560IHSSF1064

DocumentID	NONCD0001810
Site Name	HACKNEY AND SONS, INC.
DocumentType	Correspondence (C)
RptSegment	1
DocDate	3/17/1998
DocRcvd	2/20/2007
Box	SF1064
AccessLevel	PUBLIC
Division	WASTE MANAGEMENT
Section	SUPERFUND
Program	IHS (IHS)
DocCat	FACILITY

File Copy

Permit Rescission Form

Facility Name: HACKNEY & SONS, INC-TRUCK ***

Permit Number: WQ0007970

NPDES Permit Type:

WQ Permit Type: 0

RECEIVED
WASHINGTON OFFICE
MAR 16 1998
D. E. M.

Discharge Code(s): 66

Regional Office: WARO

County: BEAUFORT

Date Requested: 12/30/97

Permit Expiration: 7/31/98

Original Request Received by:

○ Compliance Group ○ Regional Office ○ P&E Unit

Request Recieved in the Form of:

○ Signed Annual Fee Invoice ○ Letter ○ Other...

Please Check Appropriately

○ Site Visit Performed

Groundwater Monitoring Wells: Y

○ Groundwater Concerns Addressed

(Should be addressed unless Groundwater Monitoring is not required)

Rescission of the above referenced Permit is:

☑ Approved ☐ Denied

Note: (if Approved) This permit will be deleted from the permit tracking system and the division billing system and if necessary inactivated on the compliance monitoring system.

Complete (if Approved)

◉ Rescinded Immediately ○ Allow to Expire

○ Never Constructed
○ Abandoned
○ Connected to City Sewer

◉ Other...
Corrective Action Completed Site/Pollut.
Incident #9949 Closed out.

Complete (if Denied)

Reason for Denial:

Certifier's Name: [signature]

Date: 3/17/98

Return Completed Form to the Compliance / Enforcement Unit

PR Form (2/97)

Kidron

KIDRON, INC.
13442 EMERSON ROAD • BOX 17 • KIDRON, OH 44636-0017

FAX

Date: 12/30/97
Number of pages including cover sheet : 2

To: Jeff Welti
Phone:
FAX Phone: (919) 975-3716
CC:

From: Tim Ohler
Phone: 330-857-3011
FAX Phone: 330-857-0203

REMARKS: Urgent For your review Reply ASAP Please comment

December 23, 1997

Permits and Engineering Unit
Attn: Michael Allen
Division of Water Quality
P.O. Box 29535
Raleigh, NC. 27626-0535

Dear Mr. Allen:

Enclosed is a letter from Mr. Will Hardison, Groundwater Supervisor for the Washington Regional Office, putting our facility in "Close-out Status" for groundwater action required. We respectfully request that you allow our permit for a Groundwater Remediation System to expire on 7/31/98, because of the new status that we have attained concerning Groundwater Incident Number 9949.

If there are any questions or concerns on this issue please call me at 1-800-321-5421. Thank you!

Sincerely,

Tim Ohler

Tim Ohler - File
Environmental / Safety Coordinator

cc: Charles Mason
Jay Witte

GWCHSE.DOC 12/23/97

DIVISION OF WATER QUALITY
GROUNDWATER SECTION
December 17, 1997

MEMORANDUM

TO: Bill Morris - Solid Waste Management
Washington Regional Office

THROUGH: Willie Hardison, Regional Groundwater Supervisor
Washington Regional Office

FROM: Conrad J. Welti, Hydrogeologist I
Washington Regional Office

SUBJECT: Hackney & Sons, Inc.\ Well's Junk Yard
GWI # 9949 - Beaufort County

Hackney & Sons is a manufacturer of beverage delivery truck bodies,trailers and emergency support vehicles. In earlier years Hackney's manufacturing practices which involved the use of a Methylene Chloride-based paint stripper applied using a pressure sprayer. Subsurface investigations identified three groundwater contaminant plumes in the following areas: The Repair Area, the Extrusion Storage Area and the Trailer Test area. A corrective action system (CAS) was approved and operated for only the Repair Area and the Extrusion Storage Area, which is now being considered for "Close-Out" status. The Groundwater Section determined, at the time of the investigations, that the Trailer Test Area contaminant plume was attributed to an adjoining property identified as "Wells's Junk Yard".

This memo is an attempt to notify solid waste management of a potential ongoing source of contamination to the subsurface as a result of a junk yard operation.

I have attached a copy of the Close Out Report for your review however, if you have any questions or if you would like to discuss this matter further, please see me at any time.

attachments

cc: WaRO Files

DIVISION OF WATER QUALITY
GROUNDWATER SECTION
December 9, 1997

<u>MEMORANDUM</u>

TO: Willie Hardison

FROM: CJWelti Conrad J. Welti

SUBJECT: Close-Out Report
Hackney & Sons, Inc.
400 Hackney Avenue
Washington, North Carolina - Beaufort County
Groundwater Incident Number 9949
Incident Rank 90\E

I am requesting the above referenced incident be considered for closed out status. Based on actions taken by Hackney & Sons, Inc., it has been determined that no further violations to the State's waters are likely to occur.

To assist you in evaluating the close-out request, please find attached a copy of the Pollution Incident Reporting Form, my close-out report for the subject site, and the close-out letter to Hackney & Sons, Inc. (for your signature). Please contact me if you require additional information on which to base your decision.

Enclosures

WaRO - File Copy of Close Out
Original to file
CJWelti

State of North Carolina
Department of Environment
and Natural Resources
Washington Regional Office

James B. Hunt, Jr., Governor
Wayne McDevitt, Secretary

NCDENR
NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

DIVISION OF WATER QUALITY
GROUNDWATER SECTION
December 9, 1997

Mr. Charles R. Mason
Industrial Engineer
Hackney & Sons, Inc.
400 Hackney Avenue
Washington, North Carolina 27889

RE: Close-out Status
Hackney & Sons, Inc. - 400 Hackney Ave
Washington, North Carolina 27889 - Beaufort County
Groundwater Incident Number 9949
Incident Rank 90\E

Dear Mr. Mason:

The Division of Water Quality Groundwater Section has reviewed the activities and monitoring data for the above named site. In view of the removal of the contaminated residual materials, subsequent groundwater remediation and the absence of compounds associated with the original incident, the potential impact to groundwater has been minimized and the resource has been restored as economically as feasible. At this time, no further action will be required at the site. Therefore, the above referenced incident is considered to be closed out. If changes in environmental laws occur, and/or new information becomes available which suggests a need for further action, this decision may be reversed.

Sincerely,

Willie Hardison

Will Hardison
Groundwater Supervisor
Washington Regional Office

cc: Mr. Tim Ohler - Kidron Inc.
Brian E. Kotek, ENSCI Engineering Group
Fay Sweat, PCB
WaRO

CLOSE OUT REPORT
Hackney & Sons, Inc., 400 Hackney Avenue
WASHINGTON, BEAUFORT COUNTY, NORTH CAROLINA
GROUNDWATER INCIDENT NO. 9949
INCIDENT RANK 90\E

ABSTRACT

The Hackney facility is occupied by manufacturing operations and offices, is situated on 23 acres located south of US Highway 264, north of West Third Street, west of Hackney Avenue and east of Kinston Street in Washington, North Carolina. Hackney is a manufacturer of beverage delivery truck bodies, trailers and emergency support vehicles. In Earlier years Hackney was using poor manufacturing practices which involved the use of a Methylene Chloride-based paint stripper applied using a pressure sprayer. Paint stripper, paint residuals and paint chips were washed into the near by storm drain using a garden hose. Hackney subsequently removed 45 tons of residual materials from the storm drain system.

Site geology consists of an unnamed surficial unit composed of a yellow-brown sand unit which coarsens downward. A clay rich sand unit, which occurs at approximately 10-12 feet below land surface (BLS) separates the surficial sand and the underlying Yorktown Formation which is composed of shell rich sands, silts and clays. The Castle Hayne Formation, located beneath the Yorktown, is composed of limestone which is white to grey in color and is estimated to be at 70 feet BLS. Depth to ground water for the surficial aquifer is approximately 3 to 4 feet BLS. The surficial or shallow unconfined aquifer system has a low hydraulic gradient of 0.0013 ft/ft and the general trend of groundwater flow is toward the west \ southwest.

The Hackney manufacturing facility is currently owned by Kidron, Inc., of Kidron, Ohio. Hackney and Sons was acquired in August 1990 by the Hackney Acquisition Company. The acquisition included two manufacturing facilities: one in Independence Kansas, and the other is the subject Washington, North Carolina site. A Phase I and II ESA was preformed prior to acquisition (June 1990) where areas of potential contamination were identified at the facility.

A Phase I Hydrogeologic Assessment was preformed in October 1990 to delineate groundwater contamination in the *Repair Area* of the facility.

A Phase II Hydrogeologic Assessment was preformed in April and May of 1991. Seven monitoring wells were installed in the *Trailer Test Area*, eight wells were installed in the *Extrusion Storage Area*, two wells were installed along the *storm drain system*, one well was installed upgradient of *Wells Junkyard* and a well nest of two wells was installed in an upgradient position on the site. Additionally four 4-inch diameter monitoring\recovery wells were installed and two 2-inch diameter observation wells.

Eight additional monitoring wells were installed in May 1992 adjacent to the storm drain system leading away from the Repair Facility. A comprehensive site assessment (CSA) was prepared on the field work and submitted on November 12, 1992. Multiple investigations and an extensive monitor well networ delineated three groundwater contaminant plumes in the shallow aquifer as The Repair Area, the Extrusion Storage Area and the Trailer Test Area.

The Repair Area/Storm Drain containing volatile and semivolatile compounds. The volatiles included methylene chloride, with a concentration range of BDL - 20,000 ppb for MW-31B, and others associated with EPA Method 8240 which were generally at or below the practical quantitation limit (PQL). Semivolatiles included dibutyl phthalate ranging from BDL to 130 ppb (MW-25B), bis (2-ethylhexyl) phthalate ranging from BDL to 110 ppb (MW-28B) and 180 ppb (MW25B).

The Extrusion Storage Area included volatile and semivolatile constituents as follows: tetrachloroethene at maximum concentrations of 16 ppb (MW-26s), methylene chloride at 5 ppb (MW-26s), trans 1,2-dichloroethene at 30 ppb (MW-26s), and bis-ethylhexyl phthalate at 13 ppb (MW-25) and 21 ppb (MW-26s) other constituents identified with EPA Method 8270 were present at or below the practical quantitation limit (PQL).

The Trailer Test Area included volatile and semivolatile constituents as follows: some select volatiles analytical results were 1,1,1-Trichloroethane at 63,000 ppb (MW-18), Acetone at 2,500 ppb (MW-18), 1,1-Dichloroethene at 5,900 ppb, Carbon Tetrachloride at 3,100 ppb (MW-TR1), and Toluene at 10,000 ppb (MW-18). Some select semi-volatile results were bis-ethylhexyl phthalate at 92 ppb (MW-19) and 18 ppb (MW-TR2), and Benzyl Alcohol at 40 ppb (MW-TR1).

The Trailer Test Area contaminant plume was determined by the groundwater section, at the time of the investigation, to be attributed to an adjoining property identified as 'Well's Junk Yard' and is being referred to the Solid Waste Section in a letter dated December 17, 1997. Hackney's consultant prepared a corrective action plan (CAP) in February 1993, a groundwater remediation system was started in November 1993. Groundwater monitoring was initiated for eleven (11) wells during the remediation phase. Three (3) consequtive quarters of monitoring showed contamination to be below the state's groundwater standards in North Carolina Administrative Code (NCAC), Title 15, Subchapter 2L, "Classification and Water Quality Standards Applicable To The Groundwaters of North Carolina".

SITE HISTORY/SOURCE CHARACTERIZATION

1. Site History: The site is a manufacturing facility owned by Kidron Inc., of Ohio. The incident is the result of manufacturing practices which have been altered to prevent impacts to soils and groundwater. A pre-purchase Phase I and Phase II investigation identified groundwater

a) Discovery: in May-June 1990, a Phase I and Phase II invetigation was preformed to evaluate potential impacts prior to the acquisition of Hackney in August 1990.

b) Assessment: Hackney has a history of being proactive, reporting the results of Phase I and II audits, and completing a CSA (December 1992).

c) Results of assessment Extensive subsurface investigations have included soil boring, monitoring well installation, test pit/trench installation, aquifer pump testing and soil & groundwater sampling and analysis. Through the series of soil borings and monitoring wells, preparation of a site characterization, Phase I and II audit, it was discovered that there were three contaminant plumes reportedly confined to the surficial aquifer. The Semi-confined deep aquifer (approximately 15'- 50') contained semi-volatile and volatile constituents at or below practical quantitation limits (PQL).

d) Remediation: The CAP for the Hackney site addresses the recovery and treatment of volatile and semi-volatile compounds in groundwater beneath the site. The corrective action system (CAS) was designed for the Repair Area and the Extrusion Storage Area. The CAS was successful in capturing the contaminant plume, reducing the vertical and horizontal extent of the plume, stabilizing plume migration and reducing concentrations of contaminants. The CAS for the Extrusion Storage Area consisted of three groundwater recovery wells. For the Repair Area, four groundwater recovery wells were installed. A treatment unit for contaminated groundwater was a biological treatment unit made up of two equalization tanks and a CT BIOX reactor. Effluent from the reactor was routed into a second equalization tank prior to discharged to injection wells.

CONCLUSIONS

In response to the action taken by Hackney & Sons in eliminating poor industry practices and remediating the groundwater at the site, it is anticipated that no increase in groundwater contamination will result from this former manufacturing practice. Impacts to the groundwater within the property boundary, for which Hackney is responsible for, have been minimized and the groundwater quality restored as technologically and economically as feasible. The underground water quality standards near the point source within the property boundaries are below the standards set forth in NCAC 15A Subchapter 2L.

FINDINGS

As a means of evaluating whether an incident qualifies for close out status, the following criteria were considered:

1. The measured or anticipated increase in the concentration of the contaminants within the property boundary has been minimized through source elimination to the extent technologically and economically feasible. Source elimination included: (a) removal of underground storage tanks, (b) excavation and disposal of contaminated soils capable of releasing contaminants via leaching and percolation or through vapor phase transport, (c) removal of non-aqueous "floaters" and "sinkers", (d) removal of dissolved product.

   (a) UST's are not associated with this incident.

   (b) Free Product "floaters" and "sinkers" were not found at the faciltiy.

   (c) The removal of dissolved product was accomplished through the recovery of contaminated groundwater, treating in a bioreactor and to some extent through natural attenuation, the CAS was started in November 1993. Groundwater monitoring was in place to evaluate the effectiveness of the remediation system at the site. Groundwater samples were collected for three consecutive quarters begining in September 1995, December 1995, then March 1996. A last round of samples was collected in April 1997. The samples were analyzed by EPA Methods 624 + acetone & xylenes and 625. Results revealed no contravention of 15A NCAC 2L standards.

2. Any existing or anticipated increase in the concentration of the contaminants above the level of the underground water quality standards within the property boundaries has been minimized to the extent technologically and economically feasible and does not present a threat to public health and welfare or to the environment. Potential threats for all exposure pathways including ingestion, inhalation and dermal contact, receptors, and impacts on wildlife, fish and environmentally sensitive areas were evaluated.

   In response to the action taken by removing the point source and subsequent contaminated soil, it is anticipated that no increase in groundwater contamination will result. The groundwater quality standards within the property boundaries have been minimized and restored as economically feasible. The groundwater quality standards near the point source within the property boundaries are below these standards set in NCAC 15A Subchapter 2L, .0202. Contaminant migration should not result in any violation of applicable groundwater standards at any existing receptor.

a) Public Health and Welfare. Potential threats to the public through ingestion, inhalation, and dermal contact have been minimalized. Although the sites initial contaminant levels were high, remediation efforts have removed constituents from the ground water. The contaminated soil\residuals have been removed from the site. In the past four quarterly monitoring events, there has been no contravention of groundwater standards.

b) Receptors. The area is served by City of Washington.

c) Environment. This incident appears to have had no lasting impact to the soil, groundwater or the environment at the subject site.

d) Fish and Wildlife. This incident appears to have had no impact on the wildlife at the site.

e) Environmentally Sensitive Areas. To our knowledge, the area is not designated as "environmentally sensitive."

3. Exceedences of groundwater quality standards from this incident will not occur at or beyond the property boundary.

Based on site conditions, it is unlikely that any violations to groundwater quality standards will occur at or beyond the property line since the source and soil contamination have been removed.

RECOMMENDATIONS

Based on the above findings, the Washington Regional Office recommends that the Hackney & Sons site be granted a close out status.

Prepared by:

Name: CJW Conrad J. Welti, L.G

Title: Hydrogeologist I

Date: May 8, 1997

POLLUTION INCIDENT/U.S.T. LEAK REPORTING FORM

Department of Environment, Health, Natural Resources
Division of Environmental Management
GROUNDWATER SECTION

Confirm. GW Contamination (Y/N) Yes
Major Soil Contamination (Y/N)
Minor Soil Contaminatin (Y/N)

Incident # 9949

Date Incident Occurred or Leak Detected July 1990

INCIDENT DESCRIPTION

Incident Location/Name: Hackney and Sons, Inc.

Address: 400 Hackney Avenue

City/Town: Washington County: Beaufort Region: WaRO

Briefly Describe Incident: Spills/Releases of various organic compounds (solvents, strippers, etc.) used in the manufacture and repair of truck bodies. Site Assessment related to sale of property indicated 3 areas of the site have been impacted (both soil + groundwater). They are: 1. Repair Building Area 2. Extrusion Storage Area, 3. Trailer Test Area

POTENTIAL SOURCE OWNER-OPERATOR

Potential Source Owner-Operator: Same As Above: Contact Person: Jay A. Witte

Telephone: (919) 946-6521

Company: Hackney and Son's, Inc.

Street Address: 400 Hackney Ave.

City: Washington County: Beaufort State: NC Zip Code: 27889

OWNERSHIP
0. N/A 1. Municipal 2. Military 3. Unknown **4. Private** 5. Federal 6. County 7. State

OPERATION TYPE
0. N/A 1. Public Service 2. Agricultural 3. Residential 4. Educational/Relig. **5. Industrial** 6. Commercial 7. Mining

POLLUTANTS INVOLVED

MATERIALS INVOLVED	AMOUNT LOST	AMOUNT RECOVERED
Various organic compounds (solvents, strippers, etc.)	unknown	No Free Product

SOURCE OF POLLUTION

PRIMARY SOURCE OF POLLUTION
(Select one)
1. Intentional dump
2. Pit, pond, lagoon
3. Leak-underground
4. Spray irrigation
5. Land application
6. Animal feedlot
7. Source unknown
8. Septic tank
9. Sewer line
10. Stockpile
11. Landfill
12. **Spill-surface**
13. Well
14. Dredge spoil
15. Nonpoint source

PRIMARY POLLUTANT TYPE
(Select one)
1. Pesticide/herbicide
2. Radioactive waste
3. Gasoline/diesel
4. Heating oil
5. Other petroleum prod.
6. Sewage/septage
7. Fertilizers
8. Sludge
9. Solid waste leachate
10. Metals
11. Other Inorganics
12. **Other organics**

LOCATION
1. **Facility**
2. Railroad
3. Waterway
4. Pipeline
5. Dumpsite
6. Highway
7. Residence
8. Other

SETTING
1. Residential
2. **Industrial**
3. Urban
4. Rural

Site Priority Ranking: 90/E

RECEIVED
MAR 15 1993
POLLUTION CONTROL BRANCH

D.E.M. Regional Contact: Guy C. Pearce

Signature: Guy C. Pearce

Date: 3/11/93

GW-61 Revised 3/92

IMPACT ON DRINKING WATER SUPPLIES

WELLS AFFECTED 1. YES 2. NO

NUMBER OF WELLS AFFECTED none Known

Well(s) Contaminated: (Users Name)

1. N/A
2.
3.
4.
5.

Circle Appropriate Responses
Lab Samples Taken By: 1. DEM 2. DHS 3. Responsible Party 4. Other 5. None

Samples Taken Include: 1. Groundwater 2. Soil

LOCATION OF INCIDENT

7 1/2 Min. Quad Name Washington, NC

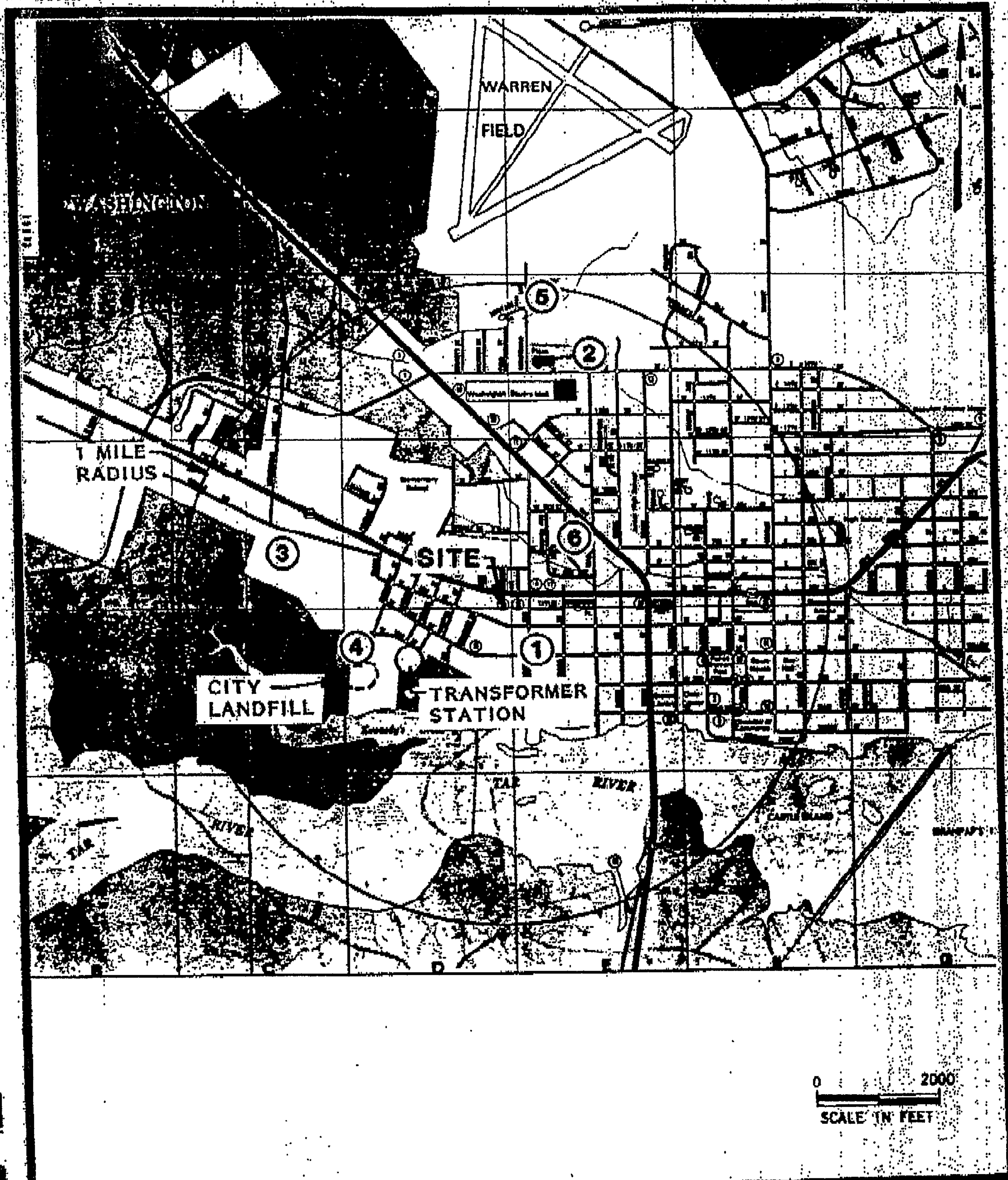
5 Min. Quad Number

Lat. : Deg : Min : Sec : 35° 33' 30"

Long. : Deg : Min : Sec : 77° 04' 30"

Draw Sketch of Area or Attach Additional Maps

see attached site map



FAIRFIELD PARTNERS	LAW ENVIRONMENTAL INC.	CERCLIS AND NOTIFIER FACILITY LOCATION MAP JOB NO.: 55-0567 FIGURE 3

From: **"Guy Pearce" <NROAR01/TS19Y35>**
Organization: **WaRO-DEHNR**
To: **"Willie Hardison" <NROAR01/TS19U40>, "Jeff Welti" <NROAR01/N1E**
Date: **Mon, 1 Dec 1997 14:30:00 +1100**
Subject: **Re: Hackney & Sons - Request for Close Out.**
Cc: **NROAR01/TS19Y35**

From: "Jeff Welti" <NROAR01/N1EG333>
Organization: WaRO-DEHNR
To: "Willie Hardison" <NROAR01/TS19U40>
Date: Tue, 25 Nov 1997 15:07:57 +1100
Subject: Hackney & Sons - Request for Close Out.
Cc: NROAR01/TS19Y35

11/25/97

Willie,

I am in the process of evaluating the Close Out Request from Hackney & Sons. There were reportedly 3 contaminant plumes identified at the facility. 1 The Repair Area\Storm Drain 2. Extrusion Storage Area and 3. The Trailer Test Area. Apparently the CAP addressed only The Repair Area\Storm Drain and Extrusion Storage Area, as per the CAP Page 10...." At this time, the CAP does not address the groundwater contaminant plume in the Trailer Testing Area. An addendum will be submitted subsequent to a decision by Hackney and the NCDEM concerning cleanup of this area."

Do I take this to mean we (DEM) agreed to not have Hackney remediate the GW in the Trailer Test Area?

The arguement I believe was that, yes, some of the contamination was from Hackney, however the investigation "indicated" that some of the contamination was from the adjacent property (Wells JunkYard).

Please advise whether we have agreed to not persue the groundwater contamination in this area and that it is believed to be from another PRP.

Regards,

Jeff

Jeff and Willie,
It is my recollection that the MAJORITY of contaminants found in the

trailer test area were compounds commonly associated with engine degreasers, not compounds routinely used by Hackney. Several attempts to involve the HAZARDOUS WASTE SECTION (i.e. dick denton) in the well's junkyard site were unsucessful, and Mr. Wells claimed he did not use any degreaser type chemicals, he only stored scrap metal, etc. It seems some previous owner may have cleaned engines?, engine parts?, for Stanadyne. The issue of who was the responsible party (since this is not a UST situation and therefore cannot not be arbitrarily laid on the current owner) was never resolved, so no CAP was implemented.

State of North Carolina
Department of Environment
and Natural Resources
Washington Regional Office

James B. Hunt, Jr., Governor
Wayne McDevitt, Secretary

NCDENR
NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

DIVISION OF WATER QUALITY
GROUNDWATER SECTION
December 9, 1997

Mr. Charles R. Mason
Industrial Engineer
Hackney & Sons, Inc.
400 Hackney Avenue
Washington, North Carolina 27889

RE: Close-out Status
Hackney & Sons, Inc. - 400 Hackney Ave
Washington, North Carolina 27889 - Beaufort County
Groundwater Incident Number 9949
Incident Rank 90\E

Dear Mr. Mason:

The Division of Water Quality Groundwater Section has reviewed the activities and monitoring data for the above named site. In view of the removal of the contaminated residual materials, subsequent groundwater remediation and the absence of compounds associated with the original incident, the potential impact to groundwater has been minimized and the resource has been restored as economically as feasible. At this time, no further action will be required at the site. Therefore, the above referenced incident is considered to be closed out. If changes in environmental laws occur, and/or new information becomes available which suggests a need for further action, this decision may be reversed.

Sincerely,

Willie Hardison

Will Hardison
Groundwater Supervisor
Washington Regional Office

cc: Mr. Tim Ohler - Kidron Inc.
Brian E. Kotek, ENSCI Engineering Group
Fay Sweat, PCB
√ WaRO

Facsimile Cover Page

NC DENR
DWQ-Groundwater Section
P.O. Box 29578 Raleigh NC 27626-0578
2728 Capital Blvd. Raleigh, NC 27604
Phone: (919) 733-3221
Fax: (919) 715-0588 or (919) 733-9413

To: Jeff W.
Company:
Phone:
Fax:

From: Fay S.
Phone:
Date: 12-16-97
Pages including this cover page: 4

Comments:

Sorry I forgot to fax this to you sooner, this is not a good time of year for me to remember what I am suppose do! Have a great day!

Harmon
09/19
Brand

POLLUTION INCIDENT/U.S.T. LEAK REPORTING FORM

Department of Environment, Health, Natural Resources
Division of Environmental Management
GROUNDWATER SECTION

Confirm. GW Contamination (Y/N) Yes
Major Soil Contamination (Y/N)
Minor Soil Contaminatin (Y/N)

Incident # 9949

Date Incident Occurred or Leak Detected July 1990

INCIDENT DESCRIPTION

Incident Location/Name: Hackney and Sons, Inc.

Address: 400 Hackney Avenue

City/Town: Washington County: Beaufort Region: WaRO

Briefly Describe Incident: Spills/Releases of various organic compounds (solvents, strippers, etc.) used in the manufacture and repair of truck bodies. Site Assessment related to sale of property indicated 3 areas of the site have been impacted (both soil + groundwater). They are: 1. Repair Building Area 2. Extrusion Storage Area, 3. Trailer Test Area

POTENTIAL SOURCE OWNER-OPERATOR

Potential Source Owner-Operator: Same As Above: Contact Person: Jay A. Witte

Telephone: (919) 946-6521

Company: Hackney and Son's, Inc.

Street Address: 400 Hackney Ave.

City: Washington County: Beaufort State: NC Zip Code: 27889

OWNERSHIP
0. N/A 1. Municipal 2. Military 3. Unknown 4. Private 5. Federal 6. County 7. State

OPERATION TYPE
0. N/A 1. Public Service 2. Agricultrural 3. Residential 4. Educational/Relig. 5. Industrial 6. Commercial 7. Mining

POLLUTANTS INVOLVED

MATERIALS INVOLVED	AMOUNT LOST	AMOUNT RECOVERED
Various organic compounds (solvents, strippers, etc.)	unknown	No Free Product

SOURCE OF POLLUTION

PRIMARY SOURCE OF POLLUTION (Select one)
1. Intentional dump
2. Pit, pond, lagoon
3. Leak-underground
4. Spray irrigation
5. Land application
6. Animal feedlot
7. Source unknown
8. Septic tank
9. Sewer line
10. Stockpile
11. Landfill
12. Spill-surface
13. Well
14. Dredge spoil
15. Nonpoint source

PRIMARY POLLUTANT TYPE (Select one)
1. Pesticide/herbicide
2. Radioactive waste
3. Gasoline/diesel
4. Heating oil
5. Other petroleum prod.
6. Sewage/septage
7. Fertilizers
8. Sludge
9. Solid waste leachate
10. Metals
11. Other inorganics
12. Other organics

LOCATION
1. Facility
2. Railroad
3. Waterway
4. Pipeline
5. Dumpsite
6. Highway
7. Residence
8. Other

SETTING
1. Residential
2. Industrial
3. Urban
4. Rural

RECEIVED
MAR 15 1993
POLLUTION CONTROL BRANCH

Site Priority Ranking: 90/E

D.E.M. Regional Contact: Guy C. Pearce Signature: Guy C. Pearce Date: 3/11/93

IMPACT ON DRINKING WATER SUPPLIES

WELLS AFFECTED 1. YES 2. NO

NUMBER OF WELLS AFFECTED none Known

Well(s) Contaminated: (Users Name)

1. N/A
2.
3.
4.
5.

Circle Appropriate Responses
Lab Samples Taken By: 1. DEM 2. DHS 3. Responsible Party 4. Other 5. None

Samples Taken Include: 1. Groundwater 2. Soil

LOCATION OF INCIDENT

7 1/2 Min. Quad Name Washington, NC

5 Min. Quad Number

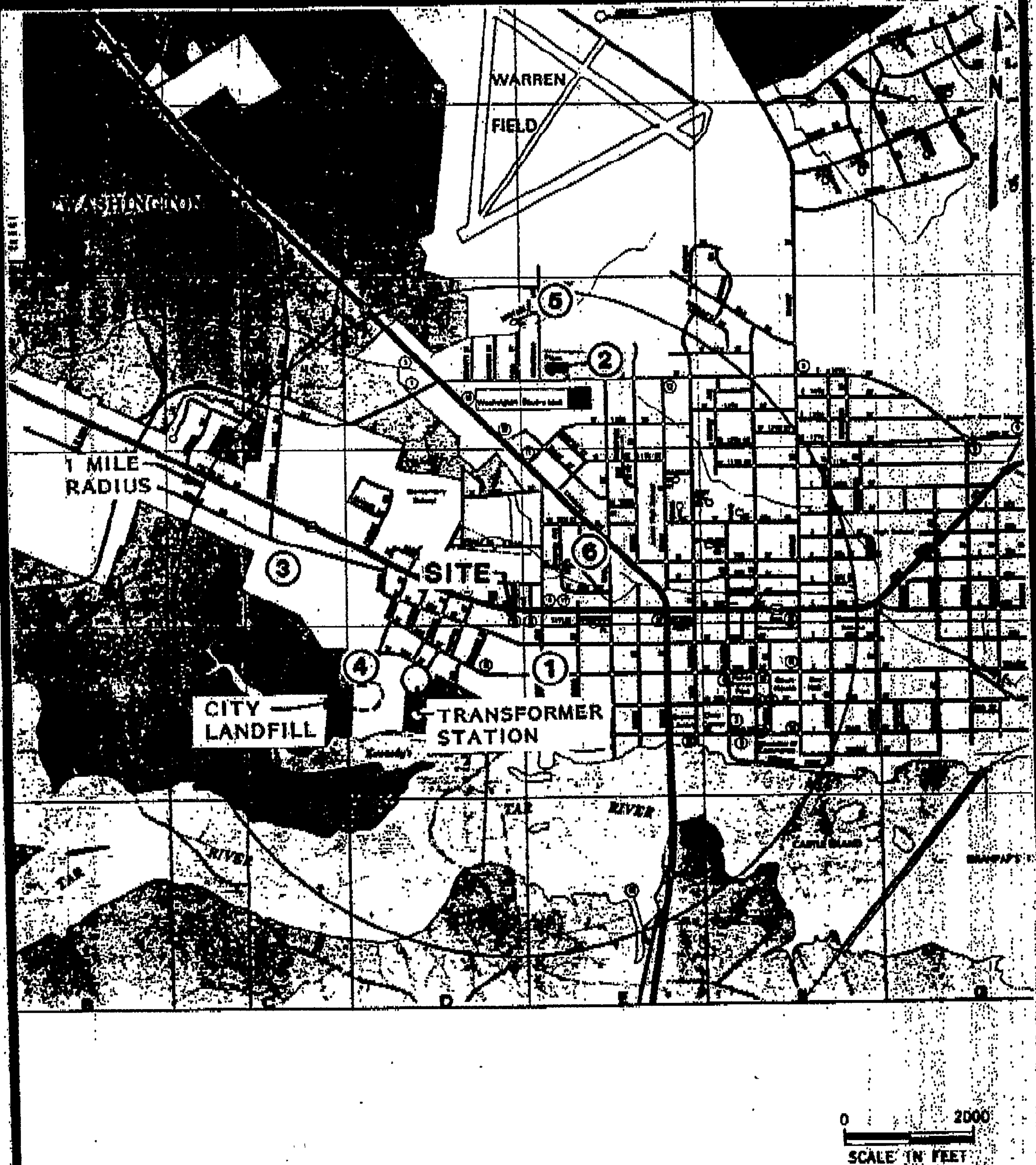
Lat. : Deg : Min : Sec : 35° 33' 30"

Long. : Deg : Min : Sec : 77° 04' 50"

Draw Sketch of Area or Attach Additional Maps

see attached site map

AP 47263A



FAIRFIELD PARTNERS	LAW ENVIRONMENTAL INC.	CERCLIS AND NOTIFIER FACILITY LOCATION MAP JOB NO.: 55-0567 FIGURE 3

COUNTY:: BEAUFORT
FACILITY NAME:: HACKNEY AND SONS, INC.
LAT:
LONG:
QUAD NO.:: N20n
FACILITY TYPE: GW REMEDIATION
VOLUME (MG/D):: .010
PERMIT #: WQ0007970
DATE 1st ISS.:: 8/24/93
RENEWED:
DATE EXP.: 7/31/98
MW REQ. Y/N: Y
MW REQ.: 11
MW INST.: 11
STATUS (ACT\RESC): A
PARAMETERS:: EPA METHODS 624 AND 625, pH,W/L
COMMENTS:
FAC INSP DATE:
INSPs NAME:
REGION:
LAB CERT # PRIMARY:
LAB CERT # SECONDARY:
SAMPLE DATE (GW-59):

COUNTY: BEAUFORT
Incident No.: 9949
INCIDENT NAME: HACKNEY AND SONS, INC.
MANG: CJW
INCIDENT LOCATION: 400 HACKNEY AVENUE
INCIDENT CITY: WASHINGTON
QUAD NO.: N20n
GPS / LAT:
GPS / LONG:
INCID TYPE: SPILL
RESPONSIBLE PARTY: HACKNEY AND SONS, INC.
AFFIX:
FIRST:
MI:
LAST:
COMPANY:
ADDRESS1:
CITY:
ST:
ZIP:
INCID REPT'D: 7/01/90
INCID OCC'D:
SOIL CONT: Y
GW CONT: Y
INVEST DATE: 7/01/90
PIRF/RANK: 3/11/93
RANK SCORE: 90/E
NOTICE SUSPENDED:
NOTICE SENT:
NOTICE:
GRN SLIP RET:
45 DAY REPT DUE:
45 DAY REPT REC:
CSA DUE:

CSA EXT:
NOV/CSA (submit):
CSA REC'D: 11/12/92
CSA REV'D: 1/10/93
CSA ADDIN DUE:
CSA ADDIN REC'D:
CSA ADDIN REV'D:
NOV/CSA (cmplte):
NOV/CSA DUE:
NOV/CSA REC'D:
NOV/CSA REV'D:
CSA ENFORCE:
CAP DUE:
CAP EXT:
NOV/CAP (submit):
CAP RECV'D: 2/25/93
CAP TYPE: C
CAP REV'D: 4/06/93
CAP ADDIN:
CAP ADDIN RECV'D:
CAP ADDIN REV'D:
NOV/CAP (cmplte):
NOV/CAP DUE:
NOV/CAP RECV'D:
CAP APPRV'D: 8/24/93
CAP ENFORCE:
STATUS: CA
CLOSED OUT:
COMMENTS: CAS C-PLAN IS RUNNING SOLVENTS ARE CONTAMINANT

From: "Guy Pearce" <NROAR01/TS19Y35>
Organization: WaRO-DEHNR
To: "Willie Hardison" <NROAR01/TS19U40>, "Jeff Welti" <NROAR0
Date: Mon, 1 Dec 1997 14:30:00 +1100
Subject: Re: Hackney & Sons - Request for Close Out.
CC: NROAR01/TS19Y35

From: "Jeff Welti" <NROAR01/N1EG333>
Organization: WaRO-DEHNR
To: "Willie Hardison" <NROAR01/TS19U40>
Date: Tue, 25 Nov 1997 15:07:57 +1100
Subject: Hackney & Sons - Request for Close Out.
Cc: NROAR01/TS19Y35

11/25/97

Willie,

I am in the process of evaluating the Close Out Request from Hackney & Sons. There were reportedly 3 contaminant plumes identified at the facility. 1 The Repair Area\Storm Drain 2. Extrusion Storage Area and 3. The Trailer Test Area. Apparently the CAP addressed only The Repair Area\Storm Drain and Extrusion Storage Area, as per the CAP Page 10...." At this time, the CAP does not address the groundwater contaminant plume in the Trailer Testing Area. An addendum will be submitted subsequent to a decision by Hackney and the NCDEM concerning cleanup of this area."

Do I take this to mean we (DEM) agreed to not have Hackney remediate the GW in the Trailer Test Area?

The arguement I believe was that, yes, some of the contamination was from Hackney, however the investigation "indicated" that some of the contamination was from the adjacent property (Wells JunkYard).

Please advise whether we have agreed to not persue the groundwater contamination in this area and that it is believed to be from another PRP.

Regards,

Jeff

Jeff and Willie,
It is my recollection that the MAJORITY of contaminants found in the trailer test area were compounds commonly associated with engine degreasers, not compounds routinely used by Hackney. Several attempts to involve the HAZARDOUS WASTE SECTION (i.e. dick denton) in the well's junkyard site were unsucessful, and Mr. Wells claimed he did not use any degreaser type chemicals, he only stored scrap metal, etc. It seems some previous owner may have cleaned engines?, engine parts?, for Stanadyne. The issue of who was the responsible party (since thi not a UST situation and therefore cannot not be arbitrarily laid on the curre owner) was never resolved, so no CAP was implemented.

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GROUNDWATER QUALITY MONITORING: COMPLIANCE REPORT FORM

For additional forms please write or call: WARD

DIVISION OF ENVIRONMENTAL MANAGEMENT - GROUNDWATER SECTION
P.O. BOX 29535
RALEIGH, NC 27626-0535
(919) 733-3221

Type or Use a ball-point pen and press firmly.

Facility Name HACKNEY + SONS
Address 400 HACKNEY AV. P.O. 880
WASHINGTON N.C. County BEAUFORT
Well Location See Attached Report
Well Identification Number ______ Well Depth ______ Ft.
Well Diameter ______ Sample (Screened) Interval ______ Ft. To ______ Ft.
Depth to Water Level ______ ft. below measuring point (before sampling)
Measuring point is ______ ft. above land surface
Gallons of water pumped/bailed before sampling ______
Field Analysis: pH ______ Specific Conductance ______ uMhos Temp. ______ °C Odor ______ Appearance ______
Date Sample Collected June 2, 1994 Date Lab Sample Analyzed ______
Laboratory Name Aqua Chem Certification No. ______
SAMPLES FOR METALS WERE COLLECTED UNFILTERED AND FIELD ACIDIFIED ______YES ______NO

PERMIT NUMBER: **(REQUIRED)**
Non-Discharge ______
NPDES ______
TYPE OF DISPOSAL OPERATION BEING MONITORED
(REQUIRED)

- ______ Lagoon
- ______ Spray Field
- ______ Land Application of Sludge
- ______ Rotary Distributor
- ______ Septic Tank/Drain Field
- ______ Subsurface Low-Pressure Piping (LPP)
- ✓ Other

RECEIVED
WASHINGTON OFFICE
JUL 14 1994
D. E. M.

COD	mg/l	Nitrite (NO_2) as N	mg/l	Ni - Nickel	mg/l
Coliform: MF Fecal	/100ml	Nitrate (NO_3) as N	mg/l	Pb - Lead	mg/l
Coliform: MF Total	/100ml	Phosphorus: Total as P	mg/l	Zn - Zinc	mg/l
(Note: Use MPN method for highly turbid samples)		Al - Aluminum	mg/l	Pesticides/Herbicides	
Dissolved Solids: Total	mg/l	Ba - Barium	mg/l	(Specify Compounds)	
pH (when analyzed)	units	Ca - Calcium	mg/l		ug/l
TOC	mg/l	Cd - Cadmium	mg/l		ug/l
Chloride	mg/l	Chromium: Total	mg/l		ug/l
Arsenic	mg/l	Cu - Copper	mg/l	Other (Specify Compounds and	ug/l
Grease and Oils	mg/l	Fe - Iron	mg/l	Concentration units)	ug/l
Hardness: Total	mg/l	Hg - Mercury	mg/l		ug/l
Phenol	mg/l	K - Potassium	mg/l		
Sulfate	mg/l	Mg - Magnesium	mg/l		
Specific Conductance	uMhos	Mn - Manganese	mg/l		
Total Ammonia	mg/l	Na - Sodium	mg/l		
TKN as N	mg/l				

RECEIVED/DEHNR
DEM. GROUND WATER SEC.
94 JUL 11 AM 9:53

I CERTIFY THAT THIS REPORT IS TRUE AND ACCURATE.

Charles R Mason
Signature of Permittee (or Authorized Agent*)

7-6-94
Date

Note: **Values should reflect dissolved and colloidal concentrations. (see #3 on back)**

*** See back for instructions.**
**** Submit blue, green, and yellow copies only to address above.**

GW-59 REV. 6/93

COLLECTION AND ANALYSIS OF GROUNDWATER SAMPLES

1. Samples should be analyzed as soon as possible after collection. **SAMPLES WHICH ARE NOT ANALYSED WITHIN THE HOLDING TIME SPECIFIED FOR THE METHOD USED (SEE #4. BELOW) MUST BE DISCARDED AND NEW SAMPLES COLLECTED.**

2. Metals Analyses: Use Standard Method 3030C for sample preparation (mercury excluded). **DO NOT FILTER METALS SAMPLES IN THE FIELD !!!** Unfiltered samples must be collected for metals, then field acidified with 5 ml concentrated nitric acid per liter of sample, and should be submitted to the lab within 24 hours.
   Sample preparation in the laboratory (extraction and filtration) must be completed within 72 hours of collection.

3. **ANALYSES ARE TO BE MADE OF THE MOBILE CONSTITUENTS (DISSOLVED AS WELL AS COLLOIDAL) IN THE GROUNDWATER, NOT THOSE THAT ARE A PART OF SEDIMENT ASSOCIATED WITH WELL CONSTRUCTION OR SAMPLING PROCEDURES. CHECK WITH YOUR LABORATORY ON PROPER PROCEDURES FOR SAMPLE COLLECTION AND PRESERVATION.**

4. As per Title 15, North Carolina Administrative Code, Subchapter 2L, analytical procedures shall be in accordance with the methods described in one of the following publications, or by other methods approved beforehand by the Director, Division of Environmental Management:
   (a) Standard Methods for the Examination of Water and Wastewater, 16th Edition, 1985 and 17th Edition, 1989, published jointly by American Public Health Association, American Water Works Association and Water Pollution Control Federation;
   (b) Methods for Chemical Analysis of Water and Waste, 1979, U.S. Environmental Protection Agency publication number EPA-600/4-79-020, as revised March 1983;
   (c) Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods, 3rd Edition, 1986, U.S. Environmental Protection Agency publication number SW-846;
   (d) Test Procedures for the Analysis of Polluants Under the Clean Water Act, Federal Register Vol. 49, No. 209, 40 CFR Part 136, October 26, 1984;

5. Measure and record the depth of water in the well prior to pumping or bailing any water from the well.

6. At least 3 volumes of water in the well should be pumped or bailed prior to collecting a sample for analysis. If the well is pumped/bailed dry before 3 well volumes are removed, samples can be collected as soon as the well recovers to the point where enough water is available to collect your sample.

7. Determination for pH, Specific Conductance, temperature, odor and appearance must be made in the field on unfiltered samples when the sample is collected.

8. Field equipment must be calibrated in accordance with recommendations by the manufacturer.

9. Samples must be filtered through a 0.45 micron filter immediately after collection when a dissolved analysis is required. (See #4. above)

10. The sample container should be labeled at the time of collection with the facility name, well identification number and date and time collected.

11. "Authorized agent" is any corporate officer or public official authorized by the company, corporation, or governmental body to sign official documents.

ENSCI®
ENGINEERING GROUP, P.A.

July 30, 1997

RECEIVED
WASHINGTON OFFICE

AUG 0 1 1997

D. E. M.

Mr. Conrad J. Welti
NCDEHNR-Division of Water Quality
Washington Regional Office
943 Washington Square Mall
Washington, NC 27889

RE: Site Closure of Hackney and Sons Facility
Washington, NC - Beaufort County
GW Incident No. 9949

Dear Mr. Welti:

This letter is being sent in response to your correspondence dated June 19, 1997, in which the application for closure of the above-referenced site was denied. A copy of this letter is attached. Upon review of your letter, it appears that the denial of site closure was based on two independent problems: the lack of continuity in the four sampling events used as the basis for the closure application; and the presence of Tetrachloroethene in well MW-26D in the first three sampling events.

According to the analytical results table which was attached to the original site closure request and the resubmitted request, Tetrachloroethene (TCE) was detected in MW-26D at 5.1 ppb during the September, 1995, December, 1995, and March, 1996 sampling events. Review of the original laboratory reports for these three events shows that the table was not correct. The TCE concentrations in well MW-26D during these events **was not** 5.1 ppb, but was in fact below detection limits. The original laboratory reports for this well are attached to display the correct analytical results. If you require a full copy of these reports (together over 100 pages) please contact me. To reiterate, **no violations of 15A NCAC 2L Standards have been found during any of the four sampling events.**

As for the time which elapsed between the March, 1996 event and the April, 1997 event: a verbal arrangement between E. Peter Burger of ENSCI, on behalf of Hackney and Sons, and Mr. Hal Bryson, formerly of your office, was reached after the initial denial of the site closure request due to the lack of a fourth quarterly event. Mr. Bryson stated that he would allow the April, 1997 event to be considered the fourth quarterly sampling event. It could be argued that instead of showing only one year of clean samples, Kidron has shown *two* years of clean samples. Although the fourth event did not immediately follow the third, it seems evident from the laboratory data that the true purpose of remedial activities, the restoration of groundwater quality, has been achieved.

Post Office Box 80275
Raleigh, NC 27623-0275
T (919) 467-1227
F (919) 460-1253

1108 Old Thomasville Road
High Point, North Carolina 27260
T (919) 883-7505
F (919) 882-7958

Please contact E. Peter Burger or myself at 919-303-8080 if you have any questions or wish to discuss this matter further. Also, please note that our address has changed. We are now at 2521 Schieffelin Road, Suite 106, Apex, NC 27502.

Sincerely,

Brian E. Kotek

Brian E. Kotek, CES
Environmental Scientist

cc: Tim Ohler, Kidron Inc.

LETTER FROM MR. CONRAD WELTI, L.G.

State of North Carolina
Department of Environment,
Health and Natural Resources
Washington Regional Office

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

DEHNR

DIVISION OF WATER QUALITY
GROUNDWATER SECTION
June 19, 1997

RECEIVED
JUL - 7 1997

Mr. Brian E. Kotek, C.E.S.
ENSCI Engineering Group
Post Office Box 80275
Raleigh, North Carolina 27623-0275

RE: Site Closure Request for
Hackney and Sons, Inc.
Washington, North Carolina - Beaufort County,
Groundwater Incident No. 9949

Dear Mr. Kotek:

The Groundwater Section of the Washington Regional Office has received the referenced resubmitted report, dated May 20, concerning the Hackney and Sons, Inc. facility in Washington, North Carolina. The report states that groundwater sampling over the past nine (9) months has not detected any compounds above the groundwater quality standards specified in Title 15A, North Carolina Administrative Code, Subchapter 2L (15A NCAC 2L) paragraph .0202, indicating that the groundwater contaminant plume has been remediated.

While we agree that the data suggests remediation has been successful, please be advised *again* that current policy requires the *submittal of four (4) consecutive quarterly monitoring events* with no violations of 15A NCAC 2L groundwater quality standards before a site can be considered for close out. Since your report references only three (3) consecutive quarterly sampling events, we must deny your request for site closure at this time. Additionally, of the three consecutive quarterly monitoring reports Tetrachloroethene was detected in well MW-26d for each of the three quarters at 5.1 ppb, which is above the 2L standard of 0.7 ppb.

Our records indicate that quarterly groundwater sampling was to have been conducted in June 1996. If the results of four consecutive sampling events do not show any exceedances of the groundwater quality standards our office will review the appropriate data along with a request to close the site. This office will also consider a request to reduce the number of monitoring wells for the quarterly monitoring program.

If you have any questions, or wish to discuss this matter further, please contact me at (919) 946-6481.

Sincerely,

Conrad J. Welti

Conrad J. Welti, L.G.
Hydrogeologist I

cc: WaRO Files

LABORATORY REPORT FOR MW-26D

SAMPLE DATE: September 28, 1995

AquaChem
ENVIRONMENTAL LABORATORIES, INC.
11176 Downs Road
Pineville, NC 28134
704/588-5076
FAX 704/588-2454

Certificate of Analysis

Client: Hackney and Sons
400 Hackney Avenue
P.O. Box 880

North Carolina Certification Number: 305
South Carolina Certification Number: 99032

Client #: 248
Contact:

Receipt Date: 29-Sep-95
Report Date: 23-Oct-95

Sample Date: 28-Sep-95
SDG #: SDG-000120
Lab Sample ID: LSID-000460
Sample ID: MW-26D

Approved By:
Robert L. Curry
Project Manager

Parameter	Result	Reporting Limit	Unit	Method	Time	Date	Analyst
1,1,1-Trichloroethane	U	5	ppb	EPA 624	2:40	10/5/95	CH
1,1,2,2-Tetrachloroethane	U	5	ppb	EPA 624	2:40	10/5/95	CH
1,1,2-Trichloroethane	U	5	ppb	EPA 624	2:40	10/5/95	CH
1,1-Dichloroethane	U	5	ppb	EPA 624	2:40	10/5/95	CH
1,1-Dichloroethene	U	5	ppb	EPA 624	2:40	10/5/95	CH
1,2-Dichlorobenzene	U	5	ppb	EPA 624	2:40	10/5/95	CH
1,2-Dichloroethane	U	5	ppb	EPA 624	2:40	10/5/95	CH
1,2-Dichloropropane	U	5	ppb	EPA 624	2:40	10/5/95	CH
1,3-Dichlorobenzene	U	5	ppb	EPA 624	2:40	10/5/95	CH
1,4-Dichlorobenzne	U	5	ppb	EPA 624	2:40	10/5/95	CH
2-Chloroethylvinyl ether	U	20	ppb	EPA 624	2:40	10/5/95	CH
Acetone	U	10	ppb	EPA 624	2:40	10/5/95	ch
Benzene	U	5	ppb	EPA 624	2:40	10/5/95	CH
Bromodichloromethane	U	5	ppb	EPA 624	2:40	10/5/95	CH
Bromoform	U	5	ppb	EPA 624	2:40	10/5/95	CH
Bromomethane	U	5	ppb	EPA 624	2:40	10/5/95	CH
Carbon Tetrachloride	U	5	ppb	EPA 624	2:40	10/5/95	CH
Chlorobenzene	U	5	ppb	EPA 624	2:40	10/5/95	CH
Chloroethane	U	5	ppb	EPA 624	2:40	10/5/95	CH

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11176 Downs Road
Pineville, NC 28134
704/588-5076
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Lab Sample ID: LSID-000460
Sample ID: MW-26D

Approved By: [signature]
Robert L. Curry
Project Manager

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Chloroform	U	5	ppb	EPA 624	2:40	10/5/95	CH
Chloromethane	U	5	ppb	EPA 624	2:40	10/5/95	CH
cis-1,3-Dichloropropene	U	5	ppb	EPA 624	2:40	10/5/95	CH
Dibromochloromethane	U	5	ppb	EPA 624	2:40	10/5/95	CH
Ethyl Benzene	U	5	ppb	EPA 624	2:40	10/5/95	CH
Methylene Chloride	U	5	ppb	EPA 624	2:40	10/5/95	CH
Tetrachloroethene	U	5	ppb	EPA 624	2:40	10/5/95	CH
Toluene	U	5	ppb	EPA 624	2:40	10/5/95	CH
Total Xylenes	U	5	ppb	EPA 624	2:40	10/5/95	CH
trans-1,2-Dichloroethene	U	5	ppb	EPA 624	2:40	10/5/95	CH
trans-1,3-Dichloropropene	U	5	ppb	EPA 624	2:40	10/5/95	CH
Trichloroethene	U	5	ppb	EPA 624	2:40	10/5/95	CH
Trichlorofluoromethane	U	5	ppb	EPA 624	2:40	10/5/95	CH
Vinyl Chloride	U	5	ppb	EPA 624	2:40	10/5/95	CH

AquaChem
ENVIRONMENTAL LABORATORIES, INC.
11175 DOWNS ROAD
PINEVILLE, NC 28134
704/588-5076
FAX 704/588-2454

CHAIN OF CUSTODY

Client: Hackney and Sons Inc
Address: PO Box 880
City: Washington State: NC Zip: 27889
Contact Person: Charles Mason
Sampled By: JACK JONES

Phone Number: (919) 946-6521 ext 244
Fax Number: (919) 975-8344
Purchase Order Number:
Certification Requirement:
Project Name:
Rush Charges Authorized ☑ Yes ☐ No

By relinquishing this sample(s) to Laboratory Personnel, I warrant that I am authorized to enter into this agreement for the Client named above and that I authorize the below analysis subject to the terms and conditions on the reverse hereof. This agreement is governed by the terms and conditions on the reverse side hereof. Analysis charges shall be as included in the Laboratories fee schedule in effect at the time of the analysis.

Relinquished By: Jack Jones Date: 9-28-95 Time: 2200
Received By: Nikki [illegible] Date: 9-29-95 Time: 0800
Relinquished By: Date: Time:
Received By: Date: Time:

Samples received on ice? Yes ☐ No ☐

Sample ID	Plastic	Glass	Date & Time Sampled	Composite	Grab	Lab ID	BOD	COD	TSS	pH	Ammonia	Oil & Grease	Cyanide	Phenol	Arsenic	Selenium	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Mercury	Silver	Barium	TCLP (Complete)	TPH (3550)	TPH (5030)	TPH (9071)	Other Analysis	Preservative
OW-15	X		9-28-95 1250		X	LSID-454				X																					
OW-15		X	9-28-95 1250		X	455																								624 + acetone xylenes	
MW-25	X		9-28-95 1415		X	457				X																				6	
MW-25		X	9-28-95 1415		X	456																								624 + acetone xylenes	
MW-26	X		9-28-95 1450		X	459				X																				6	
MW-26		X	9-28-95 1450		X	458																								624 + acetone xylenes	
MW-26D	X		9-28-95 1440		X	461				X																					
MW-26D		X	9-28-95 1440		X	460																								624 + acetone xylenes	
MW-30	X		9-28-95 1510		X	463				X																					
MW-30		X	9-28-95 1510		X	462																								624 + acetone xylenes.	

Autosampler Sampler Location
Date Installed Time Installed Flow CF/GPD
Date Picked Up Time Picked Up Flow
Composite Type: ☐ Flow ☐ Time ☐ Hand

Field pH
Result
Analyst
Time/Date
(QA/QC Separate)

Please sign and return the white and yellow copies to the Laboratory.

AquaChem
ENVIRONMENTAL LABORATORIES, INC.
11175 DOWNS ROAD
PINEVILLE, NC 28134
704/588-6076
FAX 704/588-2454

CHAIN OF CUSTODY

Client: Harkeny and Sons Inc.
Address: Po Box 880
City: Washington State: NC Zip: 27889
Contact Person: Charles Mason
Sampled By: JACK Jones

Phone Number: (919) 946-6521 ext 244
Fax Number: (919) 975-8344
Purchase Order Number:
Certification Requirement:
Project Name:
Rush Charges Authorized ☐ Yes ☐ No

By relinquishing this sample(s) to Laboratory Personnel, I warrant that I am authorized to enter into this agreement for the Client named above and that I authorize the below analysis subject to the terms and conditions on the reverse hereof. This agreement is governed by the terms and conditions on the reverse side hereof. Analysis charges shall be as included in the Laboratories fee schedule in effect at the time of the analysis.

Relinquished By: [signature]		Date: 9-28-95	Time: 2200
Received By: [signature]		Date: ~~9-28-95~~	Time: ~~2200~~
Relinquished By:		Date: 9-29-95	Time: 0800
Received By:		Date:	Time:

Samples received on ice? Yes ☐ No ☐

Sample ID	Plastic	Glass	Date & Time Sampled	Composite	Grab	Lab ID	BOD	COD	TSS	pH	Ammonia	Oil & Grease	Cyanide	Phenol	Arsenic	Selenium	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Mercury	Silver	Barium	TCLP (Complete)	TPH (3550)	TPH (5030)	TPH (9071)	Other Analysis	Preservative
MW-29	X		9-28-95 1425		X	465				X																					
MW-29		X	9-28-95 1425		X	464																								624 + acetone + xylenes	

Autosampler Sampler Location____
Date Installed____ Time Installed____ Flow____ CF/GPD
Date Picked Up____ Time Picked Up____ Flow____
Composite Type: ☐ Flow ☐ Time ☐ Hand

Field pH
Result____
Analyst____
Time/Date____
(QA/QC Separate)

Please sign and return the white and yellow copies to the Laboratory.

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ENVIRONMENTAL LABORATORIES, INC.
11176 DOWNS ROAD
PINEVILLE, NC 28134
704/588-5076
FAX 704/588-2454

CHAIN OF CUSTODY

Client: Hackney and Sons Inc.
Address: PO Box 880
City Washington State: NC Zip: 27889
Contact Person Charles Mason
Sampled By: Jack Jones

Phone Number: (919) 946-6521 ext 244
Fax Number: (919) 975-8344
Purchase Order Number:
Certification Requirement:
Project Name:
Rush Charges Authorized ☐ Yes ☐ No

By relinquishing this sample(s) to Laboratory Personnel, I warrant that I am authorized to enter into this agreement for the Client named above and that I authorize the below analysis subject to the terms and conditions on the reverse hereof. This agreement is governed by the terms and conditions on the reverse side hereof. Analysis charges shall be as included in the Laboratories fee schedule in effect at the time of the analysis.

Relinquished By: [signature] Date: 9-28-95 Time: 2200
Received By: [signature] Date: 9-29-95 Time: 0800
Relinquished By: Date: Time:
Received By: Date: Time:

Samples received on ice? Yes ☐ No ☐

Sample ID	Plastic	Glass	Date & Time Sampled	Composite	Grab	Lab ID	BOD	COD	TSS	pH	Ammonia	Oil & Grease	Cyanide	Phenol	Arsenic	Selenium	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Mercury	Silver	Barium	TCLP (Complete)	TPH (3550)	TPH (5030)	TPH (9071)	Other Analysis	Preservative
MW-29B	X		9-28-95 1215		X	467				X																					
MW-29B		X	9-28-95 1215		X	466																								624 + acetone + xylenes	
MW-28B	X		9-28-95 1230		X	469				X																					
MW-28B		X	9-28-95 1230		X	468																								624 + acetone + xylenes	
MW-30B	X		9-28-95 1243		X	471				X																					
MW-30B		X	9-28-95 1243		X	470																								624 + acetone + xylenes	
MW-11	X		9-28-95 1350		X	473				X																					
MW-11		X	9-28-95 1350		X	472																								624 + acetone + xylenes	
OW-1D	X		9-28-95 1330		X	475				X																					
OW-1D		X	9-28-95 1330		X	474																								624 + acetone + xylenes	

Autosampler Sampler Location
Date Installed Time Installed Flow CF/GPD
Date Picked Up Time Picked Up Flow
Composite Type: ☐ Flow ☐ Time ☐ Hand

Field pH
Result
Analyst
Time/Date
(QA/QC Separate)

Please sign and return the white and yellow copies to the Laboratory.

LABORATORY REPORT FOR MW-26D

SAMPLE DATE: December 1, 1995

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Consultants, Inc

O E C

Certificate of Analysis

Client: Hackney and Sons
400 Hackney Ave., P.O. Box 880
Wahington, NC 27889

North Carolina Certification Number: 305
South Carolina Certification Number: 99032

Client #: 248
Contact: Charles Mason

Receipt Date: 01-Dec-95
Report Date: 22-Dec-95

Sample Date: 01-Dec-95
SDG #: SDG-000517
Lab Sample ID: LSID-002047
Sample ID: MW-26D

Approved By:
Kenneth R. Richardson
Project Manager

Parameter	Result	Reporting Limit	Unit	Method	Time	Date	Analyst
pH	7.00	0	su	EPA 150.1	15:00	12/1/95	JBJ
Water Level	6.37	0	Ft.	Manual Tape	15:00	12/1/95	JBJ
Temperature	19.5	0	Deg. C.	Temperaure	15:00	12/1/95	JBJ

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Certificate of Analysis

Client: Hackney and Sons
400 Hackney Ave., P.O. Box 880
Wahington, NC 27889

North Carolina Certification Number: 305
South Carolina Certification Number: 99032

Client #: 248
Contact: Charles Mason

Receipt Date: 01-Dec-95
Report Date: 22-Dec-95

Sample Date: 01-Dec-95
SDG #: SDG-000517
Lab Sample ID: LSID-002048
Sample ID: MW-26D

Approved By:
Kenneth R. Richardson
Project Manager

Parameter	Result	Reporting Limit	Unit	Method	Time	Date	Analyst
1,1,1-Trichloroethane	U	5	ppb	EPA 624		12/15/95	DMB
1,1,2,2-Tetrachloroehtane	U	5	ppb	EPA 624		12/15/95	DMB
1,1,2-Trichloroethane	U	5	ppb	EPA 624		12/15/95	DMB
1,1-Dichloroethane	U	5	ppb	EPA 624		12/15/95	DMB
1,1-Dichloroethene	U	5	ppb	EPA 624		12/15/95	DMB
1,2-Dichlorobenzene	U	5	ppb	EPA 624		12/15/95	DMB
1,2-Dichloroethane	U	5	ppb	EPA 624		12/15/95	DMB
1,2-Dichloropropane	U	5	ppb	EPA 624		12/15/95	DMB
1,3-Dichlorobenzene	U	5	ppb	EPA 624		12/15/95	DMB
1,4-Dichlorobenzne	U	5	ppb	EPA 624		12/15/95	DMB
2-Chloroethylvinyl ether	U	5	ppb	EPA 624		12/15/95	DMB
Acetone	U	10	ppb	EPA 624		12/15/95	DMB
Benzene	U	5	ppb	EPA 624		12/15/95	DMB
Bromodichloromethane	U	5	ppb	EPA 624		12/15/95	DMB
Bromoform	U	5	ppb	EPA 624		12/15/95	DMB
Bromomethane	U	5	ppb	EPA 624		12/15/95	DMB
Carbon Tetrachloride	U	5	ppb	EPA 624		12/15/95	DMB
Chlorobenzene	U	5	ppb	EPA 624		12/15/95	DMB
Chloroethane	U	5	ppb	EPA 624		12/15/95	DMB
Chloroform	U	5	ppb	EPA 624		12/15/95	DMB
Chloromethane	U	5	ppb	EPA 624		12/15/95	DMB

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Certificate of Analysis

Client: Hackney and Sons
400 Hackney Ave., P.O. Box 880
Wahington, NC 27889

North Carolina Certification Number: 305
South Carolina Certification Number: 99032

Client #: 248
Contact: Charles Mason

Receipt Date: 01-Dec-95
Report Date: 22-Dec-95

Sample Date: 01-Dec-95
SDG #: SDG-000517
Lab Sample ID: LSID-002048
Sample ID: MW-26D

Approved By:
Kenneth R. Richardson
Project Manager

Parameter	Result	Reporting Limit	Unit	Method	Time	Date	Analyst
cis-1,3-Dichloropropene	U	5	ppb	EPA 624		12/15/95	DMB
Dibromochloromethane	U	5	ppb	EPA 624		12/15/95	DMB
Ethyl Benzene	U	5	ppb	EPA 624		12/15/95	DMB
Methylene Chloride	U	5	ppb	EPA 624		12/15/95	DMB
Tetrachloroethene	U	5	ppb	EPA 624		12/15/95	DMB
Toluene	U	5	ppb	EPA 624		12/15/95	DMB
Total Xylenes	U	5	ppb	EPA 624		12/15/95	DMB
trans-1,2-Dichloroethene	U	5	ppb	EPA 624		12/15/95	DMB
trans-1,3-Dichloropropene	U	5	ppb	EPA 624		12/15/95	DMB
Trichloroethene	U	5	ppb	EPA 624		12/15/95	DMB
Trichlorofluoromethane	U	5	ppb	EPA 624		12/15/95	DMB
Vinyl Chloride	U	5	ppb	EPA 624		12/15/95	DMB

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Certificate of Analysis

Client: Hackney and Sons
400 Hackney Ave., P.O. Box 880
Wahington, NC 27889

North Carolina Certification Number: 305
South Carolina Certification Number: 99032

Client #: 248
Contact: Charles Mason

Receipt Date: 01-Dec-95
Report Date: 22-Dec-95

Sample Date: 01-Dec-95
SDG #: SDG-000517
Lab Sample ID: LSID-002049
Sample ID: MW-26D

Approved By:
Kenneth R. Richardson
Project Manager

Parameter	Result	Reporting Limit	Unit	Method	Time	Date	Analyst
1,2,4-Trichlorobenzene	U	10	ppb	EPA 625		12/12/95	JB
1,2-Dichlorobenzene	U	10	ppb	EPA 625		12/12/95	JB
1,3-Dichlorobenzene	U	10	ppb	EPA 625		12/12/95	JB
1,4-Dichlorobenzene	U	10	ppb	EPA 625		12/12/95	JB
2,4,6-Trichlorophenol	U	10	ppb	EPA 625		12/12/95	JB
2,4-Dichlorophenol	U	10	ppb	EPA 625		12/12/95	JB
2,4-Dimethylphenol	U	10	ppb	EPA 625		12/12/95	JB
2,4-Dinitrophenol	U	50	ppb	EPA 625		12/12/95	JB
2,4-Dinitrotoluene	U	10	ppb	EPA 625		12/12/95	JB
2,6-Dinitrotoluene	U	10	ppb	EPA 625		12/12/95	JB
2-Chlorophenol	U	10	ppb	EPA 625		12/12/95	JB
2-Chlronaphthalene	U	10	ppb	EPA 625		12/12/95	JB
2-Methyl-4,6-dinitrophenol	U	50	ppb	EPA 625		12/12/95	JB
2-Nitrophenol	U	10	ppb	EPA 625		12/12/95	JB
3,3-Dichlorobenzidine	U	50	ppb	EPA 625		12/12/95	JB
4-Bromophenyl phenyl ether	U	10	ppb	EPA 625		12/12/95	JB
4-Chloro-3-methylphenol	U	10	ppb	EPA 625		12/12/95	JB
4-Chlorophenyl phenyl ether	U	10	ppb	EPA 625		12/12/95	JB
4-Nitrophenol	U	50	ppb	EPA 625		12/12/95	JB
Acenaphthene	U	10	ppb	EPA 625		12/12/95	JB
Acenaphthylene	U	10	ppb	EPA 625		12/12/95	JB

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Certificate of Analysis

Client: Hackney and Sons
400 Hackney Ave., P.O. Box 880
Wahington, NC 27889

North Carolina Certification Number: 305
South Carolina Certification Number: 99032

Client #: 248
Contact: Charles Mason

Receipt Date: 01-Dec-95
Report Date: 22-Dec-95

Sample Date: 01-Dec-95
SDG #: SDG-000517
Lab Sample ID: LSID-002049
Sample ID: MW-26D

Approved By:
Kenneth R. Richardson
Project Manager

Parameter	Result	Reporting Limit	Unit	Method	Time	Date	Analyst
Anthracene	U	10	ppb	EPA 625		12/12/95	JB
Benzo(a)anthracene	U	10	ppb	EPA 625		12/12/95	JB
Benzo(a)pyrene	U	10	ppb	EPA 625		12/12/95	JB
Benzo(b)fluoranthene	U	10	ppb	EPA 625		12/12/95	JB
Benzo(ghi)perylene	U	10	ppb	EPA 625		12/12/95	JB
Benzo(k)fluoranthene	U	10	ppb	EPA 625		12/12/95	JB
Bis(2-chloroethoxy) methane	U	10	ppb	EPA 625		12/12/95	JB
Bis(2-chloroethyl) ether	U	10	ppb	EPA 625		12/12/95	JB
Bis(2-chloroisopropyl) ehter	U	10	ppb	EPA 625		12/12/95	JB
Bis(2-ethylhexyl) phthalate	U	10	ppb	EPA 625		12/12/95	JB
Butyl benzyl phthalate	U	10	ppb	EPA 625		12/12/95	JB
Chrysene	U	10	ppb	EPA 625		12/12/95	JB
Di-n-butylphthalate	U	10	ppb	EPA 625		12/12/95	JB
Di-n-octylphthalate	U	10	ppb	EPA 625		12/12/95	JB
Dibenzo(a,h)anthracene	U	10	ppb	EPA 625		12/12/95	JB
Diethyl phthalate	U	10	ppb	EPA 625		12/12/95	JB
Dimethyl phthalate	U	10	ppb	EPA 625		12/12/95	JB
Fluoranthene	U	10	ppb	EPA 625		12/12/95	JB
Fluorene	U	10	ppb	EPA 625		12/12/95	JB
Hexachlorobenzene	U	10	ppb	EPA 625		12/12/95	JB
Hexachlorobutadiene	U	10	ppb	EPA 625		12/12/95	JB

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Certificate of Analysis

Client: Hackney and Sons
400 Hackney Ave., P.O. Box 880
Wahington, NC 27889

North Carolina Certification Number: 305
South Carolina Certification Number: 99032

Client #: 248
Contact: Charles Mason

Receipt Date: 01-Dec-95
Report Date: 22-Dec-95

Sample Date: 01-Dec-95
SDG #: SDG-000517
Lab Sample ID: LSID-002049
Sample ID: MW-26D

Approved By:
Kenneth R. Richardson
Project Manager

Parameter	Result	Reporting Limit	Unit	Method	Time	Date	Analyst
Hexachlorocyclopentadiene	U	10	ppb	EPA 625		12/12/95	JB
Hexachloroethane	U	10	ppb	EPA 625		12/12/95	JB
Indeno(1,2,3-cd)pyrene	U	10	ppb	EPA 625		12/12/95	JB
Isophorone	U	10	ppb	EPA 625		12/12/95	JB
N-Nitrodiphenylamine	U	10	ppb	EPA 625		12/12/95	JB
N-Nitrosodi-n-propylamine	U	10	ppb	EPA 625		12/12/95	JB
Naphthalene	U	10	ppb	EPA 625		12/12/95	JB
Nitrobenzene	U	10	ppb	EPA 625		12/12/95	JB
Pentachlorophenol	U	50	ppb	EPA 625		12/12/95	JB
Phenanthrene	U	10	ppb	EPA 625		12/12/95	JB
Phenol	U	10	ppb	EPA 625		12/12/95	JB
Pyrene	U	10	ppb	EPA 625		12/12/95	JB

AquaChem
ENVIRONMENTAL LABORATORIES, INC.
11176 DOWNS ROAD
PINEVILLE, NC 28134
704/588-5076
FAX 704/588-2454

CHAIN OF CUSTODY

Client: Hackney and Sons

Address: 400 Hackney Avenue

City: Washington State: NC Zip: 27889

Contact Person ____________

Sampled By: Jack Jones

Phone Number: (____) ____________

Fax Number: (____) ____________

Purchase Order Number: E 84597

Certification Requirement: ____________

Project Name: ____________

Rush Charges Authorized ☐ Yes ☐ No

By relinquishing this sample(s) to Laboratory Personnel, I warrant that I am authorized to enter into this agreement for the Client named above and that I authorize the below analysis subject to the terms and conditions on the reverse hereof. This agreement is governed by the terms and conditions on the reverse side hereof. Analysis charges shall be as included in the Laboratories fee schedule in effect at the time of the analysis.

Relinquished By: Jack Jones Date: 12-1-95 Time: 2100

Received By: Jackie Moore Date: ____ Time: ____

Relinquished By: ____ Date: ____ Time: ____

Received By: ____ Date: ____ Time: ____

Samples received on ice? Yes ☒ No ☐

Sample ID	PLASTIC	GLASS	Date & Time Sampled	COMPOSITE	GRAB	SDG115 17 Lab ID	BOD	COD	TSS	pH	Ammonia	Oil & Grease	Cyanide	Phenol	Arsenic	Selenium	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Mercury	Silver	Barium	TCLP (Complete)	TPH (3550)	TPH (5030)	TPH (9071)	Other Analysis	Preservative
MW-29	X		12-1-95 1545		X	1S1D-2056				X																				Temp. water level	
MW-29		X	12-1-95 1545		X	2057-624 2058 625																								624, 625	
Trip Blank						2059-624 2060-625																								625, 624	

Autosampler Sampler Location ____________

Date Installed ____________ Time Installed ____________ Flow ________ CF/GPD

Date Picked Up ____________ Time Picked Up ____________ Flow ________

Composite Type: ☐ Flow ☐ Time ☐ Hand

Field pH
Result ____________
Analyst ____________
Time/Date ____________
(QA/QC Separate)

Please sign and return the white and yellow copies to the Laboratory.

AquaChem
ENVIRONMENTAL LABORATORIES, INC.
11176 DOWNS ROAD
PINEVILLE, NC 28134
704/588-5076
FAX 704/588-2454

CHAIN OF CUSTODY

Client: Hackney and Sons
Address: 400 Hackney Avenue
City: Washington State: NC Zip: 27889
Contact Person:
Sampled By: Jack Jones

Phone Number: ( )
Fax Number: ( )
Purchase Order Number: E 84597
Certification Requirement:
Project Name:
Rush Charges Authorized ☐ Yes ☐ No

By relinquishing this sample(s) to Laboratory Personnel, I warrant that I am authorized to enter into this agreement for the Client named above and that I authorize the below analysis subject to the terms and conditions on the reverse hereof. This agreement is governed by the terms and conditions on the reverse side hereof. Analysis charges shall be as included in the Laboratories fee schedule in effect at the time of the analysis.

Relinquished By: [illegible] Date: 12-1-95 Time: 2100
Received By: [illegible] Date: Time:
Relinquished By: Date: Time:
Received By: Date: Time:

Samples received on ice? Yes ☒ No ☐

SDGH 517

Sample ID	PLASTIC	GLASS	Date & Time Sampled	COMPOSITE	GRAB	Lab ID	BOD	COD	TSS	pH	Ammonia	Oil & Grease	Cyanide	Phenol	Arsenic	Selenium	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Mercury	Silver	Barium	TCLP (Complete)	TPH (3550)	TPH (5030)	TPH (9071)	Other Analysis	Preservative
MW-11	X		12-1-95 1410		X	(SID-2041				X																				Temp. water level	
MW-11		X	12-1-95 1410		X	2042-624 2043-625																								624, 625	
MW-25	X		12-1-95 1445		X	(SID-2044				X																				Temp. Water levell	
MW-25		X	12-1-95 1445		X	2045-624 2046-625																								624, 625	
MW-26d	X		12-1-95 1500		X	(SID-2047				X																				Temp. water level	
MW-26d		X	12-1-95 1500		X	2048-624 2049-625																								624, 625	
MW-26	X		12-1-95 1515		X	(SID-2050				X																				Temp. water level	
MW-26		X	12-1-95 1515		X	2051 624 2052 625																								624 625	
MW-30	X		12-1-95 1610		X	2053				X																				Temp. Water level	
MW-30		X	12-1-95 1610		X	2054 624 2055 625																								624 625	

Autosampler Sampler Location
Date Installed Time Installed Flow CF/GPD
Date Picked Up Time Picked Up Flow
Composite Type: ☐ Flow ☐ Time ☐ Hand

Field pH
Result
Analyst
Time/Date
(QA/QC Separate)

Please sign and return the white and yellow copies to the Laboratory.

248

AquaChem
ENVIRONMENTAL LABORATORIES, INC.
11176 DOWNS ROAD
PINEVILLE, NC 28134

704/588-5076
FAX 704/588-2454

CHAIN OF CUSTODY

Client: Hackney and Sons
Address: 400 Hackney Avenue
City Washington State: NC Zip: 27889
Contact Person
Sampled By: Jack Jones

Phone Number: (____)
Fax Number: (____)
Purchase Order Number: E84597
Certification Requirement:
Project Name:
Rush Charges Authorized ☐ Yes ☐ No

By relinquishing this sample(s) to Laboratory Personnel, I warrant that I am authorized to enter into this agreement for the Client named above and that I authorize the below analysis subject to the terms and conditions on the reverse hereof. This agreement is governed by the terms and conditions on the reverse side hereof. Analysis charges shall be as included in the Laboratories fee schedule in effect at the time of the analysis.

Relinquished By: [signature] Date: 12-1-95 Time: 2100
Received By: Nikki [illegible] Date: 12-4-95 Time: 0800
Relinquished By: Date: Time:
Received By: Date: Time:

SDG 11 517

Samples received on ice? Yes ☒ No ☐

Sample ID	PLASTIC	GLASS	Date & Time Sampled	COMPOSITE	GRAB	Lab ID	BOD	COD	TSS	pH	Ammonia	Oil & Grease	Cyanide	Phenol	Arsenic	Selenium	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Mercury	Silver	Barium	TCLP (Complete)	TPH (3550)	TPH (5030)	TPH (9071)	Other Analysis	Preservative
MW-29B	X		12-1-95 1215		X	LSD-2026				X																				Temp. water level	
MW-29B		X	12-1-95 1215		X	2027 624 2028 -625																								624, 625	
MW-28B	X		12-1-95 1255		X	LSID-2029				X																				Temp. Water level	
MW-28B		X	12-1-95 1255		X	2030-624 2031-625																								624, 625	
MW-30B	X		12-1-95 1240		X	LSID-2032				X																				Temp. water level	
MW-30B		X	12-1-95 1240		X	2033-624 2034-625																								624, 625	
OW-1D	X		12-1-95 1350		X	LSID-2035				X																				Temp. water level	
OW-1D		X	12-1-95 1350		X	2036-624 2037-625																								624 625	
OW-1S	X		12-1-95 1308		X	LSID-2038				X																				Temp. water level	
OW-1S		X	12-1-95 1308		X	2039-624 2040-625																								624 625	

Autosampler Sampler Location________
Date Installed________ Time Installed________ Flow________CF/GPD
Date Picked Up________ Time Picked Up________ Flow________
Composite Type: ☐ Flow ☐ Time ☐ Hand

Field pH
Result________
Analyst________
Time/Date________
(QA/QC Separate)

Please sign and return the white and yellow copies to the Laboratory.

LABORATORY REPORT FOR MW-26D

SAMPLE DATE: March 14, 1996

Omni
Environmental
Consultants, Inc

O E C

Certificate of Analysis

Client:	Hackney and Sons 400 Hackney Ave., P.O. Box 880 Wahington, NC 27889	**North Carolina Certification Number:**	**305**
		South Carolina Certification Number:	**99032**
Client #:	248	**Receipt Date:**	15-Mar-96
Contact:	Charles Mason	**Report Date:**	18-Apr-96

Sample Date: 14-Mar-96
SDG #: SDG-000947
Lab Sample ID: LSID-003518
Sample ID: MW-26d

Approved By:
Kenneth R. Richardson
Project Manager

Parameter	Result	Reporting Limit	Unit	Method	Time	Date	Analyst
1,1,1-Trichloroethane	U	5	ppb	EPA 624	11:35	3/28/96	SVG
1,1,2,2-Tetrachloroehtane	U	5	ppb	EPA 624	11:35	3/28/96	SVG
1,1,2-Trichloroethane	U	10	ppb	EPA 624	11:35	3/28/96	SVG
1,1-Dichloroethane	U	5	ppb	EPA 624	11:35	3/28/96	SVG
1,1-Dichloroethene	U	5	ppb	EPA 624	11:35	3/28/96	SVG
1,2-Dichlorobenzene	U	5	ppb	EPA 624	11:35	3/28/96	SVG
1,2-Dichloroethane	U	5	ppb	EPA 624	11:35	3/28/96	SVG
1,2-Dichloropropane	U	5	ppb	EPA 624	11:35	3/28/96	SVG
1,3-Dichlorobenzene	U	5	ppb	EPA 624	11:35	3/28/96	SVG
1,4-Dichlorobenzne	U	5	ppb	EPA 624	11:35	3/28/96	SVG
2-Chloroethylvinyl ether	U	10	ppb	EPA 624	11:35	3/28/96	SVG
Acetone	U	15	ppb	EPA 624	11:35	3/28/96	SVG
Benzene	U	5	ppb	EPA 624	11:35	3/28/96	SVG
Bromodichloromethane	U	5	ppb	EPA 624	11:35	3/28/96	SVG
Bromoform	U	5	ppb	EPA 624	11:35	3/28/96	SVG
Bromomethane	U	10	ppb	EPA 624	11:35	3/28/96	SVG
Carbon tetrachloride	U	10	ppb	EPA 624	11:35	3/28/96	SVG
Chlorobenzene	U	5	ppb	EPA 624	11:35	3/28/96	SVG
Chloroethane	U	10	ppb	EPA 624	11:35	3/28/96	SVG
Chloroform	U	5	ppb	EPA 624	11:35	3/28/96	SVG
Chloromethane	U	5	ppb	EPA 624	11:35	3/28/96	SVG

11176 Downs Road - Pineville, NC 28134 Phone: (704) 587-7404 - FAX: (704) 587-7398

Omni
Environmental
Consultants, Inc

OEC

Certificate of Analysis

Client: Hackney and Sons
400 Hackney Ave., P.O. Box 880
Wahington, NC 27889

North Carolina Certification Number: 305
South Carolina Certification Number: 99032

Client #: 248
Contact: Charles Mason

Receipt Date: 15-Mar-96
Report Date: 18-Apr-96

Sample Date: 14-Mar-96
SDG #: SDG-000947
Lab Sample ID: LSID-003518
Sample ID: MW-26d

Approved By:
Kenneth R. Richardson
Project Manager

Parameter	Result	Reporting Limit	Unit	Method	Time	Date	Analyst
cis-1,3-Dichloropropene	U	5	ppb	EPA 624	11:35	3/28/96	SVG
Dibromochloromethane	U	5	ppb	EPA 624	11:35	3/28/96	SVG
Ethylbenzene	U	10	ppb	EPA 624	11:35	3/28/96	SVG
Methylene chloride	U	10	ppb	EPA 624	11:35	3/28/96	SVG
Tetrachloroethene	U	5	ppb	EPA 624	11:35	3/28/96	SVG
Toluene	U	5	ppb	EPA 624	11:35	3/28/96	SVG
Total Xylenes	U	10	ppb	EPA 624	11:35	3/28/96	SVG
trans-1,2-Dichloroethene	U	5	ppb	EPA 624	11:35	3/28/96	SVG
trans-1,3-Dichloropropene	U	5	ppb	EPA 624	11:35	3/28/96	SVG
Trichloroethene	U	5	ppb	EPA 624	11:35	3/28/96	SVG
Trichlorofluoromethane	U	5	ppb	EPA 624	11:35	3/28/96	SVG
Vinyl chloride	U	5	ppb	EPA 624	11:35	3/28/96	SVG

__Omni__
__Environmental__
__Consultants, Inc__

O E C

Certificate of Analysis

Client: Hackney and Sons
400 Hackney Ave., P.O. Box 880
Wahington, NC 27889

North Carolina Certification Number: 305
South Carolina Certification Number: 99032

Client #: 248
Contact: Charles Mason

Receipt Date: 15-Mar-96
Report Date: 18-Apr-96

Sample Date: 14-Mar-96
SDG #: SDG-000947
Lab Sample ID: LSID-003519
Sample ID: MW-26d

Approved By:
Kenneth R. Richardson
Project Manager

Parameter	Result	Reporting Limit	Unit	Method	Time	Date	Analyst
pH	7.78	0	su	EPA 150.1	12:55	3/14/96	TBM

1184

Omni Environment Consultants, Inc.

OEC

CHAIN OF CUSTODY

11176 Downs Road - Pineville, NC 28134
704/588-5076
FAX 704/588-2454

Client: Hackney & Sons
Address: 400 Hackney Ave P.O Box 880
City Washington State: NC Zip: 27889
Contact Person Charles Mason
Sampled By: Tim McCorkle

Phone Number: (919) 946-6521 extn: 244
Fax Number: (919) 975-8344
Purchase Order Number:
Certification Requirement:
Project Name:
Rush Charges Authorized ☐ Yes ☐ No

By relinquishing this sample(s) to Laboratory Personnel, I warrant that I am authorized to enter into this agreement for the Client named above and that I authorize the below analysis subject to the terms and conditions on the reverse hereof. This agreement is governed by the terms and conditions on the reverse side hereof. Analysis charges shall be as included in the Laboratories fee schedule in effect at the time of the analysis.

Relinquished By: Tim McCorkle, OEC Date: 3-15-96 Time: 12:00
Received By: Vicki Noble OEC Date: 3-15-96 Time: 12:02
Relinquished By: Date: Time:
Received By: Date: Time:

Samples received on ice? Yes ☑ No ☐

Sample ID	Plastic	Glass	Date & Time Sampled	Composite	Grab	Lab ID	BOD	COD	TSS	pH	Ammonia	Oil & Grease	Cyanide	Phenol	Arsenic	Selenium	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Mercury	Silver	Barium	TCLP (Complete)	TPH (3550)	TPH (5030)	TPH (9071)	Other Analysis	Preservative
MW-306		X	3-14-96 11:58		X	LSID-3535																								EPA 624 Acetone Xylene	Ice HCl
MW-306	X				X	LSID-3536				X																					Ice
MW-306						LSID-3536																								Waterlevel	—
MW-11		X	3-14-96 15:05		X	LSID-3537																								EPA 624 Acetone Xylene	Ice HCl
MW-11	X				X	LSID-3538				X																					Ice
MW-11						LSID-~~3588~~ 3538																								waterlevel	—
Trip Blank		X	3-14-96 08:00		X	LSID-3539																								EPA 624 Acetone Xylene	Ice HCl
~~Trip Blank~~	~~X~~				~~X~~	~~LSID-3539~~				~~X~~																					~~Ice~~

Autosampler Sampler Location
Date Installed Time Installed Flow CF/GPD
Date Picked Up Time Picked Up Flow
Composite Type: ☐ Flow ☐ Time ☐ Hand

Field pH
Result
Analyst
Time/Date
(QA/QC Separate)

Please sign and return the white and yellow copies to the Laboratory.

Omni Environmental Consultants, Inc. **OEC**

CHAIN O. CUSTODY

pcs

11176 Downs Road - Pineville, NC 28134
704/588-5076
FAX 704/588-2454

Client: Hackney and Sons
Address: 400 Hackney Ave P.O. Box 880
City: Washington State: NC Zip: 27889
Contact Person: Charles Mason
Sampled By: Tim McCabe

Phone Number: (____)
Fax Number: (____)
Purchase Order Number:
Certification Requirement:
Project Name:
Rush Charges Authorized ☐ Yes ☐ No

By relinquishing this sample(s) to Laboratory Personnel, I warrant that I am authorized to enter into this agreement for the Client named above and that I authorize the below analysis subject to the terms and conditions on the reverse hereof. This agreement is governed by the terms and conditions on the reverse side hereof. Analysis charges shall be as included in the Laboratories fee schedule in effect at the time of the analysis.

Relinquished By: Tim McCabe, OEC Date: 3-15-96 Time: 12:00
Received By: [illegible] Moore, OEC Date: 3-15-96 Time: 12:00
Relinquished By: Date: Time:
Received By: Date: Time:

Samples received on ice? Yes ☑ No ☐

Sample ID	Plastic	Glass	Date & Time Sampled	Composite	Grab	Lab ID	BOD	COD	TSS	pH	Ammonia	Oil & Grease	Cyanide	Phenol	Arsenic	Selenium	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Mercury	Silver	Barium	TCLP (Complete)	TPH (3550)	TPH (5030)	TPH (9071)	Other Analysis	Preservative
MW-25		X	3-14-96 13:20		X	LSID-3529																								EPA 624 Acetone Xylene	Ice HCl
MW-25	X		|		X	LSID-3530				X																					Ice
MW-25			|			LSID-3530																								Waterlevel	—
OW1S		X	3-14-96 14:35		X	LSID-3531																								EPA 624 Acetone Xylene	Ice HCl
OW1S	X		|		X	LSID-3532				X																					Ice
OW1S						LSID-3532																								Waterlevel	—
MW-27		X	3-14-96 12:37		X	LSID-3533																								EPA 624 Acetone Xylene	Ice HCl
MW-27	X		|		X	LSID-3534				X																					Ice
MW-27			|			LSID-3534																								Waterlevel	—

Autosampler Sampler Location____
Date Installed____ Time Installed____ Flow____CF/GPD
Date Picked Up____ Time Picked Up____ Flow____
Composite Type: ☐ Flow ☐ Time ☐ Hand

Field pH
Result____
Analyst____
Time/Date____
(QA/QC Separate)

Please sign and return the white and yellow copies to the Laboratory.

Environment Consultants, Inc. **OEC**

"58

CHAIN OF CUSTODY

11176 Downs Road - Pineville, NC 28134
704/588-5076
FAX 704/588-2454

Client: Hackney & Sons
Address: 400 Hackney Ave, P.O Box 880
City: Washington State: NC Zip: 27889
Contact Person: Charles Mason
Sampled By: Tim McCorkle

Phone Number: (919) 946-6521 ext: 244
Fax Number: (919) 975-8344
Purchase Order Number:
Certification Requirement:
Project Name:
Rush Charges Authorized ☐ Yes ☐ No

By relinquishing this sample(s) to Laboratory Personnel, I warrant that I am authorized to enter into this agreement for the Client named above and that I authorize the below analysis subject to the terms and conditions on the reverse hereof. This agreement is governed by the terms and conditions on the reverse side hereof. Analysis charges shall be as included in the Laboratories fee schedule in effect at the time of the analysis.

Relinquished By: Tim McCorkle, OEC Date: 3-15-96 Time: 12:00
Received By: Nikki Moore, OEC Date: 3-15-96 Time: 12:00
Relinquished By: Date: Time:
Received By: Date: Time:

Samples received on ice? Yes ☑ No ☐

Sample ID	Plastic	Glass	Date & Time Sampled	Composite	Grab	Lab ID	BOD	COD	TSS	pH	Ammonia	Oil & Grease	Cyanide	Phenol	Arsenic	Selenium	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Mercury	Silver	Barium	TCLP (Complete)	TPH (3550)	TPH (5030)	TPH (9071)	Other Analysis	Preservative
MW-29		X	3-14-96 12:20		X	LSID-3523																								EPA 624 Acetone Xylene	ice HCl
MW-29	X				X	LSID-3524				X																					ice
MW-29						LSID-3524																								Waterlevel	—
MW-28b		X	3-14-96 14:18		X	LSID-3525																								EPA 624 Acetone Xylene	ice HCl
MW-28b	X				X	LSID-3526				X																					ice
MW-28b						LSID-3526																								Waterlevel	—
Dwd-1		X	3-14-96 14:50		X	LSID-3527																								EPA 624 Acetone Xylene	ice HCl
Dwd-1	X				X	LSID-3528				X																					ice
Dwd-1						LSID-3528																								Waterlevel	

Autosampler Sampler Location
Date Installed Time Installed Flow CF/GPD
Date Picked Up Time Picked Up Flow
Composite Type: ☐ Flow ☐ Time ☐ Hand

Field pH
Result
Analyst
Time/Date
(QA/QC Separate)

Please sign and return the white and yellow copies to the Laboratory.

Omni Environmental Consultants, Inc. **OEC**

CHAIN OF CUSTODY

11176 Downs Road - Pineville, NC 28134
704/588-5076
FAX 704/588-2454

Client: Hackney AND SONS
Address: 400 Hackney Ave PO Box 880
City Washington State: NC Zip: 27889
Contact Person Charles Mason
Sampled By: Tim McCorkle

Phone Number: (919) 946-6521 Ext: 244
Fax Number: (919) 975-8341
Purchase Order Number:
Certification Requirement:
Project Name:
Rush Charges Authorized ☐ Yes ☐ No

By relinquishing this sample(s) to Laboratory Personnel, I warrant that I am authorized to enter into this agreement for the Client named above and that I authorize the below analysis subject to the terms and conditions on the reverse hereof. This agreement is governed by the terms and conditions on the reverse side hereof. Analysis charges shall be as included in the Laboratories fee schedule in effect at the time of the analysis.

Relinquished By:	Tim McCorkle, OEC	Date: 3-15-96	Time: 12:00
Received By:	Nikki Moore, OEC	Date: 3-15-96	Time: 12:00
Relinquished By:		Date:	Time:
Received By:		Date:	Time:

Samples received on ice? Yes ☑ No ☐

Sample ID	PLASTIC	GLASS	Date & Time Sampled	COMPOSITE	GRAB	SDGH 947 Lab ID	BOD	COD	TSS	pH	Ammonia	Oil & Grease	Cyanide	Phenol	Arsenic	Selenium	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Mercury	Silver	Barium	TCLP (Complete)	TPH (3550)	TPH (5030)	TPH (9071)	Other Analysis	Preservative
MW-29b		X	3-14-96 14:01		X	LSID-3515																								EPA 624, Acetone Xylene	ice HCl
MW-29b	X				X	LSID-3516			X																						ice
MW-29b						LSID-3517																								water level	—
MW-26d		X	3-14-96 12:59		X	LSID-3518																								EPA 624 Acetone Xylene	ice HCl
MW-26d	X				X	LSID-3519			X																						ice
MW-26d						LSID-3520																								water level	—
MW-30		X	3-14-96 11:58		X	LSID-3521																								EPA 624 Acetone Xylene	ice HCl
MW-30	X				X	LSID-3522			X																						ice
MW-30						LSID-3522																								water level	—

Autosampler Sampler Location
Date Installed Time Installed Flow CF/GPD
Date Picked Up Time Picked Up Flow
Composite Type: ☐ Flow ☐ Time ☐ Hand

Field pH
Result
Analyst
Time/Date
(QA/QC Separate)

Please sign and return the white and yellow copies to the Laboratory.

WaRO

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

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
A. Preston Howard, Jr., P.E., Director

DEHNR

DIVISION OF WATER QUALITY
GROUNDWATER SECTION
July 25, 1996

Ms. Tina C. Calhoun, P.E.
ENSCI Engineering Group
Post Office Box 80275
Raleigh, North Carolina 28523

RE: Site Closure Request for
Hackney and Sons, Inc.
Washington, North Carolina - Beaufort County,
Groundwater Incident No. 9949

Dear Ms. Calhoun:

The Groundwater Section of the Washington Regional Office has received the referenced report, dated June 20, concerning the Hackney and Sons, Inc. facility in Washington, North Carolina. The report states that groundwater sampling over the past nine (9) months has not detected any compounds above the groundwater quality standards specified in Title 15A, North Carolina Administrative Code, Subchapter 2L (15A NCAC 2L) paragraph .0202, indicating that the groundwater contaminant plume has been remediated.

While we agree that the data suggests remediation has been successful, please be advised that current policy requires the submittal of four (4) consecutive quarterly monitoring events with no violations of 15A NCAC 2L groundwater quality standards before a site can be considered for close out. Since your report references only three (3) quarterly sampling events, we must deny your request for site closure at this time.

Our records indicate that quarterly groundwater sampling was to be conducted in June 1996. If the results of this sampling event do not show any exceedances of the groundwater quality standards, please resubmit your request and our office will reconsider this decision.

If you have any questions, or wish to discuss this matter further, please contact me at (919) 946-6481.

Sincerely,

Guy C. Pearce

Guy Pearce
Hydrogeologist I

cc: WaRO Files

ENSCI®
ENGINEERING GROUP, P.A.

June 20, 1996

RECEIVED
WASHINGTON OFFICE
JUN 2 1 1996
D. E. M.

Mr. Willie Hardison
North Carolina Department of Environment,
Health, and Natural Resources
Washington Regional Office
1424 Carolina Avenue
Washington, North Carolina 27889

RE: Site Closure Report
Hackney & Sons facility
Washington, North Carolina
ENSCI Project No.: EE32301
DEM Incident No.: 9949

Dear Mr. Hardison,

Please find enclosed a completed copy of the closure request for the above referenced site. ENSCI Engineering Group, P.A. has prepared this document on behalf of Hackney & Sons, Inc. The report does recommend closure of the site based on the successful completion of remedial activities.

If ENSCI can be of any assistance in evaluating this request, please contact our office at (919) 467-1227.

Sincerely,
ENSCI Engineering Group, P.A.

Tina C. Calhoun

Tina C. Calhoun, P.E.

TCC
enclosure

ENSCI®

ENGINEERING GROUP, P.A.

1N ert/ closeout
C-CP 2959

SITE CLOSURE

HACKNEY & SONS, INC.
WASHINGTON, NORTH CAROLINA
BEAUFORT COUNTY
DEM Incident No. 9949

PREPARED FOR
HACKNEY & SONS, INC.
400 HACKNEY AVENUE
WASHINGTON, NORTH CAROLINA 27889

PREPARED BY
ENSCI ENGINEERING GROUP, P.A.

NORTH CAROLINA PROFESSIONAL SEAL 19750 ENGINEER ANNA C. HOLBERT
11/13/96

ENSCI Project No. EE32301
June 20, 1996

1.0 INTRODUCTION

ENSCI Engineering Group, P.A. (ENSCI) was contracted by Hackney & Sons, Inc. to develop a site closure request for the Hackney & Sons, Inc. (Hackney) facility at the below location:

Hackney & Sons, Inc.
400 Hackney Avenue
Washington, North Carolina 27889
Beaufort County

This Site Closure has been prepared in accordance with North Carolina groundwater regulations as specified in Title 15A of the North Carolina Administrative Code, Subchapter 2L, for submission to the Washington Regional Office of the North Carolina Department of Environment, Health, and Natural Resources, Division of Environmental Management (DEM). The goal of this report is to illustrate the success of the remedial actions taken at the site to date, and to give data supporting the conclusion that no further action is necessary at the referenced site.

2.0 SITE HISTORY

The referenced facility is a production site for specialty, commercial, transfer vehicles. Suspect contamination was initially discovered during Phase I activities in May and June of 1990. The contamination of groundwater was confirmed during Phase II activities. A Comprehensive Site Assessment Report (CSA) was prepared and submitted by ENSCI to Hackney & Sons, Inc. on November 12, 1992. A Corrective Action Plan (CAP) was subsequently prepared by ENSCI and submitted to Hackney & Sons, Inc. on February 25, 1993. The CAP was implemented in November, 1993.

During the preparation of the CSA, 12 monitoring wells and 6 temporary piezometers were installed and sampled. The monitoring well locations are depicted in **Figure 1**, and the sampling results are summarized in **Appendix A, Tables 1 & 2**. Contamination was discovered in two distinct areas, the Repair and Storm Drain Area and the Extrusion Storage Area.

After the installation of the remedial system, influent/effluent samples and flow readings were taken monthly, and monitoring well samples were taken quarterly. **Appendix B, Table 3**, summarizes the flow readings taken from the two control panels since the system was started in November of 1993. **Appendix B, Tables 4 & 5** summarizes the sampling results from the influent and effluent samples taken from the system over the last seven months. **Appendix C, Tables 6 through 11**, summarizes the Quarterly Monitoring efforts at the site over the last nine months. The routine monitoring of the system and the monitoring wells has illustrated a decrease in contaminants in both areas over time.

3.0 REMEDIATION SYSTEM

The remediation system installed at the site was a pump and treat system. Three groundwater recovery wells and a pump control panel were installed in the Extrusion Storage Area. Four groundwater recovery wells and a pump control panel were installed in the Repair Area. All the recovery wells were constructed of 8-inch diameter schedule 40 PVC, installed to a depth of approximately 12 feet, and covered with a flush-mounted steel vault.

The groundwater recovered from the recovery wells was treated by a biological treatment system. The system consisted of two equalization tanks and a bio-reactor. One equalization tank was placed prior to the bio-reactor and the second placed prior to discharge.

4.0 RISK ASSESSMENTS

The site and surrounding properties are served by a public water system. Underground utilities do exist in the vicinity of the original plume areas; however, these conduits are located above the water table and should not have provided pathways for contaminant migration. There is a ditch in the vicinity of one of the contaminated areas. This ditch does not intersect the water table, nor does it show any signs of contamination since the plume's initial discovery. The initial low risk to human health of this site has not changed since the initial site assessment.

5.0 CONCLUSIONS

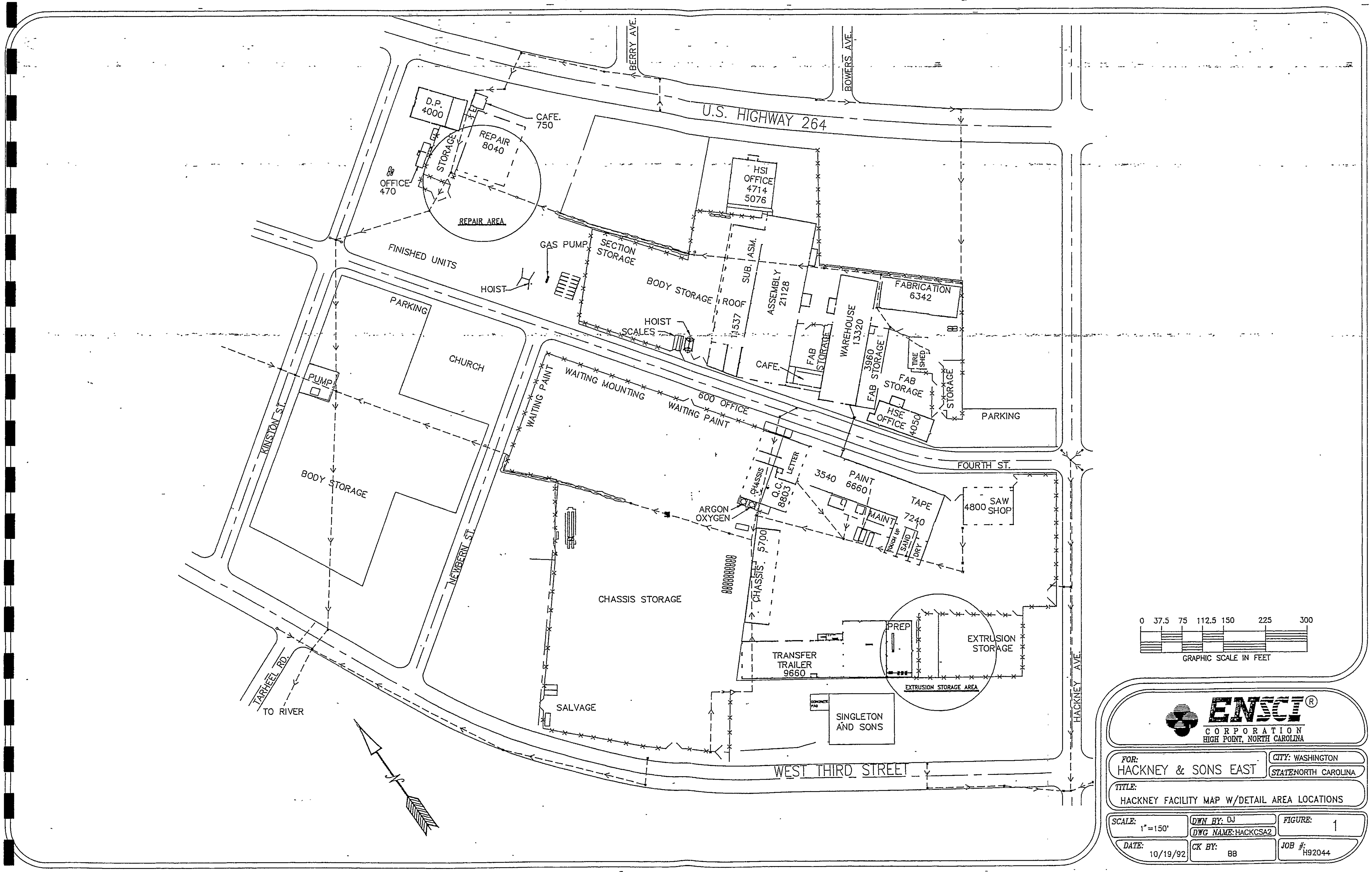
From the data collected over the last nine months, it is evident the remedial actions taken at the site were successful. The contaminant levels in the previous areas of contamination have remained below 2L standards over the last nine months. The influent stream to the remediation system is also below 2L standards. The risk level for this site remains extremely low as discussed earlier. Therefore, it is the opinion of ENSCI that remedial actions at the Hackney facility be terminated, the monitoring recovery wells be abandoned, and the treatment system be removed.

This report prepared by:

ENSCI Engineering Group, P.A.

Tina C Calhoun

Tina C. Calhoun, P.E.
Project Manager



ENSCI® CORPORATION
HIGH POINT, NORTH CAROLINA

FOR: HACKNEY & SONS EAST	CITY: WASHINGTON STATE: NORTH CAROLINA
TITLE: HACKNEY FACILITY MAP W/DETAIL AREA LOCATIONS	

SCALE: 1"=150'	DWN BY: OJ DWG NAME: HACKCSA2	FIGURE: 1
DATE: 10/19/92	CK BY: BB	JOB #: H92044

APPENDIX A

TABLE 1

GROUNDWATER CONTAMINANT CONCENTRATIONS SUMMARIZED FROM CSA
REPAIR AND STORM DRAIN AREA
EPA Method 8240

Well	Date	Methylene Chloride	Acetone	Carbon Disulfide	1,1-Dichloroethane	1,1,1-Trichloroethane	Carbon Tetrachloride	MIBK	Toluene	Xylene (total)	Benzoic Acid	Dibutyl Phthalate	Bis (2-Ethylhexyl) Phthalate
MW-22	5-22-91	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	4.6	2.3
MW-23	5-22-91	BDL	BDL	BDL	BDL	8.9	**1.1**	BDL	2.1	BDL	3.8	**6.3**	2.5
MW-24B	5-27-91	4.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.5	**27**
MW-25B	5-27-91	2.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	3.8	**6.3**	2.5
MW-26B	5-27-91	3.5	8.4	2.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	**61**	**86**
MW-27B	5-27-91	3.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	**7.5**	**83**
MW-28B	5-27-91	2.8	BDL	1.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	**15**	**110**
MW-29B	5-27-91	4.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	**19**	**50**
MW-30B	5-27-91	3.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	3.8	**26**
MW-31B	5-27-91	20000	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	3.3	**30**
OW #1s	3-20-91	BDL	5.0	BDL	**6.0**	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
OW #1d	11-2-90	4.9	BDL	BDL	BDL	2.0	BDL	3.2	12	12	BDL	BDL	**58**
WQ #1	5-22-91	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	**52**	2.8	**38**
WQ #1d	5-22-91	1.0	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2L		5.0	100 700	700	5.0	200	0.3	10	100	400	5.0	5.0	5.0

NOTES:

This table summarizes only compounds that were detected at the site during the site assessment.
BDL represents values below the detection limits of the analyitical method.
Bold values represents concentrations above the 15A NACA 2L standards.
2L indicates concentrations from the 15A NCAC 2L standards.

TABLE 2

GROUNDWATER CONTAMINANT CONCENTRATIONS AS SUMMARIZED IN THE CSA
EXTRUSION STORAGE AREA
EPA Method 8240

Well	Date	Methylene Chloride	Acetone	Carbon Disulfide	Trans-1,2-Dichloroethene	1,1,1-Trichloroethane	Trichloroethene	Tetrachloroethene	Xylene (total)	Phenol	Benzoic Acid	Dibutyl Phthalate	Bis (2-Ethylhexyl) Phthalate
MW-25	5-22-91	BDL	11	BDL	BDL	BDL	BDL	BDL	BDL	BDL	**15**	2.5	**13**
MW-26S	5-22-91	5.0	12	**19**	**30**	1.4	2.5	**16**	BDL	BDL	**9.5**	BDL	**21**
MW-26D	5-22-91	1.1	BDL	BDL	2.0	BDL	BDL	BDL	BDL	3.6	BDL	BDL	2.6
MW-27	5-22-91	1.0	BDL	5	1.4	BDL	BDL	**7.8**	BDL	BDL	**42**	2.2	**9.6**
MW-28	5-22-91	BDL	14	BDL	2.4	BDL	BDL	BDL	BDL	BDL	BDL	3.9	4.2
MW-30	5-22-91	BDL	8.4	BDL	1.1	BDL	BDL	BDL	BDL	BDL	BDL	4.4	BDL
SUMP	2-91	**14000**	BDL	BDL	**26000**	BDL	**3100**	**10000**	**2700**	BDL	BDL	BDL	BDL
2L		5.0	100	700	5.0	200	2.8	0.7	400	5.0	5.0	5.0	5.0

NOTES:

This table summarizes only compounds that were detected at the site during the site assessment.
BDL represents values below the detection limits of the analyitical method.
Bold values represents concentrations above the 15A NACA 2L standards.
2L indicates concentrations from the 15A NCAC 2L standards.

APPENDIX B

TABLE 3

RECOVERED GROUNDWATER SUMMARY

Date	Gallons Recovered	Comments
November, 1993	4185	
December, 1993	20420	
January, 1994	13370	
February, 1994	27005	
March, 1994	109505	3-3-94: ENSCI cleaned pumps
April, 1994	49583	4-10 to 4-20: Computer down
May, 1994	27247	
June, 1994	17390	
July, 1994	9968	
August, 1994	5090	
September, 1994	7360	
October, 1994	31370	10-3-94: ENSCI cleaned pumps
November, 1994	21430	
December, 1994	14245	
January, 1995	8525	
February, 1995	2090	Partial shut down due to frozen line
March, 1995	820	
April, 1995	2010	
May, 1995	24360	5-5-95: ENSCI cleaned pumps
June, 1995	34920	
July, 1995	30200	
August, 1995	74260	8-3-96: Repaired wells in Area A
September, 1995	90090	
October, 1995	88680	
November, 1995	44881	
December, 1995	54150	
January, 1996	36580	
February, 1996	25060	Well recovery rates decreasing
March, 1996	3960	3-14-96: Pumps cleaned
Total	**878454**	

TABLE 4

REMEDIATION SYSTEM INFLUENT AND EFFLUENT SAMPLE RESULTS
SIX MONTH SUMMARY
EPA Method 624

Parameter	INF 26-I	EFF 26-E	INF 27-I	EFF 27-E	INF 28-I	EFF 28-E	INF 29-I	EFF 29-E	INF 30-I	EFF 30-E	INF 31-I	EFF 31-E
	10-12-95	10-12-95	11-6-95	11-6-95	12-1-95	12-1-95	1-8-96	1-8-96	2-12-96	2-12-96	3-15-96	3-15-96
1,1,1-Trichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1,2,2-Tetrachloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1,2-Trichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1-dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1-Dichlorothene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,2-Dichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,2-dichlorothane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,2-Dichloropropane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,3-Dichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,4-Dichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Acetone	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Bromodichloromethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Bromoform	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Bromomethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Carbon Tetrachloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

NOTES:

BDL represents values below the detection limits of the analyitical method.
Bold values represents concentrations above the 15A NACA 2L standards.

TABLE 4 (cont)

REMEDIATION SYSTEM INFLUENT AND EFFLUENT SAMPLE RESULTS
SIX MONTH SUMMARY
EPA Method 624

Parameter	**INF-26-I**	**EFF-26-E**	**INF-27-I**	**EFF-27-E**	**INF-28-I**	**EFF-28-E**	**INF-29-I**	**EFF-29-E**	**INF-30-I**	**EFF-30-E**	**INF-31-I**	**EFF-31-E**
	10-12-95	10-12-95	11-6-95	11-6-95	12-1-95	12-1-95	1-8-96	1-8-96	2-12-96	2-12-96	3-15-96	3-15-96
Chloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chloroform	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chloromethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Cis-1,3-Dichloropropene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
BDLTribromochloromethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Ethyl Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Methylene Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Tetrachloroethene	BDL	BDL	**5.1**	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Total Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
trans-1,2-Dichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
trans-1,3-Dichloropropene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Trichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Trichlorofluoromethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

NOTES:

BDL represents values below the detection limits of the analyitical method.
Bold values represents concentrations above the 15A NACA 2L standards.

TABLE 5
REMEDIATION SYSTEM INFLUENT AND EFFLUENT SAMPLE RESULTS
SIX MONTH SUMMARY
EPA Method 625

Parameter	INF-26-I	EFF-26-E	INF-27-I	EFF-27-E	INF-28-I	EFF-28-E	INF-29-I	EFF-29-E	INF-30-I	EFF-30-E	INF-31-I	EFF-31-E
	10-12-95	10-12-95	11-6-95	11-6-95	12-1-95	12-1-95	1-8-96	1-8-96	2-12-96	2-12-96	3-15-96	3-15-96
1,2,4-Trichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,2-Dichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,3-Dichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,4-Dichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2,4,6-Trichlorophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2,4-Dichlorophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2,4-Dimethylphenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2,4-Dinitrophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2,4-Dinitrotoluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2,6-Dinitrotoluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2-Chlorophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2-Chlronaphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2-Methyl-4,6-dinitrophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2-Nitrophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
3,3-Dichlorobenzidine	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
4-Bromophenyl phenyl ether	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
4-Chloro-3-methylphenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
4-Chlorophenyl phenyl ether	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
4-Nitrophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Acenaphthene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Acenaphthylene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Anthracene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benxo(a)anthracene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(a)pyrene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(b)fluoranthene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(ghi)perylene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(k)flouoranthene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

NOTES:
BDL represents values below the detection limits of the analyitical method.
Bold values represents concentrations above the 15A NACA 2L standards.

TABLE 5 (cont)
REMEDIATION SYSTEM INFLUENT AND EFFLUENT SAMPLE RESULTS
SIX MONTH SUMMARY
EPA Method 625

Parameter	INF-26-I	EFF-26-E	INF-27-I	EFF-27-E	INF-28-I	EFF-28-E	INF-29-I	EFF-29-E	INF-30-I	EFF-30-E	INF-31-I	EFF-31-E
	10-12-95	10-12-95	11-6-95	11-6-95	12-1-95	12-1-95	1-8-96	1-8-96	2-12-96	2-12-96	3-15-96	3-15-96
Bis(2-chloroethoxy) methane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Bis(2-chloroethyl) ether	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Bis(2-chloroisopropyl) methane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Bis(2-ethylhexyl) phthalate	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Butyl benzyl phthalate	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chrysene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Di-n-butylphthalate	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Di-n-octylphthalate	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Dibenzo(a,h)anthracene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Diethyl phthalate	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Dimethyl phthalate	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Fluoranthene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Fluorene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Hexachlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Hexachlorobutadiene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Hexachlorocyclopentadiene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Hexachloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Indeno(1,2,3-cd)pyrene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Isophorone	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
N-Nitrodiphenylamine	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
N-Nitrosodi-n-propylamine	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nitrobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Pentachlorophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Phenanthrene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Phenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Pyrene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

NOTES:
BDL represents values below the detection limits of the analyitical method.
Bold values represents concentrations above the 15A NACA 2L standards.

APPENDIX C

TABLE 6
QUARTERLY MONITORING SUMMARY
September, 1995 EPA Method 624

Parameter	MW-11	MW-25	MW-26	MW-26D	MW-27	MW-28B	MW-29	MW-29B	MW-30	MW-30B	MW-31B	OW #1d	OW #1s
1,1,1-Trichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1,2,2-Tretachloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1,2-Trichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1-Dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,2-Dichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,2-Dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,2-Dichloropropane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,3-Dichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,4-Dichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Acetone	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	24	BDL
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Bromodichloromethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Bromoform	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Bromomethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Carbon Tetrachloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chloroform	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chloromethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Cis-1,3-Dichloropropene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Tribromochloromethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Ethyl Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Methylene Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Tetrachloroethene	BDL	BDL	BDL	5.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Total Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
trans-1,2-Dichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
trans-1,3-Dichloropropene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Trichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Trichlorofluoromethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

TABLE 7

QUARTERLY MONITORING SUMMARY
September, 1995
EPA Method 625

Parameter	MW-11	MW-25	MW-26	MW-26D	MW-27	MW-28B	MW-29	MW-29B	MW-30	MW-30B	MW-31B	OW #1d	OW #1s
1,2,4-Trichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,2-Dichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,3-Dichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,4-Dichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2,4,6-Trichlorophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2,4-Dichlorophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2,4-Dimethylphenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2,4-Dinitrophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2,4-Dinitrotoluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2,6-Dinitrotoluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2-Chlorophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2-Chlronaphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2-Methyl-4,6-dinitrophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2-Nitrophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
3,3-Dichlorobenzidine	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
4-Bromophenyl phenyl ether	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
4-Chloro-3-methylphenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
4-Chlorophenyl phenyl ether	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
4-Nitrophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Acenaphthene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Acenaphthylene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Anthracene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benxo(a)anthracene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(a)pyrene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(b)fluoranthene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(ghi)perylene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(k)flouoranthene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

NOTES:

BDL represents values below the detection limits of the analyitical method.
Bold values represents concentrations above the 15A NACA 2L standards.

TABLE 7 (cont)

QUARTERLY MONTIORING SUMMARY
September, 1995
EPA Method 625

Parameter	MW-11	MW-25	MW-26	MW-26D	MW-27	MW-28B	MW-29	MW-29B	MW-30	MW-30B	MW-31B	OW #1d	OW #1s
Bis(2-chloroethoxy) methane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Bis(2-chloroethyl) ether	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Bis(2-chloroisopropyl) methane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Bis(2-ethylhexyl) phthalate	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Butyl benzyl phthalate	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chrysene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Di-n-butylphthalate	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Di-n-octylphthalate	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Dibenzo(a,h)anthracene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Diethyl phthalate	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Dimethyl phthalate	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Fluoranthene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Fluorene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Hexachlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Hexachlorobutadiene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Hexachlorocyclopentadiene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Hexachloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Indeno(1,2,3-cd)pyrene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Isophorone	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
N-Nitrodiphenylamine	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
N-Nitrosodi-n-propylamine	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nitrobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Pentachlorophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Phenanthrene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Phenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Pyrene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

NOTES:

BDL represents values below the detection limits of the analyitical method.
Bold values represents concentrations above the 15A NACA 2L standards.

TABLE 8

QUARTERLY MONITORING SUMMARY

December, 1995 EPA Method 624

Parameter	MW-11	MW-25	MW-26	MW-26D	MW-27	MW-28B	MW-29	MW-29B	MW-30	MW-30B	MW-31B	OW #1d	OW #1s
1,1,1-Trichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1,2,2-Tretachloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1,2-Trichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1-Dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,2-Dichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,2-Dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,2-Dichloropropane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,3-Dichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,4-Dichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Acetone	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Bromodichloromethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Bromoform	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Bromomethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Carbon Tetrachloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chloroform	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chloromethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Cis-1,3-Dichloropropene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Tribromochloromethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Ethyl Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Methylene Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Tetrachloroethene	BDL	BDL	BDL	5.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Total Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
trans-1,2-Dichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
trans-1,3-Dichloropropene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Trichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Trichlorofluoromethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

TABLE 9

QUARTERLY MONITORING SUMMARY
December, 1995
EPA Method 625

Parameter	MW-11	MW-25	MW-26	MW-26D	MW-27	MW-28B	MW-29	MW-29B	MW-30	MW-30B	MW-31B	OW #1d	OW #1s
1,2,4-Trichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,2-Dichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,3-Dichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,4-Dichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2,4,6-Trichlorophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2,4-Dichlorophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2,4-Dimethylphenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2,4-Dinitrophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2,4-Dinitrotoluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2,6-Dinitrotoluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2-Chlorophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2-Chlronaphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2-Methyl-4,6-dinitrophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2-Nitrophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
3,3-Dichlorobenzidine	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
4-Bromophenyl phenyl ether	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
4-Chloro-3-methylphenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
4-Chlorophenyl phenyl ether	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
4-Nitrophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Acenaphthene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Acenaphthylene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Anthracene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benxo(a)anthracene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(a)pyrene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(b)fluoranthene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(ghi)perylene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(k)flouoranthene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

NOTES:

BDL represents values below the detection limits of the analyitical method.
Bold values represents concentrations above the 15A NACA 2L standards.

TABLE 9 (cont)

QUARTERLY MONTIORING SUMMARY
December, 1995
EPA Method 625

Parameter	MW-11	MW-25	MW-26	MW-26D	MW-27	MW-28B	MW-29	MW-29B	MW-30	MW-30B	MW-31B	OW #1d	OW #1s
Bis(2-chloroethoxy) methane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Bis(2-chloroethyl) ether	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Bis(2-chloroisopropyl) methane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Bis(2-ethylhexyl) phthalate	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Butyl benzyl phthalate	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chrysene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Di-n-butylphthalate	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Di-n-octylphthalate	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Dibenzo(a,h)anthracene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Diethyl phthalate	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Dimethyl phthalate	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Fluoranthene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Fluorene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Hexachlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Hexachlorobutadiene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Hexachlorocyclopentadiene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Hexachloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Indeno(1,2,3-cd)pyrene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Isophorone	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
N-Nitrodiphenylamine	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
N-Nitrosodi-n-propylamine	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nitrobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Pentachlorophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Phenanthrene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Phenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Pyrene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

NOTES:

BDL represents values below the detection limits of the analyitical method.
Bold values represents concentrations above the 15A NACA 2L standards.

TABLE 10

QUARTERLY MONITORING SUMMARY

March, 1996 EPA Method 624

Parameter	MW-11	MW-25	MW-26	MW-26D	MW-27	MW-28B	MW-29	MW-29B	MW-30	MW-30B	MW-31B	OW #1d	OW #1s
1,1,1-Trichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1,2,2-Tretachloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1,2-Trichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1-dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,2-Dichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,2-Dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,2-Dichloropropane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,3-Dichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,4-Dichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Acetone	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Bromodichloromethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Bromoform	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Bromomethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Carbon Tetrachloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chloroform	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chloromethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Cis-1,3-Dichloropropene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Tribromochloromethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Ethyl Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Methylene Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Tetrachloroethene	BDL	BDL	BDL	5.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Total Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
trans-1,2-Dichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
trans-1,3-Dichloropropene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Trichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Trichlorofluoromethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

TABLE 11

QUARTERLY MONITORING SUMMARY
March, 1996
EPA Method 625

Parameter	MW-11	MW-25	MW-26	MW-26D	MW-27	MW-28B	MW-29	MW-29B	MW-30	MW-30B	MW-31B	OW #1d	OW #1s
1,2,4-Trichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,2-Dichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,3-Dichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,4-Dichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2,4,6-Trichlorophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2,4-Dichlorophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2,4-Dimethylphenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2,4-Dinitrophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2,4-Dinitrotoluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2,6-Dinitrotoluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2-Chlorophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2-Chlronaphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2-Methyl-4,6-dinitrophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2-Nitrophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
3,3-Dichlorobenzidine	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
4-Bromophenyl phenyl ether	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
4-Chloro-3-methylphenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
4-Chlorophenyl phenyl ether	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
4-Nitrophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Acenaphthene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Acenaphthylene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Anthracene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benxo(a)anthracene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(a)pyrene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(b)fluoranthene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(ghi)perylene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(k)flouoranthene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

NOTES:

BDL represents values below the detection limits of the analyitical method.
Bold values represents concentrations above the 15A NACA 2L standards.

TABLE 11 (cont)

QUARTERLY MONTIORING SUMMARY
March, 1996
EPA Method 625

Parameter	MW-11	MW-25	MW-26	MW-26D	MW-27	MW-28B	MW-29	MW-29B	MW-30	MW-30B	MW-31B	OW #1d	OW #1s
Bis(2-chloroethoxy) methane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Bis(2-chloroethyl) ether	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Bis(2-chloroisopropyl) methane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Bis(2-ethylhexyl) phthalate	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Butyl benzyl phthalate	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chrysene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Di-n-butylphthalate	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Di-n-octylphthalate	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Dibenzo(a,h)anthracene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Diethyl phthalate	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Dimethyl phthalate	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Fluoranthene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Fluorene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Hexachlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Hexachlorobutadiene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Hexachlorocyclopentadiene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Hexachloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Indeno(1,2,3-cd)pyrene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Isophorone	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
N-Nitrodiphenylamine	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
N-Nitrosodi-n-propylamine	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nitrobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Pentachlorophenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Phenanthrene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Phenol	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Pyrene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

NOTES:

BDL represents values below the detection limits of the analyitical method.
Bold values represents concentrations above the 15A NACA 2L standards.

Post Office Box 80275
Raleigh, North Carolina 27623-0275
T (919) 787-8209
F (919) 881-8205

1108 Old Thomasville Road
High Point, North Carolina 27260
T (919) 883-7505
F (919) 882-7958

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WASHINGTON OFFICE

JUN 07 1996

D. E. M.

June 5, 1996

ENSCI®
ENGINEERING GROUP, P.A.

Guy Pierce
North Carolina Department of Environment,
Health and Natural Resources
Division of Environmental Management
Washington Regional Office
1424 Carolina Avenue
Washington, NC 27889

Re: Hackney & Sons
Site Closure Request

Dear Guy Pierce:

To reiterate the message from Lynn Daniel on May 30, 1996, it is acceptable for the remediation system located at the above referenced facility to remain inoperative during closure request activities, as long as the closure request is submitted within the next few weeks. As I informed Ms. Daniel on May 29, 1996, the system at the referenced facility is currently inoperative apparently due to a control panel malfunction. ENSCI, at the request of Hackney & Sons, was to review the site for closure when this problem arose. Hackney & Sons and ENSCI appreciate your willingness to work with us on providing the most economical and environmentally beneficial solution to this series of events.

The Closure Request should be mailed to your office by June 21, 1996. If the request is not approved by your office, ENSCI will work with Hackney & Sons, and your office to provide the best remedial alternative for the current site conditions.

Sincerely,
ENSCI ENGINEERING GROUP, P.A.

Tina C. Calhoun

Tina C. Calhoun, P.E.
Project Manger

cc: Hackney & Sons
TC/js

Post Office Box 80275
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T (919) 467-1227
F (919) 460-1253

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High Point, North Carolina 27260
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F (919) 882-7958

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

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
A. Preston Howard, Jr., P.E., Director

DEHNR

March 18, 1996

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WASHINGTON OFFICE

MAR 20 1996

D. E. M.

Hackney and Sons, Inc.
400 Hackney Avenue
Washington, NC 27889

Attn: Mr. Jay A. Witte
Director of Operations

SUBJECT: Permit No. WQ0007970/GW95175
Hackney and Sons, Inc.
Groundwater Incident No. 9949
Groundwater Remediation Facilities with Injection Wells
Beaufort County

Dear Mr. Witte:

In accordance with the policy of the Division of Environmental Management to ensure the good quality of North Carolina's groundwater, the referenced Permit requires several activities related to groundwater monitoring. The following guidelines and forms are presented to assist you in complying with those requirements. If you have any questions concerning these matters, you should contact Willie Hardison at the address shown below to discuss the requirements relevant to your specific facility:

Washington Regional Office
1424 Carolina Avenue
Washington, NC 27889
(919) 946-6481

Groundwater Condition No. IV.6.: Sampling of the referenced wells on the schedule and for the constituents listed below:

SCHEDULE: Monitor wells MW-25, MW-26, MW-26d, MW-30, MW-11, MW-28B, MW-29B, MW-30B, OW-1d, and OW-1s shall be sampled every March, June, September, and December.

CONSTITUENTS:

Acetone	Water Levels
EPA Method 624 (VOCs)	Xylenes
pH	

EPA Method 625 (Semi-Volatile Organic Compounds) -- In December only.

Groundwater Section,
P.O. Box 29578, Raleigh, North Carolina 27626-0578
2728 Capital Blvd., Raleigh, North Carolina 27604

Voice 919-733-3221 FAX 919-715-0588

The measurement of water levels must be made prior to sampling for the remaining parameters.

The results of all analyses specified in the monitoring requirements must be submitted simultaneously.

* **A supply of forms (GW-59) on which the analytical results must be reported is attached**. Instructions are provided on the reverse of the white copy of each four-part form. The analytical results should be sent the address shown at the top of the form and is due in our office **no later than the last working day of the month following sample collection.**

* **FOR ANY ADDITIONAL INFORMATION RELATED TO REQUIREMENTS FOR GROUNDWATER QUALITY PROTECTION, PLEASE REFER TO YOUR PERMIT**. A copy of the Groundwater Requirements for Permit No. WQ0007970 is attached for your reference.

If you have any questions, please do not hesitate to contact me at (919) 715-6168.

Sincerely,

Cynthia A. Boyles

Cynthia A. Boyles
Hydrogeological Technician II
Permits and Compliance
Groundwater Section

Attachments

cc: Willie Hardison
Compliance Monitoring Files

IV. GROUNDWATER REQUIREMENTS

1. The COMPLIANCE BOUNDARY for the disposal system is specified by regulations in 15A NCAC 2L, Groundwater Classifications and Standards. The Compliance Boundary is for the disposal system constructed after December 31, 1983 is established at either (1) 250 feet from the waste disposal area, or (2) 50 feet within the property boundary, whichever is closest to the waste disposal area. An exceedance of Groundwater Quality Standards at or beyond the Compliance Boundary is subject to immediate remediation action in addition to the penalty provisions applicable under General Statute 143-215.6A(a)(1).

   In accordance with 15A NCAC 2L, a REVIEW BOUNDARY is established around the disposal systems midway between the Compliance Boundary and the perimeter of the waste disposal area. Any exceedance of standards at the Review Boundary shall require remediation action on the part of the permittee.

2. Any additional groundwater quality monitoring, as deemed necessary by the Division, shall be provided.

3. The treatment system shall consist of a biological degradation unit, as described in the permit application documents

4. The two injection wells shall be constructed of 18 inch diameter stainless steel casing and the screened interval and grouting of each well shall be as indicated in the approved specifications. The wells shall be constructed such that the screened interval of each well is located from 3 feet to 8 feet below land surface, as described in the permit application. Also each wellhead shall be equipped to measure the injection pressure at the screened interval.

5. Injection pressures shall not be greater than the ambient pressure exerted at the screened interval due to the differential in the water table and the water level in the well. If operating pressures are to be increased above this level, the permittee must obtain approval from the Washington Regional Groundwater Supervisor prior to increasing injection pressures.

6. Monitor wells MW-25, MW-26, MW-26d, MW-29, MW-30, MW-11, MW-28B, MW-29B, MW-30B, OW-1d, and OW-1s shall be sampled every March, June, September, and December for the following parameters:

   EPA Methods 624 (Volatile Organic Compounds - including acetone and xylenes)
   pH
   Water Level

   EPA Method 625 (Semi-volatile Organic Compounds) - in December only

   The measurement of water levels must be made prior to sampling for the remaining parameters. The depth to water in each well shall be measured from the surveyed point on the top of the casing.

   The measuring points (top of well casing) of all monitoring wells shall be surveyed to provide the relative elevation of the measuring point for each monitoring well.

   The results of the sampling and analysis shall be sent to the Groundwater Section, Permits and Compliance Unit, P.O. Box 29578 Raleigh, N.C. 27626-0578 on Form GW-59 [Compliance Monitoring Report Form] every April, July, October, and January.

7. The influent and effluent from the treatment system shall be sampled monthly for the parameters specified below:

EPA Methods 624 (Volatile Organic Compounds - including acetone and xylenes)
pH
Water Level

EPA Method 625 (Semi-volatile Organic Compounds) - in December only

The results of the sampling and analysis shall be sent to the Groundwater Section, Permits and Compliance Unit, P.O. Box 29578 Raleigh, N.C. 27626-0578 every April, July, October, and January, along with the groundwater data.

Three copies of the influent and effluent data required should also be sent to the following address by March 1 of each year:

Division of Environmental Management
Water Quality Facilities Assessment Unit
P.O: Box 29535
Raleigh, North Carolina 27626-0535

8. The groundwater treatment system shall consistently achieve at least a 95% treatment efficiency (i.e. remove 95% of the influent contaminants) prior to discharge to the injection wells. If the treatment system fails to consistently achieve this standard, additional treatment units or changes in operational methods, may be required.

9. All components of the groundwater recovery, treatment, and disposal system shall be properly weather-proofed to prevent freezing and failure of the system.

10. The groundwater recovery, treatment and disposal system shall be inspected weekly. If it is determined that the system is malfunctioning, all repairs should be made as soon as possible and reported to the Washington Regional Office within 48 hours.

11. Isoconcentration (lines connecting points of equal concentration) maps in both the vertical and horizontal directions shall be developed using the December groundwater monitoring data for total volatile and semi-volatile hydrocarbons A water level contour map must also be developed on a quarterly basis. These maps shall be submitted along with all other monitoring data for that period.

12. The permittee shall submit a report outlining the injection volumes and pressures of the injection wells. This report may be submitted along with all other monitoring data.

13. All wells that are constructed for purposes of groundwater monitoring shall be constructed in accordance with 15A NCAC 2C .0108 (Standards of Construction for Wells Other than Water Supply) and any other state and local laws and regulations pertaining to well construction.

14. Prior to operation of the groundwater remediation system, the permittee shall certify the mechanical integrity of the injection wells as defined by 15A NCAC 2C .0207. Additionally, an engineering certification shall be provided stating that the injection wells have been constructed in accordance with 15A NCAC 2C .0200 and the conditions of this permit. This certification shall be forwarded to the Groundwater Section Permits Unit, P.O. Box 29578, Raleigh, NC, 27626-0578 prior to operation of the system.

15. The two injection wells shall be constructed such that the screened interval of each well is located from 3 feet to 8 feet below land surface, as described in the permit application.

16. Within sixty (60) days of completion of all monitoring wells, the permittee shall submit two original copies of a scaled topographic map (scale no greater than 1":100') signed and sealed by a professional engineer or a state licensed land surveyor that indicates all of the following information:

    a. the location and identity of each monitoring well,
    b. the location of the waste disposal system,
    c. the location of all property boundaries,
    d. the latitude and longitude of the established horizontal control monument,
    e. the relative elevation of the top of the well casing (which shall be known as the "measuring point"), and
    f. the depth of water below the measuring point at the time the measuring point is established.

17. Upon completion of all well construction activities, a certification must be received from a professional engineer certifying that the monitoring wells are located and constructed in accordance with the Well Construction Standards (15A NCAC 2C) and this permit. This certification should be submitted with copies of the Well Completion Form (GW-1) for each well. Mail this certification and the associated GW-1 forms to the Permits and Compliance Unit, Groundwater Section, P.O. Box 29578, Raleigh, NC, 27626-0578.

18. For the initial sampling of the well as specified elsewhere in the permit, the permittee shall submit a copy of the GW-1 Form (Well Completion Form) with the Compliance Monitoring Form (GW-59) for that well. Compliance Monitoring Forms that do not include copies of the GW-1 form will be returned to the permittee without being processed. Failure to submit these forms as required by this permit may result in the initiation of enforcement activities pursuant to NC General Statutes 143-215.6.

V. INSPECTIONS

1. Adequate inspection, maintenance and cleaning shall be provided by the Permittee to insure proper operation of the subject facilities.

2. The Permittee or his designee shall inspect the groundwater recovery and treatment facilities to prevent malfunctions and deterioration, operator errors and discharges which may cause or lead to the release of wastes to the environment, a threat to human health, or a nuisance. The Permittee shall maintain an inspection log or summary including at least the date and time of inspection, observations made, and any maintenance, repairs, or corrective actions taken by the Permittee. This log of inspections shall be maintained by the Permittee for a period of three years from the date of the inspection and shall be made available to the Division of Environmental Management or other permitting authority, upon request.

3. Any duly authorized officer, employee, or representative of the Division of Environmental Management may, upon presentation of credentials, enter and inspect any property, premises or place on or related to the disposal site or facility at any reasonable time for the purpose of determining compliance with this permit, may inspect or copy any records that must be maintained under the terms and conditions of this permit, and may obtain samples of groundwater, surface water, or leachate.

VI. GENERAL CONDITIONS

1. Issuance of this permit does not constitute approval for reimbursement from the Leaking Petroleum Underground Storage Tank Cleanup Funds (15A NCAC 2P).

2. This permit shall become voidable unless the facilities are constructed in accordance with the conditions of this permit, the approved plans and specifications, and other supporting data.

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

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
A. Preston Howard, Jr., P.E., Director

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WASHINGTON OFFICE

NOV 07 1995

D. E. M.

November 3, 1995

Mr. Jay A. Witte, Director of Operations
Hackney and Sons, Inc.
400 Hackney Avenue
Washington, North Carolina 27889

Subject: Permit No. WQ0007970 Amendment
Hackney and Sons, Inc.
Groundwater Remediation Facilities
Beaufort County

Dear Mr. Witte:

On July 20, 1995, the Division's Washington Regional Office received your request to reduce the groundwater monitoring frequency for semi-volatile organic compounds to an annual event. In accordance with your request, and the initial permit application received June 4, 1993, we are forwarding herewith Permit No. WQ0007970 dated November 3, 1995, to Hackney and Sons, Inc. for the continued operation of the subject groundwater remediation facility. This permit amendment changes the monitoring for semi-volatile organic compounds, from quarterly to annually, in accordance with your request.

This permit shall be effective from the date of issuance until July 31, 1998, shall void Permit No. WQ0007970 issued August 24, 1993, and shall be subject to the conditions and limitations as specified therein. Please pay particular attention to the monitoring requirements in this permit. Failure to establish an adequate system for collecting and maintaining the required operational information will result in future compliance problems.

If any parts, requirements, or limitations contained in this permit are unacceptable, you have the right to request an adjudicatory hearing upon written request within thirty (30) days following receipt of this permit. This request must be in the form of a written petition, conforming to Chapter 150B of the North Carolina General Statutes, and filed with the Office of Administrative Hearings, P.O. Drawer 27447, Raleigh, NC 27611-7447. Unless such demands are made this permit shall be final and binding.

A set of approved plans and specifications was forwarded to you as part of the August 24, 1993 permit, and are considered to be a part of this permit. If you have any questions concerning the Groundwater Conditions or groundwater monitoring requirements, please contact Mr. Brian Wootton in the Groundwater Section at (919) 715-6164. If you need any additional information concerning this matter, please contact Mr. John Seymour at (919) 733-5083 ext. 546.

Sincerely,

Candy W. McCaskill / for

A. Preston Howard, Jr., P.E.

cc: Beaufort County Health Department
ENSCI Engineering Group
Washington Regional Office, Water Quality Section
Washington Regional Office, Groundwater Section
Brian Wootton, Groundwater Section, Central Office
Training and Certification Unit (no rating change)
Facilities Assessment Unit

NORTH CAROLINA

ENVIRONMENTAL MANAGEMENT COMMISSION

DEPARTMENT OF ENVIRONMENT, HEALTH AND NATURAL RESOURCES

RALEIGH

GROUNDWATER REMEDIATION PERMIT

In accordance with the provisions of Article 21 of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules, and Regulations

PERMISSION IS HEREBY GRANTED TO

Hackney and Sons, Inc.

Beaufort County

FOR THE

continued operation of a 10,080 GPD groundwater remediation and injection well disposal facility consisting of seven 1,440 GPD recovery wells, a 500 gallon equalization tank, a biological treatment unit, facilities for nutrient addition, a 500 gallon equalization tank, a bag filter, two injection wells, and all other appurtenances to serve Hackney and Sons, Inc., with no discharge of wastes to the surface waters, pursuant to the application received June 4, 1993, and to the July 20, 1995, modification request, and in conformity with the project plan, specifications, and other supporting data subsequently filed and approved by the Department of Environment, Health and Natural Resources and considered a part of this permit.

This permit shall be effective from the date of issuance until July 31, 1998, shall void Permit No. WQ0007970 issued August 24, 1993, and shall be subject to the following specified conditions and limitations:

I. PERFORMANCE STANDARDS

1. This permit shall become voidable if the soils fail to adequately assimilate the wastes and may be rescinded unless the facilities are installed, maintained, and operated in a manner which will protect the assigned water quality standards of the surface waters and ground waters.

2. In the event that the facilities fail to perform satisfactorily, including the creation of nuisance conditions, the Permittee shall take immediate corrective action, including those actions that may be required by this Division, such as the construction of additional or replacement treatment or disposal facilities.

3. The issuance of this permit shall not relieve the Permittee of the responsibility for damages to surface or groundwaters resulting from the operation of this facility.

4. Any residuals generated from these treatment facilities must be disposed in accordance with General Statute 143-215.1 and in a manner approved by the North Carolina Division of Environmental Management.

5. Diversion or bypassing of the untreated groundwater from the treatment facilities is prohibited.

II. OPERATION AND MAINTENANCE REQUIREMENTS

1. The facilities shall be properly maintained and operated at all times.

2. Upon classification of the facility by the Certification Commission, the Permittee shall employ a certified wastewater treatment plant operator to be in responsible charge (ORC) of the wastewater treatment facilities. The operator must hold a certificate of the type and grade at least equivalent to or greater than the classification assigned to the wastewater treatment facilities by the Certification Commission. The Permittee must also employ a certified back-up operator of the appropriate type and grade to comply with the conditions of Title 15A, Chapter 8A, .0202. The ORC of the facility must visit each Class I facility at least weekly and each Class II, III, and IV facility at least daily, excluding weekends and holidays, and must properly manage and document daily operation and maintenance of the facility and must comply with all other conditions of Title 15A, Chapter 8A, .0202.

3. The facilities shall be effectively maintained and operated as a non-discharge system to prevent the discharge of any wastewater resulting from the operation of this facility.

III. MONITORING AND REPORTING REQUIREMENTS

1. Any monitoring deemed necessary by the Division of Environmental Management to insure surface and ground water protection will be established and an acceptable sampling reporting schedule shall be followed.

2. Noncompliance Notification:

   The Permittee shall report by telephone to the Washington Regional Office, telephone number 919/ 946-6481 as soon as possible, but in no case more than 24 hours or on the next working day following the occurrence or first knowledge of the occurrence of any of the following:

   a. Any occurrence at the wastewater treatment facility which results in the treatment of significant amounts of wastes which are abnormal in quantity or characteristic, such as the dumping of the contents of a basin or tank, the known passage of a slug of hazardous substance through the facility, or any other unusual circumstances;

   b. Any process unit failure, due to known or unknown reasons, that renders the facility incapable of adequate wastewater treatment, such as mechanical or electrical failures of pumps, aerators, compressors, etc.;

   c. Any failure of a pumping station, sewer line, or treatment facility resulting in a by-pass directly to receiving waters without treatment of all or any portion of the influent to such station or facility; or

   d. Any time that self-monitoring information indicates that the facility is not in compliance with its permit limitations.

   Persons reporting such occurrences by telephone shall also file a written report in letter form within 15 days following first knowledge of the occurrence. This report must outline the actions taken or proposed to be taken to ensure that the problem does not recur.

IV. GROUNDWATER REQUIREMENTS

1. The COMPLIANCE BOUNDARY for the disposal system is specified by regulations in 15A NCAC 2L, Groundwater Classifications and Standards. The Compliance Boundary is for the disposal system constructed after December 31, 1983 is established at either (1) 250 feet from the waste disposal area, or (2) 50 feet within the property boundary, whichever is closest to the waste disposal area. An exceedance of Groundwater Quality Standards at or beyond the Compliance Boundary is subject to immediate remediation action in addition to the penalty provisions applicable under General Statute 143-215.6A(a)(1).

   In accordance with 15A NCAC 2L, a REVIEW BOUNDARY is established around the disposal systems midway between the Compliance Boundary and the perimeter of the waste disposal area. Any exceedance of standards at the Review Boundary shall require remediation action on the part of the permittee.

2. Any additional groundwater quality monitoring, as deemed necessary by the Division, shall be provided.

3. The treatment system shall consist of a biological degradation unit, as described in the permit application documents

4. The two injection wells shall be constructed of 18 inch diameter stainless steel casing and the screened interval and grouting of each well shall be as indicated in the approved specifications. The wells shall be constructed such that the screened interval of each well is located from 3 feet to 8 feet below land surface, as described in the permit application. Also each wellhead shall be equipped to measure the injection pressure at the screened interval.

5. Injection pressures shall not be greater than the ambient pressure exerted at the screened interval due to the differential in the water table and the water level in the well. If operating pressures are to be increased above this level, the permittee must obtain approval from the Washington Regional Groundwater Supervisor prior to increasing injection pressures.

6. Monitor wells MW-25, MW-26, MW-26d, MW-29, MW-30, MW-11, MW-28B, MW-29B, MW-30B, OW-1d, and OW-1s shall be sampled every March, June, September, and December for the following parameters:

   EPA Methods 624 (Volatile Organic Compounds - including acetone and xylenes)
   pH
   Water Level

   EPA Method 625 (Semi-volatile Organic Compounds) - in December only

   The measurement of water levels must be made prior to sampling for the remaining parameters. The depth to water in each well shall be measured from the surveyed point on the top of the casing.

   The measuring points (top of well casing) of all monitoring wells shall be surveyed to provide the relative elevation of the measuring point for each monitoring well.

   The results of the sampling and analysis shall be sent to the Groundwater Section, Permits and Compliance Unit, P.O. Box 29578 Raleigh, N.C. 27626-0578 on Form GW-59 [Compliance Monitoring Report Form] every April, July, October, and January.

7. The influent and effluent from the treatment system shall be sampled monthly for the parameters specified below:

    EPA Methods 624 (Volatile Organic Compounds - including acetone and xylenes)
    pH
    Water Level

    EPA Method 625 (Semi-volatile Organic Compounds) - in December only

    The results of the sampling and analysis shall be sent to the Groundwater Section, Permits and Compliance Unit, P.O. Box 29578 Raleigh, N.C. 27626-0578 every April, July, October, and January, along with the groundwater data.

    Three copies of the influent and effluent data required should also be sent to the following address by March 1 of each year:

    Division of Environmental Management
    Water Quality Facilities Assessment Unit
    P.O. Box 29535
    Raleigh, North Carolina 27626-0535

8. The groundwater treatment system shall consistently achieve at least a 95% treatment efficiency (i.e. remove 95% of the influent contaminants) prior to discharge to the injection wells. If the treatment system fails to consistently achieve this standard, additional treatment units or changes in operational methods, may be required.

9. All components of the groundwater recovery, treatment, and disposal system shall be properly weather-proofed to prevent freezing and failure of the system.

10. The groundwater recovery, treatment and disposal system shall be inspected weekly. If it is determined that the system is malfunctioning, all repairs should be made as soon as possible and reported to the Washington Regional Office within 48 hours.

11. Isoconcentration (lines connecting points of equal concentration) maps in both the vertical and horizontal directions shall be developed using the December groundwater monitoring data for total volatile and semi-volatile hydrocarbons A water level contour map must also be developed on a quarterly basis. These maps shall be submitted along with all other monitoring data for that period.

12. The permittee shall submit a report outlining the injection volumes and pressures of the injection wells. This report may be submitted along with all other monitoring data.

13. All wells that are constructed for purposes of groundwater monitoring shall be constructed in accordance with 15A NCAC 2C .0108 (Standards of Construction for Wells Other than Water Supply) and any other state and local laws and regulations pertaining to well construction.

14. Prior to operation of the groundwater remediation system, the permittee shall certify the mechanical integrity of the injection wells as defined by 15A NCAC 2C .0207. Additionally, an engineering certification shall be provided stating that the injection wells have been constructed in accordance with 15A NCAC 2C .0200 and the conditions of this permit. This certification shall be forwarded to the Groundwater Section Permits Unit, P.O. Box 29578, Raleigh, NC, 27626-0578 prior to operation of the system.

15. The two injection wells shall be constructed such that the screened interval of each well is located from 3 feet to 8 feet below land surface, as described in the permit application.

16. Within sixty (60) days of completion of all monitoring wells, the permittee shall submit two original copies of a scaled topographic map (scale no greater than 1":100') signed and sealed by a professional engineer or a state licensed land surveyor that indicates all of the following information:

    a. the location and identity of each monitoring well,
    b. the location of the waste disposal system,
    c. the location of all property boundaries,
    d. the latitude and longitude of the established horizontal control monument,
    e. the relative elevation of the top of the well casing (which shall be known as the "measuring point"), and
    f. the depth of water below the measuring point at the time the measuring point is established.

17. Upon completion of all well construction activities, a certification must be received from a professional engineer certifying that the monitoring wells are located and constructed in accordance with the Well Construction Standards (15A NCAC 2C) and this permit. This certification should be submitted with copies of the Well Completion Form (GW-1) for each well. Mail this certification and the associated GW-1 forms to the Permits and Compliance Unit, Groundwater Section, P.O. Box 29578, Raleigh, NC, 27626-0578.

18. For the initial sampling of the well as specified elsewhere in the permit, the permittee shall submit a copy of the GW-1 Form (Well Completion Form) with the Compliance Monitoring Form (GW-59) for that well. Compliance Monitoring Forms that do not include copies of the GW-1 form will be returned to the permittee without being processed. Failure to submit these forms as required by this permit may result in the initiation of enforcement activities pursuant to NC General Statutes 143-215.6.

V. INSPECTIONS

1. Adequate inspection, maintenance and cleaning shall be provided by the Permittee to insure proper operation of the subject facilities.

2. The Permittee or his designee shall inspect the groundwater recovery and treatment facilities to prevent malfunctions and deterioration, operator errors and discharges which may cause or lead to the release of wastes to the environment, a threat to human health, or a nuisance. The Permittee shall maintain an inspection log or summary including at least the date and time of inspection, observations made, and any maintenance, repairs, or corrective actions taken by the Permittee. This log of inspections shall be maintained by the Permittee for a period of three years from the date of the inspection and shall be made available to the Division of Environmental Management or other permitting authority, upon request.

3. Any duly authorized officer, employee, or representative of the Division of Environmental Management may, upon presentation of credentials, enter and inspect any property, premises or place on or related to the disposal site or facility at any reasonable time for the purpose of determining compliance with this permit, may inspect or copy any records that must be maintained under the terms and conditions of this permit, and may obtain samples of groundwater, surface water, or leachate.

VI. GENERAL CONDITIONS

1. Issuance of this permit does not constitute approval for reimbursement from the Leaking Petroleum Underground Storage Tank Cleanup Funds (15A NCAC 2P).

2. This permit shall become voidable unless the facilities are constructed in accordance with the conditions of this permit, the approved plans and specifications, and other supporting data.

3. This permit is effective only with respect to the nature and volume of wastes described in the application and other supporting data.

4. This permit is not transferable. In the event there is a desire for the facilities to change ownership, or there is a name change of the Permittee, a formal permit request must be submitted to the Division of Environmental Management accompanied by an application fee, documentation from the parties involved, and other supporting materials as may be appropriate. The approval of this request will be considered on its merits and may or may not be approved.

5. A set of approved plans and specifications for the subject project must be retained by the Permittee for the life of this project.

6. Failure to abide by the conditions and limitations contained in this permit may subject the Permittee to an enforcement action by the Division of Environmental Management in accordance with North Carolina General Statute 143-215.6(a) to 143-215.6(c).

7. The annual administering and compliance fee must be paid by the Permittee within thirty (30) days after being billed by the Division. Failure to pay the fee accordingly may cause the Division to initiate action to revoke this permit as specified by 15A NCAC 2H .0205 (c)(4).

8. The issuance of this permit does not preclude the Permittee from complying with any and all statutes, rules, regulations, or ordinances which may be imposed by other government agencies (local, state, and federal) which have jurisdiction.

9. The Permittee, at least six (6) months prior to the expiration of this permit, shall request its extension. Upon receipt of the request, the Commission will review the adequacy of the facilities described therein, and if warranted, will extend the permit for such period of time and under such conditions and limitations as it may deem appropriate.

Permit issued this the 3rd day of November, 1995

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

Carolyn W. McCaskill for

A. Preston Howard, Jr., P.E., Director
Division of Environmental Management
By Authority of the Environmental Management Commission

Permit Number WQ0007970


WARREN
FIELD
MARKET
Tank
Trailer
Park
Stack (C)
Hubbard (C)
Daybeacon
Tanks
Kennedy (C)
Kennedy
Cr
RIVER
Glen (C)
Prong (C)
Foul
Atlantic (C)
High Sch
WASHINGTON
Oakdale
Cem
Daybeacons
Pile
Piling
Stumps
Coast (C)
Area
City
Hall
Water
Jacks
Castle (C)
The Castle
BM 6
Radio Tower
(WHED)
Grandpap I
Light (C)
Soft (C)
PAMLICO
Grove
NORFOLK
SOUTHERN
Porter
Junction
Radio Towers
(WRRF)
Rodman
Creek
Rodman Pt
Bright (C)

DIVISION OF ENVIRONMENTAL MANAGEMENT

GROUNDWATER SECTION

August 8, 1995

RECEIVED
WASHINGTON OFFICE

AUG 1 8 1995

D. E. M.

MEMORANDUM

To: Carolyn McCaskill

Through: Bob Cheek *RMC*

From: Brian Wootton *BW*

Subject: Hackney and Sons, Inc.
Request to Modify Permit No. WQ007970
Groundwater Remediation System
Beaufort County

The Groundwater Section (Central Office and Regional Office) have reviewed the subject permit modification request to reduce the current required quarterly sampling for Semivolatile Compounds (EPA Method 625) to annual sampling event. Semivolatile Compounds have not been detected in the groundwater with the exception of Phenol, Di-n-Butyl Phthalate, and Bis(2-ethylhexyl) Phthalate, which have been detected at levels below 2L standards. In conclusion, we have no objection to reduce quarterly sampling of Semivolatile Compounds by EPA Method 625 to an annual frequency, however quarterly groundwater analysis of Volatile Organic Compounds by EPA Method 624 shall remain the same. The following conditions (no's. IV-6,7) in the permit issued August 24, 1993 shall be modified to read the following:

1. Monitor wells MW-25, MW-26, MW-26d, MW-29, MW-30, MW-11, MW-28B, MW-29B, MW-30B, OW-1d, and OW-1s shall be sampled every March, June, September, and December for the following parameters:

   EPA Method 624 (Volatile Organic Compounds - including acetone and xylenes)
   pH
   Water Level

   EPA Method 625 (Semivolatile Organic Compounds) - in December only

The measurement of water levels must be made prior to sampling for the remaining parameters. The depth to water in each well shall be measured from the surveyed point on the top of the casing.

The measuring points (top of well casing) of all monitoring wells shall be surveyed to provide the relative elevation of the measuring point for each monitoring well.

2. <u>All other groundwater requirements stated in the permit (issued August 24, 1993) shall remain the same.</u>

cc: Willie Hardison
Central Files
Permit Files

DIVISION OF ENVIRONMENTAL MANAGEMENT
GROUNDWATER SECTION
August 4, 1995

MEMORANDUM

TO: Bob Cheek, Permits and Compliance Unit

THROUGH: Willie Hardison, Regional Groundwater Supervisor WAH

FROM: Guy Pearce, Hydrogeologist GCP

SUBJECT: Non-Discharge Permit Modification
Hackney and Sons, Inc.
Groundwater Remediation - Beaufort County
Permit No. WQ0007970

The Washington Regional Office has reviewed a request from the subject facility to reduce the currently required quarterly sampling for semi-volatile compounds by EPA Method 625 to annual sampling (a copy of the request is attached). Based on our review, the following comments are submitted for your consideration:

1. The applicant has submitted the required $400.00 fee for permit modification. I forwarded the check to the WaRO Water Quality Section for deposit, and have attached a copy of the check and deposit slip.

2. A review of the submitted groundwater data for this facility indicates that semi-volatile organic compounds have not been detected in the groundwater with the following exceptions:

   a. Phenol has been detected once in the treatment system effluent at 17 ppb, well below the Groundwater standard of 300 ppb.

   b. Di-n-Butyl Phthalate has been detected in MW-29 at 17 ppb, and in MW-30B at 19 ppb, well below the Groundwater standard of 700 ppb.

   c. Bis(2-ethylhexyl)Phthalate has been detected once in MW-27 at 43 ppb, and is a common sampling/lab artifact.

Based on the above, the Washington Regional Office does not object to modification of Section IV - Groundwater Requirements, Paragraph 7, to require annual groundwater analysis by EPA Method 625 (semi-volatile organic compounds). Please retain the current requirement for quarterly groundwater analysis by EPA Method 624 (volatile organic compounds). If you have any questions, or wish to discuss this matter further, please contact me at any time.

cc:WaRO Files

ENSCI
ENGINEERING GROUP, P.A.

RECEIVED
WASHINGTON OFFICE
JUN 0 6 1995
D. E. M.

RECEIVED
WASHINGTON OFFICE
[illegible] 0 1995
D. E. M.

June 5, 1995

Mr. Willie Hardison
NCDEHNR-DEM, Groundwater Section
1424 Carolina Avenue
Washington, North Carolina 27889

RE: Request For Modification Of The Groundwater Monitoring Program. Hackney and Sons, Inc. 400 Hackney Avenue, Washington, North Carolina.

Dear Mr. Hardison:

Hackney and Sons, Inc. (Hackney), has been conducting groundwater remediation at the above referenced facility since December, 1993. The remediation program includes groundwater recovery from two separate areas, above ground biological groundwater treatment at a central location, and aquifer re-injection of the treated groundwater in accordance with Injection Well Permit WQ0007970, dated August 24, 1993. As a result of these activities, Hackney has collected approximately 1.5 years of remediation operations data and groundwater monitoring data. At the request of Hackney, ENSCI has reviewed the system operations data and quarterly monitoring analytical data.

Historic quarterly monitoring data evidenced the presence of volatile organic compounds in both the influent samples and several monitoring well samples. These results are consistent with the results of the Comprehensive Site Assessment.

With regard to the detection of semi-volatile organic compounds, the following items summarize the analytical results:

- On 12/1/95, Phenol was detected for the first time in the influent sample. Analytical data for the following 4 months, failed to evidence Phenol in the influent samples. With this one exception, Phenol has not been detected in groundwater or during influent sampling to date. Therefore, its detection is anomalous.
- Bis(2-ethylhexyl)Phthalate has been detected only once and in only one well, MW-27. The detected concentration was 43 parts per billion.

1105 Old Thomasville Road
High Point, North Carolina 27260
T (910) 883-7505
F (910) 883-7958

Post Office Box 80275
Raleigh, North Carolina 27623-0275
T (919) 787-8209
F (919) 881-8205

1861 Pratt Drive
Blacksburg, Virginia 24060
T (703) 231-4555
F (703) 231-2984

- Di-n-Butyl Phthalate was detected in monitoring wells MW29 and MW30B only during the 3/1/95 quarterly monitoring event. However, the detected concentrations were below the concentration detected in the trip blank for this sampling event. Therefore, the detection of Di-n-Butyl Phthalate is likely a laboratory artifact.

I have attached Tables which summarize the analytical results for the Hackney project for your review.

Based on analytical testing completed to date, we feel that the reduction of the quarterly semi-volatile groundwater analysis to an annual event is both scientifically prudent and economically justified. Therefore, we suggest modification of Permit No. WQ0007970, Section IV Groundwater Requirements, paragraph 7., which requires quarterly groundwater analysis by EPA Method 624 (volatile organic compounds) and EPA Method 625 (semi-volatile organic compounds). We request quarterly groundwater analysis by EPA Method 624 and with analysis by EPA Methods 624 and 625 conducted annually.

Please take a moment to review this information. Hackney and ENSCI have and continue to work diligently on the remediation of groundwater at the subject site, with final closure of this groundwater incidence as our goal. If you have any questions or need additional information, please feel free to contact our office at (910) 883-7505. We appreciate your time and consideration in these matters.

Sincerely yours,

ENSCI Engineering Group, P.A.

Edmund Q.B. Henriques

Edmund Q.B. Henriques, P.G.
Project Manager/Geologist

pc: Jay Witte, Hackney and Sons Inc.
Charles Mason, Hackney and Sons Inc.

Attachments: Analytical Results Summary Tables

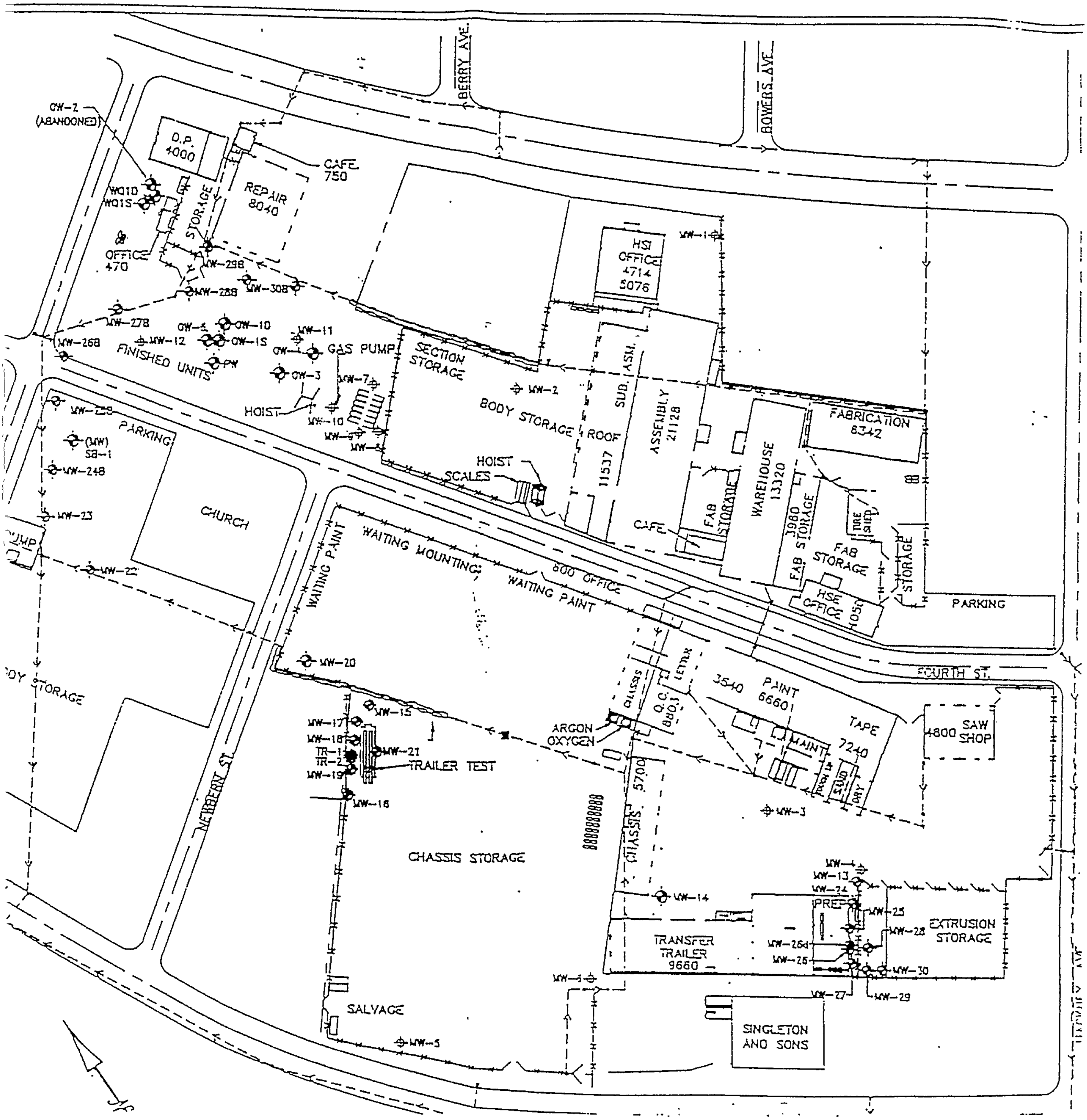
HACKNEY AND SONS MONITORING WELL SPREADSHEET																
			ANALYSIS IN UNITS PPB													
PARAMETER OVER LIMITS	DATE	INFLUENT	EFFLUENT	MW29B	MW26D	MW30	MW29	MW28B	OW1D	MW25	OW1S	MW26	MW30B	MW11	MW31B	MW27
	12/6/93	INF #1-1	EFF #1-E													
	12-20-93	INF #2-I	EFF #2-E													
TETRACHLOROETHENE	12-30-93				12											
XYLENE					9	698	25	121	54	2370	578					
TOLUENE						1690	25	112	38	1430	1490					
ETHYL BENZENE						206		32		880	173					
	1/3/94	INF #3-I	EFF #3-E													
	1/25/94	INF #4-I	EFF #4-E													
	2/7/94	INF #5-I	EFF #5-E													
	2/25/94	INF #6-I	EFF #6-E													
	3/3/94															
	3/15/94	INF #7-I	EFF #7-E													
	4/12/94	INF #8-I	EFF #8-E													
METHYLENE CHLORIDE		1730														
TETRACHLOROETHENE			55													
	5/9/94	INF #9-I	EFF #9-E													
METHYLENE CHLORIDE		1099	54													
TETRACHLOROETHENE		71														
	6/2/94	INF #10-I	EFF #10-E													
TETRACHLOROETHENE		13	14												34	
TOLUENE		7	5													
TRICHLOROETHENE							12									
CIS 1,2-DICHLOROETHENE							10							11	12	
	7/5/94	INF # 11-I	EFF #11-E													
	8/1/94	INF #12-I	EFF #12-E													
METHYLENE CHLORIDE		65340														
	9/2/94	INF #13-I	EFF #13-E													
TETRACHLOROETHENE																7
	10/3/94	INF #14-I	EFF #14-E													
TOLUENE		8														

ET06.XLS

HACKNEY AND SONS MONITORING WELL SPREADSHEET

ANALYSIS IN UNITS PPB

PARAMETER OVER LIMITS	DATE	INFLUENT	EFFLUENT	MW29B	MW26D	MW30	MW29	MW28B	OW1D	MW25	OW1S	MW26	MW30B	MW11	MW31B	MW27	TRIP BLANK
	11/1/94	INF #15-I	EFF #15-E														
	12/1/94	INF #16-I	EFF #16E														
TETRACHLOROETHENE		8	15		7												
PHENOL		17															
CHLOROFORM			72										65	31			
BIS(2-ETHYLHEXYL)PHTHALATE																43	
	1/4/95	INF #17-I	EFF #17-E														
1,1,-DICHLOROETHANE		6															
	2/8/95	INF #18-I	EFF #18-E														
	3/1/95	INF #19-I	EFF #19-E														
TETRACHLOROETHENE		7		6	5			7				5					
DI-N-BUTYL PHTHALATE							17						19				27
XYLENES				9													
	4/4/95	INF 20-I	EFF 20-E														
ACETONE		100															
	5/9/95	INF 21-I	EFF 21-E														


BERRY AVE.
BOWERS AVE.
OW-2 (ABANDONED)
D.P. 4000
CAFE 750
REPAIR 8040
STORAGE
WQ1D
WQ1S
OFFICE 470
MW-29B
MW-28B
MW-30B
MW-27B
MW-26B
MW-12
OW-5
OW-10
OW-15
PW
MW-11
OW-1
GAS PUMP
OW-3
FINISHED UNITS
HOIST
MW-7
MW-10
MW-9
MW-8
SECTION STORAGE
BODY STORAGE
MW-2
HOIST
SCALES
HSI OFFICE 4714 5076
MW-1
ROOF 11537
SUB. ASM.
ASSEMBLY 21128
CAFE
FAB STORAGE
WAREHOUSE 13320
3960 FAB. STORAGE
TIRE SHED
FAB STORAGE
STORAGE
FABRICATION 6342
HSE OFFICE 1050
PARKING
FOURTH ST.
MW-25B
PARKING
(MW) SB-1
MW-24B
MW-23
MW-22
CHURCH
PUMP
BODY STORAGE
NEWBERRY ST.
WAITING PAINT
WAITING MOUNTING
800 OFFICE
WAITING PAINT
MW-20
MW-15
MW-17
MW-18
TR-1
TR-2
MW-19
MW-21
TRAILER TEST
MW-16
ARGON
OXYGEN
CHASSIS
Q.C. 880
LETTER
3540 PAINT 6660
TAPE 7240
MAINT
4800 SAW SHOP
CHASSIS 5700
MW-3
CHASSIS STORAGE
MW-14
MW-4
MW-13
MW-24
PREP
MW-25
MW-28
EXTRUSION STORAGE
MW-26d
MW-26
MW-30
MW-27
MW-29
TRANSFER TRAILER 9660
MW-6
SINGLETON AND SONS
SALVAGE
MW-5

HACKNEY AND SONS, INC.
400 HACKNEY AVE.
WASHINGTON, NORTH CAROLINA 27889

092432

INVOICE NO.	INVOICE DATE	DESCRIPTION	GROSS AMOUNT	DISCOUNT	NET AMOUNT
	6-29-95	Modify Groundwater Remediation System Permit # wQ0007970 01-31-50-592	400.00	RECEIVED WASHINGTON OFFICE ... 9 1995 D. E. M.	400.00
CHECK NUMBER		TOTALS	400.00		400.00

Hackney
AND SONS, Inc.
400 HACKNEY AVENUE
WASHINGTON, NORTH CAROLINA 27889

NORTH CAROLINA NATIONAL BANK
WASHINGTON, N.C.

66-117
531

092432

CHECK DATE	CHECK NO.
6-29-95	

CHECK AMOUNT
$400.00**********************

TO THE ORDER OF
NC-DEHNR
1424 Carolina Ave.
Washington, NC 27889

AUTHORIZED SIGNATURE

AUTHORIZED SIGNATURE

⑈092432⑈ ⑆053101176⑆ 2710434⑈

OCF-6
7/1/95

DEPARTMENT OF ENVIRONMENT, HEALTH AND NATURAL RESOURCES
ACCOUNTING / BUDGETARY CODE SHEET

TYPE OF ENTRY:	
CASH RECEIPTS	✓
JOURNAL VOUCHER	
BUDGET TRANSFER	
BUDGET CREATION	
ENCUMBRANCE ADJ	
COMMITMENT ADJ	

DOCUMENT ID: 1621

APP CODE:

GL EFFECTIVE DATE: 072195

DATA TYPE CODE:

BUDGET CODE: 24300

DEPOSIT NO: 138012

TOTAL DEBITS: $ ______ . ____

TOTAL CREDITS: $ 400 . 00

Line #	COMPANY	ACCOUNT	CENTER	AMOUNT	DR/CR	LINE DESCRIPTION (Vendor # if applicable)	ACCT RULE
1	1602	435100095	2341	40000	CR	56-6000372	
2	16						
3	16						
4	16						
5	16						
6	16						
7	16						
8	16						
9	16						
10	16						
11	16						
12	16						
13	16						
14	16						
15	16						

JUSTIFICATION: Modify groundwater remediation system (Hackney & Sons) WQ 0007970

Prepared by: Ann Tyndall Date: 7-21-95

Approved by: ______ Date: ______

Entered by: ______ Date: ______

INSTRUCTIONS: Preparer must complete the following: Type of Entry, Document ID (per instructions), Page, Deposit No. (if applicable), GL Effective Date, Company, Account, Center, Amount, DR/CR, Description, Total Debits, Total Credits, Prepared By, Date and Justification. The description cannot exceed 30 characters, must include Payor/Vendor number if reimbursement of expenditure. All forms must be reviewed and approved by authorized individual in the preparer's section. Every line must be valid and funds must be available prior to submitting the entry to be keyed. Combine similar Company, Account, and Centers on one line. Prepare separate sheet for each transaction type. (See reverse side.) Shaded areas (i.e., APP code, Data Type code, & Acct. Rule) will be completed by Controller's Office.

Please use green paper.

HARLAN E. BOYLES, TREASURER,
STATE OF NORTH CAROLINA
DEPT. OF EHNR, WASHINGTON REGIONAL OFFICE

DATE 7-21 1995

DEPOSITS MAY NOT BE AVAILABLE FOR IMMEDIATE WITHDRAWAL

LIST CHECKS SEPARATELY OR ATTACH LIST

DOLLARS CENTS

400 00

CURRENCY CK DEPOSIT $400.00 6267-000346
RECEIVED 07-21-95 PROCESSED 07-21-95

WACHOVIA 13:56:42

Wachovia Bank of North Carolina, N.A. 0009
Raleigh, NC 27611

TOTAL ITEMS 080077 1

PLEASE ENTER TOTAL HERE

$ 400.00

CHECKS AND OTHER ITEMS ARE RECEIVED FOR DEPOSIT SUBJECT TO THE PROVISIONS OF THE UNIFORM COMMERCIAL CODE AND ANY APPLICABLE COLLECTION AGREEMENT.

⑈00300143⑈ ⑆053107633⑆ 6267 000346⑈ 95 Deposit # 139012
DEM-WQ-WARO

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RECEIVED
WASHINGTON OFFICE
JUN 06 1995
D. E. M.

ENSCI®

ENGINEERING GROUP, P.A.

RECEIVED
WASHINGTON OFFICE
JUL 20 1995
D. E. M.

June 5, 1995

Mr. Willie Hardison
NCDEHNR-DEM, Groundwater Section
1424 Carolina Avenue
Washington, North Carolina 27889

RE: Request For Modification Of The Groundwater Monitoring Program. Hackney and Sons, Inc. 400 Hackney Avenue, Washington, North Carolina.

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Historic quarterly monitoring data evidenced the presence of volatile organic compounds in both the influent samples and several monitoring well samples. These results are consistent with the results of the Comprehensive Site Assessment.

With regard to the detection of semi-volatile organic compounds, the following items summarize the analytical results:

- On 12/1/95, Phenol was detected for the first time in the influent sample. Analytical data for the following 4 months, failed to evidence Phenol in the influent samples. With this one exception, Phenol has not been detected in groundwater or during influent sampling to date. Therefore, its detection is anomalous.
- Bis(2-ethylhexyl)Phthalate has been detected only once and in only one well, MW-27. The detected concentration was 43 parts per billion.

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F (919) 881-8205

1861 Pratt Drive
Blacksburg, Virginia 24060
T (703) 231-4555
F (703) 231-3984

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Please take a moment to review this information. Hackney and ENSCI have and continue to work diligently on the remediation of groundwater at the subject site, with final closure of this groundwater incidence as our goal. If you have any questions or need additional information, please feel free to contact our office at (910) 883-7505. We appreciate your time and consideration in these matters.

Sincerely yours,

ENSCI Engineering Group, P.A.

Edmund Q.B. Henriques

Edmund Q.B. Henriques, P.G.
Project Manager/Geologist

pc: Jay Witte, Hackney and Sons Inc.
Charles Mason, Hackney and Sons Inc.

Attachments: Analytical Results Summary Tables

HACKNEY AND SONS MONITORING WELL SPREADSHEET																
			ANALYSIS IN UNITS PPB													
PARAMETER OVER LIMITS	DATE	INFLUENT	EFFLUENT	MW29B	MW26D	MW30	MW29	MW28B	OW1D	MW25	OW1S	MW26	MW30B	MW11	MW31B	MW27
	12/6/93	INF #1-1	EFF #1-E													
	12-20-93	INF #2-I	EFF #2-E													
TETRACHLOROETHENE	12-30-93				12											
XYLENE					9	698	25	121	54	2370	578					
TOLUENE						1690	25	112	38	1430	1490					
ETHYL BENZENE						206		32		880	173					
	1/3/94	INF #3-I	EFF #3-E													
	1/25/94	INF #4-I	EFF #4-E													
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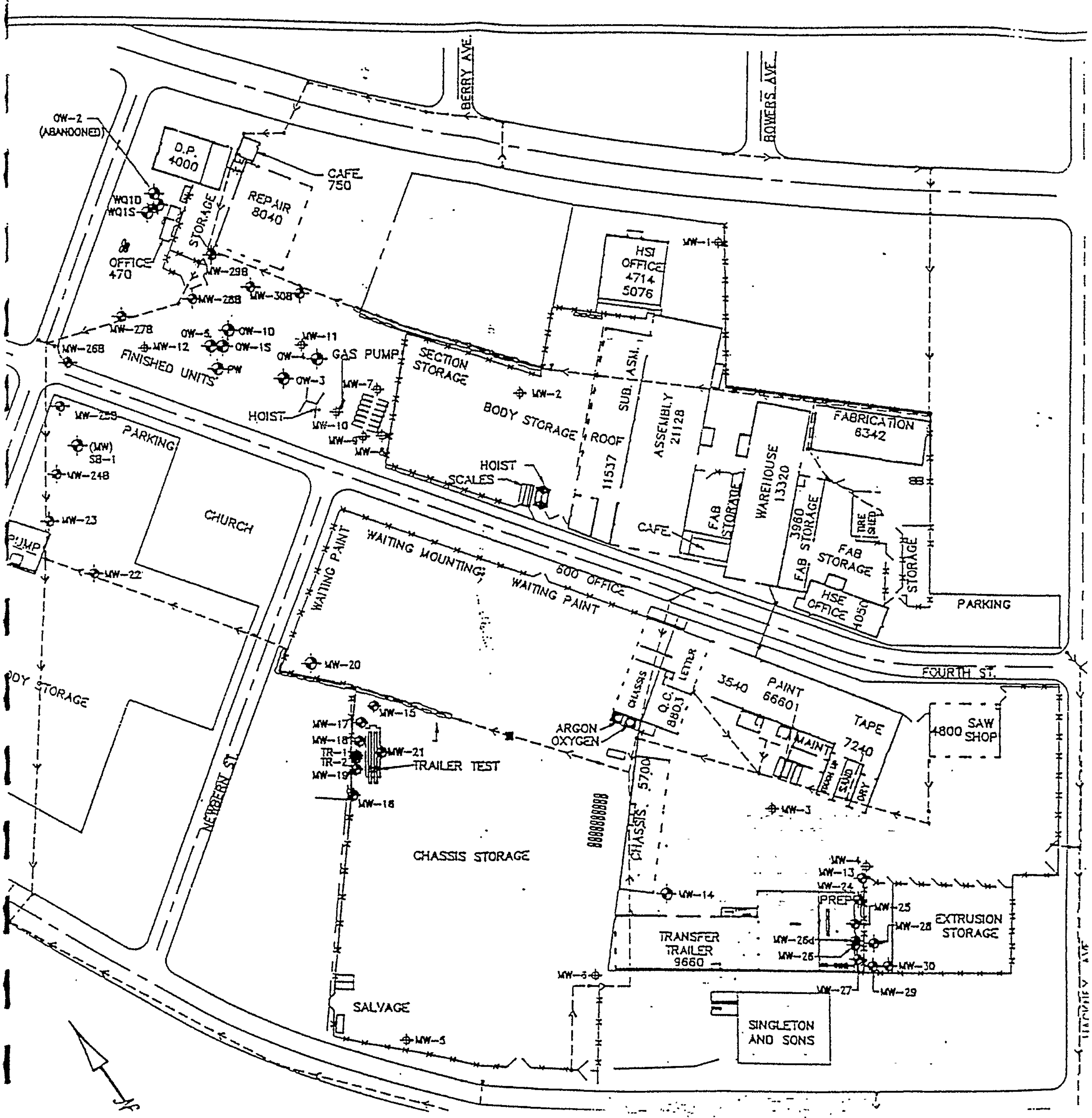
	3/3/94															
	3/15/94	INF #7-I	EFF #7-E													
	4/12/94	INF #8-I	EFF #8-E													
METHYLENE CHLORIDE		1730														
TETRACHLOROETHENE			55													
	5/9/94	INF #9-I	EFF #9-E													
METHYLENE CHLORIDE		1099	54													
TETRACHLOROETHENE		71														
	6/2/94	INF #10-I	EFF #10-E													
TETRACHLOROETHENE		13	14												34	
TOLUENE		7	5													
TRICHLOROETHENE							12									
CIS 1,2-DICHLOROETHENE							10							11	12	
	7/5/94	INF # 11-I	EFF #11-E													
	8/1/94	INF #12-I	EFF #12-E													
METHYLENE CHLORIDE		65340														
	9/2/94	INF #13-I	EFF #13-E													
TETRACHLOROETHENE																7
	10/3/94	INF #14-I	EFF #14-E													
TOLUENE		8														

ET06.XLS

HACKNEY AND SONS MONITORING WELL SPREADSHEET

			ANALYSIS IN UNITS PPB														
PARAMETER OVER LIMITS	DATE	INFLUENT	EFFLUENT	MW23B	MW26D	MW30	MW29	MW28B	OW1D	MW25	OW1S	MW26	MW30B	MW11	MW31B	MW27	TRIP BLANK
	11/1/94	INF #15-I	EFF #15-E														
	12/1/94	INF #16-I	EFF #16E														
TETRACHLOROETHENE		8	15		7												
PHENOL		17															
CHLOROFORM			72										65	31			
BIS(2-ETHYLHEXYL)PHTHALATE																48	
	1/4/95	INF #17-I	EFF #17-E														
1,1,-DICHLOROETHANE		6															
	2/8/95	INF #18-I	EFF #18-E														
	3/1/95	INF #19-I	EFF #19-E														
TETRACHLOROETHENE		7		6	5			7				5					
DI-N-BUTYL PHTHALATE							17						19				27
XYLENES				9													
	4/4/95	INF 20-I	EFF 20-E														
ACETONE		100															
	5/8/95	INF 21-I	EFF 21-E														



BERRY AVE.
BOWERS AVE.
OW-2 (ABANDONED)
D.P. 4000
CAFE 750
REPAIR 8040
STORAGE
WQ1D
WQ1S
OFFICE 470
MW-29B
MW-28B
MW-30B
MW-27B
MW-26B
MW-12
OW-5
OW-10
OW-1S
MW-11
OW-4
GAS PUMP
OW-3
PW
FINISHED UNITS
MW-7
HOIST
MW-10
MW-9
MW-6
SECTION STORAGE
BODY STORAGE
MW-2
ROOF
SUB. ASM.
ASSEMBLY 21128
11537
HSI OFFICE 4714 5076
MW-1
FABRICATION 6342
WAREHOUSE 13320
3960 FAB STORAGE
FAB STORAGE
TIRE SHED
FAB STORAGE
STORAGE
CAFE
HSE OFFICE 1050
PARKING
HOIST
SCALES
MW-25B
(MW) SB-1
MW-24B
MW-23
PARKING
CHURCH
PUMP
MW-22
BODY STORAGE
WAITING PAINT
WAITING MOUNTING
600 OFFICE
WAITING PAINT
FOURTH ST.
MW-20
MW-15
MW-17
MW-18
TR-1
TR-2
MW-19
MW-21
TRAILER TEST
MW-16
NEWBERN ST.
ARGON
OXYGEN
CHASSIS
LETTER
Q.C. 880
3540
PAINT 66601
TAPE 7240
MAINT
4800 SAW SHOP
5700
CHASSIS
MW-3
CHASSIS STORAGE
MW-4
MW-13
MW-24
PREP
MW-25
MW-28
EXTRUSION STORAGE
MW-14
TRANSFER TRAILER 9660
MW-26d
MW-26
MW-30
MW-27
MW-29
MW-6
SALVAGE
MW-5
SINGLETON AND SONS

151

State of North Carolina
Department of Environment,
Health and Natural Resources
Washington Regional Office

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
Nancy W. Smith, Regional Manager

DEHNR

DIVISION OF ENVIRONMENTAL MANAGEMENT
GROUNDWATER SECTION
June 22, 1995

Mr. Edmund Q. B. Henriques, P.G.
ENSCI Engineering Group, Inc.
Post Office Box 80275
Raleigh, North Carolina 27623-0275

Subject: Modification of Groundwater Monitoring Requirements at Hackney and Sons, Inc. - Groundwater Remediation System Beaufort County - Permit No. WQ0007970

Dear Mr. Henriques:

On June 6, 1995 the Groundwater Section of the Washington Regional Office received the subject request for a reduction of semi-volatile groundwater analysis by EPA Method 625 from quarterly to annually. Based on the submitted groundwater data, it does not appear that significant quantities of the compounds detected by EPA Method 625 are present in the groundwater or influent/effluent of the treatment system. Your request therefore appears to be reasonable. Please be advised, however; that a four hundred dollar ($400) fee is required by the Division for permit modification. Upon receipt of the fee, our office will begin to process your request.

I have made a copy of your request letter and the supporting information for our files, and I am returning the original to you. If you decide to pursue this matter, please resubmit the letter and supporting information, and the $400 fee (cheek made payable to NC-DEHNR) to the Washington Regional Office.

If you have any questions, or wish to discuss this matter further, please contact me at (919) 946-6481.

Sincerely,

Guy C. Pearce

Guy C. Pearce
Hydrogeologist

attachments

cc: WaRO Files

HACKNEY AND SONS, INC.
400 HACKNEY AVE.
WASHINGTON, NORTH CAROLINA 27889

092432

INVOICE NO.	INVOICE DATE	DESCRIPTION	GROSS AMOUNT	DISCOUNT	NET AMOUNT
	6-29-95	Modify Groundwater Remediation System Permit # WQ0007970 01-31-50-592	400.00	RECEIVED WASHINGTON OFFICE JUL 20 1995 D. E. M.	400.00
CHECK NUMBER		TOTALS	400.00		400.00

State of North Carolina
Department of Environment,
Health and Natural Resources
Washington Regional Office

James B. Hunt, Jr., Governor
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DEHNR

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Sincerely,

Guy C. Pearce

Guy C. Pearce
Hydrogeologist

attachments

cc: WaRO Files

ENSCI

ENGINEERING GROUP, P.A.

June 5, 1995

Mr. Willie Hardison
NCDEHNR-DEM, Groundwater Section
1424 Carolina Avenue
Washington, North Carolina 27889

RE: Request For Modification Of The Groundwater Monitoring Program. Hackney and Sons, Inc. 400 Hackney Avenue, Washington, North Carolina.

Dear Mr. Hardison:

Hackney and Sons, Inc. (Hackney), has been conducting groundwater remediation at the above referenced facility since December, 1993. The remediation program includes groundwater recovery from two separate areas, above ground biological groundwater treatment at a central location, and aquifer re-injection of the treated groundwater in accordance with Injection Well Permit WQ0007970, dated August 24, 1993. As a result of these activities, Hackney has collected approximately 1.5 years of remediation operations data and groundwater monitoring data. At the request of Hackney, ENSCI has reviewed the system operations data and quarterly monitoring analytical data.

Historic quarterly monitoring data evidenced the presence of volatile organic compounds in both the influent samples and several monitoring well samples. These results are consistent with the results of the Comprehensive Site Assessment.

With regard to the detection of semi-volatile organic compounds, the following items summarize the analytical results:

- On 12/1/95, Phenol was detected for the first time in the influent sample. Analytical data for the following 4 months, failed to evidence Phenol in the influent samples. With this one exception, Phenol has not been detected in groundwater or during influent sampling to date. Therefore, its detection is anomalous:

- Bis(2-ethylhexyl)Phthalate has been detected only once and in only one well, MW-27. The detected concentration was 43 parts per billion.

1108 Old Thomasville Road
High Point, North Carolina 27260
T [illegible]
F [illegible]

Post Office Box 80275
Raleigh, North Carolina 27623-0275
T (919) 787-8209
F [illegible]

1861 Pratt Drive
Blacksburg, Virginia 24060
T (703) 231-4555
F (703) 231-3984

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TETRACHLOROETHENE																7
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ET06.XLS

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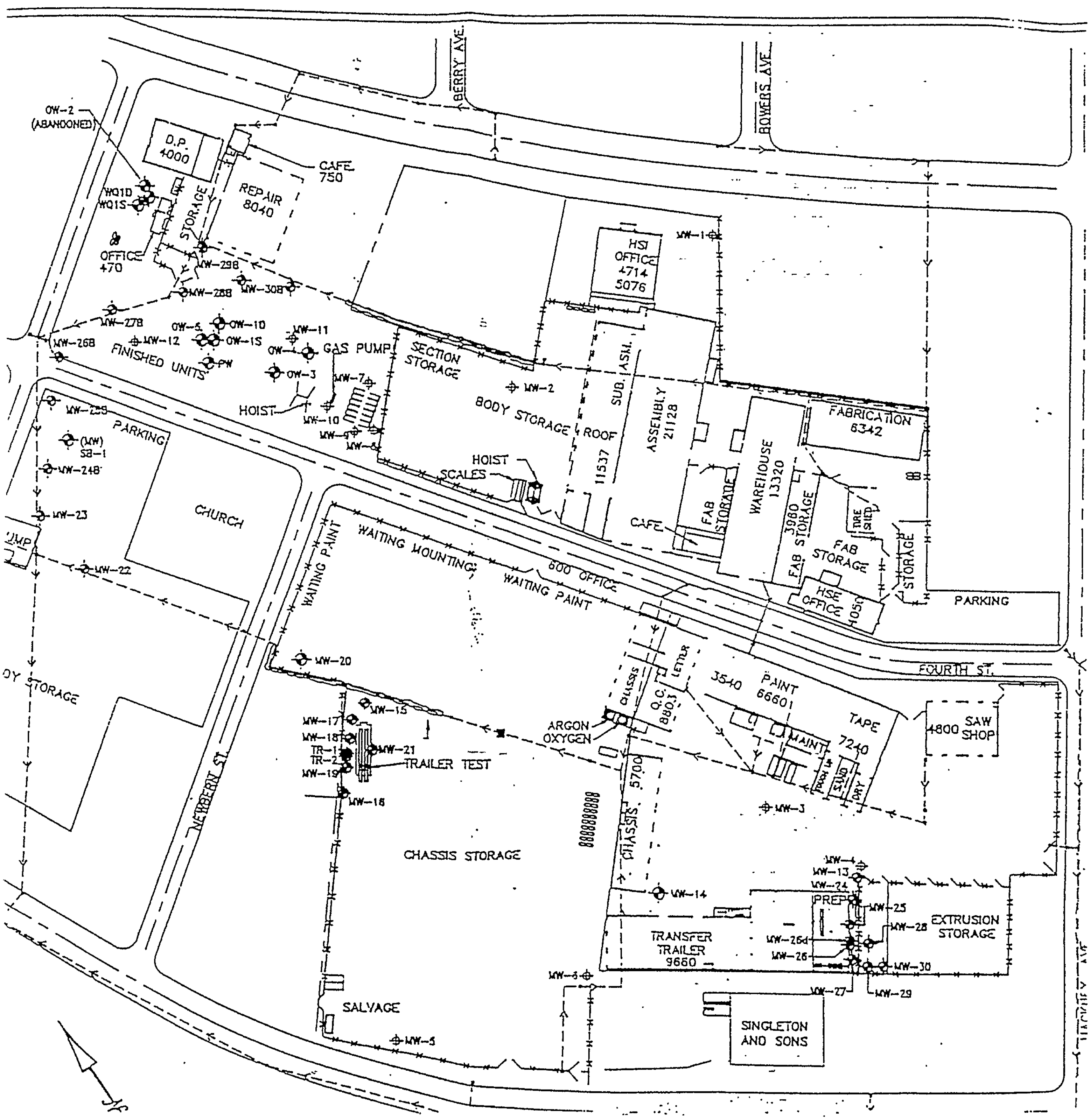

BERRY AVE.
BOWERS AVE.
OW-2 (ABANDONED)
D.P. 4000
CAFE 750
REPAIR 8040
STORAGE
WQ1D
WQ1S
OFFICE 470
MW-29B
MW-28B
MW-30B
MW-27B
MW-26B
OW-5
OW-10
OW-1S
MW-12
MW-11
FINISHED UNITS
PW
GAS PUMP
OW-3
HOIST
MW-7
MW-10
MW-9
MW-8
SECTION STORAGE
BODY STORAGE
MW-2
MW-1
HSI OFFICE 4714 5076
SUB. ASM.
ROOF 11537
ASSEMBLY 21128
FABRICATION 6342
WAREHOUSE 13320
FAB STORAGE
3980 STORAGE
TIRE SHED
FAB STORAGE
FAB. STORAGE
STORAGE
HSE OFFICE 1050
PARKING
CAFE
HOIST
SCALES
MW-25B
(MW) SB-1
MW-24B
MW-23
PARKING
CHURCH
MW-22
STORAGE
WAITING PAINT
WAITING MOUNTING
600 OFFICE
WAITING PAINT
FOURTH ST.
MW-20
MW-15
MW-17
MW-18
TR-1
TR-2
MW-21
TRAILER TEST
MW-19
MW-16
ARGON
OXYGEN
CHASSIS
LETTER
Q.C. 8803
3540
PAINT 6660
TAPE 7240
MAINT
SAND
DRY
4800 SAW SHOP
MW-3
NEWBERN ST.
5700
CHASSIS
CHASSIS STORAGE
MW-14
MW-4
MW-13
MW-24
PREP
MW-25
MW-28
EXTRUSION STORAGE
TRANSFER TRAILER 9660
MW-26d
MW-26
MW-30
MW-27
MW-29
MW-6
SALVAGE
MW-5
SINGLETON AND SONS

WaRO Files

State of North Carolina
Department of Environment,
Health and Natural Resources
Washington Regional Office

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
Nancy W. Smith, Regional Manager

DEHNR

DIVISION OF ENVIRONMENTAL MANAGEMENT
GROUNDWATER SECTION
June 22, 1995

Mr. Edmund Q. B. Henriques, P.G.
ENSCI Engineering Group, Inc.
Post Office Box 80275
Raleigh, North Carolina 27623-0275

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Sincerely,

Guy C. Pearce

Guy C. Pearce
Hydrogeologist

attachments

cc: WaRO Files

1196

ENSCI®

ENGINEERING GROUP, P.A.

RECEIVED
WASHINGTON OFFICE
JUN 0 6 1995
D. E. M.

June 5, 1995

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NCDEHNR-DEM, Groundwater Section
1424 Carolina Avenue
Washington, North Carolina 27889

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ENSCI Engineering Group, P.A.

Edmund Q.B. Henriques

Edmund Q.B. Henriques, P.G.
Project Manager/Geologist

Guy, Please look at the data closely. I have no objection to reducing sampling, but I am reluctant to annually as proposed. Please review and provide a proposal. Thanks

pc: Jay Witte, Hackney and Sons Inc.
Charles Mason, Hackney and Sons Inc.

Attachments: Analytical Results Summary Tables

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TETRACHLOROETHENE		13	14												34	
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TOLUENE		8														

ET06.XLS

HACKNEY AND SONS MONITORING WELL SPREADSHEET

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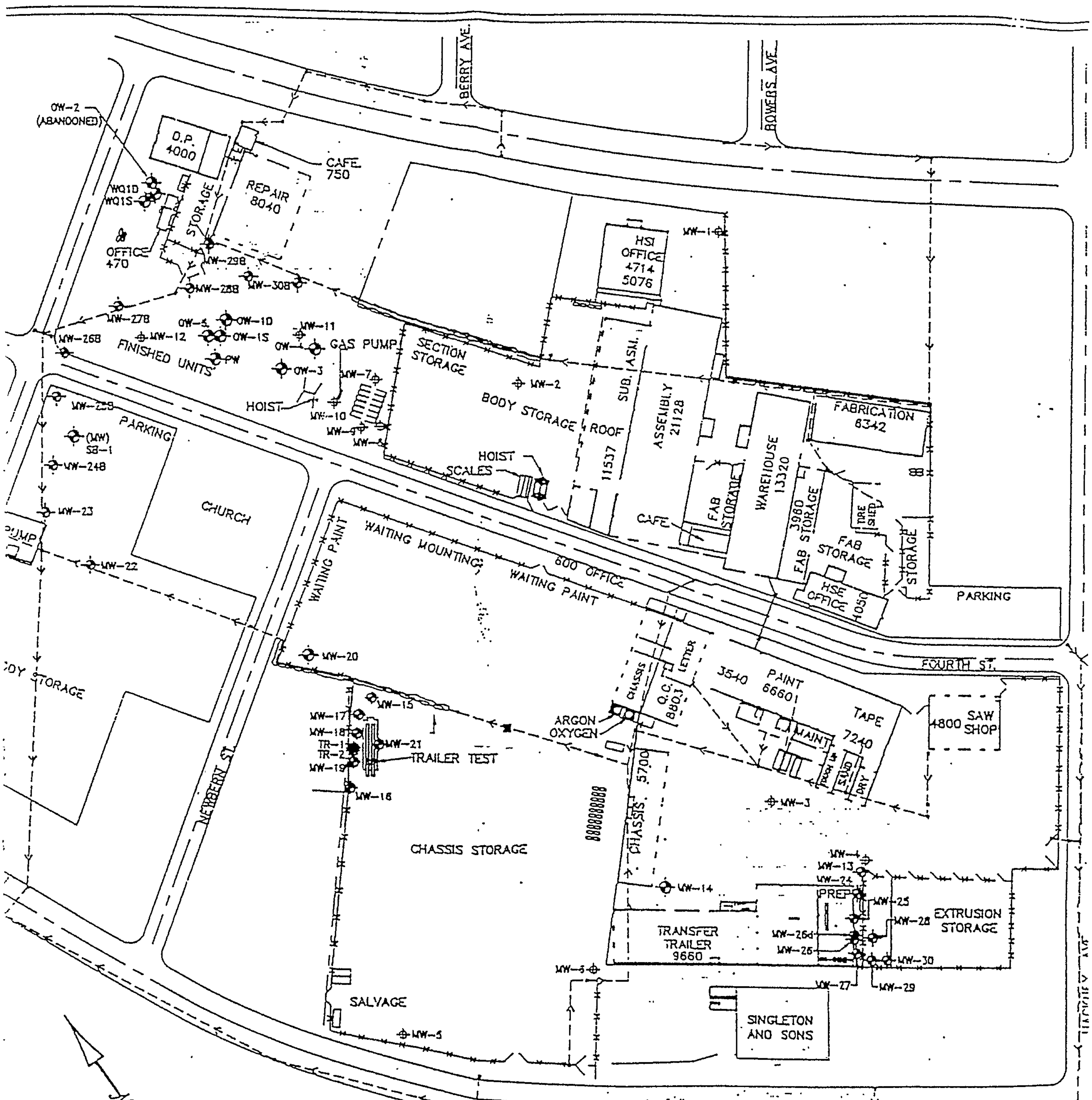
TETRACHLOROETHENE		8	15		7												
PHENOL		17															
CHLOROFORM			72										65	31			
BIS(2-ETHYLHEXYL)PHTHALATE																43	
	1/4/95	INF #17-I	EFF #17-E														
1,1,-DICHLOROETHANE		6															
	2/8/95	INF #18-I	EFF #18-E														
	3/1/95	INF #19-I	EFF #19-E														
TETRACHLOROETHENE		7		6	5			7				5					
DI-N-BUTYL PHTHALATE							17						19				27
XYLENES				9													
	4/4/95	INF 20-I	EFF 20-E														
ACETONE		100															
	5/3/95	INF 21-I	EFF 21-E														


BERRY AVE.
BOWERS AVE.
OW-2
(ABANDONED)
D.P.
4000
CAFE
750
REPAIR
8040
STORAGE
WQ1D
WQ1S
OFFICE
470
MW-29B
MW-28B
MW-30B
MW-27B
MW-26B
MW-12
OW-5
OW-10
OW-15
PW
MW-11
OW-
GAS PUMP
OW-3
MW-7
HOIST
MW-10
MW-9
MW-8
FINISHED UNITS
SECTION
STORAGE
MW-1
HSI
OFFICE
4714
5076
MW-2
BODY STORAGE
ROOF
SUB. ASM.
11537
ASSEMBLY
21128
FABRICATION
6342
HOIST
SCALES
FAB
STORAGE
WAREHOUSE
13320
3980
FAB STORAGE
TIRE
SHED
FAB
STORAGE
STORAGE
CAFE
HSE
OFFICE
1050
PARKING
MW-25B
(MW)
SB-1
MW-24B
PARKING
CHURCH
MW-23
PUMP
MW-22
STORAGE
WAITING PAINT
WAITING MOUNTING
600 OFFICE
WAITING PAINT
FOURTH ST.
MW-20
CHASSIS
LETTER
Q.C.
8803
3540
PAINT
6660
TAPE
7240
MAINT
4800
SAW
SHOP
MW-15
MW-17
MW-18
TR-1
TR-2
MW-19
MW-21
TRAILER TEST
ARGON
OXYGEN
MW-16
NEWBERRY ST.
CHASSIS
5700
MW-3
CHASSIS STORAGE
MW-4
MW-13
MW-24
PREP
MW-25
MW-28
EXTRUSION
STORAGE
MW-14
TRANSFER
TRAILER
9660
MW-26d
MW-26
MW-30
MW-27
MW-29
MW-6
SALVAGE
MW-5
SINGLETON
AND SONS

WaRO Files

State of North Carolina
Department of Environment,
Health and Natural Resources
Washington Regional Office

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
Nancy W. Smith, Regional Manager

DEHNR

DIVISION OF ENVIRONMENTAL MANAGEMENT

December 6, 1993

Mr. Jay A. Witte
Hackney and Sons, Inc.
400 Hackney Avenue, Box 880
Washington, North Carolina 27889-0880

SUBJECT: Implementation of Corrective Action Plan
for Hackney and Sons, Inc. - Beaufort County

Dear Mr. Witte:

On Tuesday, October 19, 1993 I met with Bruce Braswell, of ENSCI at the Hackney and Sons, Inc. site to review the progress made toward implementation of the approved Corrective Action Plan (CAP) for remediation of contaminated groundwater at your facility. At that time, installation of the recovery and injection wells had been completed and the biological treatment plant was nearing completion. Based on that review, and discussions with Bruce Braswell, the Division believes that Hackney and Sons, Inc. has satisfied the schedule outlined in the CAP to the extent reasonably possible and appreciates your efforts in this regard.

As you know, previous site assessment activities identified three (3) areas, referred to as the REPAIR AREA, the EXTRUSION STORAGE AREA, and the TRAILER TEST AREA, where groundwater contamination had occurred. Further investigation in and around the TRAILER TEST AREA appears to indicate that an off-site source (possibly Well's Junkyard, located adjacent to the TRAILER TEST AREA) is contributing to the groundwater contamination in this area. It has been your position that while Hackney and Sons, Inc. should and will be responsible for remediation of any groundwater contaminated as a result of activities conducted on their property, they should not be required to remediate contamination caused by off-site activities that were not conducted by Hackney and

Sons, Inc. The Division has agreed to postpone corrective action in the TRAILER TEST AREA until this issue has been resolved.

If you have any questions, or wish to discuss these matters further, please contact me at any time. I can be reached at (919) 946-6481.

Sincerely,

Guy C. Pearce

Guy C. Pearce
Hydrogeologist

cc: WaRO Files
Bruce Braswell - ENSCI

Hackney
AND SONS, Inc.

NATIONAL SALES OFFICE: 400 HACKNEY AVENUE, P.O. BOX 880, WASHINGTON, NC 27889-0880

APRIL 25., 1994

GROUNDWATER SECTION
P.O. BOX 29530
RALEIGH, NC. 27626

DEAR SIR OR MADAM:

IN ACCORDANCE WITH OUR PERMIT ON. WQ0007970 DATED AUGUST 24, 1963, I HAVE ENCLOSEED 3 COPIES OF THE RESULTS OF THE SAMPLING AND ANALYSIS OF THE 11 MONITORING WELLS STATED IN THE PERMIT. ALSO ENCLOSED IS 3 COPIES OF INFLUENT AND EFFLUENT ANALYSIS AND DAILY LOG FOR JANUARY, FEBRUARY, AND MARCH. 1994

SINCERELY,

Charles R Mason

CHARLES R. MASON
INDUSTRIAL ENGINEER

TELEPHONE TOLL FREE: 1-800-763-0700 CANADA & CARIBBEAN: 1-800-926-6002
WORLDWIDE: 1-919-946-6521 FACSIMILE: 1-919-975-3274
MANUFACTURING FACILITIES: WASHINGTON, NORTH CAROLINA/INDEPENDENCE, KANSAS

HACKNEY AND SONS WATER TREATMENT PLANT												
Jan-94												
				P.H. ADDJUST		PHOSPATE ADDED		BUGS	PUMPING AREA 'A'		PUMPIING AREA 'B'	
DATE	PH	AMMONA	PHOSPHATE	LIME	CAUSTIC	LARGE TANK	METERING	ADDED	READING	TOTAL	READING	TOTAL
1-Jan	6								2520	0	18250	0
2-Jan	5.5	20	17									
3-Jan	6	30	25		2			2				
4-Jan	6	30	20		2	2						
5-Jan	6	30	15									
6-Jan	6	15	30	10		2			2520	0	18250	0
7-Jan	6	15	20		2	4			3080	560	18250	0
8-Jan	6				2	3.5		2	3880	1360	18430	180
9-Jan	6											
10-Jan	6	2.5	4		3	4			4570	2050	19260	1010
11-Jan	6				2	4						
12-Jan	7	15	30		2	4			4920	2400	20140	1890
13-Jan	6	10	30		2	4			4920	2400	20790	2540
14-Jan	6	12	30			6			5540	3020	21150	2900
15-Jan	7			4								
16-Jan	6	20	20		3	3						
17-Jan	6.5	15	40		2	2			6660	4140	22330	4080
18-Jan	6	12	25		2	3			6800	4280	22720	4470
19-Jan	6				2	3			6940	4420	22940	4690
20-Jan	7	25	30		2	2			6950	4430	22970	4720
21-Jan	7				2	2			6950	4430	22970	4720
22-Jan	7	35	30						6950	4430	22970	4720
23-Jan	6	75	30						6950	4430	22970	4720
24-Jan	7	23	30		2	3		2	6950	4430	23120	4870
25-Jan	7	25	30		1	2			7310	4790	23610	5360
26-Jan	6	20	50		2	2						
27-Jan	6											
28-Jan	6	7.5	40		3	3			7920	5400	24140	5890
29-Jan	6											
30-Jan	5	5	50		2.25	3			8620	6100	24780	6530
31-Jan	6.5	2.5	40		2	3			8810	6290	25330	7080

HACKNEY AND SONS WATER TREATMENT PLANT

Feb-94

	TEST	TEST	TEST	P.H. ADDJUST		PHOSPATE ADDED		BUGS	PUMPING AREA 'A'		PUMPING AREA 'B'	
DATE	PH	AMMONA	PHOSPHATE	LIME	CAUSTIC	LARGE TANK	METERING	ADDED	READING	TOTAL	READING	TOTAL
1-Feb	6	2.5	40		2	2			8810	0	25330	0
2-Feb	5.5	2	50			2			9620	810	26360	1030
3-Feb	6	2	45									
4-Feb	5.5	1.5	45		2	3			10130	1320	26770	1440
5-Feb												
6-Feb	5.5	2.5	30	5								
7-Feb	5.7	5	50		2	2			10250	1440	27300	1970
8-Feb	6	2	30			3			10270	1460	27550	2220
9-Feb	6					3			10550	1740	27790	2460
10-Feb	5.5	2	30			2.5			10550	1740	27970	2640
11-Feb	5	2	30	15		3			10550	1740	28430	3100
12-Feb												
13-Feb	6.5	2.5	35	10		3			10550	1740	29650	4320
14-Feb	6.8			10		3			10550	1740	30060	4730
15-Feb	6	5	35		4	2			10550	1740	30730	5400
16-Feb	7	2	30		2	2			10600	1790	31490	6160
17-Feb	7	1	40		2	2		3	10600	1790	31590	6260
18-Feb	7	7.5	30		2	3			10840	2030	32480	7150
19-Feb	7	5	30		3	3			10950	2140	34830	9500
20-Feb												
21-Feb	6.5	1.5	40		2	2			10990	2180	36900	11570
22-Feb	6	1.5	40		2	2			10900	2090	36900	11570
23-Feb	6.6	2	40		2	2			11060	2250	38930	13600
24-Feb	6.5	2	30		2	2			11060	2250	41160	15830
25-Feb	7	2	30			3UREA 2			11070	2260	43140	17810
26-Feb									11070	2260	44930	19600
27-Feb	6.5	2.5	25		2	1UREA			11070	2260	46720	21390
28-Feb	6.5	2.5	25		1	2 UREA			11070	2260	48790	23460
1-Mar									11070	2260	50075	24745

NOTES: 2-7 SENT OFF SAMPLES
2-9 WORKED ON INJUCTION PUMP
2-9 SHUT DOWN AREA A
2-15 ENSCI STARTED CLEANING OUT WELLS AREA A
2-17 ENSCI STARTED CLEANING OUT WELLS AREA B
2-21 NOVA WORKED ON COMPUTER AND INJUCTION PUMP

HACKNEY AND SONS WATER TREATMENT PLANT

Mar-94

	TEST	TEST	TEST	P.H. ADDJUST		PHOSPATE ADDED		BUGS	PUMPIING AREA 'A'		PUMPIING AREA 'B'	
DATE	PH	AMMONA	PHOSPHATE	LIME	CAUSTIC	LARGE T	METERI	ADDED	READING	TOTAL	READING	TOTAL
1-Mar	6.5	3	20		1	2			11070	0	50075	0
2-Mar	6	1.5	25		1	4			11070	0	51213	1138
3-Mar	6	1.5	25		2	4			11070	0	52513	2438
4-Mar	5.5	1.5			2	3			11070	0	53790	3715
5-Mar												
6-Mar	6	1	30		2	2			11150	80	56740	6665
7-Mar	6.5	1	25		2	2	25					
8-Mar	6	1	20		2	4			15420	4350	60530	10455
9-Mar	7	1.5	15			1			16670	5600	65670	15595
10-Mar	6.5	1.5	12		1	3						
11-Mar	6.5	1.5	8		1	3.5			19280	8210	72330	22255
12-Mar									21153	10083	74925	24850
13-Mar	6.5	1.5	12		2	4			24126	13056	78150	28075
14-Mar	7	1.5	10					1	25800	14730	80660	30585
15-Mar	7	1.5	10			2			27960	16890	83580	33505
16-Mar	6.5	1.5	10			4			30460	19390	86670	36595
17-Mar	6.5	2	10			3.5			32480	21410	891230	841155
18-Mar	6.5	2	12			5	25		34390	23320	91420	41345
19-Mar	7	2	15						35925	24855	93850	43775
20-Mar	6.5	2.5	12		1	3			36580	25510	95480	45405
21-Mar	6.5	5	10			1			38280	27210	98480	48405
22-Mar	7	5.5	15						39390	28320	100850	50775
23-Mar	5.5	5.5	15		2	1			40640	29570	103130	53055
24-Mar	5	5	20			1			42500	31430	104810	54735
25-Mar	5	2	20		2	2			44540	33470	106360	56285
26-Mar												
27-Mar												
28-Mar	5	1	30		5	3			46170	35100	112820	62745
29-Mar												
30-Mar	6.5	2	25						47910	36840	116550	66475
31-Mar	6.5	2	25				25	2	49090	38020	118520	68445
1-Apr	6.5	2.5	30		3				30320	19250	120330	70255

NOTES: 2-28 SHUT DOWN AREA
3-3 SAMPLE MONITORING WELLS
3-3 ENSCI CLEANED INJUCTION WELL
3-6 STARTED PUMPING AREA A
3-14 SENT OFF SAMPLE FOR INF. & EFF.

AquaChem
ENVIRONMENTAL LABORATORIES, INC.
11176 Downs Road
Pineville, NC 28134
704/588-5076
FAX 704/588-2454

NC Certification Number: 305
SC Certification Number: 99032

Date of Report: 03/28/94
Date Received : 03/15/94

Approved By: ____________________
Tyler H. Garber
Laboratory Director

Client: Hackney and Sons
P. O. Box 880
Washington, North Carolina 27889

Contact: Mr. Charles Mason

Customer Number: 5038

LABORATORY REPORT

LAB ID: 287K01
SAMPLE ID: INF. #7-I

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
pH	6.26	0-14	S.U.	EPA150.1	11:30	03/15/94	RCD
Acetone	BDL	5	ppb	EPA 8240	09:32	03/23/94	FDM
Benzene	BDL	5	ppb	EPA 624	09:32	03/23/94	FDM
Bromodichloromethane	BDL	5	ppb	EPA 624	09:32	03/23/94	FDM
Bromoform	BDL	5	ppb	EPA 624	09:32	03/23/94	FDM
Bromomethane	BDL	10	ppb	EPA 624	09:32	03/23/94	FDM
Carbon Tetrachloride	BDL	5	ppb	EPA 624	09:32	03/23/94	FDM
Chlorobenzene	BDL	5	ppb	EPA 624	09:32	03/23/94	FDM
Chloroethane	BDL	10	ppb	EPA 624	09:32	03/23/94	FDM
2-Chloroethylvinyl Eth	BDL	10	ppb	EPA 624	09:32	03/23/94	FDM
Chloroform	BDL	5	ppb	EPA 624	09:32	03/23/94	FDM
Chloromethane	BDL	20	ppb	EPA 624	09:32	03/23/94	FDM
Dibromochloromethane	BDL	5	ppb	EPA 624	09:32	03/23/94	FDM
1,2-Dichlorobenzene	BDL	5	ppb	EPA 624	09:32	03/23/94	FDM
1,3-Dichlorobenzene	BDL	5	ppb	EPA 624	09:32	03/23/94	FDM
1,4-Dichlorobenzene	BDL	5	ppb	EPA 624	09:32	03/23/94	FDM
1,1-Dichloroethane	BDL	5	ppb	EPA 624	09:32	03/23/94	FDM
1,2-Dichloroethane	BDL	5	ppb	EPA 624	09:32	03/23/94	FDM
1,1-Dichloroethene	BDL	10	ppb	EPA 624	09:32	03/23/94	FDM
Trans-1,2-Dichloroethe	BDL	5	ppb	EPA 624	09:32	03/23/94	FDM
1,2-Dichloropropane	BDL	5	ppb	EPA 624	09:32	03/23/94	FDM
Cis-1,3-Dichloropropen	BDL	5	ppb	EPA 624	09:32	03/23/94	FDM
Trans-1,3-Dichloroprop	BDL	5	ppb	EPA 624	09:32	03/23/94	FDM

Hackney and Sons
03/28/94
Page 2

LAB ID: 287K01
SAMPLE ID: INF. #7-I

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Ethyl Benzene	BDL	5	ppb	EPA 624	09:32	03/23/94	FDM
Methylene Chloride	BDL	5	ppb	EPA 624	09:32	03/23/94	FDM
1,1,2,2-Tetrachlorotha	BDL	5	ppb	EPA 624	09:32	03/23/94	FDM
Tetrachloroethene	BDL	5	ppb	EPA 624	09:32	03/23/94	FDM
Toluene	BDL	5	ppb	EPA 624	09:32	03/23/94	FDM
1,1,1-Trichloroethane	BDL	5	ppb	EPA 624	09:32	03/23/94	FDM
1,1,2-Trichloroethane	BDL	5	ppb	EPA 624	09:32	03/23/94	FDM
Trichloroethene	BDL	5	ppb	EPA 624	09:32	03/23/94	FDM
Trichlorofluoromethane	BDL	10	ppb	EPA 624	09:32	03/23/94	FDM
Vinyl Chloride	BDL	10	ppb	EPA 624	09:32	03/23/94	FDM
Total Xylene	BDL	5	ppb	EPA 624	09:32	03/23/94	FDM
1,1,1,2-Tetrachloroeth	BDL	5	ppb	EPA 624	09:32	03/23/94	FDM
Cis 1,2-dichloroethene	BDL	5	ppb	EPA 624	09:32	03/23/94	FDM
1,2-Dichloroethane-d4	90		% Rec	EPA 624	09:32	03/23/94	FDM
Toluene-d8	102		% Rec	EPA 624	09:32	03/23/94	FDM
4-Bromofluorobenzene	94		% Rec	EPA 624	09:32	03/23/94	FDM
Acenaphthene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Acenaphthylene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Anthracene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Benzo (a) Anthracene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Benzo (a) Pyrene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Benzo (b) Fluoranthene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Benzo (g,h,i) Perylene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Benzo (k) Fluoranthene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Bis (2-Chloroethoxy) M	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Bis (2-Chloroethyl) Et	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Bis (2-Chloroisopropyl	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Bis (2-Ethylhexyl) Pht	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
4-Bromophenyl Phenyl E	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Benzyl Butyl Phthalate	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
2-Chloronaphthalene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
4-Chlorophenyl Phenyl	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Chrysene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Dibenzo (a,h) Anthrace	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
1,2-Dichlorobenzene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
1,3-Dichlorobenzene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
1,4-Dichlorobenzene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
3,3'-Dichlorobenzidine	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Diethyl Phthalate	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Dimethyl Phthalate	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM

Hackney and Sons
03/28/94
Page 3

LAB ID: 287K01
SAMPLE ID: INF. #7-I

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Di-N-Butyl Phthalate	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
2,4-Dinitrotoluene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
2,6-Dinitrotoluene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Di-N-Octylphthalate	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Fluoranthene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Fluorene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Hexachlorobenzene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Hexachlorobutadiene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Hexachlorocyclopentadi	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Hexachloroethane	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Indeno (1,2,3-cd) Pyre	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Isophorone	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Naphthalene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Nitrobenzene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
N-Nitroso-Di-N-Propyla	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
N-Nitrosodiphenylamine	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Phenanthrene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Pyrene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
1,2,4-Trichlorobenzene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Benzidine	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
N-Nitrosodimethylamine	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
4-Chloro-3-Methylpheno	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
2-Chlorophenol	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
2,4-Dichlorophenol	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
2,4-Dimethylphenol	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
2,4-Dinitrophenol	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
2-Methyl-4,6-Dinitroph	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
2-Nitrophenol	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
4-Nitrophenol	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Pentachlorophenol	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Phenol	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
2,4,6-Trichlorophenol	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
4,6-Dinitro-o-cresol	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
P-chloro-m-cresol	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Trans-1,3-dichloroprop	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
4-Methylphenol	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Nitrobenzene-d8	84		% Rec	EPA 625	09:00	03/17/94	FDM
2-Fluorobiphenyl	104		% Rec	EPA 625	09:00	03/17/94	FDM

LAB ID: 287K01
SAMPLE ID: INF. #7-I

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
p-Terphenyl-d14	90		% Rec	EPA 625	09:00	03/17/94	FDM
Phenol-d6	72		% Rec	EPA 625	09:00	03/17/94	FDM
2-Fluorophenol	80		% Rec	EPA 625	09:00	03/17/94	FDM
2,4,6-Tribromophenol	114		% Rec	EPA 625	09:00	03/17/94	FDM

LAB ID: 287K02
SAMPLE ID: EFF #7-E

pH	6.93	0-14	S.U.	EPA150.1	11:25	03/15/94	RCD
Acetone	BDL	5	ppb	EPA 8240	11:16	03/23/94	FDM
Benzene	BDL	5	ppb	EPA 624	11:16	03/23/94	FDM
Bromodichloromethane	BDL	5	ppb	EPA 624	11:16	03/23/94	FDM
Bromoform	BDL	5	ppb	EPA 624	11:16	03/23/94	FDM
Bromomethane	BDL	10	ppb	EPA 624	11:16	03/23/94	FDM
Carbon Tetrachloride	BDL	5	ppb	EPA 624	11:16	03/23/94	FDM
Chlorobenzene	BDL	5	ppb	EPA 624	11:16	03/23/94	FDM
Chloroethane	BDL	10	ppb	EPA 624	11:16	03/23/94	FDM
2-Chloroethylvinyl Eth	BDL	10	ppb	EPA 624	11:16	03/23/94	FDM
Chloroform	BDL	5	ppb	EPA 624	11:16	03/23/94	FDM
Chloromethane	BDL	20	ppb	EPA 624	11:16	03/23/94	FDM
Dibromochloromethane	BDL	5	ppb	EPA 624	11:16	03/23/94	FDM
1,2-Dichlorobenzene	BDL	5	ppb	EPA 624	11:16	03/23/94	FDM
1,3-Dichlorobenzene	BDL	5	ppb	EPA 624	11:16	03/23/94	FDM
1,4-Dichlorobenzene	BDL	5	ppb	EPA 624	11:16	03/23/94	FDM
1,1-Dichloroethane	BDL	5	ppb	EPA 624	11:16	03/23/94	FDM
1,2-Dichloroethane	BDL	5	ppb	EPA 624	11:16	03/23/94	FDM
1,1-Dichloroethene	BDL	10	ppb	EPA 624	11:16	03/23/94	FDM
Trans-1,2-Dichloroethe	BDL	5	ppb	EPA 624	11:16	03/23/94	FDM
1,2-Dichloropropane	BDL	5	ppb	EPA 624	11:16	03/23/94	FDM
Cis-1,3-Dichloropropen	BDL	5	ppb	EPA 624	11:16	03/23/94	FDM
Trans-1,3-Dichloroprop	BDL	5	ppb	EPA 624	11:16	03/23/94	FDM
Ethyl Benzene	BDL	5	ppb	EPA 624	11:16	03/23/94	FDM
Methylene Chloride	BDL	5	ppb	EPA 624	11:16	03/23/94	FDM
1,1,2,2-Tetrachlorotha	BDL	5	ppb	EPA 624	11:16	03/23/94	FDM
Tetrachloroethene	BDL	5	ppb	EPA 624	11:16	03/23/94	FDM
Toluene	BDL	5	ppb	EPA 624	11:16	03/23/94	FDM
1,1,1-Trichloroethane	BDL	5	ppb	EPA 624	11:16	03/23/94	FDM
1,1,2-Trichloroethane	BDL	5	ppb	EPA 624	11:16	03/23/94	FDM
Trichloroethene	BDL	5	ppb	EPA 624	11:16	03/23/94	FDM
Trichlorofluoromethane	BDL	10	ppb	EPA 624	11:16	03/23/94	FDM
Vinyl Chloride	BDL	10	ppb	EPA 624	11:16	03/23/94	FDM

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03/28/94
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LAB ID: 287K02
SAMPLE ID: EFF #7-E

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Total Xylene	BDL	5	ppb	EPA 624	11:16	03/23/94	FDM
1,1,1,2-Tetrachloroeth	BDL	5	ppb	EPA 624	11:16	03/23/94	FDM
Cis 1,2-dichloroethene	BDL	5	ppb	EPA 624	11:16	03/23/94	FDM
1,2-Dichloroethane-d4	94		% Rec	EPA 624	11:16	03/23/94	FDM
Toluene-d8	108		% Rec	EPA 624	11:16	03/23/94	FDM
4-Bromofluorobenzene	99		% Rec	EPA 624	11:16	03/23/94	FDM
Acenaphthene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Acenaphthylene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Anthracene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Benzo (a) Anthracene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Benzo (a) Pyrene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Benzo (b) Fluoranthene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Benzo (g,h,i) Perylene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Benzo (k) Fluoranthene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Bis (2-Chloroethoxy) M	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Bis (2-Chloroethyl) Et	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Bis (2-Chloroisopropyl	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Bis (2-Ethylhexyl) Pht	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
4-Bromophenyl Phenyl E	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Benzyl Butyl Phthalate	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
2-Chloronaphthalene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
4-Chlorophenyl Phenyl	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Chrysene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Dibenzo (a,h) Anthrace	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
1,2-Dichlorobenzene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
1,3-Dichlorobenzene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
1,4-Dichlorobenzene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
3,3'-Dichlorobenzidine	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Diethyl Phthalate	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Dimethyl Phthalate	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Di-N-Butyl Phthalate	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
2,4-Dinitrotoluene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
2,6-Dinitrotoluene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Di-N-Octylphthalate	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Fluoranthene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Fluorene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Hexachlorobenzene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Hexachlorobutadiene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Hexachlorocyclopentadi	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Hexachloroethane	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM

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03/28/94
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LAB ID: 287K02
SAMPLE ID: EFF #7-E

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Indeno (1,2,3-cd) Pyre	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Isophorone	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Naphthalene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Nitrobenzene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
N-Nitroso-Di-N-Propyla	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
N-Nitrosodiphenylamine	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Phenanthrene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Pyrene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
1,2,4-Trichlorobenzene	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Benzidine	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
N-Nitrosodimethylamine	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
4-Chloro-3-Methylpheno	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
2-Chlorophenol	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
2,4-Dichlorophenol	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
2,4-Dimethylphenol	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
2,4-Dinitrophenol	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
2-Methyl-4,6-Dinitroph	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
2-Nitrophenol	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
4-Nitrophenol	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Pentachlorophenol	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Phenol	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
2,4,6-Trichlorophenol	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
4,6-Dinitro-o-cresol	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
P-chloro-m-cresol	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Trans-1,3-dichloroprop	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
4-Methylphenol	BDL	10	PPB	EPA 625	09:00	03/17/94	FDM
Nitrobenzene-d8	89		% Rec	EPA 625	09:00	03/17/94	FDM
2-Fluorobiphenyl	109		% Rec	EPA 625	09:00	03/17/94	FDM
p-Terphenyl-d14	86		% Rec	EPA 625	09:00	03/17/94	FDM
Phenol-d6	71		% Rec	EPA 625	09:00	03/17/94	FDM
2-Fluorophenol	82		% Rec	EPA 625	09:00	03/17/94	FDM
2,4,6-Tribromophenol	118		% Rec	EPA 625	09:00	03/17/94	FDM

AquaChem
ENVIRONMENTAL LABORATORIES, INC.
11176 Downs Road
Pineville, NC 28134
704/588-5076
FAX 704/588-2454

NC Certification Number: 305
SC Certification Number: 99032

Date of Report: 03/11/94
Date Received : 02/25/94

Approved By:
Tyler H. Garber
Laboratory Director

Client: Hackney and Sons
P. O. Box 880
Washington, North Carolina 27889

Contact: Mr. Charles Mason

Customer Number: 5038

LABORATORY REPORT

LAB ID: 131K01
SAMPLE ID: INF. #6-I

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
pH	6.41	0-14	S.U.	EPA150.1	13:50	02/25/94	RCD
Acetone	BDL	5	ppb	EPA 8240	20:57	03/04/94	FDM
Benzene	BDL	5	ppb	EPA 624	20:57	03/04/94	FDM
Bromodichloromethane	BDL	5	ppb	EPA 624	20:57	03/04/94	FDM
Bromoform	BDL	5	ppb	EPA 624	20:57	03/04/94	FDM
Bromomethane	BDL	10	ppb	EPA 624	20:57	03/04/94	FDM
Carbon Tetrachloride	BDL	5	ppb	EPA 624	20:57	03/04/94	FDM
Chlorobenzene	BDL	5	ppb	EPA 624	20:57	03/04/94	FDM
Chloroethane	BDL	10	ppb	EPA 624	20:57	03/04/94	FDM
2-Chloroethylvinyl Eth	BDL	10	ppb	EPA 624	20:57	03/04/94	FDM
Chloroform	BDL	5	ppb	EPA 624	20:57	03/04/94	FDM
Chloromethane	BDL	20	ppb	EPA 624	20:57	03/04/94	FDM
Dibromochloromethane	BDL	5	ppb	EPA 624	20:57	03/04/94	FDM
1,2-Dichlorobenzene	BDL	5	ppb	EPA 624	20:57	03/04/94	FDM
1,3-Dichlorobenzene	BDL	5	ppb	EPA 624	20:57	03/04/94	FDM
1,4-Dichlorobenzene	BDL	5	ppb	EPA 624	20:57	03/04/94	FDM
1,1-Dichloroethane	BDL	5	ppb	EPA 624	20:57	03/04/94	FDM
1,2-Dichloroethane	BDL	5	ppb	EPA 624	20:57	03/04/94	FDM
1,1-Dichloroethene	BDL	10	ppb	EPA 624	20:57	03/04/94	FDM
Trans-1,2-Dichloroethe	BDL	5	ppb	EPA 624	20:57	03/04/94	FDM
1,2-Dichloropropane	BDL	5	ppb	EPA 624	20:57	03/04/94	FDM
Cis-1,3-Dichloropropen	BDL	5	ppb	EPA 624	20:57	03/04/94	FDM
Trans-1,3-Dichloroprop	BDL	5	ppb	EPA 624	20:57	03/04/94	FDM

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03/11/94
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LAB ID: 131K01
SAMPLE ID: INF. #6-I

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Ethyl Benzene	BDL	5	ppb	EPA 624	20:57	03/04/94	FDM
Methylene Chloride	BDL	5	ppb	EPA 624	20:57	03/04/94	FDM
1,1,2,2-Tetrachlorotha	BDL	5	ppb	EPA 624	20:57	03/04/94	FDM
Tetrachloroethene	BDL	5	ppb	EPA 624	20:57	03/04/94	FDM
Toluene	BDL	5	ppb	EPA 624	20:57	03/04/94	FDM
1,1,1-Trichloroethane	BDL	5	ppb	EPA 624	20:57	03/04/94	FDM
1,1,2-Trichloroethane	BDL	5	ppb	EPA 624	20:57	03/04/94	FDM
Trichloroethene	BDL	5	ppb	EPA 624	20:57	03/04/94	FDM
Trichlorofluoromethane	BDL	10	ppb	EPA 624	20:57	03/04/94	FDM
Vinyl Chloride	BDL	10	ppb	EPA 624	20:57	03/04/94	FDM
Total Xylene	BDL	5	ppb	EPA 624	20:57	03/04/94	FDM
1,1,1,2-Tetrachloroeth	BDL	10	ppb	EPA 624	20:57	03/04/94	FDM
Cis 1,2-dichloroethene	BDL	5	ppb	EPA 624	20:57	03/04/94	FDM
1,2-Dichloroethane-d4	119		% Rec	EPA 624	20:57	03/04/94	FDM
Toluene-d8	99		% Rec	EPA 624	20:57	03/04/94	FDM
4-Bromofluorobenzene	112		% Rec	EPA 624	20:57	03/04/94	FDM
Acenaphthene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Acenaphthylene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Anthracene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Benzo (a) Anthracene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Benzo (a) Pyrene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Benzo (b) Fluoranthene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Benzo (g,h,i) Perylene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Benzo (k) Fluoranthene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Bis (2-Chloroethoxy) M	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Bis (2-Chloroethyl) Et	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Bis (2-Chloroisopropyl	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Bis (2-Ethylhexyl) Pht	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
4-Bromophenyl Phenyl E	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Benzyl Butyl Phthalate	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
2-Chloronaphthalene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
4-Chlorophenyl Phenyl	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Chrysene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Dibenzo (a,h) Anthrace	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
1,2-Dichlorobenzene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
1,3-Dichlorobenzene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
1,4-Dichlorobenzene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
3,3'-Dichlorobenzidine	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Diethyl Phthalate	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Dimethyl Phthalate	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM

LAB ID: 131K01
SAMPLE ID: INF. #6-I

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Di-N-Butyl Phthalate	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
2,4-Dinitrotoluene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
2,6-Dinitrotoluene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Di-N-Octylphthalate	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Fluoranthene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Fluorene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Hexachlorobenzene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Hexachlorobutadiene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Hexachlorocyclopentadi	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Hexachloroethane	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Indeno (1,2,3-cd) Pyre	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Isophorone	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Naphthalene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Nitrobenzene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
N-Nitroso-Di-N-Propyla	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
N-Nitrosodiphenylamine	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Phenanthrene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Pyrene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
1,2,4-Trichlorobenzene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Benzidine	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
N-Nitrosodimethylamine	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
4-Chloro-3-Methylpheno	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
2-Chlorophenol	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
2,4-Dichlorophenol	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
2,4-Dimethylphenol	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
2,4-Dinitrophenol	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
2-Methyl-4,6-Dinitroph	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
2-Nitrophenol	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
4-Nitrophenol	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Pentachlorophenol	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Phenol	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
2,4,6-Trichlorophenol	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
4,6-Dinitro-o-cresol	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
P-chloro-m-cresol	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Trans-1,3-dichloroprop	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
4-Methylphenol	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Nitrobenzene-d8	81		% Rec	EPA 625	09:00	03/02/94	FDM
2-Fluorobiphenyl	92		% Rec	EPA 625	09:00	03/02/94	FDM

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03/11/94
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LAB ID: 131K01
SAMPLE ID: INF. #6-I

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
p-Terphenyl-d14	101		% Rec	EPA 625	09:00	03/02/94	FDM
Phenol-d6	72		% Rec	EPA 625	09:00	03/02/94	FDM
2-Fluorophenol	78		% Rec	EPA 625	09:00	03/02/94	FDM
2,4,6-Tribromophenol	108		% Rec	EPA 625	09:00	03/02/94	FDM

LAB ID: 131K02
SAMPLE ID: EFF #6-E

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
pH	6.23	0-14	S.U.	EPA150.1	13:50	02/25/94	RCD
Acetone	BDL	5	ppb	EPA 8240	22:20	03/04/94	FDM
Benzene	BDL	5	ppb	EPA 624	22:20	03/04/94	FDM
Bromodichloromethane	BDL	5	ppb	EPA 624	22:20	03/04/94	FDM
Bromoform	BDL	5	ppb	EPA 624	22:20	03/04/94	FDM
Bromomethane	BDL	10	ppb	EPA 624	22:20	03/04/94	FDM
Carbon Tetrachloride	BDL	5	ppb	EPA 624	22:20	03/04/94	FDM
Chlorobenzene	BDL	5	ppb	EPA 624	22:20	03/04/94	FDM
Chloroethane	BDL	10	ppb	EPA 624	22:20	03/04/94	FDM
2-Chloroethylvinyl Eth	BDL	10	ppb	EPA 624	22:20	03/04/94	FDM
Chloroform	BDL	5	ppb	EPA 624	22:20	03/04/94	FDM
Chloromethane	BDL	20	ppb	EPA 624	22:20	03/04/94	FDM
Dibromochloromethane	BDL	5	ppb	EPA 624	22:20	03/04/94	FDM
1,2-Dichlorobenzene	BDL	5	ppb	EPA 624	22:20	03/04/94	FDM
1,3-Dichlorobenzene	BDL	5	ppb	EPA 624	22:20	03/04/94	FDM
1,4-Dichlorobenzene	BDL	5	ppb	EPA 624	22:20	03/04/94	FDM
1,1-Dichloroethane	BDL	5	ppb	EPA 624	22:20	03/04/94	FDM
1,2-Dichloroethane	BDL	5	ppb	EPA 624	22:20	03/04/94	FDM
1,1-Dichloroethene	BDL	10	ppb	EPA 624	22:20	03/04/94	FDM
Trans-1,2-Dichloroethe	BDL	5	ppb	EPA 624	22:20	03/04/94	FDM
1,2-Dichloropropane	BDL	5	ppb	EPA 624	22:20	03/04/94	FDM
Cis-1,3-Dichloropropen	BDL	5	ppb	EPA 624	22:20	03/04/94	FDM
Trans-1,3-Dichloroprop	BDL	5	ppb	EPA 624	22:20	03/04/94	FDM
Ethyl Benzene	BDL	5	ppb	EPA 624	22:20	03/04/94	FDM
Methylene Chloride	BDL	5	ppb	EPA 624	22:20	03/04/94	FDM
1,1,2,2-Tetrachlorotha	BDL	5	ppb	EPA 624	22:20	03/04/94	FDM
Tetrachloroethene	BDL	5	ppb	EPA 624	22:20	03/04/94	FDM
Toluene	BDL	5	ppb	EPA 624	22:20	03/04/94	FDM
1,1,1-Trichloroethane	BDL	5	ppb	EPA 624	22:20	03/04/94	FDM
1,1,2-Trichloroethane	BDL	5	ppb	EPA 624	22:20	03/04/94	FDM
Trichloroethene	BDL	5	ppb	EPA 624	22:20	03/04/94	FDM
Trichlorofluoromethane	BDL	10	ppb	EPA 624	22:20	03/04/94	FDM
Vinyl Chloride	BDL	10	ppb	EPA 624	22:20	03/04/94	FDM

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LAB ID: 131K02
SAMPLE ID: EFF #6-E

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Total Xylene	BDL	5	ppb	EPA 624	22:20	03/04/94	FDM
1,1,1,2-Tetrachloroeth	BDL	5	ppb	EPA 624	22:20	03/04/94	FDM
Cis 1,2-dichloroethene	BDL	5	ppb	EPA 624	22:20	03/04/94	FDM
1,2-Dichloroethane-d4	119		% Rec	EPA 624	22:20	03/04/94	FDM
Toluene-d8	99		% Rec	EPA 624	22:20	03/04/94	FDM
4-Bromofluorobenzene	112		% Rec	EPA 624	22:20	03/04/94	FDM
Acenaphthene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Acenaphthylene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Anthracene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Benzo (a) Anthracene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Benzo (a) Pyrene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Benzo (b) Fluoranthene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Benzo (g,h,i) Perylene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Benzo (k) Fluoranthene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Bis (2-Chloroethoxy) M	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Bis (2-Chloroethyl) Et	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Bis (2-Chloroisopropyl	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Bis (2-Ethylhexyl) Pht	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
4-Bromophenyl Phenyl E	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Benzyl Butyl Phthalate	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
2-Chloronaphthalene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
4-Chlorophenyl Phenyl	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Chrysene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Dibenzo (a,h) Anthrace	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
1,2-Dichlorobenzene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
1,3-Dichlorobenzene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
1,4-Dichlorobenzene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
3,3'-Dichlorobenzidine	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Diethyl Phthalate	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Dimethyl Phthalate	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Di-N-Butyl Phthalate	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
2,4-Dinitrotoluene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
2,6-Dinitrotoluene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Di-N-Octylphthalate	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Fluoranthene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Fluorene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Hexachlorobenzene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Hexachlorobutadiene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Hexachlorocyclopentadi	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Hexachloroethane	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM

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03/11/94
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LAB ID: 131K02
SAMPLE ID: EFF #6-E

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Indeno (1,2,3-cd) Pyre	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Isophorone	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Naphthalene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Nitrobenzene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
N-Nitroso-Di-N-Propyla	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
N-Nitrosodiphenylamine	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Phenanthrene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Pyrene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
1,2,4-Trichlorobenzene	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Benzidine	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
N-Nitrosodimethylamine	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
4-Chloro-3-Methylpheno	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
2-Chlorophenol	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
2,4-Dichlorophenol	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
2,4-Dimethylphenol	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
2,4-Dinitrophenol	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
2-Methyl-4,6-Dinitroph	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
2-Nitrophenol	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
4-Nitrophenol	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Pentachlorophenol	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Phenol	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
2,4,6-Trichlorophenol	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
4,6-Dinitro-o-cresol	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
P-chloro-m-cresol	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Trans-1,3-dichloroprop	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
4-Methylphenol	BDL	10	PPB	EPA 625	09:00	03/02/94	FDM
Nitrobenzene-d8	84		% Rec	EPA 625	09:00	03/02/94	FDM
2-Fluorobiphenyl	106		% Rec	EPA 625	09:00	03/02/94	FDM
p-Terphenyl-d14	109		% Rec	EPA 625	09:00	03/02/94	FDM
Phenol-d6	84		% Rec	EPA 625	09:00	03/02/94	FDM
2-Fluorophenol	79		% Rec	EPA 625	09:00	03/02/94	FDM
2,4,6-Tribromophenol	120		% Rec	EPA 625	09:00	03/02/94	FDM

AquaChem
ENVIRONMENTAL LABORATORIES, INC.
11176 Downs Road
Pineville, NC 28134
704/588-5076
FAX 704/588-2454

NC Certification Number: 305
SC Certification Number: 99032

Date of Report: 02/23/94
Date Received : 02/08/94

Approved By: ______________
Tyler H. Garber
Laboratory Director

Client: Hackney and Sons
P. O. Box 880
Washington, North Carolina 27889

Contact: Mr. Charles Mason

Customer Number: 5038

LABORATORY REPORT

LAB ID: 868J01
SAMPLE ID: INF #5-I

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Benzene	BDL	5	ppb	EPA 624	18:08	02/14/94	FDM
Bromodichloromethane	BDL	5	ppb	EPA 624	18:08	02/14/94	FDM
Bromoform	BDL	5	ppb	EPA 624	18:08	02/14/94	FDM
Bromomethane	BDL	10	ppb	EPA 624	18:08	02/14/94	FDM
Carbon Tetrachloride	BDL	5	ppb	EPA 624	18:08	02/14/94	FDM
Chlorobenzene	BDL	5	ppb	EPA 624	18:08	02/14/94	FDM
Chloroethane	BDL	10	ppb	EPA 624	18:08	02/14/94	FDM
2-Chloroethylvinyl Eth	BDL	10	ppb	EPA 624	18:08	02/14/94	FDM
Chloroform	BDL	5	ppb	EPA 624	18:08	02/14/94	FDM
Chloromethane	BDL	20	ppb	EPA 624	18:08	02/14/94	FDM
Dibromochloromethane	BDL	5	ppb	EPA 624	18:08	02/14/94	FDM
1,2-Dichlorobenzene	BDL	5	ppb	EPA 624	18:08	02/14/94	FDM
1,3-Dichlorobenzene	BDL	5	ppb	EPA 624	18:08	02/14/94	FDM
1,4-Dichlorobenzene	BDL	5	ppb	EPA 624	18:08	02/14/94	FDM
1,1-Dichloroethane	BDL	5	ppb	EPA 624	18:08	02/14/94	FDM
1,2-Dichloroethane	BDL	5	ppb	EPA 624	18:08	02/14/94	FDM
1,1-Dichloroethene	BDL	10	ppb	EPA 624	18:08	02/14/94	FDM
Trans-1,2-Dichloroethe	BDL	5	ppb	EPA 624	18:08	02/14/94	FDM
1,2-Dichloropropane	BDL	5	ppb	EPA 624	18:08	02/14/94	FDM
Cis-1,3-Dichloropropen	BDL	5	ppb	EPA 624	18:08	02/14/94	FDM
Trans-1,3-Dichloroprop	BDL	5	ppb	EPA 624	18:08	02/14/94	FDM
Ethyl Benzene	BDL	5	ppb	EPA 624	18:08	02/14/94	FDM
Methylene Chloride	BDL	5	ppb	EPA 624	18:08	02/14/94	FDM

LAB ID: 868J01
SAMPLE ID: INF #5-I

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
1,1,2,2-Tetrachlorotha	BDL	5	ppb	EPA 624	18:08	02/14/94	FDM
Tetrachloroethene	BDL	5	ppb	EPA 624	18:08	02/14/94	FDM
Toluene	BDL	5	ppb	EPA 624	18:08	02/14/94	FDM
1,1,1-Trichloroethane	BDL	5	ppb	EPA 624	18:08	02/14/94	FDM
1,1,2-Trichloroethane	BDL	5	ppb	EPA 624	18:08	02/14/94	FDM
Trichloroethene	BDL	5	ppb	EPA 624	18:08	02/14/94	FDM
Trichlorofluoromethane	BDL	10	ppb	EPA 624	18:08	02/14/94	FDM
Vinyl Chloride	BDL	10	ppb	EPA 624	18:08	02/14/94	FDM
Total Xylene	BDL	5	ppb	EPA 624	18:08	02/14/94	FDM
1,1,1,2-Tetrachloroeth	BDL	5	ppb	EPA 624	18:08	02/14/94	FDM
Cis 1,2-dichloroethene	BDL	5	ppb	EPA 624	18:08	02/14/94	FDM
1,2-Dichloroethane-d4	117		% Rec	EPA 624	18:08	02/14/94	FDM
Toluene-d8	98		% Rec	EPA 624	18:08	02/14/94	FDM
4-Bromofluorobenzene	98		% Rec	EPA 624	18:08	02/14/94	FDM
Acenaphthene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Acenaphthylene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Anthracene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Benzo (a) Anthracene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Benzo (a) Pyrene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Benzo (b) Fluoranthene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Benzo (g,h,i) Perylene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Benzo (k) Fluoranthene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Bis (2-Chloroethoxy) M	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Bis (2-Chloroethyl) Et	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Bis (2-Chloroisopropyl	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Bis (2-Ethylhexyl) Pht	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
4-Bromophenyl Phenyl E	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Benzyl Butyl Phthalate	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
2-Chloronaphthalene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
4-Chlorophenyl Phenyl	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Chrysene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Dibenzo (a,h) Anthrace	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
1,2-Dichlorobenzene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
1,3-Dichlorobenzene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
1,4-Dichlorobenzene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
3,3'-Dichlorobenzidine	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Diethyl Phthalate	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Dimethyl Phthalate	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Di-N-Butyl Phthalate	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
2,4-Dinitrotoluene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM

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02/23/94
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LAB ID: 868J01
SAMPLE ID: INF #5-I

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
2,6-Dinitrotoluene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Di-N-Octylphthalate	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Fluoranthene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Fluorene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Hexachlorobenzene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Hexachlorobutadiene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Hexachlorocyclopentadi	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Hexachloroethane	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Indeno (1,2,3-cd) Pyre	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Isophorone	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Naphthalene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Nitrobenzene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
N-Nitroso-Di-N-Propyla	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
N-Nitrosodiphenylamine	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Phenanthrene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Pyrene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
1,2,4-Trichlorobenzene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Benzidine	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
N-Nitrosodimethylamine	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
4-Chloro-3-Methylpheno	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
2-Chlorophenol	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
2,4-Dichlorophenol	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
2,4-Dimethylphenol	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
2,4-Dinitrophenol	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
2-Methyl-4,6-Dinitroph	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
2-Nitrophenol	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
4-Nitrophenol	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Pentachlorophenol	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Phenol	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
2,4,6-Trichlorophenol	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
4,6-Dinitro-o-cresol	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
P-chloro-m-cresol	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Trans-1,3-dichloroprop	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
4-Methylphenol	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Nitrobenzene-d8	104		% Rec	EPA 625	08:30	02/09/94	FDM
2-Fluorobiphenyl	94		% Rec	EPA 625	08:30	02/09/94	FDM
p-Terphenyl-d14	105		% Rec	EPA 625	08:30	02/09/94	FDM
Phenol-d6	68		% Rec	EPA 625	08:30	02/09/94	FDM

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02/23/94
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LAB ID: 868J01
SAMPLE ID: INF #5-I

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
2-Fluorophenol	71		% Rec	EPA 625	08:30	02/09/94	FDM
2,4,6-Tribromophenol	121		% Rec	EPA 625	08:30	02/09/94	FDM
Acetone	BDL	5	ppb	EPA 8240	18:08	02/14/94	FDM

LAB ID: 868J02
SAMPLE ID: EFF #5-E

Benzene	BDL	5	ppb	EPA 624	19:30	02/14/94	FDM
Bromodichloromethane	BDL	5	ppb	EPA 624	19:30	02/14/94	FDM
Bromoform	BDL	5	ppb	EPA 624	19:30	02/14/94	FDM
Bromomethane	BDL	10	ppb	EPA 624	19:30	02/14/94	FDM
Carbon Tetrachloride	BDL	5	ppb	EPA 624	19:30	02/14/94	FDM
Chlorobenzene	BDL	5	ppb	EPA 624	19:30	02/14/94	FDM
Chloroethane	BDL	10	ppb	EPA 624	19:30	02/14/94	FDM
2-Chloroethylvinyl Eth	BDL	10	ppb	EPA 624	19:30	02/14/94	FDM
Chloroform	BDL	5	ppb	EPA 624	19:30	02/14/94	FDM
Chloromethane	BDL	20	ppb	EPA 624	19:30	02/14/94	FDM
Dibromochloromethane	BDL	5	ppb	EPA 624	19:30	02/14/94	FDM
1,2-Dichlorobenzene	BDL	5	ppb	EPA 624	19:30	02/14/94	FDM
1,3-Dichlorobenzene	BDL	5	ppb	EPA 624	19:30	02/14/94	FDM
1,4-Dichlorobenzene	BDL	5	ppb	EPA 624	19:30	02/14/94	FDM
1,1-Dichloroethane	BDL	5	ppb	EPA 624	19:30	02/14/94	FDM
1,2-Dichloroethane	BDL	5	ppb	EPA 624	19:30	02/14/94	FDM
1,1-Dichloroethene	BDL	10	ppb	EPA 624	19:30	02/14/94	FDM
Trans-1,2-Dichloroethe	BDL	5	ppb	EPA 624	19:30	02/14/94	FDM
1,2-Dichloropropane	BDL	5	ppb	EPA 624	19:30	02/14/94	FDM
Cis-1,3-Dichloropropen	BDL	5	ppb	EPA 624	19:30	02/14/94	FDM
Trans-1,3-Dichloroprop	BDL	5	ppb	EPA 624	19:30	02/14/94	FDM
Ethyl Benzene	BDL	5	ppb	EPA 624	19:30	02/14/94	FDM
Methylene Chloride	BDL	5	ppb	EPA 624	19:30	02/14/94	FDM
1,1,2,2-Tetrachlorotha	BDL	5	ppb	EPA 624	19:30	02/14/94	FDM
Tetrachloroethene	BDL	5	ppb	EPA 624	19:30	02/14/94	FDM
Toluene	BDL	5	ppb	EPA 624	19:30	02/14/94	FDM
1,1,1-Trichloroethane	BDL	5	ppb	EPA 624	19:30	02/14/94	FDM
1,1,2-Trichloroethane	BDL	5	ppb	EPA 624	19:30	02/14/94	FDM
Trichloroethene	BDL	5	ppb	EPA 624	19:30	02/14/94	FDM
Trichlorofluoromethane	BDL	10	ppb	EPA 624	19:30	02/14/94	FDM
Vinyl Chloride	BDL	10	ppb	EPA 624	19:30	02/14/94	FDM
Total Xylene	BDL	5	ppb	EPA 624	19:30	02/14/94	FDM
1,1,1,2-Tetrachloroeth	BDL	5	ppb	EPA 624	19:30	02/14/94	FDM
Cis 1,2-dichloroethene	BDL	5	ppb	EPA 624	19:30	02/14/94	FDM

LAB ID: 868J02
SAMPLE ID: EFF #5-E

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
1,2-Dichloroethane-d4	113		% Rec	EPA 624	19:30	02/14/94	FDM
Toluene-d8	96		% Rec	EPA 624	19:30	02/14/94	FDM
4-Bromofluorobenzene	101		% Rec	EPA 624	19:30	02/14/94	FDM
Acenaphthene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Acenaphthylene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Anthracene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Benzo (a) Anthracene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Benzo (a) Pyrene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Benzo (b) Fluoranthene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Benzo (g,h,i) Perylene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Benzo (k) Fluoranthene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Bis (2-Chloroethoxy) M	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Bis (2-Chloroethyl) Et	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Bis (2-Chloroisopropyl	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Bis (2-Ethylhexyl) Pht	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
4-Bromophenyl Phenyl E	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Benzyl Butyl Phthalate	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
2-Chloronaphthalene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
4-Chlorophenyl Phenyl	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Chrysene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Dibenzo (a,h) Anthrace	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
1,2-Dichlorobenzene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
1,3-Dichlorobenzene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
1,4-Dichlorobenzene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
3,3'-Dichlorobenzidine	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Diethyl Phthalate	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Dimethyl Phthalate	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Di-N-Butyl Phthalate	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
2,4-Dinitrotoluene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
2,6-Dinitrotoluene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Di-N-Octylphthalate	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Fluoranthene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Fluorene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Hexachlorobenzene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Hexachlorobutadiene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Hexachlorocyclopentadi	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Hexachloroethane	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Indeno (1,2,3-cd) Pyre	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Isophorone	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Naphthalene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM

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02/23/94
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LAB ID: 868J02
SAMPLE ID: EFF #5-E

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Nitrobenzene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
N-Nitroso-Di-N-Propyla	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
N-Nitrosodiphenylamine	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Phenanthrene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Pyrene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
1,2,4-Trichlorobenzene	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Benzidine	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
N-Nitrosodimethylamine	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
4-Chloro-3-Methylpheno	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
2-Chlorophenol	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
2,4-Dichlorophenol	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
2,4-Dimethylphenol	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
2,4-Dinitrophenol	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
2-Methyl-4,6-Dinitroph	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
2-Nitrophenol	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
4-Nitrophenol	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Pentachlorophenol	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Phenol	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
2,4,6-Trichlorophenol	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
4,6-Dinitro-o-cresol	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
P-chloro-m-cresol	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Trans-1,3-dichloroprop	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
4-Methylphenol	BDL	10	PPB	EPA 625	08:30	02/09/94	FDM
Nitrobenzene-d8	100		% Rec	EPA 625	08:30	02/09/94	FDM
2-Fluorobiphenyl	82		% Rec	EPA 625	08:30	02/09/94	FDM
p-Terphenyl-d14	101		% Rec	EPA 625	08:30	02/09/94	FDM
Phenol-d6	69		% Rec	EPA 625	08:30	02/09/94	FDM
2-Fluorophenol	78		% Rec	EPA 625	08:30	02/09/94	FDM
2,4,6-Tribromophenol	118		% Rec	EPA 625	08:30	02/09/94	FDM
Acetone	BDL	5	ppb	EPA 8240	19:30	02/14/94	FDM

AquaChem
ENVIRONMENTAL LABORATORIES, INC.
11176 Downs Road
Pineville, NC 28134
704/588-5076
FAX 704/588-2454

NC Certification Number: 305
SC Certification Number: 99032

Date of Report: 02/03/94
Date Received : 01/26/94

Approved By: ______________________
Tyler H. Garber
Laboratory Director

Client: Hackney and Sons
P. O. Box 880
Washington, North Carolina 27889

Contact: Mr. Charles Mason

Customer Number: 5038

LABORATORY REPORT

LAB ID: 739J01
SAMPLE ID: INF #4-I

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Benzene	BDL	5	ppb	EPA 624	23:02	02/01/94	THG
Bromodichloromethane	BDL	5	ppb	EPA 624	23:02	02/01/94	THG
Bromoform	BDL	5	ppb	EPA 624	23:02	02/01/94	THG
Bromomethane	BDL	10	ppb	EPA 624	23:02	02/01/94	THG
Carbon Tetrachloride	BDL	5	ppb	EPA 624	23:02	02/01/94	THG
Chlorobenzene	BDL	5	ppb	EPA 624	23:02	02/01/94	THG
Chloroethane	BDL	10	ppb	EPA 624	23:02	02/01/94	THG
2-Chloroethylvinyl Eth	BDL	10	ppb	EPA 624	23:02	02/01/94	THG
Chloroform	BDL	5	ppb	EPA 624	23:02	02/01/94	THG
Chloromethane	BDL	20	ppb	EPA 624	23:02	02/01/94	THG
Dibromochloromethane	BDL	5	ppb	EPA 624	23:02	02/01/94	THG
1,2-Dichlorobenzene	BDL	5	ppb	EPA 624	23:02	02/01/94	THG
1,3-Dichlorobenzene	BDL	5	ppb	EPA 624	23:02	02/01/94	THG
1,4-Dichlorobenzene	BDL	5	ppb	EPA 624	23:02	02/01/94	THG
1,1-Dichloroethane	BDL	5	ppb	EPA 624	23:02	02/01/94	THG
1,2-Dichloroethane	BDL	5	ppb	EPA 624	23:02	02/01/94	THG
1,1-Dichloroethene	BDL	10	ppb	EPA 624	23:02	02/01/94	THG
Trans-1,2-Dichloroethe	BDL	5	ppb	EPA 624	23:02	02/01/94	THG
1,2-Dichloropropane	BDL	5	ppb	EPA 624	23:02	02/01/94	THG
Cis-1,3-Dichloropropen	BDL	5	ppb	EPA 624	23:02	02/01/94	THG
Trans-1,3-Dichloroprop	BDL	5	ppb	EPA 624	23:02	02/01/94	THG
Ethyl Benzene	BDL	5	ppb	EPA 624	23:02	02/01/94	THG
Methylene Chloride	BDL	5	ppb	EPA 624	23:02	02/01/94	THG

Hackney and Sons
02/03/94

LAB ID: 739J01
SAMPLE ID: INF #4-I

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
1,1,2,2-Tetrachlorotha	BDL	5	ppb	EPA 624	23:02	02/01/94	THG
Tetrachloroethene	BDL	5	ppb	EPA 624	23:02	02/01/94	THG
Toluene	BDL	5	ppb	EPA 624	23:02	02/01/94	THG
1,1,1-Trichloroethane	BDL	5	ppb	EPA 624	23:02	02/01/94	THG
1,1,2-Trichloroethane	BDL	5	ppb	EPA 624	23:02	02/01/94	THG
Trichloroethene	BDL	5	ppb	EPA 624	23:02	02/01/94	THG
Trichlorofluoromethane	BDL	10	ppb	EPA 624	23:02	02/01/94	THG
Vinyl Chloride	BDL	10	ppb	EPA 624	23:02	02/01/94	THG
Total Xylene	BDL	5	ppb	EPA 624	23:02	02/01/94	THG
1,1,1,2-Tetrachloroeth	BDL	5	ppb	EPA 624	23:02	02/01/94	THG
Cis 1,2-dichloroethene	BDL	5	ppb	EPA 624	23:02	02/01/94	THG
1,2-Dichloroethane-d4	93		% Rec	EPA 624	23:02	02/01/94	THG
Toluene-d8	96		% Rec	EPA 624	23:02	02/01/94	THG
4-Bromofluorobenzene	96		% Rec	EPA 624	23:02	02/01/94	THG
Acenaphthene	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Acenaphthylene	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Anthracene	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Benzo (a) Anthracene	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Benzo (a) Pyrene	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Benzo (b) Fluoranthene	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Benzo (g,h,i) Perylene	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Benzo (k) Fluoranthene	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Bis (2-Chloroethoxy) M	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Bis (2-Chloroethyl) Et	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Bis (2-Chloroisopropyl	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Bis (2-Ethylhexyl) Pht	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
4-Bromophenyl Phenyl E	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Benzyl Butyl Phthalate	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
2-Chloronaphthalene	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
4-Chlorophenyl Phenyl	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Chrysene	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Dibenzo (a,h) Anthrace	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
1,2-Dichlorobenzene	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
1,3-Dichlorobenzene	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
1,4-Dichlorobenzene	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
3,3'-Dichlorobenzidine	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Diethyl Phthalate	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Dimethyl Phthalate	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Di-N-Butyl Phthalate	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
2,4-Dinitrotoluene	BDL	10	PPB	EPA 625	08:30	01/31/94	THG

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02/03/94
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LAB ID: 739J01
SAMPLE ID: INF #4-I

		Det.			Analysis		
Parameter	Result	Limit	Unit	Method	Time	Date	Anal.
2,6-Dinitrotoluene	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Di-N-Octylphthalate	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Fluoranthene	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Fluorene	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Hexachlorobenzene	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Hexachlorobutadiene	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Hexachlorocyclopentadi	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Hexachloroethane	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Indeno (1,2,3-cd) Pyre	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Isophorone	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Naphthalene	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Nitrobenzene	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
N-Nitroso-Di-N-Propyla	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
N-Nitrosodiphenylamine	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Phenanthrene	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Pyrene	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
1,2,4-Trichlorobenzene	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Benzidine	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
N-Nitrosodimethylamine	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
4-Chloro-3-Methylpheno	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
2-Chlorophenol	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
2,4-Dichlorophenol	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
2,4-Dimethylphenol	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
2,4-Dinitrophenol	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
2-Methyl-4,6-Dinitroph	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
2-Nitrophenol	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
4-Nitrophenol	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Pentachlorophenol	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Phenol	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
2,4,6-Trichlorophenol	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
4,6-Dinitro-o-cresol	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
P-chloro-m-cresol	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Trans-1,3-dichloroprop	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
4-Methylphenol	BDL	10	PPB	EPA 625	08:30	01/31/94	THG
Nitrobenzene-d8	82		% Rec	EPA 625	08:30	01/31/94	THG
2-Fluorobiphenyl	77		% Rec	EPA 625	08:30	01/31/94	THG
p-Terphenyl-d14	77		% Rec	EPA 625	08:30	01/31/94	THG
Phenol-d6	60		% Rec	EPA 625	08:30	01/31/94	THG

Hackney and Sons
02/03/94

LAB ID: 739J01
SAMPLE ID: INF #4-I

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
2-Fluorophenol	85		% Rec	EPA 625	08:30	01/31/94	THG
2,4,6-Tribromophenol	131		% Rec	EPA 625	08:30	01/31/94	THG

LAB ID: 739J02
SAMPLE ID: EFF #4-E

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Benzene	BDL	5	ppb	EPA 624	00:24	02/02/94	THG
Bromodichloromethane	BDL	5	ppb	EPA 624	00:24	02/02/94	THG
Bromoform	BDL	5	ppb	EPA 624	00:24	02/02/94	THG
Bromomethane	BDL	10	ppb	EPA 624	00:24	02/02/94	THG
Carbon Tetrachloride	BDL	5	ppb	EPA 624	00:24	02/02/94	THG
Chlorobenzene	BDL	5	ppb	EPA 624	00:24	02/02/94	THG
Chloroethane	BDL	10	ppb	EPA 624	00:24	02/02/94	THG
2-Chloroethylvinyl Eth	BDL	10	ppb	EPA 624	00:24	02/02/94	THG
Chloroform	BDL	5	ppb	EPA 624	00:24	02/02/94	THG
Chloromethane	BDL	20	ppb	EPA 624	00:24	02/02/94	THG
Dibromochloromethane	BDL	5	ppb	EPA 624	00:24	02/02/94	THG
1,2-Dichlorobenzene	BDL	5	ppb	EPA 624	00:24	02/02/94	THG
1,3-Dichlorobenzene	BDL	5	ppb	EPA 624	00:24	02/02/94	THG
1,4-Dichlorobenzene	BDL	5	ppb	EPA 624	00:24	02/02/94	THG
1,1-Dichloroethane	BDL	5	ppb	EPA 624	00:24	02/02/94	THG
1,2-Dichloroethane	BDL	5	ppb	EPA 624	00:24	02/02/94	THG
1,1-Dichloroethene	BDL	10	ppb	EPA 624	00:24	02/02/94	THG
Trans-1,2-Dichloroethe	BDL	5	ppb	EPA 624	00:24	02/02/94	THG
1,2-Dichloropropane	BDL	5	ppb	EPA 624	00:24	02/02/94	THG
Cis-1,3-Dichloropropen	BDL	5	ppb	EPA 624	00:24	02/02/94	THG
Trans-1,3-Dichloroprop	BDL	5	ppb	EPA 624	00:24	02/02/94	THG
Ethyl Benzene	BDL	5	ppb	EPA 624	00:24	02/02/94	THG
Methylene Chloride	BDL	5	ppb	EPA 624	00:24	02/02/94	THG
1,1,2,2-Tetrachlorotha	BDL	5	ppb	EPA 624	00:24	02/02/94	THG
Tetrachloroethene	BDL	5	ppb	EPA 624	00:24	02/02/94	THG
Toluene	BDL	5	ppb	EPA 624	00:24	02/02/94	THG
1,1,1-Trichloroethane	BDL	5	ppb	EPA 624	00:24	02/02/94	THG
1,1,2-Trichloroethane	BDL	5	ppb	EPA 624	00:24	02/02/94	THG
Trichloroethene	BDL	5	ppb	EPA 624	00:24	02/02/94	THG
Trichlorofluoromethane	BDL	10	ppb	EPA 624	00:24	02/02/94	THG
Vinyl Chloride	BDL	10	ppb	EPA 624	00:24	02/02/94	THG
Total Xylene	BDL	5	ppb	EPA 624	00:24	02/02/94	THG
1,1,1,2-Tetrachloroeth	BDL	5	ppb	EPA 624	00:24	02/02/94	THG
Cis 1,2-dichloroethene	BDL	5	ppb	EPA 624	00:24	02/02/94	THG
1,2-Dichloroethane-d4	93		% Rec	EPA 624	00:24	02/02/94	THG

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LAB ID: 739J02
SAMPLE ID: EFF #4-E

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Toluene-d8	95		% Rec	EPA 624	00:24	02/02/94	THG
4-Bromofluorobenzene	96		% Rec	EPA 624	00:24	02/02/94	THG
Acenaphthene	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Acenaphthylene	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Anthracene	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Benzo (a) Anthracene	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Benzo (a) Pyrene	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Benzo (b) Fluoranthene	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Benzo (g,h,i) Perylene	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Benzo (k) Fluoranthene	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Bis (2-Chloroethoxy) M	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Bis (2-Chloroethyl) Et	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Bis (2-Chloroisopropyl	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Bis (2-Ethylhexyl) Pht	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
4-Bromophenyl Phenyl E	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Benzyl Butyl Phthalate	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
2-Chloronaphthalene	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
4-Chlorophenyl Phenyl	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Chrysene	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Dibenzo (a,h) Anthrace	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
1,2-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
1,3-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
1,4-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
3,3'-Dichlorobenzidine	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Diethyl Phthalate	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Dimethyl Phthalate	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Di-N-Butyl Phthalate	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
2,4-Dinitrotoluene	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
2,6-Dinitrotoluene	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Di-N-Octylphthalate	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Fluoranthene	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Fluorene	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Hexachlorobenzene	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Hexachlorobutadiene	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Hexachlorocyclopentadi	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Hexachloroethane	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Indeno (1,2,3-cd) Pyre	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Isophorone	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Naphthalene	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Nitrobenzene	BDL	10	PPB	EPA 625	08:15	02/01/94	THG

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02/03/94
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LAB ID: 739J02
SAMPLE ID: EFF #4-E

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
N-Nitroso-Di-N-Propyla	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
N-Nitrosodiphenylamine	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Phenanthrene	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Pyrene	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
1,2,4-Trichlorobenzene	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Benzidine	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
N-Nitrosodimethylamine	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
4-Chloro-3-Methylpheno	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
2-Chlorophenol	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
2,4-Dichlorophenol	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
2,4-Dimethylphenol	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
2,4-Dinitrophenol	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
2-Methyl-4,6-Dinitroph	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
2-Nitrophenol	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
4-Nitrophenol	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Pentachlorophenol	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Phenol	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
2,4,6-Trichlorophenol	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
4,6-Dinitro-o-cresol	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
P-chloro-m-cresol	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Trans-1,3-dichloroprop	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
4-Methylphenol	BDL	10	PPB	EPA 625	08:15	02/01/94	THG
Nitrobenzene-d8	78		% Rec	EPA 625	08:15	02/01/94	THG
2-Fluorobiphenyl	72		% Rec	EPA 625	08:15	02/01/94	THG
p-Terphenyl-d14	65		% Rec	EPA 625	08:15	02/01/94	THG
Phenol-d6	52		% Rec	EPA 625	08:15	02/01/94	THG
2-Fluorophenol	71		% Rec	EPA 625	08:15	02/01/94	THG
2,4,6-Tribromophenol	118		% Rec	EPA 625	08:15	02/01/94	THG

AquaChem
ENVIRONMENTAL LABORATORIES, INC.
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704/588-5076
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NC Certification Number: 305
SC Certification Number: 99032

Date of Report: 01/14/94
Date Received : 01/04/94

Approved By:
Tyler H. Garber
Laboratory Director

Client: Hackney and Sons
P. O. Box 880
Washington, North Carolina 27889

Contact: Mr. Charles Mason

Customer Number: 5038

LABORATORY REPORT

LAB ID: 431J01
SAMPLE ID: INF. #3-I

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
pH	6.69	0-14	S.U.	EPA150.1	13:25	01/04/94	RCD
Acetone	BDL	5	ppb	EPA 8240	19:51	01/13/94	THG
Benzene	BDL	5	ppb	EPA 624	19:51	01/13/94	THG
Bromodichloromethane	BDL	5	ppb	EPA 624	19:51	01/13/94	THG
Bromoform	BDL	5	ppb	EPA 624	19:51	01/13/94	THG
Bromomethane	BDL	10	ppb	EPA 624	19:51	01/13/94	THG
Carbon Tetrachloride	BDL	5	ppb	EPA 624	19:51	01/13/94	THG
Chlorobenzene	BDL	5	ppb	EPA 624	19:51	01/13/94	THG
Chloroethane	BDL	10	ppb	EPA 624	19:51	01/13/94	THG
2-Chloroethylvinyl Eth	BDL	10	ppb	EPA 624	19:51	01/13/94	THG
Chloroform	BDL	5	ppb	EPA 624	19:51	01/13/94	THG
Chloromethane	BDL	20	ppb	EPA 624	19:51	01/13/94	THG
Dibromochloromethane	BDL	5	ppb	EPA 624	19:51	01/13/94	THG
1,2-Dichlorobenzene	BDL	5	ppb	EPA 624	19:51	01/13/94	THG
1,3-Dichlorobenzene	BDL	5	ppb	EPA 624	19:51	01/13/94	THG
1,4-Dichlorobenzene	BDL	5	ppb	EPA 624	19:51	01/13/94	THG
1,1-Dichloroethane	BDL	5	ppb	EPA 624	19:51	01/13/94	THG
1,2-Dichloroethane	BDL	5	ppb	EPA 624	19:51	01/13/94	THG
1,1-Dichloroethene	BDL	10	ppb	EPA 624	19:51	01/13/94	THG
Trans-1,2-Dichloroethe	BDL	5	ppb	EPA 624	19:51	01/13/94	THG
1,2-Dichloropropane	BDL	5	ppb	EPA 624	19:51	01/13/94	THG
Cis-1,3-Dichloropropen	BDL	5	ppb	EPA 624	19:51	01/13/94	THG
Trans-1,3-Dichloroprop	BDL	5	ppb	EPA 624	19:51	01/13/94	THG

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LAB ID: 431J01
SAMPLE ID: INF. #3-I

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Ethyl Benzene	BDL	5	ppb	EPA 624	19:51	01/13/94	THG
Methylene Chloride	BDL	5	ppb	EPA 624	19:51	01/13/94	THG
1,1,2,2-Tetrachlorotha	BDL	5	ppb	EPA 624	19:51	01/13/94	THG
Tetrachloroethene	BDL	5	ppb	EPA 624	19:51	01/13/94	THG
Toluene	BDL	5	ppb	EPA 624	19:51	01/13/94	THG
1,1,1-Trichloroethane	BDL	5	ppb	EPA 624	19:51	01/13/94	THG
1,1,2-Trichloroethane	BDL	5	ppb	EPA 624	19:51	01/13/94	THG
Trichloroethene	BDL	5	ppb	EPA 624	19:51	01/13/94	THG
Trichlorofluoromethane	BDL	10	ppb	EPA 624	19:51	01/13/94	THG
Vinyl Chloride	BDL	10	ppb	EPA 624	19:51	01/13/94	THG
Total Xylene	BDL	5	ppb	EPA 624	19:51	01/13/94	THG
1,1,1,2-Tetrachloroeth	BDL	5	ppb	EPA 624	19:51	01/13/94	THG
Cis 1,2-dichloroethene	BDL	5	ppb	EPA 624	19:51	01/13/94	THG
1,2-Dichloroethane-d4	106		% Rec	EPA 624	19:51	01/13/94	THG
Toluene-d8	102		% Rec	EPA 624	19:51	01/13/94	THG
4-Bromofluorobenzene	108		% Rec	EPA 624	19:51	01/13/94	THG
Acenaphthene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Acenaphthylene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Anthracene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Benzo (a) Anthracene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Benzo (a) Pyrene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Benzo (b) Fluoranthene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Benzo (g,h,i) Perylene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Benzo (k) Fluoranthene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Bis (2-Chloroethoxy) M	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Bis (2-Chloroethyl) Et	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Bis (2-Chloroisopropyl	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Bis (2-Ethylhexyl) Pht	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
4-Bromophenyl Phenyl E	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Benzyl Butyl Phthalate	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
2-Chloronaphthalene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
4-Chlorophenyl Phenyl	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Chrysene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Dibenzo (a,h) Anthrace	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
1,2-Dichlorobenzene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
1,3-Dichlorobenzene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
1,4-Dichlorobenzene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
3,3'-Dichlorobenzidine	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Diethyl Phthalate	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Dimethyl Phthalate	BDL	10	PPB	EPA 625	09:30	01/10/94	THG

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01/14/94
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LAB ID: 431J01
SAMPLE ID: INF. #3-I

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Di-N-Butyl Phthalate	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
2,4-Dinitrotoluene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
2,6-Dinitrotoluene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Di-N-Octylphthalate	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Fluoranthene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Fluorene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Hexachlorobenzene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Hexachlorobutadiene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Hexachlorocyclopentadi	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Hexachloroethane	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Indeno (1,2,3-cd) Pyre	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Isophorone	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Naphthalene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Nitrobenzene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
N-Nitroso-Di-N-Propyla	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
N-Nitrosodiphenylamine	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Phenanthrene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Pyrene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
1,2,4-Trichlorobenzene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Benzidine	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
N-Nitrosodimethylamine	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
4-Chloro-3-Methylpheno	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
2-Chlorophenol	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
2,4-Dichlorophenol	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
2,4-Dimethylphenol	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
2,4-Dinitrophenol	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
2-Methyl-4,6-Dinitroph	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
2-Nitrophenol	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
4-Nitrophenol	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Pentachlorophenol	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Phenol	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
2,4,6-Trichlorophenol	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
4,6-Dinitro-o-cresol	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
P-chloro-m-cresol	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Trans-1,3-dichloroprop	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
4-Methylphenol	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Nitrobenzene-d8	82		% Rec	EPA 625	09:30	01/10/94	THG
2-Fluorobiphenyl	102		% Rec	EPA 625	09:30	01/10/94	THG

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LAB ID: 431J01
SAMPLE ID: INF. #3-I

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
p-Terphenyl-d14	112		% Rec	EPA 625	09:30	01/10/94	THG
Phenol-d6	78		% Rec	EPA 625	09:30	01/10/94	THG
2-Fluorophenol	74		% Rec	EPA 625	09:30	01/10/94	THG
2,4,6-Tribromophenol	102		% Rec	EPA 625	09:30	01/10/94	THG

LAB ID: 431J02
SAMPLE ID: EFF #3-E

pH	7.54	0-14	S.U.	EPA150.1	13:30	01/04/94	RCD
Acetone	BDL	5	ppb	EPA 8240	21:11	01/13/94	THG
Benzene	BDL	5	ppb	EPA 624	21:11	01/13/94	THG
Bromodichloromethane	BDL	5	ppb	EPA 624	21:11	01/13/94	THG
Bromoform	BDL	5	ppb	EPA 624	21:11	01/13/94	THG
Bromomethane	BDL	10	ppb	EPA 624	21:11	01/13/94	THG
Carbon Tetrachloride	BDL	5	ppb	EPA 624	21:11	01/13/94	THG
Chlorobenzene	BDL	5	ppb	EPA 624	21:11	01/13/94	THG
Chloroethane	BDL	10	ppb	EPA 624	21:11	01/13/94	THG
2-Chloroethylvinyl Eth	BDL	10	ppb	EPA 624	21:11	01/13/94	THG
Chloroform	BDL	5	ppb	EPA 624	21:11	01/13/94	THG
Chloromethane	BDL	20	ppb	EPA 624	21:11	01/13/94	THG
Dibromochloromethane	BDL	5	ppb	EPA 624	21:11	01/13/94	THG
1,2-Dichlorobenzene	BDL	5	ppb	EPA 624	21:11	01/13/94	THG
1,3-Dichlorobenzene	BDL	5	ppb	EPA 624	21:11	01/13/94	THG
1,4-Dichlorobenzene	BDL	5	ppb	EPA 624	21:11	01/13/94	THG
1,1-Dichloroethane	BDL	5	ppb	EPA 624	21:11	01/13/94	THG
1,2-Dichloroethane	BDL	5	ppb	EPA 624	21:11	01/13/94	THG
1,1-Dichloroethene	BDL	10	ppb	EPA 624	21:11	01/13/94	THG
Trans-1,2-Dichloroethe	BDL	5	ppb	EPA 624	21:11	01/13/94	THG
1,2-Dichloropropane	BDL	5	ppb	EPA 624	21:11	01/13/94	THG
Cis-1,3-Dichloropropen	BDL	5	ppb	EPA 624	21:11	01/13/94	THG
Trans-1,3-Dichloroprop	BDL	5	ppb	EPA 624	21:11	01/13/94	THG
Ethyl Benzene	BDL	5	ppb	EPA 624	21:11	01/13/94	THG
Methylene Chloride	BDL	5	ppb	EPA 624	21:11	01/13/94	THG
1,1,2,2-Tetrachlorotha	BDL	5	ppb	EPA 624	21:11	01/13/94	THG
Tetrachloroethene	BDL	5	ppb	EPA 624	21:11	01/13/94	THG
Toluene	BDL	5	ppb	EPA 624	21:11	01/13/94	THG
1,1,1-Trichloroethane	BDL	5	ppb	EPA 624	21:11	01/13/94	THG
1,1,2-Trichloroethane	BDL	5	ppb	EPA 624	21:11	01/13/94	THG
Trichloroethene	BDL	5	ppb	EPA 624	21:11	01/13/94	THG
Trichlorofluoromethane	BDL	10	ppb	EPA 624	21:11	01/13/94	THG
Vinyl Chloride	BDL	10	ppb	EPA 624	21:11	01/13/94	THG

Hackney and Sons
01/14/94
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LAB ID: 431J02
SAMPLE ID: EFF #3-E

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Total Xylene	BDL	5	ppb	EPA 624	21:11	01/13/94	THG
1,1,1,2-Tetrachloroeth	BDL	5	ppb	EPA 624	21:11	01/13/94	THG
Cis 1,2-dichloroethene	BDL	5	ppb	EPA 624	21:11	01/13/94	THG
1,2-Dichloroethane-d4	118		% Rec	EPA 624	21:11	01/13/94	THG
Toluene-d8	102		% Rec	EPA 624	21:11	01/13/94	THG
4-Bromofluorobenzene	109		% Rec	EPA 624	21:11	01/13/94	THG
Acenaphthene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Acenaphthylene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Anthracene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Benzo (a) Anthracene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Benzo (a) Pyrene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Benzo (b) Fluoranthene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Benzo (g,h,i) Perylene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Benzo (k) Fluoranthene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Bis (2-Chloroethoxy) M	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Bis (2-Chloroethyl) Et	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Bis (2-Chloroisopropyl	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Bis (2-Ethylhexyl) Pht	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
4-Bromophenyl Phenyl E	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Benzyl Butyl Phthalate	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
2-Chloronaphthalene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
4-Chlorophenyl Phenyl	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Chrysene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Dibenzo (a,h) Anthrace	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
1,2-Dichlorobenzene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
1,3-Dichlorobenzene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
1,4-Dichlorobenzene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
3,3'-Dichlorobenzidine	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Diethyl Phthalate	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Dimethyl Phthalate	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Di-N-Butyl Phthalate	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
2,4-Dinitrotoluene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
2,6-Dinitrotoluene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Di-N-Octylphthalate	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Fluoranthene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Fluorene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Hexachlorobenzene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Hexachlorobutadiene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Hexachlorocyclopentadi	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Hexachloroethane	BDL	10	PPB	EPA 625	09:30	01/10/94	THG

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01/14/94
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LAB ID: 431J02
SAMPLE ID: EFF #3-E

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Indeno (1,2,3-cd) Pyre	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Isophorone	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Naphthalene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Nitrobenzene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
N-Nitroso-Di-N-Propyla	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
N-Nitrosodiphenylamine	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Phenanthrene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Pyrene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
1,2,4-Trichlorobenzene	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Benzidine	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
N-Nitrosodimethylamine	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
4-Chloro-3-Methylpheno	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
2-Chlorophenol	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
2,4-Dichlorophenol	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
2,4-Dimethylphenol	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
2,4-Dinitrophenol	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
2-Methyl-4,6-Dinitroph	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
2-Nitrophenol	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
4-Nitrophenol	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Pentachlorophenol	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Phenol	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
2,4,6-Trichlorophenol	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
4,6-Dinitro-o-cresol	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
P-chloro-m-cresol	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Trans-1,3-dichloroprop	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
4-Methylphenol	BDL	10	PPB	EPA 625	09:30	01/10/94	THG
Nitrobenzene-d8	94		% Rec	EPA 625	09:30	01/10/94	THG
2-Fluorobiphenyl	108		% Rec	EPA 625	09:30	01/10/94	THG
p-Terphenyl-d14	108		% Rec	EPA 625	09:30	01/10/94	THG
Phenol-d6	85		% Rec	EPA 625	09:30	01/10/94	THG
2-Fluorophenol	76		% Rec	EPA 625	09:30	01/10/94	THG
2,4,6-Tribromophenol	101		% Rec	EPA 625	09:30	01/10/94	THG

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Monitoring Well Report
Hackney and Sons
Washington,North Carolina

Prepared by

AquaChem Environmental Laboratories, Inc.
11176 Downs Road
Pineville, North Carolina 28134
704/588-5076 FAX 704/588-2454

Monitoring Well Sampling
Hackney & Sons
Washington, North Carolina

Field Investigation

On March 3, 1994, AquaChem Environmental Laboratories, Inc. mobilized to the Hackney and Sons Site in Washington, North Carolina to conduct the quarterly ground water sampling event required under Hackney and Sons Permit Number WQ0007970 at eleven (11) locations as denoted on the attached site plant (attachment A). The procedures followed in sampling the monitoring wells (MW-25, MW-26, MW-26D, MW-29, MW-30, MW-11, MW-28B, MW-29B, MW-30B, OW-D1, OW-1S) are specified in the sampling and analysis plant contained in the permit.

Upon arrival at the Hackney and Sons (Washington) site, the water levels of all the wells were measured using a "Well Water Depth Indicator" and recorded (see Laboratory Report). Prior to sampling, all wells were developed by removing three to five well volumes of water using teflon bailers. The water bailed from each well was collected in a container and disposed of in Hackney and Sons wastewater treatment plant. The wells were sampled immediately after purging each well.

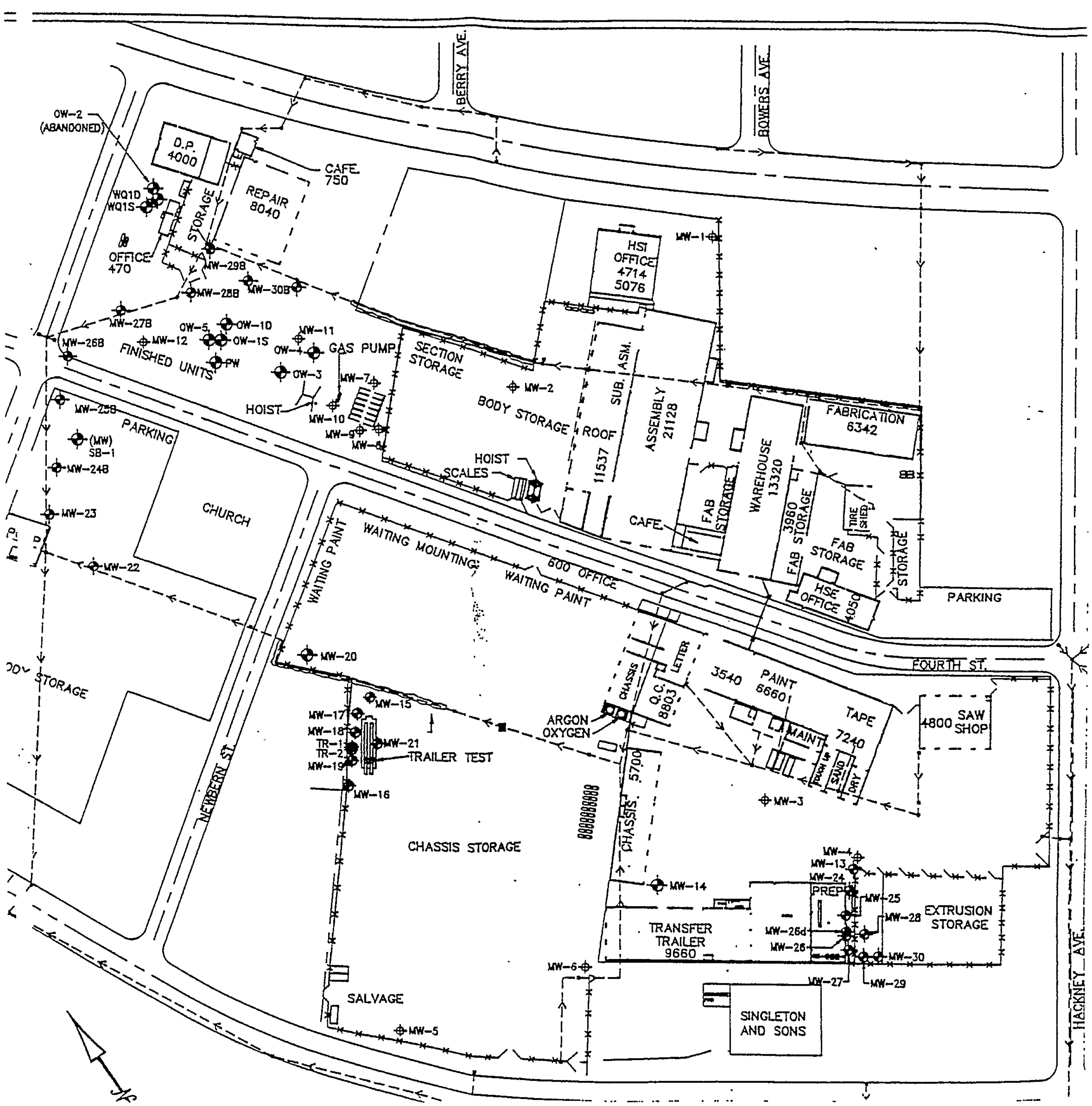
Following development, each monitoring well was sampled using Teflon Bailers. While sampling the monitoring wells using EPA procedures, the pH for each well was field analyzed and recorded (See Laboratory Report). Each sample collected was then placed into a sample container which was labeled denoting the job name, sample number, date, time, location, and analysis to be conducted. The sample containers were then placed into a transpack with ice, chilled to approximately four degrees Celsius and transported to the Laboratory with the completed Chain-of-Custody forms. The samples were then relinquished to the laboratory sample custodian where the forms were signed, dated and timed.

Laboratory Analysis

The samples were submitted to AquaChem Environmental Laboratories, Inc. to be analyzed for EPA Method 8240 for Acetone, EPA method 624, EPA method 625, and EPA method 150.1 for pH.

One sample was submitted and analyzed - as a Trip Blank. This sample was analyzed to evaluate field and laboratory quality assurance/quality control. These results are included in the Laboratory Report.

The Laboratory Results are included in this report, please find them attached.



BERRY AVE.
BOWERS AVE.
OW-2 (ABANDONED)
D.P. 4000
CAFE. 750
REPAIR 8040
STORAGE
WQ1D
WQ1S
OFFICE 470
MW-29B
MW-28B
MW-30B
MW-27B
MW-26B
MW-12
OW-5
OW-1D
OW-1S
PW
MW-11
OW-4
GAS PUMP
OW-3
FINISHED UNITS
HOIST
MW-7
MW-10
MW-9
MW-8
SECTION STORAGE
BODY STORAGE
MW-2
MW-1
HSI OFFICE 4714 5076
SUB. ASM.
ROOF 11537
ASSEMBLY 21128
FABRICATION 6342
WAREHOUSE 13320
FAB STORAGE
3960 STORAGE
FAB STORAGE
TIRE
STORAGE
HOIST
SCALES
CAFE
HSE OFFICE 4050
PARKING
MW-25B
PARKING
(MW) SB-1
MW-24B
MW-23
CHURCH
MW-22
STORAGE
WAITING PAINT
WAITING MOUNTING
600 OFFICE
WAITING PAINT
FOURTH ST.
MW-20
CHASSIS
LETTER
Q.C. 8803
3540 PAINT 6660
TAPE 7240
MAINT
SAND
DRY
4800 SAW SHOP
ARGON
OXYGEN
MW-15
MW-17
MW-18
TR-1
TR-2
MW-19
MW-21
TRAILER TEST
MW-16
CHASSIS 5700
MW-3
CHASSIS STORAGE
NEWBERN ST.
MW-4
MW-13
MW-24
PREP
MW-25
MW-28
EXTRUSION STORAGE
MW-14
TRANSFER TRAILER 9660
MW-26d
MW-26
MW-30
MW-27
MW-29
MW-6
SALVAGE
MW-5
SINGLETON AND SONS
HACKNEY AVE.

Hackney and Sons

MONITORING WELL SPREADSHEET

SAMPLE ID	Date	pH	Water Level	Tetrachloroethene	Total Xylene	Toluene	Ethyl Benzene
MW29B	03/03/94	6.70 s.u.	4.99 ft.	BDL	BDL	BDL	BDL
MW26D	03/03/94	8.84 s.u.	6.15 ft.	BDL	BDL	BDL	BDL
MW30	03/03/94	7.01 s.u.	5.97 ft.	BDL	BDL	BDL	BDL
MW29	03/03/94	7.39 s.u.	6.21 ft.	BDL	BDL	BDL	BDL
MW28B	03/03/94	6.83 s.u.	4.12 ft.	BDL	BDL	BDL	BDL
OW1D	03/03/94	6.71 s.u.	5.13 ft.	BDL	BDL	BDL	BDL
MW25	03/03/94	7.35 s.u.	6.09 ft.	BDL	BDL	BDL	BDL
OW1S	03/03/94	6.80 s.u.	4.90 ft	BDL	BDL	BDL	BDL
MW26	03/03/94	7.89 s.u.	6.13 ft.	BDL	BDL	BDL	BDL
MW30B	03/03/94	6.46 s.u.	5.02 ft.	BDL	BDL	BDL	BDL
MW11	03/03/94	6.64 s.u.	6.12 ft.	BDL	BDL	BDL	BDL
Trip Blank	03/03/94	6.98 s.u.	N/A	BDL	BDL	BDL	BDL

1/18/94

AquaChem
ENVIRONMENTAL LABORATORIES, INC.
11176 Downs Road
Pineville, NC 28134
704/588-5076
FAX 704/588-2454

NC Certification Number: 305
SC Certification Number: 99032

Date of Report: 03/24/94
Date Received : 03/03/94

Approved By:
Tyler H. Garber
Laboratory Director

Client: Hackney and Sons
P. O. Box 880
Washington, North Carolina 27889

Contact: Mr. Charles Mason

Customer Number: 5038

LABORATORY REPORT

LAB ID: 186K01
SAMPLE ID: MW 25

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
pH	7.35	0-14	S.U.	EPA150.1	12:30	03/03/94	JCT
Benzene	BDL	5	ppb	EPA 624	23:52	03/14/94	FDM
Bromodichloromethane	BDL	5	ppb	EPA 624	23:52	03/14/94	FDM
Bromoform	BDL	5	ppb	EPA 624	23:52	03/14/94	FDM
Bromomethane	BDL	10	ppb	EPA 624	23:52	03/14/94	FDM
Carbon Tetrachloride	BDL	5	ppb	EPA 624	23:52	03/14/94	FDM
Chlorobenzene	BDL	5	ppb	EPA 624	23:52	03/14/94	FDM
Chloroethane	BDL	10	ppb	EPA 624	23:52	03/14/94	FDM
2-Chloroethylvinyl Eth	BDL	10	ppb	EPA 624	23:52	03/14/94	FDM
Chloroform	BDL	5	ppb	EPA 624	23:52	03/14/94	FDM
Chloromethane	BDL	20	ppb	EPA 624	23:52	03/14/94	FDM
Dibromochloromethane	BDL	5	ppb	EPA 624	23:52	03/14/94	FDM
1,2-Dichlorobenzene	BDL	5	ppb	EPA 624	23:52	03/14/94	FDM
1,3-Dichlorobenzene	BDL	5	ppb	EPA 624	23:52	03/14/94	FDM
1,4-Dichlorobenzene	BDL	5	ppb	EPA 624	23:52	03/14/94	FDM
1,1-Dichloroethane	BDL	5	ppb	EPA 624	23:52	03/14/94	FDM
1,2-Dichloroethane	BDL	5	ppb	EPA 624	23:52	03/14/94	FDM
1,1-Dichloroethene	BDL	10	ppb	EPA 624	23:52	03/14/94	FDM
Trans-1,2-Dichloroethe	BDL	5	ppb	EPA 624	23:52	03/14/94	FDM
1,2-Dichloropropane	BDL	5	ppb	EPA 624	23:52	03/14/94	FDM
Cis-1,3-Dichloropropen	BDL	5	ppb	EPA 624	23:52	03/14/94	FDM
Trans-1,3-Dichloroprop	BDL	5	ppb	EPA 624	23:52	03/14/94	FDM
Ethyl Benzene	BDL	5	ppb	EPA 624	23:52	03/14/94	FDM

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03/24/94
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LAB ID: 186K01
SAMPLE ID: MW 25

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Methylene Chloride	BDL	5	ppb	EPA 624	23:52	03/14/94	FDM
1,1,2,2-Tetrachlorotha	BDL	5	ppb	EPA 624	23:52	03/14/94	FDM
Tetrachloroethene	BDL	5	ppb	EPA 624	23:52	03/14/94	FDM
Toluene	BDL	5	ppb	EPA 624	23:52	03/14/94	FDM
1,1,1-Trichloroethane	BDL	5	ppb	EPA 624	23:52	03/14/94	FDM
1,1,2-Trichloroethane	BDL	5	ppb	EPA 624	23:52	03/14/94	FDM
Trichloroethene	BDL	5	ppb	EPA 624	23:52	03/14/94	FDM
Trichlorofluoromethane	BDL	10	ppb	EPA 624	23:52	03/14/94	FDM
Vinyl Chloride	BDL	10	ppb	EPA 624	23:52	03/14/94	FDM
Total Xylene	BDL	5	ppb	EPA 624	23:52	03/14/94	FDM
1,1,1,2-Tetrachloroeth	BDL	5	ppb	EPA 624	23:52	03/14/94	FDM
Cis 1,2-dichloroethene	BDL	5	ppb	EPA 624	23:52	03/14/94	FDM
1,2-Dichloroethane-d4	78		% Rec	EPA 624	23:52	03/14/94	FDM
Toluene-d8	109		% Rec	EPA 624	23:52	03/14/94	FDM
4-Bromofluorobenzene	104		% Rec	EPA 624	23:52	03/14/94	FDM
Acenaphthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Acenaphthylene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Anthracene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (a) Anthracene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (a) Pyrene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (b) Fluoranthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (g,h,i) Perylene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (k) Fluoranthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Chloroethoxy) M	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Chloroethyl) Et	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Chloroisopropyl	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Ethylhexyl) Pht	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Bromophenyl Phenyl E	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzyl Butyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2-Chloronaphthalene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Chlorophenyl Phenyl	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Chrysene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Dibenzo (a,h) Anthrace	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,3-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,4-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
3,3'-Dichlorobenzidine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Diethyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Dimethyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Di-N-Butyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM

Hackney and Sons
03/24/94
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LAB ID: 186K01
SAMPLE ID: MW 25

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
2,4-Dinitrotoluene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,6-Dinitrotoluene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Di-N-Octylphthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Fluoranthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Fluorene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachlorobutadiene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachlorocyclopentadi	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachloroethane	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Indeno (1,2,3-cd) Pyre	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Isophorone	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Naphthalene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Nitrobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
N-Nitroso-Di-N-Propyla	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
N-Nitrosodiphenylamine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Phenanthrene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Pyrene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2,4-Trichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzidine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
N-Nitrosodimethylamine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Chloro-3-Methylpheno	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2-Chlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dichlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dimethylphenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dinitrophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2-Methyl-4,6-Dinitroph	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2-Nitrophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Nitrophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Pentachlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Phenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4,6-Trichlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4,6-Dinitro-o-cresol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
P-chloro-m-cresol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Trans-1,3-dichloroprop	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Methylphenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Nitrobenzene-d8	78		% Rec	EPA 625	08:15	03/07/94	FDM
2-Fluorobiphenyl	102		% Rec	EPA 625	08:15	03/07/94	FDM
p-Terphenyl-d14	91		% Rec	EPA 625	08:15	03/07/94	FDM

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LAB ID: 186K01
SAMPLE ID: MW 25

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Phenol-d6	72		% Rec	EPA 625	08:15	03/07/94	FDM
2-Fluorophenol	81		% Rec	EPA 625	08:15	03/07/94	FDM
2,4,6-Tribromophenol	121		% Rec	EPA 625	08:15	03/07/94	FDM
Acetone	BDL	5	ppb	EPA 8240	23:52	03/14/94	FDM
Water Level	6.09		FT		12:30	03/03/94	JCT

LAB ID: 186K02
SAMPLE ID: MW 26

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
pH	7.89	0-14	S.U.	EPA150.1	12:45	03/03/94	JCT
Benzene	BDL	5	ppb	EPA 624	01:17	03/15/94	FDM
Bromodichloromethane	BDL	5	ppb	EPA 624	01:17	03/15/94	FDM
Bromoform	BDL	5	ppb	EPA 624	01:17	03/15/94	FDM
Bromomethane	BDL	10	ppb	EPA 624	01:17	03/15/94	FDM
Carbon Tetrachloride	BDL	5	ppb	EPA 624	01:17	03/15/94	FDM
Chlorobenzene	BDL	5	ppb	EPA 624	01:17	03/15/94	FDM
Chloroethane	BDL	10	ppb	EPA 624	01:17	03/15/94	FDM
2-Chloroethylvinyl Eth	BDL	10	ppb	EPA 624	01:17	03/15/94	FDM
Chloroform	BDL	5	ppb	EPA 624	01:17	03/15/94	FDM
Chloromethane	BDL	20	ppb	EPA 624	01:17	03/15/94	FDM
Dibromochloromethane	BDL	5	ppb	EPA 624	01:17	03/15/94	FDM
1,2-Dichlorobenzene	BDL	5	ppb	EPA 624	01:17	03/15/94	FDM
1,3-Dichlorobenzene	BDL	5	ppb	EPA 624	01:17	03/15/94	FDM
1,4-Dichlorobenzene	BDL	5	ppb	EPA 624	01:17	03/15/94	FDM
1,1-Dichloroethane	BDL	5	ppb	EPA 624	01:17	03/15/94	FDM
1,2-Dichloroethane	BDL	5	ppb	EPA 624	01:17	03/15/94	FDM
1,1-Dichloroethene	BDL	10	ppb	EPA 624	01:17	03/15/94	FDM
Trans-1,2-Dichloroethe	BDL	5	ppb	EPA 624	01:17	03/15/94	FDM
1,2-Dichloropropane	BDL	5	ppb	EPA 624	01:17	03/15/94	FDM
Cis-1,3-Dichloropropen	BDL	5	ppb	EPA 624	01:17	03/15/94	FDM
Trans-1,3-Dichloroprop	BDL	5	ppb	EPA 624	01:17	03/15/94	FDM
Ethyl Benzene	BDL	5	ppb	EPA 624	01:17	03/15/94	FDM
Methylene Chloride	BDL	5	ppb	EPA 624	01:17	03/15/94	FDM
1,1,2,2-Tetrachlorotha	BDL	5	ppb	EPA 624	01:17	03/15/94	FDM
Tetrachloroethene	BDL	5	ppb	EPA 624	01:17	03/15/94	FDM
Toluene	BDL	5	ppb	EPA 624	01:17	03/15/94	FDM
1,1,1-Trichloroethane	BDL	5	ppb	EPA 624	01:17	03/15/94	FDM
1,1,2-Trichloroethane	BDL	5	ppb	EPA 624	01:17	03/15/94	FDM
Trichloroethene	BDL	5	ppb	EPA 624	01:17	03/15/94	FDM
Trichlorofluoromethane	BDL	10	ppb	EPA 624	01:17	03/15/94	FDM
Vinyl Chloride	BDL	10	ppb	EPA 624	01:17	03/15/94	FDM

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LAB ID: 186K02
SAMPLE ID: MW 26

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Total Xylene	BDL	5	ppb	EPA 624	01:17	03/15/94	FDM
1,1,1,2-Tetrachloroeth	BDL	5	ppb	EPA 624	01:17	03/15/94	FDM
Cis 1,2-dichloroethene	BDL	5	ppb	EPA 624	01:17	03/15/94	FDM
1,2-Dichloroethane-d4	77		% Rec	EPA 624	01:17	03/15/94	FDM
Toluene-d8	107		% Rec	EPA 624	01:17	03/15/94	FDM
4-Bromofluorobenzene	105		% Rec	EPA 624	01:17	03/15/94	FDM
Acenaphthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Acenaphthylene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Anthracene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (a) Anthracene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (a) Pyrene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (b) Fluoranthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (g,h,i) Perylene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (k) Fluoranthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Chloroethoxy) M	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Chloroethyl) Et	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Chloroisopropyl	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Ethylhexyl) Pht	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Bromophenyl Phenyl E	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzyl Butyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2-Chloronaphthalene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Chlorophenyl Phenyl	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Chrysene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Dibenzo (a,h) Anthrace	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,3-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,4-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
3,3'-Dichlorobenzidine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Diethyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Dimethyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Di-N-Butyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dinitrotoluene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,6-Dinitrotoluene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Di-N-Octylphthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Fluoranthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Fluorene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachlorobutadiene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachlorocyclopentadi	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachloroethane	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM

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LAB ID: 186K02
SAMPLE ID: MW 26

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Indeno (1,2,3-cd) Pyre	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Isophorone	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Naphthalene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Nitrobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
N-Nitroso-Di-N-Propyla	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
N-Nitrosodiphenylamine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Phenanthrene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Pyrene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2,4-Trichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzidine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
N-Nitrosodimethylamine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Chloro-3-Methylpheno	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2-Chlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dichlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dimethylphenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dinitrophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2-Methyl-4,6-Dinitroph	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2-Nitrophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Nitrophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Pentachlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Phenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4,6-Trichlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4,6-Dinitro-o-cresol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
P-chloro-m-cresol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Trans-1,3-dichloroprop	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Methylphenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Nitrobenzene-d8	84		% Rec	EPA 625	08:15	03/07/94	FDM
2-Fluorobiphenyl	94		% Rec	EPA 625	08:15	03/07/94	FDM
p-Terphenyl-d14	92		% Rec	EPA 625	08:15	03/07/94	FDM
Phenol-d6	70		% Rec	EPA 625	08:15	03/07/94	FDM
2-Fluorophenol	84		% Rec	EPA 625	08:15	03/07/94	FDM
2,4,6-Tribromophenol	118		% Rec	EPA 625	08:15	03/07/94	FDM
Acetone	BDL	5	ppb	EPA 8240	01:17	03/15/94	FDM
Water Level	6.13		FT		12:45	03/03/94	JCT

LAB ID: 186K03
SAMPLE ID: MW 26D

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LAB ID: 186K03
SAMPLE ID: MW 26D

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
pH	8.84	0-14	S.U.	EPA150.1	13:00	03/03/94	JCT
Benzene	BDL	5	ppb	EPA 624	02:41	03/15/94	FDM
Bromodichloromethane	BDL	5	ppb	EPA 624	02:41	03/15/94	FDM
Bromoform	BDL	5	ppb	EPA 624	02:41	03/15/94	FDM
Bromomethane	BDL	10	ppb	EPA 624	02:41	03/15/94	FDM
Carbon Tetrachloride	BDL	5	ppb	EPA 624	02:41	03/15/94	FDM
Chlorobenzene	BDL	5	ppb	EPA 624	02:41	03/15/94	FDM
Chloroethane	BDL	10	ppb	EPA 624	02:41	03/15/94	FDM
2-Chloroethylvinyl Eth	BDL	10	ppb	EPA 624	02:41	03/15/94	FDM
Chloroform	BDL	5	ppb	EPA 624	02:41	03/15/94	FDM
Chloromethane	BDL	20	ppb	EPA 624	02:41	03/15/94	FDM
Dibromochloromethane	BDL	5	ppb	EPA 624	02:41	03/15/94	FDM
1,2-Dichlorobenzene	BDL	5	ppb	EPA 624	02:41	03/15/94	FDM
1,3-Dichlorobenzene	BDL	5	ppb	EPA 624	02:41	03/15/94	FDM
1,4-Dichlorobenzene	BDL	5	ppb	EPA 624	02:41	03/15/94	FDM
1,1-Dichloroethane	BDL	5	ppb	EPA 624	02:41	03/15/94	FDM
1,2-Dichloroethane	BDL	5	ppb	EPA 624	02:41	03/15/94	FDM
1,1-Dichloroethene	BDL	10	ppb	EPA 624	02:41	03/15/94	FDM
Trans-1,2-Dichloroethe	BDL	5	ppb	EPA 624	02:41	03/15/94	FDM
1,2-Dichloropropane	BDL	5	ppb	EPA 624	02:41	03/15/94	FDM
Cis-1,3-Dichloropropen	BDL	5	ppb	EPA 624	02:41	03/15/94	FDM
Trans-1,3-Dichloroprop	BDL	5	ppb	EPA 624	02:41	03/15/94	FDM
Ethyl Benzene	BDL	5	ppb	EPA 624	02:41	03/15/94	FDM
Methylene Chloride	BDL	5	ppb	EPA 624	02:41	03/15/94	FDM
1,1,2,2-Tetrachlorotha	BDL	5	ppb	EPA 624	02:41	03/15/94	FDM
Tetrachloroethene	BDL	5	ppb	EPA 624	02:41	03/15/94	FDM
Toluene	BDL	5	ppb	EPA 624	02:41	03/15/94	FDM
1,1,1-Trichloroethane	BDL	5	ppb	EPA 624	02:41	03/15/94	FDM
1,1,2-Trichloroethane	BDL	5	ppb	EPA 624	02:41	03/15/94	FDM
Trichloroethene	BDL	5	ppb	EPA 624	02:41	03/15/94	FDM
Trichlorofluoromethane	BDL	10	ppb	EPA 624	02:41	03/15/94	FDM
Vinyl Chloride	BDL	10	ppb	EPA 624	02:41	03/15/94	FDM
Total Xylene	BDL	5	ppb	EPA 624	02:41	03/15/94	FDM
1,1,1,2-Tetrachloroeth	BDL	5	ppb	EPA 624	02:41	03/15/94	FDM
Cis 1,2-dichloroethene	BDL	5	ppb	EPA 624	02:41	03/15/94	FDM
1,2-Dichloroethane-d4	79		% Rec	EPA 624	02:41	03/15/94	FDM
Toluene-d8	105		% Rec	EPA 624	02:41	03/15/94	FDM
4-Bromofluorobenzene	102		% Rec	EPA 624	02:41	03/15/94	FDM
Acenaphthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Acenaphthylene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM

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LAB ID: 186K03
SAMPLE ID: MW 26D

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Anthracene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (a) Anthracene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (a) Pyrene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (b) Fluoranthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (g,h,i) Perylene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (k) Fluoranthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Chloroethoxy) M	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Chloroethyl) Et	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Chloroisopropyl	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Ethylhexyl) Pht	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Bromophenyl Phenyl E	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzyl Butyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2-Chloronaphthalene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Chlorophenyl Phenyl	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Chrysene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Dibenzo (a,h) Anthrace	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,3-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,4-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
3,3'-Dichlorobenzidine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Diethyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Dimethyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Di-N-Butyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dinitrotoluene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,6-Dinitrotoluene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Di-N-Octylphthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Fluoranthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Fluorene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachlorobutadiene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachlorocyclopentadi	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachloroethane	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Indeno (1,2,3-cd) Pyre	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Isophorone	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Naphthalene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Nitrobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
N-Nitroso-Di-N-Propyla	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
N-Nitrosodiphenylamine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Phenanthrene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Pyrene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM

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LAB ID: 186K03
SAMPLE ID: MW 26D

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
1,2,4-Trichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzidine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
N-Nitrosodimethylamine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Chloro-3-Methylpheno	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2-Chlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dichlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dimethylphenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dinitrophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2-Methyl-4,6-Dinitroph	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2-Nitrophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Nitrophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Pentachlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Phenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4,6-Trichlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4,6-Dinitro-o-cresol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
P-chloro-m-cresol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Trans-1,3-dichloroprop	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Methylphenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Nitrobenzene-d8	79		% Rec	EPA 625	08:15	03/07/94	FDM
2-Fluorobiphenyl	99		% Rec	EPA 625	08:15	03/07/94	FDM
p-Terphenyl-d14	90		% Rec	EPA 625	08:15	03/07/94	FDM
Phenol-d6	77		% Rec	EPA 625	08:15	03/07/94	FDM
2-Fluorophenol	84		% Rec	EPA 625	08:15	03/07/94	FDM
2,4,6-Tribromophenol	111		% Rec	EPA 625	08:15	03/07/94	FDM
Acetone	BDL	5	ppb	EPA 8240	02:41	03/15/94	FDM
Water Level	6.15		FT		13:00	03/03/94	JCT

LAB ID: 186K04
SAMPLE ID: MW 29

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
pH	7.39	0-14	S.U.	EPA150.1	13:15	03/03/94	JCT
Benzene	BDL	5	ppb	EPA 624	04:05	03/15/94	FDM
Bromodichloromethane	BDL	5	ppb	EPA 624	04:05	03/15/94	FDM
Bromoform	BDL	5	ppb	EPA 624	04:05	03/15/94	FDM
Bromomethane	BDL	10	ppb	EPA 624	04:05	03/15/94	FDM
Carbon Tetrachloride	BDL	5	ppb	EPA 624	04:05	03/15/94	FDM
Chlorobenzene	BDL	5	ppb	EPA 624	04:05	03/15/94	FDM
Chloroethane	BDL	10	ppb	EPA 624	04:05	03/15/94	FDM
2-Chloroethylvinyl Eth	BDL	10	ppb	EPA 624	04:05	03/15/94	FDM

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Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Chloroform	BDL	5	ppb	EPA 624	04:05	03/15/94	FDM
Chloromethane	BDL	20	ppb	EPA 624	04:05	03/15/94	FDM
Dibromochloromethane	BDL	5	ppb	EPA 624	04:05	03/15/94	FDM
1,2-Dichlorobenzene	BDL	5	ppb	EPA 624	04:05	03/15/94	FDM
1,3-Dichlorobenzene	BDL	5	ppb	EPA 624	04:05	03/15/94	FDM
1,4-Dichlorobenzene	BDL	5	ppb	EPA 624	04:05	03/15/94	FDM
1,1-Dichloroethane	BDL	5	ppb	EPA 624	04:05	03/15/94	FDM
1,2-Dichloroethane	BDL	5	ppb	EPA 624	04:05	03/15/94	FDM
1,1-Dichloroethene	BDL	10	ppb	EPA 624	04:05	03/15/94	FDM
Trans-1,2-Dichloroethe	BDL	5	ppb	EPA 624	04:05	03/15/94	FDM
1,2-Dichloropropane	BDL	5	ppb	EPA 624	04:05	03/15/94	FDM
Cis-1,3-Dichloropropen	BDL	5	ppb	EPA 624	04:05	03/15/94	FDM
Trans-1,3-Dichloroprop	BDL	5	ppb	EPA 624	04:05	03/15/94	FDM
Ethyl Benzene	BDL	5	ppb	EPA 624	04:05	03/15/94	FDM
Methylene Chloride	BDL	5	ppb	EPA 624	04:05	03/15/94	FDM
1,1,2,2-Tetrachlorotha	BDL	5	ppb	EPA 624	04:05	03/15/94	FDM
Tetrachloroethene	BDL	5	ppb	EPA 624	04:05	03/15/94	FDM
Toluene	BDL	5	ppb	EPA 624	04:05	03/15/94	FDM
1,1,1-Trichloroethane	BDL	5	ppb	EPA 624	04:05	03/15/94	FDM
1,1,2-Trichloroethane	BDL	5	ppb	EPA 624	04:05	03/15/94	FDM
Trichloroethene	BDL	5	ppb	EPA 624	04:05	03/15/94	FDM
Trichlorofluoromethane	BDL	10	ppb	EPA 624	04:05	03/15/94	FDM
Vinyl Chloride	BDL	10	ppb	EPA 624	04:05	03/15/94	FDM
Total Xylene	BDL	5	ppb	EPA 624	04:05	03/15/94	FDM
1,1,1,2-Tetrachloroeth	BDL	5	ppb	EPA 624	04:05	03/15/94	FDM
Cis 1,2-dichloroethene	BDL	5	ppb	EPA 624	04:05	03/15/94	FDM
1,2-Dichloroethane-d4	82		% Rec	EPA 624	04:05	03/15/94	FDM
Toluene-d8	101		% Rec	EPA 624	04:05	03/15/94	FDM
4-Bromofluorobenzene	108		% Rec	EPA 624	04:05	03/15/94	FDM
Acenaphthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Acenaphthylene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Anthracene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (a) Anthracene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (a) Pyrene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (b) Fluoranthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (g,h,i) Perylene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (k) Fluoranthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Chloroethoxy) M	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Chloroethyl) Et	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Chloroisopropyl	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM

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Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Bis (2-Ethylhexyl) Pht	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Bromophenyl Phenyl E	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzyl Butyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2-Chloronaphthalene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Chlorophenyl Phenyl	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Chrysene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Dibenzo (a,h) Anthrace	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,3-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,4-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
3,3'-Dichlorobenzidine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Diethyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Dimethyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Di-N-Butyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dinitrotoluene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,6-Dinitrotoluene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Di-N-Octylphthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Fluoranthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Fluorene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachlorobutadiene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachlorocyclopentadi	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachloroethane	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Indeno (1,2,3-cd) Pyre	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Isophorone	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Naphthalene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Nitrobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
N-Nitroso-Di-N-Propyla	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
N-Nitrosodiphenylamine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Phenanthrene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Pyrene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2,4-Trichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzidine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
N-Nitrosodimethylamine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Chloro-3-Methylpheno	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2-Chlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dichlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dimethylphenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dinitrophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM

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SAMPLE ID: MW 29

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
2-Methyl-4,6-Dinitroph	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2-Nitrophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Nitrophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Pentachlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Phenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4,6-Trichlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4,6-Dinitro-o-cresol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
P-chloro-m-cresol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Trans-1,3-dichloroprop	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Methylphenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Nitrobenzene-d8	72		% Rec	EPA 625	08:15	03/07/94	FDM
2-Fluorobiphenyl	98		% Rec	EPA 625	08:15	03/07/94	FDM
p-Terphenyl-d14	94		% Rec	EPA 625	08:15	03/07/94	FDM
Phenol-d6	69		% Rec	EPA 625	08:15	03/07/94	FDM
2-Fluorophenol	83		% Rec	EPA 625	08:15	03/07/94	FDM
2,4,6-Tribromophenol	109		% Rec	EPA 625	08:15	03/07/94	FDM
Acetone	BDL	5	ppb	EPA 8240	04:05	03/15/94	FDM
Water Level	6.21		FT		13:15	03/03/94	JCT

LAB ID: 186K05
SAMPLE ID: MW 30

pH	7.01	0-14	S.U.	EPA150.1	13:40	03/03/94	JCT
Benzene	BDL	5	ppb	EPA 624	05:28	03/15/94	FDM
Bromodichloromethane	BDL	5	ppb	EPA 624	05:28	03/15/94	FDM
Bromoform	BDL	5	ppb	EPA 624	05:28	03/15/94	FDM
Bromomethane	BDL	10	ppb	EPA 624	05:28	03/15/94	FDM
Carbon Tetrachloride	BDL	5	ppb	EPA 624	05:28	03/15/94	FDM
Chlorobenzene	BDL	5	ppb	EPA 624	05:28	03/15/94	FDM
Chloroethane	BDL	10	ppb	EPA 624	05:28	03/15/94	FDM
2-Chloroethylvinyl Eth	BDL	10	ppb	EPA 624	05:28	03/15/94	FDM
Chloroform	BDL	5	ppb	EPA 624	05:28	03/15/94	FDM
Chloromethane	BDL	20	ppb	EPA 624	05:28	03/15/94	FDM
Dibromochloromethane	BDL	5	ppb	EPA 624	05:28	03/15/94	FDM
1,2-Dichlorobenzene	BDL	5	ppb	EPA 624	05:28	03/15/94	FDM
1,3-Dichlorobenzene	BDL	5	ppb	EPA 624	05:28	03/15/94	FDM
1,4-Dichlorobenzene	BDL	5	ppb	EPA 624	05:28	03/15/94	FDM
1,1-Dichloroethane	BDL	5	ppb	EPA 624	05:28	03/15/94	FDM
1,2-Dichloroethane	BDL	5	ppb	EPA 624	05:28	03/15/94	FDM
1,1-Dichloroethene	BDL	10	ppb	EPA 624	05:28	03/15/94	FDM

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Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Trans-1,2-Dichloroethe	BDL	5	ppb	EPA 624	05:28	03/15/94	FDM
1,2-Dichloropropane	BDL	5	ppb	EPA 624	05:28	03/15/94	FDM
Cis-1,3-Dichloropropen	BDL	5	ppb	EPA 624	05:28	03/15/94	FDM
Trans-1,3-Dichloroprop	BDL	5	ppb	EPA 624	05:28	03/15/94	FDM
Ethyl Benzene	BDL	5	ppb	EPA 624	05:28	03/15/94	FDM
Methylene Chloride	BDL	5	ppb	EPA 624	05:28	03/15/94	FDM
1,1,2,2-Tetrachlorotha	BDL	5	ppb	EPA 624	05:28	03/15/94	FDM
Tetrachloroethene	BDL	5	ppb	EPA 624	05:28	03/15/94	FDM
Toluene	BDL	5	ppb	EPA 624	05:28	03/15/94	FDM
1,1,1-Trichloroethane	BDL	5	ppb	EPA 624	05:28	03/15/94	FDM
1,1,2-Trichloroethane	BDL	5	ppb	EPA 624	05:28	03/15/94	FDM
Trichloroethene	BDL	5	ppb	EPA 624	05:28	03/15/94	FDM
Trichlorofluoromethane	BDL	10	ppb	EPA 624	05:28	03/15/94	FDM
Vinyl Chloride	BDL	10	ppb	EPA 624	05:28	03/15/94	FDM
Total Xylene	BDL	5	ppb	EPA 624	05:28	03/15/94	FDM
1,1,1,2-Tetrachloroeth	BDL	5	ppb	EPA 624	05:28	03/15/94	FDM
Cis 1,2-dichloroethene	BDL	5	ppb	EPA 624	05:28	03/15/94	FDM
1,2-Dichloroethane-d4	77		% Rec	EPA 624	05:28	03/15/94	FDM
Toluene-d8	104		% Rec	EPA 624	05:28	03/15/94	FDM
4-Bromofluorobenzene	108		% Rec	EPA 624	05:28	03/15/94	FDM
Acenaphthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Acenaphthylene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Anthracene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (a) Anthracene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (a) Pyrene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (b) Fluoranthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (g,h,i) Perylene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (k) Fluoranthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Chloroethoxy) M	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Chloroethyl) Et	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Chloroisopropyl	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Ethylhexyl) Pht	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Bromophenyl Phenyl E	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzyl Butyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2-Chloronaphthalene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Chlorophenyl Phenyl	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Chrysene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Dibenzo (a,h) Anthrace	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,3-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM

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Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
1,4-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
3,3'-Dichlorobenzidine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Diethyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Dimethyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Di-N-Butyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dinitrotoluene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,6-Dinitrotoluene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Di-N-Octylphthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Fluoranthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Fluorene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachlorobutadiene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachlorocyclopentadi	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachloroethane	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Indeno (1,2,3-cd) Pyre	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Isophorone	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Naphthalene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Nitrobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
N-Nitroso-Di-N-Propyla	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
N-Nitrosodiphenylamine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Phenanthrene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Pyrene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2,4-Trichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzidine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
N-Nitrosodimethylamine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Chloro-3-Methylpheno	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2-Chlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dichlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dimethylphenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dinitrophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2-Methyl-4,6-Dinitroph	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2-Nitrophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Nitrophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Pentachlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Phenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4,6-Trichlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4,6-Dinitro-o-cresol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
P-chloro-m-cresol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM

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SAMPLE ID: MW 30

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Trans-1,3-dichloroprop	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Methylphenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Nitrobenzene-d8	85		% Rec	EPA 625	08:15	03/07/94	FDM
2-Fluorobiphenyl	103		% Rec	EPA 625	08:15	03/07/94	FDM
p-Terphenyl-d14	94		% Rec	EPA 625	08:15	03/07/94	FDM
Phenol-d6	74		% Rec	EPA 625	08:15	03/07/94	FDM
2-Fluorophenol	77		% Rec	EPA 625	08:15	03/07/94	FDM
2,4,6-Tribromophenol	119		% Rec	EPA 625	08:15	03/07/94	FDM
Acetone	BDL	5	ppb	EPA 8240	05:28	03/15/94	FDM
Water Level	5.97		FT		13:40	03/03/94	JCT

LAB ID: 186K06
SAMPLE ID: MW 11

pH	6.64	0-14	S.U.	EPA150.1	14:05	03/03/94	JCT
Benzene	BDL	5	ppb	EPA 624	06:51	03/15/94	FDM
Bromodichloromethane	BDL	5	ppb	EPA 624	06:51	03/15/94	FDM
Bromoform	BDL	5	ppb	EPA 624	06:51	03/15/94	FDM
Bromomethane	BDL	10	ppb	EPA 624	06:51	03/15/94	FDM
Carbon Tetrachloride	BDL	5	ppb	EPA 624	06:51	03/15/94	FDM
Chlorobenzene	BDL	5	ppb	EPA 624	06:51	03/15/94	FDM
Chloroethane	BDL	10	ppb	EPA 624	06:51	03/15/94	FDM
2-Chloroethylvinyl Eth	BDL	10	ppb	EPA 624	06:51	03/15/94	FDM
Chloroform	BDL	5	ppb	EPA 624	06:51	03/15/94	FDM
Chloromethane	BDL	20	ppb	EPA 624	06:51	03/15/94	FDM
Dibromochloromethane	BDL	5	ppb	EPA 624	06:51	03/15/94	FDM
1,2-Dichlorobenzene	BDL	5	ppb	EPA 624	06:51	03/15/94	FDM
1,3-Dichlorobenzene	BDL	5	ppb	EPA 624	06:51	03/15/94	FDM
1,4-Dichlorobenzene	BDL	5	ppb	EPA 624	06:51	03/15/94	FDM
1,1-Dichloroethane	BDL	5	ppb	EPA 624	06:51	03/15/94	FDM
1,2-Dichloroethane	BDL	5	ppb	EPA 624	06:51	03/15/94	FDM
1,1-Dichloroethene	BDL	10	ppb	EPA 624	06:51	03/15/94	FDM
Trans-1,2-Dichloroethe	BDL	5	ppb	EPA 624	06:51	03/15/94	FDM
1,2-Dichloropropane	BDL	5	ppb	EPA 624	06:51	03/15/94	FDM
Cis-1,3-Dichloropropen	BDL	5	ppb	EPA 624	06:51	03/15/94	FDM
Trans-1,3-Dichloroprop	BDL	5	ppb	EPA 624	06:51	03/15/94	FDM
Ethyl Benzene	BDL	5	ppb	EPA 624	06:51	03/15/94	FDM
Methylene Chloride	BDL	5	ppb	EPA 624	06:51	03/15/94	FDM
1,1,2,2-Tetrachlorotha	BDL	5	ppb	EPA 624	06:51	03/15/94	FDM
Tetrachloroethene	BDL	5	ppb	EPA 624	06:51	03/15/94	FDM
Toluene	BDL	5	ppb	EPA 624	06:51	03/15/94	FDM

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LAB ID: 186K06
SAMPLE ID: MW 11

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
1,1,1-Trichloroethane	BDL	5	ppb	EPA 624	06:51	03/15/94	FDM
1,1,2-Trichloroethane	BDL	5	ppb	EPA 624	06:51	03/15/94	FDM
Trichloroethene	BDL	5	ppb	EPA 624	06:51	03/15/94	FDM
Trichlorofluoromethane	BDL	10	ppb	EPA 624	06:51	03/15/94	FDM
Vinyl Chloride	BDL	10	ppb	EPA 624	06:51	03/15/94	FDM
Total Xylene	BDL	5	ppb	EPA 624	06:51	03/15/94	FDM
1,1,1,2-Tetrachloroeth	BDL	5	ppb	EPA 624	06:51	03/15/94	FDM
Cis 1,2-dichloroethene	BDL	5	ppb	EPA 624	06:51	03/15/94	FDM
1,2-Dichloroethane-d4	77		% Rec	EPA 624	06:51	03/15/94	FDM
Toluene-d8	99		% Rec	EPA 624	06:51	03/15/94	FDM
4-Bromofluorobenzene	107		% Rec	EPA 624	06:51	03/15/94	FDM
Acenaphthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Acenaphthylene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Anthracene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (a) Anthracene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (a) Pyrene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (b) Fluoranthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (g,h,i) Perylene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (k) Fluoranthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Chloroethoxy) M	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Chloroethyl) Et	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Chloroisopropyl	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Ethylhexyl) Pht	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Bromophenyl Phenyl E	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzyl Butyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2-Chloronaphthalene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Chlorophenyl Phenyl	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Chrysene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Dibenzo (a,h) Anthrace	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,3-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,4-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
3,3'-Dichlorobenzidine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Diethyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Dimethyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Di-N-Butyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dinitrotoluene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,6-Dinitrotoluene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Di-N-Octylphthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Fluoranthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM

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LAB ID: 186K06
SAMPLE ID: MW 11

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Fluorene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachlorobutadiene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachlorocyclopentadi	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachloroethane	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Indeno (1,2,3-cd) Pyre	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Isophorone	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Naphthalene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Nitrobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
N-Nitroso-Di-N-Propyla	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
N-Nitrosodiphenylamine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Phenanthrene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Pyrene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2,4-Trichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzidine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
N-Nitrosodimethylamine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Chloro-3-Methylpheno	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2-Chlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dichlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dimethylphenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dinitrophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2-Methyl-4,6-Dinitroph	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2-Nitrophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Nitrophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Pentachlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Phenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4,6-Trichlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4,6-Dinitro-o-cresol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
P-chloro-m-cresol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Trans-1,3-dichloroprop	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Methylphenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Nitrobenzene-d8	77		% Rec	EPA 625	08:15	03/07/94	FDM
2-Fluorobiphenyl	103		% Rec	EPA 625	08:15	03/07/94	FDM
p-Terphenyl-d14	92		% Rec	EPA 625	08:15	03/07/94	FDM
Phenol-d6	74		% Rec	EPA 625	08:15	03/07/94	FDM
2-Fluorophenol	80		% Rec	EPA 625	08:15	03/07/94	FDM
2,4,6-Tribromophenol	117		% Rec	EPA 625	08:15	03/07/94	FDM
Acetone	BDL	5	ppb	EPA 8240	06:51	03/15/94	FDM

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LAB ID: 186K06
SAMPLE ID: MW 11

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Water Level	6.12		FT		14:05	03/03/94	JCT

LAB ID: 186K07
SAMPLE ID: MW 28B

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
pH	6.83	0-14	S.U.	EPA150.1	14:22	03/03/94	JCT
Benzene	BDL	5	ppb	EPA 624	08:14	03/15/94	FDM
Bromodichloromethane	BDL	5	ppb	EPA 624	08:14	03/15/94	FDM
Bromoform	BDL	5	ppb	EPA 624	08:14	03/15/94	FDM
Bromomethane	BDL	10	ppb	EPA 624	08:14	03/15/94	FDM
Carbon Tetrachloride	BDL	5	ppb	EPA 624	08:14	03/15/94	FDM
Chlorobenzene	BDL	5	ppb	EPA 624	08:14	03/15/94	FDM
Chloroethane	BDL	10	ppb	EPA 624	08:14	03/15/94	FDM
2-Chloroethylvinyl Eth	BDL	10	ppb	EPA 624	08:14	03/15/94	FDM
Chloroform	BDL	5	ppb	EPA 624	08:14	03/15/94	FDM
Chloromethane	BDL	20	ppb	EPA 624	08:14	03/15/94	FDM
Dibromochloromethane	BDL	5	ppb	EPA 624	08:14	03/15/94	FDM
1,2-Dichlorobenzene	BDL	5	ppb	EPA 624	08:14	03/15/94	FDM
1,3-Dichlorobenzene	BDL	5	ppb	EPA 624	08:14	03/15/94	FDM
1,4-Dichlorobenzene	BDL	5	ppb	EPA 624	08:14	03/15/94	FDM
1,1-Dichloroethane	BDL	5	ppb	EPA 624	08:14	03/15/94	FDM
1,2-Dichloroethane	BDL	5	ppb	EPA 624	08:14	03/15/94	FDM
1,1-Dichloroethene	BDL	10	ppb	EPA 624	08:14	03/15/94	FDM
Trans-1,2-Dichloroethe	BDL	5	ppb	EPA 624	08:14	03/15/94	FDM
1,2-Dichloropropane	BDL	5	ppb	EPA 624	08:14	03/15/94	FDM
Cis-1,3-Dichloropropen	BDL	5	ppb	EPA 624	08:14	03/15/94	FDM
Trans-1,3-Dichloroprop	BDL	5	ppb	EPA 624	08:14	03/15/94	FDM
Ethyl Benzene	BDL	5	ppb	EPA 624	08:14	03/15/94	FDM
Methylene Chloride	BDL	5	ppb	EPA 624	08:14	03/15/94	FDM
1,1,2,2-Tetrachlorotha	BDL	5	ppb	EPA 624	08:14	03/15/94	FDM
Tetrachloroethene	BDL	5	ppb	EPA 624	08:14	03/15/94	FDM
Toluene	BDL	5	ppb	EPA 624	08:14	03/15/94	FDM
1,1,1-Trichloroethane	BDL	5	ppb	EPA 624	08:14	03/15/94	FDM
1,1,2-Trichloroethane	BDL	5	ppb	EPA 624	08:14	03/15/94	FDM
Trichloroethene	BDL	5	ppb	EPA 624	08:14	03/15/94	FDM
Trichlorofluoromethane	BDL	10	ppb	EPA 624	08:14	03/15/94	FDM
Vinyl Chloride	BDL	10	ppb	EPA 624	08:14	03/15/94	FDM
Total Xylene	BDL	5	ppb	EPA 624	08:14	03/15/94	FDM
1,1,1,2-Tetrachloroeth	BDL	5	ppb	EPA 624	08:14	03/15/94	FDM
Cis 1,2-dichloroethene	BDL	5	ppb	EPA 624	08:14	03/15/94	FDM
1,2-Dichloroethane-d4	76		% Rec	EPA 624	08:14	03/15/94	FDM

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LAB ID: 186K07
SAMPLE ID: MW 28B

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Toluene-d8	101		% Rec	EPA 624	08:14	03/15/94	FDM
4-Bromofluorobenzene	105		% Rec	EPA 624	08:14	03/15/94	FDM
Acenaphthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Acenaphthylene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Anthracene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (a) Anthracene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (a) Pyrene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (b) Fluoranthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (g,h,i) Perylene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (k) Fluoranthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Chloroethoxy) M	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Chloroethyl) Et	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Chloroisopropyl	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Ethylhexyl) Pht	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Bromophenyl Phenyl E	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzyl Butyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2-Chloronaphthalene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Chlorophenyl Phenyl	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Chrysene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Dibenzo (a,h) Anthrace	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,3-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,4-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
3,3'-Dichlorobenzidine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Diethyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Dimethyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Di-N-Butyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dinitrotoluene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,6-Dinitrotoluene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Di-N-Octylphthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Fluoranthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Fluorene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachlorobutadiene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachlorocyclopentadi	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachloroethane	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Indeno (1,2,3-cd) Pyre	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Isophorone	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Naphthalene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Nitrobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM

LAB ID: 186K07
SAMPLE ID: MW 28B

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
N-Nitroso-Di-N-Propyla	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
N-Nitrosodiphenylamine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Phenanthrene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Pyrene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2,4-Trichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzidine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
N-Nitrosodimethylamine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Chloro-3-Methylpheno	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2-Chlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dichlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dimethylphenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dinitrophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2-Methyl-4,6-Dinitroph	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2-Nitrophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Nitrophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Pentachlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Phenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4,6-Trichlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4,6-Dinitro-o-cresol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
P-chloro-m-cresol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Trans-1,3-dichloroprop	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Methylphenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Nitrobenzene-d8	78		% Rec	EPA 625	08:15	03/07/94	FDM
2-Fluorobiphenyl	92		% Rec	EPA 625	08:15	03/07/94	FDM
p-Terphenyl-d14	104		% Rec	EPA 625	08:15	03/07/94	FDM
Phenol-d6	72		% Rec	EPA 625	08:15	03/07/94	FDM
2-Fluorophenol	78		% Rec	EPA 625	08:15	03/07/94	FDM
2,4,6-Tribromophenol	124		% Rec	EPA 625	08:15	03/07/94	FDM
Acetone	BDL	5	ppb	EPA 8240	08:14	03/15/94	FDM
Water Level	4.12		FT		14:22	03/03/94	JCT

LAB ID: 186K08
SAMPLE ID: MW 29B

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
pH	6.70	0-14	S.U.	EPA150.1	14:34	03/03/94	JCT
Benzene	BDL	5	ppb	EPA 624	18:37	03/15/94	FDM
Bromodichloromethane	BDL	5	ppb	EPA 624	18:37	03/15/94	FDM
Bromoform	BDL	5	ppb	EPA 624	18:37	03/15/94	FDM
Bromomethane	BDL	10	ppb	EPA 624	18:37	03/15/94	FDM

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LAB ID: 186K08
SAMPLE ID: MW 29B

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Carbon Tetrachloride	BDL	5	ppb	EPA 624	18:37	03/15/94	FDM
Chlorobenzene	BDL	5	ppb	EPA 624	18:37	03/15/94	FDM
Chloroethane	BDL	10	ppb	EPA 624	18:37	03/15/94	FDM
2-Chloroethylvinyl Eth	BDL	10	ppb	EPA 624	18:37	03/15/94	FDM
Chloroform	BDL	5	ppb	EPA 624	18:37	03/15/94	FDM
Chloromethane	BDL	20	ppb	EPA 624	18:37	03/15/94	FDM
Dibromochloromethane	BDL	5	ppb	EPA 624	18:37	03/15/94	FDM
1,2-Dichlorobenzene	BDL	5	ppb	EPA 624	18:37	03/15/94	FDM
1,3-Dichlorobenzene	BDL	5	ppb	EPA 624	18:37	03/15/94	FDM
1,4-Dichlorobenzene	BDL	5	ppb	EPA 624	18:37	03/15/94	FDM
1,1-Dichloroethane	BDL	5	ppb	EPA 624	18:37	03/15/94	FDM
1,2-Dichloroethane	BDL	5	ppb	EPA 624	18:37	03/15/94	FDM
1,1-Dichloroethene	BDL	10	ppb	EPA 624	18:37	03/15/94	FDM
Trans-1,2-Dichloroethe	BDL	5	ppb	EPA 624	18:37	03/15/94	FDM
1,2-Dichloropropane	BDL	5	ppb	EPA 624	18:37	03/15/94	FDM
Cis-1,3-Dichloropropen	BDL	5	ppb	EPA 624	18:37	03/15/94	FDM
Trans-1,3-Dichloroprop	BDL	5	ppb	EPA 624	18:37	03/15/94	FDM
Ethyl Benzene	BDL	5	ppb	EPA 624	18:37	03/15/94	FDM
Methylene Chloride	BDL	5	ppb	EPA 624	18:37	03/15/94	FDM
1,1,2,2-Tetrachlorotha	BDL	5	ppb	EPA 624	18:37	03/15/94	FDM
Tetrachloroethene	BDL	5	ppb	EPA 624	18:37	03/15/94	FDM
Toluene	BDL	5	ppb	EPA 624	18:37	03/15/94	FDM
1,1,1-Trichloroethane	BDL	5	ppb	EPA 624	18:37	03/15/94	FDM
1,1,2-Trichloroethane	BDL	5	ppb	EPA 624	18:37	03/15/94	FDM
Trichloroethene	BDL	5	ppb	EPA 624	18:37	03/15/94	FDM
Trichlorofluoromethane	BDL	10	ppb	EPA 624	18:37	03/15/94	FDM
Vinyl Chloride	BDL	10	ppb	EPA 624	18:37	03/15/94	FDM
Total Xylene	BDL	5	ppb	EPA 624	18:37	03/15/94	FDM
1,1,1,2-Tetrachloroeth	BDL	5	ppb	EPA 624	18:37	03/15/94	FDM
Cis 1,2-dichloroethene	BDL	5	ppb	EPA 624	18:37	03/15/94	FDM
1,2-Dichloroethane-d4	79		% Rec	EPA 624	18:37	03/15/94	FDM
Toluene-d8	102		% Rec	EPA 624	18:37	03/15/94	FDM
4-Bromofluorobenzene	108		% Rec	EPA 624	18:37	03/15/94	FDM
Acenaphthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Acenaphthylene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Anthracene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (a) Anthracene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (a) Pyrene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (b) Fluoranthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzo (g,h,i) Perylene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM

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LAB ID: 186K08
SAMPLE ID: MW 29B

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Benzo (k) Fluoranthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Chloroethoxy) M	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Chloroethyl) Et	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Chloroisopropyl	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Bis (2-Ethylhexyl) Pht	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Bromophenyl Phenyl E	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzyl Butyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2-Chloronaphthalene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Chlorophenyl Phenyl	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Chrysene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Dibenzo (a,h) Anthrace	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,3-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,4-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
3,3'-Dichlorobenzidine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Diethyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Dimethyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Di-N-Butyl Phthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dinitrotoluene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,6-Dinitrotoluene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Di-N-Octylphthalate	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Fluoranthene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Fluorene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachlorobutadiene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachlorocyclopentadi	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Hexachloroethane	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Indeno (1,2,3-cd) Pyre	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Isophorone	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Naphthalene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Nitrobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
N-Nitroso-Di-N-Propyla	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
N-Nitrosodiphenylamine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Phenanthrene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Pyrene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2,4-Trichlorobenzene	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Benzidine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
N-Nitrosodimethylamine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Chloro-3-Methylpheno	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM

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LAB ID: 186K08
SAMPLE ID: MW 29B

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
2-Chlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dichlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dimethylphenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4-Dinitrophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2-Methyl-4,6-Dinitroph	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2-Nitrophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Nitrophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Pentachlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Phenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
2,4,6-Trichlorophenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4,6-Dinitro-o-cresol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
P-chloro-m-cresol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Trans-1,3-dichloroprop	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
4-Methylphenol	BDL	10	PPB	EPA 625	08:15	03/07/94	FDM
Nitrobenzene-d8	84		% Rec	EPA 625	08:15	03/07/94	FDM
2-Fluorobiphenyl	104		% Rec	EPA 625	08:15	03/07/94	FDM
p-Terphenyl-d14	108		% Rec	EPA 625	08:15	03/07/94	FDM
Phenol-d6	69		% Rec	EPA 625	08:15	03/07/94	FDM
2-Fluorophenol	78		% Rec	EPA 625	08:15	03/07/94	FDM
2,4,6-Tribromophenol	121		% Rec	EPA 625	08:15	03/07/94	FDM
Acetone	BDL	5	ppb	EPA 8240	18:37	03/15/94	FDM
Water Level	4.99		FT		14:34	03/03/94	JCT

LAB ID: 186K09
SAMPLE ID: MW 30B

pH	6.46	0-14	S.U.	EPA150.1	14:45	03/03/94	JCT
Benzene	BDL	5	ppb	EPA 624	20:10	03/15/94	FDM
Bromodichloromethane	BDL	5	ppb	EPA 624	20:10	03/15/94	FDM
Bromoform	BDL	5	ppb	EPA 624	20:10	03/15/94	FDM
Bromomethane	BDL	10	ppb	EPA 624	20:10	03/15/94	FDM
Carbon Tetrachloride	BDL	5	ppb	EPA 624	20:10	03/15/94	FDM
Chlorobenzene	BDL	5	ppb	EPA 624	20:10	03/15/94	FDM
Chloroethane	BDL	10	ppb	EPA 624	20:10	03/15/94	FDM
2-Chloroethylvinyl Eth	BDL	10	ppb	EPA 624	20:10	03/15/94	FDM
Chloroform	BDL	5	ppb	EPA 624	20:10	03/15/94	FDM
Chloromethane	BDL	20	ppb	EPA 624	20:10	03/15/94	FDM
Dibromochloromethane	BDL	5	ppb	EPA 624	20:10	03/15/94	FDM
1,2-Dichlorobenzene	BDL	5	ppb	EPA 624	20:10	03/15/94	FDM
1,3-Dichlorobenzene	BDL	5	ppb	EPA 624	20:10	03/15/94	FDM

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LAB ID: 186K09
SAMPLE ID: MW 30B

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
1,4-Dichlorobenzene	BDL	5	ppb	EPA 624	20:10	03/15/94	FDM
1,1-Dichloroethane	BDL	5	ppb	EPA 624	20:10	03/15/94	FDM
1,2-Dichloroethane	BDL	5	ppb	EPA 624	20:10	03/15/94	FDM
1,1-Dichloroethene	BDL	10	ppb	EPA 624	20:10	03/15/94	FDM
Trans-1,2-Dichloroethe	BDL	5	ppb	EPA 624	20:10	03/15/94	FDM
1,2-Dichloropropane	BDL	5	ppb	EPA 624	20:10	03/15/94	FDM
Cis-1,3-Dichloropropen	BDL	5	ppb	EPA 624	20:10	03/15/94	FDM
Trans-1,3-Dichloroprop	BDL	5	ppb	EPA 624	20:10	03/15/94	FDM
Ethyl Benzene	BDL	5	ppb	EPA 624	20:10	03/15/94	FDM
Methylene Chloride	BDL	5	ppb	EPA 624	20:10	03/15/94	FDM
1,1,2,2-Tetrachlorotha	BDL	5	ppb	EPA 624	20:10	03/15/94	FDM
Tetrachloroethene	BDL	5	ppb	EPA 624	20:10	03/15/94	FDM
Toluene	BDL	5	ppb	EPA 624	20:10	03/15/94	FDM
1,1,1-Trichloroethane	BDL	5	ppb	EPA 624	20:10	03/15/94	FDM
1,1,2-Trichloroethane	BDL	5	ppb	EPA 624	20:10	03/15/94	FDM
Trichloroethene	BDL	5	ppb	EPA 624	20:10	03/15/94	FDM
Trichlorofluoromethane	BDL	10	ppb	EPA 624	20:10	03/15/94	FDM
Vinyl Chloride	BDL	10	ppb	EPA 624	20:10	03/15/94	FDM
Total Xylene	BDL	5	ppb	EPA 624	20:10	03/15/94	FDM
1,1,1,2-Tetrachloroeth	BDL	5	ppb	EPA 624	20:10	03/15/94	FDM
Cis 1,2-dichloroethene	BDL	5	ppb	EPA 624	20:10	03/15/94	FDM
1,2-Dichloroethane-d4	81		% Rec	EPA 624	20:10	03/15/94	FDM
Toluene-d8	105		% Rec	EPA 624	20:10	03/15/94	FDM
4-Bromofluorobenzene	109		% Rec	EPA 624	20:10	03/15/94	FDM
Acenaphthene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Acenaphthylene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Anthracene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Benzo (a) Anthracene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Benzo (a) Pyrene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Benzo (b) Fluoranthene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Benzo (g,h,i) Perylene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Benzo (k) Fluoranthene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Bis (2-Chloroethoxy) M	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Bis (2-Chloroethyl) Et	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Bis (2-Chloroisopropyl	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Bis (2-Ethylhexyl) Pht	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
4-Bromophenyl Phenyl E	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Benzyl Butyl Phthalate	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2-Chloronaphthalene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
4-Chlorophenyl Phenyl	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM

LAB ID: 186K09
SAMPLE ID: MW 30B

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Chrysene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Dibenzo (a,h) Anthrace	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
1,2-Dichlorobenzene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
1,3-Dichlorobenzene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
1,4-Dichlorobenzene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
3,3'-Dichlorobenzidine	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Diethyl Phthalate	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Dimethyl Phthalate	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Di-N-Butyl Phthalate	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2,4-Dinitrotoluene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2,6-Dinitrotoluene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Di-N-Octylphthalate	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Fluoranthene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Fluorene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Hexachlorobenzene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Hexachlorobutadiene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Hexachlorocyclopentadi	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Hexachloroethane	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Indeno (1,2,3-cd) Pyre	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Isophorone	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Naphthalene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Nitrobenzene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
N-Nitroso-Di-N-Propyla	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
N-Nitrosodiphenylamine	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Phenanthrene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Pyrene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
1,2,4-Trichlorobenzene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Benzidine	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
N-Nitrosodimethylamine	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
4-Chloro-3-Methylpheno	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2-Chlorophenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2,4-Dichlorophenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2,4-Dimethylphenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2,4-Dinitrophenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2-Methyl-4,6-Dinitroph	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2-Nitrophenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
4-Nitrophenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Pentachlorophenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Phenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM

LAB ID: 186K09
SAMPLE ID: MW 30B

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
2,4,6-Trichlorophenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
4,6-Dinitro-o-cresol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
P-chloro-m-cresol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Trans-1,3-dichloroprop	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
4-Methylphenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Nitrobenzene-d8	81		% Rec	EPA 625	08:45	03/08/94	FDM
2-Fluorobiphenyl	101		% Rec	EPA 625	08:45	03/08/94	FDM
p-Terphenyl-d14	101		% Rec	EPA 625	08:45	03/08/94	FDM
Phenol-d6	74		% Rec	EPA 625	08:45	03/08/94	FDM
2-Fluorophenol	77		% Rec	EPA 625	08:45	03/08/94	FDM
2,4,6-Tribromophenol	117		% Rec	EPA 625	08:45	03/08/94	FDM
Acetone	BDL	5	ppb	EPA 8240	20:10	03/15/94	FDM
Water Level	5.02		FT		14:45	03/03/94	JCT

LAB ID: 186K10
SAMPLE ID: OW 1D

pH	6.71	0-14	S.U.	EPA150.1	14:15	03/03/94	JCT
Benzene	BDL	5	ppb	EPA 624	21:39	03/15/94	FDM
Bromodichloromethane	BDL	5	ppb	EPA 624	21:39	03/15/94	FDM
Bromoform	BDL	5	ppb	EPA 624	21:39	03/15/94	FDM
Bromomethane	BDL	10	ppb	EPA 624	21:39	03/15/94	FDM
Carbon Tetrachloride	BDL	5	ppb	EPA 624	21:39	03/15/94	FDM
Chlorobenzene	BDL	5	ppb	EPA 624	21:39	03/15/94	FDM
Chloroethane	BDL	10	ppb	EPA 624	21:39	03/15/94	FDM
2-Chloroethylvinyl Eth	BDL	10	ppb	EPA 624	21:39	03/15/94	FDM
Chloroform	BDL	5	ppb	EPA 624	21:39	03/15/94	FDM
Chloromethane	BDL	20	ppb	EPA 624	21:39	03/15/94	FDM
Dibromochloromethane	BDL	5	ppb	EPA 624	21:39	03/15/94	FDM
1,2-Dichlorobenzene	BDL	5	ppb	EPA 624	21:39	03/15/94	FDM
1,3-Dichlorobenzene	BDL	5	ppb	EPA 624	21:39	03/15/94	FDM
1,4-Dichlorobenzene	BDL	5	ppb	EPA 624	21:39	03/15/94	FDM
1,1-Dichloroethane	BDL	5	ppb	EPA 624	21:39	03/15/94	FDM
1,2-Dichloroethane	BDL	5	ppb	EPA 624	21:39	03/15/94	FDM
1,1-Dichloroethene	BDL	10	ppb	EPA 624	21:39	03/15/94	FDM
Trans-1,2-Dichloroethe	BDL	5	ppb	EPA 624	21:39	03/15/94	FDM
1,2-Dichloropropane	BDL	5	ppb	EPA 624	21:39	03/15/94	FDM
Cis-1,3-Dichloropropen	BDL	5	ppb	EPA 624	21:39	03/15/94	FDM
Trans-1,3-Dichloroprop	BDL	5	ppb	EPA 624	21:39	03/15/94	FDM
Ethyl Benzene	BDL	5	ppb	EPA 624	21:39	03/15/94	FDM

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LAB ID: 186K10
SAMPLE ID: OW 1D

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Methylene Chloride	BDL	5	ppb	EPA 624	21:39	03/15/94	FDM
1,1,2,2-Tetrachlorotha	BDL	5	ppb	EPA 624	21:39	03/15/94	FDM
Tetrachloroethene	BDL	5	ppb	EPA 624	21:39	03/15/94	FDM
Toluene	BDL	5	ppb	EPA 624	21:39	03/15/94	FDM
1,1,1-Trichloroethane	BDL	5	ppb	EPA 624	21:39	03/15/94	FDM
1,1,2-Trichloroethane	BDL	5	ppb	EPA 624	21:39	03/15/94	FDM
Trichloroethene	BDL	5	ppb	EPA 624	21:39	03/15/94	FDM
Trichlorofluoromethane	BDL	10	ppb	EPA 624	21:39	03/15/94	FDM
Vinyl Chloride	BDL	10	ppb	EPA 624	21:39	03/15/94	FDM
Total Xylene	BDL	5	ppb	EPA 624	21:39	03/15/94	FDM
1,1,1,2-Tetrachloroeth	BDL	5	ppb	EPA 624	21:39	03/15/94	FDM
Cis 1,2-dichloroethene	BDL	5	ppb	EPA 624	21:39	03/15/94	FDM
1,2-Dichloroethane-d4	80		% Rec	EPA 624	21:39	03/15/94	FDM
Toluene-d8	101		% Rec	EPA 624	21:39	03/15/94	FDM
4-Bromofluorobenzene	107		% Rec	EPA 624	21:39	03/15/94	FDM
Acenaphthene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Acenaphthylene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Anthracene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Benzo (a) Anthracene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Benzo (a) Pyrene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Benzo (b) Fluoranthene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Benzo (g,h,i) Perylene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Benzo (k) Fluoranthene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Bis (2-Chloroethoxy) M	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Bis (2-Chloroethyl) Et	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Bis (2-Chloroisopropyl	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Bis (2-Ethylhexyl) Pht	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
4-Bromophenyl Phenyl E	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Benzyl Butyl Phthalate	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2-Chloronaphthalene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
4-Chlorophenyl Phenyl	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Chrysene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Dibenzo (a,h) Anthrace	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
1,2-Dichlorobenzene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
1,3-Dichlorobenzene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
1,4-Dichlorobenzene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
3,3'-Dichlorobenzidine	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Diethyl Phthalate	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Dimethyl Phthalate	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Di-N-Butyl Phthalate	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM

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LAB ID: 186K10
SAMPLE ID: OW 1D

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
2,4-Dinitrotoluene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2,6-Dinitrotoluene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Di-N-Octylphthalate	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Fluoranthene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Fluorene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Hexachlorobenzene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Hexachlorobutadiene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Hexachlorocyclopentadi	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Hexachloroethane	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Indeno (1,2,3-cd) Pyre	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Isophorone	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Naphthalene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Nitrobenzene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
N-Nitroso-Di-N-Propyla	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
N-Nitrosodiphenylamine	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Phenanthrene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Pyrene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
1,2,4-Trichlorobenzene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Benzidine	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
N-Nitrosodimethylamine	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
4-Chloro-3-Methylpheno	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2-Chlorophenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2,4-Dichlorophenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2,4-Dimethylphenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2,4-Dinitrophenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2-Methyl-4,6-Dinitroph	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2-Nitrophenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
4-Nitrophenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Pentachlorophenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Phenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2,4,6-Trichlorophenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
4,6-Dinitro-o-cresol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
P-chloro-m-cresol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Trans-1,3-dichloroprop	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
4-Methylphenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Nitrobenzene-d8	80		% Rec	EPA 625	08:45	03/08/94	FDM
2-Fluorobiphenyl	99		% Rec	EPA 625	08:45	03/08/94	FDM
p-Terphenyl-d14	102		% Rec	EPA 625	08:45	03/08/94	FDM

LAB ID: 186K10
SAMPLE ID: OW 1D

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Phenol-d6	74		% Rec	EPA 625	08:45	03/08/94	FDM
2-Fluorophenol	82		% Rec	EPA 625	08:45	03/08/94	FDM
2,4,6-Tribromophenol	109		% Rec	EPA 625	08:45	03/08/94	FDM
Acetone	BDL	5	ppb	EPA 8240	21:39	03/15/94	FDM
Water Level	5.13		FT		14:15	03/03/94	JCT

LAB ID: 186K11
SAMPLE ID: OW 1S

pH	6.80	0-14	S.U.	EPA150.1	14:25	03/03/94	JCT
Benzene	BDL	5	ppb	EPA 624	23:10	03/15/94	FDM
Bromodichloromethane	BDL	5	ppb	EPA 624	23:10	03/15/94	FDM
Bromoform	BDL	5	ppb	EPA 624	23:10	03/15/94	FDM
Bromomethane	BDL	10	ppb	EPA 624	23:10	03/15/94	FDM
Carbon Tetrachloride	BDL	5	ppb	EPA 624	23:10	03/15/94	FDM
Chlorobenzene	BDL	5	ppb	EPA 624	23:10	03/15/94	FDM
Chloroethane	BDL	10	ppb	EPA 624	23:10	03/15/94	FDM
2-Chloroethylvinyl Eth	BDL	10	ppb	EPA 624	23:10	03/15/94	FDM
Chloroform	BDL	5	ppb	EPA 624	23:10	03/15/94	FDM
Chloromethane	BDL	20	ppb	EPA 624	23:10	03/15/94	FDM
Dibromochloromethane	BDL	5	ppb	EPA 624	23:10	03/15/94	FDM
1,2-Dichlorobenzene	BDL	5	ppb	EPA 624	23:10	03/15/94	FDM
1,3-Dichlorobenzene	BDL	5	ppb	EPA 624	23:10	03/15/94	FDM
1,4-Dichlorobenzene	BDL	5	ppb	EPA 624	23:10	03/15/94	FDM
1,1-Dichloroethane	BDL	5	ppb	EPA 624	23:10	03/15/94	FDM
1,2-Dichloroethane	BDL	5	ppb	EPA 624	23:10	03/15/94	FDM
1,1-Dichloroethene	BDL	10	ppb	EPA 624	23:10	03/15/94	FDM
Trans-1,2-Dichloroethe	BDL	5	ppb	EPA 624	23:10	03/15/94	FDM
1,2-Dichloropropane	BDL	5	ppb	EPA 624	23:10	03/15/94	FDM
Cis-1,3-Dichloropropen	BDL	5	ppb	EPA 624	23:10	03/15/94	FDM
Trans-1,3-Dichloroprop	BDL	5	ppb	EPA 624	23:10	03/15/94	FDM
Ethyl Benzene	BDL	5	ppb	EPA 624	23:10	03/15/94	FDM
Methylene Chloride	BDL	5	ppb	EPA 624	23:10	03/15/94	FDM
1,1,2,2-Tetrachlorotha	BDL	5	ppb	EPA 624	23:10	03/15/94	FDM
Tetrachloroethene	BDL	5	ppb	EPA 624	23:10	03/15/94	FDM
Toluene	BDL	5	ppb	EPA 624	23:10	03/15/94	FDM
1,1,1-Trichloroethane	BDL	5	ppb	EPA 624	23:10	03/15/94	FDM
1,1,2-Trichloroethane	BDL	5	ppb	EPA 624	23:10	03/15/94	FDM
Trichloroethene	BDL	5	ppb	EPA 624	23:10	03/15/94	FDM
Trichlorofluoromethane	BDL	10	ppb	EPA 624	23:10	03/15/94	FDM
Vinyl Chloride	BDL	10	ppb	EPA 624	23:10	03/15/94	FDM

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LAB ID: 186K11
SAMPLE ID: OW 1S

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Total Xylene	BDL	5	ppb	EPA 624	23:10	03/15/94	FDM
1,1,1,2-Tetrachloroeth	BDL	5	ppb	EPA 624	23:10	03/15/94	FDM
Cis 1,2-dichloroethene	BDL	5	ppb	EPA 624	23:10	03/15/94	FDM
1,2-Dichloroethane-d4	80		% Rec	EPA 624	23:10	03/15/94	FDM
Toluene-d8	100		% Rec	EPA 624	23:10	03/15/94	FDM
4-Bromofluorobenzene	107		% Rec	EPA 624	23:10	03/15/94	FDM
Acenaphthene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Acenaphthylene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Anthracene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Benzo (a) Anthracene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Benzo (a) Pyrene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Benzo (b) Fluoranthene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Benzo (g,h,i) Perylene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Benzo (k) Fluoranthene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Bis (2-Chloroethoxy) M	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Bis (2-Chloroethyl) Et	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Bis (2-Chloroisopropyl	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Bis (2-Ethylhexyl) Pht	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
4-Bromophenyl Phenyl E	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Benzyl Butyl Phthalate	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2-Chloronaphthalene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
4-Chlorophenyl Phenyl	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Chrysene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Dibenzo (a,h) Anthrace	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
1,2-Dichlorobenzene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
1,3-Dichlorobenzene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
1,4-Dichlorobenzene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
3,3'-Dichlorobenzidine	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Diethyl Phthalate	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Dimethyl Phthalate	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Di-N-Butyl Phthalate	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2,4-Dinitrotoluene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2,6-Dinitrotoluene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Di-N-Octylphthalate	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Fluoranthene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Fluorene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Hexachlorobenzene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Hexachlorobutadiene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Hexachlorocyclopentadi	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Hexachloroethane	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM

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LAB ID: 186K11
SAMPLE ID: OW 1S

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Indeno (1,2,3-cd) Pyre	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Isophorone	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Naphthalene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Nitrobenzene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
N-Nitroso-Di-N-Propyla	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
N-Nitrosodiphenylamine	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Phenanthrene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Pyrene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
1,2,4-Trichlorobenzene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Benzidine	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
N-Nitrosodimethylamine	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
4-Chloro-3-Methylpheno	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2-Chlorophenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2,4-Dichlorophenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2,4-Dimethylphenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2,4-Dinitrophenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2-Methyl-4,6-Dinitroph	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2-Nitrophenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
4-Nitrophenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Pentachlorophenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Phenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2,4,6-Trichlorophenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
4,6-Dinitro-o-cresol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
P-chloro-m-cresol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Trans-1,3-dichloroprop	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
4-Methylphenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Nitrobenzene-d8	82		% Rec	EPA 625	08:45	03/08/94	FDM
2-Fluorobiphenyl	104		% Rec	EPA 625	08:45	03/08/94	FDM
p-Terphenyl-d14	104		% Rec	EPA 625	08:45	03/08/94	FDM
Phenol-d6	82		% Rec	EPA 625	08:45	03/08/94	FDM
2-Fluorophenol	80		% Rec	EPA 625	08:45	03/08/94	FDM
2,4,6-Tribromophenol	104		% Rec	EPA 625	08:45	03/08/94	FDM
Acetone	BDL	5	ppb	EPA 8240	23:10	03/15/94	FDM
Water Level	4.90		FT		14:25	03/03/94	JCT

LAB ID: 186K12
SAMPLE ID: TRIP BLANK

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LAB ID: 186K12
SAMPLE ID: TRIP BLANK

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Benzene	BDL	5	ppb	EPA 624	00:25	03/16/94	FDM
Bromodichloromethane	BDL	5	ppb	EPA 624	00:25	03/16/94	FDM
Bromoform	BDL	5	ppb	EPA 624	00:25	03/16/94	FDM
Bromomethane	BDL	10	ppb	EPA 624	00:25	03/16/94	FDM
Carbon Tetrachloride	BDL	5	ppb	EPA 624	00:25	03/16/94	FDM
Chlorobenzene	BDL	5	ppb	EPA 624	00:25	03/16/94	FDM
Chloroethane	BDL	10	ppb	EPA 624	00:25	03/16/94	FDM
2-Chloroethylvinyl Eth	BDL	10	ppb	EPA 624	00:25	03/16/94	FDM
Chloroform	BDL	5	ppb	EPA 624	00:25	03/16/94	FDM
Chloromethane	BDL	20	ppb	EPA 624	00:25	03/16/94	FDM
Dibromochloromethane	BDL	5	ppb	EPA 624	00:25	03/16/94	FDM
1,2-Dichlorobenzene	BDL	5	ppb	EPA 624	00:25	03/16/94	FDM
1,3-Dichlorobenzene	BDL	5	ppb	EPA 624	00:25	03/16/94	FDM
1,4-Dichlorobenzene	BDL	5	ppb	EPA 624	00:25	03/16/94	FDM
1,1-Dichloroethane	BDL	5	ppb	EPA 624	00:25	03/16/94	FDM
1,2-Dichloroethane	BDL	5	ppb	EPA 624	00:25	03/16/94	FDM
1,1-Dichloroethene	BDL	10	ppb	EPA 624	00:25	03/16/94	FDM
Trans-1,2-Dichloroethe	BDL	5	ppb	EPA 624	00:25	03/16/94	FDM
1,2-Dichloropropane	BDL	5	ppb	EPA 624	00:25	03/16/94	FDM
Cis-1,3-Dichloropropen	BDL	5	ppb	EPA 624	00:25	03/16/94	FDM
Trans-1,3-Dichloroprop	BDL	5	ppb	EPA 624	00:25	03/16/94	FDM
Ethyl Benzene	BDL	5	ppb	EPA 624	00:25	03/16/94	FDM
Methylene Chloride	BDL	5	ppb	EPA 624	00:25	03/16/94	FDM
1,1,2,2-Tetrachlorotha	BDL	5	ppb	EPA 624	00:25	03/16/94	FDM
Tetrachloroethene	BDL	5	ppb	EPA 624	00:25	03/16/94	FDM
Toluene	BDL	5	ppb	EPA 624	00:25	03/16/94	FDM
1,1,1-Trichloroethane	BDL	5	ppb	EPA 624	00:25	03/16/94	FDM
1,1,2-Trichloroethane	BDL	5	ppb	EPA 624	00:25	03/16/94	FDM
Trichloroethene	BDL	5	ppb	EPA 624	00:25	03/16/94	FDM
Trichlorofluoromethane	BDL	10	ppb	EPA 624	00:25	03/16/94	FDM
Vinyl Chloride	BDL	10	ppb	EPA 624	00:25	03/16/94	FDM
Total Xylene	BDL	5	ppb	EPA 624	00:25	03/16/94	FDM
1,1,1,2-Tetrachloroeth	BDL	5	ppb	EPA 624	00:25	03/16/94	FDM
Cis 1,2-dichloroethene	BDL	5	ppb	EPA 624	00:25	03/16/94	FDM
1,2-Dichloroethane-d4	84		% Rec	EPA 624	00:25	03/16/94	FDM
Toluene-d8	100		% Rec	EPA 624	00:25	03/16/94	FDM
4-Bromofluorobenzene	102		% Rec	EPA 624	00:25	03/16/94	FDM
Acenaphthene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Acenaphthylene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Anthracene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM

Hackney and Sons
03/24/94
Page 33

LAB ID: 186K12
SAMPLE ID: TRIP BLANK

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Benzo (a) Anthracene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Benzo (a) Pyrene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Benzo (b) Fluoranthene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Benzo (g,h,i) Perylene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Benzo (k) Fluoranthene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Bis (2-Chloroethoxy) M	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Bis (2-Chloroethyl) Et	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Bis (2-Chloroisopropyl	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Bis (2-Ethylhexyl) Pht	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
4-Bromophenyl Phenyl E	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Benzyl Butyl Phthalate	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2-Chloronaphthalene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
4-Chlorophenyl Phenyl	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Chrysene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Dibenzo (a,h) Anthrace	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
1,2-Dichlorobenzene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
1,3-Dichlorobenzene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
1,4-Dichlorobenzene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
3,3'-Dichlorobenzidine	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Diethyl Phthalate	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Dimethyl Phthalate	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Di-N-Butyl Phthalate	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2,4-Dinitrotoluene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2,6-Dinitrotoluene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Di-N-Octylphthalate	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Fluoranthene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Fluorene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Hexachlorobenzene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Hexachlorobutadiene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Hexachlorocyclopentadi	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Hexachloroethane	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Indeno (1,2,3-cd) Pyre	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Isophorone	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Naphthalene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Nitrobenzene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
N-Nitroso-Di-N-Propyla	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
N-Nitrosodiphenylamine	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Phenanthrene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Pyrene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
1,2,4-Trichlorobenzene	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM

Hackney and Sons
03/24/94
Page 34

LAB ID: 186K12
SAMPLE ID: TRIP BLANK

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Benzidine	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
N-Nitrosodimethylamine	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
4-Chloro-3-Methylpheno	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2-Chlorophenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2,4-Dichlorophenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2,4-Dimethylphenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2,4-Dinitrophenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2-Methyl-4,6-Dinitroph	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2-Nitrophenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
4-Nitrophenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Pentachlorophenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Phenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
2,4,6-Trichlorophenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
4,6-Dinitro-o-cresol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
P-chloro-m-cresol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Trans-1,3-dichloroprop	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
4-Methylphenol	BDL	10	PPB	EPA 625	08:45	03/08/94	FDM
Nitrobenzene-d8	77		% Rec	EPA 625	08:45	03/08/94	FDM
2-Fluorobiphenyl	101		% Rec	EPA 625	08:45	03/08/94	FDM
p-Terphenyl-d14	105		% Rec	EPA 625	08:45	03/08/94	FDM
Phenol-d6	94		% Rec	EPA 625	08:45	03/08/94	FDM
2-Fluorophenol	85		% Rec	EPA 625	08:45	03/08/94	FDM
2,4,6-Tribromophenol	104		% Rec	EPA 625	08:45	03/08/94	FDM
Acetone	BDL	5	ppb	EPA 8240	00:25	03/16/94	FDM

AquaChem
ENVIRONMENTAL LABORATORIES, INC.
11176 DOWNS ROAD
PINEVILLE, NC 28134
704/588-5076
FAX 704/588-2454

CHAIN OF CUSTODY

Client: Hackney And Sons
Address:
City: State: Zip:
Contact Person
Sampled By: Tim McCorkle

Phone Number: ( )
Fax Number: ( )
Purchase Order Number:
Certification Requirement:
Project Name:
Rush Charges Authorized ☐ Yes ☐ No

By relinquishing this sample(s) to Laboratory Personnel, I warrant that I am authorized to enter into this agreement for the Client named above and that I authorize the below analysis subject to the terms and conditions on the reverse hereof. This agreement is governed by the terms and conditions on the reverse side hereof. Analysis charges shall be as included in the Laboratories fee schedule in effect at the time of the analysis.

Relinquished By: Date: 3/3/94 Time: 1830
Received By: Date: 3/3/94 Time: 1830
Relinquished By: Date: Time:
Received By: Date: Time:

Samples received on ice? Yes ☑ No ☐

Sample ID	Plastic	Glass	Date & Time Sampled	Composite	Grab	Lab ID	BOD	COD	TSS	pH	Ammonia	Oil & Grease	Cyanide	Phenol	Arsenic	Selenium	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Mercury	Silver	Barium	TCLP (Complete)	TPH (3550)	TPH (5030)	TPH (9071)	Other Analysis	Preservative
MW25		X	3/3/94 12:30		X	186K1																								624	HCL
		X	3/3/94 1230		X	186K1																								625	Ice
	X		3/3/94 1230		X	186K1				X																					Ice
MW26		X	3/3/94 1245		X	186K2																								624	HCL
		X	3/3/94 1245		X	186K2																								625	Ice
	X		3/3/94 1245		X	186K2				X																					Ice
MW26D		X	3/3/94 1300		X	186K3																								624	HCL
		X	3/3/94 1300		X	186K3																								625	Ice
	X		3/3/94 1300		X	186K3				X																					Ice
						186K3																									

Autosampler Sampler Location
Date Installed Time Installed Flow CF/GPD
Date Picked Up Time Picked Up Flow
Composite Type: ☐ Flow ☐ Time ☐ Hand

Field pH
Result
Analyst
Time/Date
(QA/QC Separate)

Please sign and return the white and yellow copies to the Laboratory.

AquaChem
ENVIRONMENTAL LABORATORIES, INC.
11176 DOWNS ROAD
PINEVILLE, NC 28134
704/588-5076
FAX 704/588-2454

CHAIN OF CUSTODY

Client: Hackney And Sons
Address:
City: State: Zip:
Contact Person
Sampled By: Tim McCorkle

Phone Number: ( )
Fax Number: ( )
Purchase Order Number:
Certification Requirement:
Project Name:
Rush Charges Authorized ☐ Yes ☐ No

By relinquishing this sample(s) to Laboratory Personnel, I warrant that I am authorized to enter into this agreement for the Client named above and that I authorize the below analysis subject to the terms and conditions on the reverse hereof. This agreement is governed by the terms and conditions on the reverse side hereof. Analysis charges shall be as included in the Laboratories fee schedule in effect at the time of the analysis.

Relinquished By: [signature]	Date: 3/3/94	Time: 1830
Received By: [signature]	Date: 3/3/94	Time: 1830
Relinquished By:	Date:	Time:
Received By:	Date:	Time:

Samples received on ice? Yes ☑ No ☐

Sample ID	PLASTIC	GLASS	Date & Time Sampled	COMPOSITE	GRAB	Lab ID	BOD	COD	TSS	pH	Ammonia	Oil & Grease	Cyanide	Phenol	Arsenic	Selenium	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Mercury	Silver	Barium	TCLP (Complete)	TPH (3550)	TPH (5030)	TPH (9071)	Other Analysis	Preservative
mw29		X	3/3/94 1315		X	186K4																								624	HCL
		X	3/3/94 1315		X	186K4																								625	Ice
	X		3/3/94 1315		X	186K4				X																					Ice
mw30		X	3/3/94 1340		X	186K5																								624	HCL
		X	3/3/94 1340		X	186K5																								625	Ice
	X		3/3/94 1340		X	186K5				X																					Ice
mw11		X	3/3/94 1405		X	186K6																								624	HCL
		X	3/3/94 1405		X	186K6																								625	Ice
	X		3/3/94 1405		X	186K6				X																					Ice

Autosampler Sampler Location
Date Installed Time Installed Flow CF/GPD
Date Picked Up Time Picked Up Flow
Composite Type: ☐ Flow ☐ Time ☐ Hand

Field pH
Result
Analyst
Time/Date
(QA/QC Separate)

Please sign and return the white and yellow copies to the Laboratory.

AquaChem
ENVIRONMENTAL LABORATORIES, INC.
11176 DOWNS ROAD
PINEVILLE, NC 28134
704/588-5076
FAX 704/588-2454

CHAIN OF CUSTODY

Client: Hackney and Sons
Address:
City ______ State: ______ Zip: ______
Contact Person
Sampled By: Tim McCorkle

Phone Number: ( )
Fax Number: ( )
Purchase Order Number:
Certification Requirement:
Project Name:
Rush Charges Authorized ☐ Yes ☐ No

By relinquishing this sample(s) to Laboratory Personnel, I warrant that I am authorized to enter into this agreement for the Client named above and that I authorize the below analysis subject to the terms and conditions on the reverse hereof. This agreement is governed by the terms and conditions on the reverse side hereof. Analysis charges shall be as included in the Laboratories fee schedule in effect at the time of the analysis.

Relinquished By: [signature] Date: 3/3/94 Time: 1830
Received By: [signature] Date: 3/3/94 Time: 1830
Relinquished By: Date: Time:
Received By: Date: Time:

Samples received on ice? Yes ☑ No ☐

Sample ID	PLASTIC	GLASS	Date & Time Sampled	COMPOSITE	GRAB	Lab ID	BOD	COD	TSS	pH	Ammonia	Oil & Grease	Cyanide	Phenol	Arsenic	Selenium	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Mercury	Silver	Barium	TCLP (Complete)	TPH (3550)	TPH (5030)	TPH (9071)	Other Analysis	Preservative
MW28B		X	3/3/94 1422		X	186K7																								624	HCL
		X	3/3/94 1422		X	186K7																								625	Ice
	X		3/3/94 1422		X	186K7			X																						Ice
MW29B		X	3/3/94 1434		X	186K8																								624	HCL
		X	3/3/94 1434		X	186K8																								625	Ice
	X		3/3/94 1434		X	186K8			X																						Ice
MW30B		X	3/3/94 1445		X	186K9																								624	HCL
		X	3/3/94 1445		X	186K9																								625	Ice
	X		3/3/94 1445		X	186K9			X																						Ice

Autosampler Sampler Location______
Date Installed______ Time Installed______ Flow______CF/GPD
Date Picked Up______ Time Picked Up______ Flow______
Composite Type: ☐ Flow ☐ Time ☐ Hand

Field pH
Result______
Analyst______
Time/Date______
(QA/QC Separate)

Please sign and return the white and yellow copies to the Laboratory.

AquaChem
ENVIRONMENTAL LABORATORIES, INC.
11176 DOWNS ROAD
PINEVILLE, NC 28134
704/588-5076
FAX 704/588-2454

CHAIN OF CUSTODY

Client: Hackney And Sons
Address:
City: State: Zip:
Contact Person:
Sampled By: Tim McCorkle

Phone Number: ( )
Fax Number: ( )
Purchase Order Number:
Certification Requirement:
Project Name:
Rush Charges Authorized ☐ Yes ☐ No

By relinquishing this sample(s) to Laboratory Personnel, I warrant that I am authorized to enter into this agreement for the Client named above and that I authorize the below analysis subject to the terms and conditions on the reverse hereof. This agreement is governed by the terms and conditions on the reverse side hereof. Analysis charges shall be as included in the Laboratories fee schedule in effect at the time of the analysis.

Relinquished By: [signature] Date: 3/3/94 Time: 1830
Received By: Greg D. [signature] Date: 3/3/94 Time: 1830
Relinquished By: Date: Time:
Received By: Date: Time:

Samples received on ice? Yes ☑ No ☐

Sample ID	Plastic	Glass	Date & Time Sampled	Composite	Grab	Lab ID	BOD	COD	TSS	pH	Ammonia	Oil & Grease	Cyanide	Phenol	Arsenic	Selenium	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Mercury	Silver	Barium	TCLP (Complete)	TPH (3550)	TPH (5030)	TPH (9071)	Other Analysis	Preservative
OWID		X	3/3/94 1415		X	186K10																								624	HCL
		X	3/3/94 1415		X	186K10																								625	Ice
	X		3/3/94 1415		X	186K10				X																					Ice
OWIS		X	3/3/94 1425		X	186K11																								624	HCL
		X	3/3/94 1425		X	186K11																								625	Ice
	X		3/3/94 1425		X	186K11				X																					Ice
TRIP BLANK		X	3/3/94 0800		X	186K12																								624	HCL
		X	3/3/94 0800		X	186K12																								625	Ice
	X		3/3/94 0800		X	186K12				X DV																					Ice

Autosampler Sampler Location
Date Installed Time Installed Flow CF/GPD
Date Picked Up Time Picked Up Flow
Composite Type: ☐ Flow ☐ Time ☐ Hand

Field pH
Result
Analyst
Time/Date
(QA/QC Separate)

Please sign and return the white and yellow copies to the Laboratory.

WARO

GROUNDWATER QUALITY MONITORING: COMPLIANCE REPORT FORM

For additional forms please write or call:

DIVISION OF ENVIRONMENTAL MANAGEMENT - GROUNDWATER SECTION
P.O. BOX 29535
RALEIGH, NC 27626-0535
(919) 733-3221

Type or Use a ball-point pen and press firmly.

Facility Name Hackney & Sons
Address PO Box 880
Washington, N.C. 27889 County Beaufort
Well Location 400 Hackney Rd.
Well Identification Number MW-25 Well Depth 13 Ft.
Well Diameter 2" Sample (Screened) Interval ____ Ft. To ____ Ft.
Depth to Water Level 6.62 ft. below measuring point (before sampling)
Measuring point is 0" ft. above land surface
Gallons of water pumped/bailed before sampling 4
Field Analysis: pH 7.33 Specific Conductance ____ uMhos Temp. ____ °C Odor Slight Appearance clear
Date Sample Collected 12/30/93 Date Lab Sample Analyzed See attached sheets
Laboratory Name AquaChem Environmental, Inc. Certification No. 305
SAMPLES FOR METALS WERE COLLECTED UNFILTERED AND FIELD ACIDIFIED ____ YES ____ NO

PERMIT NUMBER: (REQUIRED)
Non-Discharge WQ0007970
NPDES ____

TYPE OF DISPOSAL OPERATION BEING MONITORED (REQUIRED)

- ____ Lagoon
- ____ Spray Field
- ____ Land Application of Sludge
- ____ Rotary Distributor
- ____ Septic Tank/Drain Field
- ____ Subsurface Low-Pressure Piping (LPP)
- X Other Injection Well

COD ____ mg/l
Coliform: MF Fecal ____ /100ml
Coliform: MF Total ____ /100ml
(Note: Use MPN method for highly turbid samples)
Dissolved Solids: Total ____ mg/l
pH (when analyzed) ____ units
TOC ____ mg/l
Chloride ____ mg/l
Arsenic ____ mg/l
Grease and Oils ____ mg/l
Hardness: Total ____ mg/l
Phenol ____ mg/l
Sulfate ____ mg/l
Specific Conductance ____ uMhos
Total Ammonia ____ mg/l
TKN as N ____ mg/l

Nitrite (NO_2) as N ____ mg/l
Nitrate (NO_3) as N ____ mg/l
Phosphorus: Total as P ____ mg/l
Al - Aluminum ____ mg/l
Ba - Barium ____ mg/l
Ca - Calcium ____ mg/l
Cd - Cadmium ____ mg/l
Chromium: Total ____ mg/l
Cu - Copper ____ mg/l
Fe - Iron ____ mg/l
Hg - Mercury ____ mg/l
K - Potassium ____ mg/l
Mg - Magnesium ____ mg/l
Mn - Manganese ____ mg/l
Na - Sodium ____ mg/l

Ni - Nickel ____ mg/l
Pb - Lead ____ mg/l
Zn - Zinc ____ mg/l
Pesticides/Herbicides
(Specify Compounds)
____ ug/l
____ ug/l
____ ug/l
Other (Specify Compounds and Concentration units) ug/l
ug/l
SW-846 Method 8240 for Acetone ug/l
EPA Method 624 for Volatile Organics ug/l
EPA Method 625 for Semivolatile Organics ug/l

RECEIVED
WASHINGTON OFFICE
MAR 26 1996
D. E. M.

I CERTIFY THAT THIS REPORT IS TRUE AND ACCURATE.

Signature of Permittee (or Authorized Agent*)

1/18/94
Date

Note: Values should reflect dissolved and colloidal concentrations. (see #3 on back)

* **See back for instructions.**
** **Submit blue, green, and yellow copies only to address above.**

GW-59 REV. 6/93

C. L. Mason
1-21-94

GROUNDWATER QUALITY MONITORING: COMPLIANCE REPORT FORM

For additional forms please write or call:

DIVISION OF ENVIRONMENTAL MANAGEMENT - GROUNDWATER SECTION
P.O. BOX 29535
RALEIGH, NC 27626-0535
(919) 733-3221

Type or Use a ball-point pen and press firmly.

Facility Name Hackney & Sons
Address PO Box 880
Washington N.C. 27889 County BEAUFORT
Well Location 400 HACKNEY AV.
Well Identification Number MW-26 Well Depth 14 Ft.
Well Diameter 4" Sample (Screened) Interval ____ Ft. To ____ Ft.
Depth to Water Level 6.69 ft. below measuring point (before sampling)
Measuring point is 0' ft. above land surface
Gallons of water pumped/bailed before sampling 8
Field Analysis: pH 5.99 Specific Conductance ____ uMhos Temp. ____ °C Odor Slight Appearance clear
Date Sample Collected 12/30/93 Date Lab Sample Analyzed see attached sheets
Laboratory Name AquaChem Environmental, Inc. Certification No. 305
SAMPLES FOR METALS WERE COLLECTED UNFILTERED AND FIELD ACIDIFIED ____YES ____NO

PERMIT NUMBER: (REQUIRED)
Non-Discharge WQ0007970
NPDES ____

TYPE OF DISPOSAL OPERATION BEING MONITORED (REQUIRED)
____ Lagoon
____ Septic Tank/Drain Field
____ Spray Field
____ Subsurface Low-Pressure Piping (LPP)
____ Land Application of Sludge
X Other
____ Rotary Distributor
Injection Well

COD	mg/l	Nitrite (NO_2) as N	mg/l	Ni - Nickel	mg/l
Coliform: MF Fecal	/100ml	Nitrate (NO_3) as N	mg/l	Pb - Lead	mg/l
Coliform: MF Total	/100ml	Phosphorus: Total as P	mg/l	Zn - Zinc	mg/l
(Note: Use MPN method for highly turbid samples)		Al - Aluminum	mg/l	Pesticides/Herbicides (Specify Compounds)	
Dissolved Solids: Total	mg/l	Ba - Barium	mg/l		
pH (when analyzed)	units	Ca - Calcium	mg/l		ug/l
TOC	mg/l	Cd - Cadmium	mg/l		ug/l
Chloride	mg/l	Chromium: Total	mg/l		ug/l
Arsenic	mg/l	Cu - Copper	mg/l	Other (Specify Compounds and	ug/l
Grease and Oils	mg/l	Fe - Iron	mg/l	Concentration units)	ug/l
Hardness: Total	mg/l	Hg - Mercury	mg/l	SW-846 Method 8240 for Acetone	ug/l
Phenol	mg/l	K - Potassium	mg/l	EPA Method 624 for Volatile Organics	ug/l
Sulfate	mg/l	Mg - Magnesium	mg/l	EPA Method 625 for Semivolatile Organics	ug/l
Specific Conductance	uMhos	Mn - Manganese	mg/l		
Total Ammonia	mg/l	Na - Sodium	mg/l		
TKN as N	mg/l				

I CERTIFY THAT THIS REPORT IS TRUE AND ACCURATE.

Signature of Permittee (or Authorized Agent*)

1/18/94
Date

Note: Values should reflect dissolved and colloidal concentrations. (see #3 on back)

* **See back for instructions.**
** **Submit blue, green, and yellow copies only to address above.**

GW-59 REV. 6/93

Charles Mason
1-21-94

GROUNDWATER QUALITY MONITORING: COMPLIANCE REPORT FORM

For additional forms please write or call:

DIVISION OF ENVIRONMENTAL MANAGEMENT - GROUNDWATER SECTION
P.O. BOX 29535
RALEIGH, NC 27626-0535
(919) 733-3221

Type or Use a ball-point pen and press firmly.

Facility Name Hackney & Sons
Address PO Box 880
Washington N.C. 27889 County Beaufort
Well Location 400 Hackney Ln.
Well Identification Number MW-26d Well Depth 40 Ft.
Well Diameter 2" Sample (Screened) Interval ______ Ft. To ______ Ft.
Depth to Water Level 6.66 ft. below measuring point (before sampling)
Measuring point is 0" ft. above land surface
Gallons of water pumped/bailed before sampling 35

PERMIT NUMBER: (REQUIRED)
Non-Discharge WQ0007970
NPDES ______

TYPE OF DISPOSAL OPERATION BEING MONITORED (REQUIRED)

- ___ Lagoon
- ___ Spray Field
- ___ Land Application of Sludge
- ___ Rotary Distributor
- ___ Septic Tank/Drain Field
- ___ Subsurface Low-Pressure Piping (LPP)
- X Other Injection Well

Field Analysis: pH 7.53 Specific Conductance ______ uMhos Temp. ______ °C Odor Slight Appearance clear
Date Sample Collected 12/30/93 Date Lab Sample Analyzed see attached sheets
Laboratory Name AquaChem Environmental, Inc. Certification No. 305

SAMPLES FOR METALS WERE COLLECTED UNFILTERED AND FIELD ACIDIFIED ___ YES ___ NO

COD ______	mg/l	Nitrite (NO_2) as N ______	mg/l	Ni - Nickel ______	mg/l
Coliform: MF Fecal ______	/100ml	Nitrate (NO_3) as N ______	mg/l	Pb - Lead ______	mg/l
Coliform: MF Total ______	/100ml	Phosphorus: Total as P ______	mg/l	Zn - Zinc ______	mg/l
(Note: Use MPN method for highly turbid samples)		Al - Aluminum ______	mg/l	Pesticides/Herbicides	
Dissolved Solids: Total ______	mg/l	Ba - Barium ______	mg/l	(Specify Compounds)	
pH (when analyzed) ______	units	Ca - Calcium ______	mg/l	______	ug/l
TOC ______	mg/l	Cd - Cadmium ______	mg/l	______	ug/l
Chloride ______	mg/l	Chromium: Total ______	mg/l	______	ug/l
Arsenic ______	mg/l	Cu - Copper ______	mg/l	Other (Specify Compounds and	ug/l
Grease and Oils ______	mg/l	Fe - Iron ______	mg/l	Concentration units)	ug/l
Hardness: Total ______	mg/l	Hg - Mercury ______	mg/l	SW-846 Method 8240 for Acetone	ug/l
Phenol ______	mg/l	K - Potassium ______	mg/l	EPA Method 624 for Volatile Organics	ug/l
Sulfate ______	mg/l	Mg - Magnesium ______	mg/l	EPA Method 625 for Semivolatile Organics	ug/l
Specific Conductance ______	uMhos	Mn - Manganese ______	mg/l	______	
Total Ammonia ______	mg/l	Na - Sodium ______	mg/l	______	
TKN as N ______	mg/l			______	

I CERTIFY THAT THIS REPORT IS TRUE AND ACCURATE.

______ Signature of Permittee (or Authorized Agent*)

1/18/94
Date

Note: Values should reflect dissolved and colloidal concentrations. (see #3 on back)

- * See back for instructions.
- ** Submit blue, green, and yellow copies only to address above.

GW-59 REV. 6/93

Charles Mason
2-21-94

GROUNDWATER QUALITY MONITORING: COMPLIANCE REPORT FORM

For additional forms please write or call:

DIVISION OF ENVIRONMENTAL MANAGEMENT - GROUNDWATER SECTION
P.O. BOX 29535
RALEIGH, NC 27626-0535
(919) 733-3221

Type or Use a ball-point pen and press firmly.

Facility Name Hackney & Sons
Address PO Box 880
Washington, N.C. 27889 County Beaufort
Well Location 400 Hackney Av.
Well Identification Number MW-29 Well Depth 16 Ft.
Well Diameter 2" Sample (Screened) Interval ____ Ft. To ____ Ft.
Depth to Water Level 6.80 ft. below measuring point (before sampling)
Measuring point is 0" ft. above land surface
Gallons of water pumped/bailed before sampling 4

PERMIT NUMBER: (REQUIRED)
Non-Discharge WQ0007970
NPDES ____

TYPE OF DISPOSAL OPERATION BEING MONITORED (REQUIRED)

- ____ Lagoon
- ____ Spray Field
- ____ Land Application of Sludge
- ____ Rotary Distributor
- ____ Septic Tank/Drain Field
- ____ Subsurface Low-Pressure Piping (LPP)
- X Other Injection Well

Field Analysis: pH 6.55 Specific Conductance ____ uMhos Temp. ____ °C Odor Slight Appearance clear
Date Sample Collected 12/30/93 Date Lab Sample Analyzed see attached sheets
Laboratory Name AquaChem Environmental, Inc. Certification No. 305
SAMPLES FOR METALS WERE COLLECTED UNFILTERED AND FIELD ACIDIFIED ____ YES ____ NO

COD ____ mg/l
Coliform: MF Fecal ____ /100ml
Coliform: MF Total ____ /100ml
(Note: Use MPN method for highly turbid samples)
Dissolved Solids: Total ____ mg/l
pH (when analyzed) ____ units
TOC ____ mg/l
Chloride ____ mg/l
Arsenic ____ mg/l
Grease and Oils ____ mg/l
Hardness: Total ____ mg/l
Phenol ____ mg/l
Sulfate ____ mg/l
Specific Conductance ____ uMhos
Total Ammonia ____ mg/l
TKN as N ____ mg/l

Nitrite (NO_2) as N ____ mg/l
Nitrate (NO_3) as N ____ mg/l
Phosphorus: Total as P ____ mg/l
Al - Aluminum ____ mg/l
Ba - Barium ____ mg/l
Ca - Calcium ____ mg/l
Cd - Cadmium ____ mg/l
Chromium: Total ____ mg/l
Cu - Copper ____ mg/l
Fe - Iron ____ mg/l
Hg - Mercury ____ mg/l
K - Potassium ____ mg/l
Mg - Magnesium ____ mg/l
Mn - Manganese ____ mg/l
Na - Sodium ____ mg/l

Ni - Nickel ____ mg/l
Pb - Lead ____ mg/l
Zn - Zinc ____ mg/l
Pesticides/Herbicides
(Specify Compounds)
____ ug/l
____ ug/l
____ ug/l
Other (Specify Compounds and Concentration units) ug/l
ug/l
SW-846 Method 8240 for Acetone ug/l
EPA Method 624 for Volatile Organics ug/l
EPA Method 625 for Semivolatile Organics ug/l

I CERTIFY THAT THIS REPORT IS TRUE AND ACCURATE.

Signature of Permittee (or Authorized Agent*) Date 1/18/94

Note: **Values should reflect dissolved and colloidal concentrations. (see #3 on back)**

- * See back for Instructions.
- ** Submit blue, green, and yellow copies only to address above.

GW-59 REV. 6/93

Charles Mason
1-21-94

GROUNDWATER QUALITY MONITORING: COMPLIANCE REPORT FORM

For additional forms please write or call:

DIVISION OF ENVIRONMENTAL MANAGEMENT - GROUNDWATER SECTION
P.O. BOX 29535
RALEIGH, NC 27626-0535
(919) 733-3221

Type or Use a ball-point pen and press firmly.

Facility Name: Hackney & Sons
Address: PO Box 880
Washington N.C. 27889 County: Beaufort
Well Location: 400 Hackney Ave
Well Identification Number: MW-30 Well Depth: 15 Ft.
Well Diameter: 2" Sample (Screened) Interval ______ Ft. To ______ Ft.
Depth to Water Level: 6.54 ft. below measuring point (before sampling)
Measuring point is: 0" ft. above land surface
Gallons of water pumped/bailed before sampling: 4
Field Analysis: pH 7.21 Specific Conductance ______ uMhos Temp. ______ °C Odor: slight Appearance: clear
Date Sample Collected: 12/30/93 Date Lab Sample Analyzed: see attached sheets
Laboratory Name: AquaChem Environmental, Inc. Certification No.: 305
SAMPLES FOR METALS WERE COLLECTED UNFILTERED AND FIELD ACIDIFIED ______ YES ______ NO

PERMIT NUMBER: (REQUIRED)
Non-Discharge: WQ0007970
NPDES: ______

TYPE OF DISPOSAL OPERATION BEING MONITORED (REQUIRED)
- ______ Lagoon
- ______ Septic Tank/Drain Field
- ______ Spray Field
- ______ Subsurface Low-Pressure Piping (LPP)
- ______ Land Application of Sludge
- X Other: Injection Well
- ______ Rotary Distributor

COD ______ mg/l
Coliform: MF Fecal ______ /100ml
Coliform: MF Total ______ /100ml
(Note: Use MPN method for highly turbid samples)
Dissolved Solids: Total ______ mg/l
pH (when analyzed) ______ units
TOC ______ mg/l
Chloride ______ mg/l
Arsenic ______ mg/l
Grease and Oils ______ mg/l
Hardness: Total ______ mg/l
Phenol ______ mg/l
Sulfate ______ mg/l
Specific Conductance ______ uMhos
Total Ammonia ______ mg/l
TKN as N ______ mg/l

Nitrite (NO_2) as N ______ mg/l
Nitrate (NO_3) as N ______ mg/l
Phosphorus: Total as P ______ mg/l
Al - Aluminum ______ mg/l
Ba - Barium ______ mg/l
Ca - Calcium ______ mg/l
Cd - Cadmium ______ mg/l
Chromium: Total ______ mg/l
Cu - Copper ______ mg/l
Fe - Iron ______ mg/l
Hg - Mercury ______ mg/l
K - Potassium ______ mg/l
Mg - Magnesium ______ mg/l
Mn - Manganese ______ mg/l
Na - Sodium ______ mg/l

Ni - Nickel ______ mg/l
Pb - Lead ______ mg/l
Zn - Zinc ______ mg/l
Pesticides/Herbicides
(Specify Compounds)
______ ug/l
______ ug/l
______ ug/l
Other (Specify Compounds and Concentration units) ug/l
ug/l
SW-846 Method 8240 for Acetone ug/l
EPA Method 624 for Volatile Organics ug/l
EPA Method 625 for Semivolatile Organics ug/l

I CERTIFY THAT THIS REPORT IS TRUE AND ACCURATE.

______ 1/18/94
Signature of Permittee (or Authorized Agent*) Date

Note: **Values should reflect dissolved and colloidal concentrations. (see #3 on back)**

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GW-59 REV. 6/93

Charles Mason
1-21-94

GROUNDWATER QUALITY MONITORING: COMPLIANCE REPORT FORM

For additional forms please write or call:

DIVISION OF ENVIRONMENTAL MANAGEMENT - GROUNDWATER SECTION
P.O. BOX 29535
RALEIGH, NC 27626-0535
(919) 733-3221

Type or Use a ball-point pen and press firmly.

Facility Name Hackney & Sons
Address PO Box 880
Washington N.C. 27889 County Beaufort
Well Location 400 Hackney Ave
Well Identification Number MW-11 Well Depth 14 Ft.
Well Diameter 2" Sample (Screened) Interval ______ Ft. To ______ Ft.
Depth to Water Level 6.28 ft. below measuring point (before sampling)
Measuring point is 0" ft. above land surface
Gallons of water pumped/bailed before sampling 5

PERMIT NUMBER: (REQUIRED)
Non-Discharge WQ0007970
NPDES ______
TYPE OF DISPOSAL OPERATION BEING MONITORED (REQUIRED)

- ___ Lagoon
- ___ Septic Tank/Drain Field
- ___ Spray Field
- ___ Subsurface Low-Pressure Piping (LPP)
- ___ Land Application of Sludge
- X Other Injection Well
- ___ Rotary Distributor

Field Analysis: pH 7.09 Specific Conductance ______ uMhos Temp. ______ °C Odor Slight Appearance clear
Date Sample Collected 12/30/93 Date Lab Sample Analyzed See attached sheets
Laboratory Name AquaChem Environmental, Inc. Certification No. 305
SAMPLES FOR METALS WERE COLLECTED UNFILTERED AND FIELD ACIDIFIED ___ YES ___ NO

COD ______ mg/l
Coliform: MF Fecal ______ /100ml
Coliform: MF Total ______ /100ml
(Note: Use MPN method for highly turbid samples)
Dissolved Solids: Total ______ mg/l
pH (when analyzed) ______ units
TOC ______ mg/l
Chloride ______ mg/l
Arsenic ______ mg/l
Grease and Oils ______ mg/l
Hardness: Total ______ mg/l
Phenol ______ mg/l
Sulfate ______ mg/l
Specific Conductance ______ uMhos
Total Ammonia ______ mg/l
TKN as N ______ mg/l

Nitrite (NO_2) as N ______ mg/l
Nitrate (NO_3) as N ______ mg/l
Phosphorus: Total as P ______ mg/l
Al - Aluminum ______ mg/l
Ba - Barium ______ mg/l
Ca - Calcium ______ mg/l
Cd - Cadmium ______ mg/l
Chromium: Total ______ mg/l
Cu - Copper ______ mg/l
Fe - Iron ______ mg/l
Hg - Mercury ______ mg/l
K - Potassium ______ mg/l
Mg - Magnesium ______ mg/l
Mn - Manganese ______ mg/l
Na - Sodium ______ mg/l

Ni - Nickel ______ mg/l
Pb - Lead ______ mg/l
Zn - Zinc ______ mg/l
Pesticides/Herbicides
(Specify Compounds)
______ ug/l
______ ug/l
______ ug/l
Other (Specify Compounds and Concentration units) ug/l
ug/l
SW-846 Method 8240 for Acetone ug/l
EPA Method 624 for Volatile Organics ug/l
EPA Method 625 for Semivolatile Organics ug/l

I CERTIFY THAT THIS REPORT IS TRUE AND ACCURATE.

Signature of Permittee (or Authorized Agent*) Date 1/18/94

Note: **Values should reflect dissolved and colloidal concentrations. (see #3 on back)**

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GW-59 REV. 6/93

Charles Mason
1-21-94

GROUNDWATER QUALITY MONITORING: COMPLIANCE REPORT FORM

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DIVISION OF ENVIRONMENTAL MANAGEMENT - GROUNDWATER SECTION
P.O. BOX 29535
RALEIGH, NC 27626-0535
(919) 733-3221

Type or Use a ball-point pen and press firmly.

Facility Name: Hackney & Sons
Address: PO Box 880
Washington, N.C. 27889 County: Beaufort
Well Location: 400 Hackney Ave.
Well Identification Number: MW-28b Well Depth: 12 Ft.
Well Diameter: 4" Sample (Screened) Interval ______ Ft. To ______ Ft.
Depth to Water Level: 4.68 ft. below measuring point (before sampling)
Measuring point is 0" ft. above land surface
Gallons of water pumped/bailed before sampling: 8
Field Analysis: pH 5.98 Specific Conductance ______ uMhos Temp. ______ °C Odor slight Appearance clear
Date Sample Collected: 12/30/93 Date Lab Sample Analyzed: see attached sheets
Laboratory Name: AquaChem Environmental, Inc. Certification No. 305
SAMPLES FOR METALS WERE COLLECTED UNFILTERED AND FIELD ACIDIFIED ____ YES ____ NO

PERMIT NUMBER: (REQUIRED)
Non-Discharge: WQ0007970
NPDES: ______

TYPE OF DISPOSAL OPERATION BEING MONITORED (REQUIRED)

- ____ Lagoon
- ____ Spray Field
- ____ Land Application of Sludge
- ____ Rotary Distributor
- ____ Septic Tank/Drain Field
- ____ Subsurface Low-Pressure Piping (LPP)
- X Other: Injection Well

COD ______ mg/l	Nitrite (NO_2) as N ______ mg/l	Ni - Nickel ______ mg/l
Coliform: MF Fecal ______ /100ml	Nitrate (NO_3) as N ______ mg/l	Pb - Lead ______ mg/l
Coliform: MF Total ______ /100ml	Phosphorus: Total as P ______ mg/l	Zn - Zinc ______ mg/l
(Note: Use MPN method for highly turbid samples)	Al - Aluminum ______ mg/l	Pesticides/Herbicides
Dissolved Solids: Total ______ mg/l	Ba - Barium ______ mg/l	(Specify Compounds)
pH (when analyzed) ______ units	Ca - Calcium ______ mg/l	______ ug/l
TOC ______ mg/l	Cd - Cadmium ______ mg/l	______ ug/l
Chloride ______ mg/l	Chromium: Total ______ mg/l	______ ug/l
Arsenic ______ mg/l	Cu - Copper ______ mg/l	Other (Specify Compounds and ug/l
Grease and Oils ______ mg/l	Fe - Iron ______ mg/l	Concentration units) ug/l
Hardness: Total ______ mg/l	Hg - Mercury ______ mg/l	SW-846 Method 8240 for Acetone ug/l
Phenol ______ mg/l	K - Potassium ______ mg/l	EPA Method 624 for Volatile Organics ug/l
Sulfate ______ mg/l	Mg - Magnesium ______ mg/l	EPA Method 625 for Semivolatile Organics ug/l
Specific Conductance ______ uMhos	Mn - Manganese ______ mg/l	______
Total Ammonia ______ mg/l	Na - Sodium ______ mg/l	______
TKN as N ______ mg/l		______

I CERTIFY THAT THIS REPORT IS TRUE AND ACCURATE.

Signature of Permittee (or Authorized Agent*) Date: 1/18/94

Note: Values should reflect dissolved and colloidal concentrations. (see #3 on back)

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GW-59 REV. 6/93

Charles Mason
1-21-94

GROUNDWATER QUALITY MONITORING: COMPLIANCE REPORT FORM

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DIVISION OF ENVIRONMENTAL MANAGEMENT - GROUNDWATER SECTION
P.O. BOX 29535
RALEIGH, NC 27626-0535
(919) 733-3221

Type or Use a ball-point pen and press firmly.

Facility Name Hackney & Sons
Address PO Box 880
Washington N.C. 27889 County Beaufort
Well Location 400 Hackney Av.
Well Identification Number MW-29b Well Depth 12'5" Ft.
Well Diameter 4" Sample (Screened) Interval ______ Ft. To ______ Ft.
Depth to Water Level 5.62 ft. below measuring point (before sampling)
Measuring point is 0" ft. above land surface
Gallons of water pumped/bailed before sampling 8
Field Analysis: pH 8.39 Specific Conductance ______ uMhos Temp. ______ °C Odor slight Appearance clear
Date Sample Collected 12/30/93 Date Lab Sample Analyzed see attached sheets
Laboratory Name AquaChem Environmental, Inc. Certification No. 305
SAMPLES FOR METALS WERE COLLECTED UNFILTERED AND FIELD ACIDIFIED ____ **YES** ____ **NO**

PERMIT NUMBER: (REQUIRED)
Non-Discharge WQ0007970
NPDES ______

TYPE OF DISPOSAL OPERATION BEING MONITORED
(REQUIRED)

- ____ Lagoon
- ____ Spray Field
- ____ Land Application of Sludge
- ____ Rotary Distributor
- ____ Septic Tank/Drain Field
- ____ Subsurface Low-Pressure Piping (LPP)
- X Other Injection Well

COD	mg/l	Nitrite (NO_2) as N	mg/l	Ni - Nickel	mg/l
Coliform: MF Fecal	/100ml	Nitrate (NO_3) as N	mg/l	Pb - Lead	mg/l
Coliform: MF Total	/100ml	Phosphorus: Total as P	mg/l	Zn - Zinc	mg/l
(Note: Use MPN method for highly turbid samples)		Al - Aluminum	mg/l	Pesticides/Herbicides (Specify Compounds)	
Dissolved Solids: Total	mg/l	Ba - Barium	mg/l		ug/l
pH (when analyzed)	units	Ca - Calcium	mg/l		ug/l
TOC	mg/l	Cd - Cadmium	mg/l		ug/l
Chloride	mg/l	Chromium: Total	mg/l	Other (Specify Compounds and Concentration units)	ug/l
Arsenic	mg/l	Cu - Copper	mg/l		ug/l
Grease and Oils	mg/l	Fe - Iron	mg/l	SW-846 Method 8240 for Acetone	ug/l
Hardness: Total	mg/l	Hg - Mercury	mg/l	EPA Method 624 for Volatile Organics	ug/l
Phenol	mg/l	K - Potassium	mg/l	EPA Method 625 for Semivolatile Organics	ug/l
Sulfate	mg/l	Mg - Magnesium	mg/l		
Specific Conductance	uMhos	Mn - Manganese	mg/l		
Total Ammonia	mg/l	Na - Sodium	mg/l		
TKN as N	mg/l				

I CERTIFY THAT THIS REPORT IS TRUE AND ACCURATE.

Signature of Permittee (or Authorized Agent*)

1/18/94
Date

Note: Values should reflect dissolved and colloidal concentrations. (see #3 on back)

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GW-59 REV. 6/93

Chuck Mason
1-21-94

GROUNDWATER QUALITY MONITORING: COMPLIANCE REPORT FORM

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P.O. BOX 29535
RALEIGH, NC 27626-0535
(919) 733-3221

Type or Use a ball-point pen and press firmly.

Facility Name Hackney & Sons
Address PO Box 880
Washington, N.C. 27889 County Beaufort
Well Location 400 Hackney Av.
Well Identification Number MW-30b Well Depth 12 Ft.
Well Diameter 4" Sample (Screened) Interval ____ Ft. To ____ Ft.
Depth to Water Level 5.72 ft. below measuring point (before sampling)
Measuring point is 0 ft. above land surface
Gallons of water pumped/bailed before sampling 8
Field Analysis: pH 7.39 Specific Conductance ____ uMhos Temp. ____ °C Odor slight Appearance clear
Date Sample Collected 12/30/93 Date Lab Sample Analyzed see attached sheets
Laboratory Name AquaChem Environmental, Inc. Certification No. 305
SAMPLES FOR METALS WERE COLLECTED UNFILTERED AND FIELD ACIDIFIED ____ **YES** ____ **NO**

PERMIT NUMBER: (REQUIRED)
Non-Discharge WQ0007970
NPDES ____

TYPE OF DISPOSAL OPERATION BEING MONITORED (REQUIRED)

____ Lagoon
____ Spray Field
____ Land Application of Sludge
____ Rotary Distributor
____ Septic Tank/Drain Field
____ Subsurface Low-Pressure Piping (LPP)
X Other Injection Well

COD ____ mg/l
Coliform: MF Fecal ____ /100ml
Coliform: MF Total ____ /100ml
(Note: Use MPN method for highly turbid samples)
Dissolved Solids: Total ____ mg/l
pH (when analyzed) ____ units
TOC ____ mg/l
Chloride ____ mg/l
Arsenic ____ mg/l
Grease and Oils ____ mg/l
Hardness: Total ____ mg/l
Phenol ____ mg/l
Sulfate ____ mg/l
Specific Conductance ____ uMhos
Total Ammonia ____ mg/l
TKN as N ____ mg/l

Nitrite (NO_2) as N ____ mg/l
Nitrate (NO_3) as N ____ mg/l
Phosphorus: Total as P ____ mg/l
Al - Aluminum ____ mg/l
Ba - Barium ____ mg/l
Ca - Calcium ____ mg/l
Cd - Cadmium ____ mg/l
Chromium: Total ____ mg/l
Cu - Copper ____ mg/l
Fe - Iron ____ mg/l
Hg - Mercury ____ mg/l
K - Potassium ____ mg/l
Mg - Magnesium ____ mg/l
Mn - Manganese ____ mg/l
Na - Sodium ____ mg/l

Ni - Nickel ____ mg/l
Pb - Lead ____ mg/l
Zn - Zinc ____ mg/l
Pesticides/Herbicides
(Specify Compounds)
____ ug/l
____ ug/l
____ ug/l
Other (Specify Compounds and Concentration units) ug/l
ug/l
SW-846 Method 8240 for Acetone ug/l
EPA Method 624 for Volatile Organics ug/l
EPA Method 625 for Semivolatile Organics ug/l

I CERTIFY THAT THIS REPORT IS TRUE AND ACCURATE.

Signature of Permittee (or Authorized Agent*) ____

Date 1/18/94

Note: **Values should reflect dissolved and colloidal concentrations. (see #3 on back)**

* **See back for instructions.**
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GW-59 REV. 6/93

Charles Mason
1-21-94

GROUNDWATER QUALITY MONITORING: COMPLIANCE REPORT FORM

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P.O. BOX 29535
RALEIGH, NC 27626-0535
(919) 733-3221

Type or Use a ball-point pen and press firmly.

Facility Name Hackney & Sons
Address PO Box 880
Washington N.C. 27889 County Beaufort
Well Location 400 Hackney Av
Well Identification Number OW-1d Well Depth 50 Ft.
Well Diameter 4" Sample (Screened) Interval ____ Ft. To ____ Ft.
Depth to Water Level 5.83 ft. below measuring point (before sampling)
Measuring point is 0 ft. above land surface
Gallons of water pumped/bailed before sampling 50
Field Analysis: pH 5.98 Specific Conductance ____ uMhos Temp. ____ °C Odor Slight Appearance clear
Date Sample Collected 12/30/93 Date Lab Sample Analyzed see attached sheets
Laboratory Name AquaChem Environmental, Inc. Certification No. 305
SAMPLES FOR METALS WERE COLLECTED UNFILTERED AND FIELD ACIDIFIED ____ **YES** ____ **NO**

PERMIT NUMBER: (REQUIRED)
Non-Discharge WQ0007970
NPDES ____
TYPE OF DISPOSAL OPERATION BEING MONITORED (REQUIRED)
- ____ Lagoon
- ____ Spray Field
- ____ Land Application of Sludge
- ____ Rotary Distributor
- ____ Septic Tank/Drain Field
- ____ Subsurface Low-Pressure Piping (LPP)
- X Other Injection Well

COD ____ mg/l	Nitrite (NO_2) as N ____ mg/l	Ni - Nickel ____ mg/l
Coliform: MF Fecal ____ /100ml	Nitrate (NO_3) as N ____ mg/l	Pb - Lead ____ mg/l
Coliform: MF Total ____ /100ml	Phosphorus: Total as P ____ mg/l	Zn - Zinc ____ mg/l
(Note: Use MPN method for highly turbid samples)	Al - Aluminum ____ mg/l	Pesticides/Herbicides
Dissolved Solids: Total ____ mg/l	Ba - Barium ____ mg/l	(Specify Compounds)
pH (when analyzed) ____ units	Ca - Calcium ____ mg/l	____ ug/l
TOC ____ mg/l	Cd - Cadmium ____ mg/l	____ ug/l
Chloride ____ mg/l	Chromium: Total ____ mg/l	____ ug/l
Arsenic ____ mg/l	Cu - Copper ____ mg/l	Other (Specify Compounds and ug/l
Grease and Oils ____ mg/l	Fe - Iron ____ mg/l	Concentration units) ug/l
Hardness: Total ____ mg/l	Hg - Mercury ____ mg/l	SW-846 Method 8240 for Acetone ug/l
Phenol ____ mg/l	K - Potassium ____ mg/l	EPA Method 624 for Volatile Organics ug/l
Sulfate ____ mg/l	Mg - Magnesium ____ mg/l	EPA Method 625 for Semivolatile Organics ug/l
Specific Conductance ____ uMhos	Mn - Manganese ____ mg/l	
Total Ammonia ____ mg/l	Na - Sodium ____ mg/l	
TKN as N ____ mg/l		

I CERTIFY THAT THIS REPORT IS TRUE AND ACCURATE.

Signature of Permittee (or Authorized Agent*)

1/18/94
Date

Note: **Values should reflect dissolved and colloidal concentrations. (see #3 on back)**

* **See back for instructions.**
** **Submit blue, green, and yellow copies only to address above.**

GW-59 REV. 6/93 Charles Mason 1-21-94

GROUNDWATER QUALITY MONITORING: COMPLIANCE REPORT FORM

For additional forms please write or call:

DIVISION OF ENVIRONMENTAL MANAGEMENT - GROUNDWATER SECTION
P.O. BOX 29535
RALEIGH, NC 27626-0535
(919) 733-3221

Type or Use a ball-point pen and press firmly.

Facility Name Hackney & Sons
Address PO Box 880
Washington N.C. 27889 County Beaufort
Well Location 400 Hackney [illegible]
Well Identification Number OW-1S Well Depth 25 Ft.
Well Diameter 2" Sample (Screened) Interval ______ Ft. To ______ Ft.
Depth to Water Level 5.57 ft. below measuring point (before sampling)
Measuring point is 0 ft. above land surface
Gallons of water pumped/bailed before sampling 11
Field Analysis: pH 8.21 Specific Conductance ______ uMhos Temp. ______ °C Odor slight Appearance clear
Date Sample Collected 12/30/93 Date Lab Sample Analyzed see attached sheets
Laboratory Name AquaChem Environmental, Inc. Certification No. 305

PERMIT NUMBER: (REQUIRED)
Non-Discharge WQ0007970
NPDES ______

TYPE OF DISPOSAL OPERATION BEING MONITORED (REQUIRED)

- ____ Lagoon
- ____ Spray Field
- ____ Land Application of Sludge
- ____ Rotary Distributor
- ____ Septic Tank/Drain Field
- ____ Subsurface Low-Pressure Piping (LPP)
- X Other Injection Well

SAMPLES FOR METALS WERE COLLECTED UNFILTERED AND FIELD ACIDIFIED ____YES ____NO

COD	mg/l	Nitrite (NO_2) as N	mg/l	Ni - Nickel	mg/l
Coliform: MF Fecal	/100ml	Nitrate (NO_3) as N	mg/l	Pb - Lead	mg/l
Coliform: MF Total	/100ml	Phosphorus: Total as P	mg/l	Zn - Zinc	mg/l
(Note: Use MPN method for highly turbid samples)		Al - Aluminum	mg/l	Pesticides/Herbicides (Specify Compounds)	
Dissolved Solids: Total	mg/l	Ba - Barium	mg/l		
pH (when analyzed)	units	Ca - Calcium	mg/l		ug/l
TOC	mg/l	Cd - Cadmium	mg/l		ug/l
Chloride	mg/l	Chromium: Total	mg/l		ug/l
Arsenic	mg/l	Cu - Copper	mg/l	Other (Specify Compounds and Concentration units)	ug/l
Grease and Oils	mg/l	Fe - Iron	mg/l		ug/l
Hardness: Total	mg/l	Hg - Mercury	mg/l	SW-846 Method 8240 for Acetone	ug/l
Phenol	mg/l	K - Potassium	mg/l	EPA Method 624 for Volatile Organics	ug/l
Sulfate	mg/l	Mg - Magnesium	mg/l	EPA Method 625 for Semivolatile Organics	ug/l
Specific Conductance	uMhos	Mn - Manganese	mg/l		
Total Ammonia	mg/l	Na - Sodium	mg/l		
TKN as N	mg/l				

I CERTIFY THAT THIS REPORT IS TRUE AND ACCURATE.

Signature of Permittee (or Authorized Agent*) Date 1/18/94

Note: **Values should reflect dissolved and colloidal concentrations. (see #3 on back)**

- * See back for instructions.
- ** Submit blue, green, and yellow copies only to address above.

GW-59 REV. 6/93

Charles Mason
1-21-94

HACKNEY AND SONS
P.O. BOX 880
400 HACKNEY AV.
WASHINGTON NC. 278890
JANUARY 21, 19940

GROUNDWATER SECTION
P.O. BOX 29530
RALEIGH, NC. 27626

DEAR SIR OR MADAM:

IN ACCORDANCE WITH OUR PERMIT NO. WQ0007970 DATED AUGUST 24, 1993, I HAVE ENCLOSED 3 COPIES OF THE RESULTS OF THE SAMPLING AND ANALYSIS OF THE 11 MONITORING WELLS STATED IN THE PERMIT. ALSO ENCLOSED IS 3 COPIES OF INFLUENT AND EFFLUENT ANALYSIS AND DAILY LOG FOR NOVEMBER, DECEMBER AND THE FIRST WEEK OF JANUARY.

SINCERELY,

Charles R Mason

CHARLES R MASON
ENGINEERING SUPERVISOR

RECEIVED
WASHINGTON OFFICE

JAN 10 1994

D. E. M.

HACKNEY AND SONS
P.O. BOX 880
400 HACKNEY AV.
WASHINGTON N.C. 27889
JANUARY 6, 1994

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT, HEALTH AND NATURAL RESOURCES
P.O. 2188
WASHINGTON N.C. 27889

DEAR MR. PEARCE:

PER OUR PHONE CONVERSATION WE HAD PIPES TO FREEZE THE NIGHT OF DECEMBER 30, 1993. I ORDER PARTS TO REPAIR THE PIPES BUT PARTS WERE SHIPPED TO THE WRONG PLACE. TODAY WE HAVE THE PLANT RUNNING AGAIN. BECAUSE OF THE WEEK WE DID NOT PUMP, WE WILL GO 3 WEEKS BETWEEN TEST. THE REASON THE PIPES FROZE WAS BECAUSE NOVA HAD HOOKED THE HEAT TAPES UP WRONG.

THANKS FOR YOUR UNDERSTANDING

Charles Mason

CHARLES MASON
ENGINEERING SUPERVISOR

GW

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

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
A. Preston Howard, Jr., P.E., Director

D E H N R

RECEIVED
WASHINGTON OFFICE

AUG 30 1993

D. E. M.

August 24, 1993

Mr. Jay A. Witte
Director of Operations
Hackney and Sons, Inc.
400 Hackney Avenue
Washington, N. C. 27889

Subject: Permit No. WQ0007970
Hackney and Sons, Inc.
Groundwater Remediation
Beaufort County

Dear Mr. Witte:

In accordance with your application received on June 4, 1993, we are forwarding herewith Permit No. WQ0007970, dated August 24, 1993, to Hackney and Sons, Inc. for the construction and operation of the subject groundwater remediation and injection well disposal facilities.

This permit shall be effective from the date of issuance until July 31, 1998, and shall be subject to the conditions and limitations as specified therein. Please pay particular attention to the monitoring requirements in this permit. Failure to establish an adequate system for collecting and maintaining the required operational information will result in future compliance problems.

If any parts, requirements, or limitations contained in this permit are unacceptable, you have the right to request an adjudicatory hearing upon written request within thirty (30) days following receipt of this permit. This request must be in the form of a written petition, conforming to Chapter 150B of North Carolina General Statutes, and filed with the Office of Administrative Hearings, P.O. Drawer 27447, Raleigh, NC 27611-7447. Unless such demands are made this permit shall be final and binding.

A stamped approved copy of the applicable submittal document is being returned to you under separate cover. If you need additional information concerning this matter, please contact Mr. Randy Jones at 919/ 733-5083, extension 517.

Sincerely,

A. Preston Howard, Jr., P.E.

cc: Beaufort County Health Department
Washington Regional Office, Water Quality Section
~~Washington Regional Office, Groundwater Section~~
Jack Floyd, Groundwater Section
ENSCI Engineering Group
Facilities Assessment Unit
Training and Certification

NORTH CAROLINA

ENVIRONMENTAL MANAGEMENT COMMISSION

DEPARTMENT OF ENVIRONMENT, HEALTH AND NATURAL RESOURCES

RALEIGH

INJECTION WELL PERMIT

In accordance with the provisions of Article 21 of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules, and Regulations

PERMISSION IS HEREBY GRANTED TO

RECEIVED
WASHINGTON OFFICE

AUG 30 1993

D. E. M.

Hackney and Sons, Inc.
Beaufort County

FOR THE

construction and operation of a 10,080 GPD groundwater remediation and injection well disposal facility, which consists of seven 1440 GPD recovery wells, a 500 gallon equalization tank, a biological treatment unit, facilities for nutrient addition, a 500 gallon equalization tank, a bag filter, two injection wells, and all other appurtenances to serve Hackney and Sons, Inc., with no discharge to the surface waters, pursuant to the application received on June 4, 1993, and in conformity with the project plan, specifications, and other supporting data subsequently filed and approved by the Department of Environment, Health and Natural Resources and considered a part of this permit.

This permit shall be effective from the date of issuance until July 31, 1998, and shall be subject to the following specified conditions and limitations:

I. PERFORMANCE STANDARDS

1. Upon completion of construction and prior to operation of this permitted facility, a certification must be received from a professional engineer certifying that the permitted facility has been installed in accordance with this permit and the approved plans and specifications. Mail the Certification to the Permits and Engineering Unit, P.O. Box 29535, Raleigh, NC 27626-0535.

2. The Washington Regional Office, telephone number 919/946-6481, shall be notified at least forty-eight (48) hours in advance of operation of the installed facilities so that an in-place inspection can be made. Such notification to the regional supervisor shall be made during the normal office hours from 8:00 a.m. until 5:00 p.m. on Monday through Friday, excluding State Holidays.

3. This permit shall become voidable and may be rescinded unless the facilities are installed, maintained, and operated in a manner which will protect the assigned water quality standards of the surface waters and groundwaters.

4. In the event that the facilities fail to perform satisfactorily, including the creation of nuisance conditions, the Permittee shall take immediate corrective action, including those as may be required by this Division, such as the construction of additional or replacement treatment or disposal facilities.

5. The issuance of this permit shall not relieve the Permittee of the responsibility for damages to surface or groundwaters resulting from the operation of this facility.

6. Any sludge generated from these treatment facilities must be disposed of in accordance with General Statute 143-215.1 and in a manner approved by the North Carolina Division of Environmental Management.

7. Diversion or bypassing of the untreated groundwater from the treatment facilities is prohibited.

II. OPERATION AND MAINTENANCE REQUIREMENTS

1. The facilities shall be properly maintained and operated at all times.

2. Upon classification of the facility by the Certification Commission, the Permittee shall employ a certified wastewater treatment plant operator to be in responsible charge (ORC) of the wastewater treatment facilities. The operator must hold a certificate of the type and grade at least equivalent to or greater than the classification assigned to the wastewater treatment facilities by the Certification Commission. The Permittee must also employ a certified back-up operator of the appropriate type and grade to comply with the conditions of Title 15A, Chapter 8A, .0202. The ORC of the facility must visit each Class I facility at least weekly and each Class II, III, and IV facility at least daily, excluding weekends and holidays, and must properly manage and document daily operation and maintenance of the facility and must comply with all other conditions of Title 15A, Chapter 8A, .0202. Once the facility is classified, the Permittee must submit a letter to the Certification Commission which designates the operator in responsible charge within thirty days after the wastewater treatment facilities are 50% complete.

3. The facilities shall be effectively maintained and operated as a non-discharge system to prevent the discharge of any wastewater resulting from the operation of this facility.

III. MONITORING AND REPORTING REQUIREMENTS

1. Any monitoring deemed necessary by the Division of Environmental Management to insure surface and groundwater protection will be established and an acceptable sampling reporting schedule shall be followed.

2. Noncompliance Notification:

   The Permittee shall report by telephone to the Washington Regional Office, telephone number 919/946-6481, as soon as possible, but in no case more than 24 hours or on the next working day following the occurrence or first knowledge of the occurrence of any of the following:

   a. Any occurrence at the groundwater remediation facility which results in the treatment of significant amounts of wastes which are abnormal in quantity or characteristic, such as the dumping of the contents of a basin or tank; the known passage of a slug of hazardous substance through the facility; or any other unusual circumstances.

b. Any process unit failure, due to known or unknown reasons, that render the facility incapable of adequate wastewater treatment such as mechanical or electrical failures of pumps, aerators, compressors, etc.

c. Any failure of a pumping station, sewer line, or treatment facility resulting in a by-pass directly to receiving waters without treatment of all or any portion of the influent to such station or facility.

d. Any time that self-monitoring information indicates that the facility is not in compliance with its permit limitations.

Persons reporting such occurrences by telephone shall also file a written report in letter form within 15 days following first knowledge of the occurrence. This report must outline the actions taken or proposed to be taken to ensure that the problem does not recur.

IV. GROUNDWATER REQUIREMENTS

1. The Compliance Boundary for the disposal system is specified by regulations in 15A NCAC 2L, Groundwater Classifications and Standards. An exceedance of Groundwater Quality Standards beyond the Compliance Boundary is subject to penalty provisions applicable under General Statute 143-215.6(1)a. The sale of property, by the Permittee, which is within or contiguous to the disposal system site may alter location of the Compliance Boundary.

   For facilities permitted on or after December 30, 1983, the Compliance Boundary is established at the lesser of 250 feet from the disposal site, or 50 feet within the property boundary.

   If the title to any property which may affect the location of the Compliance Boundary is changed, the Permittee shall notify the DEM Director within 14 days. The Director shall then establish a modified Compliance Boundary which will be done as a modification to the Permit.

   The REVIEW BOUNDARY for the disposal system is specified by regulations in 15A NCAC 2L, Groundwater Classifications and Standards. A REVIEW BOUNDARY is established around disposal systems midway between the Compliance Boundary and the perimeter of the waste disposal area. When the concentration of any substance equals or exceeds the maximum allowable concentration of that substance at the REVIEW BOUNDARY, as determined by monitoring, the permittee shall either (i) demonstrate, through predictive calculations or modeling, that natural site conditions, facility design and operational controls will prevent a violation of standards at the Compliance Boundary; or, (ii) submit a plan for the alteration of existing site conditions, facility design or operational controls that will prevent a violation of standards at the Compliance Boundary, and implement that plan upon its approval by the Director.

2. Any groundwater quality monitoring deemed necessary by the Division of Environmental Management shall be provided.

3. The treatment system shall consist of a biological degradation unit, as described in the permit application documents.

4. The two injection wells shall be constructed of 18 inch diameter stainless steel casing and grouted as indicated in the specifications. Each well shall have a device to allow measurement of injection pressure at the screened interval.

5. Injection pressures shall not be greater than the ambient pressure exerted at the screened interval due to the differential in the water table and the water level in the well. If operating pressures are to be increased above this level, the permittee must obtain approval from the Washington Regional Groundwater Supervisor prior to increasing injection pressures.

6. The following monitoring wells shall be sampled every March, June, September, and December: MW-25, MW-26, MW-26d, MW-29, MW-30, MW-11, MW-28B, MW-29B, MW-30B, OW-1d, OW-1s.

7. The monitoring wells shall be sampled for the following parameters:

   EPA Methods 624 and 625 (to include acetone and xylenes)
   pH
   Water Levels

   The measurement of water level must be made prior to sampling for the remaining parameters. The depth of water in each well shall be measured from the surveyed point on the top of the casing.

   The measuring points (top of well casing) of all monitoring wells shall be surveyed to provide relative elevations of the measuring point for each monitoring well.

8. The influent and effluent shall be sampled every two weeks for the first three months and monthly thereafter for the same parameters listed above.

9. The results of the sampling and analysis shall be sent to the Groundwater Section, P.O. Box 29535, Raleigh, NC 27626 every April, July, October, and January. Groundwater data should be submitted on form GW-59. Monthly influent and effluent data may also be submitted quarterly along with the groundwater data.

10. Three copies of the influent and effluent data required in condition IV.8 should also be sent to the following address by March 1 of each year:

    Division of Environmental Management
    Water Quality Facilities Assessment Unit
    PO Box 29535
    Raleigh, NC 27626-0535

11. Effluent concentrations of contaminants shall not exceed 5% of influent concentrations (i.e., 95% treatment efficiency). If the treatment system fails to produce an effluent in compliance with this condition, the Division may require the construction of additional treatment units.

12. All components of the groundwater recovery, treatment and disposal system shall be properly weather-proofed to prevent freezing and failure of the system.

13. The groundwater recovery, treatment and disposal system shall be inspected weekly. If it is determined that the system is malfunctioning, all repairs should be made as soon as possible and reported to the Regional Office.

14. Isoconcentration maps in both the vertical and horizontal directions shall be developed using the groundwater monitoring data collected in September for total volatile and semivolatile hydrocarbons. A water level contour map must also be developed on a quarterly basis. These maps shall be submitted along with all groundwater monitoring data.

15. The permittee shall submit a report outlining the injection volumes and pressures of the injection wells. This report may be submitted along with all other monitoring data.

16. The two injection wells shall be constructed such that the screened interval of each well is located from 3 feet to 8 feet below land surface, as described in the permit application.

17. Prior to operation of the groundwater remediation system, the permittee shall certify the mechanical integrity of the injection wells as defined by 15A NCAC 2C .0207. Additionally, an engineering certification shall be provided stating that the injection wells have been constructed in accordance with 15A NCAC 2C .0200 and the conditions of this permit. This certification shall be forwarded to the Groundwater Section, P.O. Box 29535, Raleigh NC, 27626, prior to operation of the system.

18. All wells that are constructed for purposes of groundwater monitoring shall be constructed in accordance with 15A NCAC 2C .0108 (Standards of Construction for Wells Other than Water Supply) and any other state and local laws and regulations pertaining to well construction.

19. The Washington Regional Office, telephone number 919-946-6481, shall be notified at least forty-eight (48) hours prior to the construction of any monitoring well so that an inspection can be made of the monitoring well location. Such notification to the regional groundwater supervisor shall be made during the normal office hours from 8:00 a.m. until 5:00 p.m. on Monday through Friday, excluding state holidays.

20. Within sixty (60) days of completion of all monitoring wells, the permittee shall submit two original copies of a scaled topographic map (scale no greater than 1:100) signed and sealed by a professional engineer or a state licensed land surveyor that indicates all of the following information:

    a. the location and identity of each monitoring well,
    b. the location of the waste disposal system,
    c. the location of all property boundaries,
    d. the latitude and longitude of each monitoring well,
    e. the relative elevation of the top of the well casing (which shall be known as the "measuring point"), and
    f. the depth of water below the measuring point at the time the measuring point is established.

21. Upon completion of all well construction activities, a certification must be received from a professional engineer certifying that the monitoring wells are located and constructed in accordance with the Well Construction Standards (15A NCAC 2C) and this permit. This certification should be submitted with copies of the Well Completion Form (GW-1) for each well. Mail this certification and the associated GW-1 forms to the Permits and Compliance Unit, Groundwater Section, P.O. Box 29535, Raleigh, NC, 27626-0535.

22. For the initial sampling of the well, as specified elsewhere in the permit, the permittee shall submit a copy of the GW-1 form with the Compliance Monitoring Form (GW-59) for that well. Compliance Monitoring Forms that do not include copies of the GW-1 form will be returned to the permittee without being processed. Failure to submit these forms, as required by this permit, may result in the initiation of enforcement activities pursuant to NC General Statutes 143-215.6.

V. <u>INSPECTIONS</u>

1. Adequate inspection, maintenance and cleaning shall be provided by the Permittee to insure proper operation of the subject facilities.

2. The Permittee or his designee shall inspect the groundwater recovery and treatment facilities to prevent malfunctions and deterioration, operator errors and discharges which may cause or lead to the release of wastes to the environment, a threat to human health, or a nuisance. The Permittee shall keep an inspection log or summary including at least the date and time of inspection, observations made, and any maintenance, repairs, or corrective actions taken by the Permittee. This log of inspections shall be maintained by the Permittee for a period of three years from the date of the inspection and shall be made available upon request to the Division of Environmental Management or other permitting authority.

3. Any duly authorized officer, employee, or representative of the Division of Environmental Management may, upon presentation of credentials, enter and inspect any property, premises or place on or related to the disposal site and facility at any reasonable time for the purpose of determining compliance with this permit; may inspect or copy any records that must be kept under the terms and conditions of this permit; or may obtain samples of groundwater, surface water, or leachate.

VI. GENERAL CONDITIONS

1. This permit shall become voidable unless the facilities are constructed in accordance with the conditions of this permit, the approved plans, specifications and other supporting data.

2. This permit is effective only with respect to the nature and volume of wastes described in the application and other supporting data.

3. This permit is not transferable. In the event there is a desire for the facilities to change ownership, or there is a name change of the Permittee, a formal permit request must be submitted to the Division of Environmental Management accompanied by an application fee, documentation from the parties involved, and other supporting materials as may be appropriate. The approval of this request will be considered on its merits and may or may not be approved.

4. The Permittee shall obtain a well construction permit from the Washington Regional Office prior to well construction.

5. Failure to abide by the conditions and limitations contained in this permit may subject the Permittee to an enforcement action by the Division of Environmental Management in accordance with North Carolina General Statute 143-215.6A to 143-215.6C.

6. The annual administering and compliance fee must be paid by the Permittee within thirty (30) days after being billed by the Division. Failure to pay the fee accordingly may cause the Division to initiate action to revoke this permit as specified by 15A NCAC 2H .0205 (c)(4).

7. The issuance of this permit does not preclude the Permittee from complying with any and all statutes, rules, regulations, or ordinances which may be imposed by other government agencies (local, state, and federal) which have jurisdiction.

8. The Permittee, at least six (6) months prior to the expiration of this permit, shall request its extension. Upon receipt of the request, the Commission will review the adequacy of the facilities described therein, and if warranted, will extend the permit for such period of time and under such conditions and limitations as it may deem appropriate.

Permit issued this the 24th day of August, 1993.

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

A. Preston Howard, Jr., P.E., Director
Division of Environmental Management
By Authority of the Environmental Management Commission

Permit No. WQ0007970

Permit No. ~~WQ0007970~~
August ~~20~~, 1993
24

Engineer's Certification

I, ____________________, as a duly registered Professional Engineer in the State of North Carolina, having been authorized to observe (periodically, weekly, full time) the construction of the

project, ____________________________________, ____________________________ for the
Project Name Location

Permittee hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the approved plans and specifications.

Signature ____ Registration No.______________

Date ________________

Tank
Tank
1509
WARREN FIELD
MARKET ST
Cherry
CREEK
Trailer Park
1567
1403
1306
Oakdale Cem
Stack (C)
Hubbard (C)
Daybeacon
Tanks
Kennedy (C)
Kennedy Cr
Cove
IVER
Glen (C)
Prong (C)
Foul Area
Atlantic (C)
Daybeacons
Pile
Piling
Stumps
Coast (C)
High Sch
WASHINGTON
264
17
City Hall
Water
Jacks
Castle (C)
The Castle
Radio Tower (WHED)
BM 6
Foul Area
Grandpap I
Light (C)
Soft (C)
PAMLICO
Grove
NORFOLK SOUTHERN
Porter Junction
Radio Towers (WRRF)
Rodman Creek
Rodman Pt
Bright (C)

DIVISION OF ENVIRONMENTAL MANAGEMENT
GROUNDWATER SECTION

July 1, 1993

M E M O R A N D U M

TO: Jack Floyd - Permits and Compliance Unit

THROUGH: Willie Hardison WAH - WaRO Groundwater Supervisor

FROM: Guy Pearce GCP - Hydrogeologist I

SUBJECT: Non-Discharge Permit Application
Hackney and Sons, Inc. - Beaufort County
Groundwater Remediation with Injection Wells
WQ0007970 GW93111

The Washington Regional Office Groundwater Section has reviewed the subject application to allow the operation of a groundwater remediation system utilizing recovery wells, a biological treatment plant, and injection wells. As indicated in the application, there are actually two (2) contaminant plumes on the property. The system is designed to recover the contaminated groundwater from both areas and convey it to a central location for biological treatment. From this point, the treated water is then returned back to the subsurface by means of injection wells. Based on the submitted hydrogeological information, it appears the recovery well system will effectively capture/contain the contaminant plume. The information also satisfactorily demonstrates that the operation of the injection wells will not cause or contribute to migration of contaminants into previously uncontaminated areas.

Based on our review of the application, we do not object to permit issuance, however; the following comments are submitted for your consideration:

1. The groundwater monitoring schedule proposed in Section J of the application is acceptable and we recommend it be included in the permit. For your convenience I have attached a copy of this section. In addition, we recommend the influent/effluent from the treatment system be sampled on a monthly basis to verify that adequate treatment is taking place.

2. The groundwater treatment system should achieve at least a 95% treatment efficiency. If the treatment efficiency consistently falls below 95%, additional treatment facilities may be required.

3. A condition of the permit should specify that a well construction permit from the Washington Regional Office will be required prior to the construction of any recovery wells.

4. The groundwater recovery, treatment and disposal system should be inspected weekly. If it is determined that the system is malfunctioning, all repairs should be made as soon as possible and reported to the Washington Regional Office.

If you have any questions, or wish to discuss this matter further, please contact me at any time.

GROUNDWATER SECTION
DIVISION OF ENVIRONMENTAL MANAGEMENT

GW # 93111

RECORD OF WASTE DISPOSAL PERMIT APPLICATION REVIEW

GP

REVIEW BY Guy Pearce DATE July 1, 1993 FIELD INVESTIGATION ? (Y/N) ______

FACILITY NAME Hackney and Sons, Inc. COUNTY Beaufort

LOCATION off US Hwy 264, Bordered by Hackney Ave, W. 3rd St, and Kinston St., in Washington

TYPE OF DISPOSAL SYSTEM (LAGOON, ETC.) Injection Wells DESIGN CAP. (GPD) 10,080

DESCRIPTION OF FACILITY Seven (7) Recovery Wells @ 1440 gpd each, Equalization tank, Biological Treatment Plant, Equalization tank, and two (2) injection wells

SIZE OF IMPOUNDMENT (FT. SQ) N/A & / OR SIZE OF APPLICATION AREA N/A

WASTE SOURCE: ☐ MUN. SLUDGE MUN. W. WATER: ☐ PRIMARY ☐ SECONDARY ☐ TERTIARY

☐ IND. SLUDGE ☐ IND. W. WATER OTHERS * Remediated Groundwater

DISTANCE FROM WASTE SOURCE TO NEAREST: STREAM ≈ ______ FT., WELL ≥ 500 FT.

FOR WELL: TYPE OF USE unknown, DEPTH unknown, PUMP RATE (EST.) unknown

WHAT DESIGN CONDITIONS WILL REDUCE / INCREASE CHANCE OF GW CONTAMINATION: injection wells will be located within capture zone of the recovery wells.

WHAT NATURAL SITE CONDITIONS WILL REDUCE / INCREASE CHANCE OF GW CONTAMINATION: Groundwater has already been contaminated

DEPTH TO: BEDROCK ≥ 1000 FT., SEASONAL HIGH W. T. ≥ 4' FT., ANNUAL W. T. FLUX: ± 2 FT.

	SURFICIAL AQUIFER	BEDROCK / ARTESIAN AQUIFER
GEN. LITHOLOGY	sands, loams, clay loams, clay	Yorktown (Tertiary Sand)
HYD. COND.	≈ 300 FT./DAY ☒ MEASURED ☐ ESTIMATED	≈ 25 FT./DAY ☐ MEASURED ☒ ESTIMATED
THICKNESS	≈ 12' FT.	

(*)See Attached Comment #1

NO. OF MONITOR WELLS: PROPOSED: UP 0 DOWN 0 ; EXISTING: UP * DOWN *

FROM WORKSHEET: SITE NUMERICAL DESCRIPTION = __ __ __ __ __ __ __ __ __

T	1	2	3	4	5	6	6A	6B

SITE GRADE (HYDROGEOL.) = ☐ SITUATION GRADE = ☐

PROPOSED SAMPLING SCHEDULE & PARAMETER(S): See Attached Comments

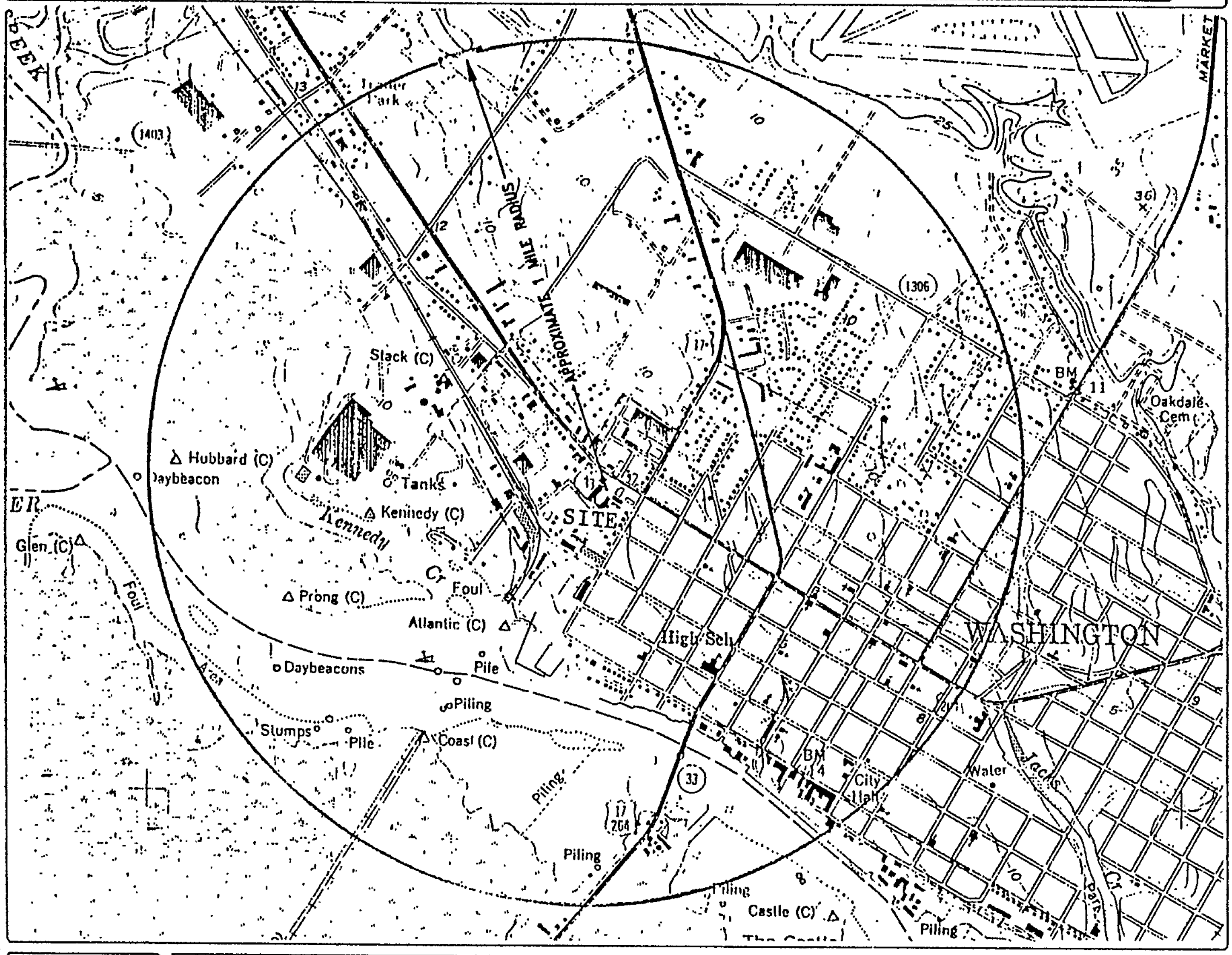
REMARKS/RECOMMENDATIONS: See Attached Comments

Walden A Hardison
HYD. REGIONAL SUPERVISOR

GW-48 Revised 8/87

USGS TOPOGRAPHIC MAP

SITE: HACKNEY & SONS, EAST   LOCATION: WASHINGTON, NORTH CAROLINA



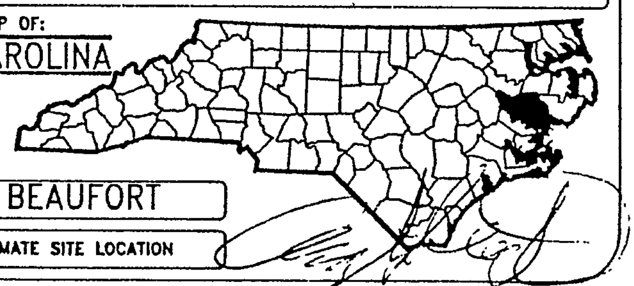
	PRIMARY HIGHWAY, HARD SURFACE
	LIGHT DUTY ROAD (UNIMPROVED)
	SECONDARY HIGHWAY, HARD SURFACE
	UNIMPROVED ROAD
	STATE ROAD
	U. S. ROUTE
	INTERSTATE ROUTE

USGS 7.5 MINUTE QUADRANGLE MAP: WASHINGTON

MAP DATE: 1951   PHOTOREVISION DATE: 1983

MAGNETIC NORTH

COUNTY MAP OF:
NORTH CAROLINA



COUNTY: BEAUFORT

APPROXIMATE SITE LOCATION

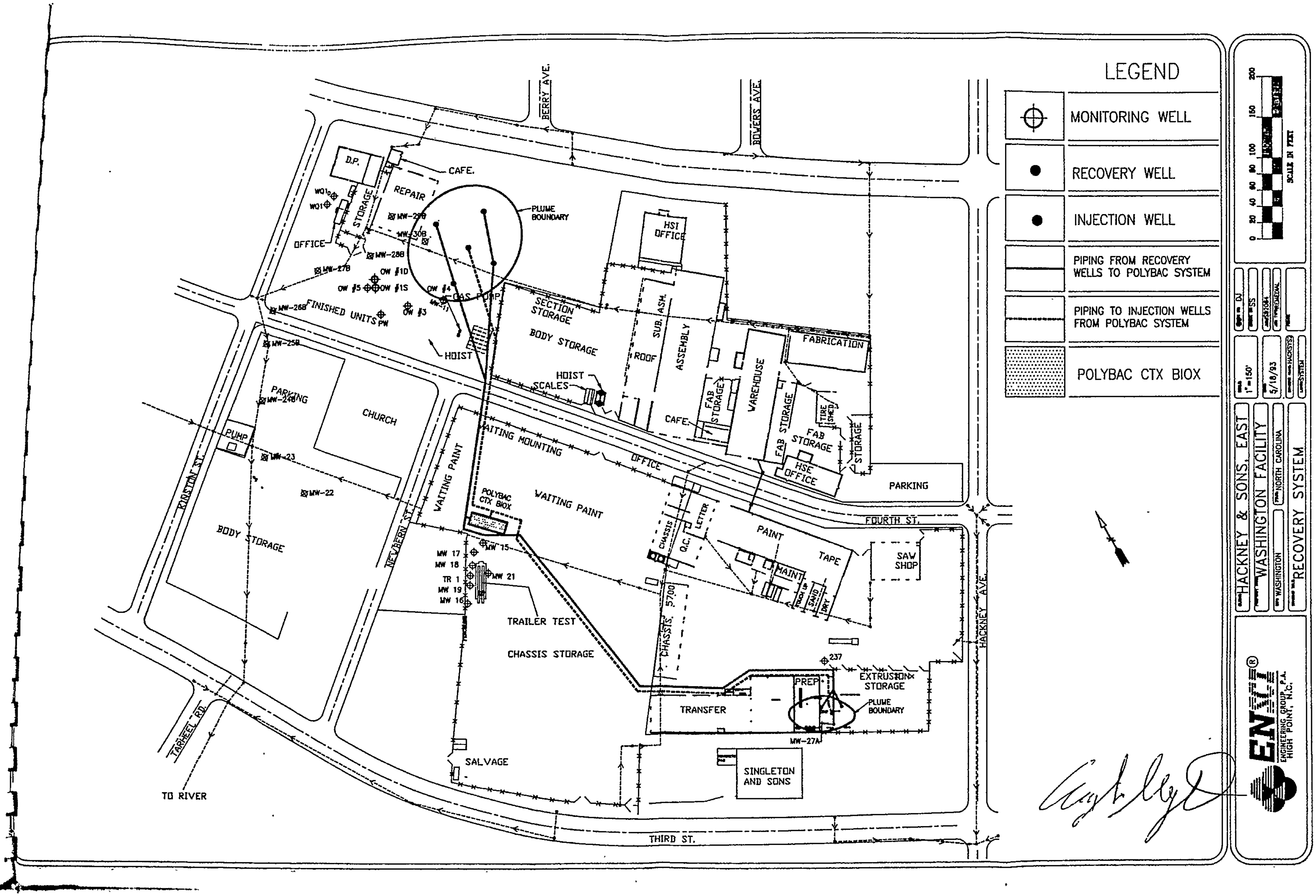
ENSCI® ENGINEERING GROUP, P.A.

CLIENT: HACKNEY & SONS, EAST	SCALE: 1" = 2000'	DRAWN BY: DJ	NOTES
PROPERTY NAME: WASHINGTON SITE		CHECK BY: SS	
CITY: WASHINGTON / STATE: NORTH CAROLINA	DATE: 5/17/93	JOB NUMBER: S92064	
		TYPE: SOILS	
TITLE: TOPOGRAPHIC MAP	DRAWING NAME: USGS-1	FIGURE NUMBER: 1	

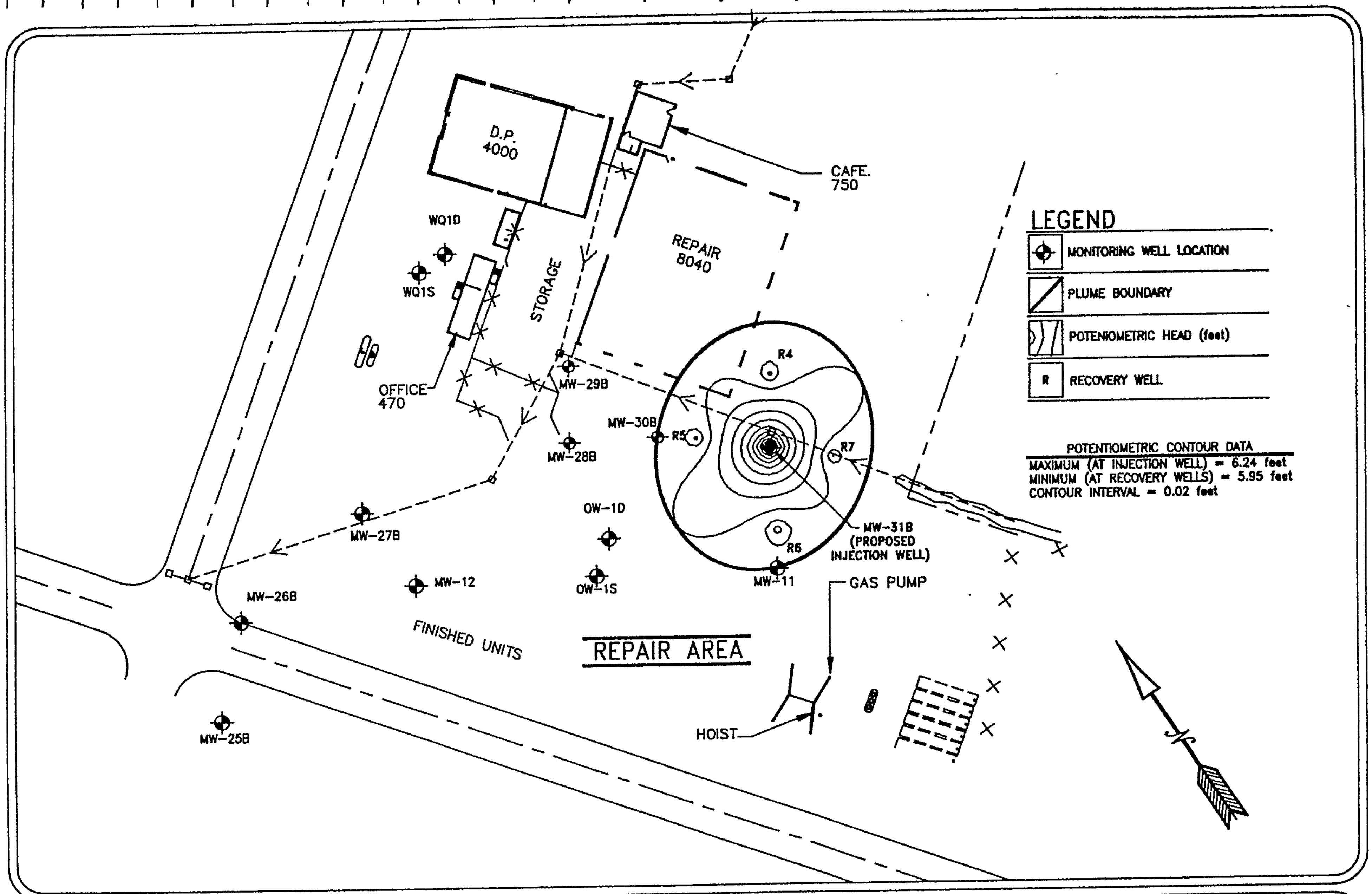
NOTES

TOPOGRAPHIC MAP USED IN THIS GRAPHIC IS MAPPED, EDITED, AND PUBLISHED BY THE UNITED STATES GEOLOGIC SURVEY, DEPARTMENT OF THE INTERIOR, RESTON VIRGINIA.

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS.



LEGEND
MONITORING WELL
RECOVERY WELL
INJECTION WELL
PIPING FROM RECOVERY WELLS TO POLYBAC SYSTEM
PIPING TO INJECTION WELLS FROM POLYBAC SYSTEM
POLYBAC CTX BIOX
SCALE IN FEET
0 20 40 60 80 100 150 200
1"=150'
5/18/93
HACKNEY & SONS, EAST
WASHINGTON FACILITY
WASHINGTON
NORTH CAROLINA
RECOVERY SYSTEM
ENGINEERING GROUP, P.A.
HIGH POINT, N.C.
BERRY AVE.
BOWERS AVE.
HACKNEY AVE.
FOURTH ST.
THIRD ST.
KIRSTON ST.
NEWBERN ST.
TARHEEL RD.
TO RIVER
D.P.
CAFE.
REPAIR
STORAGE
OFFICE
PLUME BOUNDARY
FINISHED UNITS
GAS PUMP
HOIST
SECTION STORAGE
BODY STORAGE
HSI OFFICE
SUB. ASM.
ROOF
ASSEMBLY
FAB STORAGE
WAREHOUSE
FABRICATION
TIRE SHED
STORAGE
HSE OFFICE
PARKING
HOIST
SCALES
CAFE.
PARKING
CHURCH
PUMP
BODY STORAGE
WAITING PAINT
WAITING MOUNTING
OFFICE
POLYBAC CTX BIOX
WAITING PAINT
CHASSIS
Q.C.
LETTER
PAINT
TAPE
MAINT.
SAW SHOP
TRAILER TEST
CHASSIS STORAGE
CHASSIS 5700
EXTRUSION STORAGE
PREP
TRANSFER
PLUME BOUNDARY
SALVAGE
SINGLETON AND SONS
MW-29B
MW-30B
MW-28B
MW-27B
MW-26B
MW-25B
MW-24B
MW-23
MW-22
WQ1
OW #1D
OW #1S
OW #5
OW #3
OW #4
PW
MW 17
MW 18
TR 1
MW 19
MW 16
MW 15
MW 21
237
MW-27A



ENSCI®
CORPORATION
HIGH POINT, NORTH CAROLINA

FOR: HACKNEY & SONS EAST

CITY: WASHINGTON

STATE: NORTH CAROLINA

TITLE: POTENTIOMETRIC HEAD DISTRIBUTION

SCALE: 1"=75'

DATE: 2/24/93

DRWG NAME: HACKCAP1

DRWN BY: DJ

CK BY: SS

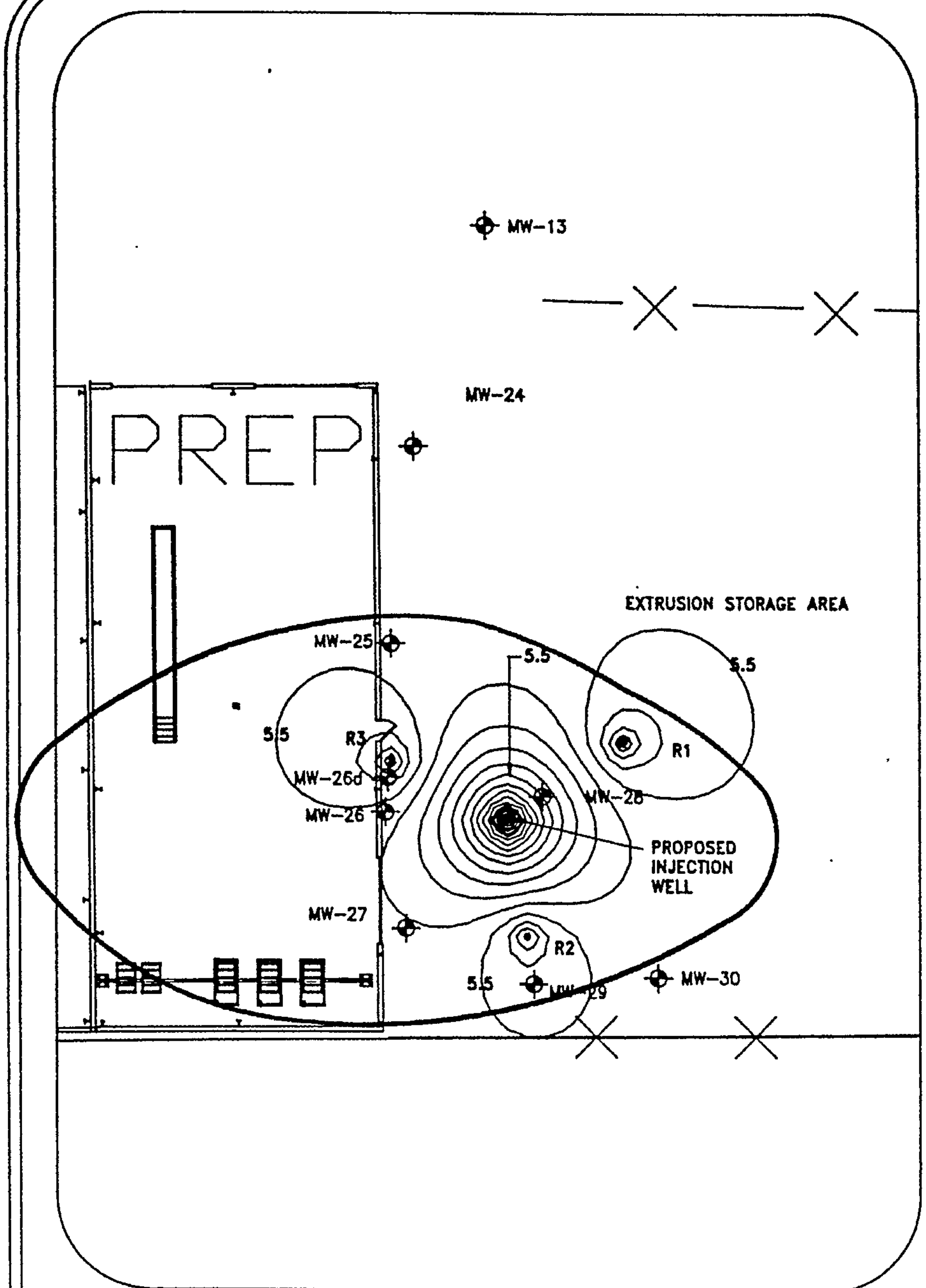
JOB # H92044

TYPE: CAP

FIGURE # 5

0 75 150

GRAPHIC SCALE IN FEET

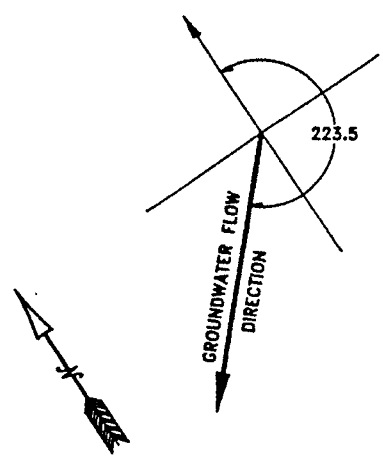


LEGEND

- MONITORING WELL LOCATION
- PLUME BOUNDARY
- POTENTIOMETRIC HEAD (feet)
- R RECOVERY WELL

POTENTIOMETRIC HEAD CONTOUR DATA

MAXIMUM (AT INJECTION WELL) = 5.69 FEET
MINIMUM (AT RECOVERY WELLS) = 5.45 FEET
CONTOUR INTERVAL =0.012 FEET



FOR ISOCONCENTRATION MAP:

0 5 10 15 20 30 40

GRAPHIC SCALE IN FEET

FOR LOCATION DETAIL:

0 25 50 75 100 150 200

GRAPHIC SCALE IN FEET

ENSCI® CORPORATION
HIGH POINT, NORTH CAROLINA

FOR: HACKNEY & SONS, EAST
CITY: WASHINGTON
STATE: NORTH CAROLINA

TITLE: EXTRUSION STORAGE AREA
POTENTIOMETRIC HEAD DISTRIBUTION

SCALE: 1"=100'
DWN BY: DJ
DWG NAME: HACKCSAE
FIGURE: 7
DATE: 2/23/93
CK BY: BB
JOB #: H92044

J. Proposed Groundwater Monitoring

Following activation of the groundwater recovery and treatment system, a monitoring program will be initiated in order to assess the effectiveness of the Remedial Action System.

The monitoring program will include:

(1) Field measurements of the groundwater levels in the monitoring wells to verify the actual dimensions of the groundwater capture zones.

(2) Measurements of flow rates from the recovery well to the treatment system to evaluate pump placement and efficiency.

(3) Sampling and Laboratory analysis will be conducted on recovered groundwater from the wells and effluent from the treatment system to document the recovery and remediation of the groundwater contaminant plume. Laboratory analysis will include testing for volatile organic compounds under EPA method 8240, semi-volatile organic compounds under EPA method 8270, and nitrate and phosphate under an EPA approved method. All parameters that show positive identification will be reported. Groundwater will be sampled and analyzed from the following wells in the Extrusion Storage Area:

- Recovery wells: R1, R2, and R3
- Injection well: IW-1
- Monitoring wells: MW-25, MW-26, MW-26d, MW-29, MW-30

Groundwater will be sampled and analyzed from the following wells in the Repair Area:

- Recovery wells: R4, R5, R6, and R7
- Injection well: IW-2
- Monitoring wells: MW-11,MW-28B,MW-29B,MW-30B,OW-1S,OW-1D

(4) Sampling and analysis of the water treatment influent and effluent will be conducted to document the effectiveness of the system at removing groundwater contaminants.

Groundwater level measurements and sampling will be conducted during system start up, weekly during the first month of system operation, monthly through the first quarter, and quarterly thereafter. The effectiveness of the remediation will be re-evaluated after each sampling and testing event to monitor the effectiveness of the groundwater recovery system and groundwater treatment system. Adjustments to the recovery pump flow rates may be required to optimize the contaminate capture. During the re-evaluation of the treatment system, other adjustments may become necessary to optimize contaminant removal efficiencies.

795

DIVISION OF ENVIRONMENTAL MANAGEMENT
GROUNDWATER SECTION

RECEIVED
WASHINGTON OFFICE
JUN 14 1993
D. E. M.

MEMORANDUM

TO: Willie Hardison

DATE: 10 June 1993

FROM: Jack Floyd

SUBJECT: Application for ____ RENEWAL/AMENDMENT of Permit No. ____

✓ NEW PERMIT

Facility Name: Hackney & Sons

County: Beaufort

Type of Project: groundwater remediation with injection wells

Central Office Contact: Jack Floyd

Applicable Permit Numbers: WQ 0007970 GW 93111

DEH ____ AC ____

EPA ____

____ The Groundwater Section has received a copy of the above referenced permit application. A copy of the application package is attached.

✓ The Groundwater Section has received a copy of the above referenced permit application, which has been sent to the regional office water quality supervisor. If a copy has not been sent to the regional office please let me know.

Please review the application materials for completeness and submit any request for additional information to the central office contact on or before June 21. A copy of the formal request for additional information will be forwarded to you.

If you do not require any additional information to complete your review, please provide your final comments by July 2.

If you have any questions, please let me know as soon as possible.

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

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
A. Preston Howard, Jr., P.E., Director

DEHNR

RECEIVED
WASHINGTON OFFICE

SEP 01 1993

D. E. M.

August 27, 1993

Hackney and Sons, Inc.
400 Hackney Ave.
Washington, NC 27889

Attn: Mr. Witte:

SUBJECT: Permit No. WQ0007970
Groundwater Remediation System
Beaufort County:

Dear Mr. Witte:

In accordance with the policy of the Division of Environmental Management to ensure the good quality of North Carolina's groundwater, the referenced Permit requires several activities related to groundwater monitoring. The following guidelines and forms are presented to assist you in complying with those requirements. If you have any questions concerning these matters, you should contact Willie Hardison at the address shown below to discuss the requirements relevant to your specific facility:

WASHINGTON REGIONAL OFFICE
1424 Carolina Ave.
Washington, NC 27889
(919)946-6481

* A supply of forms (GW-59) on which the analytical results must be reported are attached. Instructions are provided on the reverse of the white copy of each 4-part form. The analytical results should be sent to the address shown at the top of the form and are due in our office no later than the last working day of the month following sample collection.

Additional forms will be provided upon receipt of the attached form GW-59 RO.

* A supply of forms (GW-1) on which monitor well construction data is reported by the well drilling contractor/or agent are attached. A GW-1 form is to be completed for each well constructed. See condition IV-21-22 of the permit (Groundwater Requirements) for further details.

* **FOR ANY ADDITIONAL INFORMATION RELATED TO REQUIREMENTS FOR GROUNDWATER QUALITY PROTECTION, PLEASE REFER TO YOUR PERMIT.** A copy of the Groundwater Requirements (Section IV-1-22 of Permit No. WQ0007970) is attached for your reference.

If you have any questions, please do not hesitate to contact me at (919)733-3221.

Sincerely,

Brian Wootton

Brian Wootton
Hydrogeology Technician
Permits and Compliance
Groundwater Section

Attachments

cc: Willie Hardison
Central Files
Compliance Monitoring files

b. Any process unit failure, due to known or unknown reasons, that render the facility incapable of adequate wastewater treatment such as mechanical or electrical failures of pumps, aerators, compressors, etc.

c. Any failure of a pumping station, sewer line, or treatment facility resulting in a by-pass directly to receiving waters without treatment of all or any portion of the influent to such station or facility.

d. Any time that self-monitoring information indicates that the facility is not in compliance with its permit limitations.

Persons reporting such occurrences by telephone shall also file a written report in letter form within 15 days following first knowledge of the occurrence. This report must outline the actions taken or proposed to be taken to ensure that the problem does not recur.

IV. GROUNDWATER REQUIREMENTS

1. The Compliance Boundary for the disposal system is specified by regulations in 15A NCAC 2L, Groundwater Classifications and Standards. An exceedance of Groundwater Quality Standards beyond the Compliance Boundary is subject to penalty provisions applicable under General Statute 143-215.6(1)a. The sale of property, by the Permittee, which is within or contiguous to the disposal system site may alter location of the Compliance Boundary.

   For facilities permitted on or after December 30, 1983, the Compliance Boundary is established at the lesser of 250 feet from the disposal site, or 50 feet within the property boundary.

   If the title to any property which may affect the location of the Compliance Boundary is changed, the Permittee shall notify the DEM Director within 14 days. The Director shall then establish a modified Compliance Boundary which will be done as a modification to the Permit.

   The REVIEW BOUNDARY for the disposal system is specified by regulations in 15A NCAC 2L, Groundwater Classifications and Standards. A REVIEW BOUNDARY is established around disposal systems midway between the Compliance Boundary and the perimeter of the waste disposal area. When the concentration of any substance equals or exceeds the maximum allowable concentration of that substance at the REVIEW BOUNDARY, as determined by monitoring, the permittee shall either (i) demonstrate, through predictive calculations or modeling, that natural site conditions, facility design and operational controls will prevent a violation of standards at the Compliance Boundary; or, (ii) submit a plan for the alteration of existing site conditions, facility design or operational controls that will prevent a violation of standards at the Compliance Boundary, and implement that plan upon its approval by the Director.

2. Any groundwater quality monitoring deemed necessary by the Division of Environmental Management shall be provided.

3. The treatment system shall consist of a biological degradation unit, as described in the permit application documents.

4. The two injection wells shall be constructed of 18 inch diameter stainless steel casing and grouted as indicated in the specifications. Each well shall have a device to allow measurement of injection pressure at the screened interval.

5. Injection pressures shall not be greater than the ambient pressure exerted at the screened interval due to the differential in the water table and the water level in the well. If operating pressures are to be increased above this level, the permittee must obtain approval from the Washington Regional Groundwater Supervisor prior to increasing injection pressures.

6. The following monitoring wells shall be sampled every March, June, September, and December: MW-25, MW-26, MW-26d, MW-29, MW-30, MW-11, MW-28B, MW-29B, MW-30B, OW-1d, OW-1s.

7. The monitoring wells shall be sampled for the following parameters:

   EPA Methods 624 and 625 (to include acetone and xylenes)
   pH
   Water Levels

   The measurement of water level must be made prior to sampling for the remaining parameters. The depth of water in each well shall be measured from the surveyed point on the top of the casing.

   The measuring points (top of well casing) of all monitoring wells shall be surveyed to provide relative elevations of the measuring point for each monitoring well.

8. The influent and effluent shall be sampled every two weeks for the first three months and monthly thereafter for the same parameters listed above.

9. The results of the sampling and analysis shall be sent to the Groundwater Section, P.O. Box 29535, Raleigh, NC 27626 every April, July, October, and January. Groundwater data should be submitted on form GW-59. Monthly influent and effluent data may also be submitted quarterly along with the groundwater data.

10. Three copies of the influent and effluent data required in condition IV.8 should also be sent to the following address by March 1 of each year:

    Division of Environmental Management
    Water Quality Facilities Assessment Unit
    PO Box 29535
    Raleigh, NC 27626-0535

11. Effluent concentrations of contaminants shall not exceed 5% of influent concentrations (i.e., 95% treatment efficiency). If the treatment system fails to produce an effluent in compliance with this condition, the Division may require the construction of additional treatment units.

12. All components of the groundwater recovery, treatment and disposal system shall be properly weather-proofed to prevent freezing and failure of the system.

13. The groundwater recovery, treatment and disposal system shall be inspected weekly. If it is determined that the system is malfunctioning, all repairs should be made as soon as possible and reported to the Regional Office.

14. Isoconcentration maps in both the vertical and horizontal directions shall be developed using the groundwater monitoring data collected in September for total volatile and semivolatile hydrocarbons. A water level contour map must also be developed on a quarterly basis. These maps shall be submitted along with all groundwater monitoring data.

15. The permittee shall submit a report outlining the injection volumes and pressures of the injection wells. This report may be submitted along with all other monitoring data.

16. The two injection wells shall be constructed such that the screened interval of each well is located from 3 feet to 8 feet below land surface, as described in the permit application.

17. Prior to operation of the groundwater remediation system, the permittee shall certify the mechanical integrity of the injection wells as defined by 15A NCAC 2C .0207. Additionally, an engineering certification shall be provided stating that the injection wells have been constructed in accordance with 15A NCAC 2C .0200 and the conditions of this permit. This certification shall be forwarded to the Groundwater Section, P.O. Box 29535, Raleigh NC, 27626, prior to operation of the system.

18. All wells that are constructed for purposes of groundwater monitoring shall be constructed in accordance with 15A NCAC 2C .0108 (Standards of Construction for Wells Other than Water Supply) and any other state and local laws and regulations pertaining to well construction.

19. The Washington Regional Office, telephone number 919-946-6481, shall be notified at least forty-eight (48) hours prior to the construction of any monitoring well so that an inspection can be made of the monitoring well location. Such notification to the regional groundwater supervisor shall be made during the normal office hours from 8:00 a.m. until 5:00 p.m. on Monday through Friday, excluding state holidays.

20. Within sixty (60) days of completion of all monitoring wells, the permittee shall submit two original copies of a scaled topographic map (scale no greater than 1:100) signed and sealed by a professional engineer or a state licensed land surveyor that indicates all of the following information:

a. the location and identity of each monitoring well,
b. the location of the waste disposal system,
c. the location of all property boundaries,
d. the latitude and longitude of each monitoring well,
e. the relative elevation of the top of the well casing (which shall be known as the "measuring point"), and
f. the depth of water below the measuring point at the time the measuring point is established.

21. Upon completion of all well construction activities, a certification must be received from a professional engineer certifying that the monitoring wells are located and constructed in accordance with the Well Construction Standards (15A NCAC 2C) and this permit. This certification should be submitted with copies of the Well Completion Form (GW-1) for each well. Mail this certification and the associated GW-1 forms to the Permits and Compliance Unit, Groundwater Section, P.O. Box 29535, Raleigh, NC, 27626-0535.

22. For the initial sampling of the well, as specified elsewhere in the permit, the permittee shall submit a copy of the GW-1 form with the Compliance Monitoring Form (GW-59) for that well. Compliance Monitoring Forms that do not include copies of the GW-1 form will be returned to the permittee without being processed. Failure to submit these forms, as required by this permit, may result in the initiation of enforcement activities pursuant to NC General Statutes 143-215.6.

V. INSPECTIONS

1. Adequate inspection, maintenance and cleaning shall be provided by the Permittee to insure proper operation of the subject facilities.

DIVISION OF ENVIRONMENTAL MANAGEMENT

GROUNDWATER SECTION

July 14, 1993

RECEIVED
WASHINGTON OFFICE
AUG 13 1993
D. E. M.

MEMORANDUM

TO: Carolyn McCaskill

THROUGH: Bob Cheek *RBC*

FROM: Jack Floyd *JF*

SUBJECT: Hackney and Sons, Inc.
Groundwater Remediation System
Beaufort County
WQ0007970/GW93111
(Randy Jones: DEM SERG Review Engineer)

The Groundwater Section has reviewed the subject permit application for a groundwater remediation system. The system will consist of 7 recovery wells (1 GPM each), an equalization tank, a biological treatment unit, nutrient addition, a holding tank, and 2 injection wells, all of which is designed to treat 10,080 GPD.

The site assessment on the Hackney property has noted three distinct areas of contamination. These areas are denoted as the repair area, extrusion area, and trailer areas. Distinct plumes of contamination have been located in these areas in both the vertical and horizontal directions throughout the surficial aquifer. Contaminants are indicated to be concentrated in the surficial aquifer due to the presence of a thick clay layer that has acted as an aquitard to the movement of contaminants. Contamination of the aquifer consist primarily of methylene chloride, acetone, toluene, xylene, trans 1,2 dichloroethene, tetrachloroethene, trichloroethene, and bis-2 ethyl hexyl phthalate. The repair area and extrusion area contaminant plumes have been determined to be the result of past activities at the Hackney facility. The trailer area contaminant plume is suspected to have been caused by activities from an adjacent junkyard because the contaminants indicated in the area have not been used by Hackney. We believe this is the reason the trailer area plume has not been addressed by the proposed remediation system.

The site is located in an urban area of Washington and is surrounded by several industrial businesses. Two notable businesses are the Rawls Junkyard and Wells Junkyard. It is the Wells Junkyard that is suspected to have caused the contamination in the trailer area. Topography of the site is essentially flat with an overall groundwater gradient toward the Pamlico River which is less than a half mile away. No water supply wells were noted to be within 500 feet of the site, except two industrial non-potable wells. Numerous borings were advanced at each contamination area. These borings indicated that the soils on the site consisted primarily of sandy clays with increasing clay content as depth increased. The water table was indicated to be 60 to 80 inches below land surface with evidence of seasonal high water tables 40 to 60 inches below land surface. These borings also indicated a consistent clay layer at approximately 10 to 12 feet below land surface that has apparently acted as an aquitard to downward movement of contaminants. A 24 hour pump test was conducted on one of the proposed recovery wells using seven observation wells located around the site. Using the information obtained from this test, the hydrogeological parameters, such as hydraulic conductivity, transmissivity, storativity, and porosity were determined.

These hydrogeological parameters were then used by the applicant to model the system for closed loop operation and effectiveness. Using 2 injection wells, each surrounded by recovery wells, the applicant's model (FLOWPATH) suggest that the system would act in a closed loop manner. We modeled the system using RESSQ and MWCAP and found similar results suggesting closed loop operation; however our results were not as conclusive as the applicant's. Our model indicated a few particle pathways traveling beyond the influence of the recovery wells in both plume areas. Monitoring of the system operation should provide conclusive evidence of closed loop operation.

The applicant proposes to use two injection wells to reinfiltrate treated groundwater. One well will be located at the repair area and the other will be located at the extrusion area. Both wells will inject water in the center of each plume. The injection wells will be constructed of stainless steel casing extending down three feet with a stainless steel screen extending to 8 feet below land surface. The repair area injection will will receive 4 GPM of the flow and the extrusion area will receive 3 GPM. According to the hydrogeological characteristics determined for the site both wells should accommodate the design flows. Injection pressures are proposed to be atmospheric pressure with only slight increases above atmospheric pressure due to head differentials from higher water levels in the wells and the water table.

The applicant also proposes the use nutrient addition to enhance the biological activity in the treatment unit. According to pilot study data a carbon/nitrogen/phosphorus ratio of 100:10:1 must be maintained in the unit for optional operation. As a nitrogen supplement the applicant will use urea and maintain a residual concentration of NH_3-N of 10 to 20 mg/L. Phosphate will be added to maintain a phosphorus residual of 5 to 15 mg/L. Anticipated effluent concentrations will be in similar to these for NH_3-N and phosphorus. Consumption rates for nitrogen are expected to keep nitrate levels below 10 mg/L with most of the nitrogen being consumed by the microorganisms instead of being transformed into nitrates. The applicant is expecting some insitu treatment of contaminants due to elevated nutrient levels in the injectate. As the system should operate in a closed loop manner, we are not concerned with the nutrient levels of the injectate.

Given these facts, the Groundwater Section does not object to permit issuance provided the following conditions are included in the permit:

1. The treatment system shall consist of a biological degradation unit as described in the permit application documents.

2. The two injection wells shall be constructed of 18 inch diameter stainless steel casing and grouted as indicated in the specifications. Each well shall have a device to allow measurement of injection pressure at the screened interval.

3. Injection pressure shall not be greater than the ambient pressure exerted at the screened interval due to the differential in the water table and the water level in the well. If operating pressures are to be increased above this level, the permittee must receive approval from the Washington Regional Office Groundwater Supervisor prior to increasing injection pressures.

4. The following monitoring wells shall be sampled every March, June, September, and December.

MW-25	MW-11
MW-26	MW-28B
MW-26d	MW-29B
MW-29	MW-30B
MW-30	OW-1d
	OW-1s

5. The monitoring wells shall be sampled for the following parameters:

   - EPA Methods 624 and 625 (to include acetone and Xylenes)
   - pH
   - Water Levels

   Measurements of water levels shall be made prior to sampling for the remaining parameters. The depth of water in each well shall be measured from the surveyed point on the top of the casing.

   The measuring points (top of well causing) of all wells shall be surveyed to provide relative elevations of the measuring point for each well.

6. The influent and effluent shall be sampled every two weeks for the first three months and monthly thereafter for the same parameters listed above.

7. The results of the sampling and analysis shall be sent to the Groundwater Section P.O. Box 29535, Raleigh, NC 27526 every April, July, October, and January. Groundwater data should be submitted on form GW-59. Monthly influent and effluent data may also be submitted quarterly along with the groundwater data.

8. Effluent concentrations of contaminants shall not exceed 5% of the influent concentrations (i.e, 95% treatment efficiency). If the treatment system fails to produce an effluent in compliance with this condition, the Division may require the construction of additional treatment units.

9. Any additional groundwater quality monitoring, as deemed necessary by the Division, shall be provided.

10. All components of the groundwater recovery, treatment and disposal system shall be properly weather-proofed to prevent freezing and failure of the system.

11. The groundwater recovery, treatment and disposal system shall be inspected weekly. If it is determined that the system is malfunctioning, all repairs should be made as soon as possible and reported to the Regional Office.

12. Isoconcentration maps in both the vertical and horizontal directions shall be developed using the groundwater monitoring data collected in September for total volatile and semivolatile hydrocarbons. A water level contour map must also be developed on a quarterly basis. These maps shall be submitted along with all groundwater monitoring data.

13. The permittee shall submit a report outlining the injection volumes and pressures of the injection wells. This report may be submitted along with all other monitoring data.

14. The two injection wells shall be constructed such that the screened interval of each well is located from 3 feet to 8 feet below land surface, as described in the permit application.

15. Prior to operation of the groundwater remediation system, the permittee shall certify the mechanical integrity of the injection wells as defined by 15A NCAC 2C .0207. Additionally an engineering certification shall be provided stating that the injection wells have been constructed in accordance with 15A NCAC 2C .0200 and the conditions of this permit. This certification shall be forwarded to the Groundwater Section P.O. Box 29535, Raleigh NC, 27626 prior to operation of the system.

16. All wells that are constructed for purposes of groundwater monitoring shall be constructed in accordance with 15A NCAC 2C .0108 (Standards of Construction for Wells Other than Water Supply) and any other state and local laws and regulations pertaining to well construction.

17. The Washington Regional Office, telephone number 919-946-6481 shall be notified at least forty-eight (48) hours prior to the construction of any monitoring well so that an inspection can be made of the monitoring well location. Such notification to the regional groundwater supervisor shall be made during the normal office hours from 8:00 a.m. until 5:00 p.m. on Monday through Friday, excluding state holidays.

18. Within sixty (60) days of completion of all monitoring wells, the permittee shall submit two original copies of a scaled topographic map (scale no greater than 1:100) signed and sealed by a professional engineer or a state licensed land surveyor that indicates all of the following information:

a. the location and identity of each monitoring well,
b. the location of the waste disposal system,
c. the location of all property boundaries,
d. the latitude and longitude of each monitoring well,
e. the relative elevation of the top of the well casing (which shall be known as the "measuring point"),
f. and the depth of water below the measuring point at the time the measuring point is established.

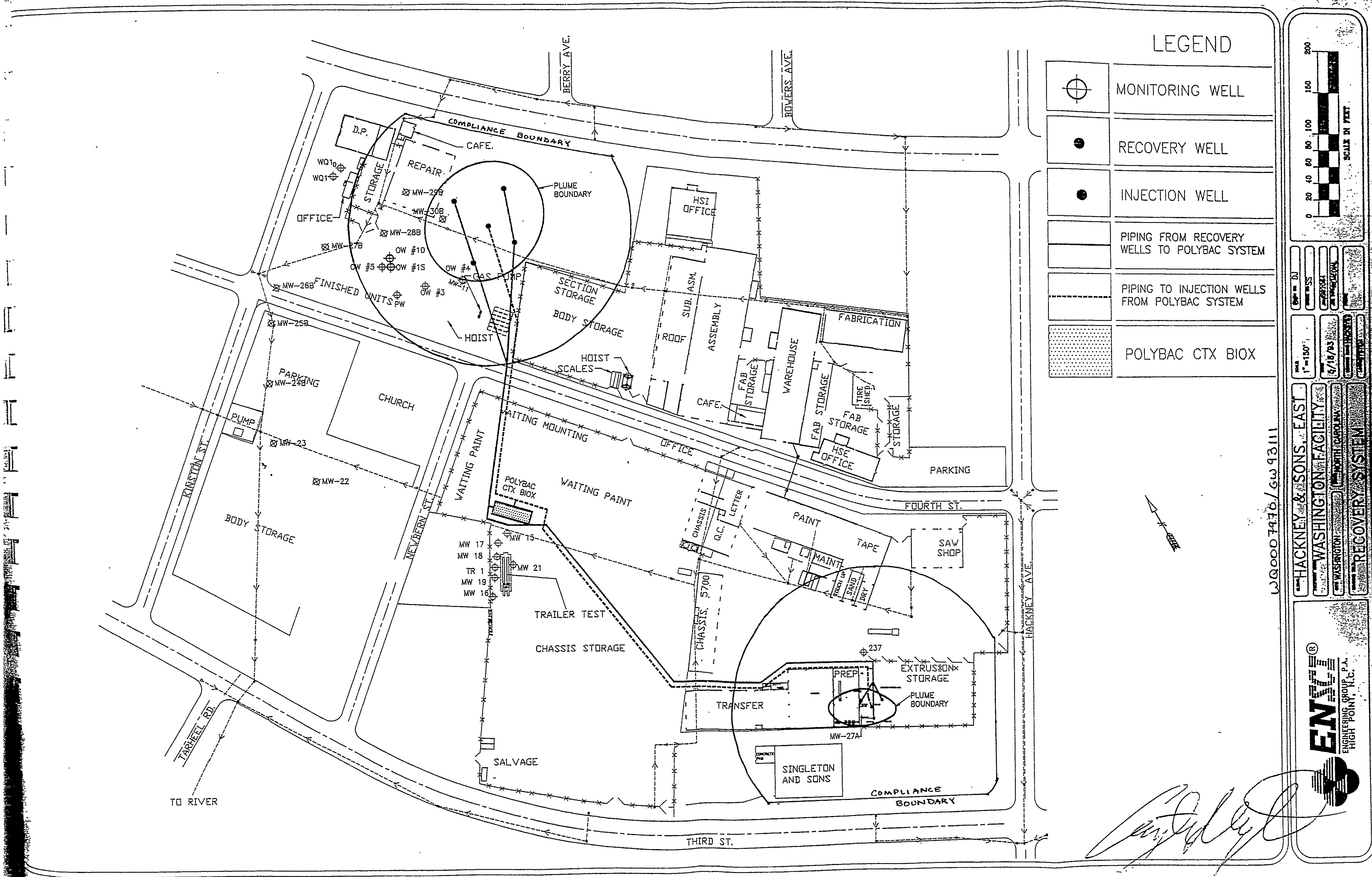
19. Upon completion of all well construction activities, a certification must be received from a professional engineer certifying that the monitoring wells are located and constructed in accordance with the Well Construction Standards (15A NCAC 2C) and this permit. This certification should be submitted with copies of the Well Completion Form (GW-1) for each well. Mail this certification and the associated GW-1 forms to the Permits and Compliance Unit, Groundwater Section, P.O. Box 29535, Raleigh, NC, 27626-0535.

20. For the initial sampling of the well as specified elsewhere in the permit, the permittee shall submit a copy of the GW-1 form with the Compliance Monitoring Form (GW-59) for that well. Compliance Monitoring Forms that do not include copies of the GW-1 form will be returned to the permittee without being processed. Failure to submit these forms as required by this permit may result in the initiation of enforcement activities pursuant to NC General Statutes 143-215.6.

If there are any questions, please let me know.

BC:JF:ja/93111.

cc: Willie Hardison
Central Files
Permit



LEGEND
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MW-30B
MW-28B
MW-27B
MW-26B
OW #1D
OW #5
OW #1S
OW #4
OW #3
PW
FINISHED UNITS
GAS PUMP
HOIST
SECTION STORAGE
BODY STORAGE
HSI OFFICE
SUB. ASM.
ROOF
ASSEMBLY
FAB STORAGE
WAREHOUSE
FABRICATION
HOIST
SCALES
CAFE
TIRE SHED
STORAGE
HSE OFFICE
PARKING
MW-25B
MW-24B
PARKING
CHURCH
PUMP
MW-23
MW-22
KINSTON ST.
BODY STORAGE
NEWBERN ST.
WAITING PAINT
WAITING MOUNTING
OFFICE
POLYBAC CTX BIOX
WAITING PAINT
CHASSIS
Q.C.
LETTER
PAINT
TAPE
SAW SHOP
MAINT.
SAND
DRY
FOURTH ST.
MW 17
MW 18
MW 15
TR 1
MW 21
MW 19
MW 16
TRAILER TEST
CHASSIS STORAGE
5700
CHASSIS
237
PREP
EXTRUSION STORAGE
TRANSFER
PLUME BOUNDARY
MW-27A
HACKNEY AVE.
SALVAGE
SINGLETON AND SONS
COMPLIANCE BOUNDARY
TARHEEL RD.
TO RIVER
THIRD ST.
WQ0007476/GW93111
SCALE IN FEET
HACKNEY & SONS, EAST
WASHINGTON FACILITY
WASHINGTON, NORTH CAROLINA
RECOVERY SYSTEM
1"=150'
5/18/93
ENSCI
ENGINEERING GROUP, P.A.
HIGH POINT, N.C.

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

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
A. Preston Howard, Jr., P.E., Director

DEHNR

August 12, 1993

RECEIVED
WASHINGTON OFFICE

AUG 13 1993

D. E. M.

Memorandum

To: **Jack Floyd, Groundwater Section Central Office**

Washington Regional Office Water Quality Supervisor

Washington Regional Office Groundwater Supervisor

From: Randy Jones
Water Quality Permits and Engineering

Subject: Application No. WQ0007970
Additional Information Received
Hackney and Sons, Inc.
Groundwater Remediation
Beaufort County

Attached is a copy of additional information received for the subject project.

ENSCI®

ENGINEERING GROUP, P.A.

August 5, 1993

Randy Jones
NCDEHNR
Water Quality Permits and Engineering
Raleigh, North Carolina

Dear Mr. Jones:

This letter is in response to your July 21, 1993 letter to Jay Witte of Hackney & Sons, Inc. in Washington, North Carolina requesting additional information and clarification of the Nondischarge Permit Application.

1. The Nondischarge Permit Application is for two groundwater contaminant plumes located on the Hackney facility. A third plume is located at the southwest corner of the Hackney facility in the Trailer Test Area. Assessment of the third plume indicates that it is located under the Hackney facility and the Wells Junkyard property to the southwest. The majority of the detected contaminants appear to be sourced from Wells Junkyard. Hackney & Sons, Inc. is currently awaiting action from the Washington Regional Office so that the plume can be fully delineated. At this time, the third plume is not being permitted; once the plume is fully defined, revision of the nondischarge permit will be sought.

2. The pull out plans (part 'e') of the Nondischarge Permit Application indicate three sources of recovered groundwater entering the treatment system. Only two of the sources will be used to treat groundwater from 1) the Extrusion/Storage Area and 2) the Repair Area. The third source will not be utilized in treatment of groundwater at this time. It has been designed in anticipation of remedial action of the third plume in the future.

3. The two equilization tanks will consist of the two 550 gallon clarifiers indicated on the system plans in part 'e' of the application.

4. Additional technical information is attached for the bag filter. The filter will consist of model P2X/X2E constructed from nylon with a 150 micron rating.

Post Office Box 80275
Raleigh, North Carolina 27623-0275
T (919) 787-8209
F (919) 881-8205

1108 Old Thomasville Road
High Point, North Carolina 27260
T (919) 883-7505
F (919) 882-7058

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ENGINEERING GROUP, P.A.

5. An additional copy of the Nondischarge Permit Application document is enclosed.

Please contact Bruce Braswell or Steve Stadelman of ENSCI Environmental at (919) 883-7505 if you have any questions or require additional information.

Sincerely,

Bruce Braswell

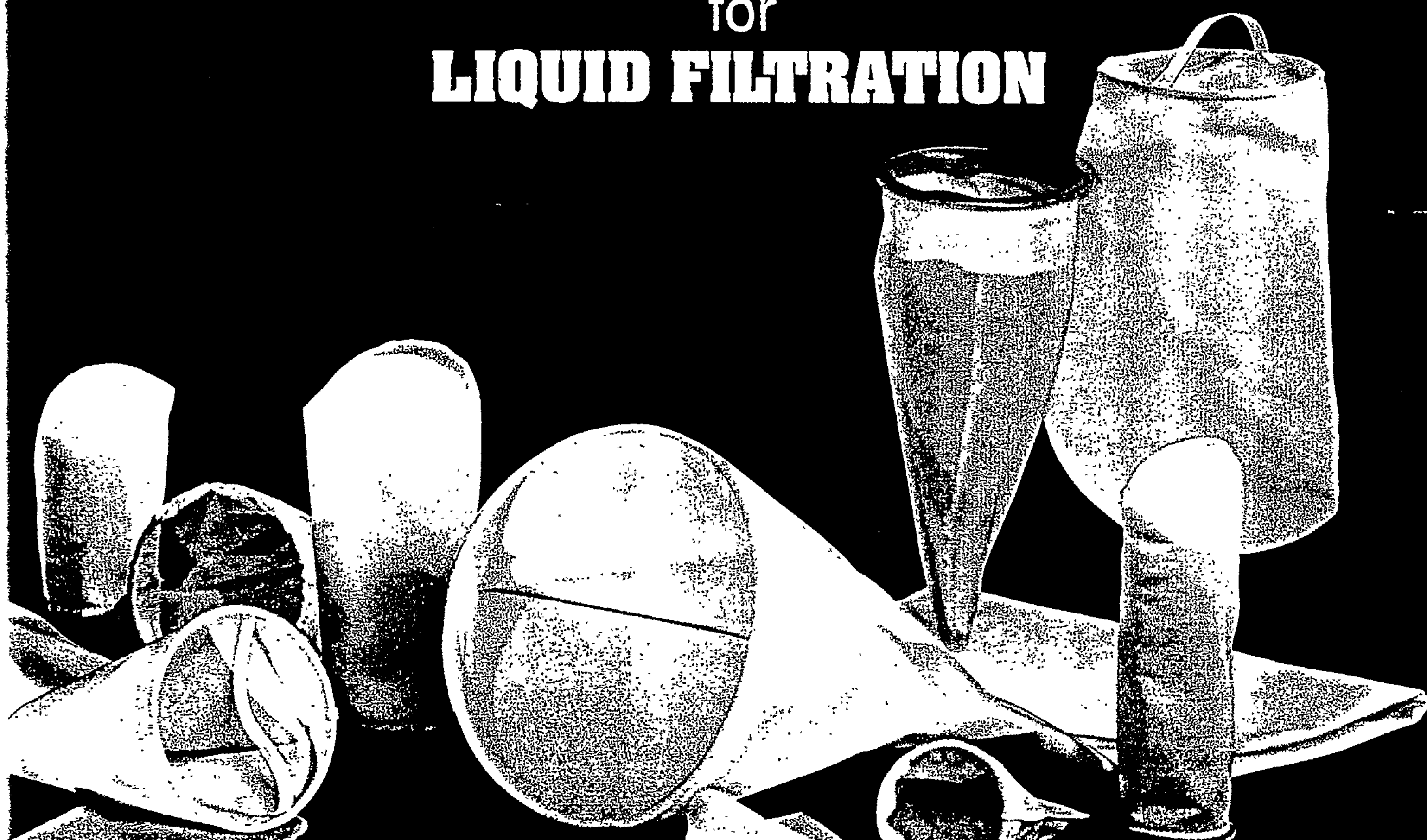
Bruce Braswell, P.G.
Senior Hydrogeologist

cc: Jay Witte

Filter Bag Systems

for

LIQUID FILTRATION

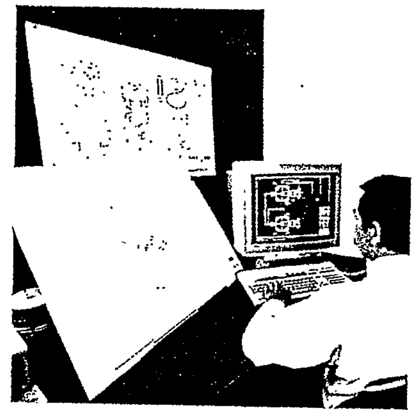


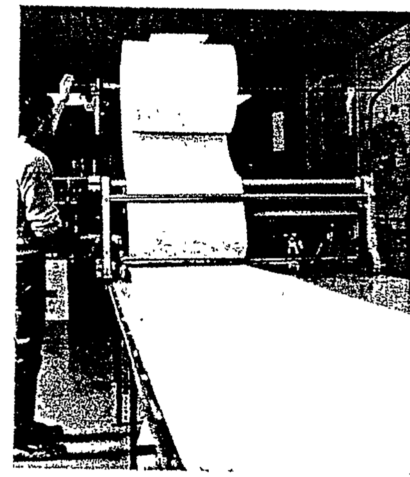
Filter bag Specifications and Compatibility

. . . we can satisfy your filtration requirements

Filter Bag Sizes and Capabilities

Filter Bag Size	To Fit GAF Vessel Model(s)	Diameter	Length	Surface Area (sq. ft.)	Surface Area (sq. m)
P1X/X1E	RBXA, RBXA-HD	4"	8"	.75 (per bag)	.07 (per bag)
P2X/X2E	RBXAL, RBXAL-HD, RBX-POL	4"	14"	1.4 (per bag)	.13 (per bag)
P1S/P1E	RB1A, RB1A-SE	7"	16.5"	2.8 (per bag)	.26 (per bag)
P2S/P2E	RB1AL, RB1AL-SE, RB1-POL,	7"	32"	5.3 (per bag)	.49 (per bag)
P2S/P2E	RB2C2L to RB30C2L	7"	32"	5.3 (per bag)	49 (per bag)





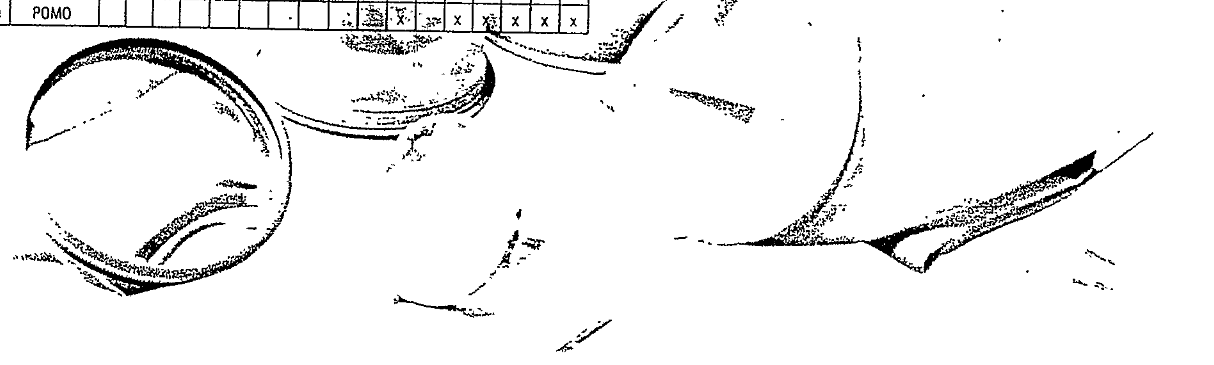
Chemicals and Thermal Resistance of Filter Bags

THERMO-CHEMICAL RESISTANCE

	Fiber	Abbreviation	Temperature °F	Aqueous Media	Aliphatic Solvents	Aromatic Solvents	Alkaline Systems	Strongly Alkaline	Acid Systems	Strongly Acidic
Felts	Polypropylene	PO	200	x	x		x	x	x	x
	Polyester	PE	300	x	x	x	x		x	
	Rayon Viscose	V	250		x	x	x		x	
	Nylon	N	325	x	x	x	x	x		
	Aramid (High Temp.)	HT	400	x	x	x	x		x	
Multifilament Mesn	Polyester	PEMU	300	x	x	x	x		x	
Monofilament Mesn	Nylon	NMO	325	x	x	x	x	x		
	Polypropylene	POMO	200	x	x		x	x	x	x

Micron Ratings of Filter Bags

			MICRONS																
Description	Fiber	Abbreviation	1	3	5	10	15	25	50	75	100	125	150	200	250	300	400	600	800
Felts	Polypropylene	PO	x	x	x	x		x	x		x								
	Polyester	PE	x		x	x	x	x	x	x	x			x					
	Rayon Viscose	V			x	x	x	x	x	x	x			x					
	Nylon	N			x	x		x	x		x								
	Aramid (High Temp.)	HT			x	x		x	x	x.	x								
Multifilament Mesh	Polyester	PEMU									x		x	x	x	x	x	x	x
Monofilament Mesh	Nylon	NMO	x		x	x		x	x	x	x	x	.x	x	x	x	x	x	x
	Polypropylene	POMO										[illegible]	x	[illegible]	x	x	x	x	x



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

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
A. Preston Howard, Jr., P.E., Director

DEHNR

RECEIVED
WASHINGTON OFFICE

JUL 23 1993

D. E. M.

July 21, 1993

Mr. Jay A. Witte
Hackney & Sons
400 Hackney Avenue
Washington, N. C. 27889

Subject: Application No. WQ0007970
Additional Information Request
Hackney & Sons, Inc.
Groundwater Remediation
Beaufort County

Dear Mr. Witte

The Water Quality Permits and Engineering Unit has completed a preliminary engineering review of the subject application.

The following items must be addressed before we can complete our review:

1) The submitted information indicates that possibly three areas may need to be remediated, but that only two areas were covered by this submittal. What is the status of the third area? Provide a copy of the pertinent correspondence.

2) The pull out plans that are a part of "e" of the Nondischarge Permit Application document seem to indicate three contaminant areas with four recovery wells at each. Please explain.

3) The submittal information indicates that two equalization tanks are a part of this system. Are these the tanks that are described as 550 gallon clarifiers on the pull out plans referenced in 2 above?

4) Please provide more details on the bag filter.

5) Please provide me with one additional copy of the Nondischarge Permit Application document.

Refer to the subject permit application number when providing the requested information. ***Please submit four copies of all applicable information to my attention at the address below.*** Also, please note that failure to provide this additional information on or before August 27, 1993, will subject your application package to being returned as incomplete, in accordance with 15A NCAC 2H .0208.

If you have any questions on this matter, please call me at 919/ 733-5083, extension 517.

Sincerely,

Randy Jones

Randy Jones
Environmental Engineer
Water Quality Permits and Engineering

cc: Washington Regional Office, Water Quality
Washington Regional Office, Groundwater
Groundwater Section, Jack Floyd
ENSCI, Bruce Braswell

Post-it™ brand fax transmittal memo 7671	# of pages ▸ 1
To Guy Pierce	From B. Braswell
Co.	Co. ENSCI
Dept.	Phone #
Fax #	Fax #

ENSCI®
ENGINEERING GROUP, P.A.

April 6, 1993

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Guy Pierce
NCDEHNR-Groundwater Section
Washington Regional Office
Washington, North Carolina

RE: Proposed Schedule for Implementation of Remedial Action Plan for the Hackney & Sons, Inc. Site, Washington, North Carolina

Dear Mr. Pierce:

Per your letter dated March 26, 1993, a schedule has been prepared for the implementation of the Remedial Action Plan for the Hackney & Sons, Inc. facility located at 400 Hackney Ave. in Washington, North Carolina. The proposed schedule is as follows:

- Begin construction 2 weeks after approval of a non-discharge permit
- End construction 4 weeks after permit approval
- Buildup biomass in the bioreactor from 4-6 weeks after permit approval
- Begin remediation of contaminated groundwater 6 weeks after permit approval.

If you require further information or have any questions, please contact me, or Steve Stadelman, at ENSCI Corporation.

Sincerely,

Bruce K. Braswell

Bruce K. Braswell, P.G.
Senior Hydrogeologist
ENSCI Corporation, Inc.

cc: Jay Witte

Post Office Box 80275
Raleigh, North Carolina 27623-0275
T (919) 787-8209
F (919) 881-8205

1108 Old Thomasville Road
High Point, North Carolina 27260
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F (919) 882-7958

North Carolina
Department of Environment, Health, and Natural Resources
DIVISION OF ENVIRONMENTAL MANAGEMENT - GROUNDWATER SECTION

GROUNDWATER FIELD/LAB FORM

County Beaufort
Quad No. N 20 F Serial No. ——
Lat. ______ Long. ______

SAMPLE PRIORITY
[X] ROUTINE [ ] EMERGENCY

#1
Soil Sample

Lab Number 8 26442
Date Received 10/27/92 Time 9:30
Rec'd by: DS From: Bus, Courier
Other ______
Date Entry By: JH Ck. KS
Date Reported: 11/30

Report To: ARO, FRO, MRO, RRO, WaRO, WiRO, WSRO, Kinston FO, Other ______
Shipped by: Bus, Courier, Other ______
Collector(s): Pearce Date 10/26/92 Time 15:00 Purpose: Baseline, Complaint, Compliance, LUST, Other ______ (circle one)

FIELD ANALYSES

~~pH 400 ______ Spec. Cond. 94 ______ at 25° C~~
~~Temp. 10 ______ °C Odor ______~~
~~Appearance ______ Taste ______~~
~~Field Analysis By: ______~~

Owner Wells Salvage Yard
Location or site 307 New Bern Street, Washington NC 27889
Description of sampling point Composite Soil Sample from 3 spots
Sampling Method auger (Pump, bailer, etc.) Sample Interval ______
Remarks ______ (pumping time, air temp. etc.)

LABORATORY ANALYSES

	BOD5 310 mg/l		Diss. Solids 70300 mg/l		Ag - Silver 1077 ug/l		Organochlorine Pesticides
	COD High 340 mg/l		Flouride 951 mg/l		Al - Aluminum 1105 ug/l		Organophosphorus Pesticides
	COD Low 335 mg/l		Hardness: Total 900 mg/l		Ba - Barium 1007 ug/l		Nitrogen Pesticides
	Coliform: MF Fecal 31616 /100ml		Hardness (non-carb) 902 mg/l		Ca - Calcium 916 mg/l		
	Coliform: MF Total 31504 /100ml		Phenols 32730 ug/l		Cd - Cadmium 1027 ug/l		Acid Herbicides
	TOC 680 mg/l		Specific Cond. 95 uMhos/cm²		Chromium: Total 1034 ug/l	X	TPH
	Turbidity 76 NTU		Sulfate 945 mg/l		Cu - Copper 1042 ug/l	X	Base/Neutral Extractable Organics
			Sulfide 745 mg/l		Fe - Iron 1045 ug/l		Acid Extractable Organics
					Hg - Mercury 71900 ug/l		
	pH 403 units				K - Potassium 937 mg/l	X	Purgeable Organics (VOA bottle)
	Alkalinity to pH 4.5 410 mg/l				Mg - Magnesium 927 mg/l		
	Alkalinity to pH 8.3 415 mg/l				Mn - Manganese 1055 ug/l		1,2 - Dibromoethane (EDB)
	Carbonate 445 mg/l				Na - Sodium 929 mg/l		
	Bicarbonate 440 mg/l		NH3 as N 610 mg/l		Ni - Nickel 1067 ug/l		
	Arsenic: Total 1002 ug/l		TKN as N 625 mg/l		Pb - Lead 1051 ug/l		
	Carbon dioxide 405 mg/l		NO2 + NO3 as N 630 mg/l		Se - Selenium 1147 ug/l		SV
	Chloride 940 mg/l		P: Total as P 665 mg/l		Zn - Zinc 1092 ug/l		
	Chromium: Hex 1032 ug/l						
	Color: True 80 Pt-Co		RECEIVED				
	Cyanide 720 mg/l						

DEC - 3 1992
POLLUTION CONTROL BRANCH

Lab Comments: ______ 12-11

GW-54 REV. 3/92 For Dissolved Analysis - submit filtered sample and write "DIS" in block
White Copy - Groundwater Central Office Yellow Copy - Regional Office Pink Copy - Central Files Goldenrod Copy - Lab

EHNR/DEM LABORATORY
VOLATILE ANALYTICAL REPORT

LAB NO. 2G 1442

REPORTED BY RWB
CHECKED BY ALC
REVIEWED BY ALC

SUPERVISOR RFK
DATE 11/25/92
ENTERED BY JW
CHECKED BY DS

SAMPLE TYPE: SEDIMENT

ANALYSIS RESULTS

CAS#	VOA TARGET COMPOUND	TQL ug/Kg	DETECTED ug/Kg	CAS#	VOA TARGET COMPOUND	TQL ug/Kg	DETECTED ug/Kg
75-35-4	1,1-Dichloroethene	4.5	U	96-18-4	1,2,3-Trichloropropane	1.5	U
75-09-2	Methylene Chloride	1.5	U	108-86-1	Bromobenzene	6	U
156-60-5	trans-1,2-Dichloroethene	4.5	U	95-49-8	2-Chlorotoluene	1.5	U
75-34-3	1,1-Dichloroethane	1.5	31 E	106-43-4	4-Chlorotoluene	1.5	U
590-20-7	2,2-Dichloropropane	1.5	U	541-73-1	1,3-Dichlorobenzene	1.5	U
156-59-4	cis-1,2-Dichloroethene	1.5	U	106-46-7	1,4-Dichlorobenzene	1.5	U
67-66-3	Chloroform	1.5	U	95-50-1	1,2-Dichlorobenzene	1.5	U
74-97-5	Bromochloromethane	4.5	U	96-12-8	1,2-Dibromo-3-Chloropropane	6	U
71-55-6	1,1,1-Trichloroethane	1.5	78 E	120-82-1	1,2,4-Trichlorobenzene	1.5	U
563-58-6	1,1-Dichloropropene	1.5	U	87-68-3	Hexachlorobutadiene	1.5	U
56-23-5	Carbon Tetrachloride	4.5	U	87-61-6	1,2,3-Trichlorobenzene	4.5	U
107-06-2	1,2-Dichloroethane	1.5	U	1634-04-4	Methyl-tert-butyl ether	30	U
79-01-6	Trichloroethene	1.5	U	71-43-2	Benzene	6	U
78-87-5	1,2-Dichloropropane	1.5	U	108-88-3	Toluene	6	U
75-27-4	Bromodichloromethane	1.5	U	100-41-4	Ethyl benzene	6	U
74-95-3	Dibromomethane	6	U	108-38-3	m,p-Xylenes	6	U
10061-01-5	cis-1,3-Dichloropropene	1.5	U	95-47-6	o-Xylene	6	U
10061-02-6	trans-1,3-Dichloropropene	1.5	U	100-42-5	Styrene	6	U
79-00-5	1,1,2-Trichloroethane	1.5	U	98-82-8	Isopropylbenzene	6	U
127-18-4	Tetrachloroethene	1.5	U	103-65-1	n-Propylbenzene	6	U
142-28-9	1,3-Dichloropropane	1.5	U	108-67-8	1,3,5-Trimethylbenzene	6	U
124-48-1	Dibromochloromethane	4.5	U	98-06-6	tert-Butylbenzene	6	U
106-93-4	1,2-Dibromoethane	6	U	95-63-6	1,2,4-Trimethylbenzene	6	U
108-90-7	Chlorobenzene	1.5	U	135-98-8	sec-Butylbenzene	6	U
630-20-6	1,1,1,2-Tetrachloroethane	1.5	U	99-87-6	p-isopropyltoluene	6	U
75-25-2	Bromoform	6	U	104-51-8	n-Butylbenzene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	4.5	U	91-20-3	Naphthalene	6	U

GASOLINE RANGE ESTIMATED TOTAL PETROLEUM HYDROCARBON TQL 10 PPM DETECTED < 5 PPM

TQL- Target Quantation Limit- Subject to change due to instrument sensitivity
T- Tentatively Identified, not confirmed
E- Estimated Value
U- Samples analyzed for this compound but not detected
N- Sample not analyzed for this compound
D- Detected below quantitation limit
M- GC/MS Analysis performed

Other purgeables detected (up to 10 highest peaks) — Detected ug/Kg

NO VOLATILE ORGANIC COMPOUNDS DETECTED BY GC/PID

COMMENTS:

SEMIVOLATILE ORGANICS REPORT - DEM LAB

LAB NUMBER:2G1442 SUPERVISOR REK LAB #:2G1442
DATE : 11/16/92

REPORTED BY MD
CHECKED BY PRO ENTERED BY JL
REVIEWED BY PRO CHECKED BY DS

SAMPLE TYPE: SEDIMENT DILUTION FACTOR: 20

CAS NUMBER	TQL x 20	ANALYTE NAME	CONC. UG/KG
108-95-2	660	PHENOL	U
111-44-4	660	BIS(2-CHLOROETHYL) ETHER	U
95-57-8	660	2-CHLOROPHENOL	U
541-73-1	660	1,3-DICHLOROBENZENE	U
106-46-7	660	1,4-DICHLOROBENZENE	U
100-51-6	1300	BENZYL ALCOHOL	U
95-50-1	660	1,2-DICHLOROBENZENE	U
95-48-7	660	2-METHYL PHENOL	U
108-60-1	660	BIS(2-CHLOROISOPROPYL) ETHER	U
106-44-5	660	4-METHYL PHENOL	U
621-64-7	660	N-NITROSO-DI-N-PROPYLAMINE	U
67-72-1	660	HEXACHLOROETHANE	U
98-95-3	660	NITROBENZENE	U
78-59-1	660	ISOPHORONE	U
88-75-5	660	2-NITRO PHENOL	U
105-67-9	660	2,4-DIMETHYL PHENOL	U
65-85-0	3300	BENZOIC ACID	U
111-91-1	660	BIS(2-CHLOROETHOXY) METHANE	U
120-83-2	660	2,4-DICHLORO PHENOL	U
120-82-1	660	1,2,4-TRICHLOROBENZENE	U
91-20-3	660	NAPHTHALENE	U
106-47-8	1300	4-CHLOROANILINE	U
87-68-3	660	HEXACHLOROBUTADIENE	U
59-50-7	1300	4-CHLORO-3-METHYL PHENOL	U
91-57-6	660	2-METHYL NAPHTHALENE	U
77-47-4	660	HEXACHLOROCYCLOPENTADIENE	U
88-06-2	660	2,4,6-TRICHLORO PHENOL	U
95-95-4	660	2,4,5-TRICHLORO PHENOL	U
91-58-7	660	2-CHLORO NAPHTHALENE	U
88-74-4	3300	2-NITROANALINE	U
131-11-3	660	DIMETHYL PHTHALATE	U
208-96-8	660	ACENAPHTHYLENE	U
606-20-2	660	2,6-DINITROTOLUENE	U
99-09-2	3300	3-NITROANALINE	U
83-32-9	660	ACENAPHTHENE	U
51-28-5	3300	2,4-DINITRO PHENOL	U
100-02-7	3300	4-NITRO PHENOL	U
132-64-9	660	DIBENZOFURAN	U
121-14-2	660	2,4-DINITROTOLUENE	U
84-66-2	660	DIETHYL PHTHALATE	U
7005-72-3	660	4-CHLOROPHENYL-PHENYL ETHER	U
86-73-7	660	FLUORENE	U
100-01-6	3300	4-NITROANALINE	U
534-52-1	3300	4,6-DINITRO-2-METHYL PHENOL	U

SEMIVOLATILE ORGANICS REPORT - DEM LAB

86-30-6	660	N-NITROSODIPHENYLAMINE	U
101-55-3	660	4-BROMOPHENYL PHENYL ETHER	U
118-74-1	660	HEXACHLOROBENZENE	U
87-86-5	3300	PENTACHLORO PHENOL	U
85-01-8	660	PHENANTHRENE	U
120-12-7	660	ANTHRACENE	U
84-74-2	660	DI-N-BUTYL PHTHALATE	U
206-44-0	660	FLUORANTHENE	U
129-00-0	660	PYRENE	U
85-68-7	660	BUTYLBENZYL PHTHALATE	U
91-94-1	1300	3,3'-DICHLOROBENZIDINE	U
56-55-3	660	BENZO(A)ANTHRACENE	U
218-01-9	660	CHRYSENE	U
117-81-7	660	BIS(2-ETHYLHEXYL) PHTHALATE	U
117-84-0	660	DI-N-OCTYL PHTHALATE	U
205-99-2	660	BENZO(B)FLUORANTHENE	U
207-08-9	660	BENZO(K)FLUORANTHENE	U
50-32-8	660	BENZO(A)PYRENE	U
193-39-5	660	INDENO(1,2,3-CD)PYRENE	U
53-70-3	660	DIBENZO(A,H)ANTHRACENE	U
191-24-2	660	BENZO(G,H,I)PERYLENE	U

OTHER SEMIVOLATILE ORGANICS FOR SAMPLE NUMBER : 2G1442

		UG/KG	
PHTHALIC ANHYDRIDE	(C8.H4 O3)	6400	T
UNIDENTIFIED		2700	E
UNIDENTIFIED		3700	E
UNIDENTIFIED		2700	E

ORGANIC ANALYSIS BY GC/MS INDICATES A MASS OF LATE-ELUTING CHEMICALS WHICH COULD NOT BE RESOLVED OR IDENTIFIED. CONCENTRATIONS WERE ESTIMATED AS A RATIO TO A KNOWN INTERNAL STANDARD AND WERE IN THE RANGE OF: 3500000

TQL= TARGET QUANTITATION LIMIT
T= TENTATIVELY IDENTIFIED ESTIMATED CONCENTRATION
E= ESTIMATED CONCENTRATION
U= COMPOUND ANALYZED FOR NOT DETECTED
N= COMPOUND NOT ANALYZED FOR
D= DETECTED BELOW QUANTITATION LIMIT
H= HOLDING TIME EXCEEDED
TQL SUBJECT TO CHANGE DUE TO INSTRUMENT SENSITIVITY

GROUNDWATER FIELD/LAB FORM

North Carolina
Department of Environment, Health, and Natural Resources
DIVISION OF ENVIRONMENTAL MANAGEMENT - GROUNDWATER SECTION

County Beaufort
Quad No. N20f Serial No. N/A
Lat. Long.

CHAIN OF CUSTODY
SAMPLE PRIORITY
[X] ROUTINE [ ] EMERGENCY

Soil Sample 1

Lab Number 8 2G1309
Date Received 10-8-92 Time 9:15
Rec'd by: Bg From: Bus, Courier
Other
Date Entry By: JH Ck. DS
Date Reported: Jan 20, 93

Report To: ARO, FRO, MRO, RRO, WaRO, WiRO, WSRO, Kinston FO, Other
Shipped by: Bus, Courier, Other
Collector(s): Pearce Date 10/7/92 Time 11:30 Purpose: Baseline, Complaint, Compliance, LUST, Other (circle one)

FIELD ANALYSES

~~pH 400 Spec. Cond. 94 at 25° C~~
~~Temp. 10 °C Odor~~
~~Appearance Taste~~
~~Field Analysis By:~~

Owner Wells Salvage Yard
Location or site 307 New Bern Street, - Washington, NC 27889
Description of sampling point Composite Soil Sample from 3 areas of stained soil
Sampling Method auger (Pump, bailer, etc.) Sample Interval 0-12" BLS
Remarks (pumping time, air temp. etc.)

LABORATORY ANALYSES

	BOD5 310	mg/l		Diss. Solids 70300	mg/l		Ag - Silver 1077	ug/l		Organochlorine Pesticides	
	COD High 340	mg/l		Flouride 951	mg/l		Al - Aluminum 1105	ug/l		Organophosphorus Pesticides	
	COD Low 335	mg/l		Hardness: Total 900	mg/l		Ba - Barium 1007	ug/l		Nitrogen Pesticides	
	Coliform: MF Fecal 31616	/100ml		Hardness (non-carb) 902	mg/l		Ca - Calcium 916	mg/l			
	Coliform: MF Total 31504	/100ml		Phenols 32730	ug/l		Cd - Cadmium 1027	ug/l		Acid Herbicides	
	TOC 680	mg/l		Specific Cond. 95	uMhos/cm2		Chromium: Total 1034	ug/l	X	TPH (EPA 9071)	
	Turbidity 76	NTU		Sulfate 945	mg/l		Cu - Copper 1042	ug/l		~~Base/Neutral Extractable Organics~~	
				Sulfide 745	mg/l		Fe - Iron 1045	ug/l		~~Acid Extractable Organics~~	
				Oil & Grease 1300	mg/l		Hg - Mercury 71900	ug/l	X	TCLP (Metals) *	
	pH 403	units					K - Potassium 937	mg/l		Purgeable Organics (VOA bottle)	
	Alkalinity to pH 4.5 410	mg/l					Mg - Magnesium 927	mg/l			
	Alkalinity to pH 8.3 415	mg/l					Mn - Manganese 1055	ug/l		1,2 - Dibromoethane (EDB)	
	Carbonate 445	mg/l					Na - Sodium 929	mg/l			
	Bicarbonate 440	mg/l		NH3 as N 610	mg/l		Ni - Nickel 1067	ug/l			
	Arsenic: Total 1002	ug/l		TKN as N 625	mg/l		Pb - Lead 1051	ug/l			
	Carbon dioxide 405	mg/l		NO2 + NO3 as N 630	mg/l		Se - Selenium 1147	ug/l			
	Chloride 940	mg/l		P: Total as P 665	mg/l		Zn - Zinc 1092	ug/l			
	Chromium: Hex 1032	ug/l									
	Color: True 80	Pt-Co									
	Cyanide 720	mg/l									

RECEIVED
JAN 25 1993
POLLUTION CONTROL BRANCH
GROUNDWATER SECTION
RALEIGH, NC

Lab Comments: * Sample Discarded per Guy Pearce [illegible] 10/26/92

1-26

GW-54 REV. 3/92

For Dissolved Analysis - submit filtered sample and write "DIS" in block
White Copy - Groundwater Central Office Yellow Copy - Regional Office Pink Copy - Central Files Goldenrod Copy - Lab

Sent 7/23/90

State of North Carolina
Department of Environment, Health and Natural Resources
Northeastern Region
1424 Carolina Avenue, Washington, North Carolina 27889

James G. Martin, Governor
William W. Cobey, Jr., Secretary

Lorraine G. Shinn
Regional Manager

DIVISION OF ENVIRONMENTAL MANAGEMENT
GROUNDWATER SECTION

July 24, 1990

Mr. Keith Hackney
Hackney Industries
400 Hackney Ave.
Washington, NC 27889-0880

Dear Mr. Hackney:

Our office received on June 22, 1990, a memo and attachment that states the results of an analysis of one water sample taken by your consultants from your site near the corner of W. 4th and New Bern Streets, Washington. Based on the results of the water sample analysis, levels of hydrocarbon components are below acceptable limits set forth in Title 15A North Carolina Administrative Code Subchapter 2L. This letter is not intended to certify that your site is environmentally clean, but only to advise you of our position. At this time, our office does not require further action at this site based upon information submitted to us by you. Our decision is based upon a preliminary investigation and may change, pending additional information in the future.

Please feel free to call me if you have further questions.

Sincerely,

Lellen Moran for

Robert Tankard
Environmental Engineer

sent to Raleigh 7/23/90

POLLUTION INCIDENT/U.S.T. LEAK REPORTING FORM

1. Incident #__________
2. Tabulate only __________

Division of Environmental Management
GROUNDWATER SECTION

TYPE OF ACTION

A

1. Emergency Response
2. Compliance Investigation
3. Complaint Investigation
4. Routine Inventory
5. U.S.T. Leak
6. Other:__________

POTENTIAL HAZARDS: 1. Toxic Chemicals 2. Radioactivity 3. Air Emmissions 4. Explosives 5. Fire

INCIDENT DESCRIPTION

B

Incident Location/Name HACKNEY INDUSTRIES

Address CORNER OF NEW BERN & W. 4TH

City/Town WASHINGTON County BEAUFORT Region WARO

Briefly Describe Incident BACKHOE OPERATOR CRACKED UNPRESSURIZED SUCTION LINE PRIOR TO TANK TIGHTNESS TEST.

Date Incident Occurred or Leak Detected 5/17/90

If L.U.S.T., How Leak Was Detected
1. Tank Gauging
2. Vapor Monitoring
3. GW Monitoring
4. Contractor who tightness tested, removed tank, or installed leak detection system. ?
5. Interstitial Monitoring
6. Tank Removal
7. Tightness Test
8. Other__________

PERSON REPORTING INCIDENT

C

Name MR. KEITH HACKNEY Date 5/17/90 Time 15:55

Company/Agency HACKNEY INDUSTRIES Telephone

REPORTED BY: 1. Tank owner/operator 2. Government agency 3. Private (3rd) party 4. Facility owner (Non-L.U.S.T.) 5. Other:__________

RECOMMENDED ACTION

D

(MULTIPLE CHOICES POSSIBLE)
1. Investigation complete
2. Continue investigation
3. Initiate/complete cleanup
4. Long-term remedial action
5. Drilling support
6. Issue NOV
7. Confirm leak
8. Monitoring plan

Comments < 10 cu yd OF POTENTIALLY CONTAMINATED SOIL WAS PLACED IN HOPPER TRUCK

CLEANUP LEAD 1. Responsible Party 2. State

Site Priority Ranking 55

D.E.M. Regional Contact LEANN MORAN

Signature Leann Moran

Date July 23, 1990

GW-61 Revised 5/89

POLLUTION INCIDENT/U.S.T. LEAK REPORTING FORM

POLLUTANTS INVOLVED

E	MATERIALS INVOLVED	AMOUNT STORED OR TANK CAPACITY	AMOUNT LOST	AMOUNT RECOVERED
	GASOLINE	1 x 5000 gal	< 6 gal	?

IMPACT ON SURFACE WATERS

F			
	WATERS AFFECTED 1. Yes 2. No 3. Potentially		Distance to Stream(ft)
	Fish Kill 1. Yes 2. No	Name of Stream PAMLICO RIVER	Stream Class

IMPACT ON DRINKING WATER SUPPLIES

G				
	WELLS AFFECTED 1. Yes 2. No 3. Potentially		No. of Wells Affected	No. of Wells Potentially Affected
	Population Served By Affected Wells	Estimated Population Served By Potentially Affected Wells	Aquifer(s) Being Used 1. Water Table 2. Confined 3. Bedrock	

POTENTIAL SOURCE OF POLLUTION

H

PRIMARY SOURCE OF POTENTIAL POLLUTION (Select one)

1. Intentional dump
2. Pit, pond, lagoon
3. Leak-underground
4. Spray irrigation
5. Land application
6. Animal feedlot
7. Source unknown
8. Septic tank
9. Sewer line
10. Stockpile
11. Landfill
12. Spill-surface
13. Well
14. Dredge spoil
15. Nonpoint source

PRIMARY POLLUTANT TYPE (Select one)

1. Pesticide/herbicide
2. Radioactive waste
3. Gasoline/diesel
4. Heating oil
5. Other petroleum prod.
6. Sewage/septage
7. Fertilizers
8. Sludge
9. Solid waste leachate
10. Metals
11. Other inorganics
12. Other organics

LOCATION

1. Facility
2. Railroad
3. Waterway
4. Pipeline
5. Dumpsite
6. Highway
7. Residence
8. Other

SETTING

1. Residential
2. Industrial
3. Urban
4. Rural

If other sources, list corresponding No's.

—

If multiple pollutant types, list corresponding No's.

—

If PIRF previously submitted for Nonprimary Sources, list Incident No's.

—

Confirmed Violation of:

1. 15 NCAC 2L ____ Yes ✓ No
2. Article 21A Part I ____ Yes ✓ No
3. Article 21A Part II ____ Yes ✓ No
4. Federal/State U.S.T. rules ____ Yes ✓ No

POLLUTION INCIDENT/U.S.T. LEAK REPORTING FORM

POTENTIAL SOURCE OWNER-OPERATOR

I

Potential Source Owner-Operator: MR. KEITH HACKNEY	Telephone: 919-946-6521
Company: HACKNEY INDUSTRIES	Street Address: 400 HACKNEY AVE
City: WASHINGTON	County: BEAUFORT
State: NC	Zip Code: 27889-0880

U.S.T. REGISTERED / FACILITY ID# / FEDERAL U.S.T. DESIGNATION / STATE U.S.T. DESIGNATION	SOURCE/U.S.T. IN USE / SOURCE PERMITTED / PERMIT NUMBER / SOURCE ON ERRIS LIST / ERRIS NUMBER	PERMIT TYPE	OWNERSHIP	OPERATION TYPE
U.S.T. REGISTERED: 1. YES 2. NO	SOURCE/U.S.T. IN USE: 1. N/A 2. YES 3. NO	0. N/A	0. N/A	0. N/A
FACILITY ID#: 0-024180	SOURCE PERMITTED: 1. Yes 2. No	1. Non-discharge	1. Municipal	1. Public Service
FEDERAL U.S.T. DESIGNATION: 1. Regulated 2. Non-Regulated	PERMIT NUMBER	2. Oil terminal	2. Military	2. Agricultrural
STATE U.S.T. DESIGNATION: 1. Commercial 2. Non-Commercial	SOURCE ON ERRIS LIST: 1. Yes 2. No	3. Landfill	3. Unknown	3. Residential
	ERRIS NUMBER	4. Mining	4. Private	4. Educational/Religious
		5. NPDES	5. Federal	5. Industrial
		6. RCRA	6. County	6. Commercial
			7. State	7. Mining

U.S.T. LEAK PREVENTION MEASURES
Was tank retrofitted with overfill protection?
1. Yes
2. No
When and by whom?
Was tank retrofitted with interior lining?
1. Yes
2. No
When and by whom?
Was tank retrofitted with cathodic protection?
1. Yes
2. No
When and by whom?

REASON FOR INCIDENT
1. Transportation
2. Mechanical failure
3. Facility
4. Inventory only
5. Human error
6. Vandalism
7. Unknown

ACTIONS TAKEN

J

Investigation, Containment, Cleanup, etc.

TANKARD & MORAN INVESTIGATED SITE ON 5/18/90. & TOOK SOIL & H2O SAMPLE
TANKARD ADVISED THEM TO:
- TAKE GW + SOIL SAMPLES FROM AROUND PIT WALLS
- COVER UP PIT TO PREVENT RAIN SEEPAGE
- PUMP & STORE H2O IF PIT FILLS UP
- CONTACT AL HODGE ABOUT SOIL [AH TOLD HIM TO SPREAD SOIL THINLY ON GRASSY AREA]
TANKARD & TOWELL RETURNED 5/21/90 - TOOK H2O SAMPLES - BELOW LIMITS
RP SAMPLED H2O - RESULTS ARE BELOW LIMITS.

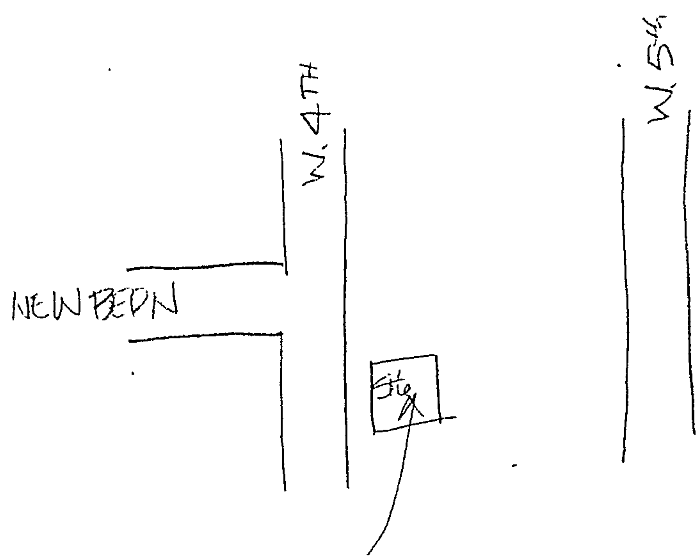
Circle Appropriate Responses
Lab Samples Taken By: 1. D.E.M. 2. D.H.S. 3. Responsible Party 4. None

Samples Taken Include: 1. Groundwater 2. Soil 3. Surface Water

LOCATION OF INCIDENT

7 1/2 Min. Quad Name: WASHINGTON, NC	Lat.: Deg : Min : Sec: 35° 33' 20" (N)
Five Min. Quad Number	Long.: Deg : Min : Sec: 77° 04' 20" (W)

Draw Sketch of Area



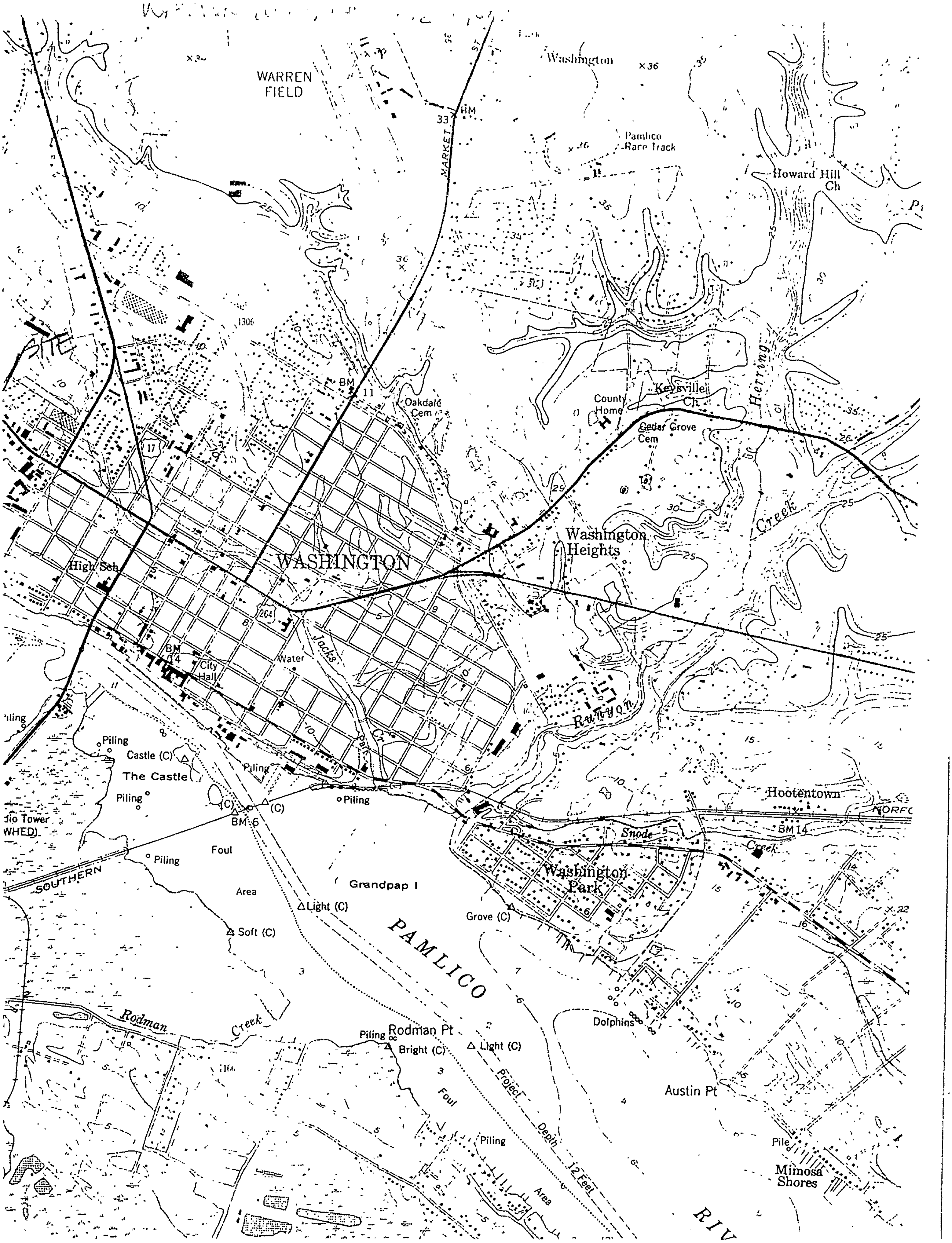
3 DISPENSERS
5 USTS (INST. 1979)
3x 5000 diesel
2 x 5000 super unleaded
1 x 5000 regular

K

Sketch Should Identify The Following:

1. Pollutant Source(s)
2. Impacted and Threatened Water Supplies
3. Direction of Overland Flow
4. Significant Recharge and Discharge Features
5. Relative Physical Structures (roads, buildings, etc.)
6. North Arrow
7. Scale


NC 7½' QUAD
WARREN FIELD
Washington
Pamlico Race Track
Howard Hill Ch
MARKET ST
Oakdale Cem
County Home
Keysville Ch
Cedar Grove Cem
Herring
Creek
WASHINGTON
Washington Heights
High Sch
City Hall
Water
Jacks
Runyon
Park
Piling
Castle (C)
The Castle
Radio Tower (WHED)
SOUTHERN
Foul Area
Grandpap I
Light (C)
Soft (C)
Grove (C)
PAMLICO
Hootentown
NORFO
Snode
Creek
Washington Park
Dolphins
Rodman Creek
Rodman Pt
Bright (C)
Light (C)
Project Depth 12 Feet
Area
Austin Pt
Pile
Mimosa Shores
RIV



WARREN FIELD
Washington
MARKET ST
Pamlico Race Track
Howard Hill Ch
Oakdale Cem
County Home
Keysville Ch
Cedar Grove Cem
Herring
Creek
Washington Heights
WASHINGTON
High Sch
City Hall
Water
Jacks
Park
Runyon
Hootentown
Snode
Creek
Washington Park
Piling
Castle (C)
The Castle
Foul
Area
SOUTHERN
Grandpap I
Light (C)
Soft (C)
Grove (C)
PAMLICO
Dolphins
Rodman
Creek
Rodman Pt
Bright (C)
Project
Depth
12 Feet
Austin Pt
Pile
Mimosa Shores
RIV

(55)

Incident Name HACKNEY INDUSTRIES
Region/County WARO / BEAUFORT
Groundwater Incident File # TAB
Ranking Performed by MORAN + TANKARD Date 7/12/90

NORTH CAROLINA

GROUNDWATER CONTAMINATION INCIDENT MANAGEMENT
SITE PRIORITY RANKING SYSTEM

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 — 0

B. Fire - free product subject to ignition in exposed areas such as surface water impoundments, streams, excavations, etc.; award 50 points total — 0

II. EXPOSURE ASSESSMENT

A. Contaminated Drinking Water Supplies

1. Private, domestic water supply well containing substances in concentrations exceeding Class GA underground water quality standards; award 10 points per well — 0

2. Public or institutional water supply well containing substances in concentrations exceeding Class GA underground water quality standards; award 30 points per well — 0

3. Exceedences of Class WS-1 surface water quality standards as a result of groundwater discharge; award 20 points per surface water body impacted — 0

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 — 0

0

B. Threat To Uncontaminated Drinking Water Supplies

1. Private, domestic water supply well located within 1500 feet downgradient of contaminant source; award 10 points per well — 0

2. Public or institutional water supply well located within 1/2 mile downgradient of contaminant source; award 15 points per well — 0

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 — 0

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 — 0

C. Vapor Phase Exposure

1. Product vapors detected in inhabitable building(s); award 30 points total — 0

2. Product vapors detected in other confined areas (uninhabitable buildings, sewer lines, utility vaults, etc.); award 5 points total — 0

III. CONTAMINANT HAZARD ASSESSMENT (chemical groups are categorized based on toxicity, mobility and persistence 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: — 30

1. Aromatic (Benzene) Acids
2. Aromatic Hydrocarbons (Benzene Derivatives)
3. Sulfonated Hydrocarbons
4. Halogenated Hydrocarbons
5. Alkaloids
6. Anilines
7. Phenols
8. Aldehydes
9. Ketones
10. Organic Sulfur Compounds (Sulfides, Mercaptans)
11. Organometallic Compounds

/30

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: 0

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: 0

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 0

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 0

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

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

5

1. Suspected or confirmed source remains in active use and continues to receive raw product, wastewater or solid waste; award 20 points per source 0

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 0

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 <u>only one</u> answer):

1. Calculations based on groundwater level measurements; award 10 points total 0

2. Observation of significant recharge/discharge features in the vicinity of contaminant source and local topographic features; award 5 points total 0

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

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 0

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 10

TOTAL POINTS AWARDED 55 /20

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

RECEIVED
WASHINGTON OFFICE
JUN 22 1990
D. E. M.

June 13, 1990

Keith Hackney
Hackney & Sons
400 Hackney Ave.
Washington, NC 27889

Reference IEA Report No.: 950001

$100.00

Dear Mr. Hackney

Transmitted herewith are the results of analyses on one sample submitted to our laboratory.

Please see the enclosed reports for your results.

Very truly yours,

INDUSTRIAL & ENVIRONMENTAL ANALYSTS, INC.

Juliana L. Nieni for
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

PURGEABLE AROMATICS
EPA METHOD 602 COMPOUNDS

IEA Sample Number: 950-001-1
Sample Identification: Test Well
Date Analyzed: 05/29/90 By: Averill

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Benzene	1.0	BQL
2	Chlorobenzene	1.0	BQL
3	1,2-Dichlorobenzene	1.0	BQL
4	1,3-Dichlorobenzene	1.0	BQL
5	1,4-Dichlorobenzene	1.0	BQL
6	Ethylbenzene	1.0	BQL
7	Toluene	1.0	BQL
8	Xylenes (Total)	1.0	BQL

Comments:

BQL = Below Quantitation Limit

COUNTY Beaufort

QUAD NO. N20 SERIAL NO. ______

LAT. ______ LONG. ______

Report to: ARO, FRO, MRO, RRO, WaRO, WiRO, WSRO, Kinston FO Other ______

Shipped by: Bus, Courier, Other ______

COLLECTOR(S): R. Tankard DATE 5-21-90 TIME ______

N.C. DEPARTMENT OF NATURAL RESOURCES
& COMMUNITY DEVELOPMENT
DEM
GROUNDWATER FIELD/LAB FORM

SAMPLE PRIORITY

☒ ROUTINE ☐ EMERGENCY

CHAIN OF CUSTODY

1

HMW

LAB NUMBER 8 OG474

DATE RECEIVED 5/22/90 Time 9:00

Rec'd by: DS From: Bus-Courier

Other ______

DATA ENTRY BY: DA CK: OS

DATE REPORTED: 7-13-90

PURPOSE: BASELINE, COMPLAINT, COMPLIANCE, UST, OTHER ______
(circle one)

FIELD ANALYSES

pH_{400} ______ Spec. Cond.$_{94}$ ______ at 25°C

Temp.$_{10}$ ______ °C Odor NA

Appearance Clear Taste ——

Field Analysis By: B. Towell

Owner Hackney And Sons

Location or site UST site on Hackney property between US Hwy 264 & Washington street

Description of sampling point Standing water in UST excavation

Sampling Method Grab
(pump, bailer, etc.)

Sample Interval ______

Remarks ______
(pumping time, air temp, etc.)

RECEIVED
JUL 17 1990
GROUNDWATER SECTION
RALEIGH, NC

LABORATORY ANALYSES

	BOD_5 310 mg/l		Diss. Solids 70300 mg/l		Ag - Silver 1077 ug/l		Organochlorine Pesticides
	COD High 340 mg/l		Fluoride 951 mg/l		Al - Aluminum 1105 ug/l		Organophosphorus Pesticides
	COD Low 335 mg/l		Hardness:Total 900 mg/l		Ba - Barium 1007 ug/l		
	Coliform:MF Fecal 31616 /100ml		Hardness (non-carb) 902 mg/l		Ca - Calcium 916 mg/l		Acid Herbicides
	Coliform:MF Total 31504 /100ml		Phenols 32730 ug/l		Cd - Cadmium 1027 ug/l		
	TOC 680 mg/l		Specific Cond. 95 uMhos/cm^2		Chromium:Total 1034 ug/l		Base / Neutral Extractable Organics
	Turbidity 76 NTU		Sulfate 945 mg/l		Cu - Copper 1042 ug/l		Acid Extractable Organics
			Sulfide 745 mg/l		Fe - Iron 1045 ug/l		
					Hg - Mercury 71900 ug/l	✓	Purgeable Organics (VOA bottle)
	pH 403 units				K - Potassium 937 mg/l		
	Alkalinity to pH 4.5 410 mg/l				Mg - Magnesium 927 mg/l		1,2 - Dibromoethane (EDB)
	Alkalinity to pH 8.3 415 mg/l				Mn - Manganese 1055 ug/l		
	Carbonate 445 mg/l				Na - Sodium 929 mg/l		
	Bicarbonate 440 mg/l		NH_3 as N 610 mg/l		Ni - Nickel 1067 ug/l		
	Arsenic:Total 1002 ug/l		TKN as N 625 mg/l		Pb - Lead 1051 ug/l		
	Carbon dioxide 405 mg/l		$NO_2 + NO_3$ as N 630 mg/l		Se - Selenium 1147 ug/l		SEE ATTACHED ORGANICS
	Chloride 940 mg/l		P:Total as P 665 mg/l		Zn - Zinc 1092 ug/l		ANALYSIS REPORT
	Chromium:Hex 1032 ug/l						RECEIVED WASHINGTON OFFICE
	Color:True 80 Pt-Co						
	Cyanide 720 mg/l						JUL 19 1990

Lab Comments: ______

D. E. M.

GW-54 Revised 7/85

For Dissolved Analysis - submit filtered sample and write "DIS" in block
White copy - Headquarters Pink copy - Region Yellow copy - Lab

VOLATILE ANALYTICAL REPORT

LAB NO. 0G474

REPORTED BY TH

CHECKED BY AKC

REVIEWED BY AKC

SUPERVISOR REK

DATE 7/11/90

ENTERED BY DA

CHECKED BY DS

SAMPLE TYPE: WATER

ANALYSIS RESULTS

STORET NO.	COMPOUND	CONCENTRATION
	NO VOLATILE ORGANIC COMPOUNDS DETECTED BY GC/ELCD.	
81576	ETHYL ETHER	3.6 UG/L T,E
-	METHYL TERTBUTYL ETHER	1300 UG/L E
34030	BENZENE	15 UG/L T,E
81551	O-XYLENE	10 UG/L T,E
	FIVE UNIDENTIFIED PEAKSDETECTED BY GC/PID.	

METHYL TERTBUTYL ETHER
CONFIRMED BY GC/MS.

T- TENTATIVE IDENTIFICATION
E-ESTIMATED QUANTITATION

COUNTY BEAUFORT
QUAD NO. N20 SERIAL NO. —
LAT. — LONG. —

N.C. DEPARTMENT OF NATURAL RESOURCES
& COMMUNITY DEVELOPMENT
DEM
GROUNDWATER FIELD/LAB FORM
CHAIN OF CUSTODY

2

LAB NUMBER 8 OG475
DATE RECEIVED 5/22/90 Time 9:00
Rec'd by: DS From: Bus-Courier
Other
DATA ENTRY BY: VA CK: DS
DATE REPORTED: 7-10-90

Report to: ARO, FRO, MRO, RRO, WaRO, WiRO, WSRO, Kinston FO Other
Shipped by: Bus, Courier, Other

SAMPLE PRIORITY
☒ ROUTINE ☐ EMERGENCY

SOIL
HMW

COLLECTOR(S): TANKARD/TOWELL DATE 5-21-90 TIME 952 PURPOSE: BASELINE, COMPLAINT, COMPLIANCE, LUST, OTHER (circle one)

FIELD ANALYSES

pH 400 — Spec. Cond. 94 — at 25°C
Temp. 10 — °C Odor —
Appearance — Taste —
Field Analysis By: TANKARD/TOWELL

Owner HACKNEY & SONS INC
Location or site CORNER OF 4TH STREET AND NEW BERN ST.
Description of sampling point COMPOSITE SAMPLE AROUND PIT
Sampling Method GRAB (pump, bailer, etc.)
Sample Interval 1/3' BLS
Remarks
(pumping time, air temp, etc.)

GROUNDWATER SECTION
RALEIGH, NC

LABORATORY ANALYSES

	BOD5 310	mg/l
	COD High 340	mg/l
	COD Low 335	mg/l
	Coliform:MF Fecal 31616	/100ml
	Coliform:MF Total 31504	/100ml
	TOC 680	mg/l
	Turbidity 76	NTU
	pH 403	units
	Alkalinity to pH 4.5 410	mg/l
	Alkalinity to pH 8.3 415	mg/l
	Carbonate 445	mg/l
	Bicarbonate 440	mg/l
	Arsenic:Total 1002	ug/l
	Carbon dioxide 405	mg/l
	Chloride 940	mg/l
	Chromium:Hex 1032	ug/l
	Color:True 80	Pt-Co
	Cyanide 720	mg/l

	Diss. Solids 70300	mg/l
	Fluoride 951	mg/l
	Hardness:Total 900	mg/l
	Hardness (non-carb) 902	mg/l
	Phenols 32730	ug/l
	Specific Cond. 95	uMhos/cm2
	Sulfate 945	mg/l
	Sulfide 745	mg/l
	NH3 as N 610	mg/l
	TKN as N 625	mg/l
	NO2 + NO3 as N 630	mg/l
	P:Total as P 665	mg/l

	Ag - Silver 1077	ug/l
	Al - Aluminum 1105	ug/l
	Ba - Barium 1007	ug/l
	Ca - Calcium 916	mg/l
	Cd - Cadmium 1027	ug/l
	Chromium:Total 1034	ug/l
	Cu - Copper 1042	ug/l
	Fe - Iron 1045	ug/l
	Hg - Mercury 71900	ug/l
	K - Potassium 937	mg/l
	Mg - Magnesium 927	mg/l
	Mn - Manganese 1055	ug/l
	Na - Sodium 929	mg/l
	Ni - Nickel 1067	ug/l
	Pb - Lead 1051	ug/l
	Se - Selenium 1147	ug/l
	Zn - Zinc 1092	ug/l

	Organochlorine Pesticides
	Organophosphorus Pesticides
	Acid Herbicides
	Base / Neutral Extractable Organics
	Acid Extractable Organics
	Purgeable Organics (VOA bottle)
	1,2 - Dibromoethane (EDB)
X	TPH (TOTAL PETROLEUM HYDROCARBON)
	SEE ATTACHED ORGANICS ANALYSIS REPORT

RECEIVED
WASHINGTON OFFICE
JUL 13 1990
D.E.M.

Lab Comments: Sample split in lab. DS

SV

GW-54 Revised 7/85

For Dissolved Analysis - submit filtered sample and write "DIS" in block
White copy - Headquarters Pink copy - Region Yellow copy - Lab

SEMIVOLATILE ORGANIC REPORT

LAB NO. 0G475

REPORTED BY PTD

ENTERED BY DA

CHECKED BY YMD

CHECKED BY DS

REVIEWED BY PTD

SUPERVISOR RCK

DATE 6/13/90

SAMPLE TYPE: SEDIMENT

ANALYSIS RESULTS

STORET NO.	COMPOUND	CONCENTRATION
	NO BASE/NEUTRAL OR ACID EXTRACTABLE ORGANICS DETECTED BY GC/MS.	

VOLATILE ANALYTICAL REPORT

LAB NO. 0G475

REPORTED BY RWB

ENTERED BY DA

CHECKED BY TH

CHECKED BY DS

REVIEWED BY ASC

SUPERVISOR REK DATE 7/10/90

SAMPLE TYPE: SEDIMENT

ANALYSIS RESULTS

STORET NO.	COMPOUND	CONCENTRATION	
	NO VOLATILE ORGANIC COMPOUNDS DETECTED BY GC/ELCD.		
-	METHYL TERTBUTYL ETHER	66 UG/KG	T
34237	BENZENE	4.3 UG/KG	
34483	TOLUENE	26 UG/KG	
34374	ETHYL BENZENE	8.3 UG/KG	T
45510	M,P-XYLENES	29 UG/KG	T
45510	O-XYLENE	67 UG/KG	
	20 UNIDENTIFIED PEAKS DETECTED BY GC/PID		

T - TENTATIVE IDENTIFICATION

COUNTY Beaufort
QUAD NO. N20 SERIAL NO. ______
LAT. ______ LONG. ______

N.C. DEPARTMENT OF NATURAL RESOURCES
& COMMUNITY DEVELOPMENT
DEM
GROUNDWATER FIELD/LAB FORM

CHAIN OF CUSTODY

3

HMW

LAB NUMBER 8 OG 476
DATE RECEIVED 5/22/90 Time 9:00
Rec'd by: DS From: Bus, Courier
Other ______
DATA ENTRY BY: DA CK: DS
DATE REPORTED: 6-20-90

Report to: ARO, FRO, MRO, RRO, WaRO, WiRO, WSRO, Kinston FO Other ______
Shipped by: Bus, Courier Other ______

SAMPLE PRIORITY
☒ ROUTINE ☐ EMERGENCY

COLLECTOR(S): R. Tankard DATE 5-21-90 TIME 1040 PURPOSE: BASELINE, COMPLAINT, COMPLIANCE, UST, OTHER ______ (circle one)

FIELD ANALYSES

pH 400 ______ Spec. Cond. 94 ______ at 25°C
Temp. 10 ______ °C Odor N/A
Appearance Cloudy Taste ——
Field Analysis By: B. Towell

Owner Hackney and Sons
Location or site UST on Hackney property between Hwy 264 and New Bern street
Description of sampling point Temp BH #1 3' BLS
Sampling Method ~~[illegible]~~ Bailer (pump, bailer, etc.) Sample Interval
Remarks Removed three volumes before sampling (pumping time, air temp, etc.)

RECEIVED
JUN 22 1990
GROUNDWATER SECTION
RALEIGH, NC

LABORATORY ANALYSES

	BOD5 310 mg/l		Diss. Solids 70300 mg/l		Ag - Silver 1077 ug/l		Organochlorine Pesticides
	COD High 340 mg/l		Fluoride 951 mg/l		Al - Aluminum 1105 ug/l		Organophosphorus Pesticides
	COD Low 335 mg/l		Hardness:Total 900 mg/l		Ba - Barium 1007 ug/l		
	Coliform:MF Fecal 31616 /100ml		Hardness (non-carb) 902 mg/l		Ca - Calcium 916 mg/l		Acid Herbicides
	Coliform:MF Total 31504 /100ml		Phenols 32730 ug/l		Cd - Cadmium 1027 ug/l		
	TOC 680 mg/l		Specific Cond. 95 uMhos/cm^2		Chromium:Total 1034 ug/l		Base / Neutral Extractable Organics
	Turbidity 76 NTU		Sulfate 945 mg/l		Cu - Copper 1042 ug/l		Acid Extractable Organics
			Sulfide 745 mg/l		Fe - Iron 1045 ug/l		
					Hg - Mercury 71900 ug/l	✓	Purgeable Organics (VOA bottle)
	pH 403 units				K - Potassium 937 mg/l		
	Alkalinity to pH 4.5 410 mg/l				Mg - Magnesium 927 mg/l		1,2 - Dibromoethane (EDB)
	Alkalinity to pH 8.3 415 mg/l				Mn - Manganese 1055 ug/l		
	Carbonate 445 mg/l				Na - Sodium 929 mg/l		
	Bicarbonate 440 mg/l		NH_3 as N 610 mg/l		Ni - Nickel 1067 ug/l		
	Arsenic:Total 1002 ug/l		TKN as N 625 mg/l		Pb - Lead 1051 ug/l		
	Carbon dioxide 405 mg/l		$NO_2 + NO_3$ as N 630 mg/l		Se - Selenium 1147 ug/l		SEE ATTACHED ORGANICS ANALYSIS REPORT
	Chloride 940 mg/l		P:Total as P 665 mg/l		Zn - Zinc 1092 ug/l		
	Chromium:Hex 1032 ug/l						
	Color:True 80 Pt-Co						
	Cyanide 720 mg/l						

RECEIVED WASHINGTON OFFICE
JUN 26 1990
D. E. M.

Lab Comments: ______

GW-54 Revised 7/85

For Dissolved Analysis - submit filtered sample and write "DIS" in block
White copy - Headquarters Pink copy - Region Yellow copy - Lab

✓

VOLATILE ANALYTICAL REPORT

LAB NO. 0G476

REPORTED BY TH

CHECKED BY AGC

REVIEWED BY AGC

SUPERVISOR PTD DATE 6/19/90

ENTERED BY DA

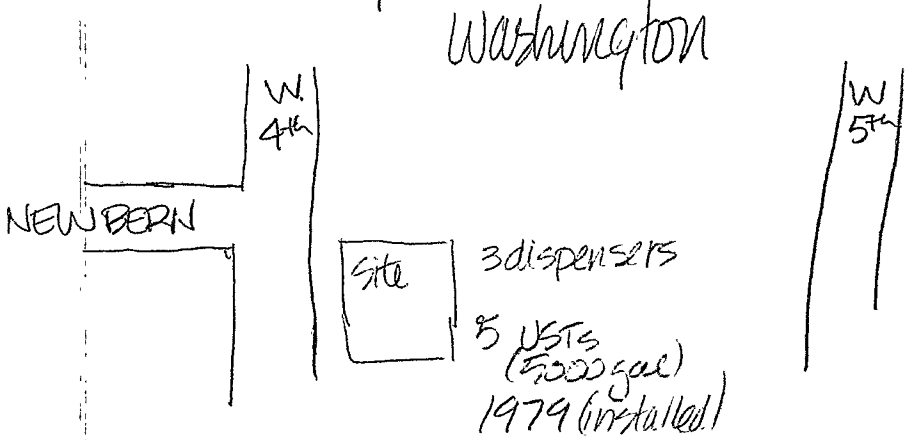
CHECKED BY DS

SAMPLE TYPE: WATER

ANALYSIS RESULTS

STORET NO.	COMPOUND	CONCENTRATION
	NO VOLATILE ORGANIC COMPOUNDS DETECTED BY GC/ELCD.	
-	METHYL TERTBUTYL ETHER	360 UG/L
	12 UNIDENTIFIED PEAKS DETECTED BY GC/PID	

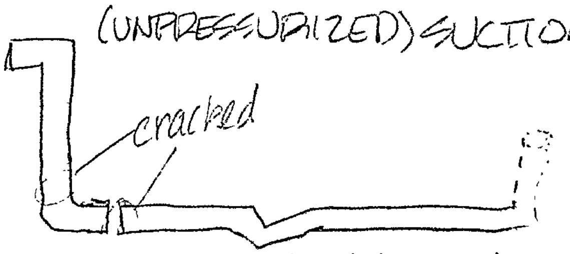
May 18 1990 Friday



Hackney Co
946-6521

Tunkard/Powers met w/
Keith Hackney, prop.
Steve Hill, plant mgr
Teddy Grilkspoon, plant superv.
Charles Mason

Incident Description



APPROX 35' long, 2" diam $V = 2\pi r^2 l$

$Vol = 2(3.14)(1/12)^2(35)$
$= 6.11$ cu ft

- bent by contracted backhoe during removal prior to tank ~~test~~ tightness
- workers saw no standing product (unleaded gasoline)
- workers dug a 3 x 4 x 4 pit and stopped digging at top of WT
- had < 10 cu yd of pot. contam. soil/rock
- slight sheen appeared on seepage

Other points of concern
FILL AREA

- green
- green
- green } 3 x 5000 diesel
- red
- red } 2 x 5000 super unleaded
- blue } 1 x 5000 reg.

fill area contained six fuel ports with corresponding overfill basins. [illegible] contained a mixture of product & water

5/18/90

2

Recommendations
BT told them about catch basins being in violation
BT advised them to ① take a gw sample & soil samples from around pit walls
② cover up pit to prevent rainfall seepage
③ pump + store H_2O if pit fills up
④ wait till we contacted Al Hodge before doing anything w/ soil

[BT contacted A Hodge who told us to tell Hackney to spread soil thinly on a grassy area]

HACKNEY INDUSTRIES, INC.
Leadership In Engineering Technology

Keith D. Hackney
Vice President & General Counsel

400 Hackney Avenue/P.O. Box 880
Washington, North Carolina 27889-0880
Telephone 919-946-6521

MEMORANDUM

HACKNEY INDUSTRIES, INC.
Leadership In Engineering Technology
P. O. Box 880 - Washington, N. C. 27889-0880
Telephone 919-946-6521

FROM: Keith Hackney
NAME

DIV./DEPT.

FOR: Robert Tankard

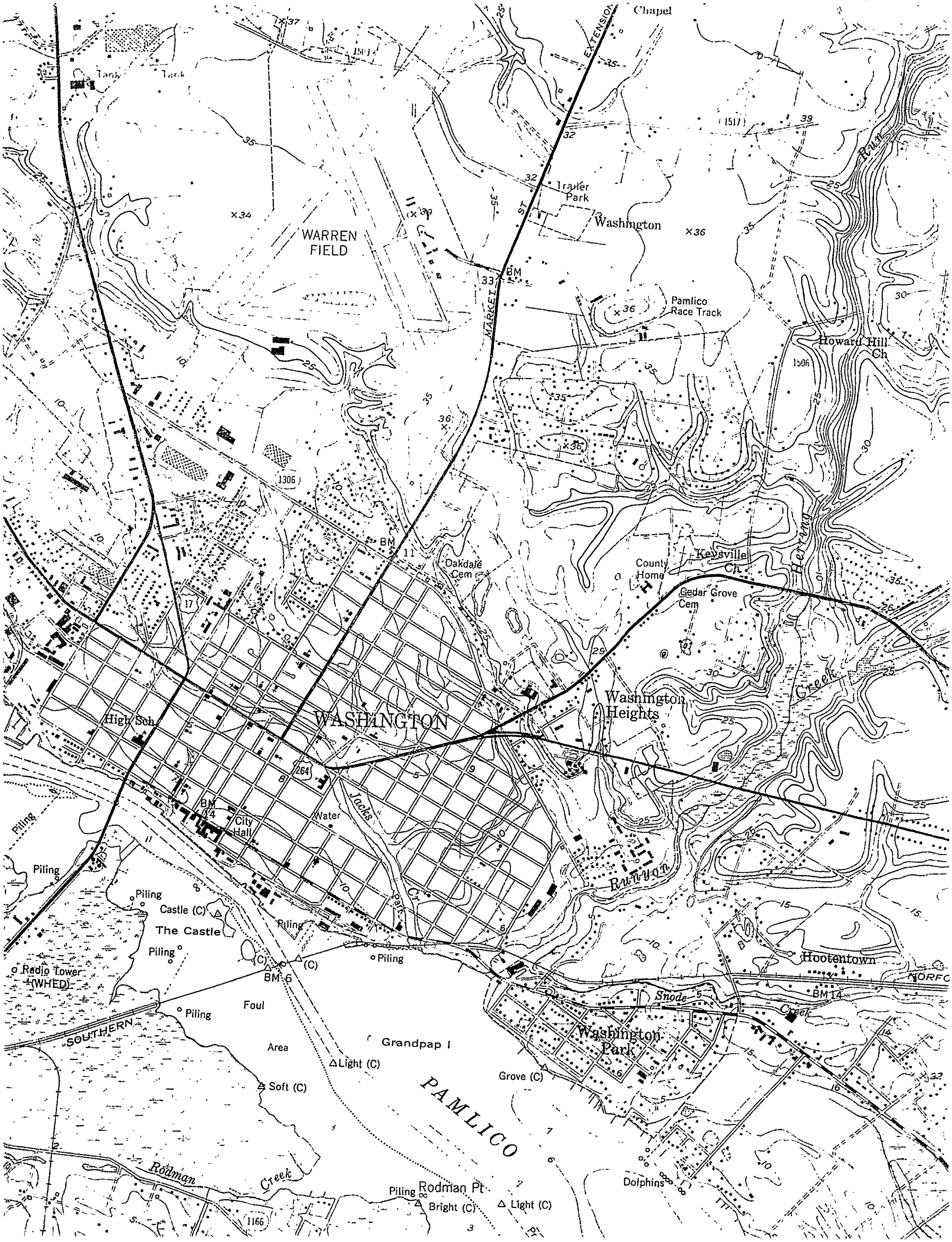
DATE: 6/21/90

RECEIVED
WASHINGTON OFFICE
JUN 22 1990
D. E. M.

Robert -

Please find enclosed a copy of the test results from our underground storage tank spill at Hackney and Sons, Inc. Thanks for all your help and please give me a call if something else is needed or questions come up.

Thanks,



Chapel
EXTENSION
Tank
Tank
Trailer Park
Washington
WARREN FIELD
MARKET ST
BM
Pamlico Race Track
Howard Hill Ch
Run
Herring
Creek
Oakdale Cem
County Home
Keysville Ch
Cedar Grove Cem
Washington Heights
WASHINGTON
High Sch
Water
Jacks
BM
City Hall
Runyon
Piling
Castle (C)
The Castle
Radio Tower (WHED)
BM 6
(C)
Foul
Area
Grandpap I
Light (C)
Soft (C)
SOUTHERN
PAMLICO
Grove (C)
Washington Park
Snode
Creek
Hootentown
NORFO
BM 14
Dolphins
Rodman
Creek
Rodman Pt
Bright (C)
Light (C)

WARO

Division of Environmental Management
GROUNDWATER SECTION

RECEIVED WASHINGTON OFFICE
MAY 25 1990
D. E. M.

CHAIN OF CUSTODY RECORD

For Investigation of UST SITES Incident No. ____

Samples collected and GW-54 forms completed by: ____

Lab Only Lab No.	Quad No.	Location	Date	Time	No. of Containers
OG474	N20	HACKNEY & SONS #1	5/21/90	950	1
OG475	N20	HACKNEY & SONS #2	5/21/90	952	1 *
OG476	N20	HACKNEY & SONS #3	5/21/90	1040	1
OG477	K23	HARRISON OIL CO. #4	5/21/90	1300	1 *
OG478	K23	HARRISON OIL CO. #5	5/21/90	1305	1 *
OG479	K23	HARRISON OIL CO. #6	5/21/90	1430	1

Relinquished by (Signature):	Received by (Signature):	Date/Time
Robert Tankard	Donna Saunders	5/22/90 9:20
Rel.	Rec. by	/
Rel.	Rec. by	/
Rel.	Rec. by	/

Method of Shipment: STATE COURIER

Security Type and Condition: Seal by: TANKARD Lock by: TANKARD Broken by: Donna Saunders Open by:

LAB USE ONLY

Lab No. From	Lab No. Through	No. Containers	Analysis	Relinquished by	Received by	Date / Time
OG474		1	VOH	Donna Saunders	Anne L. Chandler	5-22-90 9:21Am
OG475		1	Soil/VOH	Donna Saunders	Anne L. Chandler	5-22-90 9:21Am
OG476		1	VOH	Donna Saunders	Anne L. Chandler	5-22-90 9:21Am
OG477	OG478	2	VOH/Soil	Donna Saunders	Anne L. Chandler	5-22-90 9:21Am
OG479		1	VOH	Donna Saunders	Anne L. Chandler	5-22-90 9:21Am
						/
* Sample Split in lab						/
OG475		1	Semi Soil VOL	Donna Saunders	Chet [illegible]	5-22-90 9:50
OG477	OG478	2	Semi Soil VOL	Donna Saunders	Chet [illegible]	5-22-90 9:50

White copy - GW Headquarters, Canary copy - Lab, Pink copy - Region

GW-63 Revised 9/87

Division of Environmental Management

GROUNDWATER SECTION

CHAIN OF CUSTODY RECORD

For Investigation of UST SITES Incident No.

Samples collected and GW-54 forms completed by:

Lab Only Lab No.	Quad No.	Location	Date	Time	No. of Containers
	N20	HACKNEY & SONS #1	5/21/90	950	1
	N20	HACKNEY & SONS #2	5/21/90	952	1
	N20	HACKNEY & SONS #3	5/21/90	1040	1
	K23	HARRISON OIL CO. #4	5/21/90	1300	1
	K23	HARRISON OIL CO. #5	5/21/90	1305	1
	K23	HARRISON OIL CO. #6	5/21/90	1430	1

Relinquished by(Signature):	Received by(Signature):	Date/Time
Robert Tankard		/
Rel.	Rec. by	/
Rel.	Rec. by	/
Rel.	Rec. by	/

Method of Shipment: STATE COURIER

Security Type and Condition: Seal by: TANKARD Lock by: TANKARD Broken by: Open by:

LAB USE ONLY

Lab No. From	Through	No. Containers	Analysis	Relinquished by	Received by	Date / Time
						/
						/
						/
						/
						/
						/
						/
						/
						/

White copy - GW Headquarters, Canary copy - Lab, Pink copy - Region

Revised 9/87

QUAD NO. N20 SERIAL NO. ______

LAT. ______ LONG. ______

Report to: ARO, FRO, MRO, RRO, WaRO, WiRO, WSRO, Kinston FO Other ______

Shipped by: Bus, Courier, Other ______

COLLECTOR(S): R. Tankard DATE 5-21-90 TIME 1040

& COMMUNITY DEVELOPMENT

DEM

GROUNDWATER FIELD/LAB FORM

SAMPLE PRIORITY

☑ ROUTINE ☐ EMERGENCY

3

DATE RECEIVED ______ Time ______

Rec'd by: ______ From: Bus-Courier

Other ______

DATA ENTRY BY: ______ CK: ______

DATE REPORTED: ______

PURPOSE: BASELINE, COMPLAINT, COMPLIANCE, UST, OTHER ______ (circle one)

FIELD ANALYSES

pH 400 ______ Spec. Cond. 94 ______ at 25°C

Temp. 10 ______ °C Odor NA

Appearance Cloudy Taste ——

Field Analysis By: B. Towell

Owner Hackney And Sons

Location or site UST on Hackney property between Hwy 264 and New Bern Street

Description of sampling point Temp BH #1 3' BLS

Sampling Method ~~Pump~~ Bailer (pump, bailer, etc.) Sample Interval ______

Remarks Removed three volumes before sampling (pumping time, air temp, etc.)

LABORATORY ANALYSES

BOD5 310 mg/l	Diss. Solids 70300 mg/l	Ag - Silver 1077 ug/l	Organochlorine Pesticides
COD High 340 mg/l	Fluoride 951 mg/l	Al - Aluminum 1105 ug/l	Organophosphorus Pesticides
COD Low 335 mg/l	Hardness:Total 900 mg/l	Ba - Barium 1007 ug/l	
Coliform:MF Fecal 31616 /100ml	Hardness (non-carb) 902 mg/l	Ca - Calcium 916 mg/l	Acid Herdicides
Coliform:MF Total 31504 /100ml	Phenols 32730 ug/l	Cd - Cadmium 1027 ug/l	
TOC 680 mg/l	Specific Cond. 95 uMhos/cm2	Chromium:Total 1034 ug/l	Base / Neutral Extractable Organics
Turbidity 76 NTU	Sulfate 945 mg/l	Cu - Copper 1042 ug/l	Acid Extractable Organics
	Sulfide 745 mg/l	Fe - Iron 1045 ug/l	
		Hg - Mercury 71900 ug/l	✓ Purgeable Organics (VOA bottle)
pH 403 units		K - Potassium 937 mg/l	
Alkalinity to pH 4.5 410 mg/l		Mg - Magnesium 927 mg/l	1,2 - Dibromoethane (EDB)
Alkalinity to pH 8.3 415 mg/l		Mn - Manganese 1055 ug/l	
Carbonate 445 mg/l		Na - Sodium 929 mg/l	
Bicarbonate 440 mg/l	NH_3 as N 610 mg/l	Ni - Nickel 1067 ug/l	
Arsenic:Total 1002 ug/l	TKN as N 625 mg/l	Pb - Lead 1051 ug/l	
Carbon dioxide 405 mg/l	$NO_2 + NO_3$ as N 630 mg/l	Se - Selenium 1147 ug/l	
Chloride 940 mg/l	P:Total as P 665 mg/l	Zn - Zinc 1092 ug/l	
Chromium:Hex 1032 ug/l			
Color:True 80 Pt-Co			
Cyanide 720 mg/l			

Lab Comments: ______

GW-54 Revised 7/85

For Dissolved Analysis - submit filtered sample and write "DIS" in block

White copy - Headquarters Pink copy - Region Yellow copy - Lab

QUAD NO. N20 SERIAL NO. ___ & COMMUNITY DEVELOPMENT DATE RECEIVED ______ Time ______

LAT. ______ LONG. ______ DEM Rec'd by: ______ From: Bus-Courier

2

Report to: ARO, FRO, MRO, RRO, WaRO, WiRO, WSRO, Kinston FO Other ______

GROUNDWATER FIELD/LAB FORM

SAMPLE PRIORITY

☒ ROUTINE ☐ EMERGENCY

SOIL

Other ______

DATA ENTRY BY: ______ CK: ______

DATE REPORTED: ______

Shipped by: Bus, Courier, Other ______

COLLECTOR(S): TANKARD/TOWELL DATE 5-21-90 TIME 952 PURPOSE: BASELINE, COMPLAINT, COMPLIANCE, LUST, OTHER ______ (circle one)

FIELD ANALYSES

pH_{400} ___ Spec. Cond.$_{94}$ ___ at 25°C

Temp.$_{10}$ ___ °C Odor ___

Appearance ___ Taste ___

Field Analysis By: TANKARD/TOWELL

Owner HACKNEY & SONS INC

Location or site CORNER OF 4TH STREET AND NEW BERN ST.

Description of sampling point COMPOSITE SAMPLE AROUND PITT

Sampling Method GRAB (pump, bailer, etc.) Sample Interval 3' BLS

Remarks ______ (pumping time, air temp, etc.)

LABORATORY ANALYSES

	BOD_5 310	mg/l
	COD High 340	mg/l
	COD Low 335	mg/l
	Coliform:MF Fecal 31616	/100ml
	Coliform:MF Total 31504	/100ml
	TOC 680	mg/l
	Turbidity 76	NTU
	pH 403	units
	Alkalinity to pH 4.5 410	mg/l
	Alkalinity to pH 8.3 415	mg/l
	Carbonate 445	mg/l
	Bicarbonate 440	mg/l
	Arsenic:Total 1002	ug/l
	Carbon dioxide 405	mg/l
	Chloride 940	mg/l
	Chromium:Hex 1032	ug/l
	Color:True 80	Pt-Co
	Cyanide 720	mg/l

	Diss. Solids 70300	mg/l
	Fluoride 951	mg/l
	Hardness:Total 900	mg/l
	Hardness (non-carb) 902	mg/l
	Phenols 32730	ug/l
	Specific Cond. 95	uMhos/cm^2
	Sulfate 945	mg/l
	Sulfide 745	mg/l
	NH_3 as N 610	mg/l
	TKN as N 625	mg/l
	$NO_2 + NO_3$ as N 630	mg/l
	P:Total as P 665	mg/l

	Ag - Silver 1077	ug/l
	Al - Aluminum 1105	ug/l
	Ba - Barium 1007	ug/l
	Ca - Calcium 916	mg/l
	Cd - Cadmium 1027	ug/l
	Chromium:Total 1034	ug/l
	Cu - Copper 1042	ug/l
	Fe - Iron 1045	ug/l
	Hg - Mercury 71900	ug/l
	K - Potassium 937	mg/l
	Mg - Magnesium 927	mg/l
	Mn - Manganese 1055	ug/l
	Na - Sodium 929	mg/l
	Ni - Nickel 1067	ug/l
	Pb - Lead 1051	ug/l
	Se - Selenium 1147	ug/l
	Zn - Zinc 1092	ug/l

	Organochlorine Pesticides
	Organophosphorus Pesticides
	Acid Herbicides
	Base / Neutral Extractable Organics
	Acid Extractable Organics
	Purgeable Organics (VOA bottle)
	1,2 - Dibromoethane (EDB)
X	TPH (TOTAL PETROLEUM
	HYDROCARBON)

Lab Comments: ______

GW-54 Revised 7/85

For Dissolved Analysis - submit filtered sample and write "DIS" in block
White copy - Headquarters Pink copy - Region Yellow copy - Lab

QUAD NO. Q/20 SERIAL NO.
LAT. LONG.

Report to: ARO, FRO, MRO, RRO, WaRO, WiRO, WSRO, Kinston FO Other

Shipped by: Bus, Courier, Other

N.C. DEPARTMENT OF NATURAL RESOURCES
& COMMUNITY DEVELOPMENT
DEM
GROUNDWATER FIELD/LAB FORM

SAMPLE PRIORITY

☒ ROUTINE ☐ EMERGENCY

1

LAB NUMBER 8
DATE RECEIVED Time
Rec'd by: From: Bus-Courier
Other
DATA ENTRY BY: CK:
DATE REPORTED:

COLLECTOR(S): R. Tankard DATE 5-21-90 TIME 0950 PURPOSE: BASELINE, COMPLAINT, COMPLIANCE, UST, OTHER
(circle one)

FIELD ANALYSES

pH_{400} ____ Spec. Cond.$_{94}$ ____ at 25°C
$Temp._{10}$ ____ °C Odor N/A
Appearance Clear Taste —
Field Analysis By: B. Towell

Owner Hackney And Sons
Location or site UST site on Hackney property between U.S. Hwy. 264 And New Bern Street
Description of sampling point Standing water in UST excavation
Sampling Method Grab (pump, bailer, etc.) Sample Interval —
Remarks
(pumping time, air temp, etc.)

LABORATORY ANALYSES

	BOD_5 310	mg/l		Diss. Solids 70300	mg/l		Ag - Silver 1077	ug/l		Organochlorine Pesticides	
	COD High 340	mg/l		Fluoride 951	mg/l		Al - Aluminum 1105	ug/l		Organophosphorus Pesticides	
	COD Low 335	mg/l		Hardness:Total 900	mg/l		Ba - Barium 1007	ug/l			
	Coliform:MF Fecal 31616	/100ml		Hardness (non-carb) 902	mg/l		Ca - Calcium 916	mg/l		Acid Herdicides	
	Coliform:MF Total 31504	/100ml		Phenols 32730	ug/l		Cd - Cadmium 1027	ug/l			
	TOC 680	mg/l		Specific Cond. 95	$uMhos/cm^2$		Chromium:Total 1034	ug/l		Base / Neutral Extractable Organics	
	Turbidity 76	NTU		Sulfate 945	mg/l		Cu - Copper 1042	ug/l		Acid Extractable Organics	
				Sulfide 745	mg/l		Fe - Iron 1045	ug/l			
							Hg - Mercury 71900	ug/l	✓	Purgeable Organics (VOA bottle)	
	pH 403	units					K - Potassium 937	mg/l			
	Alkalinity to pH 4.5 410	mg/l					Mg - Magnesium 927	mg/l		1,2 - Dibromoethane (EDB)	
	Alkalinity to pH 8.3 415	mg/l					Mn - Manganese 1055	ug/l			
	Carbonate 445	mg/l					Na - Sodium 929	mg/l			
	Bicarbonate 440	mg/l		NH_3 as N 610	mg/l		Ni - Nickel 1067	ug/l			
	Arsenic:Total 1002	ug/l		TKN as N 625	mg/l		Pb - Lead 1051	ug/l			
	Carbon dioxide 405	mg/l		$NO_2 + NO_3$ as N 630	mg/l		Se - Selenium 1147	ug/l			
	Chloride 940	mg/l		P:Total as P 665	mg/l		Zn - Zinc 1092	ug/l			
	Chromium:Hex 1032	ug/l									
	Color:True 80	Pt-Co									
	Cyanide 720	mg/l									

Lab Comments:

GW-54 Revised 7/85

For Dissolved Analysis - submit filtered sample and write "DIS" in block
White copy - Headquarters Pink copy - Region Yellow copy - Lab

Kidron

KIDRON, INC.
13442 EMERSON ROAD * BOX 17 * KIDRON, OH 44636-0017

FAX

Date: 6/24/97
Number of pages including cover sheet: 2

To: Jeff Welti
Phone: (919) 946-6481
FAX Phone: (919) 975-3716
CC:

From: Tim Ohler
Phone: 330-857-3011
FAX Phone: 330-857-0203

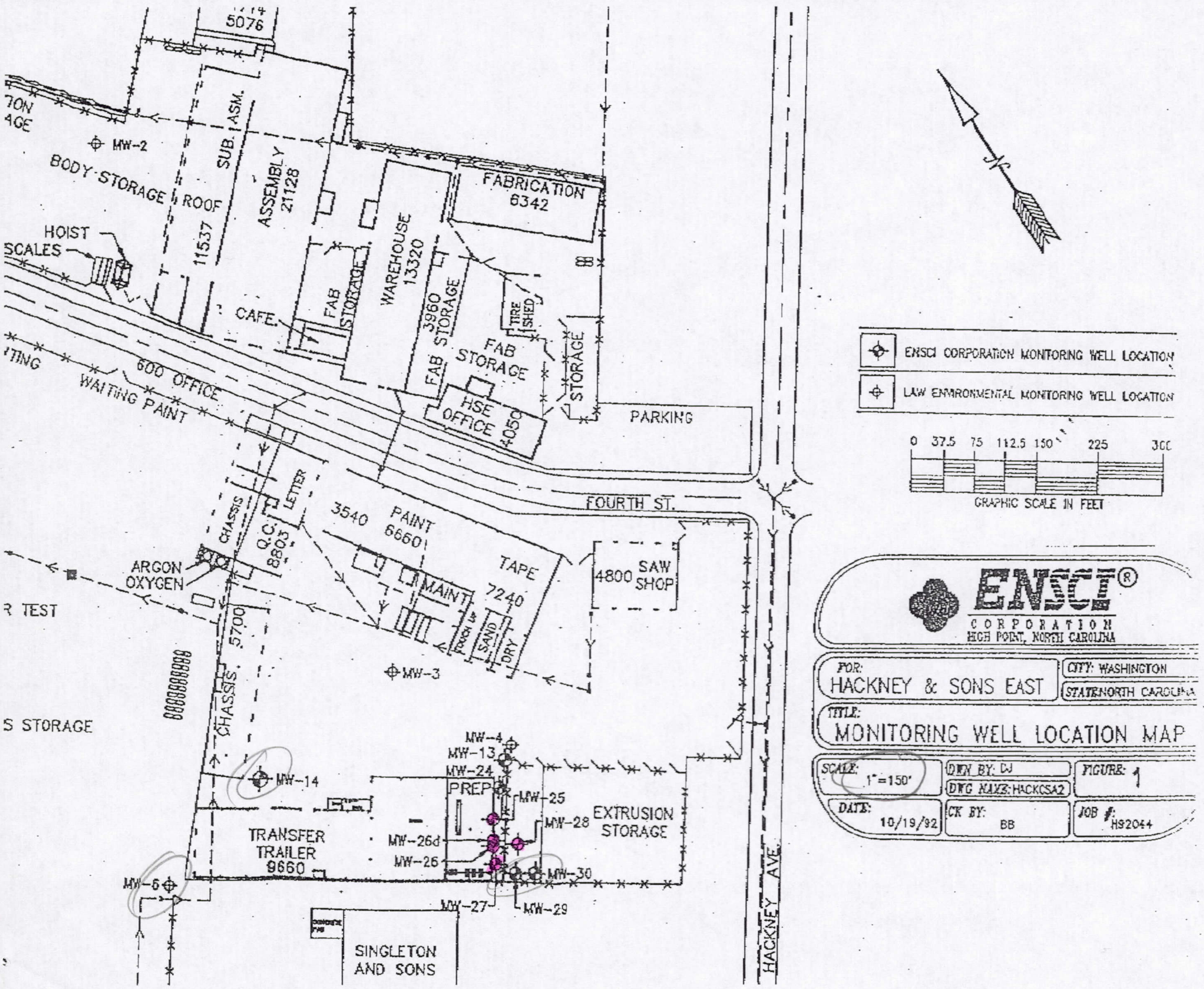
REMARKS: Urgent For your review Reply ASAP Please comment

Jeff
Enclosed is the bottom right corner of the site map with well locations.

The monitoring wells that surround MW-26d are the one you thought we should sample. After reviewing this map I am suggesting we sample the following wells, if the wells are still good.

① MW-25 ② MW-26 ③ MW-26d ④ MW-27
⑤ MW-28
Please review this and let me know if this plan is acceptable. Thank you!
Tim Ohler

6-24-1997 10:37AM FROM KIDRON INC 330 857 0203 P. 2



ENSCI®
CORPORATION

January 26, 1993

Mr. Guy Pearce, Hydrogeological Technician
NC Department of Environment, Health, and Natural Resources
Division of Environmental Management
Groundwater Section
1424 Carolina Avenue
Washington, North Carolina 27889

RE: Remediation of the Hackney and Sons (East), Incorporated Facility.

Dear Mr. Pearce:

The purpose of this letter is to present the attached data set that provides details of POLYBAC Corporation's (POLYBAC) biological treatment system/technology that ENSCI is proposing as a remedial system for the subject facility. In addition to this data, the results of a treatability study performed by POLYBAC on impacted groundwater sourced from the site have been included. As we have discussed in the past, ENSCI is proposing to use a microbial based technology to remediate the three plumes at the subject facility in the corrective action phase of this project. We propose to use a CTX-BIOX 75 unit to remediate the three plumes pumping at an approximate rate of fifteen gallons per minute.

In the attached data, you will find data on POLYBAC biotechnology, the bioreactor, and the treatability study performed on groundwater recovered from MW# 15 in the Trailer Test Area. Per our past discussions, groundwater from MW# 15 was chosen as representative of the three plumes because it is one of the most impacted locations on the property. The data included in the treatability study indicates that 100% removal of detected volatile and semi-volatile compounds was achieved in the treatability study. However, the treatability data indicates the presence of oil and grease in the effluent at 2.3 ppm by EPA Method 418.1.

When the groundwater samples were being acquired for the treatability study, there was detection of free petroleum product in monitoring wells #15 and #17. This detection was the first time phase separated products have been encountered at the site in any monitoring well. It is currently assumed that the groundwater pumped from the Trailer Test Area will go through an oil/water separator prior to going to the equalization tank in front of the bioreactor. In the equalization tank, groundwater from all three plumes will be mixed prior to introduction into the bioreactor. Ostensibly, the mixing of the groundwater from the three areas should reduce the influent oil and grease levels from 11.8 ppm to ~4-5 ppm. Dilution of the oil and grease levels in the influent stream should result in complete degradation of all hydrocarbon compounds in the bioreactor.

1108 Old Thomasville Rd. • High Point, NC 27260 • 919-883-7505 • Fax 919-882-7958

I would like to schedule a meeting with you for the first week in February, if possible, to review the proposed technology. In my discussions with Jim Mulligan last week, he indicated that he would meet with you after our meeting to get pertinent information regarding the proposed application. If I can answer any questions, please do not hesitate to call.

Sincerely Yours:

ENSCI Corporation

Bruce K. Braswell

Bruce K. Braswell, P.G.
Senior Hydrogeologist

Post-it™ brand fax transmittal memo 7671	# of pages ▸ 1
To Guy Pierce	From B. Braswell
Co.	Co. ENSCI
Dept.	Phone #
Fax #	Fax #

ENSCI

ENGINEERING GROUP, P.A.

April 6, 1993

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Guy Pierce
NCDEHNR-Groundwater Section
Washington Regional Office
Washington, North Carolina

RE: Proposed Schedule for Implementation of Remedial Action Plan for the Hackney & Sons, Inc. Site, Washington, North Carolina

Dear Mr. Pierce:

Per your letter dated March 26, 1993, a schedule has been prepared for the implementation of the Remedial Action Plan for the Hackney & Sons, Inc. facility located at 400 Hackney Ave in Washington, North Carolina. The proposed schedule is as follows:

- Begin construction 2 weeks after approval of a non-discharge permit
- End construction 4 weeks after permit approval
- Buildup biomass in the bioreactor from 4-6 weeks after permit approval
- Begin remediation of contaminated groundwater 6 weeks after permit approval.

If you require further information or have any questions, please contact me, or Steve Stadelman, at ENSCI Corporation.

Sincerely,

Bruce K. Braswell

Bruce K. Braswell, P.G.
Senior Hydrogeologist
ENSCI Corporation, Inc.

cc: Jay Witte

Post Office Box 80275
Raleigh, North Carolina 27623-0275
T (919) 787-8209
F (919) 881-8205

1108 Old Thomasville Road
High Point, North Carolina 27260
T (919) 883 7505
F (919) 882-7958

RT/Ok RO

ENSCI CORPORATION

RECEIVED
WASHINGTON OFFICE
APR 1 1991
D. E. M.

MEMORANDUM

TO: Jim Mulligan, John Mazzarino

FROM: Bob Cottam, Bruce Braswell

DATE: March 26, 1991

SUBJECT: Hackney and Sons (East), Washington, NC

Dear Jim:

I am writing to confirm a 10:00 a.m. meeting on Friday, April 5. Please reference a cover letter which was forwarded to you and the staff with regard to Hackney and Sons (East) and the (Phase I) Groundwater Assessment dated March 21, 1991.

There are a number of issues we need to focus on:

- Development of a critical path to an SOC on Hackney.
- Non-Discharge Permit for Treated Groundwater - Pilot Scale Treatment operations.
- Potential NPDES to Kennedy Creek outfall.
- Potential "use" of treated groundwater by National Spinning.
- Politics of POTW - City of Washington.
- Wells Junkyard, strategy with regard to overall Hackney Remedial Action.
- Air Quality - source emissions air stripper - Pilot Scale Treatment operations.
- Input - Testing Program by NCDEM Phase II work in any suggestions, changes modifications DEM may have.
- Disposition (disposal) Groundwater from Drawdown tests - <u>any hope of discharge to POTW, or other less expensive options</u>.

We will furnish the DEM with a copy of the proposed Phase II, work with designs, etc. I don't know when we will have completed copies, but I hope to get a hard copy in your hand by Thursday, April 4.

1108 Old Thomasville Rd. • High Point, NC 27260 • 919-883-7505 • Fax 919-882-7958

Thanks for all your assistance in the timely disposition of this matter. Please do not hesitate to contact myself, Bruce Braswell or Judy Cox if you have questions or we may be of assistance.

Very truly yours,

ENSCI CORPORATION

R.T. Cottam III

Robert T. Cottam, III
President

RTC/few

1620
PGM

Hackney
AND SONS, Inc.

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DEPT. GROUND WATER SEC.
94 JUL 11 AM 9:55

400 HACKNEY AVENUE • P.O. BOX 880 • WASHINGTON, NORTH CAROLINA 27889-0880 • TELEPHONE 919-946-6521

July 6, 1994

RECEIVED
WASHINGTON OFFICE
JUL 14 1994
D. E. M.

Groundwater Section
PO Box 29535
Raleigh, NC 27626

Dear Sir or Madam:

In accordance with our permit No. WQ0007970 dated August 24, 1963, I have enclosed one copy of the results of the sampling and analysis of the 11 monitoring wells stated in the permit and the two additional wells 31B, 26. Also enclosed is one copy of influent and effluent analysis and daily log for April, May, and June.

Sincerely,

Charles R Mason

Charles R. Mason
Industrial Engineer

MANUFACTURING FACILITIES:

HACKNEY & SONS, INC.
400 HACKNEY AVENUE
WASHINGTON, NORTH CAROLINA 27889
TELEPHONE 919-946-6521

HACKNEY & SONS, INC.
300 HACKNEY AVENUE
INDEPENDENCE, KANSAS 67301
TELEPHONE 316-331-6600

HACKNEY AND SONS WATER TREATMENT PLANT														May-94
May-94														
	TEST	TEST	TEST	P.H. ADDJUST		PHOSPATE ADDED		BUGS	PUMPIING AREA 'A'		PUMPIING AREA 'B'			
	PH	AMMONIA	PHOSPHATE	LIME	CAUSTIC	LARGE TANK	METERING	ADDED	READING	TOTAL	READING	TOTAL	DATE	
DATE	6.5	0.8	25			2			77880	0	142353	0	1-May	
1-May	6.5	0.6	25		2	4			78230	350	143230	877	2-May	
2-May													3-May	
3-May	6.5	1	25		2	3			78460	580	145890	3537	4-May	
4-May	7	0.6	30		2	2		1	78520	640	147290	4937	5-May	
5-May	7	0.9	30		2	3			79353	1473	147640	5287	6-May	
6-May													7-May	
7-May	7	0.8			2	2			80310	2430	148580	6227	8-May	
8-May	7	0.6	30		2	2			80530	2650	148970	6617	9-May	
9-May	7		35		2	2							10-May	
10-May	7	4	35						80980	3100	149870	7517	11-May	
11-May	6.5	3	30		2			2	81410	3530	151030	8677	12-May	
12-May	6	1.5	30		3	2			81560	3680	152400	10047	13-May	
13-May	6.5												14-May	
14-May	7	1.5	30		2				81570	3690	154780	12427	15-May	
15-May	7	1	30		2	2			82480	4600	154850	12497	16-May	
16-May	7.2	0.9	30		1	1		2	83120	5240	155440	13087	17-May	
17-May	6	1.5	30		2	1.5			83520	5640	155990	13637	18-May	
18-May	6.8	1	25		1.5	1	12		83720	5840	156240	13887	19-May	
19-May	6.8	1	30		2	1.5			83810	5930	156610	14257	20-May	
20-May													21-May	
21-May													22-May	
22-May	6.6	1	25		2	4.5			84150	6270	157680	15327	23-May	
23-May	6.6	1	30		2	3			84520	6640	158100	15747	24-May	
24-May	6	1.5	30		3	3			84680	6800	158210	15857	25-May	
25-May	6.6	1	35		1.5	3			84890	7010	158334	15981	26-May	
26-May	6	1	35		4	6			85230	7350	158680	16327	27-May	
27-May													28-May	
28-May	6.5	1	30		2	1			85910	8030	160220	17867	29-May	
29-May													30-May	
30-May	6	1.5	30		3	1			86360	8480	161120	18767	31-May	
31-May														

AquaChem
ENVIRONMENTAL LABORATORIES, INC.
11176 DOWNS ROAD
PINEVILLE, NC 28134
704/588-5076
FAX 704/588-2454

CHAIN OF CUSTODY

Client: HACKNEY AND SONS
Address: 400 HACKNEY AV. P.O. BOX 880
City: WASHINGTON State: N.C. Zip: 27889
Contact Person: CHARLES MASON
Sampled By: CHARLES MASON

Phone Number: (919) 946-6521 EXT 244
Fax Number: (919) 975-8344
Purchase Order Number: E79444
Certification Requirement: N/A
Project Name: WATER TREATMENT
Rush Charges Authorized ☐ Yes ☒ No

By relinquishing this sample(s) to Laboratory Personnel, I warrant that I am authorized to enter into this agreement for the Client named above and that I authorize the below analysis subject to the terms and conditions on the reverse hereof. This agreement is governed by the terms and conditions on the reverse side hereof. Analysis charges shall be as included in the Laboratories fee schedule in effect at the time of the analysis.

Relinquished By:	Charles R Mason	Date: 5-9-94	Time: 10:00
Received By:	[illegible]	Date: 5/10/94	Time: [illegible]
Relinquished By:		Date:	Time:
Received By:		Date:	Time:

Samples received on ice? Yes ☐ No ☐

Sample ID	PLASTIC	GLASS	Date & Time Sampled	COMPOSITE	GRAB	Lab ID	BOD	COD	TSS	pH	Ammonia	Oil & Grease	Cyanide	Phenol	Arsenic	Selenium	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Mercury	Silver	Barium	TCLP (Complete)	TPH (3550)	TPH (5030)	TPH (9071)	Other Analysis	Preservative
IHS #9-I			5-9-94 10:00		✓	917K1				✓																				EPA method using *624-625	ICE *HCl
EFS #9-E			5-9-94 10:00		✓	917K2				✓																				EPA method using *624-625	ICE *HCl
																														The Above To INCLUDE	
																														8240 P.H. - ACETONE, And 1 XYLENE	

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DEM. GROUND WATER SEC.
JUL 11 AM 9:55

Autosampler Sampler Location ____
Date Installed ____ Time Installed ____ Flow ____ CF/GPD
Date Picked Up ____ Time Picked Up ____ Flow ____
Composite Type: ☐ Flow ☐ Time ☐ Hand

Field pH
Result ____
Analyst ____
Time/Date ____
(QA/QC Separate)

Please sign and return the white and yellow copies to the Laboratory.

318

RECEIVED/EHNR
DEM. GROUND WATER SEC.

94 JUL 11 AM 9:55

AquaChem
ENVIRONMENTAL LABORATORIES, INC.
11176 Downs Road
Pineville, NC 28134
704/588-5076
FAX 704/588-2454

NC Certification Number: 305
SC Certification Number: 99032

Date of Report: 05/25/94
Date Received : 05/10/94

Approved By: Kenneth R. Richardson
Laboratory Supervisor

Client: Hackney and Sons
P. O. Box 880
Washington, North Carolina 27889

Contact: Mr. Charles Mason

Customer Number: 5038

LABORATORY REPORT

LAB ID: 917K01
SAMPLE ID: INF#9-I (WATER TREATMENT)

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
pH	6.26	0-14	S.U.	EPA150.1	11:55	05/10/94	RCD
Benzene	BDL	5	ppb	EPA 624	11:32	05/20/94	WHT
Bromodichloromethane	BDL	5	ppb	EPA 624	11:32	05/20/94	WHT
Bromoform	BDL	5	ppb	EPA 624	11:32	05/20/94	WHT
Bromomethane	BDL	10	ppb	EPA 624	11:32	05/20/94	WHT
Carbon Tetrachloride	BDL	5	ppb	EPA 624	11:32	05/20/94	WHT
Chlorobenzene	BDL	5	ppb	EPA 624	11:32	05/20/94	WHT
Chloroethane	BDL	10	ppb	EPA 624	11:32	05/20/94	WHT
2-Chloroethylvinyl Eth	BDL	10	ppb	EPA 624	11:32	05/20/94	WHT
Chloroform	BDL	5	ppb	EPA 624	11:32	05/20/94	WHT
Chloromethane	BDL	20	ppb	EPA 624	11:32	05/20/94	WHT
Dibromochloromethane	BDL	5	ppb	EPA 624	11:32	05/20/94	WHT
1,2-Dichlorobenzene	BDL	5	ppb	EPA 624	11:32	05/20/94	WHT
1,3-Dichlorobenzene	BDL	5	ppb	EPA 624	11:32	05/20/94	WHT
1,4-Dichlorobenzene	BDL	5	ppb	EPA 624	11:32	05/20/94	WHT
1,1-Dichloroethane	BDL	5	ppb	EPA 624	11:32	05/20/94	WHT
1,2-Dichloroethane	BDL	5	ppb	EPA 624	11:32	05/20/94	WHT
1,1-Dichloroethene	BDL	10	ppb	EPA 624	11:32	05/20/94	WHT
Trans-1,2-Dichloroethe	BDL	5	ppb	EPA 624	11:32	05/20/94	WHT
1,2-Dichloropropane	BDL	5	ppb	EPA 624	11:32	05/20/94	WHT
Cis-1,3-Dichloropropen	BDL	5	ppb	EPA 624	11:32	05/20/94	WHT
Trans-1,3-Dichloroprop	BDL	5	ppb	EPA 624	11:32	05/20/94	WHT
Ethyl Benzene	BDL	5	ppb	EPA 624	11:32	05/20/94	WHT

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DEM. GROUND WATER SEC.

94 JUL 11 AM 9:55

Hackney and Sons
05/25/94
Page 2

LAB ID: 917K01
SAMPLE ID: INF#9-I (WATER TREATMENT)

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Methylene Chloride	1099	5	ppb	EPA 624	11:32	05/20/94	WHT
1,1,2,2-Tetrachlorotha	BDL	5	ppb	EPA 624	11:32	05/20/94	WHT
Tetrachloroethene	71	5	ppb	EPA 624	11:32	05/20/94	WHT
Toluene	BDL	5	ppb	EPA 624	11:32	05/20/94	WHT
1,1,1-Trichloroethane	BDL	5	ppb	EPA 624	11:32	05/20/94	WHT
1,1,2-Trichloroethane	BDL	5	ppb	EPA 624	11:32	05/20/94	WHT
Trichloroethene	BDL	5	ppb	EPA 624	11:32	05/20/94	WHT
Trichlorofluoromethane	BDL	10	ppb	EPA 624	11:32	05/20/94	WHT
Vinyl Chloride	BDL	10	ppb	EPA 624	11:32	05/20/94	WHT
Total Xylene	BDL	5	ppb	EPA 624	11:32	05/20/94	WHT
1,1,1,2-Tetrachloroeth	BDL	5	ppb	EPA 624	11:32	05/20/94	WHT
Cis 1,2-dichloroethene	BDL	5	ppb	EPA 624	11:32	05/20/94	WHT
Dibromofluoromethane			% Rec	EPA 624	11:32	05/20/94	WHT
Toluene-d8			% Rec	EPA 624	11:32	05/20/94	WHT
4-Bromofluorobenzene			% Rec	EPA 624	11:32	05/20/94	WHT
Acenaphthene	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Acenaphthylene	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Anthracene	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Benzo (a) Anthracene	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Benzo (a) Pyrene	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Benzo (b) Fluoranthene	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Benzo (g,h,i) Perylene	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Benzo (k) Fluoranthene	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Bis (2-Chloroethoxy) M	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Bis (2-Chloroethyl) Et	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Bis (2-Chloroisopropyl	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Bis (2-Ethylhexyl) Pht	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
4-Bromophenyl Phenyl E	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Benzyl Butyl Phthalate	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
2-Chloronaphthalene	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
4-Chlorophenyl Phenyl	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Chrysene	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Dibenzo (a,h) Anthrace	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
1,2-Dichlorobenzene	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
1,3-Dichlorobenzene	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
1,4-Dichlorobenzene	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
3,3'-Dichlorobenzidine	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Diethyl Phthalate	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Dimethyl Phthalate	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Di-N-Butyl Phthalate	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT

RECEIVED/EHNR
DEM. GROUND WATER SEC.

94 JUL 11 AM 9:55

Hackney and Sons
05/25/94
Page 3

LAB ID: 917K01
SAMPLE ID: INF#9-I (WATER TREATMENT)

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
2,4-Dinitrotoluene	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
2,6-Dinitrotoluene	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Di-N-Octylphthalate	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Fluoranthene	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Fluorene	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Hexachlorobenzene	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Hexachlorobutadiene	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Hexachlorocyclopentadi	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Hexachloroethane	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Indeno (1,2,3-cd) Pyre	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Isophorone	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Naphthalene	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Nitrobenzene	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
N-Nitroso-Di-N-Propyla	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
N-Nitrosodiphenylamine	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Phenanthrene	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Pyrene	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
1,2,4-Trichlorobenzene	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Benzidine	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
N-Nitrosodimethylamine	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
4-Chloro-3-Methylpheno	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
2-Chlorophenol	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
2,4-Dichlorophenol	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
2,4-Dimethylphenol	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
2,4-Dinitrophenol	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
2-Methyl-4,6-Dinitroph	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
2-Nitrophenol	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
4-Nitrophenol	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Pentachlorophenol	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Phenol	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
2,4,6-Trichlorophenol	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
4,6-Dinitro-o-cresol	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
P-chloro-m-cresol	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Trans-1,3-dichloroprop	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
4-Methylphenol	BDL	10	PPB	EPA 625	05:16	05/20/94	WHT
Nitrobenzene-d8			% Rec	EPA 625	05:16	05/20/94	WHT
2-Fluorobiphenyl			% Rec	EPA 625	05:16	05/20/94	WHT
p-Terphenyl-d14			% Rec	EPA 625	05:16	05/20/94	WHT

RECEIVED/EHNR
DEM. GROUND WATER SEC.
94 JUL 11 AM 9:55

LAB ID: 917K01
SAMPLE ID: INF#9-I (WATER TREATMENT)

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Phenol-d6			% Rec	EPA 625	05:16	05/20/94	WHT
2-Fluorophenol			% Rec	EPA 625	05:16	05/20/94	WHT
2,4,6-Tribromophenol			% Rec	EPA 625	05:16	05/20/94	WHT
Acetone	BDL	5	ppb	EPA 8240	11:32	05/20/94	WHT

LAB ID: 917K02
SAMPLE ID: EFF#9-E (WATER TREATMENT)

pH	6.52	0-14	S.U.	EPA150.1	12:00	05/10/94	RCD
Benzene	BDL	5	ppb	EPA 624	12:20	05/20/94	WHT
Bromodichloromethane	BDL	5	ppb	EPA 624	12:20	05/20/94	WHT
Bromoform	BDL	5	ppb	EPA 624	12:20	05/20/94	WHT
Bromomethane	BDL	10	ppb	EPA 624	12:20	05/20/94	WHT
Carbon Tetrachloride	BDL	5	ppb	EPA 624	12:20	05/20/94	WHT
Chlorobenzene	BDL	5	ppb	EPA 624	12:20	05/20/94	WHT
Chloroethane	BDL	10	ppb	EPA 624	12:20	05/20/94	WHT
2-Chloroethylvinyl Eth	BDL	10	ppb	EPA 624	12:20	05/20/94	WHT
Chloroform	BDL	5	ppb	EPA 624	12:20	05/20/94	WHT
Chloromethane	BDL	20	ppb	EPA 624	12:20	05/20/94	WHT
Dibromochloromethane	BDL	5	ppb	EPA 624	12:20	05/20/94	WHT
1,2-Dichlorobenzene	BDL	5	ppb	EPA 624	12:20	05/20/94	WHT
1,3-Dichlorobenzene	BDL	5	ppb	EPA 624	12:20	05/20/94	WHT
1,4-Dichlorobenzene	BDL	5	ppb	EPA 624	12:20	05/20/94	WHT
1,1-Dichloroethane	BDL	5	ppb	EPA 624	12:20	05/20/94	WHT
1,2-Dichloroethane	BDL	5	ppb	EPA 624	12:20	05/20/94	WHT
1,1-Dichloroethene	BDL	10	ppb	EPA 624	12:20	05/20/94	WHT
Trans-1,2-Dichloroethe	BDL	5	ppb	EPA 624	12:20	05/20/94	WHT
1,2-Dichloropropane	BDL	5	ppb	EPA 624	12:20	05/20/94	WHT
Cis-1,3-Dichloropropen	BDL	5	ppb	EPA 624	12:20	05/20/94	WHT
Trans-1,3-Dichloroprop	BDL	5	ppb	EPA 624	12:20	05/20/94	WHT
Ethyl Benzene	BDL	5	ppb	EPA 624	12:20	05/20/94	WHT
Methylene Chloride	54	5	ppb	EPA 624	12:20	05/20/94	WHT
1,1,2,2-Tetrachlorotha	BDL	5	ppb	EPA 624	12:20	05/20/94	WHT
Tetrachloroethene	BDL	5	ppb	EPA 624	12:20	05/20/94	WHT
Toluene	BDL	5	ppb	EPA 624	12:20	05/20/94	WHT
1,1,1-Trichloroethane	BDL	5	ppb	EPA 624	12:20	05/20/94	WHT
1,1,2-Trichloroethane	BDL	5	ppb	EPA 624	12:20	05/20/94	WHT
Trichloroethene	BDL	5	ppb	EPA 624	12:20	05/20/94	WHT
Trichlorofluoromethane	BDL	10	ppb	EPA 624	12:20	05/20/94	WHT
Vinyl Chloride	BDL	10	ppb	EPA 624	12:20	05/20/94	WHT
Total Xylene	BDL	5	ppb	EPA 624	12:20	05/20/94	WHT

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LAB ID: 917K02
SAMPLE ID: EFF#9-E (WATER TREATMENT)

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
1,1,1,2-Tetrachloroeth	BDL	5	ppb	EPA 624	12:20	05/20/94	WHT
Cis 1,2-dichloroethene	BDL	5	ppb	EPA 624	12:20	05/20/94	WHT
Dibromofluoromethane			% Rec	EPA 624	12:20	05/20/94	WHT
Toluene-d8			% Rec	EPA 624	12:20	05/20/94	WHT
4-Bromofluorobenzene			% Rec	EPA 624	12:20	05/20/94	WHT
Acenaphthene	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Acenaphthylene	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Anthracene	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Benzo (a) Anthracene	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Benzo (a) Pyrene	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Benzo (b) Fluoranthene	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Benzo (g,h,i) Perylene	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Benzo (k) Fluoranthene	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Bis (2-Chloroethoxy) M	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Bis (2-Chloroethyl) Et	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Bis (2-Chloroisopropyl	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Bis (2-Ethylhexyl) Pht	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
4-Bromophenyl Phenyl E	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Benzyl Butyl Phthalate	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
2-Chloronaphthalene	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
4-Chlorophenyl Phenyl	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Chrysene	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Dibenzo (a,h) Anthrace	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
1,2-Dichlorobenzene	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
1,3-Dichlorobenzene	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
1,4-Dichlorobenzene	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
3,3'-Dichlorobenzidine	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Diethyl Phthalate	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Dimethyl Phthalate	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Di-N-Butyl Phthalate	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
2,4-Dinitrotoluene	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
2,6-Dinitrotoluene	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Di-N-Octylphthalate	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Fluoranthene	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Fluorene	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Hexachlorobenzene	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Hexachlorobutadiene	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Hexachlorocyclopentadi	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Hexachloroethane	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Indeno (1,2,3-cd) Pyre	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT

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LAB ID: 917K02
SAMPLE ID: EFF#9-E (WATER TREATMENT)

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Isophorone	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Naphthalene	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Nitrobenzene	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
N-Nitroso-Di-N-Propyla	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
N-Nitrosodiphenylamine	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Phenanthrene	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Pyrene	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
1,2,4-Trichlorobenzene	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Benzidine	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
N-Nitrosodimethylamine	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
4-Chloro-3-Methylpheno	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
2-Chlorophenol	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
2,4-Dichlorophenol	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
2,4-Dimethylphenol	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
2,4-Dinitrophenol	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
2-Methyl-4,6-Dinitroph	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
2-Nitrophenol	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
4-Nitrophenol	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Pentachlorophenol	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Phenol	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
2,4,6-Trichlorophenol	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
4,6-Dinitro-o-cresol	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
P-chloro-m-cresol	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Trans-1,3-dichloroprop	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
4-Methylphenol	BDL	10	PPB	EPA 625	11:26	05/20/94	WHT
Nitrobenzene-d8			% Rec	EPA 625	11:26	05/20/94	WHT
2-Fluorobiphenyl			% Rec	EPA 625	11:26	05/20/94	WHT
p-Terphenyl-d14			% Rec	EPA 625	11:26	05/20/94	WHT
Phenol-d6			% Rec	EPA 625	11:26	05/20/94	WHT
2-Fluorophenol			% Rec	EPA 625	11:26	05/20/94	WHT
2,4,6-Tribromophenol			% Rec	EPA 625	11:26	05/20/94	WHT
Acetone	BDL	5	ppb	EPA 8240	12:20	05/20/94	WHT

HACKNEY AND SONS WATER TREATMENT PLANT

Jun-94													Jun-94
	TEST	TEST	TEST	P.H. ADDJUST		PHOSPATE ADDED		BUGS	PUMPIING AREA 'A'		PUMPIING AREA 'B'		
DATE	PH	AMMONIA	PHOSPHATE	LIME	CAUSTIC	LARGE TANK	METERING	ADDED	READING	TOTAL	READING	TOTAL	DATE
1-Jun	6				3	3			86780	0	161650	0	1-Jun
2-Jun	6	1.5	30		3	3		2	87290	510	162010	360	2-Jun
3-Jun	6	1.5	40		3				87320	540	162030	380	3-Jun
4-Jun													4-Jun
5-Jun	5.5		35		4	4			88110	1330	162060	410	5-Jun
6-Jun					3			3	88370	1590	162580	930	6-Jun
7-Jun				5					88380	1600	162990	1340	7-Jun
8-Jun	7	0.9	30	2					88840	2060	163350	1700	8-Jun
9-Jun	6.5	1.5	30		3	2			89640	2860	163600	1950	9-Jun
10-Jun		1.5	35		3	3	5	1					10-Jun
11-Jun	5.5		40										11-Jun
12-Jun	6	0.6	40		3	2			91020	4240	165130	3480	12-Jun
13-Jun	5.6	0.6	45		5		20	2	91330	4550	165750	4100	13-Jun
14-Jun	6.5	0.8	40		3				91780	5000	165900	4250	14-Jun
15-Jun	7		50		3	4			92390	5610	165900	4250	15-Jun
16-Jun	6.5	0.6	60		4				93070	6290	165980	4330	16-Jun
17-Jun	7	1	60		4								17-Jun
18-Jun													18-Jun
19-Jun	6.5	3	60		4				94370	7590	166840	5190	19-Jun
20-Jun	6.6	0.8	60		3				94370	7590	166840	5190	20-Jun
21-Jun	6.6	0.8	60		3				94540	7760	167000	5350	21-Jun
22-Jun	6.5	0.6	60		3.5				94870	8090	167230	5580	22-Jun
23-Jun	6.5	0.6	50		3				95010	8230	167420	5770	23-Jun
24-Jun	7	0.6	40		2	2			95060	8280	167900	6250	24-Jun
25-Jun	7	0.5	40		3	2			95200	8420	168301	6651	25-Jun
26-Jun													26-Jun
27-Jun	7	0.5	40		3				95600	8820	169040	7390	27-Jun
28-Jun	6.5	0.5	40		3				96020	9240	169130	7480	28-Jun
29-Jun	7	0.8	40			3			96050	9270	169770	8120	29-Jun
30-Jun	7	0.6	40										30-Jun

AquaChem
ENVIRONMENTAL LABORATORIES, INC.
11176 DOWNS ROAD
PINEVILLE, NC 28134
704/588-5076
FAX 704/588-2454

CHAIN OF CUSTODY

Client: HACKNEY AND SONS
Address: 400 HACKNEY AV. P.O. BOX 880
City WASHINGTON State: N.C. Zip: 27889
Contact Person CHARLES MASON
Sampled By: CHARLES MASON

Phone Number: (919) 946-6521 EXT...
Fax Number: (919) 975-8344
Purchase Order Number: E796...
Certification Requirement:
Requested Completion Date: 6-17-94
Rush Charges Authorized ☐ Yes ☒ No

WATER TREATMENT

By relinquishing this sample(s) to Laboratory Personnel, I warrant that I am authorized to enter into this agreement for the Client named above and that I authorize the below analysis subject to the terms and conditions on the reverse hereof. This agreement is governed by the terms and conditions on the reverse side hereof. Analysis charges shall be as included in the Laboratories fee schedule in effect at the time of the analysis.

Relinquished By: Charles P Mason	Date: 6-2-94	Time: 11:00
Received By: [signature]	Date: 6-2-94	Time: 1130
Relinquished By: [signature]	Date: 6-2-94	Time: 2100
Received By: Crystal Nixon	Date: 6/2/94	Time: 2100

Samples received on ice? Yes ☒ No ☐

Sample ID	PLASTIC	GLASS	Date & Time Sampled	COMPOSITE	GRAB	Lab ID	BOD	COD	TSS	pH	Ammonia	Oil & Grease	Cyanide	Phenol	Arsenic	Selenium	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Mercury	Silver	Barium	TCLP (Complete)	TPH (3550)	TPH (5030)	TPH (9071)	Other Analysis	Preservative
INS #10-I		✓	6-2-94 11:00		✓	22261				✓																				EPA Method using #624-625	ICE + HCl
ESS #10-E		✓	6-2-94 11:00		✓	22262				✓																				"	"
																														The Above To include P.H. - ACETONE & XYLENE	

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D.E.M. GROUND WATER SEC.
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Autosampler Sampler Location__________
Date Installed__________ Time Installed__________ Flow__________CF/GPD
Date Picked Up __________ Time Picked Up __________ Flow__________
Composite Type: ☐ Flow ☐ Time ☐ Hand

Field pH
Result__________
Analyst __________
Time/Date__________
(QA/QC Separate)

Please sign and return the white and yellow copies to the Laboratory.

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AquaChem
ENVIRONMENTAL LABORATORIES, INC.
11176 Downs Road
Pineville, NC 28134
704/588-5076
FAX 704/588-2454

NC Certification Number: 305
SC Certification Number: 99032

Date of Report: 06/23/94
Date Received : 06/02/94

Approved By:
Kenneth R. Richardson
Laboratory Supervisor

Client: Hackney and Sons
P. O. Box 880
Washington, North Carolina 27889

Contact: Mr. Charles Mason

Customer Number: 5038

LABORATORY REPORT

LAB ID: 222L01
SAMPLE ID: INF#10-I

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
pH	6.57	0-14	S.U.	EPA150.1	08:15	06/03/94	RCD
Benzene	BDL	5	ppb	EPA 624	08:37	06/13/94	ANM
Bromodichloromethane	BDL	5	ppb	EPA 624	08:37	06/13/94	ANM
Bromoform	BDL	5	ppb	EPA 624	08:37	06/13/94	ANM
Bromomethane	BDL	10	ppb	EPA 624	08:37	06/13/94	ANM
Carbon Tetrachloride	BDL	5	ppb	EPA 624	08:37	06/13/94	ANM
Chlorobenzene	BDL	5	ppb	EPA 624	08:37	06/13/94	ANM
Chloroethane	BDL	10	ppb	EPA 624	08:37	06/13/94	ANM
2-Chloroethylvinyl Eth	BDL	10	ppb	EPA 624	08:37	06/13/94	ANM
Chloroform	BDL	5	ppb	EPA 624	08:37	06/13/94	ANM
Chloromethane	BDL	20	ppb	EPA 624	08:37	06/13/94	ANM
Dibromochloromethane	BDL	5	ppb	EPA 624	08:37	06/13/94	ANM
1,2-Dichlorobenzene	BDL	5	ppb	EPA 624	08:37	06/13/94	ANM
1,3-Dichlorobenzene	BDL	5	ppb	EPA 624	08:37	06/13/94	ANM
1,4-Dichlorobenzene	BDL	5	ppb	EPA 624	08:37	06/13/94	ANM
1,1-Dichloroethane	BDL	5	ppb	EPA 624	08:37	06/13/94	ANM
1,2-Dichloroethane	BDL	5	ppb	EPA 624	08:37	06/13/94	ANM
1,1-Dichloroethene	BDL	10	ppb	EPA 624	08:37	06/13/94	ANM
Trans-1,2-Dichloroethe	BDL	5	ppb	EPA 624	08:37	06/13/94	ANM
1,2-Dichloropropane	BDL	5	ppb	EPA 624	08:37	06/13/94	ANM
Cis-1,3-Dichloropropen	BDL	5	ppb	EPA 624	08:37	06/13/94	ANM
Trans-1,3-Dichloroprop	BDL	5	ppb	EPA 624	08:37	06/13/94	ANM
Ethyl Benzene	BDL	5	ppb	EPA 624	08:37	06/13/94	ANM

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DEM. GROUND WATER SEC.

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06/23/94
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LAB ID: 222L01
SAMPLE ID: INF#10-I

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Methylene Chloride	BDL	5	ppb	EPA 624	08:37	06/13/94	ANM
1,1,2,2-Tetrachlorotha	BDL	5	ppb	EPA 624	08:37	06/13/94	ANM
Tetrachloroethene	13	5	ppb	EPA 624	08:37	06/13/94	ANM
Toluene	7	5	ppb	EPA 624	08:37	06/13/94	ANM
1,1,1-Trichloroethane	BDL	5	ppb	EPA 624	08:37	06/13/94	ANM
1,1,2-Trichloroethane	BDL	5	ppb	EPA 624	08:37	06/13/94	ANM
Trichloroethene	BDL	5	ppb	EPA 624	08:37	06/13/94	ANM
Trichlorofluoromethane	BDL	10	ppb	EPA 624	08:37	06/13/94	ANM
Vinyl Chloride	BDL	10	ppb	EPA 624	08:37	06/13/94	ANM
Total Xylene	BDL	5	ppb	EPA 624	08:37	06/13/94	ANM
1,1,1,2-Tetrachloroeth	BDL	5	ppb	EPA 624	08:37	06/13/94	ANM
Cis 1,2-dichloroethene	BDL	5	ppb	EPA 624	08:37	06/13/94	ANM
Dibromofluoromethane	88		% Rec	EPA 624	08:37	06/13/94	ANM
Toluene-d8	96		% Rec	EPA 624	08:37	06/13/94	ANM
4-Bromofluorobenzene	98		% Rec	EPA 624	08:37	06/13/94	ANM
Acenaphthene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Acenaphthylene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Anthracene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Benzo (a) Anthracene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Benzo (a) Pyrene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Benzo (b) Fluoranthene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Benzo (g,h,i) Perylene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Benzo (k) Fluoranthene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Bis (2-Chloroethoxy) M	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Bis (2-Chloroethyl) Et	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Bis (2-Chloroisopropyl	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Bis (2-Ethylhexyl) Pht	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
4-Bromophenyl Phenyl E	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Benzyl Butyl Phthalate	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
2-Chloronaphthalene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
4-Chlorophenyl Phenyl	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Chrysene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Dibenzo (a,h) Anthrace	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
1,2-Dichlorobenzene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
1,3-Dichlorobenzene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
1,4-Dichlorobenzene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
3,3'-Dichlorobenzidine	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Diethyl Phthalate	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Dimethyl Phthalate	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Di-N-Butyl Phthalate	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM

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LAB ID: 222L01
SAMPLE ID: INF#10-I

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
2,4-Dinitrotoluene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
2,6-Dinitrotoluene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Di-N-Octylphthalate	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Fluoranthene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Fluorene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Hexachlorobenzene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Hexachlorobutadiene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Hexachlorocyclopentadi	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Hexachloroethane	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Indeno (1,2,3-cd) Pyre	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Isophorone	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Naphthalene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Nitrobenzene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
N-Nitroso-Di-N-Propyla	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
N-Nitrosodiphenylamine	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Phenanthrene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Pyrene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
1,2,4-Trichlorobenzene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Benzidine	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
N-Nitrosodimethylamine	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
4-Chloro-3-Methylpheno	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
2-Chlorophenol	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
2,4-Dichlorophenol	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
2,4-Dimethylphenol	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
2,4-Dinitrophenol	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
2-Methyl-4,6-Dinitroph	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
2-Nitrophenol	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
4-Nitrophenol	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Pentachlorophenol	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Phenol	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
2,4,6-Trichlorophenol	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
4,6-Dinitro-o-cresol	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
P-chloro-m-cresol	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Trans-1,3-dichloroprop	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
4-Methylphenol	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Nitrobenzene-d8			% Rec	EPA 625	08:45	06/07/94	FDM
2-Fluorobiphenyl			% Rec	EPA 625	08:45	06/07/94	FDM
p-Terphenyl-d14			% Rec	EPA 625	08:45	06/07/94	FDM

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LAB ID: 222L01
SAMPLE ID: INF#10-I

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Phenol-d6			% Rec	EPA 625	08:45	06/07/94	FDM
2-Fluorophenol			% Rec	EPA 625	08:45	06/07/94	FDM
2,4,6-Tribromophenol			% Rec	EPA 625	08:45	06/07/94	FDM
Acetone	BDL	5	ppb	EPA 8240	08:37	06/13/94	ANM

LAB ID: 222L02
SAMPLE ID: EFF#10-E

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Benzene	BDL	5	ppb	EPA 624	21:05	06/09/94	ANM
Bromodichloromethane	BDL	5	ppb	EPA 624	21:05	06/09/94	ANM
Bromoform	BDL	5	ppb	EPA 624	21:05	06/09/94	ANM
Bromomethane	BDL	10	ppb	EPA 624	21:05	06/09/94	ANM
Carbon Tetrachloride	BDL	5	ppb	EPA 624	21:05	06/09/94	ANM
Chlorobenzene	BDL	5	ppb	EPA 624	21:05	06/09/94	ANM
Chloroethane	BDL	10	ppb	EPA 624	21:05	06/09/94	ANM
2-Chloroethylvinyl Eth	BDL	10	ppb	EPA 624	21:05	06/09/94	ANM
Chloroform	BDL	5	ppb	EPA 624	21:05	06/09/94	ANM
Chloromethane	BDL	20	ppb	EPA 624	21:05	06/09/94	ANM
Dibromochloromethane	BDL	5	ppb	EPA 624	21:05	06/09/94	ANM
1,2-Dichlorobenzene	BDL	5	ppb	EPA 624	21:05	06/09/94	ANM
1,3-Dichlorobenzene	BDL	5	ppb	EPA 624	21:05	06/09/94	ANM
1,4-Dichlorobenzene	BDL	5	ppb	EPA 624	21:05	06/09/94	ANM
1,1-Dichloroethane	BDL	5	ppb	EPA 624	21:05	06/09/94	ANM
1,2-Dichloroethane	BDL	5	ppb	EPA 624	21:05	06/09/94	ANM
1,1-Dichloroethene	BDL	10	ppb	EPA 624	21:05	06/09/94	ANM
Trans-1,2-Dichloroethe	BDL	5	ppb	EPA 624	21:05	06/09/94	ANM
1,2-Dichloropropane	BDL	5	ppb	EPA 624	21:05	06/09/94	ANM
Cis-1,3-Dichloropropen	BDL	5	ppb	EPA 624	21:05	06/09/94	ANM
Trans-1,3-Dichloroprop	BDL	5	ppb	EPA 624	21:05	06/09/94	ANM
Ethyl Benzene	BDL	5	ppb	EPA 624	21:05	06/09/94	ANM
Methylene Chloride	BDL	5	ppb	EPA 624	21:05	06/09/94	ANM
1,1,2,2-Tetrachlorotha	BDL	5	ppb	EPA 624	21:05	06/09/94	ANM
Tetrachloroethene	14	5	ppb	EPA 624	21:05	06/09/94	ANM
Toluene	5	5	ppb	EPA 624	21:05	06/09/94	ANM
1,1,1-Trichloroethane	BDL	5	ppb	EPA 624	21:05	06/09/94	ANM
1,1,2-Trichloroethane	BDL	5	ppb	EPA 624	21:05	06/09/94	ANM
Trichloroethene	BDL	5	ppb	EPA 624	21:05	06/09/94	ANM
Trichlorofluoromethane	BDL	10	ppb	EPA 624	21:05	06/09/94	ANM
Vinyl Chloride	BDL	10	ppb	EPA 624	21:05	06/09/94	ANM
Total Xylene	BDL	5	ppb	EPA 624	21:05	06/09/94	ANM
1,1,1,2-Tetrachloroeth	BDL	5	ppb	EPA 624	21:05	06/09/94	ANM

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LAB ID: 222L02
SAMPLE ID: EFF#10-E

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Cis 1,2-dichloroethene	BDL	5	ppb	EPA 624	21:05	06/09/94	ANM
Dibromofluoromethane	90		% Rec	EPA 624	21:05	06/09/94	ANM
Toluene-d8	96		% Rec	EPA 624	21:05	06/09/94	ANM
4-Bromofluorobenzene	94		% Rec	EPA 624	21:05	06/09/94	ANM
Acenaphthene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Acenaphthylene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Anthracene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Benzo (a) Anthracene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Benzo (a) Pyrene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Benzo (b) Fluoranthene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Benzo (g,h,i) Perylene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Benzo (k) Fluoranthene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Bis (2-Chloroethoxy) M	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Bis (2-Chloroethyl) Et	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Bis (2-Chloroisopropyl	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Bis (2-Ethylhexyl) Pht	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
4-Bromophenyl Phenyl E	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Benzyl Butyl Phthalate	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
2-Chloronaphthalene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
4-Chlorophenyl Phenyl	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Chrysene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Dibenzo (a,h) Anthrace	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
1,2-Dichlorobenzene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
1,3-Dichlorobenzene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
1,4-Dichlorobenzene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
3,3'-Dichlorobenzidine	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Diethyl Phthalate	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Dimethyl Phthalate	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Di-N-Butyl Phthalate	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
2,4-Dinitrotoluene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
2,6-Dinitrotoluene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Di-N-Octylphthalate	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Fluoranthene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Fluorene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Hexachlorobenzene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Hexachlorobutadiene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Hexachlorocyclopentadi	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Hexachloroethane	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Indeno (1,2,3-cd) Pyre	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Isophorone	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM

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LAB ID: 222L02
SAMPLE ID: EFF#10-E

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Naphthalene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Nitrobenzene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
N-Nitroso-Di-N-Propyla	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
N-Nitrosodiphenylamine	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Phenanthrene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Pyrene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
1,2,4-Trichlorobenzene	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Benzidine	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
N-Nitrosodimethylamine	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
4-Chloro-3-Methylpheno	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
2-Chlorophenol	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
2,4-Dichlorophenol	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
2,4-Dimethylphenol	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
2,4-Dinitrophenol	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
2-Methyl-4,6-Dinitroph	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
2-Nitrophenol	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
4-Nitrophenol	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Pentachlorophenol	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Phenol	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
2,4,6-Trichlorophenol	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
4,6-Dinitro-o-cresol	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
P-chloro-m-cresol	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Trans-1,3-dichloroprop	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
4-Methylphenol	BDL	10	PPB	EPA 625	08:45	06/07/94	FDM
Nitrobenzene-d8			% Rec	EPA 625	08:45	06/07/94	FDM
2-Fluorobiphenyl			% Rec	EPA 625	08:45	06/07/94	FDM
p-Terphenyl-d14			% Rec	EPA 625	08:45	06/07/94	FDM
Phenol-d6			% Rec	EPA 625	08:45	06/07/94	FDM
2-Fluorophenol			% Rec	EPA 625	08:45	06/07/94	FDM
2,4,6-Tribromophenol			% Rec	EPA 625	08:45	06/07/94	FDM
Acetone	BDL	5	ppb	EPA 8240	21:05	06/09/94	ANM

HACKNEY AND SONS WATER TREATMENT PLANT

Apr-94

Apr-94	TEST	TEST	TEST	P.H. ADDJUST		PHOSPATE ADDED		BUGS	PUMPIING AREA 'A'		PUMPIING AREA 'B'		
	PH	AMMONIA	PHOSPHATE	LIME	CAUSTIC	LARGE TANK	METERING	ADDED	READING	TOTAL	READING	TOTAL	DATE
DATE	6.5	2.5	30		3				50320	0	120330	0	1-Apr
1-Apr													2-Apr
2-Apr	7												3-Apr
3-Apr	6.5	3	30		3				52170	1850	127050	6720	4-Apr
4-Apr													5-Apr
5-Apr	6.5	3			2				57850	7530	129800	9470	6-Apr
6-Apr	6	5	30		2								7-Apr
7-Apr	5.5	5	30		4		12	1	62570	12250	131970	11640	8-Apr
8-Apr													9-Apr
9-Apr	6.5	2.5	20										10-Apr
10-Apr	6	2	15		2	5			66250	15930	132990	12660	11-Apr
11-Apr	6.5	3	20		2	2			66380	16060	132990	12660	12-Apr
12-Apr	7	3	25			2							13-Apr
13-Apr	6.5	1.5	20		1	2							14-Apr
14-Apr	6		15		2	6							15-Apr
15-Apr													16-Apr
16-Apr	6	5	30			2							17-Apr
17-Apr	6	7	30		2	2			66680	16360	133030	12700	18-Apr
18-Apr	5	10	30		3				66720	16400	133030	12700	19-Apr
19-Apr	5.5	15	35		3			2	68230	17910	133680	13350	20-Apr
20-Apr													21-Apr
21-Apr	6	10	40						68990	18670	135160	14830	22-Apr
22-Apr	6.5	2	30		2	2							23-Apr
23-Apr	6.5	2	25			2			71944	21624	136532	16202	24-Apr
24-Apr	6	1	25		2	3.5							25-Apr
25-Apr	6	2	25		2	1			75204	24884	1374822	1254492	26-Apr
26-Apr	6	1	30		2	3							27-Apr
27-Apr	6	1	30		2	2			76300	25980	138590	18260	28-Apr
28-Apr	6	1	25		5	5			76920	26600	139700	19370	29-Apr
29-Apr													30-Apr
30-Apr	6.5	0.8	25			2			77880	27560	142353	22023	1-May
1-May													

NOTES:

4-10-94 COMPUTER WENT DOWN

4-11-94 SHUT DOWN PUMPS COMPUTER STILL DOWN

4-20-94 PUT IN NEW COMMPUTER - STARTED UP SYSTEM

AquaChem
ENVIRONMENTAL LABORATORIES, INC.
11176 DOWNS ROAD
PINEVILLE, NC 28134
704/588-5076
FAX 704/588-2454

CHAIN OF CUSTODY

Client: HACKNEY AND SONS
Address: 400 HACKNEY AV. P.O. BOX 880
City WASHINGTON ~~NC~~. State: N.C. Zip: 27889
Contact Person CHARLES MASON
Sampled By: CHARLES MASON

Phone Number: (919) 946-6521 EXT244
Fax Number: (919) 975-8344
Purchase Order Number: E79168
Certification Requirement: N/A
Project Name: WATER TREATMENT
Rush Charges Authorized ☐ Yes ☑ No

By relinquishing this sample(s) to Laboratory Personnel, I warrant that I am authorized to enter into this agreement for the Client named above and that I authorize the below analysis subject to the terms and conditions on the reverse hereof. This agreement is governed by the terms and conditions on the reverse side hereof. Analysis charges shall be as included in the Laboratories fee schedule in effect at the time of the analysis.

Relinquished By: Charles R Mason Date: 4-12-94 Time: 10:00
Received By: [illegible] UPS Date: 4/13/94 Time: 1020
Relinquished By: Date: Time:
Received By: Date: Time:

Samples received on ice? Yes ☑ No ☐

Sample ID	PLASTIC	GLASS	Date & Time Sampled	COMPOSITE	GRAB	Lab ID	BOD	COD	TSS	pH	Ammonia	Oil & Grease	Cyanide	Phenol	Arsenic	Selenium	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Mercury	Silver	Barium	TCLP (Complete)	TPH (3550)	TPH (5030)	TPH (9071)	Other Analysis	Preservative
INF# 8-I		✓	4-12-94 10:00		✓	594K1			✓																					EPA method using 624-625 8240-1	ICE HCl
ESS# 8-E		✓	4-12-94 10:00		✓	594K2			✓																					EPA method using 624-625 8240-1	ICE HCl
																														TLC ABOVE TO INCLUDE P.H. ACETONE, AND XYLENES	

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94 JUL 11 AM 9:54

Autosampler Sampler Location______
Date Installed______ Time Installed______ Flow______CF/GPD
Date Picked Up______ Time Picked Up______ Flow______
Composite Type: ☐ Flow ☐ Time ☐ Hand

Field pH
Result______
Analyst______
Time/Date______
(QA/QC Separate)

Please sign and return the white and yellow copies to the Laboratory.

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DEM. GROUND WATER SEC.

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AquaChem
ENVIRONMENTAL LABORATORIES, INC.
11176 Downs Road
Pineville, NC 28134
704/588-5076
FAX 704/588-2454

NC Certification Number: 305
SC Certification Number: 99032

Date of Report: 05/03/94
Date Received : 04/13/94

Approved By:
Kenneth R. Richardson
Laboratory Supervisor

Client: Hackney and Sons
P. O. Box 880
Washington, North Carolina 27889

Contact: Mr. Charles Mason

Customer Number: 5038

LABORATORY REPORT

LAB ID: 594K01
SAMPLE ID: INF #8-I

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal
pH	7.96	0-14	S.U.	EPA150.1	10:25	04/13/94	RCD
Acetone	BDL	5	ppb	EPA 8240	16:40	04/25/94	FDM
Benzene	BDL	5	ppb	EPA 624	16:40	04/25/94	FDM
Bromodichloromethane	BDL	5	ppb	EPA 624	16:40	04/25/94	FDM
Bromoform	BDL	5	ppb	EPA 624	16:40	04/25/94	FDM
Bromomethane	BDL	10	ppb	EPA 624	16:40	04/25/94	FDM
Carbon Tetrachloride	BDL	5	ppb	EPA 624	16:40	04/25/94	FDM
Chlorobenzene	BDL	5	ppb	EPA 624	16:40	04/25/94	FDM
Chloroethane	BDL	10	ppb	EPA 624	16:40	04/25/94	FDM
2-Chloroethylvinyl Eth	BDL	10	ppb	EPA 624	16:40	04/25/94	FDM
Chloroform	BDL	5	ppb	EPA 624	16:40	04/25/94	FDM
Chloromethane	BDL	20	ppb	EPA 624	16:40	04/25/94	FDM
Dibromochloromethane	BDL	5	ppb	EPA 624	16:40	04/25/94	FDM
1,2-Dichlorobenzene	BDL	5	ppb	EPA 624	16:40	04/25/94	FDM
1,3-Dichlorobenzene	BDL	5	ppb	EPA 624	16:40	04/25/94	FDM
1,4-Dichlorobenzene	BDL	5	ppb	EPA 624	16:40	04/25/94	FDM
1,1-Dichloroethane	BDL	5	ppb	EPA 624	16:40	04/25/94	FDM
1,2-Dichloroethane	BDL	5	ppb	EPA 624	16:40	04/25/94	FDM
1,1-Dichloroethene	BDL	10	ppb	EPA 624	16:40	04/25/94	FDM
Trans-1,2-Dichloroethe	BDL	5	ppb	EPA 624	16:40	04/25/94	FDM
1,2-Dichloropropane	BDL	5	ppb	EPA 624	16:40	04/25/94	FDM
Cis-1,3-Dichloropropen	BDL	5	ppb	EPA 624	16:40	04/25/94	FDM
Trans-1,3-Dichloroprop	BDL	5	ppb	EPA 624	16:40	04/25/94	FDM

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LAB ID: 594K01
SAMPLE ID: INF #8-I

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Ethyl Benzene	BDL	5	ppb	EPA 624	16:40	04/25/94	FDM
Methylene Chloride	1730	5	ppb	EPA 624	16:40	04/25/94	FDM
1,1,2,2-Tetrachlorotha	BDL	5	ppb	EPA 624	16:40	04/25/94	FDM
Tetrachloroethene	BDL	5	ppb	EPA 624	16:40	04/25/94	FDM
Toluene	BDL	5	ppb	EPA 624	16:40	04/25/94	FDM
1,1,1-Trichloroethane	BDL	5	ppb	EPA 624	16:40	04/25/94	FDM
1,1,2-Trichloroethane	BDL	5	ppb	EPA 624	16:40	04/25/94	FDM
Trichloroethene	BDL	5	ppb	EPA 624	16:40	04/25/94	FDM
Trichlorofluoromethane	BDL	10	ppb	EPA 624	16:40	04/25/94	FDM
Vinyl Chloride	BDL	10	ppb	EPA 624	16:40	04/25/94	FDM
Total Xylene	BDL	5	ppb	EPA 624	16:40	04/25/94	FDM
1,1,1,2-Tetrachloroeth	BDL	5	ppb	EPA 624	16:40	04/25/94	FDM
Cis 1,2-dichloroethene	BDL	5	ppb	EPA 624	16:40	04/25/94	FDM
1,2-Dichloroethane-d4			% Rec	EPA 624	16:40	04/25/94	FDM
Toluene-d8			% Rec	EPA 624	16:40	04/25/94	FDM
4-Bromofluorobenzene			% Rec	EPA 624	16:40	04/25/94	FDM
Acenaphthene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Acenaphthylene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Anthracene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Benzo (a) Anthracene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Benzo (a) Pyrene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Benzo (b) Fluoranthene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Benzo (g,h,i) Perylene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Benzo (k) Fluoranthene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Bis (2-Chloroethoxy) M	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Bis (2-Chloroethyl) Et	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Bis (2-Chloroisopropyl	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Bis (2-Ethylhexyl) Pht	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
4-Bromophenyl Phenyl E	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Benzyl Butyl Phthalate	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
2-Chloronaphthalene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
4-Chlorophenyl Phenyl	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Chrysene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Dibenzo (a,h) Anthrace	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
1,2-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
1,3-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
1,4-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
3,3'-Dichlorobenzidine	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Diethyl Phthalate	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Dimethyl Phthalate	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM

Phenanthrene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Pyrene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
1,2,4-Trichlorobenzene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Benzidine	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
N-Nitrosodimethylamine	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
4-Chloro-3-Methylpheno	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
2-Chlorophenol	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
2,4-Dichlorophenol	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
2,4-Dimethylphenol	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
2,4-Dinitrophenol	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
2-Methyl-4,6-Dinitroph	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
2-Nitrophenol	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
4-Nitrophenol	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Pentachlorophenol	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Phenol	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
2,4,6-Trichlorophenol	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
4,6-Dinitro-o-cresol	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
P-chloro-m-cresol	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Trans-1,3-dichloroprop	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
4-Methylphenol	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Nitrobenzene-d8			% Rec	EPA 625	08:15	04/19/94	FDM
2-Fluorobiphenyl			% Rec	EPA 625	08:15	04/19/94	FDM

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LAB ID: 594K01
SAMPLE ID: INF #8-I

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
p-Terphenyl-d14			% Rec	EPA 625	08:15	04/19/94	FDM
Phenol-d6			% Rec	EPA 625	08:15	04/19/94	FDM
2-Fluorophenol			% Rec	EPA 625	08:15	04/19/94	FDM
2,4,6-Tribromophenol			% Rec	EPA 625	08:15	04/19/94	FDM

LAB ID: 594K02
SAMPLE ID: EFF #8-E

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
pH	6.68	0-14	S.U.	EPA150.1	10:30	04/13/94	RCD
Acetone	BDL	5	ppb	EPA 8240	18:02	04/25/94	FDM
Benzene	BDL	5	ppb	EPA 624	18:02	04/25/94	FDM
Bromodichloromethane	BDL	5	ppb	EPA 624	18:02	04/25/94	FDM
Bromoform	BDL	5	ppb	EPA 624	18:02	04/25/94	FDM
Bromomethane	BDL	10	ppb	EPA 624	18:02	04/25/94	FDM
Carbon Tetrachloride	BDL	5	ppb	EPA 624	18:02	04/25/94	FDM
Chlorobenzene	BDL	5	ppb	EPA 624	18:02	04/25/94	FDM
Chloroethane	BDL	10	ppb	EPA 624	18:02	04/25/94	FDM
2-Chloroethylvinyl Eth	BDL	10	ppb	EPA 624	18:02	04/25/94	FDM
Chloroform	BDL	5	ppb	EPA 624	18:02	04/25/94	FDM
Chloromethane	BDL	20	ppb	EPA 624	18:02	04/25/94	FDM
Dibromochloromethane	BDL	5	ppb	EPA 624	18:02	04/25/94	FDM
1,2-Dichlorobenzene	BDL	5	ppb	EPA 624	18:02	04/25/94	FDM
1,3-Dichlorobenzene	BDL	5	ppb	EPA 624	18:02	04/25/94	FDM
1,4-Dichlorobenzene	BDL	5	ppb	EPA 624	18:02	04/25/94	FDM
1,1-Dichloroethane	BDL	5	ppb	EPA 624	18:02	04/25/94	FDM
1,2-Dichloroethane	BDL	5	ppb	EPA 624	18:02	04/25/94	FDM
1,1-Dichloroethene	BDL	10	ppb	EPA 624	18:02	04/25/94	FDM
Trans-1,2-Dichloroethe	BDL	5	ppb	EPA 624	18:02	04/25/94	FDM
1,2-Dichloropropane	BDL	5	ppb	EPA 624	18:02	04/25/94	FDM
Cis-1,3-Dichloropropen	BDL	5	ppb	EPA 624	18:02	04/25/94	FDM
Trans-1,3-Dichloroprop	BDL	5	ppb	EPA 624	18:02	04/25/94	FDM
Ethyl Benzene	BDL	5	ppb	EPA 624	18:02	04/25/94	FDM
Methylene Chloride	BDL	5	ppb	EPA 624	18:02	04/25/94	FDM
1,1,2,2-Tetrachlorotha	BDL	5	ppb	EPA 624	18:02	04/25/94	FDM
Tetrachloroethene	55	5	ppb	EPA 624	18:02	04/25/94	FDM
Toluene	BDL	5	ppb	EPA 624	18:02	04/25/94	FDM
1,1,1-Trichloroethane	BDL	5	ppb	EPA 624	18:02	04/25/94	FDM
1,1,2-Trichloroethane	BDL	5	ppb	EPA 624	18:02	04/25/94	FDM
Trichloroethene	BDL	5	ppb	EPA 624	18:02	04/25/94	FDM
Trichlorofluoromethane	BDL	10	ppb	EPA 624	18:02	04/25/94	FDM
Vinyl Chloride	BDL	10	ppb	EPA 624	18:02	04/25/94	FDM

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LAB ID: 594K02
SAMPLE ID: EFF #8-E

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Total Xylene	BDL	5	ppb	EPA 624	18:02	04/25/94	FDM
1,1,1,2-Tetrachloroeth	BDL	5	ppb	EPA 624	18:02	04/25/94	FDM
Cis 1,2-dichloroethene	BDL	5	ppb	EPA 624	18:02	04/25/94	FDM
1,2-Dichloroethane-d4			% Rec	EPA 624	18:02	04/25/94	FDM
Toluene-d8			% Rec	EPA 624	18:02	04/25/94	FDM
4-Bromofluorobenzene			% Rec	EPA 624	18:02	04/25/94	FDM
Acenaphthene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Acenaphthylene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Anthracene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Benzo (a) Anthracene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Benzo (a) Pyrene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Benzo (b) Fluoranthene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Benzo (g,h,i) Perylene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Benzo (k) Fluoranthene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Bis (2-Chloroethoxy) M	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Bis (2-Chloroethyl) Et	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Bis (2-Chloroisopropyl	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Bis (2-Ethylhexyl) Pht	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
4-Bromophenyl Phenyl E	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Benzyl Butyl Phthalate	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
2-Chloronaphthalene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
4-Chlorophenyl Phenyl	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Chrysene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Dibenzo (a,h) Anthrace	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
1,2-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
1,3-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
1,4-Dichlorobenzene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
3,3'-Dichlorobenzidine	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Diethyl Phthalate	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Dimethyl Phthalate	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Di-N-Butyl Phthalate	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
2,4-Dinitrotoluene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
2,6-Dinitrotoluene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Di-N-Octylphthalate	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Fluoranthene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Fluorene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Hexachlorobenzene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Hexachlorobutadiene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Hexachlorocyclopentadi	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Hexachloroethane	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM

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LAB ID: 594K02
SAMPLE ID: EFF #8-E

Parameter	Result	Det. Limit	Unit	Method	Analysis Time	Analysis Date	Anal.
Indeno (1,2,3-cd) Pyre	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Isophorone	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Naphthalene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Nitrobenzene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
N-Nitroso-Di-N-Propyla	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
N-Nitrosodiphenylamine	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Phenanthrene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Pyrene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
1,2,4-Trichlorobenzene	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Benzidine	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
N-Nitrosodimethylamine	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
4-Chloro-3-Methylpheno	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
2-Chlorophenol	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
2,4-Dichlorophenol	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
2,4-Dimethylphenol	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
2,4-Dinitrophenol	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
2-Methyl-4,6-Dinitroph	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
2-Nitrophenol	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
4-Nitrophenol	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Pentachlorophenol	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Phenol	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
2,4,6-Trichlorophenol	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
1,2-Diphenylhydrazine	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
4,6-Dinitro-o-cresol	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
P-chloro-m-cresol	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Trans-1,3-dichloroprop	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
4-Methylphenol	BDL	10	PPB	EPA 625	08:15	04/19/94	FDM
Nitrobenzene-d8			% Rec	EPA 625	08:15	04/19/94	FDM
2-Fluorobiphenyl			% Rec	EPA 625	08:15	04/19/94	FDM
p-Terphenyl-d14			% Rec	EPA 625	08:15	04/19/94	FDM
Phenol-d6			% Rec	EPA 625	08:15	04/19/94	FDM
2-Fluorophenol			% Rec	EPA 625	08:15	04/19/94	FDM
2,4,6-Tribromophenol			% Rec	EPA 625	08:15	04/19/94	FDM

ENSCI CORPORATION

201

March 20, 1991

Mr. John Mazzarino
President
Hackney Acquisition Company
Post Office Box 880
Washington, North Carolina 27889

RE: Hackney and Sons (East), Incorporated

Dear John:

Please find enclosed a post-acquisition Phase I assessment of groundwater below the Hackney and Sons (East), Incorporated facility. This report documents compliance with Kansallis-Osake-Pankki's (KOP) environmental compliance milestones established for the Washington, North Carolina facility. The text of this report is referenced in context of the Schedule 5.16 Credit Agreement and the Schedule 7.13 Environmental Remediation document.

ENSCI Corporation has completed a Phase I Groundwater Assessment of the referenced facility. This assessment has revealed a complex groundwater flow regimen consisting of three (3) distinct contamination impacted areas, and a variety of organic chemical contaminants. The groundwater study reveals the presence of a perched aquifer in the upper ten (10) feet of the strata underlying the Hackney facility. Analytical data gathered to date indicates that the majority of the chemical contamination may be confined to the uppermost aquifer.

A Phase II proposal, with a multi-phase approach to the remedial system design for the facility, is currently being completed. This proposal incudes a Pilot Scale treatment system designed to treat fifty (50) gallons per minute (gpm). The activation of a 50 gpm treatment unit, pumping from the upper perched aquifer, will yield significant data. This data includes: aquifer(s) response, groundwater treatability, and "treated" groundwater application options.

Review of the enclosed document by the Division of Environmental Management personnel will allow the "State" to develop a concrete regulatory position.

If you or the lenders have any questions with regard to this report, please do not hesitate to call.

March 21, 1991

ENSCI CORPORATION

RECEIVED
WASHINGTON OFFICE
MAR 25 1991
D. E. M.

Mr. Jim Mulligan
Regional Supervisor
North Carolina Department of Environment,
Health and Natural Resources
Division of Environmental Management
Post Office Box 1507
Washington, North Carolina 17889

RE: Hackney and Sons (East), Inc. - Washington, North Carolina

Dear Mr. Mulligan:

I have included one (1) bound copy of the Phase I Groundwater Assessment which has been compiled to meet various compliance "milestones" established by Hackney's lenders. As you are aware, these environmental schedules are part of the lending agreement between Kansallis-Osake-Pankki (KOP) and Hackney.

ENSCI Corporation and the new management of Hackney have kept the NCDEM, through you and your office, apprised of the ongoing effort by the new management of Hackney, to address and correct various environmental problems associated with prior operations at the Hackney site. The enclosed Phase I Groundwater Assessment is a continuation of the practices established by Hackney Acquisition Company, when Hackney and Sons (East) was acquired on August 31, 1990.

We hope to schedule a meeting with you and your staff in the near future, to discuss the results of this submission. There are a number of issues we would like to address, and after your review of this submission, we will focus our questions, on the future actions at the Hackney site.

Please give this matter your immediate consideration as ENSCI and Hackney are attempting to make all efforts possible to comply with the lending agreement and KOP requirements.

Very truly yours,

ENSCI CORPORATION

R. T. Cottam

Robert T. Cottam, III
President

RTC/few

cc: John Mazzarino
Hackney Acquisition Company

1108 Old Thomasville Rd. • High Point, NC 27260 • 919-883-7505 • Fax 919-882-7958

CERTIFICATION

ENSCI Corporation hereby certifies that all the tasks, operations, analytical procedures, tests, and information in this report are complete and factual as of this date (March 21, 1991).

The information contained within this report is limited to the scope of work and tests performed on the dates specified. The opinions expressed, therefore, make no warranty hereunder, and all warranties whether expressed, implied, or statutory, are hereby excluded and disclaimed by ENSCI Corporation. In no event shall ENSCI Corporation, its employees, agents, or representatives be liable for consequential or incidental damages. ENSCI Corporation's liabilities to Hackney and Sons, Inc., their lenders, successors and assigns are limited to fraudulent statements herein or gross negligence.

ENSCI CORPORATION

By: R. T. Cottam III Date: 3-21-91
Robert T. Cottam, III
President

By: Gregory N. Richardson Date: 3-21-91
Gregory N. Richardson
Vice President

By: Bruce K. Braswell Date: 3-21-91
Bruce K. Braswell
Hydrogeologist

HACKNEY AND SONS (EAST), INCORPORATED

400 HACKNEY AVENUE
WASHINGTON, NORTH CAROLINA 27889

Prepared By:

ENSCI CORPORATION

1108 Old Thomasville Road
High Point, North Carolina 27260

FACILITY NAME:	HACKNEY AND SONS (EAST), INCORPORATED
FACILITY LOCATION:	400 Hackney Avenue Washington, North Carolina
CLIENT CONTACT:	Steve Hill Vice President/Operations Hackney & Sons, Inc.
AUDITORS:	Bruce K. Braswell Hydrogeologist Henry M. Havener Senior Environmental Engineer
REPORT PREPARED BY:	Bruce K. Braswell
ASSESSMENT DATES:	October 7, 1990 to October 20, 1990
REPORT DATE:	March 20, 1991

INTRODUCTION

ENSCI Corporation, in compliance with Schedules 7.13 and 5.16 for Environmental Remediation and Environmental Matters, respectively, has completed a Phase I Groundwater Assessment for the Hackney & Sons (East), Incorporated facility located in Washington, North Carolina. The environmental compliance issues, and their respective milestones, were established by Kansallis - Osake - Pankki's (KOP) lending agreement with the Hackney Acquisition Company. ENSCI Corporation completed the Phase I field work associated with this groundwater assessment during the period of October 7, 1990 through October 20, 1990. The following text describes work that has been accomplished as of February 12, 1991 to determine the hydrogeology, plume locations, and contaminant levels at the Hackney & Sons, East facility.

DISCUSSION

HYDROGEOLOGY

ENSCI Corporation has concluded an initial groundwater assessment of a twenty-three (23) acre facility occupied by Hackney and Sons (East), Incorporated in Washington, North Carolina. The Hackney facility lies within the coastal plains region of the State and is underlain by sediments composed primarily of Miocene age materials deposited by fluvial marine processes. These sediments are known as the Yorktown Formation within the coastal plain area of North Carolina.

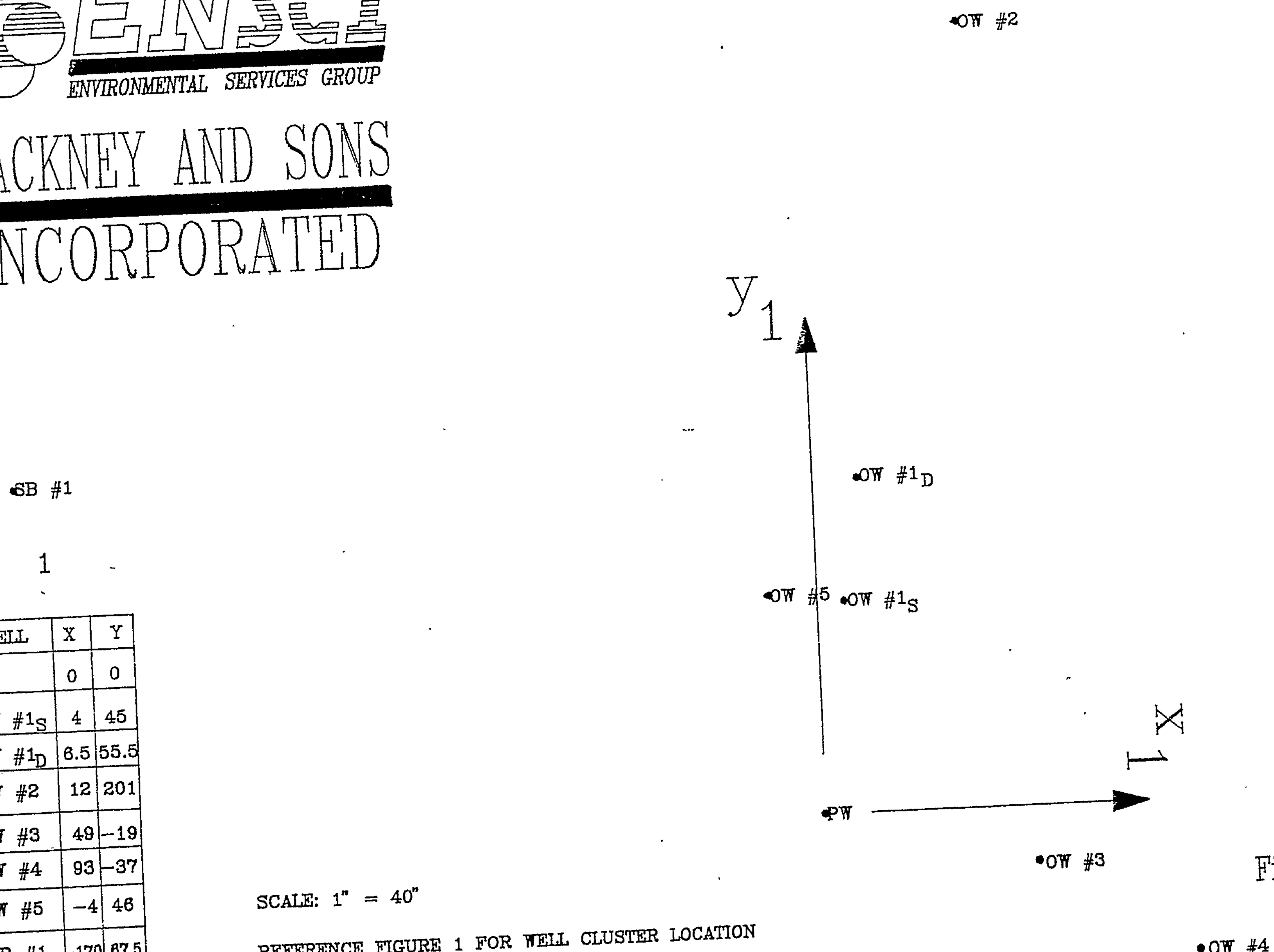
To accomplish the groundwater assessment, ENSCI Corporation installed one (1) 6" pumping well and seven (7) observation wells at the Hackney facility during October, 1990 (see Figure 1). A twelve (12) hour pre-pump test, a twenty-four (24) hour drawdown test, and a recovery test were made at the facility using an In-Situ Hermit 2000 Data Logger. The Hermit 2000 is a field data acquisition instrument designed to record changing groundwater elevations in monitoring well clusters during pump tests.

In the field, pressure transducers were located in the observation wells and a central well was pumped at a constant rate for a twenty-four (24) hour period (see Figure 2). The Hermit instrument is designed to take water level readings at a predetermined setting and the result is a data file that consists of time and respective groundwater elevation drawdowns recorded in the observation wells.

ENSCI
ENVIRONMENTAL SERVICES GROUP

HACKNEY AND SONS
INCORPORATED

OBSERVATION AND PUMPING WELL LOCATIONS WITH X,Y COORDINATES
Y_1 = MAGNETIC NORTH



1

WELL	X	Y
PW	0	0
OW $\#1_S$	4	45
OW $\#1_D$	6.5	55.5
OW #2	12	201
OW #3	49	-19
OW #4	93	-37
OW #5	-4	46
SB #1	-170	67.5

SCALE: 1" = 40"

REFERENCE FIGURE 1 FOR WELL CLUSTER LOCATION

Figure 2

ENSCI Corporation used the data from this twenty-four (24) hour pump test to calculate transmissivity and storage coefficients for the Yorktown Formation aquifer below the Hackney & Sons, East facility (see Appendix 1). ENSCI Corporation then modeled the groundwater to determine the worst-case pumping rates for the remedial system that is to be designed for this facility. The groundwater treatment system design requires an estimate of the pumping rates and gallon per minute (GPM) volume of groundwater to be treated.

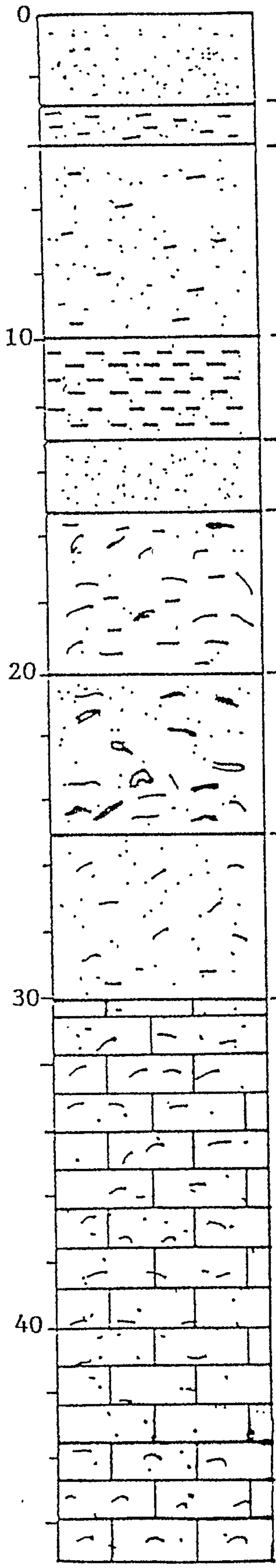
ENSCI Corporation used a variety of modeling programs on data generated from the October, 1990 field operations. These modeling programs include: HJ-Match, Water-Vel, BestWells, Stepmatch, and Papadop. Field investigations, analysis of the generated data file, and computer modeling determined that the media below the Hackney & Sons Incorporated (East) facility, i.e. the Yorktown Formation, possesses the following hydrologic properties:

- Two aquifers apparently exist in the upper forty (40) feet of Yorktown sediments.
- A perched aquifer is apparently present in the upper 10' - 11' of strata.
- The "lower" Yorktown aquifer is water prolific.
- Anisotropic flow conditions exists in the "lower" Yorktown aquifer.
- A direct hydrologic connection with the underlying Castle Hayne Formation.

During the October, 1990 investigation, drilling revealed that an apparently competent clay rich sand layer is present at approximately 10 to 11 feet in depth. The layer was encountered at the same approximate depth across the entire facility and appears to act as an aquitard (see Cross Section A-A[1]). This aquitard apparently restricts the downward migration of groundwater and results in the development of two distinct aquifers below the facility (see Figure 3). An upper unconfined aquifer is perched on the aquitard. Below the aquitard, an aquifer exists in the balance of the Yorktown Formation. The Yorktown Formation is directly connected to the Castle Hayne Formation at a depth of about forty (40) feet.

HACKNEY AND SONS (EAST), INCORPORATED
WASHINGTON, NORTH CAROLINA

GENERAL GEOLOGIC CROSS SECTION



Clean fill sand averages 2' - 3' in thickness. Composed primarily of poorly sorted sand, tan in color, average grain size 177-250 microns.

Humic layer approximately one foot in thickness. Many times possess strong hydrocarbon odors; possibly indicating the use of motor fuel to suppress dust

Clean well sorted sand, tan to grey in color. Average grain size 177-250 microns in size with clasts up to 1410 micron in size. Minor amounts of clay present.

Sand rich clay layer tan to brown in color. Average grain size of quartz/feldspar grains 177-250 microns. Material is cohesive and occurs at the same approximate interval in every boring advanced at the site.

Clean well sorted sand tan to grey in color. Average grain size 177-250 microns. Basal contact very sharp with underlying shell hash.

Poorly sorted shell hash light brown to dark grey in color. Shell fragments up to 3.0cm in size. Some clay and quartz/feldspar grain present.

Poorly sorted fossiliferous sand 350-500 micron in size. Sand with abundant shell fragments grading downward into a shell rich material with little sand. Upper sand rich material is light brown in color and shell rich layer is light grey in color.

Poorly sorted shell rich sand layer. Average sand grain size 350-500 microns in size. Sand composed primarily of quartz with minor feldspar. There are lithoclasts composed of shell fragments cemented with calcite spar up to .5cm in diameter.

Moderately well indurated material composed primarily of shell debris, a coquina, with clasts up to 3+cm in size. The material is dark grey in color with 350-500 micron size quartz and feldspar grains. The cement is a calcite spar and there are also heavy mineral suite grains present.

Vertical Scale: 1cm = 2'

FIGURE 3

During the twenty-four (24) hour pump test, it was established that the uppermost unconfined aquifer and the aquifer below the aquitard are not well connected hydraulically. During the drawdown test, it was noted in the data file that observation well #5, which was in the proximity of observation well $\#1_s$ (see Figure 2), did not record any significant drawdown through the 24 hour withdraw period. The pumping well and observation well $\#1_s$ shallow were <u>case and screened below the clay layer</u>. Observation well #5 was essentially a 10 foot length of well screen installed above the clay layer. Observation Well #5 did not indicate any significant drawdown as a result of pumping 12 gpm below the clay layer approximately fifty feet away.

Computer modeling accomplished using the HJ-Match program and the data file created with the Hermit 2000 indicates very large values of transmissivity and storage coefficient for the lower Yorktown aquifer. As seen in Figures 4, 5, 6, and 7, there is a wide variety of calculated values. This broad range of values can be attributed to preferential flow directions in the lower Yorktown media. The higher yield values predicted by the HJ-Match program are from data in observation wells that apparently have a better alignment with the pumping well and preferred flow directions in the media.

The anisotropy of groundwater flow in the lower confined Yorktown aquifer is apparently not related to the proximity of the Tar River (see Figure 8, Appendix 2). The preferential flow directions in the lower Yorktown aquifer are thought to be related to the processes by which this formation was deposited. In the coastal plain area, during the Miocene, sediments were deposited by fluvial/marine and beachhead processes that accumulated to form the present day Yorktown Formation.

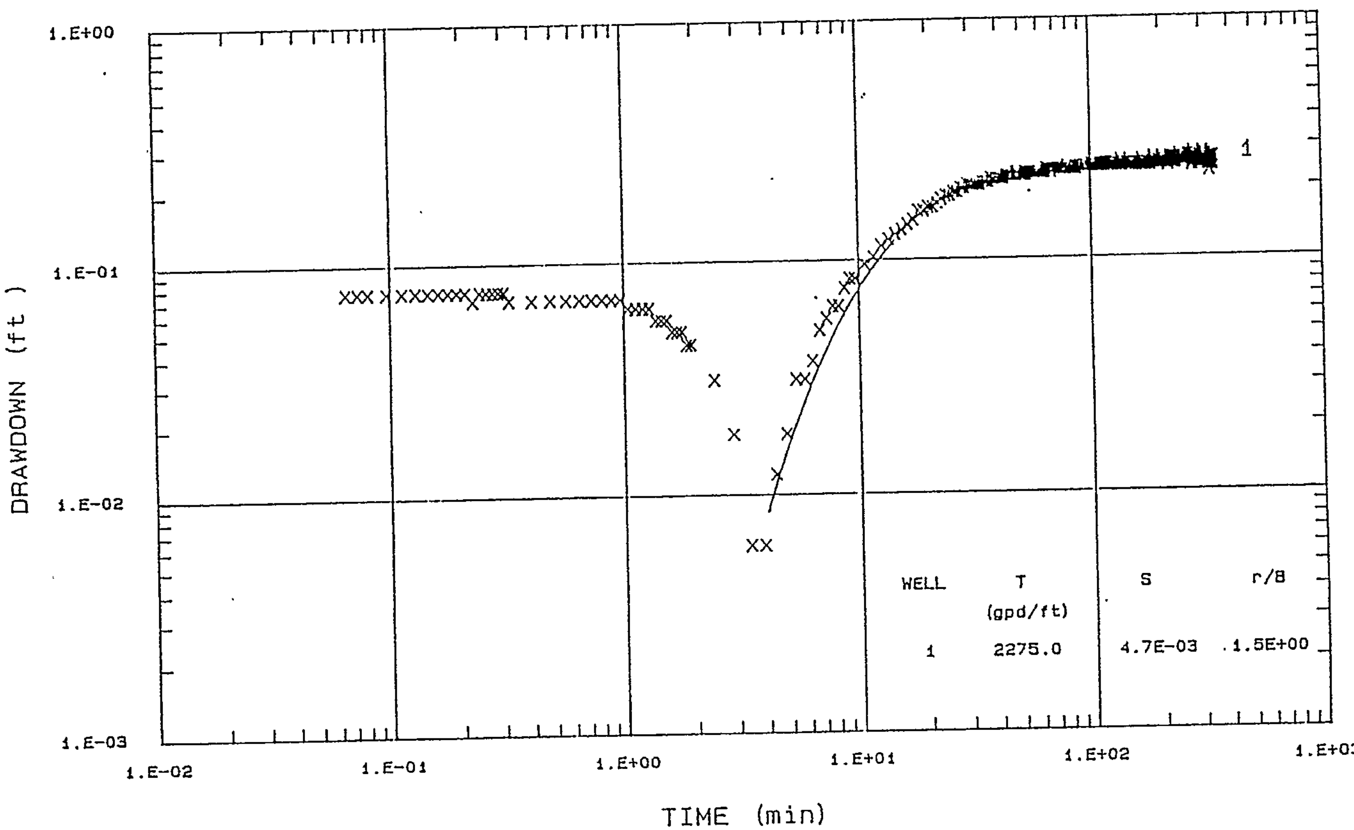
ENSCI Corporation attempted to calculate the preferred flow direction, but the attempt proved futile. The positions of observation wells #3, #4, #1s, and #1d tend to fall along a line perpendicular to the direction of groundwater flow, rather than a triangle (see Figure 2). The directional transmissivity modeling program Papadop requires a triangle of wells with calculated transmissivity and storage coefficient to determine the directional flow component, mean transmissivity, and mean storage coefficient.

During power drilling operations, analysis of recovered split spoon samples and well cuttings indicated that a distinct clay layer commonly separating the Yorktown Formation from the Castle Hayne Formation is absent in this area of the coastal plain. As seen in Cross Section $A-A^1$ and Appendix 3, well logs generated during drilling operations indicated that the expected clay layer is missing.

HACKNEY AND SONS (EAST) INCORPORATED

HYDROLOGIC PARAMETERS CALCULATION

HANTUSH-JACOB TYPE CURVE AUTOMATCH



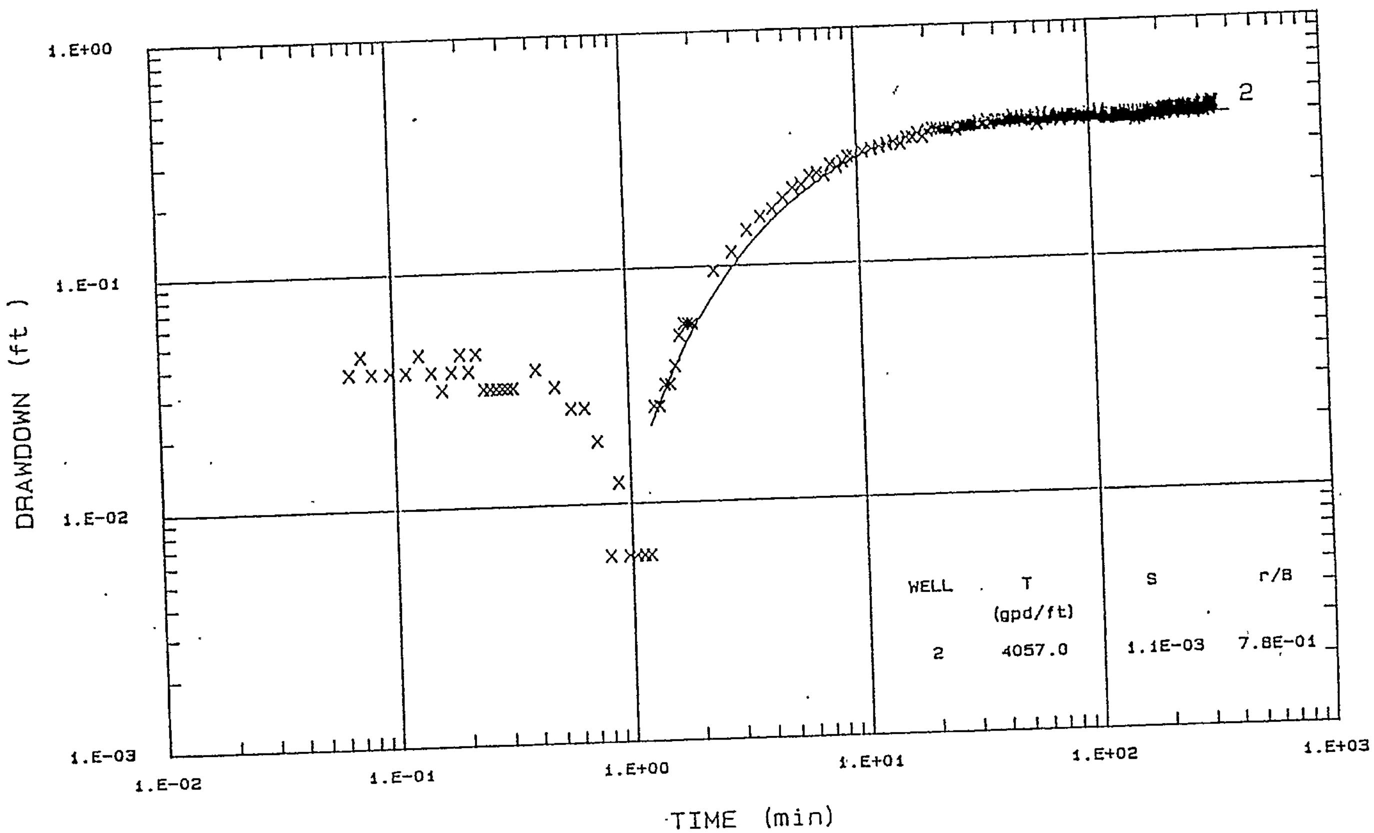
OBSERVATION WELL #1_S

FIGURE 4

HACKNEY AND SONS (EAST) INCORPORATED

HYDROLOGIC PARAMETERS CALCULATION

HANTUSH-JACOB TYPE CURVE AUTOMATCH



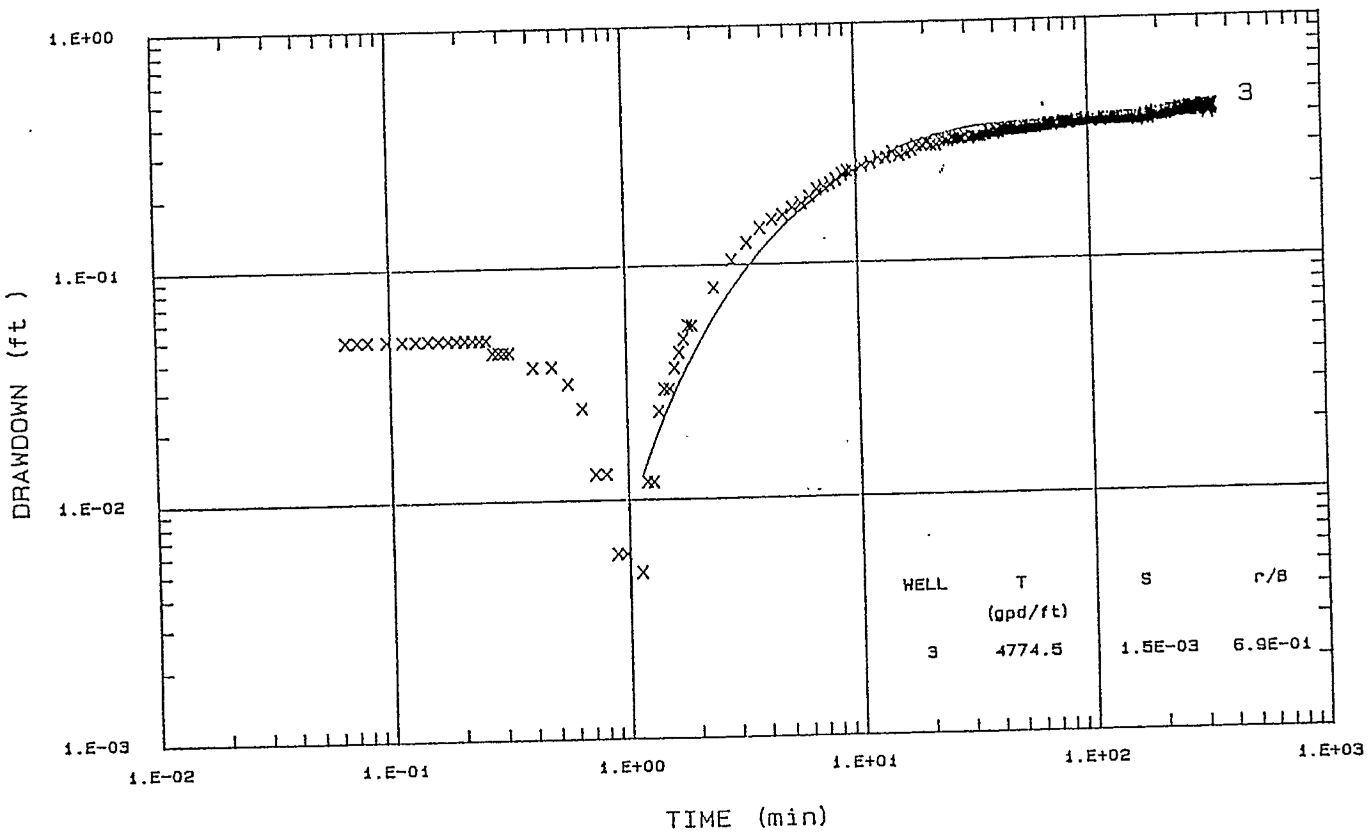
OBSERVATION WELL #1d

FIGURE 5

HACKNEY AND SONS (EAST) INCORPORATED

HYDROLOGIC PARAMETERS CALCULATION

HANTUSH-JACOB TYPE CURVE AUTOMATCH



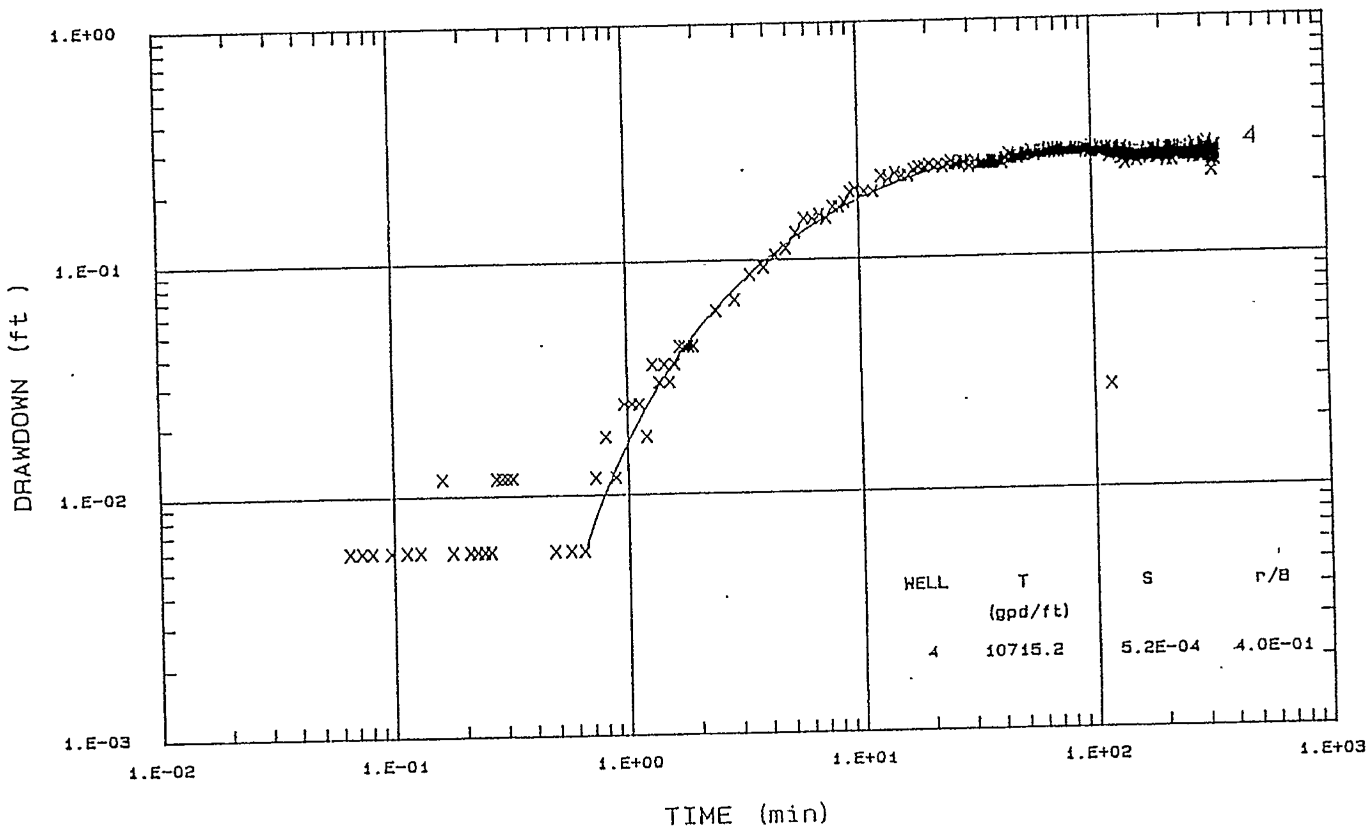
OBSERVATION WELL #3

FIGURE 6

HACKNEY AND SONS (EAST) INCORPORATED

HYDROLOGIC PARAMETERS CALCULATION

HANTUSH-JACOB TYPE CURVE AUTOMATCH



OBSERVATION WELL #4

FIGURE 7

WATER—VEL DATA FILE FOR HACKNEY EAST

MONITORING WELL #	X	Y	H_2O DEPTH Z
1	1002	810	6.89
2	705	795	5.79
3	633	261	5.46
4	708	117	6.02
5	165	279	7.20
6	384	213	5.81
7	579	894	6.23
8	555	843	6.80
9	528	861	6.46
10	522	891	6.41
11	528	1011	5.48
12	399	1083	5.23

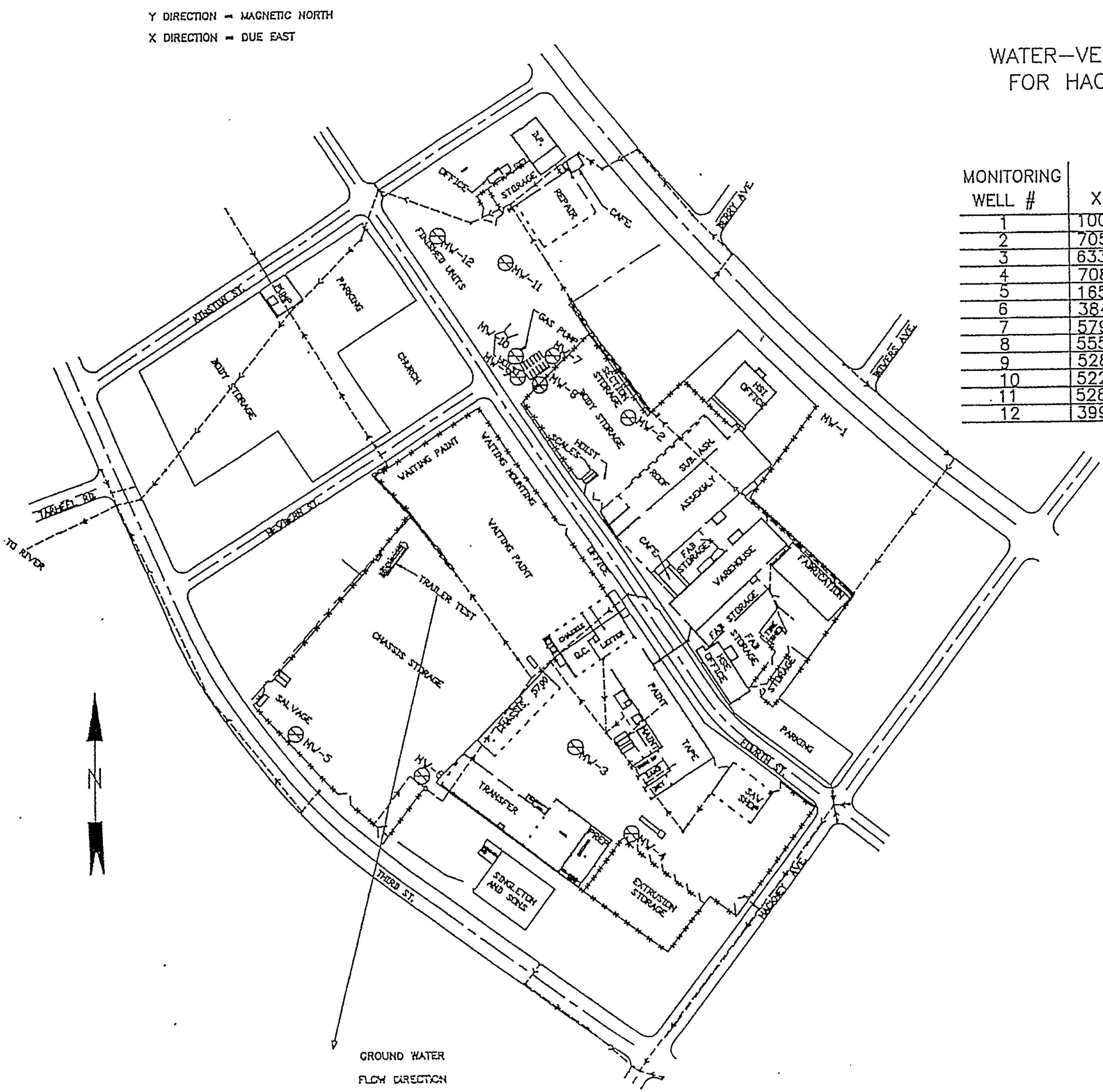


FIGURE 8

As seen in Figure 2 and Appendix 3, observation well #1d, which was only screened in the Castle Hayne Formation recorded a drawdown up to 4/10 of one foot as a result of pumping 12 gpm eighty two (82) feet away. The data is significant in that the hydraulic head of the Castle Hayne is influenced by pumping in the Yorktown Formation.

PLUME LOCATIONS

ENSCI Corporation conducted two (2) field sampling sessions at the Hackney & Sons (East), Incorporated facility. The first field program was conducted as part of a Remedial Risk Assessment from July 18, 1990 - July 22, 1990. During this period, ENSCI Corporation personnel acquired a total of sixty-three (63) samples from the subject facility. The second field session was conducted from October 7, 1990 through October 20, 1990. During the second field session, ENSCI Corporation acquired twenty-three (23) samples for analysis. Analytical results from both field sessions are included in Appendix 4.

The groundwater sampling and analyses completed to date indicate three (3) plumes/impacted areas are present at the Hackney facility. As seen in Figure 1, one area of concern occurs in the vicinity of the extrusion storage area. A second area of concern is near the trailer test facility located centrally in the western half of the property. A third area of concern begins in the northern part of the Hackney facility near the repair area. The repair area is where truck bodies were stripped with methylene chloride. The resulting paint chips and methylene chloride were then discharged into the storm drain. The storm drain leads away from the repair area in a westerly direction, turns to the southwest through the parking area, and passes near the sanitary pump station. This pump house is a lifting station of the City of Washington's sanitary sewer system. The other impacted storm drain crosses the area where the truck bodies are waiting paint and the chassis storage area; the drain divides those two areas, crosses Newbern Street, and ties into the storm drain leading away from the repair area near the pump house.

STORM DRAINS

During the July, 1990 field session, a total of twenty-three (23) samples were taken along the length of the storm drains (see Figure 1). The samples were analyzed for volatile organic compounds (EPA Method 8240), several samples were tested for oil and grease (EPA Method 9071), and one sample was tested for polychlorinated biphenyls (PCB's). Results of these analysis indicated that elevated levels of volatile organic compounds exist along the length of the storm drains (See Figure 9). The data, coupled with field observations, indicated the presence of "mini-plumes" sourced from each joint in the storm drain pipe along most of the length of the pipe.

July field observations noted 8" - 12" of sediment in the storm drain pipe from the methylene chloride stripping operation to the pump house (see Figure 1). This sediment was composed of a basal 4" - 6" of paint sludge, followed by sand mixed with paint chips and some type of polymer bead used by Coastal Water Systems in their water softening process. As seen in Appendix 2 of the December 3, 1990 Post Acquisition Report, these sediments were removed and stockpiled on Hackney property on September 14, 1990.

Prior to the September, 1990 removal of the storm drain sediments, the material was sampled and analyzed using TCLP parameters. The results indicated that the material is non-hazardous by characteristic (Appendix 5). The October, 1990 sampling of the stockpiled material removed from the storm drains indicated that the material was hazardous by characteristic (Appendix 6). Due to the discrepancy in the two (2) sets of analytical data, ENSCI Corporation sampled the stockpiled material again on 2/21/91 for analysis using TCLP parameters. ENSCI is currently awaiting results of the analysis.

Field observations made during excavation of test pits near the storm drain, running from the methylene chloride stripping operation to the pump house, indicated that the paint sludges have escaped at the storm drain pipe joints and formed small plumes. The largest paint sludge plume noted was along the storm drain adjacent to the pump house (SD #4 and SD #5). At this locality, the paint sludge plume appeared to extend approximately 15' - 20' in a southeastward direction away from the storm drain pipe sub-parallel to Kinston Street. The paint sludge plumes appear to have a very limited vertical extent (<2' thick) and appeared to have spread horizontally in a pancake-like fashion nearly parallel to the surface topography.

TRAILER TEST AREA

The purpose of the July and October, 1990 sampling in the vicinity of the Trailer Test Area was two-fold. First, there is a potential for the infiltration of organic chemicals discharged by Hackney operations into the storm drain at the outfall of the storm drain pipe in the proximity of Wells Junkyard (see Figure 1). Secondly, there is a very great potential that organic chemicals detected by Law and ENSCI were sourced from Wells Junkyard. Wells Junkyard is an apparently defunct operation that covers approximately 1/2 acre at the intersection of Newbern Street and Third Street. Field observations indicated heavily stained soils in the junkyard and approximately one hundred and fifty (150) drums in poor condition. Several drums on Wells property had obvious leaks of what appeared to be some type of oil. There was also a cluster of approximately fifteen to twenty drums adjacent to the chassis test area, on Wells property, that were upside down with the bungs removed.

A total of ten (10) samples were taken in the proximity of the open drainage ditch and adjacent to Wells Junkyard. Analytical results, coupled with field observations, indicate that this area has moderately elevated levels of organic chemical contaminants (see Figure 10). Of particular concern are the levels of 1,1 - Dichloroethene, Ethylbenzene, total Xylenes, 1,1,1 - Trichloroethane, and Toluene.

EXTRUSION STORAGE AREA

Sampling in the proximity of the extrusion storage area, preparation/undercoating, and the Buggy Works building was prompted by the Law Phase II report for Hackney & Sons (East), Incorporated. A sample taken by Law (UGW-1) contained very high levels of Tetrachloroethene (.690 ppm), the level for TCLP land banned is .7 ppm. ENSCI recovered ten (10) samples in the proximity of where UGW-1 was taken and the analytical results revealed much lower levels of tetrachloroethene. There were, however, elevated levels of other organic chemical contaminants at this location (see Figure 11).

REMEDIAL SCHEME

ENSCI Corporation, as a result of computer modeling, has determined that a multi-phase approach should be taken towards treatment of the groundwater at this facility. This multi-phase approach includes the acquisition of additional analytical data, pumping response data, and the installation of a pilot scale groundwater treatment system to enhance our knowledge of treatability of groundwater, given the contaminants present.

Concurrent with the design and construction of the pilot scale treatment facility, discussions need to be held with the National Spinning Company, and other water users in the proximity of the Hackney facility, to find a potential end user for water that is pumped and treated from the Hackney property. The opening of these discussions is important with respect to treatment system design constraints. If the aquifer response data indicates that treated groundwater does not need to be reintroduced into the Yorktown, and it is possible to pipe this water to the National Spinning Company; then disposal of the treated water problem is eliminated.

Due to problems with the wastewater treatment plant in Washington, North Carolina, ENSCI Corporation is of the opinion that it will not be possible to discharge treated groundwater into the POTW. There are only three (3) potential options available at this time.

POSITIVE ANALYTICAL RESULTS

Trailer Test Area (Sample Results Reported in ppm)

EPA Method 8240
EPA Method 624 & 625*

	WSB1	WSB2	WSB3	WSB4	WSB5	WSB6	WSB7	SD26	MW15	WSB2-2	Groundwater N.C.A.C. Subchapter 2L Section .0200 Groundwater Standards
Benzene	.836	1.011	.980	.736	.814	.079	.052	.040		.852	.001
Chloroform	.309	.272	.372	.357	.384	.086	.031		.008	.336	.00019
1,1 - Dichloroethane				.010					.100	.140	NS
1,1 - Dichloroethene									4.200	.360	.007
trans - 1,2 - Dichloroethene									.011		NS
Dichloromethane	.099	.101	.147	.100	.106	.104	.084	.141			.005
Ethylbenzene	.040	.067	.052	.089	.030	.723				20.583	.029
Styrene									.058		1.4×10^{-5}
Tetrachloroethene	.030	.011	.094	.032		.016	.012	.010	.018	.015	.0007
Toluene	.027	.138	.035	.480	.022	4.030	.034	.029	.130	12.597	1.0
1,1,1 - Trichloroethane				.043					70.000	2.521	.2
Trichloroethene	.041	.037	.037	.164	.045	.031			.050	.047	.0028
m-xylene									.011		NS
o,p-xylene									.007		NS
Total xylenes		.167		.459		4.350				153.537	0.4

* Sample MW15 only.

FIGURE 10

POSITIVE ANALYTICAL RESULTS

Extrusion Storage Area (Sample Results Reported in ppm)

EPA Method 8240

	BWS1	BWS2	BWS3	BWS4	BWS5	BWS6	BWS7	BWS8	BWS4-2	BWS1-B	Groundwater N.C.A.C. Subchapter 2L Section .0200 Groundwater Standards
Benzene	.728	.842	.811	.911	.838	1.380	.791	.804	.857	.623	.001
Chloroform	.290	.219	.373	.368	.304	.374	.275	.238	.339	.243	.00019
1,1 - Dichloroethane											NS
1,1 - Dichloroethene											.007
trans - 1,2 - Dichloroethene											NS
Dichloromethane	.100	.104	.190	.131	.115	.129	.114	.094	.106	.110	.005
Ethylbenzene	.030	.039	.038	.032	.030	.061	.043	.034	.062	.039	.029
Styrene											1.4×10^{-5}
Tetrachloroethene	.146	.238	.099	.017	.027	.079		.121	.013	.254	.0007
Toluene	.029	.095	.029	.030	.019	.024	.049	.028	.036	.035	1.0
1,1,1 - Trichloroethane											.2
Trichloroethene	.043	.104	.050	.052	.040	.032	.043	.033	.055	.029	.0028
m-xylene											NS
o,p-xylene											NS
Total xylenes	.027		.030				.042				0.4

FIGURE 11

The first is to pipe the treated water to an end user, i.e. National Spinning. The second is to establish an infiltration system on site where water will be pumped out of the ground, treated, and then infiltrated back into the Yorktown Formation via an infiltration gallery and/or a french drain. The third option is discharge of treated groundwater using an NPDES permit. This phase of the remedial program is crucial because much of the design of the full scale remedial system is dependent on what the ultimate disposition of the treated groundwater will be.

Based on groundwater modeling completed to date, ENSCI Corporation would like to install an air stripper and related pretreatment and carbon absorption units rated at 50 gpm in the proximity of the Trailer Test Area. We want to bring this pilot scale treatment system on line and monitor the groundwater over a period of months to get a better analysis of the behavioral patterns of the aquifers below the Hackney facility. Due to the anisotropic nature of the media being treated, and the limited data generated by one drawdown test, it is the opinion of ENSCI Corporation that a great deal of caution needs to be employed when approaching a full scale solution to the contaminant problems at this facility. It is the desire of ENSCI Corporation to monitor and model the groundwater based on newly generated information from both aquifers as this job progresses. Once the treatment system in the proximity of the Trailer Test Area is activated, the information yielded by an actual on-line system should enhance our knowledge of the hydraulic conditions occurring at this site.

The second and third remedial phases will be conducted concurrently. The first of these two phases is the installation of recovery and monitoring wells in the proximity of Extrusion Storage Area and the Buggy Works.

While this operation is going on, recovery/monitoring wells will be installed along the length of the storm drain leading away from the repair area. This storm drain was the receptor for methylene chloride and paint chips that were generated by the methylene chloride stripping operation that was conducted at the repair facility.

CONCLUSION

ENSCI Corporation has completed a Phase I groundwater assessment of Hackney and Sons (East), Incorporated. This assessment has indicated that a rather complex hydrologic system exists in the Miocene age Yorktown Formation underlying these areas of the coastal plain and the Hackney facility. ENSCI discovered that two (2) distinct aquifers were present during the hydrogeological investigation. The upper, unconfined aquifer, is perched on a clay rich sand layer that begins at approximately ten (10) feet in depth. This aquitard was discovered at the same approximate level below the entire twenty-three (23) acre facility. The underlying aquifer is present in the balance of the Yorktown Formation, approximately twenty-seven (27) feet in thickness, and is directly connected to the Castle Hayne Formation.

Modeling of groundwater completed to date has indicated that the lower aquifer of the Yorktown Formation is anisotropic with respect to groundwater flow. The anisotropy is probably related to the Miocene age depositional system that left these sediments. The anisotropy manifests in variability seen in the transmissivity and storage coefficient calculations. Preferential directional flow components in the Yorktown Formation media result in anomalous transmissivity and storage coefficient calculations. The range of calculated values for well yields vary from approximately 2,000 gallons/day/linear foot of screen up to 10,000 gallons/day/linear foot of screen. Without additional data, we can project that the actual values will fall between 4,000 and 5,000 gallons of yield per foot of well screened interval per day.

The presence of the aquitard and anisotropy of the lower Yorktown aquifer complicated a modeling program used by ENSCI Corporation to predict well locations, pumping rates, and the contours of the expected cone of depression. The modeling program, called BestWells, is a time sharing program owned by In-Situ, Inc. and run on a VAX computer. As indicated under the Hydrogeology section of this report, the directional component of the Yorktown Formation compromised the predicative ability of the BestWells program. The problem resulted from the positions of observation wells #3, #4, #1_s, and #1_d; which tend to fall along a line perpendicular to the direction of groundwater flow. As a result of this unfortunate alignment, the directional flow component of the media was not determined. The BestWells program will not run without the directional data. It was not possible to determine the presence of the directional flow component prior to the installation of the monitoring wells and completion of the twenty-four (24) hour pump test.

Sampling of groundwater, completed to date, has indicated three (3) plumes/impacted areas at the Hackney facility. ENSCI Corporation suspects that the majority of the identified contaminants are "perched" in the upper unconfined aquifer. The Phase II Scope of Work presently being compiled for this facility will address the issue. At least two (2) deep wells, cased and sealed into the aquitard, should be installed in the deeper aquifer of two (2) of the identified impacted areas. These areas included the Extrusion Storage Area and the Trailer Test Area. Sampling of these wells will indicate if a remedial system will need to address the deeper aquifer of the Yorktown Formation.

Due to the inconclusive groundwater modeling, limited analytical data, and general uncertainty of the shallow aquifer response to continuous pumping, ENSCI Corporation suggests that a Pilot Scale treatment system be installed and activated in the impacted areas.

A systematic phased approach to the full scale treatment system development will allow more certain predictions of pumping rates, treatment system design constraints, O & M costs, enhanced plume definition, and treated water disposal. Critical review of this document by regulatory personnel, and their development of a more concrete regulatory position, will also assist in enhancing the remedial system design.

If I can be of further assistance or answer any questions, please do not hesitate to call.

Very truly yours,

ENSCI CORPORATION

Bruce K. Braswell

Bruce K. Braswell
Hydrogeologist

BKB/few

HACKNEY AND SONS (EAST), INCORPORATED
GROUNDWATER REMEDIATION - PHASE II PROPOSAL

GROUNDWATER FLOW REGIMEN

As seen in the Phase I Groundwater Assessment Report, Hackney and Sons (East), Incorporated, has a complex aquifer system located directly below the facility site in the Yorktown Formation. ENSCI Corporation discovered that there are two (2) aquifers at the Hackney and Sons (East), Incorporated facility during the October, 1990 Phase I Groundwater Assessment. There is an upper unconfined aquifer perched on an aquitard approximately ten (10) feet in depth (see Figure 1). This upper perched aquifer is not well connected hydraulically to the aquifer remaining in the balance of Yorktown Formation sediments (approximately 27 feet). It also appears the lower Yorktown Formation aquifer and the Castle Hayne Formation aquifer are hydraulically connected.

ENSCI Corporation performed one (1) pump test in the lower Yorktown Formation aquifer at the Hackney and Sons (East), Incorporated facility during October, 1990. This drawdown test was accomplished via one (1) six inch pumping well and seven (7) observation wells (see Figure 2). A twelve (12) hour pre-pump test, a twenty-four (24) hour drawdown test, and a recovery test were made at the facility using an In-Situ Hermit 2000 Data Logger. The Hermit 2000 is a field data acquisition instrument designed to record changing groundwater elevations in monitoring well clusters during pump tests. In the field, pressure transducers were located in the observation wells and a central well was pumped at a constant rate for a twenty-four (24) hour period (see Figure 3). The Hermit instrument is designed to take water level readings at a predetermined setting and the result is a data file that consists of time and respective groundwater elevation drawdowns recorded in the observation wells.

ENSCI Corporation took the information generated by the twenty-four (24) hour pump test and used the data file generated to calculate the transmissivity and storage coefficient for the lower Yorktown aquifer below the Hackney and Sons (East) facility. Data generated to date indicates groundwater flow rates in the lower aquifer of 2,000 gallons per day, per linear foot of screened interval, up to 10,000 gallons per day, per linear foot of screened interval. The variability observed in calculated transmissivities is a result of the anisotropic nature of the media. It is the opinion of ENSCI Corporation that additional data from both aquifers is needed before the full scale remedial system can be designed for the Hackney and Sons (East) facility.

PROPOSED SCOPE OF WORK

Due to the complexity of the aquifer system at the referenced site, ENSCI Corporation proposes a Phase II Groundwater Assessment. The proposal involves the installation of four (4) inch diameter monitoring/recovery wells into both aquifers and two (2) inch observation wells in the shallow aquifer. These wells will be installed into all three (3) impacted areas in various configurations. After installation, development, and sampling, these wells will be used to perform a pump test in the Trailer Test Area and the Extrusion Storage Area. The benefits provided by two (2) additional pump tests include:

- Confirmation of the aquitard presence in impacted areas away from the repair facility.
- Acquisition of time/drawdown data necessary to calculate transmissivity and storage coefficients of the upper aquifer in two (2) impacted localities.
- Further evaluate the relationship between the Yorktown Formation Aquifer and the Castle Hayne Aquifer.

Following completion and evaluation of the Phase II Groundwater Assessment, Phase I of the Remedial Action Plan will commence. This plan calls for the installation of a groundwater treatment system rated at fifty (50) gallons per minute. The system will be installed and activated in the proximity of the extrusion storage area to assess the impact of groundwater pumping away from any structures supported by the upper ten (10) feet of strata. Any settling detected in the proximity of the cone(s) of depression around the Trailer Test Area will require a non-discharge disposal of treated groundwater where structures may be compromised.

To accomplish this goal, ENSCI Corporation proposes the following scope of work:

EXTRUSION STORAGE AREA

Due to the complex nature of the aquifer system, and the confirmation of organic chemical contamination in the upper unconfined aquifer in the proximity of the Extrusion Storage Area, ENSCI Corporation proposes to install one (1) well nest consisting of one (1) shallow and one (1) deep four (4) inch diameter monitoring well. The deep four (4) inch diameter well will be cased and pressure grouted to the clay layer and then advanced and screened below. The shallow four (4) inch diameter well will consist of a ten (10) foot length of well screen perched on top of the clay layer. In addition, ENSCI Corporation proposes to install six (6) shallow (10') observation wells along the fence bordering the buggy works facility and along the side of the undercoating building (see Figure 2). The well nest, both the shallow and the deep well, will be sampled for volatile and semivolatile organic chemical constituents using EPA Method 624 and 625. Both of these wells will also be sampled for RCRA Metals. Four (4) of the shallow observation wells will be sampled using EPA Method 624 and 625 to enhance our knowledge of the shallow plume extent.

TRAILER TEST AREA

In the proximity of the Trailer Test Area/Wells Junkyard, ENSCI Corporation proposes to install one (1) well nest as described above. ENSCI will also install six (6) observation wells in the shallow unconfined aquifer along the two (2) sides of Wells Junkyard that border Hackney owned and Hackney leased property (see Figure 2). ENSCI will sample the well nest using EPA Method 624 and 625 for volatile and semivolatile organic chemical constituents. The well nest will also be sampled for RCRA Metals. ENSCI will sample four (4) of the six (6) shallow observation wells using EPA Method 624 and 625 to enhance the shallow plume definition in this area.

STORM DRAINS

ENSCI Corporation proposes to install three (3) shallow observation/monitoring wells along the length of the storm drains (see Figure 2). ENSCI will sample these wells using EPA Method 624 and 625 for volatile and semivolatile organic chemical constituents. This data will enhance our knowledge of organic chemical constituents present in groundwater. The July, 1990 sampling along the length of the storm drains acquired saturated soil samples that may present data differing from actual groundwater samples.

UPGRADIENT BACKGROUND WATER QUALITY

ENSCI Corporation proposes to install one (1) deep monitoring well in the proximity of observation well #2 to the northwest of the repair facility (see Figure 2). Well #2 will be installed to an approximate depth of 50 feet. This well will be screened in the lower 20 feet and will be sampled using EPA Methods 624 and 625. Observation well #2 will be re-sampled using EPA Methods 624 and 625. The shallow and deep well will be sampled for RCRA Metals. The purpose of this upgradient background water quality sampling is to establish the level of background organic chemical contamination for the Hackney and Sons (East) facility. As seen in Figures 4, 5 and 6, elevated levels of chloroform, dichloromethane, and benzene, have been detected across most of the Hackney twenty-three (23) acre facility in Washington, North Carolina.

It is the opinion of ENSCI Corporation that much of the chloroform and potentially related organic chemical contamination may be indigenous to this area and reflective of general elevated background levels. Upgradient background sampling will establish organic chemical background levels to compare on site levels with.

HYDROGEOLOGIC INVESTIGATION

As indicated in the Phase I Groundwater Assessment Report, two (2) aquifers were discovered in the proximity of the repair facility (see Figure 2). Data generated from the installation of the soil borings during October, 1990 indicated that a clay rich sand layer is present across most of the Hackney facility at the same approximate level (see Cross Section A-A[1]). If this layer acts as an aquitard in all three (3) of the impacted areas, and most of the organic chemical contaminants are perched above the aquitard, the remediation of the facility will be greatly simplified. If, however, the lower water prolific aquifer of the Yorktown Formation has been impacted, very large volumes of water will require treatment to remediate the site.

Based on data generated to date, it appears that the bulk of the detected contamination may be in the upper unconfined aquifer. The installation of a well nest in each of the impacted areas, coupled with groundwater sampling, should indicate the extent of downward migration of the contaminants. These wells will also be used for pump placement during the hydrogeologic investigations.

After well installation and development, a pump test will be performed in the Extrusion Storage Area and the Trailer Test Area. This testing will involve pumping of groundwater from above the aquitard using the shallow four (4) inch recovery well while monitoring the drawdown test using the deep four (4) inch well and shallow two (2) inch wells for piezometers. If the hydraulic head of the deep well appears to be influenced by pumping from the shallow aquifer, a pump test may be performed by withdrawing water from the deeper aquifer. The determination for pumping from the deeper aquifer will be made only after the shallow aquifer has been pumped first.

Pump test data will allow calculation of the transmissivity and storage coefficient for the shallow unconfined aquifer. To accomplish the drawdown test, the shallow unconfined aquifer will be pumped and monitored for a minimum of twelve (12) hours. Water generated during the pump test will be placed in tanker trucks for storage prior to profiling and disposal.

Pump tests from the Trailer Test Area and Extrusion Storage Area should generate less than twenty thousand (20,000) gallons of water if only the shallow aquifer needs to be pumped. If pumping of the deeper aquifer is required, approximately forty thousand (40,000) gallons of water will be generated. It is the opinion of ENSCI Corporation that it will again be impossible to dispose of this water into the POTW. We will, therefore, plan to haul the generated water to an approved facility for proper disposal.

PHASE I - REMEDIAL ACTION PLAN

Phase I of the Remedial Action Plan includes installation and activation of a groundwater treatment system at the subject facility. ENSCI Corporation is currently designing a 50 gallon per minute system using acquired analytical data from the three (3) areas that have been impacted (see Phase I Groundwater Assessment Report). The benefits of the Phase I treatment system include:

- The generation of accurate carbon usage data.
- Generation of treated groundwater quality data.
- Acquisition of aquifer(s) response data, i.e. aquifer(s) response to an actual on-line pumping system.
- Establishment of a non-discharge permit/NPDES for the Hackney facility.

- Another benefit provided by a 50 gpm treatment system is that the unit can process groundwater from all three (3) of the impacted areas for very detailed analysis of the response and behavioral patterns of the designed pretreatment, air stripper, and carbon adsorption units as the nature of the contaminants changes.

PHASE I GROUNDWATER TREATMENT SYSTEM

ENSCI Corporation proposes to install a Phase I groundwater treatment system rated at 50 gallons per minute. This system is presently under design and will include an air stripper with related pretreatment and carbon adsorption units rated at 50 gpm. ENSCI Corporation proposes to install this groundwater treatment system in the proximity of the Trailer Test Area (see Figure 2). The installation of the Phase I treatment system in the proximity of the Trailer Test Area will have a wide variety of benefits. These benefits include:

1. ENSCI Corporation will be able to evaluate the performance of an air stripper and related pretreatment and carbon adsorption units in an actual on-line setting.

2. Enhancement of our understanding of the aquifer response to being pumped through the use of a data acquisition system acquiring drawdown data for a much longer period of time than twenty-four (24) hours. The increased length of pumping time and data acquisition will greatly enhance our understanding of the hydrologic properties of the aquifers below the Hackney Industries facility.

3. During the course of the withdrawal period. ENSCI Corporation will be able to monitor the immediate area surrounding and within the cone of depression generated by pumping the aquifer at 50 gpm. ENSCI Corporation plans to monitor this area very closely to look for settling that results from the dehydration of clay minerals potentially present in the upper unconfined aquifer. It is the concern of ENSCI Corporation that pumping at too great of a rate in the shallow unconfined aquifer could lead to settling in the upper unconfined strata perched above the clay layer that occurs at approximately ten (10) feet in depth.

   If all goes well with respect to settling in the radius of influence of the pumping system in the Trailer Test Area, ENSCI Corporation will pump groundwater from the proximity of the Extrusion Storage Area. A one (1) month long Phase I remedial program in the proximity of the Extrusion Storage Area/Undercoating Building will again yield useful information as indicated above. There is also a potential for using this treatment system to assess all three (3) of the impacted areas associated with the Hackney and Sons (East), Incorporated facility. Data generated with respect to treated water quality, aquifer response, etc., will allow for a greater degree of confidence when upscaling the system to treat all three (3) impacted areas of the Hackney facility.

The Phase I air stripping system that ENSCI Corporation is proposing will consist of, but not be limited to, the following:

- One (1) 500 gallon aeration tank with blower and level controls.
- One (1) 3,000 gallon settling tank with level controls.
- One (1) 1,000 gallon sludge aging tank.
- Two (2) skid mounted bag filters.
- One (1) chemical feeder.
- One (1) AS-50, 2' diameter, 30' tall packed depth airstripper with internals, blower, and level controls.
- Two (2) PC-13, 1,500 pound capacity carbon adsorbers with carbon.
- Six (6) transfer pumps.
- Electrical Controls.

As seen in Figure 7, the 50 gpm influent will pass through the 500 gallon aeration tank and then to the 3,000 gallon clarifier. Both of these units will have basal valves designed to withdraw sediment laden water for pumping to the sludge aging tank. With increased settling time, clear water will be decanted from above the sludge laden water back to the clarifier tank. From the 3,000 gallon clarifier tank, water will pass through bag filters, acid will be injected into the stream, and the water will cascade through the air stripper. From the air stripper, the water will be pressure fed through two (2) carbon adsorption units in series.

Due to the detected presence of high levels of suspended solids, iron, and calcium carbonate, a sophisticated pre-treatment system is required to remove these materials prior to passing the water through the air stripping unit. As seen in Figure 7, 30% HCl acid will be injected into the influent water stream immediately in front of the air stripping unit to lower pH. This will be done to prevent precipitation of any remaining iron or carbonate in the air stripping unit.

The pressure carbon contactors located at the end of the treatment system are designed to facilitate the removal of any organic chemical contaminants that are not removed via air stripping. The carbon units are in series so that water quality samples can be acquired between the two units to monitor for break-through times.

Once carbon adsorption sites are "spent", i.e. the molecules are incapable of adsorbing any additional chemical molecules, the contaminants will pass through the unit. Determining the break-through time for the first carbon unit will allow for accurate determinations of O & M costs. With the air stripping "system", primary O & M costs are associated with carbon usage. With break-through times in hand, one can then predict carbon usage on any annual basis.

TREATED WATER DISPOSAL

Another benefit of starting the Phase I remedial system at Hackney and Sons (East), Incorporated will be the development of a disposal solution for the treated groundwater. ENSCI Corporation held preliminary discussions with National Spinning Company, Inc. representatives on Thursday, February 21, 1991. These preliminary discussions centered around the use of treated groundwater from the Hackney facility by the National Spinning Company, Inc. in their dying and finishing process. ENSCI Corporation employee Bruce Braswell met with Mr. W. D. Reynolds, Jr., Director of Engineering, Mr. Allen Correll, Manager, Research and Development, Mr. Morris McGahey, Hazardous Chemical Coordinator, and Mr. D. Donald Deemer, P. E. with ERM - Southeast, Incorporated. ENSCI Corporation representative, Bruce Braswell, indicated to National Spinning Company representatives that the groundwater treatment system at the Hackney and Sons (East), Incorporated facility may ultimately yield several hundred thousand gallons of water daily. The National Spinning Company is presently purchasing 200,000 gallons of water daily from the City of Washington and utilizes an additional 1,000,000± gallons daily of groundwater pumped from well fields adjacent to their plant. National Spinning representatives were very optimistic about the use of treated groundwater, but were very cautious with respect to the quality of water they would be receiving from Hackney and Sons (East), Incorporated. The benefit of starting the Phase I treatment system at the Hackney and Sons (East), Incorporated facility would include acquisition of detailed information on the quality of water being generated by an actual on-line system. Other options include the development of the non-discharge permit and/or an NPDES. One note, after the Phase I treatment system is on-line and running, if settlement problems are encountered as a result of dehydration of clay minerals in the upper unconfined aquifer, it will be necessary to infiltrate treated groundwater back into the upper unconfined aquifer via a french drain and/or infiltration gallery.

If I can be of further assistance or answer any questions, please do not hesitate to call.

Very truly yours,

ENSCI CORPORATION

Bruce K. Braswell
Hydrogeologist

BKB/few

DIVISION OF ENVIRONMENTAL MANAGEMENT

October 10, 1990

MEMORANDUM:

TO: Jim Mulligan, Regional Supervisor
Washington Regional Office

FROM: Victor Copelan, Air Quality Regional Supervisor
Washington Regional Office

SUBJECT: Air Quality Comments
ENSCI Corp.'s Environmental Assessment
Hackney & Sons
Washington, NC
Beaufort Co.

ENSCI's evaluation indicates that Hackney had "possible VOC emissions in excess of permit limits".

Don Wynne earlier this year had asked Hackney for a VOC up-date. On September 19, 1990, we received a request from Hackney to re-issue their permit under a new corporate name. Included in that package was an updated permit application and the VOC up-date. The only reactive coating Hackney is using is Autocryl Topcoat Color M600. Hackney estimates they use approximately 8.3 gallons per day of M600 with an associated VOC emission of 10 pounds per day of reactive solvents. 15 NCAC 2D .0518 allows 40 pounds per day of reactive solvents from the facility. Hackney is in compliance with our regulations.

Hackney
Acquisition
Company

50 Federal Street
Suite 800
Boston, Ma 02110
(617) 426-3666

RECEIVED
WASHINGTON OFFICE
OCT 17 1990
D. E. M.

October 15, 1990

Mr. Jim Mulligan
Regional Supervisor for Division of Environmental Management
North Carolina Department of Environment, Health and Natural Resources
P.O. Box 1507
Washington, North Carolina 27889

Dear Mr. Mulligan:

Last Thursday, October 11, 1990, I met with your staff in Washington to review and discuss past environmental non-compliance at the Hackney & Sons, Inc. Washington facility. As one of Hackney's new owners, I wanted you to know I felt the meeting was quite productive and that your staff displayed a welcomed interest, energy and flexibility in working with me and my environmental engineering firm, ENSCI Corp, in cleaning up previous management's non-compliance.

I look forward to meeting you over the next days and weeks as we continue with our remediation efforts.

Very truly yours,

John Mazzarino

John Mazzarino
President

JM/ca
1015jimu

Guy, Mr Cotton (ENSCI) would like to discuss these Tomorrow 4/5/91

ENSCI
CORPORATION

RECEIVED
WASHINGTON OFFICE
APR 3 1991
D. E. M.

INFORMATION SENT VIA FAX
FROM
ENSCI CORPORATION
HIGH POINT, NORTH CAROLINA

FAX (919) 882-7958
PHONE (919) 883-7505

TO: Jim Mulligan
NCDEM

FROM: Ensci Corporation

FAX #: 919-975-3716

Date: 4-3-91

Number of Pages 22 including this cover sheet

TO RECIPIENT: IF INFORMATION IS UNCLEAR, PLEASE CALL (919) 883-7505 TO HAVE ANOTHER COPY SENT.

Additional Comments:

Dear Jim. Please find "Draft Copy" of proposed Phase II Work @ Hackney. A formal Copy will be available at the Friday April 5 meeting. I called today to Check with Willie Hardison as to who to fax this to - He suggested I send the information to you for distribution. Certainly if you have questions please give me a call.

Best Regards

Bob Cotton

1108 Old Thomasville Rd. • High Point, NC 27260 • 919 883-7505 • Fax 919-882-7958

AN ENVIRONMENTAL SERVICE COMPANY
ENGINEERING • ASSESSMENT • SITE REMEDIATION

1991-04-03 16:39 919 882 7958 ENSCI CORP 007 P01

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HACKNEY AND SONS (EAST), INCORPORATED
GROUNDWATER REMEDIATION - PHASE II PROPOSAL

GROUNDWATER FLOW REGIMEN

As seen in the Phase I Groundwater Assessment Report, Hackney and Sons (East), Incorporated, has a complex aquifer system located directly below the facility site in the Yorktown Formation. ENSCI Corporation, discovered that there are two (2) aquifers in existence at the Hackney and Sons (East), Incorporated facility during the October, 1990 Phase I Groundwater Assessment. There is an upper unconfined aquifer perched on an aquitard approximately three (3) feet thick that begins at approximately ten (10) feet in depth (see Figure 1). This upper perched aquifer is not well connected hydraulically to the aquifer remaining in the balance of Yorktown Formation sediments (approximately 27 feet). It also appears the lower Yorktown Formation aquifer and the Castle Hayne Formation aquifer are hydraulically connected.

ENSCI Corporation performed one (1) pump test in the lower Yorktown Formation aquifer at the Hackney and Sons (East), Incorporated

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facility during October, 1990. This drawdown test was accomplished via one (1) six inch pumping well and seven (7) observation wells (see Figure 2). A twelve (12) hour pre-pump test, a twenty-four (24) hour drawdown test, and a recovery test were made at the facility using and In-Situ Hermit 2000 Data Logger. The Hermit 2000 is a field data acquisition instrument designed to record changing groundwater elevations in monitoring well clusters during pump tests. In the field, pressure transducers were located in the observation wells and a central well was pumped at a constant rate for a twenty-four (24) hour period (see Figure 3). The Hermit instrument is designed to take water level readings at a predetermined setting and the result is a data file that consists of time and respective groundwater elevation drawdowns recorded in the observation wells.

ENSCI Corporation took the information generated by the twenty-four (24) hour pump test and used the data file generated to calculate transmissivity and storage coefficient for the lower Yorktown

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aquifer below the Hackney and Sons (East) facility. Data generated to date, indicates groundwater flow rates in the lower aquifer of 2,000 gallons per day, per linear foot of screened interval, up to 10,000 gallons per day, per linear foot of screened interval. The variability observed in calculated transmissivities is a result of the anisotropic nature of the media. It is the opinion of ENSCI Corporation that additional data from both aquifers is needed before full scale remedial system can be designed for the Hackney and Sons (East) facility.

PROPOSED SCOPE OF WORK

Due to the complexity of the aquifer system at the referenced facility, ENSCI Corporation proposes a Phase II Groundwater Assessment divided into two (2) tasks. Task I includes the installation of four (4) inch diameter monitoring/recovery wells into both aquifers and two (2) inch observation wells in the shallow aquifer. These wells will be installed into all three (3)

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impacted areas in various configurations. After installation, development, and sampling, these wells will be used to perform a pump test in the Trailer Test Area and the Extrusion Storage Area. The benefits provided by two (2) additional pump tests include:

- Confirmation of the aquitard presence in impacted areas away from the repair facility.

- Acquisition of time/drawdown data necessary to calculate transmissivity and storage coefficients of the upper aquifer in two (2) impacted localities.

- Further evaluate the relationship between the Yorktown Formation Aquifer and the Castle Hayne Aquifer.

Task II of the Phase II Groundwater Assessment includes installation and activation of a pilot scale groundwater treatment system at the subject facility. ENSCI Corporation is currently designing a 50 gallon per minute system using acquired analytical data from the three (3) areas that have been impacted (see Phase I Groundwater Assessment Report). The benefits of the pilot scale treatment system include:

- The generation of accurate carbon usage data.

- Generation of treated groundwater quality data.

- Acquisition of aquifer(s) response data, i.e. aquifer(s) response to an actual on-line pumping system.

- Establishment of a non-discharge permit/NPDES for the Hackney facility.

- Another benefit provided by a 50 gpm treatment system is that the unit can be moved to all three (3) of the impacted areas for very detailed analysis of the response and behavioral

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patterns of the designed pretreatment, air stripper, and carbon absorption units as the nature of the contaminants changes.

To accomplish this goal, ENSCI Corporation proposes the following scope of work:

TASK I

EXTRUSION STORAGE AREA

Due to the complex nature of the aquifer system and the confirmation of organic chemical contamination in the upper unconfined aquifer in the proximity of the extrusion storage area, ENSCI Corporation proposes to install one (1) well nest consisting of one (1) shallow and one (1) deep four (4) inch diameter

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monitoring well. The deep four (4) inch diameter well will be cased and pressure grouted to the clay layer and then advanced and screened below. The shallow four (4) inch diameter well will consist of a ten (10) foot length of well screen perched on top of the clay layer. In addition, ENSCI Corporation proposes to install six (6) shallow (10') observation wells along the fence bordering the buggy works facility and along the side of the undercoating building (see Figure 2). The well nest, both the shallow and the deep well, will be sampled for volatile and semivolatile organic chemical constituents using EPA Method 624 and 625. Both of these wells will also be sampled for RCRA Metals. Four (4) of the shallow observation wells will be sampled using EPA Method 624 and 625 to enhance our knowledge of the shallow plume extent.

TRAILER TEST AREA

In the proximity of the Trailer Test Area/Wells Junkyard, ENSCI Corporation proposes to install one (1) well nest as described

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above. ENSCI will also install six (6) observation wells in the shallow unconfined aquifer along the two (2) sides of Wells Junkyard that border Hackney owned and Hackney leased property (see Figure 2). ENSCI will sample the well nest using EPA Method 624 and 625 for volatile and semivolatile organic chemical constituents. The well nest will also be sampled for RCRA Metals. ENSCI will sample four (4) of the six (6) shallow observation wells using EPA Method 624 and 625 to enhance the shallow plume definition in this area.

STORM DRAINS

ENSCI Corporation proposes to install three (3) shallow observation/monitoring wells along the length of the storm drains (see Figure 2). ENSCI will sample these wells using EPA Method 624 and 625 for volatile and semivolatile organic chemical constituents. This data will enhance our knowledge of organic chemical constituents present in groundwater. The July, 1990

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sampling along the length of the storm drains acquired saturated soil samples that may present data differing from actual groundwater samples.

UPGRADIENT BACKGROUND WATER QUALITY

ENSCI Corporation proposes to install one (1) deep monitoring well in the proximity of observation well #2 to the northwest of the repair facility (see Figure 2). This well will be installed to an approximate depth of 50 feet. It will be screened in the lower 20 feet and will be sampled using EPA Method 624 and 625. Observation well #2 will be re-sampled using EPA Method 624 and 625. The shallow and deep well will be sampled for RCRA Metals. The purpose of this upgradient background water quality sampling is to establish the level of background organic chemical contamination for the Hackney and Sons (East) facility. As seen in Figures 4, 5 and 6, elevated levels of chloroform, dichloromethane, and benzene have been detected across most of the Hackney twenty-three (23) facility in Washington, North Carolina. DRAFT

It is the opinion of ENSCI Corporation that much of the chloroform and potentially related organic chemical contamination may be indigenous to this area and reflective of general elevated background levels. Upgradient background sampling will establish organic chemical background levels to compare on site levels with.

HYDROGEOLOGIC INVESTIGATION

As indicated in the Phase I Groundwater Assessment Report, two (2) aquifers were discovered in the proximity of the repair facility (see Figure 2). Data generated from the installation of the soil borings during October, 1990 indicated that a clay rich sand layer is present across most of the Hackney facility at the same approximate level (see Cross Section A-A[1]). If this layer acts as an aquitard in all three (3) of the impacted areas, and most of the organic chemical contaminants are perched above the aquitard, the

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remediation of the facility will be greatly simplified. If, however, the lower water prolific aquifer of the Yorktown Formation has been impacted, very large volumes of water will require treatment to remediate the site.

Based on data generated to date, it appears that the bulk of the detected contamination may be in the upper unconfined aquifer. The installation of a well nest in each of the impacted areas, coupled with groundwater sampling, should indicate the extent of downward migration of the contaminants. These wells will also be used for pump placement during the hydrogeologic investigations.

After well installation and development, a pump test will be performed in the Extrusion Storage Area and the Trailer Test Area. This testing will involve pumping of groundwater from <u>above</u> the aquitard using the shallow four (4) inch recovery well and monitoring the test using the deep four (4) inch well and shallow two (2) inch wells for piezometers. If the head of the deep well appears to be influenced by pumping from the shallow aquifer, a pump test may be performed by withdrawing water from the deeper aquifer. The determination for pumping from the deeper aquifer will be made only after the shallow aquifer has been pumped first.

Pump test data will allow calculation of the transmissivity and storage coefficient for the shallow unconfined aquifer. To accomplish the drawdown test, the shallow unconfined aquifer will be pumped and monitored for a minimum of twelve (12) hours. Water generated during the pump test will be placed in tanker trucks for storage prior to profiling and disposal.

Pump tests from the Trailer Test Area and Extrusion Storage Area should generate less than twenty thousand (20,000) gallons of water if only the shallow aquifer needs to be pumped. If pumping of the deeper aquifer is required, approximately forty thousand (40,000) gallons of water will be generated. It is the opinion of ENSCI Corporation that it will again be impossible to dispose of this water into the POTW. We will, therefore, plan to haul the generated water to an approved facility for proper disposal.

TASK II

PILOT SCALE GROUNDWATER TREATMENT SYSTEM

ENSCI Corporation proposes to install a pilot scale groundwater treatment system rated at 50 gallons per minute. This system is presently under design and will include an air stripper with related pretreatment and carbon absorption units rated at 50 gpm. ENSCI Corporation proposes to install this groundwater treatment system in the proximity of the Trailer Test Area (see Figure 2). The installation of the pilot scale treatment system in the proximity of the trailer test area will have a wide variety of benefits. These benefits include:

1. ENSCI Corporation be will able to evaluate the performance of

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an air stripper and related pretreatment and carbon absorption units in an actual on-line setting.

2. Enhancement of our understanding of the aquifer response to being pumped through the use of a data acquisition system acquiring drawdown data for a much longer period of time than twenty-four (24) hours. The increased length of pumping time and data acquisition will greatly enhance our understanding of the hydrologic properties of the aquifers below the Hackney Industries facility.

3. During the course of the withdrawal period, estimated to be a minimum of one (1) month, ENSCI Corporation will be able to monitor the immediate area surrounding and within the cone of depression generated by pumping the aquifer at 50 gpm. ENSCI Corporation plans to monitor this area very closely to look for settling that results from the dehydration of clay minerals potentially present in the upper unconfined aquifer.

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It is the concern of ENSCI Corporation that pumping at too great of a rate in the shallow unconfined aquifer could lead to settling in the upper unconfined strata perched above the clay layer that occurs at approximately ten (10) feet in depth.

If all goes well with respect to settling in the radius of influence of the pumping system in the Trailer Test Area, ENSCI Corporation will move the pilot scale treatment system to the proximity of the Extrusion Storage Area. A one (1) month pilot scale remedial phase in the proximity of the Extrusion Storage Area/Undercoating Building will again yield useful information as indicated above. There is also a potential for using this pilot scale treatment system at all three (3) of the impacted areas associated with the Hackney and Sons (East), Incorporated facility. Data generated with respect to treated water quality, aquifer response, etc., will allow for a greater degree of confidence when designing the

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system to treat all three (3) impacted areas of the Hackney facility.

The Pilot Scale air stripping system that ENSCI Corporation is proposing will consist of, but not be limited to, the following:

- One (1) 500 gallon aeration tank with blower and level controls.

- One (1) 3,000 gallon settling tank with level controls.

- One (1) 1,000 gallon sludge aging tank.

- Two (2) skid mounted bag filters.

- One (1) chemical feeder.

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- One (1) AS-50, 2' diameter, 30' tall packed depth airstripper with internals, blower, and level controls.

- Two (2) PC-13, 1,500 pound capacity carbon adsorbers with carbon.

- Six (6) transfer pumps.

- Electrical Controls.

As seen in Figure 7, the 50 gpm influent will pass through the 500 gallon aeration tank and then to the 3,000 gallon clarifier. Both of these units will have basal valves designed to withdraw sediment laden water for pumping to the sludge aging tank. With increased settling time, clear water will be decanted from above the sludge laden water back to the clarifier tank. From the 3,000 gallon clarifier tank, water will pass through bag filters, acid will be injected into the

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stream, and the water will cascade through the air stripper. From the air stripper, the water will be pressure fed through two (2) carbon adsorption units in series.

Due to the detected presence of high levels of suspended solids, iron, and calcium carbonate, a sophisticated pre-treatment system is required to remove these materials prior to passing the water through the air stripping unit. As seen in Figure 7, 30% HCL acid will be injected into the influent water stream immediately in front of the air stripping unit to lower pH. This will be done to prevent precipitation of any remaining iron or carbonate in the air stripping unit.

The pressure carbon contactors are designed to facilitate the removal of any organic chemical contaminants that are not removed via air stripping. The carbon units are in series so that water quality samples can be acquired between the two units to monitor for break-through times. Once carbon

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adsorption sites are "spent", i.e. the molecules are incapable of adsorbing any additional organic chemical molecules, the contaminants will pass through the unit. Determining the break-through time for the first carbon unit will allow for accurate determinations of O & M costs. With the air stripping "system", primary O & M costs are associated with carbon usage. With break-through times in hand, one can then predict carbon usage on an annual basis.

TREATED WATER DISPOSAL

Another benefit of starting the pilot scale remedial system at Hackney and Sons (East), Incorporated will be the development of a disposal solution for the treated groundwater. ENSCI Corporation held preliminary discussions with National Spinning Company, Inc. representatives on Thursday, February 21, 1991. These preliminary discussions centered around the use of treated groundwater from the Hackney facility by the National Spinning Company, Inc. in there

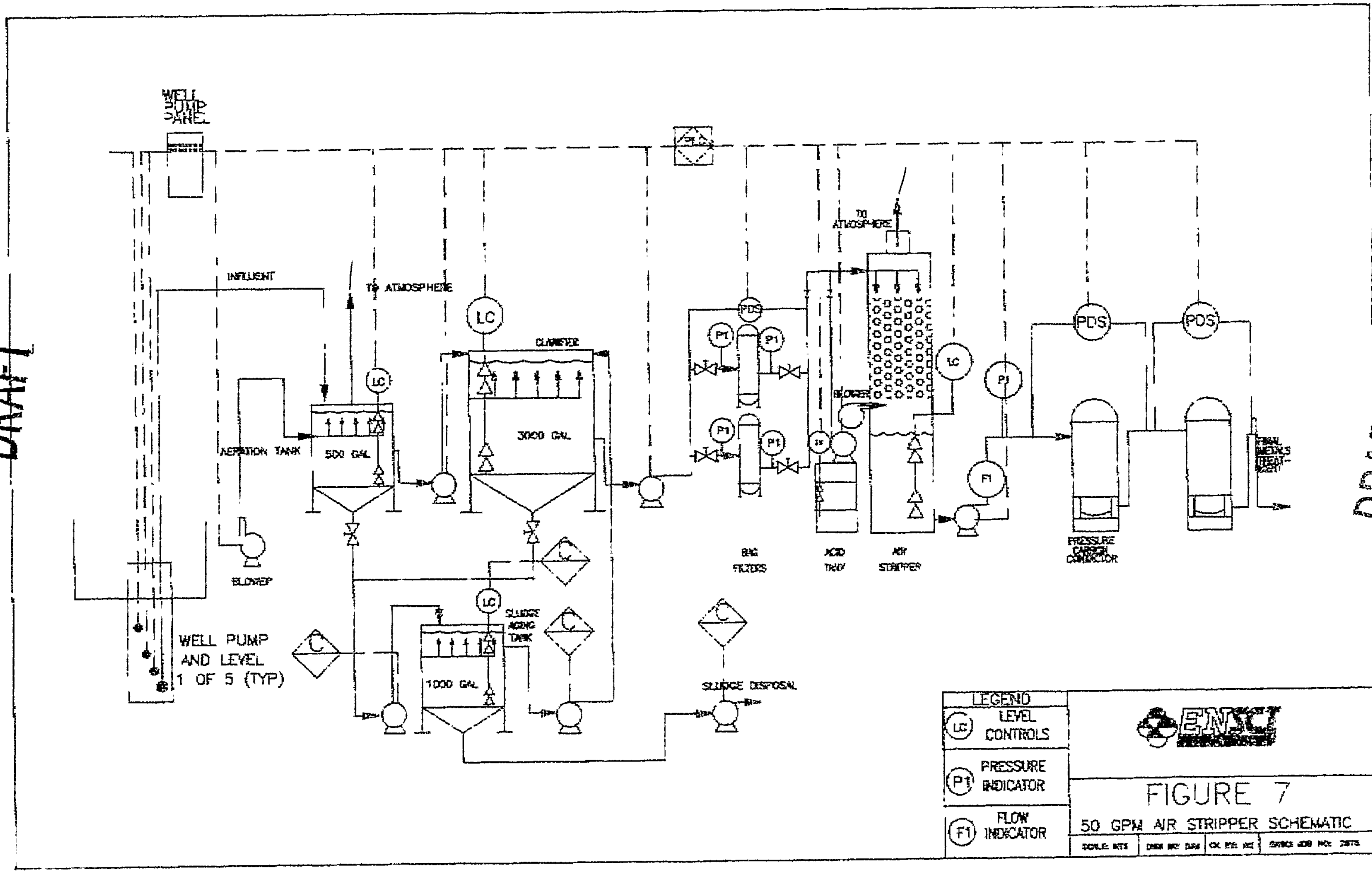


FIGURE 7

50 GPM AIR STRIPPER SCHEMATIC

Gary, I look this
over last night and
I have no objections to the
Pilot Study. However I suspect the
Work is going to want help of where
to discharge the water. This would be
more of WQ call than ours. Also I have
not look at the last assessment report.
However I still would like ENSCI
to delineate the Ech aquifer to ~~[illegible]~~
determine impacts if any. This is a major
local aquifer and will be more so in the
near future

ENSCI
CORPORATION

RECEIVED
WASHINGTON OFFICE
APR 3 1991
D. E. M.

INFORMATION SENT VIA FAX
FROM
ENSCI CORPORATION
HIGH POINT, NORTH CAROLINA

FAX (919) 882-7958
PHONE (919) 883-7505

TO: Jim Mulligan
NCDEM

FROM: Ensci Corporation

FAX #: 919-975-3716

Date: 4-3-91

Number of Pages 22 including this cover sheet

TO RECIPIENT: IF INFORMATION IS UNCLEAR, PLEASE CALL (919) 883-7505 TO HAVE ANOTHER COPY SENT.

Additional Comments:

Dear Jim: Please find "Draft Copy" of proposed Phase II Work @ Hackney. A formal Copy will be available at the Friday April 5 meeting. I called today to Check with Willie Hardison as to who to fax this to – He suggested I send the information to you for distribution. Certainly if you have questions please give me a call.

Best Regards
Bob Cottam

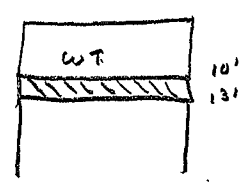
DRAFT

HACKNEY AND SONS (EAST), INCORPORATED
GROUNDWATER REMEDIATION - PHASE II PROPOSAL

GROUNDWATER FLOW REGIMEN

As seen in the Phase I Groundwater Assessment Report, Hackney and Sons (East), Incorporated, has a complex aquifer system located directly below the facility site in the Yorktown Formation. ENSCI Corporation, discovered that there are two (2) aquifers in existence at the Hackney and Sons (East), Incorporated facility during the October, 1990 Phase I Groundwater Assessment. There is an upper unconfined aquifer perched on an aquitard approximately three (3) feet thick that begins at approximately ten (10) feet in depth (see Figure 1). This upper perched aquifer is not well connected hydraulically to the aquifer remaining in the balance of Yorktown Formation sediments (approximately 27 feet). It also appears the lower Yorktown Formation aquifer and the Castle Hayne Formation aquifer are hydraulically connected.

How does this happen?



ENSCI Corporation performed one (1) pump test in the lower Yorktown Formation aquifer at the Hackney and Sons (East), Incorporated

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facility during October, 1990. This drawdown test was accomplished via one (1) six inch pumping well and seven (7) observation wells (see Figure 2). A twelve (12) hour pre-pump test, a twenty-four (24) hour drawdown test, and a recovery test were made at the facility using and In-Situ Hermit 2000 Data Logger. The Hermit 2000 is a field data acquisition instrument designed to record changing groundwater elevations in monitoring well clusters during pump tests. In the field, pressure transducers were located in the observation wells and a central well was pumped at a constant rate for a twenty-four (24) hour period (see Figure 3). The Hermit instrument is designed to take water level readings at a predetermined setting and the result is a data file that consists of time and respective groundwater elevation drawdowns recorded in the observation wells.

ENSCI Corporation took the information generated by the twenty-four (24) hour pump test and used the data file generated to calculate transmissivity and storage coefficient for the lower Yorktown

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aquifer below the Hackney and Sons (East) facility. Data generated to date, indicates groundwater flow rates in the lower aquifer of 2,000 gallons per day, per linear foot of screened interval, up to 10,000 gallons per day, per linear foot of screened interval. The variability observed in calculated transmissivities is a result of the anisotropic nature of the media. It is the opinion of ENSCI Corporation that additional data from both aquifers is needed before full scale remedial system can be designed for the Hackney and Sons (East) facility.

Both YKT (upper/lower) or YKT + Eoh ?

PROPOSED SCOPE OF WORK

Due to the complexity of the aquifer system at the referenced facility, ENSCI Corporation proposes a Phase II Groundwater Assessment divided into two (2) tasks. Task I includes the installation of one ~~four~~ (4) inch diameter monitoring/recovery wells into both aquifers and two (2) inch observation wells in the shallow aquifer. These wells will be installed into all three (3)

1 4" YKt
1 4" Eoh
2 Shallow Aquifer
4

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impacted areas in various configurations. After installation, development, and sampling, these wells will be used to perform a pump test in the Trailer Test Area and the Extrusion Storage Area. The benefits provided by two (2) additional pump tests include:

- Confirmation of the aquitard presence in impacted areas away from the repair facility.

- Acquisition of time/drawdown data necessary to calculate transmissivity and storage coefficients of the upper aquifer in two (2) impacted localities.

- Further evaluate the relationship between the Yorktown Formation Aquifer and the Castle Hayne Aquifer. good!

Task II of the Phase II Groundwater Assessment includes installation and activation of a pilot scale groundwater treatment system at the subject facility. ENSCI Corporation is currently

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designing a 50 gallon per minute system using acquired analytical data from the three (3) areas that have been impacted (see Phase I Groundwater Assessment Report). The benefits of the pilot scale treatment system include: 22,000 g/d

- The generation of accurate carbon usage data.
- Generation of treated groundwater quality data.
- Acquisition of aquifer(s) response data, i.e. aquifer(s) response to an actual on-line pumping system.
- Establishment of a non-discharge permit/NPDES for the Hackney facility.
- Another benefit provided by a 50 gpm treatment system is that the unit can be moved to all three (3) of the impacted areas for very detailed analysis of the response and behavioral

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patterns of the designed pretreatment, air stripper, and carbon absorption units as the nature of the contaminants changes.

To accomplish this goal, ENSCI Corporation proposes the following scope of work:

TASK I

EXTRUSION STORAGE AREA

Due to the complex nature of the aquifer system and the confirmation of organic chemical contamination in the upper unconfined aquifer in the proximity of the extrusion storage area, ENSCI Corporation proposes to install one (1) well nest consisting of one (1) shallow and one (1) deep four (4) inch diameter

2 wells

1 shallow
1 deep

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7

DRAFT

monitoring well. The deep four (4) inch diameter well will be cased and pressure grouted to the clay layer and then advanced and screened below. The shallow four (4) inch diameter well will consist of a ten (10) foot length of well screen perched on top of the clay layer. In addition, ENSCI Corporation proposes to install six (6) shallow (10') observation wells along the fence bordering the buggy works facility and along the side of the undercoating building (see Figure 2). The well nest, both the shallow and the deep well, will be sampled for volatile and semivolatile organic chemical constituents using EPA Method 624 and 625. Both of these wells will also be sampled for RCRA Metals. Four (4) of the shallow observation wells will be sampled using EPA Method 624 and 625 to enhance our knowledge of the shallow plume extent.

1 - scr 10 perched

1 - scr below clay layer (is this YKT?)

6 shallow wells (10 ft deep)

OK

ok

TRAILER TEST AREA

In the proximity of the Trailer Test Area/Wells, Junkyard, ENSCI Corporation proposes to install one (1) well nest as described

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2 well nest (1 shall/1 Deep)

above. ENSCI will also install six (6) observation wells in the shallow unconfined aquifer along the two (2) sides of Wells Junkyard that border Hackney owned and Hackney leased property (see Figure 2). ENSCI will sample the well nest using EPA Method 624 and 625 for volatile and semivolatile organic chemical constituents. The well nest will also be sampled for RCRA Metals. ENSCI will sample four (4) of the six (6) shallow observation wells using EPA Method 624 and 625 to enhance the shallow plume definition in this area.

STORM DRAINS

ENSCI Corporation proposes to install three (3) shallow observation/monitoring wells along the length of the storm drains (see Figure 2). ENSCI will sample these wells using EPA Method 624 and 625 for volatile and semivolatile organic chemical constituents. This data will enhance our knowledge of organic chemical constituents present in groundwater. The July, 1990

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sampling along the length of the storm drains acquired saturated soil samples that may present data differing from actual groundwater samples.

UPGRADIENT BACKGROUND WATER QUALITY

1- upGradient

ENSCI Corporation proposes to install one (1) deep monitoring well in the proximity of observation well #2 to the northwest of the repair facility (see Figure 2). This well will be installed to an approximate depth of 50 feet. It will be screened in the lower 20 feet and will be sampled using EPA Method 624 and 625. Observation well #2 will be re-sampled using EPA Method 624 and 625. The shallow and deep well will be sampled for RCRA Metals. The purpose of this upgradient background water quality sampling is to establish the level of background organic chemical contamination for the Hackney and Sons (East) facility. As seen in Figures 4, 5 and 6, elevated levels of chloroform, dichloromethane, and benzene have been detected across most of the Hackney twenty-three (23)

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facility in Washington, North Carolina. DRAFT

It is the opinion of ENSCI Corporation that much of the chloroform and potentially related organic chemical contamination may be indigenous to this area and reflective of general elevated background levels. Upgradient background sampling will establish organic chemical background levels to compare on site levels with.

HYDROGEOLOGIC INVESTIGATION

As indicated in the Phase I Groundwater Assessment Report, two (2) aquifers were discovered in the proximity of the repair facility (see Figure 2). Data generated from the installation of the soil borings during October, 1990 indicated that a clay rich sand layer is present across most of the Hackney facility at the same approximate level (see Cross Section A-A[1]). If this layer acts as an aquitard in all three (3) of the impacted areas, and most of the organic chemical contaminants are perched above the aquitard, the

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remediation of the facility will be greatly simplified. If, however, the lower water prolific aquifer of the Yorktown Formation has been impacted, very large volumes of water will require treatment to remediate the site.

Based on data generated to date, it appears that the bulk of the detected contamination may be in the upper unconfined aquifer. The installation of a well nest in each of the impacted areas, coupled with groundwater sampling, should indicate the extent of downward migration of the contaminants. These wells will also be used for pump placement during the hydrogeologic investigations.

After well installation and development, a pump test will be performed in the Extrusion Storage Area and the Trailer Test Area. This testing will involve pumping of groundwater from above the aquitard using the shallow four (4) inch recovery well and monitoring the test using the deep four (4) inch well and shallow two (2) inch wells for piezometers. If the head of the deep well

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appears to be influenced by pumping from the shallow aquifer, a pump test may be performed by withdrawing water from the deeper aquifer. The determination for pumping from the deeper aquifer will be made only after the shallow aquifer has been pumped first.

? Needs to be observed very closely. I prefer to pump deeper & monitor shallow

Pump test data will allow calculation of the transmissivity and storage coefficient for the shallow unconfined aquifer. To accomplish the drawdown test, the shallow unconfined aquifer will be pumped and monitored for a minimum of twelve (12) hours. Water generated during the pump test will be placed in tanker trucks for storage prior to profiling and disposal.

Pump tests from the Trailer Test Area and Extrusion Storage Area should generate less than twenty thousand (20,000) gallons of water if only the shallow aquifer needs to be pumped. If pumping of the deeper aquifer is required, approximately forty thousand (40,000) gallons of water will be generated. It is the opinion of ENSCI Corporation that it will again be impossible to dispose of this

Q. to WQ pending WQ results can we issue short term permit only for duration of test ?

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water into the POTW. We will, therefore, plan to haul the generated water to an approved facility for proper disposal.

TASK II

PILOT SCALE GROUNDWATER TREATMENT SYSTEM

ENSCI Corporation proposes to install a pilot scale groundwater treatment system rated at 50 gallons per minute. This system is presently under design and will include an air stripper with related pretreatment and carbon absorption units rated at 50 gpm. ENSCI Corporation proposes to install this groundwater treatment system in the proximity of the Trailer Test Area (see Figure 2). The installation of the pilot scale treatment system in the proximity of the trailer test area will have a wide variety of benefits. These benefits include:

1. ENSCI Corporation be will able to evaluate the performance of

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an air stripper and related pretreatment and carbon absorption units in an actual on-line setting.

2. Enhancement of our understanding of the aquifer response to being pumped through the use of a data acquisition system acquiring drawdown data for a much longer period of time than twenty-four (24) hours. The increased length of pumping time and data acquisition will greatly enhance our understanding of the hydrologic properties of the aquifers below the Hackney Industries facility.

3. During the course of the withdrawal period, estimated to be a minimum of one (1) month, ENSCI Corporation will be able to monitor the immediate area surrounding and within the cone of depression generated by pumping the aquifer at 50 gpm. ENSCI Corporation plans to monitor this area very closely to look for settling subsiding? that results from the dehydration of clay minerals potentially present in the upper unconfined aquifer.

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It is the concern of ENSCI Corporation that pumping at too great of a rate in the shallow unconfined aquifer could lead to settling in the upper unconfined strata perched above the clay layer that occurs at approximately ten (10) feet in depth.

If all goes well with respect to settling in the radius of influence of the pumping system in the Trailer Test Area, ENSCI Corporation will move the pilot scale treatment system to the proximity of the Extrusion Storage Area. A one (1) month pilot scale remedial phase in the proximity of the Extrusion Storage Area/Undercoating Building will again yield useful information as indicated above. There is also a potential for using this pilot scale treatment system at all three (3) of the impacted areas associated with the Hackney and Sons (East), Incorporated facility. Data generated with respect to treated water quality, aquifer response, etc., will allow for a greater degree of confidence when designing the

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system to treat all three (3) impacted areas of the Hackney facility.

The Pilot Scale air stripping system that ENSCI Corporation is proposing will consist of, but not be limited to, the following:

- One (1) 500 gallon aeration tank with blower and level controls.

- One (1) 3,000 gallon settling tank with level controls.

- One (1) 1,000 gallon sludge aging tank.

- Two (2) skid mounted bag filters.

- One (1) chemical feeder.

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- One (1) AS-50, 2′ diameter, 30′ tall packed depth airstripper with internals, blower, and level controls.

- Two (2) PC-13, 1,500 pound capacity carbon adsorbers with carbon.

- Six (6) transfer pumps.

- Electrical Controls.

As seen in Figure 7, the 50 gpm influent will pass through the 500 gallon aeration tank and then to the 3,000 gallon clarifier. Both of these units will have basal valves designed to withdraw sediment laden water for pumping to the sludge aging tank. With increased settling time, clear water will be decanted from above the sludge laden water back to the clarifier tank. From the 3,000 gallon clarifier tank, water will pass through bag filters, acid will be injected into the stream, and the water will cascade through the air stripper. From the air stripper, the water will be pressure fed through two (2) carbon adsorption units in series.

Due to the detected presence of high levels of suspended solids, iron, and calcium carbonate, a sophisticated pre-treatment system is required to remove these materials prior to passing the water through the air stripping unit. As seen in Figure 7, 30% HCL acid will be injected into the influent water stream immediately in front of the air stripping unit to lower pH. This will be done to prevent precipitation of any remaining iron or carbonate in the air stripping unit.

The pressure carbon contactors are designed to facilitate the removal of any organic chemical contaminants that are not removed via air stripping. The carbon units are in series so that water quality samples can be acquired between the two units to monitor for break-through times. Once carbon adsorption sites are "spent", i.e. the molecules are incapable of adsorbing any additional organic chemical molecules, the contaminants will pass through the unit. Determining the break-through time for the first carbon unit will allow for accurate determinations of O & M costs. With the air stripping "system", primary O & M costs are associated with carbon usage. With break-through times in hand, one can then predict carbon usage on an annual basis.

TREATED WATER DISPOSAL

Another benefit of starting the pilot scale remedial system at Hackney and Sons (East), Incorporated will be the development of a disposal solution for the treated groundwater. ENSCI Corporation held preliminary discussions with National Spinning Company, Inc. representatives on Thursday, February 21, 1991. These preliminary discussions centered around the use of treated groundwater from the Hackney facility by the National Spinning Company, Inc. in there

22

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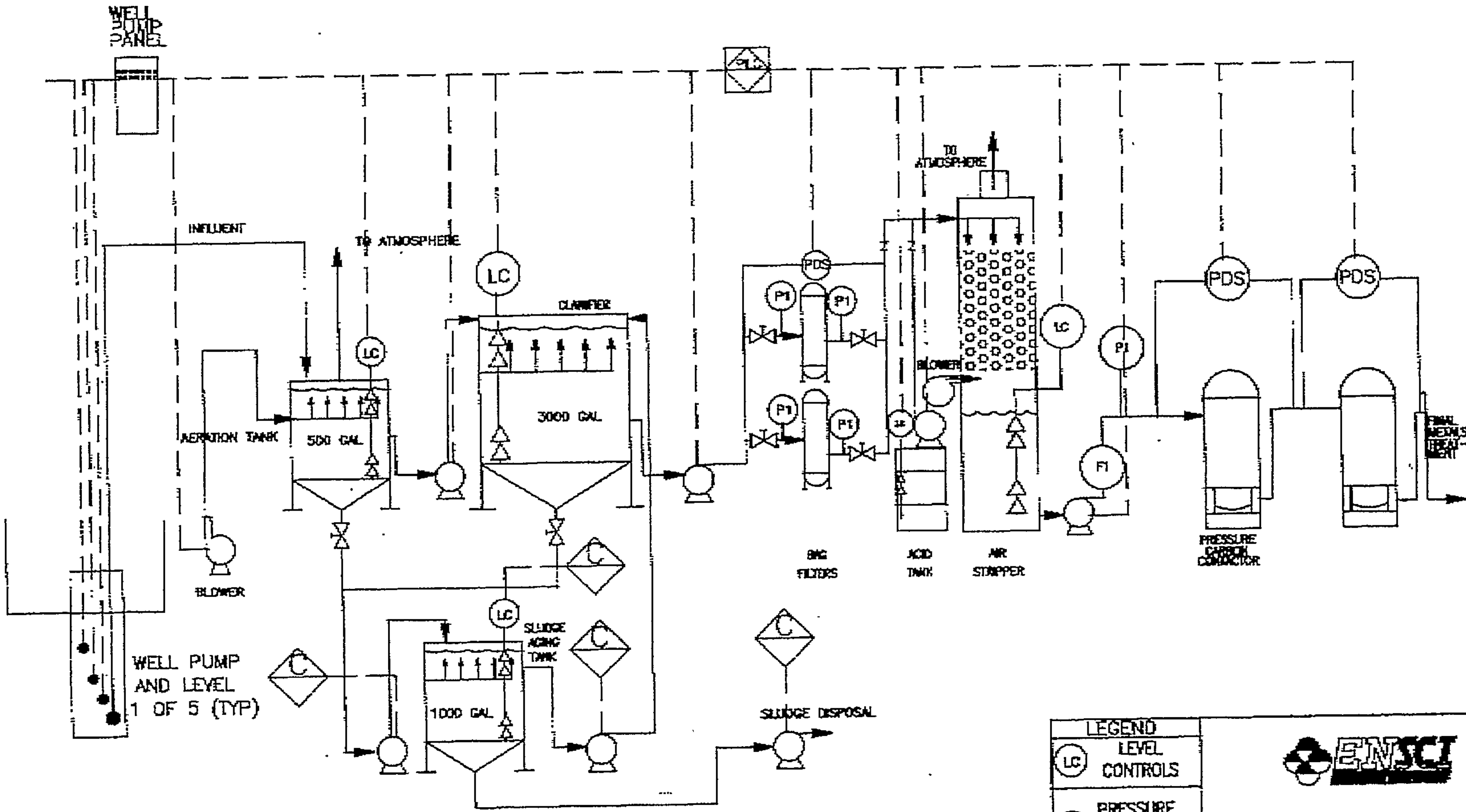

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LEGEND

LC	LEVEL CONTROLS
PI	PRESSURE INDICATOR
FI	FLOW INDICATOR

ENSCI

FIGURE 7

50 GPM AIR STRIPPER SCHEMATIC

HACKNEY AND SONS (EAST), INCORPORATED

Phase II Groundwater Assessment and Phase I Remedial Action Plan

Data Generated to Date

- Three areas of the Hackney Facility have confirmed impacted groundwater in the shallow aquifer
- A two aquifer system is potentially present across the 23 acre site. The two aquifer system has been confirmed in one area.
- Transmissivity (T), and storage coefficiants (K), have been determined for the lower confined aquifer.
- Anisotropic flow conditions exist in the lower confirmed aquifer.

Time Frame – April 15, 1991 – May 10, 1991

Phase II Task I

Goals

EXTRUSION STORAGE AREA

- Determine presence of a two aquifer system.
- Calculate T&K for the upper unconfined aquifer.
- Enhance plume extents definition.

TRAILER TEST AREA

- Determine presence of a two aqufer system.
- Calculate T&K for the upper unconfined aquifer
- Enhance plume extents definition.

STORM DRAINS

- Determine presence of the clay rich aquitard.
- Enhance plume extents definition.

Generated Data

Report Preparation

Data synthesis, groundwater modeling and generation of a report detailing contaminant levels, vertical and horizontal extents, and upper aquifer transmissivity and storage coefficients

Time Frame – May 10, 1991 – June 28, 1991

SOC Negotiation

Phase I Remedial Action Plan

Groundwater treatment system rated at 50 Gallons per minute

- Treated Groundwater → NPDES / END USER / NON DISCHARGE
- Generated sludge → FILTER PRESS → LANDFILL; NON DISCHARGE → LAND APPLICATION
- Generated carbon → Disposal Profiling using ⅓ ⅓ procedure → Proper disposal

Time Frame – May 1, 1991 – September 1, 1991

<u>Unit on Line By September 1, 1991</u>

NCAC Title 15
Subchapter 2E
Capacity use area
water withdrawl permitting
<u>IF NECESSARY</u>

Phase II Remedial Action Plan

Parallel Treatment Installation
Upscaling of treatment system volume capability to treat all three inpacted areas
<u>IF NECESSARY</u>

Time Frame – By February 1992

- Treated Groundwater → Disposal est. in Phase I
- Generated sludge → Disposal est. in Phase I
- Generated carbon → Disposal est. in Phase I

ENSCI CORPORATION

WASHINGTON OFFICE
MAY 21 1991
D. E. M.

May 21, 1991

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Jim Mulligan
North Carolina Department of Natural
Resources and Community Development
Division of Environmental Management
1425 Carolina Avenue
Post Office Box 1507
Washington, North Carolina 27889

Dear Mr. Mulligan:

Please find enclosed 2 copies of the Phase II Groundwater Assessment Plan and Phase I Remedial Action Plan for the Hackney and Sons (East), Inc. facility in Washington, North Carolina. A draft of the enclosed document, with the Decision Flow Chart included was reviewed with your staff, Mr. Richard Powers, on May 7, 1991.

The field work associated with the Phase II Assessment has been completed and we are awaiting analytical data. We will keep your office informed as we proceed on this project.

I would like to discuss the SOC process with you at your convenience in the next several weeks. Thank you for your attention to these matters. Please do not hesitate to contact our office if we may be of service.

Very truly yours,

ENSCI CORPORATION

R. T. Cottam

Robert T. Cottam, III
President

RTC/few

cc: John Mazzarino
Hackney Acquisition Company

1108 Old Thomasville Rd. • High Point, NC 27260 • 919-883-7505 • Fax 919-882-7958

Caroline

CC's to
(1) Willie
(2) Richard 3-28-91
(3) Vic
(4) Roger
(5) Lorraine
3/28/91

ENSCI
CORPORATION

Hardison

RECEIVED
WASHINGTON OFFICE
MAR 27 1991
D. E. M.

INFORMATION SENT VIA FAX
FROM
ENSCI CORPORATION
HIGH POINT, NORTH CAROLINA

FAX (919) 882-7958
PHONE (919) 883-7505

TO: Jim Mulligan
NCDEM - Washington NC

FROM: Bob Cottam
Ensci

FAX #: 919-975-3716

Date: 3-27-91

Number of Pages 3 including this cover sheet

TO RECIPIENT: IF INFORMATION IS UNCLEAR, PLEASE CALL (919) 883-7505 TO HAVE ANOTHER COPY SENT.

Additional Comments:

Jim: See Text on proposed meetings here. April 5 10 Am

Original copy of this letter will follow via regular mail.

Thanks
RTC

1108 Old Thomasville Rd. • High Point, NC 27260 • 919-883-7505 • Fax 919-882-7958

ENSCI CORPORATION

Jerry's cc

WASHINGTON OFFICE
MAR 27 1991
D.E.M.

MEMORANDUM

TO: Jim Mulligan, John Mazzarino

FROM: Bob Cottam, Bruce Braswell

DATE: March 26, 1991

SUBJECT: Hackney and Sons (East), Washington, NC

Dear Jim:

I am writing to confirm a 10:00 a.m. meeting on Friday, April 5. Please reference a cover letter which was forwarded to you and the staff with regard to Hackney and Sons (East) and the (Phase I) Groundwater Assessment dated March 21, 1991.

There are a number of issues we need to focus on:

- Development of a critical path to an SOC on Hackney.
- Non-Discharge Permit for Treated Groundwater - Pilot Scale Treatment operations.
- Potential NPDES to Kennedy Creek outfall.
- Potential "use" of treated groundwater by National Spinning.
- Politics of POTW - City of Washington.
- Wells Junkyard, strategy with regard to overall Hackney Remedial Action.
- Air Quality - source emissions air stripper - Pilot Scale Treatment operations.
- Input - Testing Program by NCDEM Phase II work in any suggestions, changes modifications DEM may have.
- Disposition (disposal) Groundwater from Drawdown tests - <u>any hope of discharge to POTW, or other less expensive options</u>.

We will furnish the DEM with a copy of the proposed Phase II, work with designs, etc. I don't know when we will have completed copies, but I hope to get a hard copy in your hand by Thursday, April 4.

1108 Old Thomasville Rd. • High Point, NC 27260 • 919-883-7505 • Fax 919-882-7958

Thanks for all your assistance in the timely disposition of this matter. Please do not hesitate to contact myself, Bruce Braswell or Judy Cox if you have questions or we may be of assistance.

Very truly yours,

ENSCI CORPORATION

Robert T. Cottam, III
President

RTC/few

WaRO
GW File

DIVISION OF ENVIRONMENTAL MANAGEMENT
Groundwater Section
May 29, 1991

Mr. John Mazzarino
Hackney Industries Incorporated
Post Office Box 880
Washington, North Carolina 27889-0880

RE: Site Assessment and Remedial Action Plan
Hackney Industries, Washington, N. C.
Beaufort County

Dear Mr. Mazzarino,

The Division of Environmental Management, Washington Regional Office staff has reviewed Phase I Site Assessment activities and the proposed Phase II Site Assessment activities for the above named site. We are satisfied with the data generated and have no objections to the Phase II Site Assessment proposal. The Phase I Groundwater Remediation appears to be adequate and will generate further aquifer data, as well as post-treatment water quality data necessary for potential disposal strategies.

The State of North Carolina, as specified in NCAC 2L .0106 (Groundwater Quality Standards), requires groundwater remediation projects to be carried out under a Special Order by Consent (SOC). The SOC is, in effect, a compliance schedule which specifies to be taken by responsible parties and specific deadlines for those tasks to occur. These actions are based upon the consultant's remediation plan and state requirements. The SOC will stipulate penalties for failure to meet these deadlines. The SOC also provides guidance for closure and post-remediation monitoring.

The company should continue with its present plans during the negotiation of the SOC, as this office is the originator of the document. It is not our intention to obstruct the company in any way. I plan to have staff draft the SOC over the next several weeks and submit it to you.

Overall, the Division is quite pleased with the speed and professional expertise that Hackney has utilized to describe subsurface conditions and develop corrective actions. The company and its consultant have performed in an exemplary manner.

Please contact me at 919 946-6481 for any additional information.

Sincerely,

fo/ JM

Jim Mulligan
Regional Supervisor

cc: Willie Hardison
WaRO File

MEMO

Hackney Site.

DATE: 2/2/93

TO: File

SUBJECT:

A meeting was held today with Bruce Braswell (ENSCI) and Hackney representatives to discuss using a pump + treat bioremediation system to remediate the 3 impacted areas at the site.

1. Hackney would be willing to remediate groundwater under Wells - Junkyard but first want the scrap/barrells removed, and for us (state) to do some preliminary soil and/or groundwater sampling.

2. Since the Wells Junkyard situation has not been resolved, Hackney may propose to start remediation of the other two areas and hold off on the Trailer Test Area.

From: Guy

North Carolina Department of Environment, Health, and Natural Resources

Printed on Recycled Paper

MEMO

Guy — I left word on 1/22/93 that I could meet Feb 15, 16, 17 or 19 — his choice. [illegible] 1/22/93

DATE: 1/21/93

TO: Jim Mulligan, (ENSCI Corp.)

SUBJECT:

Bruce Braswell ~~B~~ called me today to discuss setting up and meeting with you, me and/or Willie, and possibly a WQ staff member to discuss a proposal to use a biological treatment plant at the Hackney site. If possible, please call Bruce and arrange a meeting date/time. (I can be there most anytime)

Bruce can be reached @ (919) 883-7505

Feb 15, 16, 17 or 19

From: Guy C. Pearce

North Carolina Department of Environment, Health, and Natural Resources

~~Spahr~~

~~452586~~

ENSCI®
CORPORATION

RECEIVED
WASHINGTON OFFICE

APR 0 8 1993

D. E. M.

April 6, 1993

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Guy Pearce
NCDEHNR-Groundwater Section
Washington Regional Office
Washington, North Carolina

RE: Proposed Schedule for Implementation of Remedial Action Plan for the Hackney & Sons, Inc. Site, Washington, North Carolina

Dear Mr. Pierce:

Per your letter dated March 26, 1993, a schedule has been prepared for the implementation of the Remedial Action Plan for the Hackney & Sons, Inc. facility located at 400 Hackney Ave. in Washington, North Carolina. The proposed schedule is as follows:

- Begin construction 2 weeks after approval of a non-discharge permit
- End construction 4 weeks after permit approval
- Buildup biomass in the bioreactor from 4-6 weeks after permit approval
- Begin remediation of contaminated groundwater 6 weeks after permit approval.

If you require further information or have any questions, please contact me, or Steve Stadelman, at ENSCI Corporation.

Sincerely,

Bruce K. Braswell

Bruce K. Braswell, P.G.
Senior Hydrogeologist

ENSCI Corporation

cc: Jay Witte

1108 Old Thomasville Rd. • High Point, NC 27260 • 919-883-7505 • Fax 919-882-7958

WaRO Files

State of North Carolina
Department of Environment, Health and Natural Resources
Northeastern Region
1424 Carolina Avenue, Washington, North Carolina 27889-1424

James B. Hunt, Jr., Governor

Jonathan B. Howes, Secretary

DIVISION OF ENVIRONMENTAL MANAGEMENT
GROUNDWATER SECTION
March 26, 1993

Mr. Jay A. Witte
Hackney and Sons, Inc.
400 Hackney Avenue, Box 880
Washington, North Carolina 27889-0880

RE: Corrective Action Plan
Hackney and Sons, Inc. Site
Washington, North Carolina - Beaufort County

Dear Mr. Witte:

Final review of the conceptual Corrective Action Plan, prepared by ENSCI Corporation, dated February 25, 1993 has been completed. This office considers the scope of work performed and proposed plan, as outlined, satisfactory. The following items, however; must be addressed prior to final approval of the Remedial Action Plan.

1. North Carolina Administrative Code (NCAC) Subchapter 2L .0106 - Corrective Action has been revised to eliminate the requirement for a Special Order of Consent Agreement to be entered into prior to the implementation of a Corrective Action Plan. NCAC 2L .0106(c)(1) now requires a responsible party to submit a plan and schedule for eliminating the source of contamination and for restoration of groundwater quality, and implement an approved plan in accordance with a schedule established by the Director. In establishing a schedule, the Director will consider any reasonable schedule proposed by the person submitting the plan.
   In order to satisfy this requirement, please submit a proposed schedule for the implementation of the Remedial Action Plan within fifteen (15) days of receipt of this letter. Upon receipt, our office will review the schedule and, if determined satisfactory, will forward the plan and schedule to the Director for approval.

2. At the present time, a Non-Discharge Permit from the DEM Water Quality Section will be required prior to the construction and/or operation of the proposed "closed loop" groundwater remediation system. Please contact Ms. Robin Smith at (919) 733-3221 to obtain the proper permit application(s) for operation of a closed loop remediation system utilizing injection wells. Since construction cannot begin until a permit has been issued, you may want to reference your proposed schedule (See Comment No. 1) to the issuance of the permit (i.e. construction will begin so many days from permit issuance, construction will be completed so many days from permit issuance, etc.). This approach will allow for the variable time span that occurs from submittal of an application for a Non-Discharge permit and the actual issuance of the permit.

Hackney and Sons, Inc. is also informed that the approval of the proposed Corrective Action Plan does not relieve the company from any further investigations or other responsibilities.

Should you have any questions or require any further information, please feel free to call Willie Hardison, Regional Groundwater Supervisor, or me at (919) 946-6481.

Sincerely,

Guy C. Pearce

Guy C. Pearce
Hydrogeologist I

cc: ENSCI Corporation
WaRO Files

POLLUTION INCIDENT/U.S.T. LEAK REPORTING FORM

Department of Environment, Health, Natural Resources
Division of Environmental Management
GROUNDWATER SECTION

Confirm. GW Contamination (Y/N) Yes
Major Soil Contamination (Y/N) ____
Minor Soil Contaminatin (Y/N) ____

Incident # ____

Date Incident Occurred or Leak Detected July 1990

INCIDENT DESCRIPTION

Incident Location/Name: Hackney and Sons, Inc.

Address: 400 Hackney Avenue

City/Town: Washington | County: Beaufort | Region: WaRO

Briefly Describe Incident: Spills/Releases of various organic compounds (solvents, strippers, etc.) used in the manufacture and repair of truck bodies. Site Assessment related to sale of property indicated 3 areas of the site have been impacted (both soil + groundwater) They are: 1. Repair Building Area 2. Extrusion Storage Area, 3. Trailer Test Area

POTENTIAL SOURCE OWNER-OPERATOR

Potential Source Owner-Operator: Same As Above: Contact Person: Jay A. Witte

Telephone: (919) 946-6521

Company: Hackney and Son's, Inc.

Street Address: 400' Hackney Ave.

City: Washington | County: Beaufort | State: NC | Zip Code: 27889

OWNERSHIP
0. N/A 1. Municipal 2. Military 3. Unknown 4. Private 5. Federal 6. County 7. State

OPERATION TYPE
0. N/A 1. Public Service 2. Agricultrural 3. Residential 4. Educational/Relig. 5. Industrial 6. Commercial 7. Mining

POLLUTANTS INVOLVED

MATERIALS INVOLVED	AMOUNT LOST	AMOUNT RECOVERED
Various organic compounds (solvents, strippers, etc.)	unknown	No Free Product

SOURCE OF POLLUTION

PRIMARY SOURCE OF POLLUTION (Select one)
1. Intentional dump
2. Pit, pond, lagoon
3. Leak-underground
4. Spray irrigation
5. Land application
6. Animal feedlot
7. Source unknown
8. Septic tank
9. Sewer line
10. Stockpile
11. Landfill
12. Spill-surface
13. Well
14. Dredge spoil
15. Nonpoint source

PRIMARY POLLUTANT TYPE (Select one)
1. Pesticide/herbicide
2. Radioactive waste
3. Gasoline/diesel
4. Heating oil
5. Other petroleum prod.
6. Sewage/septage
7. Fertilizers
8. Sludge
9. Solid waste leachate
10. Metals
11. Other inorganics
12. Other organics

LOCATION
1. Facility
2. Railroad
3. Waterway
4. Pipeline
5. Dumpsite
6. Highway
7. Residence
8. Other

SETTING
1. Residential
2. Industrial
3. Urban
4. Rural

Site Priority Ranking: 90/E

D.E.M. Regional Contact: Guy C. Pearce

~~Signature~~ Guy C. Pearce

Date: 3/11/93

GW-61 Revised 3/92

IMPACT ON DRINKING WATER SUPPLIES

WELLS AFFECTED 1. YES 2. NO

NUMBER OF WELLS AFFECTED none Known

Well(s) Contaminated: (Users Name)

1. N/A
2.
3.
4.
5.

Circle Appropriate Responses

Lab Samples Taken By: 1. DEM 2. DHS 3. Responsible Party 4. Other 5. None

Samples Taken Include: 1. Groundwater 2. Soil

LOCATION OF INCIDENT

7 1/2 Min. Quad Name Washington, NC	Lat. : Deg : Min : Sec : 35° 33' 30"
5 Min. Quad Number	Long. : Deg : Min : Sec : 77° 04' 30"

Draw Sketch of Area or Attach Additional Maps

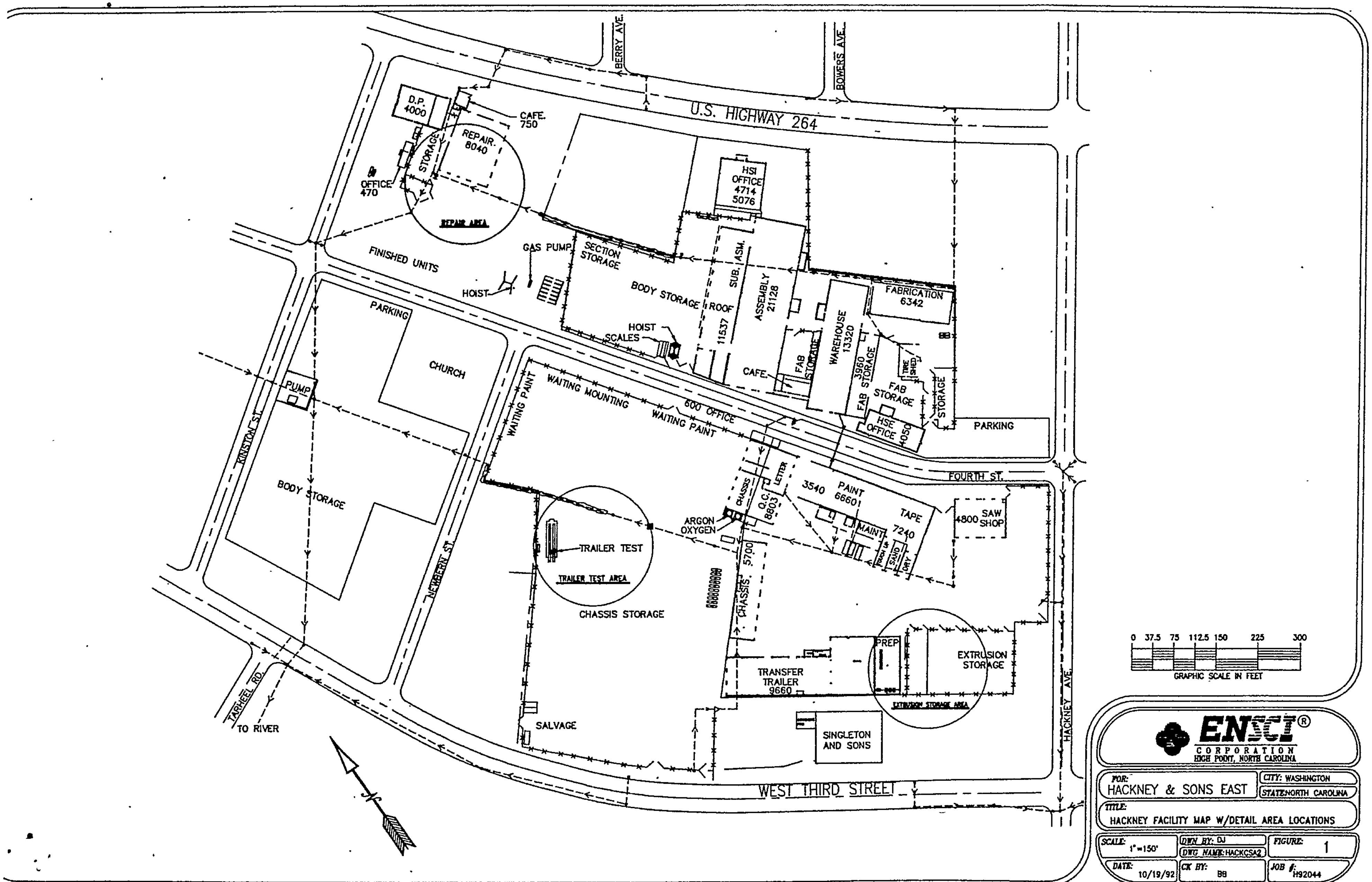
see attached site map

AP 47263A

FAIRFIELD PARTNERS

LAW ENVIRONMENTAL INC.

CERCLIS AND NOTIFIER FACILITY LOCATION MAP



BERRY AVE.
BOWERS AVE.
U.S. HIGHWAY 264
D.P. 4000
CAFE. 750
REPAIR. 8040
STORAGE
OFFICE 470
REPAIR AREA
HSI OFFICE 4714 5076
FINISHED UNITS
GAS PUMP
SECTION STORAGE
BODY STORAGE
ROOF 11537
SUB. ASM.
ASSEMBLY 21128
HOIST
HOIST
SCALES
FABRICATION 6342
WAREHOUSE 13320
FAB STORAGE
3960 STORAGE
FAB STORAGE
FAB STORAGE
TIRE SHED
STORAGE
CAFE.
HSE OFFICE 4050
PARKING
PARKING
CHURCH
PUMP
KINSTON ST.
BODY STORAGE
NEWBERN ST.
WAITING PAINT
WAITING MOUNTING
600 OFFICE
WAITING PAINT
FOURTH ST.
CHASSIS
LETTER
Q.C. 8803
3540
PAINT 6660
TAPE
7240
MAINT
SAND
DRY
4800 SAW SHOP
ARGON OXYGEN
TRAILER TEST
TRAILER TEST AREA
CHASSIS STORAGE
CHASSIS 5700
PREP
EXTRUSION STORAGE
EXTRUSION STORAGE AREA
TRANSFER TRAILER 9660
SINGLETON AND SONS
SALVAGE
TARHEEL RD.
TO RIVER
WEST THIRD STREET
HACKNEY AVE.
0 37.5 75 112.5 150 225 300
GRAPHIC SCALE IN FEET
ENSCI®
CORPORATION
HIGH POINT, NORTH CAROLINA
FOR: HACKNEY & SONS EAST
CITY: WASHINGTON
STATE: NORTH CAROLINA
TITLE: HACKNEY FACILITY MAP W/DETAIL AREA LOCATIONS
SCALE: 1"=150'
DWN BY: DJ
DWG NAME: HACKCSA2
FIGURE: 1
DATE: 10/19/92
CK BY: BB
JOB #: H92044

Incident Name: Hackney and Sons, Inc Region/County: WaRO / Beaufort
Groundwater Incident File # (Pending) Ranking Performed by: Guy Pearce
Date: 3/11/93

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 or at health concern levels; award 50 points total	0
B. Fire - free product subject to ignition in exposed areas such as surface water impoundments, streams, excavations, etc.; award 50 points total	0
II. EXPOSURE ASSESSMENT	
A. Contaminated Drinking Water Supplies	
1. Private, domestic water supply well containing substances in concentrations exceeding 15A NCAC 2L groundwater quality standards; award 10 points per well	0
2. Public or institutional water supply well containing substances in concentrations exceeding 15A NCAC 2L groundwater quality standards; award 20 points per well	0
3. Exceedances of Class WS-1 surface water quality standards as a result of groundwater discharge; award 20 points per surface water body impacted	0
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	0
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	0
2. Public or institutional water supply well located within 1500 feet downgradient of contaminant source; award 15 points per well	0
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	0
4. If any well identified in items II. B. 1 and II. B. 2 or an intake in item II. B. 3. are located within 250 feet of contaminant source; award additional 20 points total (not per well or intake)	0
C. Vapor Phase Exposure	
1. Product vapors detected in inhabitable building(s) below 20% of the lower explosive limit or health concern levels; award 30 points total	0

Points Awarded

2. Product vapors detected in other confined areas (uninhabitable buildings, sewer lines, utility vaults, etc.) below 20% of the lower explosive limit; award 10 points total — 0

III. SOURCE ASSESSMENT

A. 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 30 points per source — 0

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 — 30

IV. ENVIRONMENTAL VULNERABILITY ASSESSMENT

A. Vertical Contaminant Migration - Literature or well logs indicate that no confining layer is present above bedrock or within twenty feet of 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. Existing Groundwater Quality - The worst case monitor or supply well contains contaminant levels:

1. At less than 10 times the 2L groundwater standards; award 5 points — 0

2. Between 10 and 100 times the 2L groundwater standards; award 20 points — 0

3. Greater than 100 times the 2L groundwater standards; award 40 points — 40

V. REGIONAL OFFICE RESPONSE (LETTER RANK)

Priority A - (Site meets any one of the criteria)

1. Water supply well(s) contaminated and no alternate water supplies available.

2. Vapors present in confined areas at explosive or health concern levels.

3. Treated surface water supply in violation of the safe drinking standards.

Priority B - (Any One)

1. Water supply well(s) contaminated, but alternate water supplies available.

2. Water supply well(s) within 1500 feet of site, but not contaminated and no alternate water supplies available.

3. Vapors present in confined areas but not at explosive or health concern levels.

Priority C - (Both)

1. No water supply well(s) contamInted.

2. Water supply well(s) greater than 1500 feet from site, no alternate water supply available.

Priority D - (Both)

1. No water supply well(s) contamInted.

2. Water supply well(s) within 1500 feet of site but alternate water supplies available.

Priority E - (Both)

1. No water supply well(s) contaminated or within 1500 feet of site.

2. Area served by alternate water supply.

TOTAL POINTS AWARDED 90/E
#/Letter

Willie/Richard
Sounds ok to me
better involve Roger in
the 10/10 conf in view of
possible POTW/NPDES situation
I'll be in Ral. on 10/10. Brief me
later, please.
10/2/90

DIVISION OF ENVIRONMENTAL MANAGEMENT
GROUNDWATER SECTION
SEPTEMBER 28, 1990

MEMORANDUM

TO: Jim Mulligan

THROUGH: Willie Hardison

FROM: Richard Powers RCP

SUBJECT: Hackney & Sons, Incorporated - Washington Site
Site Assessment and Conceptual Remedial Action

I have reviewed the above mentioned report and conceptual plan for site restoration. The plan calls for the excavation of up to 3,200 tons of potentially contaminated soils, including some sediments at the storm water sewer discharge point. The soils are to go to the Beaufort County Landfill. While the groundwater monitoring wells show some degree of ~~minor~~ contamination, the company proposes to emplace a groundwater remedial system that utilizes 60 recovery wells, treatment through three air strippers, and discharge to the POTW. Anticipated flow rates could be as high as 0.864 MGD. If the POTW cannot accept such a high volume, the company would seek a NPDES permit.

The report opens some other areas of concern, mostly in the fact that some contamination may be coming from off site sources. A former junkyard was located partially on the site and an active salvage yard borders on another side. If documented contamination is coming from these offsite source, the company may need our assistance in satisfying the lender in the compliance order that the lender made a condition of the loan package.

A tentative meeting has been set for October 10th, here in Washington. Attending would be representatives from the company and their consultant. Please see me if I can provide any further information.

cc: Roger Thorpe
Vic Copelan
Willie Hardison

Jim, additional comments

1. Hydraulic relationship between the W.T aquifer and the Ck must be determined.
2. Collect water sample from Ck to determine if it's been impacted
3. I recommend continuous monitoring of the Ck.
4. Recommend entering an S.O.C.

Willie
10/5/90