ft.	Medium	Sand
From		To Ft.		

14. REMARKS: _____

Depth From	Depth To	DRILLING LOG Formation Description
0	3	Brown clayey SAND
3	6	Red Tan clayey SAND
6	10	Aplite Dike
10	12.5	Brown SAPROLITE
12.5	14	Brown weatherd GRANITE
14	15	Brown SAPROLITE
15	19.4	Weathered GRANITE
19.4	20	Brown SAPROLITE
		Boring terminated at 20'

If additional space is needed use back of form.

LOCATION SKETCH
(Show direction and distance from at least two State Roads, or other map reference points)

See reverse side

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15 NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Steve Cekalski 9-19-90
SIGNATURE OF CONTRACTOR OR AGENT DATE

GW-1 Revised 6/88

Submit original to Division of Environmental Management and copy to well owner.

BASE/NEUTRAL/ACID EXTRACTABLES
SW-846 METHOD 8270

IEA Sample Number: 196-062-5
Sample Identification: WD-5
Date Extracted: 08/29/90
Date Analyzed: 09/04/90 By: Mace

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)	
1	Acenaphthene	10	BQL	
2	Acenaphthylene	10	BQL	
3	Anthracene	10	BQL	
4	Benzoic acid	50	BQL	
5	Benzo(a)anthracene	10	BQL	
6	Benzo(b)fluoranthene	10	BQL	
7	Benzo(k)fluoranthene	10	BQL	
8	Benzo(g,h,i)perylene	10	BQL	
9	Benzo(a)pyrene	10	BQL	
10	Benzyl alcohol	20	BQL	
11	bis(2-Chloroethoxy)methane	10	BQL	
12	bis(2-Chloroethyl)ether	10	BQL	
13	bis(2-Chloroisopropyl)ether	10	BQL	
14	bis(2-Ethylhexyl)phthalate	10	BQL	
15	4-Bromophenyl phenyl ether	10	BQL	
16	Benzyl butyl phthalate	10	BQL	
17	4-Chloroaniline	20	BQL	
18	2-Chloronaphthalene	10	BQL	
19	4-Chloro-3-methylphenol	20	BQL	
20	2-Chlorophenol	10	BQL	
21	4-Chlorophenyl phenyl ether	10	BQL	
22	Chrysene	10	BQL	
23	Dibenzo(a,h)anthracene	10	BQL	
24	Dibenzofuran	10	BQL	
25	Di-n-butylphthalate	10		6 J
26	1,3-Dichlorobenzene	10	BQL	
27	1,4-Dichlorobenzene	10	BQL	
28	1,2-Dichlorobenzene	10	BQL	
29	3,3'-Dichlorobenzidine	20	BQL	
30	2,4-Dichlorophenol	10	BQL	
31	Diethyl phthalate	10	BQL	
32	2,4-Dimethylphenol	10	BQL	
33	Dimethyl phthalate	10	BQL	
34	4,6-Dinitro-2-methylphenol	50	BQL	
35	2,4-Dinitrophenol	50	BQL	
36	2,4-Dinitrotoluene	10	BQL	
37	2,6-Dinitrotoluene	10	BQL	
38	Di-n-octylphthalate	10	BQL	
39	Fluoranthene	10	BQL	

BASE/NEUTRAL/ACID EXTRACTABLES
SW-846 METHOD 8270

IEA Sample Number: 196-062-5
Sample Identification: WD-5
Date Extracted: 08/29/90
Date Analyzed: 09/04/90 By: Mace

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
40	Fluorene	10	BQL
41	Hexachlorobenzene	10	BQL
42	Hexachlorobutadiene	10	BQL
43	Hexachlorocyclopentadiene	10	BQL
44	Hexachloroethane	10	BQL
45	Indeno(1,2,3-cd)pyrene	10	BQL
46	Isophorone	10	BQL
47	2-Methylnaphthalene	10	BQL
48	2-Methylphenol (o-cresol)	10	BQL
49	4-Methylphenol (p-cresol)	10	BQL
50	Naphthalene	10	BQL
51	2-Nitroaniline	50	BQL
52	3-Nitroaniline	50	BQL
53	4-Nitroaniline	50	BQL
54	Nitrobenzene	10	BQL
55	2-Nitrophenol	10	BQL
56	4-Nitrophenol	50	BQL
57	N-Nitroso-di-n-propylamine	10	BQL
58	N-Nitrosodiphenylamine	10	BQL
59	Pentachlorophenol	50	BQL
60	Phenanthrene	10	BQL
61	Phenol	10	BQL
62	Pyrene	10	BQL
63	1,2,4-Trichlorobenzene	10	BQL
64	2,4,5-Trichlorophenol	10	BQL
65	2,4,6-Trichlorophenol	10	BQL

Comments:

BQL = Below Quantitation Limit

J = Estimated value

BASE/NEUTRAL/ACID EXTRACTABLES
SW-846 METHOD 8270

IEA Sample Number: 196-062-3
Sample Identification: WD-3
Date Extracted: 08/29/90
Date Analyzed: 09/04/90 By: Mace

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)	
1	Acenaphthene	10	BQL	
2	Acenaphthylene	10	BQL	
3	Anthracene	10	BQL	
4	Benzoic acid	50	BQL	
5	Benzo(a)anthracene	10	BQL	
6	Benzo(b)fluoranthene	10	BQL	
7	Benzo(k)fluoranthene	10	BQL	
8	Benzo(g,h,i)perylene	10	BQL	
9	Benzo(a)pyrene	10	BQL	
10	Benzyl alcohol	20	BQL	
11	bis(2-Chloroethoxy)methane	10	BQL	
12	bis(2-Chloroethyl)ether	10	BQL	
13	bis(2-Chloroisopropyl)ether	10	BQL	
14	bis(2-Ethylhexyl)phthalate	10	BQL	
15	4-Bromophenyl phenyl ether	10	BQL	
16	Benzyl butyl phthalate	10	BQL	
17	4-Chloroaniline	20	BQL	
18	2-Chloronaphthalene	10	BQL	
19	4-Chloro-3-methylphenol	20	BQL	
20	2-Chlorophenol	10	BQL	
21	4-Chlorophenyl phenyl ether	10	BQL	
22	Chrysene	10	BQL	
23	Dibenzo(a,h)anthracene	10	BQL	
24	Dibenzofuran	10	BQL	
25	Di-n-butylphthalate	10		8 J
26	1,3-Dichlorobenzene	10	BQL	
27	1,4-Dichlorobenzene	10	BQL	
28	1,2-Dichlorobenzene	10	BQL	
29	3,3'-Dichlorobenzidine	20	BQL	
30	2,4-Dichlorophenol	10	BQL	
31	Diethyl phthalate	10	BQL	
32	2,4-Dimethylphenol	10	BQL	
33	Dimethyl phthalate	10	BQL	
34	4,6-Dinitro-2-methylphenol	50	BQL	
35	2,4-Dinitrophenol	50	BQL	
36	2,4-Dinitrotoluene	10	BQL	
37	2,6-Dinitrotoluene	10	BQL	
38	Di-n-octylphthalate	10	BQL	
39	Fluoranthene	10	BQL	

BASE/NEUTRAL/ACID EXTRACTABLES
SW-846 METHOD 8270

IEA Sample Number: 196-062-3
Sample Identification: WD-3
Date Extracted: 08/29/90
Date Analyzed: 09/04/90 By: Mace

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
40	Fluorene	10	BQL
41	Hexachlorobenzene	10	BQL
42	Hexachlorobutadiene	10	BQL
43	Hexachlorocyclopentadiene	10	BQL
44	Hexachloroethane	10	BQL
45	Indeno(1,2,3-cd)pyrene	10	BQL
46	Isophorone	10	BQL
47	2-Methylnaphthalene	10	BQL
48	2-Methylphenol (o-cresol)	10	BQL
49	4-Methylphenol (p-cresol)	10	BQL
50	Naphthalene	10	BQL
51	2-Nitroaniline	50	BQL
52	3-Nitroaniline	50	BQL
53	4-Nitroaniline	50	BQL
54	Nitrobenzene	10	BQL
55	2-Nitrophenol	10	BQL
56	4-Nitrophenol	50	BQL
57	N-Nitroso-di-n-propylamine	10	BQL
58	N-Nitrosodiphenylamine	10	BQL
59	Pentachlorophenol	50	BQL
60	Phenanthrene	10	BQL
61	Phenol	10	BQL
62	Pyrene	10	BQL
63	1,2,4-Trichlorobenzene	10	BQL
64	2,4,5-Trichlorophenol	10	BQL
65	2,4,6-Trichlorophenol	10	BQL

Comments:

BQL = Below Quantitation Limit

J = Estimated value

BASE/NEUTRAL/ACID EXTRACTABLES
SW-846 METHOD 8270

IEA Sample Number: 196-062-7
Sample Identification: WD-2s-B
Date Extracted: 08/29/90
Date Analyzed: 09/04/90 By: Mace

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)	
1	Acenaphthene	10	BQL	
2	Acenaphthylene	10	BQL	
3	Anthracene	10	BQL	
4	Benzoic acid	50	BQL	
5	Benzo(a)anthracene	10	BQL	
6	Benzo(b)fluoranthene	10	BQL	
7	Benzo(k)fluoranthene	10	BQL	
8	Benzo(g,h,i)perylene	10	BQL	
9	Benzo(a)pyrene	10	BQL	
10	Benzyl alcohol	20	BQL	
11	bis(2-Chloroethoxy)methane	10	BQL	
12	bis(2-Chloroethyl)ether	10	BQL	
13	bis(2-Chloroisopropyl)ether	10	BQL	
14	bis(2-Ethylhexyl)phthalate	10	BQL	
15	4-Bromophenyl phenyl ether	10	BQL	
16	Benzyl butyl phthalate	10	BQL	
17	4-Chloroaniline	20	BQL	
18	2-Chloronaphthalene	10	BQL	
19	4-Chloro-3-methylphenol	20	BQL	
20	2-Chlorophenol	10	BQL	
21	4-Chlorophenyl phenyl ether	10	BQL	
22	Chrysene	10	BQL	
23	Dibenzo(a,h)anthracene	10	BQL	
24	Dibenzofuran	10	BQL	
25	Di-n-butylphthalate	10		8 J
26	1,3-Dichlorobenzene	10	BQL	
27	1,4-Dichlorobenzene	10	BQL	
28	1,2-Dichlorobenzene	10	BQL	
29	3,3'-Dichlorobenzidine	20	BQL	
30	2,4-Dichlorophenol	10	BQL	
31	Diethyl phthalate	10	BQL	
32	2,4-Dimethylphenol	10	BQL	
33	Dimethyl phthalate	10	BQL	
34	4,6-Dinitro-2-methylphenol	50	BQL	
35	2,4-Dinitrophenol	50	BQL	
36	2,4-Dinitrotoluene	10	BQL	
37	2,6-Dinitrotoluene	10	BQL	
38	Di-n-octylphthalate	10	BQL	
39	Fluoranthene	10	BQL	

BASE/NEUTRAL/ACID EXTRACTABLES
SW-846 METHOD 8270

IEA Sample Number: 196-062-7
Sample Identification: WD-2s-B
Date Extracted: 08/29/90
Date Analyzed: 09/04/90 By: Mace

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
40	Fluorene	10	BQL
41	Hexachlorobenzene	10	BQL
42	Hexachlorobutadiene	10	BQL
43	Hexachlorocyclopentadiene	10	BQL
44	Hexachloroethane	10	BQL
45	Indeno(1,2,3-cd)pyrene	10	BQL
46	Isophorone	10	BQL
47	2-Methylnaphthalene	10	BQL
48	2-Methylphenol (o-cresol)	10	BQL
49	4-Methylphenol (p-cresol)	10	BQL
50	Naphthalene	10	BQL
51	2-Nitroaniline	50	BQL
52	3-Nitroaniline	50	BQL
53	4-Nitroaniline	50	BQL
54	Nitrobenzene	10	BQL
55	2-Nitrophenol	10	BQL
56	4-Nitrophenol	50	BQL
57	N-Nitroso-di-n-propylamine	10	BQL
58	N-Nitrosodiphenylamine	10	BQL
59	Pentachlorophenol	50	BQL
60	Phenanthrene	10	BQL
61	Phenol	10	BQL
62	Pyrene	10	BQL
63	1,2,4-Trichlorobenzene	10	BQL
64	2,4,5-Trichlorophenol	10	BQL
65	2,4,6-Trichlorophenol	10	BQL

Comments:

BQL = Below Quantitation Limit

J = Estimated value

GC/MS PURGEABLES
SW-846 METHOD 8240

IEA Sample Number: 196-062-7
Sample Identification: WD-2s-B
Date Analyzed: 09/05/90 By: Harris

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Acetone	100	BQL
2	Benzene	5	BQL
3	Bromodichloromethane	5	BQL
4	Bromoform	5	BQL
5	Bromomethane	10	BQL
6	2-Butanone	100	BQL
7	Carbon disulfide	5	BQL
8	Carbon tetrachloride	5	BQL
9	Chlorobenzene	5	BQL
10	Dibromochloromethane	5	BQL
11	Chloroethane	10	BQL
12	2-Chloroethylvinyl ether	10	BQL
13	Chloroform	5	BQL
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

BASE/NEUTRAL/ACID EXTRACTABLES
SW-846 METHOD 8270

IEA Sample Number: 196-062-4
Sample Identification: WD-4
Date Extracted: 08/29/90
Date Analyzed: 09/04/90 By: Mace

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
40	Fluorene	10	BQL
41	Hexachlorobenzene	10	BQL
42	Hexachlorobutadiene	10	BQL
43	Hexachlorocyclopentadiene	10	BQL
44	Hexachloroethane	10	BQL
45	Indeno(1,2,3-cd)pyrene	10	BQL
46	Isophorone	10	BQL
47	2-Methylnaphthalene	10	BQL
48	2-Methylphenol (o-cresol)	10	BQL
49	4-Methylphenol (p-cresol)	10	BQL
50	Naphthalene	10	BQL
51	2-Nitroaniline	50	BQL
52	3-Nitroaniline	50	BQL
53	4-Nitroaniline	50	BQL
54	Nitrobenzene	10	BQL
55	2-Nitrophenol	10	BQL
56	4-Nitrophenol	50	BQL
57	N-Nitroso-di-n-propylamine	10	BQL
58	N-Nitrosodiphenylamine	10	BQL
59	Pentachlorophenol	50	BQL
60	Phenanthrene	10	BQL
61	Phenol	10	BQL
62	Pyrene	10	BQL
63	1,2,4-Trichlorobenzene	10	BQL
64	2,4,5-Trichlorophenol	10	BQL
65	2,4,6-Trichlorophenol	10	BQL

Comments:

BQL = Below Quantitation Limit

BASE/NEUTRAL/ACID EXTRACTABLES
SW-846 METHOD 8270

IEA Sample Number: 196-062-6
Sample Identification: WD-1
Date Extracted: 08/29/90
Date Analyzed: 09/04/90 By: Mace

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
40	Fluorene	10	BQL
41	Hexachlorobenzene	10	BQL
42	Hexachlorobutadiene	10	BQL
43	Hexachlorocyclopentadiene	10	BQL
44	Hexachloroethane	10	BQL
45	Indeno(1,2,3-cd)pyrene	10	BQL
46	Isophorone	10	BQL
47	2-Methylnaphthalene	10	BQL
48	2-Methylphenol (o-cresol)	10	BQL
49	4-Methylphenol (p-cresol)	10	BQL
50	Naphthalene	10	BQL
51	2-Nitroaniline	50	BQL
52	3-Nitroaniline	50	BQL
53	4-Nitroaniline	50	BQL
54	Nitrobenzene	10	BQL
55	2-Nitrophenol	10	BQL
56	4-Nitrophenol	50	BQL
57	N-Nitroso-di-n-propylamine	10	BQL
58	N-Nitrosodiphenylamine	10	BQL
59	Pentachlorophenol	50	BQL
60	Phenanthrene	10	BQL
61	Phenol	10	BQL
62	Pyrene	10	BQL
63	1,2,4-Trichlorobenzene	10	BQL
64	2,4,5-Trichlorophenol	10	BQL
65	2,4,6-Trichlorophenol	10	BQL

Comments:

BQL = Below Quantitation Limit

BASE/NEUTRAL/ACID EXTRACTABLES
SW-846 METHOD 8270

IEA Sample Number: 196-062-1
Sample Identification: WD-2s
Date Extracted: 08/29/90
Date Analyzed: 09/04/90 By: Mace

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Acenaphthene	10	BQL
2	Acenaphthylene	10	BQL
3	Anthracene	10	BQL
4	Benzoic acid	50	BQL
5	Benzo(a)anthracene	10	BQL
6	Benzo(b)fluoranthene	10	BQL
7	Benzo(k)fluoranthene	10	BQL
8	Benzo(g,h,i)perylene	10	BQL
9	Benzo(a)pyrene	10	BQL
10	Benzyl alcohol	20	BQL
11	bis(2-Chloroethoxy)methane	10	BQL
12	bis(2-Chloroethyl)ether	10	BQL
13	bis(2-Chloroisopropyl)ether	10	BQL
14	bis(2-Ethylhexyl)phthalate	10	6 J
15	4-Bromophenyl phenyl ether	10	BQL
16	Benzyl butyl phthalate	10	BQL
17	4-Chloroaniline	20	BQL
18	2-Chloronaphthalene	10	BQL
19	4-Chloro-3-methylphenol	20	BQL
20	2-Chlorophenol	10	BQL
21	4-Chlorophenyl phenyl ether	10	BQL
22	Chrysene	10	BQL
23	Dibenzo(a,h)anthracene	10	BQL
24	Dibenzofuran	10	BQL
25	Di-n-butylphthalate	10	25
26	1,3-Dichlorobenzene	10	5 J
27	1,4-Dichlorobenzene	10	25
28	1,2-Dichlorobenzene	10	62
29	3,3'-Dichlorobenzidine	20	BQL
30	2,4-Dichlorophenol	10	BQL
31	Diethyl phthalate	10	BQL
32	2,4-Dimethylphenol	10	BQL
33	Dimethyl phthalate	10	BQL
34	4,6-Dinitro-2-methylphenol	50	BQL
35	2,4-Dinitrophenol	50	BQL
36	2,4-Dinitrotoluene	10	BQL
37	2,6-Dinitrotoluene	10	BQL
38	Di-n-octylphthalate	10	BQL
39	Fluoranthene	10	BQL

BASE/NEUTRAL/ACID EXTRACTABLES
SW-846 METHOD 8270

IEA Sample Number: 196-062-1
Sample Identification: WD-2s
Date Extracted: 08/29/90
Date Analyzed: 09/04/90 By: Mace

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
40	Fluorene	10	BQL
41	Hexachlorobenzene	10	BQL
42	Hexachlorobutadiene	10	BQL
43	Hexachlorocyclopentadiene	10	BQL
44	Hexachloroethane	10	BQL
45	Indeno(1,2,3-cd)pyrene	10	BQL
46	Isophorone	10	BQL
47	2-Methylnaphthalene	10	BQL
48	2-Methylphenol (o-cresol)	10	BQL
49	4-Methylphenol (p-cresol)	10	BQL
50	Naphthalene	10	BQL
51	2-Nitroaniline	50	BQL
52	3-Nitroaniline	50	BQL
53	4-Nitroaniline	50	BQL
54	Nitrobenzene	10	BQL
55	2-Nitrophenol	10	BQL
56	4-Nitrophenol	50	BQL
57	N-Nitroso-di-n-propylamine	10	BQL
58	N-Nitrosodiphenylamine	10	BQL
59	Pentachlorophenol	50	BQL
60	Phenanthrene	10	BQL
61	Phenol	10	BQL
62	Pyrene	10	BQL
63	1,2,4-Trichlorobenzene	10	BQL
64	2,4,5-Trichlorophenol	10	BQL
65	2,4,6-Trichlorophenol	10	BQL

Comments:

BQL = Below Quantitation Limit

J = Estimated value

BASE/NEUTRAL/ACID EXTRACTABLES
SW-846 METHOD 8270

IEA Sample Number: 196-062-2
Sample Identification: WD-2d
Date Extracted: 08/29/90
Date Analyzed: 09/04/90 By: Mace

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Acenaphthene	10	BQL
2	Acenaphthylene	10	BQL
3	Anthracene	10	BQL
4	Benzoic acid	50	BQL
5	Benzo(a)anthracene	10	BQL
6	Benzo(b)fluoranthene	10	BQL
7	Benzo(k)fluoranthene	10	BQL
8	Benzo(g,h,i)perylene	10	BQL
9	Benzo(a)pyrene	10	BQL
10	Benzyl alcohol	20	BQL
11	bis(2-Chloroethoxy)methane	10	BQL
12	bis(2-Chloroethyl)ether	10	BQL
13	bis(2-Chloroisopropyl)ether	10	BQL
14	bis(2-Ethylhexyl)phthalate	10	BQL
15	4-Bromophenyl phenyl ether	10	BQL
16	Benzyl butyl phthalate	10	BQL
17	4-Chloroaniline	20	BQL
18	2-Chloronaphthalene	10	BQL
19	4-Chloro-3-methylphenol	20	BQL
20	2-Chlorophenol	10	BQL
21	4-Chlorophenyl phenyl ether	10	BQL
22	Chrysene	10	BQL
23	Dibenzo(a,h)anthracene	10	BQL
24	Dibenzofuran	10	BQL
25	Di-n-butylphthalate	10	BQL
26	1,3-Dichlorobenzene	10	BQL
27	1,4-Dichlorobenzene	10	BQL
28	1,2-Dichlorobenzene	10	BQL
29	3,3'-Dichlorobenzidine	20	BQL
30	2,4-Dichlorophenol	10	BQL
31	Diethyl phthalate	10	BQL
32	2,4-Dimethylphenol	10	BQL
33	Dimethyl phthalate	10	BQL
34	4,6-Dinitro-2-methylphenol	50	BQL
35	2,4-Dinitrophenol	50	BQL
36	2,4-Dinitrotoluene	10	BQL
37	2,6-Dinitrotoluene	10	BQL
38	Di-n-octylphthalate	10	BQL
39	Fluoranthene	10	BQL

BASE/NEUTRAL/ACID EXTRACTABLES
SW-846 METHOD 8270

IEA Sample Number: 196-062-2
Sample Identification: WD-2d
Date Extracted: 08/29/90
Date Analyzed: 09/04/90 By: Mace

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
40	Fluorene	10	BQL
41	Hexachlorobenzene	10	BQL
42	Hexachlorobutadiene	10	BQL
43	Hexachlorocyclopentadiene	10	BQL
44	Hexachloroethane	10	BQL
45	Indeno(1,2,3-cd)pyrene	10	BQL
46	Isophorone	10	BQL
47	2-Methylnaphthalene	10	BQL
48	2-Methylphenol (o-cresol)	10	BQL
49	4-Methylphenol (p-cresol)	10	BQL
50	Naphthalene	10	BQL
51	2-Nitroaniline	50	BQL
52	3-Nitroaniline	50	BQL
53	4-Nitroaniline	50	BQL
54	Nitrobenzene	10	BQL
55	2-Nitrophenol	10	BQL
56	4-Nitrophenol	50	BQL
57	N-Nitroso-di-n-propylamine	10	BQL
58	N-Nitrosodiphenylamine	10	BQL
59	Pentachlorophenol	50	BQL
60	Phenanthrene	10	BQL
61	Phenol	10	BQL
62	Pyrene	10	BQL
63	1,2,4-Trichlorobenzene	10	BQL
64	2,4,5-Trichlorophenol	10	BQL
65	2,4,6-Trichlorophenol	10	BQL

Comments:

BQL = Below Quantitation Limit

GC/MS PURGEABLES
SW-846 METHOD 8240

IEA Sample Number: 196-062-5
Sample Identification: WD-5
Date Analyzed: 09/05/90 By: Harris

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Acetone	100	BQL
2	Benzene	5	BQL
3	Bromodichloromethane	5	BQL
4	Bromoform	5	BQL
5	Bromomethane	10	BQL
6	2-Butanone	100	BQL
7	Carbon disulfide	5	BQL
8	Carbon tetrachloride	5	BQL
9	Chlorobenzene	5	BQL
10	Dibromochloromethane	5	BQL
11	Chloroethane	10	BQL
12	2-Chloroethylvinyl ether	10	BQL
13	Chloroform	5	BQL
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

GC/MS PURGEABLES
SW-846 METHOD 8240

IEA Sample Number: 196-062-4
Sample Identification: WD-4
Date Analyzed: 09/05/90 By: Harris

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Acetone	100	BQL
2	Benzene	5	BQL
3	Bromodichloromethane	5	BQL
4	Bromoform	5	BQL
5	Bromomethane	10	BQL
6	2-Butanone	100	BQL
7	Carbon disulfide	5	BQL
8	Carbon tetrachloride	5	BQL
9	Chlorobenzene	5	BQL
10	Dibromochloromethane	5	BQL
11	Chloroethane	10	9 J
12	2-Chloroethylvinyl ether	10	BQL
13	Chloroform	5	BQL
14	Chloromethane	10	BQL
15	1,1-Dichloroethane	5	8
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: 196-062-4
Sample Identification: WD-4
Date Extracted: 08/29/90
Date Analyzed: 09/04/90 By: Mace

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Acenaphthene	10	BQL
2	Acenaphthylene	10	BQL
3	Anthracene	10	BQL
4	Benzoic acid	50	BQL
5	Benzo(a)anthracene	10	BQL
6	Benzo(b)fluoranthene	10	BQL
7	Benzo(k)fluoranthene	10	BQL
8	Benzo(g,h,i)perylene	10	BQL
9	Benzo(a)pyrene	10	BQL
10	Benzyl alcohol	20	BQL
11	bis(2-Chloroethoxy)methane	10	BQL
12	bis(2-Chloroethyl)ether	10	BQL
13	bis(2-Chloroisopropyl)ether	10	BQL
14	bis(2-Ethylhexyl)phthalate	10	BQL
15	4-Bromophenyl phenyl ether	10	BQL
16	Benzyl butyl phthalate	10	BQL
17	4-Chloroaniline	20	BQL
18	2-Chloronaphthalene	10	BQL
19	4-Chloro-3-methylphenol	20	BQL
20	2-Chlorophenol	10	BQL
21	4-Chlorophenyl phenyl ether	10	BQL
22	Chrysene	10	BQL
23	Dibenzo(a,h)anthracene	10	BQL
24	Dibenzofuran	10	BQL
25	Di-n-butylphthalate	10	BQL
26	1,3-Dichlorobenzene	10	BQL
27	1,4-Dichlorobenzene	10	BQL
28	1,2-Dichlorobenzene	10	BQL
29	3,3'-Dichlorobenzidine	20	BQL
30	2,4-Dichlorophenol	10	BQL
31	Diethyl phthalate	10	BQL
32	2,4-Dimethylphenol	10	BQL
33	Dimethyl phthalate	10	BQL
34	4,6-Dinitro-2-methylphenol	50	BQL
35	2,4-Dinitrophenol	50	BQL
36	2,4-Dinitrotoluene	10	BQL
37	2,6-Dinitrotoluene	10	BQL
38	Di-n-octylphthalate	10	BQL
39	Fluoranthene	10	BQL

BASE/NEUTRAL/ACID EXTRACTABLES
SW-846 METHOD 8270

IEA Sample Number: 196-062-6
Sample Identification: WD-1
Date Extracted: 08/29/90
Date Analyzed: 09/04/90 By: Mace

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Acenaphthene	10	BQL
2	Acenaphthylene	10	BQL
3	Anthracene	10	BQL
4	Benzoic acid	50	BQL
5	Benzo(a)anthracene	10	BQL
6	Benzo(b)fluoranthene	10	BQL
7	Benzo(k)fluoranthene	10	BQL
8	Benzo(g,h,i)perylene	10	BQL
9	Benzo(a)pyrene	10	BQL
10	Benzyl alcohol	20	BQL
11	bis(2-Chloroethoxy)methane	10	BQL
12	bis(2-Chloroethyl)ether	10	BQL
13	bis(2-Chloroisopropyl)ether	10	BQL
14	bis(2-Ethylhexyl)phthalate	10	BQL
15	4-Bromophenyl phenyl ether	10	BQL
16	Benzyl butyl phthalate	10	BQL
17	4-Chloroaniline	20	BQL
18	2-Chloronaphthalene	10	BQL
19	4-Chloro-3-methylphenol	20	BQL
20	2-Chlorophenol	10	BQL
21	4-Chlorophenyl phenyl ether	10	BQL
22	Chrysene	10	BQL
23	Dibenzo(a,h)anthracene	10	BQL
24	Dibenzofuran	10	BQL
25	Di-n-butylphthalate	10	12
26	1,3-Dichlorobenzene	10	BQL
27	1,4-Dichlorobenzene	10	BQL
28	1,2-Dichlorobenzene	10	BQL
29	3,3'-Dichlorobenzidine	20	BQL
30	2,4-Dichlorophenol	10	BQL
31	Diethyl phthalate	10	BQL
32	2,4-Dimethylphenol	10	BQL
33	Dimethyl phthalate	10	BQL
34	4,6-Dinitro-2-methylphenol	50	BQL
35	2,4-Dinitrophenol	50	BQL
36	2,4-Dinitrotoluene	10	BQL
37	2,6-Dinitrotoluene	10	BQL
38	Di-n-octylphthalate	10	BQL
39	Fluoranthene	10	BQL