278SERBSF10,616

278SERBSF10,616

Site Name (Subject):	SHELBY DYEING & FINISHING
Site ID (Document ID):	NCD986180909
Document Name (DocType):	Correspondence (C)
Report Segment:	
Description:	General Correspondence, 1990 - 1995
Date of Document:	8/22/1995
Date Received:	
Box: *Enter SF and # with no spaces*	SF10,616
Access Level:	PUBLIC
Division:	WASTE MANAGEMENT
Section:	SUPERFUND
Program (Document Group):	SERB (SERB)
Document Category:	FACILITY

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SHELBY DYEING AND FINISHING

NCD 986 180 909

Folders

1. General Correspondence file, 1990—1995

Bound Reports

1. Work Plan for Ground Water and Soil Assessment: July 1990
2. Ground Water and Soil Assessment: December 1990
3. Preliminary Assessment Report: March 1991
4. Ground Water and Soil Assessment Update (Phase III): November 1991
5. Screening Site Investigation: January 1992
6. Ground Water and Soil Assessment Update (Phase IV): February 1992
7. FIT Report—Final Site Inspection Prioritization: March 1993

U.S. ENVIRONMENTAL PROTECTION AGENCY

Superfund Information Systems

Superfund Site Information

SHELBY DYING AND FINISHING

Site Information

Site Info | Aliases | Operable Units | Contacts
Actions | Contaminants | Site-Specific Documents

This site has been archived from the inventory of active sites.

Site Name: SHELBY DYING AND FINISHING
Street: 2270 SAM LATTIMORE ROAD
City / State / ZIP: SHELBY, NC 28150

NPL Status: Not on the NPL
Non-NPL Status: NFRAP

EPA ID: NCD986180909
EPA Region: 04
County: CLEVELAND

Federal Facility Flag: Not a Federal Facility

Return to Search Results

Return to Search Superfund Site Information

DISCLAIMER: Be advised that the data contained in these profiles are intended solely for informational purposes use by employees of the U.S. Environmental Protection Agency for management of the Superfund program. They are not intended for use in calculating Cost Recovery Statutes of Limitations and cannot be relied upon to create any rights, substantive or procedural, enforceable by any party in litigation with the United States. EPA reserves the right to change these data at any time without public notice.

U.S. ENVIRONMENTAL PROTECTION AGENCY

Superfund Information Systems

Superfund Site Information

SHELBY DYING AND FINISHING

Contacts

Site Info | Aliases | Operable Units | Contacts
Actions | Contaminants | Site-Specific Documents

Title	Name	Phone Number
Remedial Project Manager (RPM)	Jon Borholm	(404) 562-8820
Remedial Project Manager (RPM)	Luis Flores	(404) 562-8807
Remedial Project Manager (RPM)	Ken Lucas	(404) 562-8953
Remedial Project Manager (RPM)	Ken Mallary	(404) 562-8802
Remedial Project Manager (RPM)	Michael Townsend	(404) 562-8813
Remedial Project Manager (RPM)	Samantha UrquhartF	(404) 562-8760
Remedial Project Manager (RPM)	Phil Vorsatz	(404) 562-8789
Site Assessment Manager (SAM)	Jennifer Wendel	(404) 562-8799

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URL: http://cfpub.epa.gov/supercpad/cursites/ccontact.cfm
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U.S. ENVIRONMENTAL PROTECTION AGENCY

Superfund Information Systems

Superfund Site Information

SHELBY DYING AND FINISHING

Actions

Site Info | Aliases | Operable Units | Contacts
Actions | Contaminants | Site-Specific Documents

OU	Action Name	Qualifier	Lead	Actual Start	Actual Completion
00	DISCOVERY		S		09/19/1990
00	PRELIMINARY ASSESSMENT	L	S	04/04/1991	05/14/1991
00	SITE INSPECTION	N	S		09/22/1992
00	ARCHIVE SITE		EP		05/13/1993

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URL: http://cfpub.epa.gov/supercpad/cursites/cactinfo.cfm
This page design was last updated on Tuesday, October 16, 2007
Content is dynamically generated by ColdFusion

DATE: August 22, 1995

SUBJECT: REMOVAL FROM EPA'S CERCLIS INVENTORY

FROM: Matthew J. Robbins, Brownfields Coordinator
Waste Management Division, Region IV

TO: SHELBY DYING AND FINISHING
2270 SAM LATTIMORE ROAD
SHELBY
NC 28150

EPA has identified the Brownfields Initiative as one of the Agency's top priorities. The term "brownfields" refers to previously used properties that may lie vacant because potential contamination makes them unmarketable to the private sector. EPA has recently announced a comprehensive Brownfields strategy, including Pilot grants to municipalities, to stimulate economic revitalization.

One part of the strategy has been for EPA to review its complete inventory of Superfund sites. These sites have been screened and determined to require no remedial action under the Federal Superfund Program based on information available as well as on conditions and policies that currently exist. This is to notify you that EPA has removed your facility from EPA's computer inventory known as CERCLIS. THIS DOES NOT INDICATE THAT THE STATE HAS MADE A SIMILAR DETERMINATION.

If you have any questions, please call me at 404/347-5059 ext. 6214.

cc: State Agency

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

RECEIVED
MAR 01 1993
SUPERFUND SECTION

4WD-WPB

FEB 24 1993

Ms. Pat DeRosa
CERCLA Branch
North Carolina Department of Environment,
Health and Natural Resources
P.O. Box 27687
Raleigh, North Carolina 27611-7687

Dear Ms. DeRosa:

The following reports, prepared by North Carolina PA/SI staff, have been reviewed and accepted by the Region IV Site Assessment Section:

Site Name	Disposition
* North Belmont PCE Site NCD986187128 PA Report	SI-High
* Shelby Dyeing and Finishing NCD986180909 SI Report	SIP-High
* New Haven Drive TCE Site NCD986171379 SSI Report	ESI-High
* Oak Hill PCB Site NCD986190858 PA Report	SI-Low
* Ross Avenue Property NCD986180891 PA Report	SEA
* Central Transport, Inc. NCD046148540 PA Report	Defer to RCRA
* Spann Property NCD986180917 PA Report	SI-High
* Glen Raven Mills NCD986175651 PA Report	SI-Low

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* Cherokee Oil Site NCD986190239 PA Report	SI-High
* Glen Raven Mills NCD003158094 SSI Report	SEA
* Concord Coal Gas Plant NCD986197333 PA Report	SI-Low
* Cline PCB Well NCD986185403 PA Report	SEA
* Sybron Arden NCD002221703 SI Report	SEA
* Lexington Coal Gas Plant NCD986197358 PA Report	SEA
* Charlotte Coal Gas Plant No. 1 NCD986188811 PA Report	SEA
* Quorum Knitting NCD062548995 SI Report	ESI-Low

The following reports, which were prepared by EPA Region IV's ARCS and TES contractors, have been reviewed and accepted by this office:

* Burlington Furniture Robbinsville Plant NCD024770125 EPI Report	Defer to RCRA
* Collingwood Furniture Industries, Inc. NCD982101966 EPI Report	Defer to RCRA
* Haywood County Landfill NCD981474190 SIP Report	SEA
* Burlington Industries NCD093334894 SIP Report	SEA

If you should have any questions or comments regarding the dispositions for these sites, please feel free to contact me at (404) 347-5065.

Sincerely yours,

Craig A. Benedikt

Craig A. Benedikt
EPA NC CERCLA Project Officer

File: Shelby Dyeing & Finishing

State of North Carolina
Department of Environment, Health, and Natural Resources
Division of Solid Waste Management
P.O. Box 27687 · Raleigh, North Carolina 27611-7687

James G. Martin, Governor
William W. Cobey, Jr., Secretary

William L. Meyer
Director

05-28-92

Ms. Debbie Vaughn- Wright
Project Manager
US EPA
Region IV

Dear Ms. Vaughn- Wright,

I enclosed the revised document for Shelby dyeing and finishing Screening Site Investigation. I have included the information you requested and revised it according to your suggestions. With regard to your question about the quality of the data for use with prescore, my answer is yes the data is of good quality. In fact the PRP data is the only CLP data. If you have any questions please call me at (919) 733-2801.

Sincerely
Hanna Assefa
Hanna Assefa
Environmental Chemist

An Equal Opportunity Affirmative Action Employer

1.0 BACKGROUND

1.0 Location

Shelby Dyeing and Finishing is located in the city of Shelby, at 2270 Sam Latimore Rd., Cleveland County NC (1). The site coordinates are 35° 15' 23" latitude, and 81° 36' 10" longitude (1,17). The area within 1 mile radius of the site is rural with land used for agricultural and residential purposes.

1.2 Site Layout

The site is located on an approximately 25 acre tract of land. The main building houses the dyeing and finishing operation, offices, and a small outlet store at the back. This building lies close to the property boundary with Sam Latimore Rd. Approximately 300 feet south of the manufacturing building is the Xylo Graphics building. The printing of paper-backed iron-on graphics used in the garment industry took place at Xylo Graphics from 1976 to 1986. Several underground storage tanks (UST) are present on site. Two 1000 gallon capacity UST's used for alcohol storage and one 1000 gallon fuel oil UST are present approximately 100 feet west of the southwest corner of the plant. Approximately 200 feet west of the Xylo Graphics Building lie two 1000 gallon capacity UST's to hold used electroplating wastewater prior to application to spray fields. Two fuel oil tanks and two water tanks are located close to the northern property boundary (2,3).

The two spray fields used for disposing wastewater between 1976 and 1977 were located near the southwestern property boundary. A concrete wastewater holding tank is located on the southwestern corner of the Xylographics building. This wastewater holding tank was fed electroplating wastes by the trench drains within the Xylo Graphics building.

1.3 Ownership and Site Use History (1,2,3,4)

The original building was built on site in 1960 by Junius Tiddy and he used it to build kitchen cabinets. In 1968 the building was leased to Eddie Putman the owner of a farm equipment and service shop. Eddie Putman is no longer alive. Shelby Knits purchased the site from Junius Tiddy in 1971 and operated a knitting facility at this site which was then taken over in 1972 by L&K Inc. Dyeing began at SDF in 1978, currently SDF discharges process wastewater from the dyeing process into a 14,000 gallon equalization pit. Approximately 300,000 gallons per day of the wastewater is discharged to the local POTW via a sewer and pump station owned by SDF under a permit issued by the city of Shelby (2).

Xylo Graphics was operated by a now defunct company between 1976 and 1986, and produced paper backed "iron on" graphics used in the textile industry. Manufacturing activities at Xylo Graphics included multicolored printing, photographic developing and electroplating of printing cylinders. Wastewater generated by the electroplating operation was discharged to two spray fields on the property under a state permit from 1976 to 1977, at which time the plant was connected to a POTW and all process wastewater was channeled to a concrete holding tank via trench drains, and then discharged under a permit issued by the City of Shelby. Contents of the wastewater holding tank and the 160 drums containing waste inks and solvents, that were present when Xylo Graphics closed have been removed. The two spray fields and the 14,000 gallon wastewater equalization pit and

sewer line at the finishing plant were identified as potential sources of groundwater contamination. Mr. Wyatt Dellinger has been the principal owner of both Xylo Graphics and SDF.

1.4 Permit and Regulatory History

The site was added to CERCLIS after the company received a Notice Of Violation (NOV) from the North Carolina Department of Environmental Management (NC DEM) Groundwater Section in July of 1990 after chlorinated and non-chlorinated hydrocarbons were detected in samples collected from neighborhood residential wells (17).
SDF has also recieved an NOV in September of 1990, from the Hazardous Waste Section, of the Solid Waste Division of the North Carolina Department of Environmental Health and Natural Resources because of the Drums Containing Dyes stored on site and the contaminated soil and groundwater (30). The drums were removed and the NC Hazardous Waste Section decided that the site remidiation falls within the jurisdiction of the NC Division of Environmental Management Groundwater Section. The site is classified as a RCRA small Generator.

1.5 Remedial Actions to Date

SDF is in the process of identifying the extent of contamination. National Environmental Technology Inc. was initially engaged to work with SDF in delineating the sources and extent of contamination. At present SDF has employed the services of Bold Research Inc. to continue the investigation (4). SDF has also connected the residences with contaminated wells to city water. The NC DEM Groundwater Section has been working closely with SDF because the site is in violation of NC Adminstrative code title 15a subchapter 2L. Once the initial studies are done remediation is expected to take place. As the owners of the site are in full cooperation with the NC DEM Groundwater Section they have not been issued a special order of consent.

1.6 Sampling Activities

On thursday the 22nd of August 1991, Jack Butler and Hanna Assefa of the North Carolina Superfund visited the Shelby Dyeing and Finishing Facility. At the facility they met with Mr. Wyatt Dellinger owner of Shelby Dyeing and Finishing, and representatives of Bold Research James Nelligan, and Jennifer Francois that are at present working with the Groundwater Section of the NCDEM on behalf of SDF. The investigative team was informed that Bold Environmental Inc. would continue the work that National Environmental Technologies Inc. started in delineating the extent of contamination. SDF is supposed to submit a remediation plan in the next 6 months upon completion of the investigation. The investigative team left the site, and went to the lake on Packard Elliots Residence and sampled as follows.

1) 12:00 AM sample 1 sediment from the headwaters.
2) 12:30 AM sample 2 lakewaters.

The investigative team then drove to Interstate 150 where they took the following samples.

3) 1:30 PM sample 3 was taken at bridge upstream of site on First Broad River. Sediment and water samples were taken.

4) 2:00 PM sample 4 near bridge downstream of site on First Broad River. Sediment and water samples were taken.

2.0 ENVIRONMENTAL SETTING

2.1 Topography

The site lies at an elevation of 840 feet and drains in an east and southeasterly direction in the Piedmont Physiographic Province in western North Carolina. The site slope is 4% (see USGS map, appendix A). The land surrounding the site is non mountainous and vegetated.

2.2 Surface Water

SDF drains in an east and southeasterly direction into the First Broad River which is approximately 1800 feet away. There is a small lake approximately 1500 feet from the site prior to the location of First Broad River on the property of Packard Elliot(2,4). The lake is within a fenced gate and is used for fishing. At times cattle may drink from it. The City of Shelby draws drinking water from the First Broad River just north of the West Grover St. Bridge (NC 1305). This is approximately 8 miles upstream of the site. There are no intakes within 15 miles downstream of the site on First Broad River(5). The First Broad River is used for recreational fishing (15). No documentation was found to indicat e the presense of wetlands on the surface water pathway.

2.3 Geology Soil and Groundwater

SDF is located in the Piedmont in an area comprised of granite and schist bedrock. Groundwater occurs within the bedrock fractures and in the pore spaces of the overlying saprolite (6). In general the bedrock and saprolite function as a single unconfined hydrologic unit. The clayey soils found in the site area have permeabilities as high as 10^{-4} cm/sec(36). On site monitoring wells have depths ranging from 18-33 feet (2). The groundwater within the area of the site occurs under water table conditions. There are an estimated 3,832 groundwater users within a four mile radius of SDF (7). Several residents within the four mile radius of the site have contaminated wells; however these persons are now supplied with city water. There are no daycares within 200 feet of the site.

2.4 Climate and Meteorology

The one year 24 hour rainfall in the Shelby area is 3 inches (8). The mean annual precipitation is 46 inches and the mean annual evaporation is 41 inches, net annual precipitation is therefore 5 inches (9).

2.5 Land Use

The area within the immediate vicinity of the site is residential and agricultural (13,4). The crops grown vary from grains to vegetables. There are five residences located across the street (Sam Latimore Road) from the site within 200 feet.

2.6 Population Distribution and Water Supply

The population count is based on a population density of 178 people per sq mile for Cleveland County. A uniform population distribution is assumed (7,10,11,12). Populations utilizing groundwater were obtained by performing a housecount on USGS topographic maps and assuming the average of 2.88 persons per household (7). There are approximately 80-90 workers on site (23). Two of the residences are within 200 feet of the SDF Building

where there is a waste unit (leaking condensation collection tank).

Radius	Population	Cumulative Population	Groundwater Users
0-1/4	35	35	20
1/4-1/2	105	140	23
1/2-/1	454	559	183
1-2	1677	2236	803
2-3	2794	5030	938
3-4	3912	8947	1865

2.7 Critical Environments

There are no critical environments or habitats for endangered species within the four mile radius of the site (3).

3.0 WASTE TYPES AND QUANTITIES (2)

Three major contaminant plumes have been identified according to the site assessment performed by National Environmental Technologies. The largest plume containing various organic compounds and metals related to the dyeing and finishing process originates east of the finishing plant and is migrating in a northeast and south direction, approximately 600 feet from the plant building and beneath the properties adjacent to the Sam Latimore Rd. The source of this plume is suspected to be the wastewater equalization pit and various surface spills.

The second plume originates from south of the Xylo Graphics building and the adjacent UST's. Groundwater analysis indicates the Trichloroethylene, Hexavalent Chromium, Trivalent Chromium and Manganese above drinking water standards. The soil analysis exhibited the presence of elevated levels of Chromium, Copper, and Nickel. The size of this plume is not known at this time but it appears to be migrating southeast of the property. Staining of building materials and soils outside the south wall of the building indicates that a trench drain inside the building has leaked allowing Chrome plating solution to leak.

The third plume originates from the spray fields in a southeast direction both soil and groundwater show contamination in this area. Elevated levels of Chromium and Manganese are present in the soil and levels of Manganese and Chromium greater than the NC Drinking Water Standards are detected in the groundwater.

The soil surrounding the drum storage areas is also contaminated with Chromium Copper and Nickel. Analysis performed on sediment and soil samples from a nearby lake and the river indicates no surface water contamination.

4.0 LABORATORY DATA

The levels of Groundwater contamination detected in the residential wells is of concern because Tetrachloroethene and 1,1,1, Trichloroethene are present at levels exceeding the Benchmarks in the Superfund Data Matrix (3,36). The reference dose for Tetrachloroethene in groundwater is 350 ug/L and the Cancer Risk Screening Concentration 0.69 ug/L (36). There is no reference dose for 1,1,1, Trichloroethene, the Cancer Risk Screening Concentration is 3.2 ug/L (36). Data used for this Site Investigation was from sampling conducted by the responsible party sampling, Cleveland County Health Department, and the North Carolina Superfund. The North Carolina Superfund sampled only Surface water as the data from the other media was already available and of good quality.

TABLE I. DATA FROM SAMPLING OF SURFACE WATER BY THE NORTH CAROLINA SUPERFUND SECTION.

CONCENTRATIONS IN PPM

Chemical	Total	TCLP	Total	Total	TCLP	Total
	Lake sediment		Lake water	upstream sediment		upstream water
Arsenic	19	<0.01	<.01	1.9	<0.01	<0.01
Barium	73	0.38	<.04	23	0.40	0.10
Cadmium	<15	<0.08	<.01	<16	<0.08	<0.005
Chromium	<20	<0.10	<.05	23	<0.10	<0.01
Copper	<15	<0.05	<.02			
Lead	27	<0.02	<0.02	<20	<0.50	<0.01
Mercury	<0.1	<0.005	<0.0002	<.09	<0.02	<0.0002
Selenium	<1	<0.005	<0.005	<1	<0.005	<0.005
Silver	<20	<0.10	<0.05	<20	<0.10	<0.05
Nickel	<10	<0.05	<0.05	<10	<0.05	<0.05

Chemical	Total	TCLP	Total
	Downstream Sediment		Downstream water
Arsenic	<1.8	<0.01	<0.01
Barium	41	0.50	0.04
Cadmium	<15	0.08	<0.005
Chromium	20	<0.10	<0.05
Copper	<9.2		
Lead	<20	<0.50	<0.01
Mercury	<0.09	<0.02	<0.0002
Selenium	<1	<0.005	<0.005
Silver	<20	<0.10	<0.05
Nickel	<9.2		<0.05

No organic chemicals were detected.

Field Sample Number	
016354	Lake Sediment
016355	Lake Surface Water
016356	Upstream Sediment
016357	Upstream Sediment
016358	Downstream Sediment
016359	Downstream Water

Analysis by the State Laboratory of Public Health
Sampling Date 08/21/91

There was no significant difference in contaminant levels between the upstream samples and the downstream samples taken on the First Broad River

TABLE II. RESULTS FROM NC DEPARTMENT OF HEALTH SAMPLING OF RESIDENTIAL WELLS

	Concentration (ug/l)		
Residences on Sam Latimore Road.	1037	1033	1029
Tetrachloroethene	359.5	404.2	368.8
1,1,1-trichloroethene	49.1	70.8	53.4
Isopropyl Ether	9.9	41.1	29.2
Methylene Chloride		6.0	2.5
Trichloroethylene		3.6	2.3
1,1-Dichloroethylene		3.6	2.2
Benzene		1.2	2.0

Sampled on 7-3-90 by the Cleveland County Health Department
Analysis by the State Laboratory of Public Health
The Method Detection Limit IS 1.0 ug/l.

TABLE III.
WATER ANALYSIS RESULTS ABOVE DRINKING WATER (2L) STANDARDS

Well	Parameter	Analytical Result	Standard Limit
MW-1	Benzene	2 ug/L	1 ug/l
MW-2	Tetrachloroethene Isopropyl Ether	280/500 ug/L(*) 25 ug/L	0.7 ug/l
MW-3	Manganese	0.19 ug/L	
MW-5	Manganese Tetrachloroethene	1.5 mg/L 8 ug/L	0.05 mg/l
MW-6	Manganese Isopropyl Alcohol	3.6 mg/L 740 ug/L	0.05 mg/l
MW-7	Manganese Trichloroethene	4.6 mg/L 140/190 ug/L	0.05 mg/l 2.8 ug/l
MW-8	Manganese Chromium Hexavalent Chromium	2.0 mg/L 0.78 mg/L 0.02 mg/L	0.05 mg/l 0.05 mg/l 0.05 mg/l
MW-9	Manganese Tetrachloroethene	1.8 mg/L 75/82 ug/L	0.05 mg/l 0.7 ug/l

Sampling by National Environmental Technologies October 24-25 1990
Analysis by IEA EPA Methods 8240/601

TABLE IV. SOIL ANALYTICAL RESULTS (TOTALS)

SAMPLE	PARAMETER	CONCENTRATION
S-1	Copper 1,1,1 Trichloroethane Tetrachloroethene	8.3 mg/kg 98,000 ug/kg 1,700,000/1,9000,000 ug/kg
S-2	Copper Tetrachloroethene	140 mg/kg 6.3 ug/kg
S-4	Chromium Hexavalent Chromium Copper	26 mg/kg 0.4 mg/kg
S-5	Chromium Hexavalent Chromium Copper Nickel	66 mg/kg 22 mg/kg 290 mg/kg 15 mg/kg
S-6A	Chromium Hexavalent Chromium Copper Nickel	78 mg/kg 3.2 mg/kg 79 mg/kg 8.4 mg/kg
S-6B	Chromium Hexavalent Chromium Copper	24 mg/Kg 0.75 mg/kg 36 mg/kg
S-7	Chromium Hexavalent Chromium Copper Trichloroethene	58,000 mg/kg 16,000 mg/kg 1,500 mg/kg 50/14 ug/kg (*)
S-8A	Chromium Hexavalent Chromium Copper Nickel Chlorobenzene	69 mg/kg 7.1 mg/kg 14 mg/kg 9.8 mg/kg 8/2 ug/kg
S-8B	Chromium Hexavalent Chromium Copper Trichloroethene	13 mg/kg 0.24 mg/kg 16 mg/kg 73/190 ug/kg (*) 10 ug/kg (*)

Tables III & IV are reproduced from *Soil and Groundwater Assessment Report* by National Environmental Technologies Inc.

* EPA Methods 8240/601

File: Shelby Dyeing + Finishing

March 13, 1992

Jack,

Can you please talk to Hanna about these concerns + ensure that they are addressed?

Thanks

Pat.

Resolved by letter 28 ~~March~~ April 1992.

JBB

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

RECEIVED
Mar 12 1992
SUPERFUND SECTION

MAR 5 1992

4WD-WPB

Ms. Pat DeRosa
Superfund Section
Division of Solid Waste
North Carolina Department of Environment,
Health and Natural Resources
P.O. Box 27687
Raleigh, North Carolina

Dear Ms. De Rosa:

The U.S. Environmental Protection Agency, Region IV has reviewed the Site Inspection Report prepared by the former Region Iv Field Investigation Team, NUS Corporation, for the Haywood County Landfill site (NCD981474190). A low priority SIP has been recommended. Enclosed for your files is a copy of the final report.

I have also started reviewing the Site Inspection Report prepared by the State for Shelby Dyeing and Finishing (NCD986180909). Before final acceptance of this report, please address the concerns raised on the attached list.

If you or your staff have any questions, please contact me at (40) 347-5065.

Sincerely yours,

Debbie

Deborah A. Vaughn-Wright
Project Manager

enclosures

cc: Craig Benedikt, NC Project Officer

Printed on Recycled Paper

Shelby Dyeing and Finishing
Shelby, Cleveland County, North Carolina
NCD986180909

1. No Site Inspection Form was included.
2. Section 1.0 Location
   a. add brief description of area (i.e. rural, residential, agricultural, etc)
3. Section 1.2 Site Layout
   a. A Site sketch is needed showing sources, buildings and sampling points. If map is in references, it should be properly cited with page numbers.
   b. This section mentioned the UST units most of which are not covered under SARA; and left out the sources such as the wastewater equalization pit, spray fields, drains and other tanks which could be considered. The section should be revised.
4. Section 1.3 Ownership and Site Use History
   a. Is there any information on the operational history of the cabinet and farm equipment shop?
5. Section 1.4 Permit and Regulatory History
   a. Is this site regulated under RCRA? NPDES?
   b. Any air permits
   c. When did the facility receive the NOV? Are they now under any enforcement orders?
6. Section 1.5 Remedial Actions to Date
   a. If NC DEM is working closely with the facility, has DEM issued an order? Under what statutory requirement is the facility cooperating with the State?
   b. Is the facility under any time frames for these studies and to start groundwater remediation?
7. Section 1.7 Site Summary Trip Report
   a. This is a fairly useless section. Would recommend changing the section to "Sampling Activities" or to expand greatly. Suggested topics for this section include;
      - Sampling Workplan date;
      - Description of samples (media sampled and where) collected along with anything out of the ordinary that could affect those samples;
      - PRP participants in sampling event and if split samples provided.

8. Section 2.0 Environmental Setting

a. The Environmental Setting Section should provide the reader with a good overview of all potential migration pathways. The Section in its current state does provide the minimal amount of information needed for an SI, however, a little more information would have made the section more useful in evaluating the site for further environmental impacts. Expansion of the following topics is suggested:

- Topography
  What is the physiographic province?
  Where in the state is the site located (Western, Coastal, etc.)
  Topographic characteristics (mountains, heavily vegetated, plains)?
- Surface Water
  How far is the small lake and what is it used for? Are any wetlands encountered along the SW pathway? Any resources (as defined by HRS)?
- Geology, soil and groundwater
  What is the reference for the clayey soils permeability?
- Climate and Meteorology
  OK
- Land Use
  Is any further information available on the residential or agricultural uses?
  residential - schools, daycare, etc.
  agricultural - food crops, dairies, etc.

9. Section 2.6 Population and Water Supply

a. Are there any on-site workers?

b. Are there any residences within 200 feet of the waste units?

10. Section 2.7 Critical Environments

a. Are there any Sensitive Environments as defined by the HRS within the 4-mile radius or 15 -miles downstream? The new HRS has a much broader scope than the original HRS when it pertains to sensitive environments, were all types of sensitive environments evaluated?

11. Section 3.0 Waste Types and Quantities

The contents of this section does not match the heading. There was no discussion of sources, waste types, or waste quantities. This section would have more aptly been titled "Extent of Contamination" or "Known areas of Contamination".

12. Section 4.0 Laboratory Data
    a. Recommend adding a brief description of laboratory used and whether EPA protocols were used; Date of sampling; date of laboratory analysis.
    b. Was any of the data qualified?
    c. Add a brief description comparing the samples to background or to SQDL/CRDL/MDL ,etc. Are any of your samples elevated as compared to background or to the Superfund Chemical Data Matrix (SCDM).
    d. Provide a key for the tables. What is "Tot" and "Ext"
    e. The tables should include Sample ID numbers, so that tables can be easily compared to lab sheets.
    f. If using both State and PRP data, explain why; discuss when each sample set was collected; discuss any differences;
    g. Reference the PRP report using full report name and/or reference number.
13. Photographs 8, 9 and 10 are missing
14. Cover Letter
    What would be the advantage of completing a SIP rather than going straight into an ESI or if the data is available complete a PREscore HRS. Do you feel the PRP data is of HRS quality? Since there is Groundwater contamination of residential wells, were any of these wells above the benchmarks set in SCDM? This appears to be a high priority site, why add another step in the process?

file

FILE COPY

State of North Carolina
Department of Environment, Health, and Natural Resources
Division of Solid Waste Management
P.O. Box 27687 · Raleigh, North Carolina 27611-7687

James G. Martin, Governor
William W. Cobey, Jr., Secretary

William L. Meyer
Director

August 14, 1991

Mr. Irvin Allen
Environmental Health Supervisor
Cleveland County Health Department
315 Grover Street
Shelby, North Carolina 28150

RE: Screening Site Investigation
Shelby Dyeing and Finishing
NCD986180909

Dear Mr. Allen:

David Lilley of the North Carolina Superfund Section spoke with Tanya Howell of your office today to notify you that the North Carolina Superfund Section will conduct a screening site investigation of the subject site located in Cleveland County, North Carolina. The investigation will be conducted on August 22, 1991 by Hanna Assefa of the North Carolina Superfund Section.

The purpose of the investigation is to determine if the site poses a hazard to public health or the environment because of releases of contaminants to soil, surface water, groundwater, or air. The investigation team will take samples on and around the site to determine if a hazardous condition exists. Additionally, they will locate all nearby water supplies (surface and groundwater, community and private) and any close sensitive environments, schools, and day care centers.

This investigation is not an emergency situation but is a normal step in the evaluation of all uncontrolled and unregulated potential hazardous waste sites in North Carolina. You may want to have your representative meet the investigation team at the site. If so, please contact Hanna Assefa at (919) 733-2801 and she will coordinate a meeting. I am enclosing background data on the site for your information.

If the investigation indicates the need for future study of the site, we will contact your office to advise. If you have any questions, please don't hesitate to call David Lilley or me at (919) 733-2801.

Sincerely,

Pat DeRosa, Head
CERCLA Branch
Superfund Section

Enclosures

cc: Dexter Matthews
Doug Holyfield
Don Follmer
Patricia Bowden
Ann Rudd
David Lilley
File

Federal

Trip Notification & Authorization

Prepared by: Hanna Abseja.

Today's Date: 08/13/91

*Use Black Ink or Typewriter only-Staff to fill out first 2 blocks only.

Site Trip

Date of Trip: 08/ ~~[illegible]~~ 22 /91

If trip date changed or cancelled note below:
Trip Date Changed To: ~~08/24/91~~ Cancelled: ___

NCD#: 986180909 Site Name: SHELBY DYEING & FINISHING
City: SHELBY County: ~~[illegible]~~ Cleveland

Reason for Trip: ~~Strength~~ Screening Site Investigation

Name of Hotel (Overnight Trip): _____ Hotel Telephone Number: ( ) ___ - _____

Authorized by: David B Tilley
Industrial Hygienist

Project Team Leader: Hanna Abseja

Assistants: ~~John McCormacy~~ Jack Butler.

Attach To Notification Form: 1 copy each:
Submit to the
Industrial Hygienist

- Preliminary Assessment Form (First page only)
- Site Map
- PA Transmittal Letter

(Please list appropriate County Health Department contact person to call to advise of trip)

Environmental Supervisor or Health Director to call: Mr. Irvin Allen (Note if Dr., M.P., etc.) Title: Env. Health Supervisor

Telephone Number: (704) 484 - 5130

Notes: Health Department Official Contacted: Tanya Howell
Back Up Letter Required: Yes ___ No ✓

Notified Ms. Howell for Irvin Allen on 8-14-91 (DBL)

Note: Signed original to Data Manager

State of North Carolina
Department of Environment, Health, and Natural Resources
Division of Solid Waste Management
P.O. Box 27687 · Raleigh, North Carolina 27611-7687

James G. Martin, Governor
William W. Cobey, Jr., Secretary

William L. Meyer
Director

August 31, 1990

Ms. Kelly Cain
EPA NC CERCLA Project Officer
EPA Region IV Waste Division
345 Courtland Street, NE
Atlanta, Georgia 30365

Subject: CERCLIS Site Addition
Shelby Dyeing and Finishing, Inc. NCD091256248
Shelby, Cleveland County, North Carolina

Dear Ms. Cain:

Please add the subject site to CERCLIS. Preliminary data gathering has established the following about the site.

1. Shelby Dyeing and Finishing, Inc. (SDF) is located at 2270 Sam Lattimore Road, Shelby, North Carolina. Shelby is in Cleveland County. The county code is 23 and this is in the 10th Congressional District. The coordinates are latitude 35° 15′ 23" and longitude 81° 35′ 35".

2. The facility was originally constructed in 1963; prior to this the site was occupied by a cabinet shop and a farm equipment sales and service shop. A knitting facility was operated in this building in 1971 and 1972. SDF began dyeing and finishing operations in 1978. Also located on site is a printing plant now owned by SDF. This facility was operated by a now defunct company, Xylo Graphics, from 1976 to 1986. Past manufacturing activities conducted at this printing plant included multi-color printing, photographic developing, and electroplating of printing cylinders.

3. Currently the only waste generated is wastewater from the dyeing machines. This is discharged to 14,000 gallon equalization pit located in the basement of the plant. The wastewater is then discharged to the local POTW by a sewer under a permit issued by the

City of Shelby. Approximately 300,000 gallons of wastewater is discharged daily. Several waste streams were generated at the printing plant. Waste inks and solvents were stored in containers and reportedly disposed of as hazardous waste. The majority of waste solvents were reclaimed in a still located on site. Wastewater generated by the electroplating process was disposed of by a waste handler prior to 1976. From 1976 to 1977 this wastewater was disposed of in spray fields located on the west side of the property. From 1977 to 1986 this wastewater was discharged to the city sewer.

4. The NC Division of Environmental Management (DEM) has found that three private ground water wells located adjacent to the site have been contaminated by tetrachloroethene and other chlorinated solvents. The houses served by these wells have since been connected to city water lines. DEM believes the source of contamination is the clay tile sewer pipes between the plant and the residences. Other possible sources of contamination are the spray fields, the equalization pit, and chrome leaking from an on site building.

5. An estimated 1000-3000 residents within a 3-mile radius of the site use ground water for their drinking water supply. The single aquifer has already shown to be contaminated with tetrachloroethene and other solvents.

6. Contaminants from this site could migrate to First Broad River, the nearest downstream surface water, via runoff or discharge from ground water.

Attached is a CERCLIS site addition sheet. If you have any questions, please call Pat DeRosa or me at (919)733-2801.

Sincerely,

Lee Crosby

Lee Crosby, Chief
Superfund Section
Solid Waste Management Division

Attachment

cc: Pat DeRosa
Lois Walker
Ann Rudd

JM/sdf.sa1

SITE DISCOVERY FORM

Part I: Information necessary to add a site to CERCLIS

ACTION: A

EPA ID: NCD 091 256 248

SITE NAME: Shelby Dyeing and Finishing SOURCE: T (R=EPA, T=STATE)

STREET: 2270 Sam Lattimore Road CONG DIST: 10 (optional)

CITY: Shelby ZIP: 28150

CNTY NAME: Cleveland CNTY CODE: 23 (optional)

LATITUDE: 35/15/23 LONGITUDE: 81/35/35 (optional)

INVENTORY IND: Y REMEDIAL IND: Y REMOVAL IND: N FED FAC IND: N

RPM NAME: RPM PHONE: - - (EPA Project Officer)

SITE DESCRIPTION: (optional)

Shelby Dyeing and Finishing (SDF) began operations at the site in 1978. Current manufacturing operations conducted at the site include the dyeing and finishing of knitted fabrics. A building on the site housed a printing plant that was in operation from 1976 to 1986. The company that operated this printing plant, Xylo Graphics, is now defunct and the building is owned by SDF. Waste water from the present operations is discharged to an onsite equalization pit and then to the city sewer system. Waste water from the printing operations was disposed of on site in spray field in 1976 and 1977. Following this, the waste water was discharged to the city sewer system. Waste solvents were reportedly reclaimed in an on site still or disposed of off site.

Part 2: Other site information

DATE SITE FIRST

REPORTED: / / REPORTED BY:

REASON FOR LISTING:

The NC Division of Environmental Management has found that three private groundwater wells located adjacent to the site have been contaminated by tetrachloroethene and other chlorinated solvents. An estimated 1000 - 3000 residents within a three mile radius of the site use groundwater as their drinking water. Contaminants from this site could migrate to the First Broad River, the nearest downstream surface water, via runoff or discharge from groundwater.

RECEIVED
AUG 24 1990
SUPERFUND SECTION

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

James G. Martin, Governor
William W. Cobey, Jr., Secretary

Ann B. Orr
Regional Manager

DIVISION OF ENVIRONMENTAL MANAGEMENT
GROUNDWATER SECTION

August 22, 1990

Mr. Wyatt Dellinger
Shelby Dyeing and Finishing, Incorporated
2270 Sam Lattimore Road
Shelby, North Carolina 28150-9558

Dear Mr. Dellinger:

Subject: Review of Workplan for Groundwater and Soil Assessment
Shelby Dyeing and Finishing, Incorporated
Groundwater Incident No. 5778
Cleveland County, North Carolina

I have reviewed the subject workplan and find it acceptable with the following comments:

1.) Additional analytical data (copies attached) made available since the workplan was developed, indicates groundwater contamination at the residence of Jerry Murray, 1045 Sam Lattimore Road. A monitor well is required downgradient of the Murray residence for the purpose of defining the extent of groundwater contamination. Also, considering the horizontal distance of confirmed groundwater contamination parallel to Sam Lattimore Road, an additional monitor well is required near the Shelby Dyeing and Finishing, Incorporated (SDF) sewer line at approximately midpoint to N. C. Highway 150.

2.) Depending on review of the analytical data generated from implementation of the workplan, any additional monitor wells required to delineate the extent or determine the source(s) of contamination (e.g. downgradient of the SDF septic tank, proposed S-2 or S-3), shall be installed within the time frame of this workplan.

3.) The monitor wells shall be constructed to the top of bedrock with the well screens extended to the bottom of the wells.

4.) In addition to the analytical parameters proposed in the workplan, the monitor wells shall be sampled and analyses conducted by EPA Method 601 and EPA Method 602 (attached). Analyses shall be taken to the lowest method detection limit and shall include the number of unidentified peaks.

5.) The analytical parameters, locations for soil sampling, and plans for soil disposal or remediation, shall be coordinated with Mr. Larry Fox of the Hazardous Waste Branch. I have provided him with a copy of the workplan for his review.

6.) Based on the proposed schedule for implementation of the workplan, the permit application for construction of the monitor wells is due in this office by September 10, 1990, and the report is due December 17, 1990. Please provide us with four copies of the report so that copies can be distributed to appropriate agencies.

If you have any questions or comments, call me at (704) 251-6208. Thank you for your continued cooperation.

Sincerely,

Kay Dechant

Laura Kay Dechant
Hydrogeologist

LKD/gc

cc: Perry Nelson
Larry Fox
Charlotte Jesneck
Robert L. Martin
Marty Allen

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

ORGANIC CHEMICAL ANALYSES-PRIVATE WATER SYSTEM

Complete All Items Above Heavy Line
(See Instructions on Reverse Side)

Name of System: Mr. Jerry Murray

Address: 1045 Sam Hill Moore Road
Shelby N.C. ZIP 28150

County: Cleveland

Report To: T.M. Allen

Address: Cleveland Co. Health Dept
315 Grover St.
Shelby N.C. ZIP 28150

Collected By: T.M. Allen R.S

Date Collected: 7-17-90 Time: 12:30 AM (PM)

Location of Sampling Point: Kitchen faucet

Source of Water:
(✓) Ground ( ) Both
( ) Surface ( ) Purchased

Source of Sample:
(✓) House Tap
( ) Well Tap

Type of Sample:
(✓) Raw ( ) Treated

Type of Treatment:
(✓) None ( ) Lime
( ) Chlorinated ( ) Soda Ash
( ) Fluoridated ( ) Polyphosphate
( ) Filtered ( ) Water Softener
( ) Alum ( ) Other

Type of Analysis Desired:
( ) Regular Parameters ( ) Both
(✓) Optional Parameters

Remarks: VOA as per Dr. Ken Budd

Regular Parameters	Results	Optional Parameters (List as needed)	Results
pH	units		
Arsenic	mg/l		
Lead	mg/l		
Iron	mg/l	VOA	SEE ATTACHED SHEET(S)
Manganese	mg/l		
Copper	mg/l		
Zinc	mg/l		
Calcium	mg/l		
Magnesium	mg/l		
Hardness-$CaCO_3$ (Ca, Mg)	mg/l		
Alkalinity-$CaCO_3$	mg/l		
Chloride	mg/l		
Fluoride	mg/l		

HF AUG 0 1 90 LIL CLEVELAND COUNTY

Date Received 7-19-90 mw Date Reported 7-31-90 Reported By John L. Neal

Date Analyzed VOA 7/20/90 JM Laboratory Number

DHS Form - 1441 Rev. 3/89
Laboratory

HEALTH DEPARTMENT

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

Laboratory No. 906004 PURGEABLE COMPOUNDS Date of Analysis 7/20/90

COMPOUND	µg/l
Dichlorodifluoromethane	U
Chloromethane	↓
✓Vinyl Chloride	↓
Bromomethane	↓
Chloroethane	↓
Trichlorofluoromethane	↓
✓1,1-Dichloroethylene	↓
Methylene Chloride	↓
tert-Butyl Methyl Ether	↓
(Trans)1,2-Dichloroethylene	↓
Isopropyl ether	2.1
1,1-Dichloroethane	U
2,2-Dichloropropane	↓
(Cis) 1,2-Dichloroethylene	↓
Chloroform	trace T
(BCM) Bromochloromethane	U
✓1,1,1-Trichloroethane	5.1
1,1-Dichloropropene	U
✓Carbon Tetrachloride	↓
✓Benzene	↓
✓1,2-Dichloroethane	↓
✓Trichloroethylene	1K
1,2-Dichloropropane	U
Bromodichloromethane	↓
Dibromomethane	↓
Toluene	↓
1,1,2-Trichloroethane	↓
Tetrachloroethene	436.4
1,3-Dichloropropane	U
Dibromochloromethane	↓
1,2-Dibromoethane (EDB)	↓
1-Chlorohexane	↓

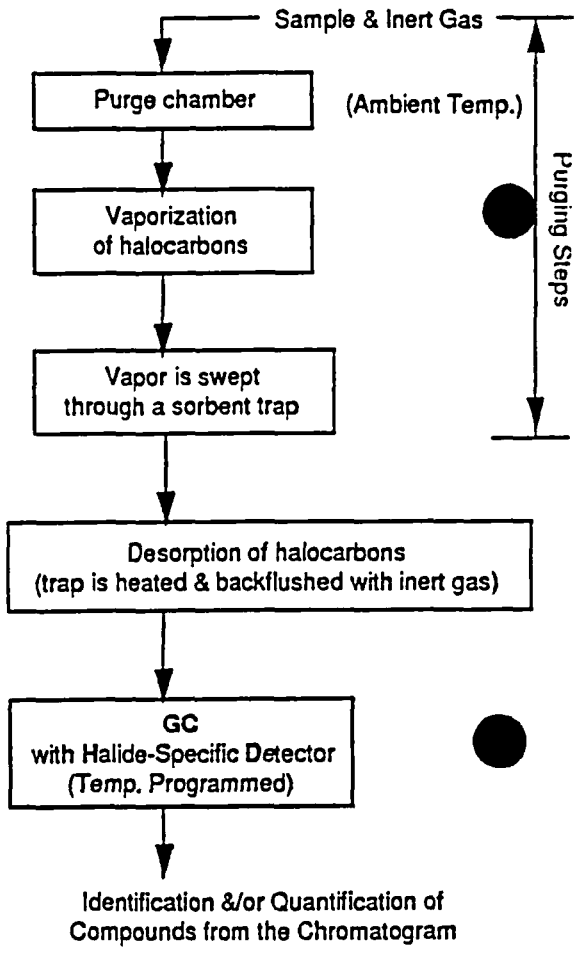
COMPOUND	µg/l
Chlorobenzene	U
Ethylbenzene	↓
1,1,1,2-Tetrachloroethane	↓
p-Xylene	↓
m-Xylene	↓
o-Xylene	↓
Styrene	↓
Bromoform	↓
Isopropylbenzene	↓
1,1,2,2-Tetrachloroethane	↓
Bromobenzene	↓
n-Propylbenzene	↓
1,2,3-Trichloropropane	↓
2-Chlorotoluene	↓
1,3,5-Trimethylbenzene	↓
4-Chlorotoluene	↓
(Tert)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

COMMENTS:

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

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

N.C. Division of Health Services
DHS 3068-0 (1/89 Laboratory)

U.S. EPA Method No.	Analyte Compounds	Comparable U.S. EPA Method	Interferences	Summary of Methods
601 (purgeable Halocarbons)	purgeable Halocarbons: Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Chloroethane 2-Chloroethylvinyl ether Chloroform Chloromethane Dibromochloromethane 1,2- Dichlorobenzene 1,3- Dichlorobenzene 1,4- Dichlorobenzene Dichlorodifluoromethane 1,1- Dichloroethane 1,2- Dichloroethane 1,1- Dichloroethane Trans - 1,2- Dichloroethene 1,2- Dichloropropane Cis- 1,3- Dichloropropene Trans - 1,3 - Dichloropropene Methylene chloride 1,1,2,2- Tetrachloroethane Tetrachloroethene 1,1,1- Trichloroethane 1,1,2- Tetrachloroethane Trichloroethene Trichlorofluoromethane Vinyl chloride	Method No. 624 provides GC/MS conditions appropriate for quantitative & qualitative confirmation of result for most of the compounds listed.	- Impurities in the purge gas. - Organic compounds out-gassing from plumbing ahead of the trap. - Sample contamination by diffusion of volatile organics, particularly: fluorocarbons & methylene-chloride. - Contamination by carry-over can occur whenever high level & low level samples are sequentially analyzed.	

SA/lg/1/90

TABLE 1.—CHROMATOGRAPHIC CONDITIONS AND METHOD DETECTION LIMITS

Parameter	Retention time (min)		[illegible] limit (µg/L)
	Column 1	Column 2	
Chloromethane	1.50	5.28	0.06
Bromomethane	2.17	7.05	1.19
Dichlorodifluoromethane	2.62	nd	1.81
Vinyl chloride	2.67	5.28	0.18
Chloroethane	3.33	8.66	0.52
Methylene chloride	5.25	10.1	0.25
Trichlorofluoromethane	7.18	nd	nd
1,1-Dichloroethene	7.93	7.72	0.13
1,1-Dichloroethane	9.30	12.6	0.07
Chloroform	10.7	12.1	0.05
1,2-Dichloroethane	11.4	15.4	0.03
1,1,1-Trichloroethane	12.6	13.1	0.03
Carbon tetrachloride	13.0	14.4	0.12
Bromodichloromethane	13.7	14.6	0.10
1,2-Dichloropropane	14.9	16.6	0.04
cis-1,3-Dichloropropene	15.2	16.6	0.34
Trichloroethene	15.8	13.1	0.12
Dibromochloromethane	16.5	16.6	0.09
1,1,2-Trichloroethane	16.5	18.1	0.02
trans-1,3-Dichloropropene	16.5	18.0	0.20
2-Chloroethylvinyl ether	18.0	nd	0.13
Bromoform	19.2	19.2	0.2[illegible]
1,1,2,2-Tetrachloroethane	21.6	nd	0.03
Tetrachloroethene	21.7	15.0	0.03
Chlorobenzene	24.2	18.8	0.25
1,3-Dichlorobenzene	34.0	22.4	0.32
1,2-Dichlorobenzene	34.9	23.5	0.15
1,4-Dichlorobenzene	35.4	22.3	0.24

Column 1 conditions: Carbopack B (60/80 mesh) coated with 1% SP-1000 packed in an 8 ft x 0.1 in. ID stainless steel or glass column with helium carrier gas at 40 mL/min flow rate. Column temperature held at 45 °C for 3 min then programmed at 8 °C/min to 220 °C and held for 15 min.

Column 2 conditions: Porbit-C (100/120 mesh) coated with n-octane packed in a 6 ft x 0.1 in. ID stainless steel or glass column with helium carrier gas at 40 mL/min flow rate. Column temperature held at 50 °C for 3 min then programmed at 8 °C/min to 170 °C and held for 4 min.

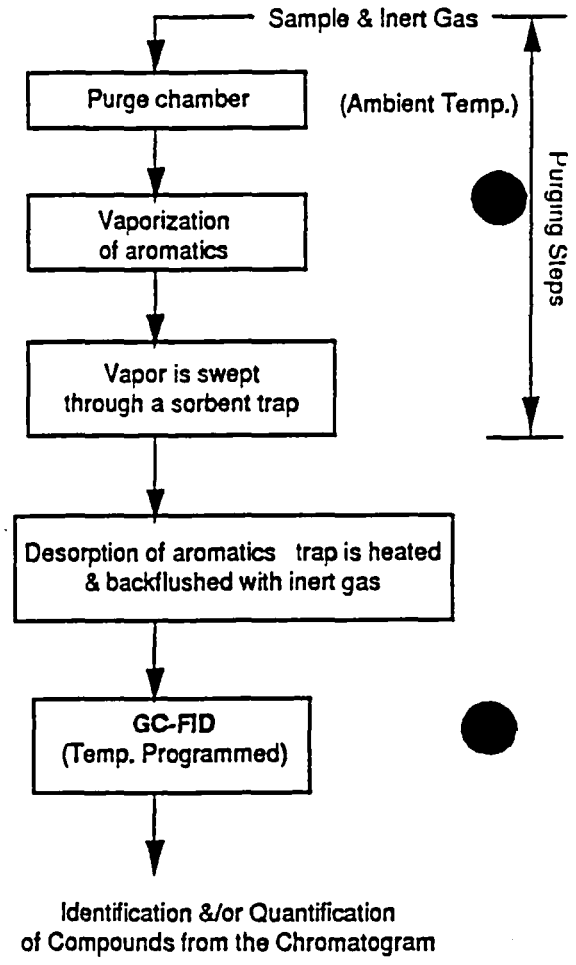
nd = not determined.

TABLE 2.—CALIBRATION AND QC ACCEPTANCE CRITERIA—METHOD 601 *

Parameter	Range for Q (µg/L)	Limit for s (µg/L)	Range for $\bar{X}$ (µg/L)	Range P, P_s (%)
Bromodichloromethane	15.2-24.8	4.3	10.7-32.0	42-172
Bromoform	14.7-25.3	4.7	5.0-29.3	13-159
Bromomethane	11.7-28.3	7.6	3.4-24.5	D-144
Carbon tetrachloride	13.7-26.3	5.6	11.8-25.3	43-143
Chlorobenzene	14.4-25.6	5.0	10.2-27.4	36-150
Chloroethane	15.4-24.6	4.4	11.3-25.2	46-137
2-Chloroethylvinyl ether	12.0-28.0	6.3	4.5-35.5	14-186
Chloroform	15.0-25.0	4.5	12.4-24.0	49-133
Chloromethane	11.9-28.1	7.4	D-34.9	D-183
Dibromochloromethane	13.1-26.9	6.3	7.9-35.1	24-191
1,2-Dichlorobenzene	14.0-26.0	5.5	1.7-36.9	D-208
1,3-Dichlorobenzene	9.9-30.1	9.1	6.2-32.6	7-187
1,4-Dichlorobenzene	13.9-26.1	5.5	11.5-25.5	42-143
1,1-Dichloroethane	16.8-23.2	3.2	11.2-24.6	47-132
1,2-Dichloroethane	14.3-25.7	5.2	13.0-26.5	51-147
1,1-Dichloroethene	12.6-27.4	6.6	10.2-27.3	29-167
trans-1,2-Dichloroethene	12.8-27.2	6.4	11.4-27.1	38-155
1,2-Dichloropropane	14.8-25.2	5.2	10.1-29.9	44-156
cis-1,3-Dichloropropene	12.8-27.2	7.3	6.2-33.8	22-178
trans-1,3-Dichloropropene	12.8-27.2	7.3	6.2-33.8	22-178
Methylene chloride	15.5-24.5	4.0	7.0-27.6	25-162
1,1,2,2-Tetrachloroethane	9.9-30.2	9.2	6.6-31.8	8-184
Tetrachloroethene	14.0-26.0	5.4	9.1-29.8	26-162
1,1,1-Trichloroethane	14.2-25.8	4.9	10.8-24.8	41-138
1,1,2-Trichloroethane	15.7-24.3	3.9	9.6-25.4	39-136
Trichloroethene	15.4-24.6	4.2	9.2-26.6	35-146
Trichlorofluoromethane	13.3-26.7	6.0	7.4-28.1	21-158
Vinyl chloride	13.7-26.3	5.7	8.2-29.8	28-163

Q = Concentration measured in QC check sample, in µg/L (Section 7.5.3).
s = Standard deviation of four recovery measurements, in µg/L (Section 8.2.4).
$\bar{X}$ = Average recovery for four recovery measurements, in µg/L (Section 8.2.4).
P, P_s = Percent recovery measured (Section 8.3.2, Section 8.4.2).
D = Detected; result must be greater than zero.
* Criteria were calculated assuming a QC check sample concentration of 20 µg/L.

Note: These criteria are based directly upon the method performance data in Table 3. Where necessary, the limits for recovery have been broadened to assure applicability of the limits to concentrations below those used to develop Table 3.

U.S. EPA Method No.	Analyte Compounds	Comparable U.S. EPA Method	Interferences	Summary of Methods
602 (purgeable Aromatics)	purgeable Aromatics: Benzene Chlorobenzene 1,2- Dichlorobenzene 1,3- Dichlorobenzene 1,4- Dichlorobenzene Ethylbenzene Toluene	Method No. 624 provides GC/MS conditions appropriate for quantitative & qualitative confirmation of result for most of the compounds listed.	- Impurities in the purge gas. - Organic compounds out-gassing from plumbing ahead of the trap. - Sample contamination by diffusion of volatile organics. - Contamination by carry-over can occur whenever high level & low level samples are sequentially analyzed.	

SA/lg/1/90

TABLE 1.—CHROMATOGRAPHIC CONDITIONS AND METHOD DETECTION LIMITS

Parameter	Retention time (min)		Method detection limit (µg/L)
	Column 1	Column 2	
Benzene	3.33	2.75	0.2
Toluene	5.75	4.25	0.2
Ethylbenzene	8.25	6.25	0.2
Chlorobenzene	9.17	8.02	0.2
1,4-Dichlorobenzene	16.8	16.2	0.3
1,3-Dichlorobenzene	18.2	15.0	0.4
1,2-Dichlorobenzene	25.9	19.4	0.4

Column 1 conditions: Supelcoport (100/120 mesh) coated with 5% SP-1200/1.75% Bentone-34 packed in a 6 ft × 0.085 in. ID stainless steel column with helium carrier gas at 36 mL/min flow rate. Column temperature held at 50 °C for 2 min then programmed at 6 °C/min to 90 °C for a final hold.

Column 2 conditions: Chromosorb W-AW (60/80 mesh) coated with 5% 1,2,3-Tris(2-cyanoethyoxy)propane packed in a 6 ft × 0.085 in. ID stainless steel column with helium carrier gas at 30 mL/min flow rate. Column temperature held at 40 °C for 2 min then programmed at 2 °C/min to 100 °C for a final hold.

TABLE 2.—CALIBRATION AND QC ACCEPTANCE CRITERIA—METHOD 602 [a]

Parameter	Range for O (µg/L)	Limit for s (µg/L)	Range for $\bar{X}$ (µg/L)	Range for P, P_s (%)
Benzene	15.4-24.6	4.1	10.0-27.9	39-150
Chlorobenzene	16.1-23.9	3.5	12.7-25.4	55-135
1,2-Dichlorobenzene	13.6-26.4	5.8	10.6-27.6	37-154
1,3-Dichlorobenzene	14.5-25.5	5.0	12.8-25.5	50-141
1,4-Dichlorobenzene	13.9-26.1	5.5	11.6-25.5	42-143
Ethylbenzene	12.6-27.4	6.7	10.0-28.2	32-160
Toluene	15.5-24.5	4.0	11.2-27.7	46-148

O = Concentration measured in QC check sample, in µg/L (Section 7.5.3)
s = Standard deviation of four recovery measurements, in µg/L (Section 8.2.4)
$\bar{X}$ = Average recovery for four recovery measurements, in µg/L (Section 8.2.4)
P_s, P = Percent recovery measured (Section 8.3.2, Section 8.4.2).
[a] Criteria were calculated assuming a QC check sample concentration of 20 µg/L.

Note. These criteria are based directly upon the method performance data in Table 3. Where necessary, the limits for recovery have been broadened to assure applicability of the limits to concentrations below those used to develop Table 3.

TABLE 3.—METHOD ACCURACY AND PRECISION AS FUNCTIONS OF CONCENTRATION—METHOD 602

Parameter	Accuracy as recovery, X' (µg/L)	Single analyst precision, s' (µg/L)	Overall precision, S' (µg/L)
Benzene	0.92C + 0.57	0.09$\bar{X}$ + 0.59	0.21$\bar{X}$ + 0.58
Chlorobenzene	0.95C + 0.02	0.09$\bar{X}$ + 0.23	0.17$\bar{X}$ + 0.10
1,2-Dichlorobenzene	0.93C + 0.52	0.17$\bar{X}$ − 0.04	0.22$\bar{X}$ + 0.53
1,3-Dichlorobenzene	0.96C − 0.04	0.15$\bar{X}$ − 0.10	0.19$\bar{X}$ + 0.09
1,4-Dichlorobenzene	0.93C + 0.09	0.15$\bar{X}$ + 0.28	0.20$\bar{X}$ + 0.41
Ethylbenzene	0.94C + 0.31	0.17$\bar{X}$ + 0.46	0.26$\bar{X}$ + 0.23
Toluene	0.94C + 0.65	0.09$\bar{X}$ + 0.48	0.18$\bar{X}$ + 0.71

X' = Expected recovery for one or more measurements of a sample containing a concentration of C, in µg/L.
s' = Expected single analyst standard deviation of measurements at an average concentration found of $\bar{X}$, in µg/L.
S' = Expected interlaboratory standard deviation of measurements at an average concentration found of $\bar{X}$, in µg/L.
C = True value for the Concentration, in µg/L.
$\bar{X}$ = Average recovery found for measurements of samples containing a concentration of C, in µg/L.

6 August 1990

MEMORANDUM

TO: Pat DeRosa
Superfund Section

FROM: Charlotte Jesneck
Superfund Section

RE: Shelby Dyeing and Finishing/Zylo Graphics
Shelby, Cleveland County
Request for Addition to Wastelan

Keith Masters contacted me the week of 30 July 1990 concerning the above site. Since DEM is also working on the site, I contacted Kay Dechant to obtain additional information. Keith and Kay provided the following information:

(1) Shelby Dyeing and Finishing and Zylo Graphics both operated at the site. Zylo Graphics, which is not defunct, operated a printing shop. Drums of inks remaining from the operation are being removed from the site under RCRA. Larry Fox is the contact.

(2) Three private groundwater wells, across the street from the site, were found to be contaminated with tetrachloroethane at levels of 359.6 ppb, 404.2 ppb, and 368.8 ppb. Other chlorinated solvents have also been detected in the well samples. Semivolatile and metals analyses have been conducted on samples from these wells by DEM and the results are pending. The National Guard supplied bottled water to the homes. The houses have since been connected to city water by Shelby Dyeing and Finishing.

(3) DEM has issued an NOV to Shelby Dyeing and Finishing. DEM believes the source of contamination is the clay tile sewer pipes between the plant and the residences. The plant sewer discharge is suspected to have contained solvents.

(4) DEM also suspects an on-site spray irrigation field of being contaminated. The spray irrigation field operated for 1 year sometime between 1976 and 1986 under a DEM discharge permit.

(5) Two septic tanks exist on site which are said to have only received domestic waste.

(6) The plant building has a pit (uncertain whether lined or unlined) which feeds the sewer pipe. This may also be a source of contamination.

(7) Keith Masters indicated chrome appeared to be leaking from an on-site building.

(8) One monitoring well exists on site. The well is a 6 inch dia. well and is believed by DEM to not be constructed properly.

Keith Masters and Kay Dechant would like the Superfund Section to investigate the spray irrigation field and the chrome source. I have spoken with Lee and she feels the site should be added to Wastelan for investigation.

CJ/acr

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

James G. Martin, Governor
William W. Cobey, Jr., Secretary

Ann B. Orr
Regional Manager

DIVISION OF ENVIRONMENTAL MANAGEMENT
GROUNDWATER SECTION

RECEIVED
OCT 02 1990
SUPERFUND SECTION

September 27, 1990

Mr. Wyatt Dellinger
Shelby Dyeing and Finishing, Incorporated
1038 Sam Lattimore Road
Shelby, North Carolina 28150

Dear Mr. Dellinger:

Subject: Analytical Results
Shelby Dyeing and Finishing, Incorporated
Groundwater Incident No. 5778
Cleveland County, North Carolina

Attached, for your information, are copies of analytical results from samples collected at the subject site and vicinity.

If you have any questions or comments, please contact me at (704) 251-6208. Thank you for your continuing cooperation regarding this investigation.

Sincerely,

Kay Dechant

Laura Kay Dechant
Hydrogeologist

LKD/gc

Attachments

cc: Robert Martin
Larry Fox
Charlotte Jesneck

COUNTY Cleveland

QUAD NO. 07543 SERIAL NO. _____

LAT. 351518 LONG. 813539

N.C. DEPARTMENT OF NATURAL RESOURCES
& COMMUNITY DEVELOPMENT
DEM
GROUNDWATER FIELD/LAB FORM

LAB NUMBER 8 OG780

DATE RECEIVED 900120 Time 0920

Rec'd by: HMW From: Bus-Courier

Other _____

DATA ENTRY BY: Da CK: [illegible]

DATE REPORTED: 8-10-90

Report to: (ARO) FRO, MRO, RRO, WaRO, WiRO, WSRO, Kinston FO Other _____

Shipped by: Bus, Courier, Other _____

SAMPLE PRIORITY

☒ ROUTINE ☐ EMERGENCY

COLLECTOR(S): Dechant/Links DATE 7/18/90 TIME ~1430 PURPOSE: BASELINE, COMPLAINT, COMPLIANCE, LUST, (OTHER) (circle one) Incident # TBA

FIELD ANALYSES

pH 400 _____ Spec. Cond. 94 _____ at 25°C

Temp. 10 _____ °C Odor _____

Appearance _____ Taste _____

Field Analysis By: _____

Owner Shelby Dyeing & Finishing

Location or site below Spray Irrigation Site in back of Xylo Graphics

Description of sampling point well head

Sampling Method bailer (pump, bailer, etc.)

Sample Interval _____

Remarks _____ (pumping time, air temp, etc.)

RECEIVED AUG 16 1990 Groundwater Section Asheville Regional Office

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/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	X	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		SEE ATTACHED ORGANICS
	Arsenic:Total 1002	ug/l		TKN as N 625	mg/l		Pb - Lead 1051	ug/l		ANALYSIS REPORT
	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								V
	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

VOLATILE ANALYTICAL REPORT

LAB NO. 0G780

REPORTED BY [illegible] ENTERED BY Da

CHECKED BY A&C CHECKED BY [illegible]

REVIEWED BY A&C

SUPERVISOR REK DATE 8/7/90

SAMPLE TYPE: WATER

ANALYSIS RESULTS

STORET NO.	COMPOUND	CONCENTRATION

NO VOLATILE ORGANIC COMPOUNDS DETECTED BY GC/ELCD/PID.

ANALYZED BEYOND EXPIRATION DATE.

DIVISION OF ENVIRONMENTAL MANAGEMENT — WATER QUALITY FIELD-LAB FORM (DM1)

COUNTY: Cleveland
RIVER BASIN: Broad
REPORT TO: ARO FRO MRO RRO WaRO WIRO WSRO TS
T BM
Other
Shipped by: Bus Courier Staff, Other
COLLECTOR(S): Dechant / Link
Estimated BOD Range: 0-5/5-25/25-65/40-130 or 100 plus
Seed: Yes ☐ No ☐ Chlorinated: Yes ☐ No ☐

PRIORITY: ☒ AMBIENT ☐ QA ☐ COMPLIANCE ☐ CHAIN OF CUSTODY ☐ EMERGENCY

SAMPLE TYPE: ☐ STREAM ☒ EFFLUENT ☐ LAKE ☐ INFLUENT ☐ ESTUARY

For Lab Use ONLY
Lab Number: OG777
Date Received: 900720 Time: 0926
Rec'd by: HMW From: Bus-Courier-Hand Del
DATA ENTRY BY: DO CK: gj
DATE REPORTED: 9-11-90

STATION LOCATION: Wastewater Pit at Xylo Graphics
REMARKS: expect high metals content

Station #	Date Begin (yy/mm/dd)	Time Begin	Date End	Time End	Depth DM DB DBM	Value Type A H L	Composite T S B	Sample Type C G GNXX
Pit at Xylo Graphics	7.18.90							

1	BOD5 310	mg/l	Chloride 940	mg/l	NH3 as N 610	mg/l		Li-Lithium 1132	~~25~~ 380	ug/l
2	COD High 340	mg/l	Chl a: Tri 32217	ug/l	TKN as N 625	mg/l	X	Mg-Magnesium 927	~~16~~ 8.0	mg/l
3	COD Low 335	mg/l	Chl a: Corr 32209	ug/l	NO2 plus NO3 as N 630	mg/l		Mn-Manganese 1055	5400	ug/l
4	Coliform: MF Fecal 31616	/100ml	Pheophytin a 32213	ug/l	P: Total as P 665	mg/l		Na-Sodium 929	41 ~~5.0~~	mg/l
5	Coliform: MF Total 31504	/100ml	Color: True 80	Pt-Co	PO4 as P 70507	mg/l		Arsenic:Total 1002	16	ug/l
6	Coliform: Tube Fecal 31615	/100ml	Color:(pH) 83	ADMI	P: Dissolved as P 666	OMIT mg/l		Se-Selenium 1147	<5.0	ug/l
7	Coliform: Fecal Strep 31673	/100ml	Color: pH 7.6 82	ADMI				Hg-Mercury 71900	~~1.0~~	ug/l
8	Residue: Total 500	mg/l	Cyanide 720	mg/l	Cd-Cadmium 1027	<10 ug/l		Organochlorine Pesticides		
9	Volatile 505	mg/l	Fluoride 951	mg/l	Cr-Chromium:Total 1034	1,800,000 ug/l		Organophosphorus Pesticides		
10	Fixed 510	mg/l	Formaldehyde 71880	mg/l	Cu-Copper 1042	5,300,000 ug/l				
11	Residue: Suspended 530	mg/l	Grease and Oils 556	mg/l	Ni-Nickel 1067	1,100,000 ug/l		Acid Herbicides		
12	Volatile 535	mg/l	Hardness Total 900	mg/l	Pb-Lead 1051	<50 ug/l				
13	Fixed 540	mg/l	Specific Cond. 95	uMhos/cm²	Zn-Zinc 1092	70,000 ug/l		Base/ Neutral Extractable Organics		
14	pH 403	units	MBAS 38260	mg/l	* Cr - Chromium-Hex	4200000/ug/l		Acid Extractable Organics		
15	Acidity to pH 4.5 436	mg/l	Phenols 32730	ug/l	Ag-Silver 1077	~~[illegible]~~ 78 ug/l				
16	Acidity to pH 8.3 435	mg/l	Sulfate 945	mg/l	Al-Aluminum 1105	~~[illegible]~~ • ug/l		Purgeable Organics (VOA bottle reg'd)		
17	Alkalinity to pH 8.3 415	mg/l	Sulfide 745	mg/l	Be-Beryllium 1012	<10 ug/l				
18	Alkalinity to pH 4.5 410	mg/l			Ca-Calcium 916	~~[illegible]~~ 21 mg/l				
19	TOC 680	mg/l			Co-Cobalt 1037	~~[illegible]~~ 1300 ug/l		SEE ATTACHED ORGANICS ANALYSIS REPORT		
20	Turbidity 76	NTU			Fe-Iron 1045	190,000 ~~[illegible]~~ ug/l		Phytoplankton		

Sampling Point %	Conductance at 25 C	Water Temperature (C)	D.O. mg/l	pH	Alkalinity pH 8.3	Alkalinity pH 4.5	Acidity pH 4.5	Acidity pH 8.3	Air Temperature (C)
	94	10	300 •	400 •	82244	431	82243	82242	20
	Salinity %	Precipition (in/day)	Cloud Cover %	Wind Direction (Deg)	Stream Flow Severity	Turbidity Severity	Wind Velocity M/H	Mean Stream Depth ft.	Stream Width ft.
	480	45	32	36	1351	1350	35	64	4

* Sample recv'd after acceptable holding time.

• - 30,000

SEP 12 1990 GROUNDWATER SECTION RALEIGH NC

VOLATILE ANALYTICAL REPORT

LAB NO. 0G777

REPORTED BY KLB

ENTERED BY Da

CHECKED BY [illegible]

CHECKED BY [illegible]

REVIEWED BY [illegible]

SUPERVISOR REK

DATE 8/24/90

SAMPLE TYPE: WATER

ANALYSIS RESULTS

STORET NO.	COMPOUND	CONCENTRATION
	ANALYZED BEYOND EXPIRATION DATE.	
39180	TRICHLOROETHENE DETECTED BY GC/ELCD/PID	60000 UG/L
	TWO UNIDENTIFIED PEAKS DETECTED BY GC/ELCD	

cc: E. Patterson, P. Allen
9/18/90

COUNTY Cleveland
QUAD NO. Q754 SERIAL NO. _____
LAT. 351524 LONG. 813532

Report to: (ARO), PRO, MRO, RRO, WaRO, WiRO, WSRO, Kinston FO Other _____
Shipped by: Bus, (Courier), Other _____
COLLECTOR(S): Link / Dechant DATE 7/18/90 TIME ~1320 PURPOSE: BASELINE, COMPLAINT, COMPLIANCE, LUST, OTHER Incident #TBA (circle one)

N.C. DEPARTMENT OF NATURAL RESOURCES & COMMUNITY DEVELOPMENT
DEM
GROUNDWATER FIELD/LAB FORM

SAMPLE PRIORITY
☐ ROUTINE ☒ EMERGENCY

LAB NUMBER # 06778
DATE RECEIVED 900720 Time 0920
Rec'd by: HMW From: Bus-(Courier)
Other _____
DATA ENTRY BY: Da CK: GT
DATE REPORTED: 9-11-90

FIELD ANALYSES

pH 400 _____ Spec. Cond. 94 _____ at 25°C
Temp. 10 _____ °C Odor _____
Appearance _____ Taste _____
Field Analysis By: _____

Owner: Bob + Nancy Patterson 1037 Sam Lattimore Road
Location or site: Residence across from Shelby Dyeing + Finishing
Description of sampling point: outside tap
Sampling Method: pumped (pump, bailer, etc.) Sample Interval: ~27-47'
Remarks: organic odor (pumping time, air temp, etc.)
previous sample by DHS showed 359.6 ug/l PCE

RECEIVED SEP 12 1990 GROUNDWATER SECTION RALEIGH, NC

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
X	Arsenic:Total 1002	<10	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
X	Fluoride 951	<.01	mg/l
	Hardness:Total 900		mg/l
	Hardness (non-carb) 902		mg/l
	Phenols 32730		ug/l
	Specific Cond. 95		uMhos/cm²
X	Sulfate 945	<5	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

X	Ag - Silver 1077	<5.0	ug/l
X	Al - Aluminum 1105	<50	ug/l
X	Ba - Barium 1007		ug/l
X	Ca - Calcium 916	9.4	mg/l
X	Cd - Cadmium 1027	<2.0	ug/l
X	Chromium:Total 1034	3200	ug/l
X	Cu - Copper 1042	13	ug/l
X	Fe - Iron 1045	850	ug/l
X	Hg - Mercury 71900	.59	ug/l
X	K - Potassium 937		mg/l
X	Mg - Magnesium 927	1.6	mg/l
X	Mn - Manganese 1055	510	ug/l
X	Na - Sodium 929	5.0	mg/l
X	Ni - Nickel 1067	<10	ug/l
X	Pb - Lead 1051	<10	ug/l
X	Se - Selenium 1147	<5.0	ug/l
X	Zn - Zinc 1092	12	ug/l
	Co	<50	ug/l
	Li	<25	ug/l

	Organochlorine Pesticides
	Organophosphorus Pesticides
	Acid Herbicides
X	Base / Neutral Extractable Organics
X	Acid Extractable Organics
X	Purgeable Organics (VOA bottle)
	1,2 - Dibromoethane (EDB)
	V/S
	SEE ATTACHED ORGANICS ANALYSIS REPORT

Lab Comments: _____

RECEIVED SEP 14 1990 Groundwater Section Asheville Regional Office

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. 0G778

REPORTED BY RBS

ENTERED BY Da

CHECKED BY ARC

CHECKED BY GJ

REVIEWED BY ARC

SUPERVISOR REK

DATE 8/10/90

SAMPLE TYPE: WATER

ANALYSIS RESULTS

STORET NO.	COMPOUND	CONCENTRATION
34475	TETRACHLOROETHENE DETECTED BY GC/ELCD/PID, QUANTITATED BY GC/MS	960 UG/L

SEMIVOLATILE ORGANIC REPORT

LAB NO. 0G778

REPORTED BY PTD

ENTERED BY Da

CHECKED BY Sm

CHECKED BY [illegible]

REVIEWED BY PTD

SUPERVISOR REK DATE 9/10/90

SAMPLE TYPE: WATER

ANALYSIS RESULTS

STORET NO.	COMPOUND	CONCENTRATION
		UG/L
	A TENTATIVE IDENTIFICATION WAS ATTEMPTED FOR ONE (1) SIGNIFICANT PEAK DETECTED BY GC/MS. CONCENTRATION ESTIMATED AS A RATIO TO A KNOWN INTERNAL STANDARD.	
	UNIDENTIFIED	9

COUNTY Cleveland

QUAD NO. 175u1 SERIAL NO. _____

LAT. 351524 LONG. 813532

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

LAB NUMBER 8 589

DATE RECEIVED 7-19-90 Time 10:00

Rec'd by: GWF From: Bus-Courier

Other _____

DATA ENTRY BY: GWF CK: [illegible]

DATE REPORTED: 7-23-90

COLLECTOR(S): Link/Dechant DATE 7/18/90 TIME 1320 PURPOSE: BASELINE, COMPLAINT, COMPLIANCE, LUST, OTHER Incident #TBA (circle one)

FIELD ANALYSES

pH_{400} _____ Spec. Cond.$_{94}$ _____ at 25°C

Temp.$_{10}$ _____ °C Odor _____

Appearance _____ Taste _____

Field Analysis By: _____

Owner Bob + Nancy Patterson 1037 Sam Lattimore Rd

Location or site Residence across from Shelby Lumber + Finishing

Description of sampling point outside tap

Sampling Method _____ (pump, bailer, etc.) Sample Interval _____

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	6.0	units
✓	Alkalinity to pH 4.5 410	32	mg/l
✓	Alkalinity to pH 8.3 415	—	mg/l
✓	Carbonate 445	<1	mg/l
✓	Bicarbonate 440	39	mg/l
	Arsenic:Total 1002		ug/l
	Carbon dioxide 405		mg/l
✓	Chloride 940	7	mg/l
	Chromium:Hex 1032		ug/l
	Color:True 80		Pt-Co
	Cyanide 720		mg/l

✓	Diss. Solids 70300	75	mg/l
	Fluoride 951		mg/l
✓	Hardness:Total 900	32	mg/l
✓	Hardness (non-carb) 902	<1	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)

RECEIVED JUL 31 1990 Groundwater Section Asheville Regional Office

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 co -

cc: Elliott, Mallon. 9/18/90

COUNTY Cleveland

QUAD NO. Q754 SERIAL NO. _____

LAT. 351527 LONG. 813519

Report to: ARO FRO, MRO, RRO, WaRO, WIRO, WSRO, Kinston FO Other _____

Shipped by: Bus, Courier Other _____

COLLECTOR(S): K. Dechant DATE 7/24/90 TIME ~1045

N.C. DEPARTMENT OF NATURAL RESOURCES & COMMUNITY DEVELOPMENT

DEM

GROUNDWATER FIELD/LAB FORM

SAMPLE PRIORITY

☒ ROUTINE ☐ EMERGENCY

LAB NUMBER 8 OG 828

DATE RECEIVED 7/26/90 Time 10:20

Rec'd by: DS From: Bus-Courier

Other _____

DATA ENTRY BY: Da CK: 41

DATE REPORTED: 9-11-90

PURPOSE: BASELINE, COMPLAINT, COMPLIANCE, LUST, OTHER (circle one) Incident # TBA

FIELD ANALYSES

pH_{400} _____ Spec. Cond.$_{94}$ _____ at 25°C

Temp.$_{10}$ _____ °C Odor _____

Appearance _____ Taste _____

Field Analysis By: _____

Owner Packard Elliott 738 College Ave. Shelby 487-6452

Location or site spring supplying lake in pasture

Description of sampling point spring head

Sampling Method Grab (pump, bailer, etc.) Sample [illegible]

Remarks _____ (pumping time, air temp, etc.)

RECEIVED SEP 12 1990 GROUNDWATER SECTION RALEIGH, NC

LABORATORY ANALYSES

	BOD_5 310	mg/l		Diss. Solids 70300	mg/l	X	Ag - Silver 1077	<50	ug/l		Organochlorine Pesticides
	COD High 340	mg/l		Fluoride 951	mg/l	X	Al - Aluminum 1105	170	ug/l		Organophosphorus Pesticides
	COD Low 335	mg/l		Hardness:Total 900	mg/l	X	Ba - Barium 1007	33	ug/l		
	Coliform:MF Fecal 31616	/100ml		Hardness (non-carb) 902	mg/l	X	Ca - Calcium 916	2.4	mg/l		Acid Herbicides
	Coliform:MF Total 31504	/100ml		Phenols 32730	ug/l	X	Cd - Cadmium 1027	<2.0	ug/l		
	TOC 680	mg/l		Specific Cond. 95	uMhos/cm²	X	Chromium:Total 1034	30	ug/l	X	Base / Neutral Extractable Organics
	Turbidity 76	NTU		Sulfate 945	mg/l	X	Cu - Copper 1042	<2.0	ug/l	X	Acid Extractable Organics
				Sulfide 745	mg/l	X	Fe - Iron 1045	180	ug/l		
						X	Hg - Mercury 71900	.55	ug/l	X	Purgeable Organics (VOA bottle)
	pH 403	units				X	K - Potassium 937	1.4	mg/l		
	Alkalinity to pH 4.5 410	mg/l				X	Mg - Magnesium 927	1.8	mg/l		1,2 - Dibromoethane (EDB)
	Alkalinity to pH 8.3 415	mg/l				X	Mn - Manganese 1055	<10	ug/l		
	Carbonate 445	mg/l				X	Na - Sodium 929	3.6	mg/l		
	Bicarbonate 440	mg/l		NH_3 as N 610	mg/l	X	Ni - Nickel 1067	<10	ug/l		
	Arsenic:Total 1002 <10	ug/l		TKN as N 625	mg/l	X	Pb - Lead 1051	<10	ug/l		SEE ATTACHED ORGANICS ANALYSIS REPORT
	Carbon dioxide 405	mg/l		$NO_2 + NO_3$ as N 630	mg/l	X	Se - Selenium 1147	<5.0	ug/l		
	Chloride 940	mg/l		P:Total as P 665	mg/l	X	Zn - Zinc 1092	<10	ug/l		
X	Chromium:Hex 1032 <50	ug/l									
	Color:True 80	Pt-Co									
	Cyanide 720	mg/l									

RECEIVED SEP 14 1990 Groundwater Section Asheville Regional Office

Lab Comments: _____

GW-5 Revised 7/85

For Dissolved Analysis - submit filtered sample and write "DIS" in block

White copy - Headquarters Pink copy - Region Yellow copy - Lab

V1

VOLATILE ANALYTICAL REPORT

LAB NO. 0G828

REPORTED BY H

ENTERED BY Da

CHECKED BY AXC

CHECKED BY 87

REVIEWED BY AXC

SUPERVISOR REK

DATE 8/10/90

SAMPLE TYPE: WATER

ANALYSIS RESULTS

STORET NO.	COMPOUND	CONCENTRATION

NO VOLATILE ORGANIC COMPOUNDS DETECTED BY GC/ELCD/PID.

SEMIVOLATILE ORGANIC REPORT

LAB NO. 0G828

REPORTED BY Sm

ENTERED BY Da

CHECKED BY MD

CHECKED BY EJ

REVIEWED BY PTD

SUPERVISOR REK

DATE 8/2/90

SAMPLE TYPE: WATER

ANALYSIS RESULTS

STORET NO.	COMPOUND	CONCENTRATION
	NO BASE/NEUTRAL OR ACID EXTRACTABLE ORGANICS DETECTED BY GC/FID.	

COUNTY Cleveland

QUAD NO. 0754 SERIAL NO. _____

LAT. 351527 LONG. 813519

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

[X] ROUTINE [ ] EMERGENCY

LAB NUMBER 8 602

DATE RECEIVED 7-24-90 Time 4:30

Rec'd by: lw From: Bus-Courier

Other _____

DATA ENTRY BY: lw CK: GWF

DATE REPORTED: 7-31-90

COLLECTOR(S): K. Dechant DATE 7/24/90 TIME _____ PURPOSE: BASELINE, COMPLIANCE, LUST, OTHER Fr ident ETA (circle one)

FIELD ANALYSES

pH 400 _____ Spec. Cond. 94 _____ at 25°C

Temp. 10 _____ °C Odor _____

Appearance _____ Taste _____

Field Analysis By: _____

Owner Packard Ellis

Location or site SPRING

Description of sampling point spring head

Sampling Method Grab (pump, bailer, etc.) Sample Interval _____

Remarks _____ (pumping time, air temp, etc.)

RECEIVED AUG 16 1990 Groundwater Section Asheville Regional Office

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
X	pH 403	5.6	units
X	Alkalinity to pH 4.5 410	7	mg/l
X	Alkalinity to pH 8.3 415	—	mg/l
X	Carbonate 445	<1	mg/l
X	Bicarbonate 440	8	mg/l
	Arsenic:Total 1002		ug/l
	Carbon dioxide 405		mg/l
X	Chloride 940	5	mg/l
	Chromium:Hex 1032		ug/l
	Color:True 80		Pt-Co
	Cyanide 720		mg/l

X	Diss. Solids 70300	49	mg/l
	Fluoride 951		mg/l
X	Hardness:Total 900	10	mg/l
X	Hardness (non-carb) 902	3	mg/l
	Phenols 32730		ug/l
	Specific Cond. 95		uMhos/cm²
	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 Herdicides
	Base / Neutral Extractable Organics
	Acid Extractable Organics
	Purgeable Organics (VOA bottle)
	1,2 - Dibromoethane (EDB)

RECEIVED AUG 7 GROUNDWATER RAL

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

COUNTY Cleveland

QUAD NO. Q75W5 SERIAL NO. _____

LAT. 3515 34 LONG. 8135 30

N.C. DEPARTMENT OF NATURAL RESOURCES & COMMUNITY DEVELOPMENT

DEM

GROUNDWATER FIELD/LAB FORM

SAMPLE PRIORITY

☒ ROUTINE ☐ EMERGENCY

LAB NUMBER 8 06827

DATE RECEIVED 7/26/90 Time 10:20

Rec'd by: DS From: Bus-Courier

Other _____

DATA ENTRY BY: Da CK: [illegible]

DATE REPORTED: 9/19/90

Report to: ARO FRO, MRO, RRO, WaRO, WiRO, WSRO, Kinston FO Other _____

Shipped by: Bus, Courier, Other _____

COLLECTOR(S): K. Dechant DATE 7/24/90 TIME _____ PURPOSE: BASELINE, COMPLAINT, COMPLIANCE, LUST, OTHER Incident #TCA (circle one)

FIELD ANALYSES

pH 400 _____ Spec. Cond. 94 _____ at 25°C

Temp. 10 _____ °C Odor _____

Appearance _____ Taste _____

Field Analysis by _____

Owner Mr & Mrs Suttles

Location or site spring located in pasture below hay barn

Description of sampling point spring pool

Sampling Method Grab (pump, bailer, etc.) Sample Interval _____

Remarks _____ (pumping time, air temp., etc.)

GROUNDWATER SECTION RALEIGH NC

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 <10	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	
	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	

X	Ag - Silver 1077	<5.0	ug/l
X	Al - Aluminum 1105	2100	ug/l
X	Ba - Barium 1007	32	ug/l
X	Ca - Calcium 916	5.8	mg/l
X	Cd - Cadmium 1027	<2.0	ug/l
X	Chromium:Total 1034	54	ug/l
X	Cu - Copper 1042	<2.0	ug/l
X	Fe - Iron 1045	4600	ug/l
X	Hg - Mercury 71900	1.1	ug/l
X	K - Potassium 937	7.0	mg/l
X	Mg - Magnesium 927	2.4	mg/l
X	Mn - Manganese 1055	580	ug/l
X	Na - Sodium 929	6.4	mg/l
X	Ni - Nickel 1067	<10	ug/l
X	Pb - Lead 1051	<10	ug/l
X	Se - Selenium 1147	<5.0	ug/l
X	Zn - Zinc 1092	<10	ug/l

	Organochlorine Pesticides
	Organophosphorus Pesticides
	Acid Herbicides
X	Base / Neutral Extractable Organics
X	Acid Extractable Organics
X	Purgeable Organics (VOA bottle)
	1,2 - Dibromoethane (EDB)

SEE ATTACHED ORGANICS ANALYSIS REPORT

RECEIVED SEP 25 1990 Groundwater Section Asheville Regional Office

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

V/4

VOLATILE ANALYTICAL REPORT

LAB NO. 00827

REPORTED BY FH

ENTERED BY Da

CHECKED BY ASC

CHECKED BY [illegible]

REVIEWED BY ASC

SUPERVISOR REK

DATE 8/10/90

SAMPLE TYPE: WATER

ANALYSIS RESULTS

STORET NO.	COMPOUND	CONCENTRATION

NO VOLATILE ORGANIC COMPOUNDS DETECTED BY GC/ELCD/PID.

SEMIVOLATILE ORGANIC REPORT

LAB NO. 0G827

REPORTED BY MD

ENTERED BY Da

CHECKED BY PVD

CHECKED BY [illegible]

REVIEWED BY PVD

SUPERVISOR REK

DATE 9/18/90

SAMPLE TYPE: WATER

ANALYSIS RESULTS

STORET NO.	COMPOUND	CONCENTRATION
	NO BASE/NEUTRAL OR ACID EXTRACTABLE ORGANIC COMPOUNDS DETECTED BY GC/MS.	