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

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William L. Meyer, Director

DEHNR

September 29, 1995

Ms. Cynthia Gurley
NC CERCLA Project Officer
US EPA Region IV Waste Division, 6th Floor
345 Courtland Street, NE
Atlanta, GA 30365

Subject: Site Inspection
Supreme Finishing
(NCD 986 188 878)
Durham, Durham County, N.C.

Dear Ms. Gurley:

The enclosed report contains the findings of the Site Inspection conducted on August 2, 1994, by the NC Superfund Section at the Supreme Finishing Site (NCD 986 188 878) located in Durham, Durham County, North Carolina.

The Supreme Finishing site consists of an approximately 0.69 acre lot in a predominantly residential neighborhood on the outskirts of the city of Durham in Durham County, North Carolina. This is the site of an abandoned plating, painting, and parts stripping facility located behind a residence at 3033 Ross Road. On the site are a concrete building and a smaller metal storage shed.

Mr. Gerald Thacker reportedly operated Supreme Finishing, a painting and plating facility, at the site from 1966 until he sold the property and business to Elry and Peggy Holloway in May of 1979. The Holloways continued operations at Supreme Finishing until June 1987. The facility was then leased to Dynamic Industries for spray painting and parts stripping purposes until August 1990. The site has been vacant and abandoned since 1990.

Several investigations have occurred at the site. Emergency removal actions have been performed there by the Hazardous Waste Section of the Solid Waste Management Division of the North Carolina Department of Environment, Health, and Natural Resources (DEHNR-HWS) and by the United States Environmental Protection Agency (USEPA), Region IV Waste Management Division.

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On May 14, 1991 DEHNR-HWS performed an investigation and discovered drums, vats, and other containers of chemicals on the site. The chemicals included potassium cyanide, cadmium salts, sulfuric acid, xylene, paint wastes, solvents, corrosives, flammables, wastes, and unknowns. An emergency removal action was performed on May 14, 1991 by DEHNR-HWS. Nine containers of potassium cyanide, acid, wastes, and cadmium salts were removed.

Sampling by the USEPA Technical Assistance Team (TAT) has occurred several times at the site. Sampling of soils and of materials from drums and vats was performed on November 19, 1991. Among the substances found at that time were cadmium, chromium, lead, and a number of organic compounds including toluene, xylenes and polynuclear aromatic hydrocarbons (PAH's).

From August 19-21, 1992, USEPA-TAT collected soil samples across the site to determine the extent of contamination. These samples were analyzed only for metals and were found to contain levels of cadmium, chromium, and lead significantly above background. More soil samples were collected on December 8, 1992. Elevated levels of cadmium, chromium, and lead were confirmed in soils at the site.

Drums, vats, debris and contaminated soil have been removed from the site by DEHNR-HWS (May 1991) and the USEPA-TAT (August-April 1993). Post-removal sampling was performed by USEPA-TAT to confirm that USEPA action levels (clean-up target concentrations) for cadmium, chromium, and lead in soil have been achieved. These action levels were 39 parts per million (ppm) cadmium, 400 ppm chromium, and 500 ppm lead.

The North Carolina Superfund Section conducted a preliminary assessment (PA) of the site on April 1, 1993, and a Site Inspection (SI) on August 2, 1994. During the SI, post-removal samples were taken of soils on site (in and near areas that had been shown to contain contaminants prior to removal actions) to determine whether elevated levels of contaminants remain on the site. Soil was also sampled from the overland drainage pathway on adjacent property. Downstream environmental sediments were sampled to determine if migration of contaminants to surface water had occurred.

Post-removal soil samples collected during the SI indicate that there are areas of contaminated soil on the site. Soil samples were analyzed for selected metals, cyanide, volatile organics, and semi-volatiles. Elevated levels (above background levels) of arsenic, cadmium, chromium, lead, selenium, cyanide, and bis(2-ethylhexyl) phthalate were found in soils on site property. Elevated levels of arsenic, cadmium, chromium, and lead as well as traces of chloroform and 1,1,1-trichloroethane were found in soil from the overland drainage pathway. Only the arsenic level (3.9 mg/kg) exceeds health-based benchmarks for long term soil exposure set by USEPA.

The water table is quite near the surface of the ground on the site, as evidenced by a natural spring on the site property. There are private and community wells serving a population of 7630 persons within a four-mile radius of the site. However, analytical results from sampling the nearest well to the site indicate no contamination attributable to the site. The well is located approximately 700 feet north northeast from and downgradient of the site.

Surface runoff from the site is toward a private pond approximately 500 feet north northeast of the site via an overland pathway across the adjacent property. This pond constitutes one surface water pathway for the site and is used for recreational fishing. As mentioned above, soil samples collected from the overland drainage pathway revealed elevated levels of arsenic, cadmium, chromium, and lead as well as traces of chloroform and 1,1,1-trichlorethane approximately 200 feet from the pond. However, sediment sampled from the pond itself (near the drainage pathway) indicated no contaminants attributable to the site.

Other fisheries and wetlands occur in a second surface water pathway which begins at a perennial un-named tributary to Little Lick Creek and continues for 15 miles downstream via Little Lick Creek and Falls Lake. Sediment sampling at a wetland in an un-named tributary about 0.5 mile from contaminated soil in the drainage pathway, indicates no contaminants attributable to the site.

Since the facility is not fenced, there is some possibility of direct exposure to contaminated soil, but there are no workers, schools or day care centers in the vicinity of the site. Except for arsenic, elevated levels of metals found in soil samples on the site property and in the overland drainage pathway (on property adjacent to the site) do not exceed health-based benchmarks. Levels of arsenic above US-EPA health-based benchmarks were found in soils on the site property and in the drainage pathway. These levels of arsenic in small localized ares out of normal pedestrian traffic are not considered to pose a significant health threat.

Since the removal actions that have taken place at the site, there has been no air monitoring performed at the site. Because of the removals and the nature of the contaminants on the site, there is little likelihood of a release to air. Targets of potential concern in the air pathway are approximately 1.5 acres of wetlands within a 0.5 mile radius of the site as well as other sensitive environments within a 4-mile radius of the site. These include several plant and animal species of concern, but no habitats of officially designated endangered species.

The site property is not fenced and four residences are located within 200 feet of contaminated soil. Since the USEPA removal action, analytical evidence indicates that levels of arsenic, cadmium, chromium, lead, selenium, cyanide, and bis(2-ethylhexyl) phthalate are present in soil on the site at levels above background. However, only levels of arsenic exceeded USEPA health-based benchmarks in on site soils. Arsenic was found in small localized areas that are unlikely to be subject to public contact. It is unlikely that the levels found under site conditions should constituent a threat to human health.

Based on the findings of this SI, it is recommended that a status of No Further Remedial Action Planned be assigned to this site and that no further investigations be performed there under CERCLA/SARA at this time.

Please call me at 919/733-2801, Extension 279 if you have any questions.

Sincerely,

Irene Williams

Irene Williams
Environmental Chemist
Superfund Section

STATE OF NORTH CAROLINA

Department of Environment, Health, and Natural Resources
Division of Solid Waste Management
Superfund Section

SITE INSPECTION

Supreme Finishing
NCD 986 188 878
Durham, Durham County, North Carolina
Reference No. 05671

September 1995

Irene Williams
Environmental Chemist
Division of Solid Waste Management
Superfund Section

SITE INSPECTION

Supreme Finishing
NCD 986 188 878
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Reference No. 05671

September 1995

Superfund Section
Division of Solid Waste Management
North Carolina Department of Environment, Health and Natural Resources

Prepared by:

Irene Williams
Environmental Chemist

Reviewed by:

Pat DeRosa
CERCLA Branch Head

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EXECUTIVE SUMMARY

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Several investigations have occurred at the site. Emergency removal actions have been performed there by the Hazardous Waste Section of the Solid Waste Management Division of the North Carolina Department of Environment, Health, and Natural Resources (DEHNR-HWS) and by the United States Environmental Protection Agency (USEPA), Region IV Waste Management Division.

On May 14, 1991 DEHNR-HWS performed an investigation and discovered drums, vats, and other containers of chemicals on the site. The chemicals included potassium cyanide, cadmium salts, sulfuric acid, xylene, paint wastes, solvents, corrosives, flammables, wastes, and unknowns. An emergency removal action was performed on May 14, 1991 by DEHNR-HWS. Nine containers of potassium cyanide, acid, wastes, and cadmium salts were removed.

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The North Carolina Superfund Section conducted a preliminary assessment (PA) of the site on April 1, 1993, and a Site Inspection (SI) on August 2, 1994. During the SI, post-removal samples were taken of soils on site (in and near areas that had been shown to contain contaminants prior to removal actions) to determine whether elevated levels of contaminants remain on the site. Soil was also sampled from the overland drainage pathway on adjacent property. Downstream environmental sediments were sampled to determine if migration of contaminants to surface water had occurred.

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Since the facility is not fenced, there is some possibility of direct exposure to contaminated soil to the general public, but there are no workers, schools or day care centers in the vicinity of the site. Except for arsenic, elevated levels of metals found in soil samples on the site property and in the overland drainage pathway (on property adjacent to the site) do not exceed health-based benchmarks. Levels of arsenic above US-EPA health-based benchmarks were found in soils on the site property and in the drainage pathway. These levels of arsenic in small localized areas out of normal pedestrian traffic are not considered to pose a significant health threat.

Since the removal actions that have taken place at the site, there has been no air monitoring performed at the site. Because of the removals and the nature of the contaminants on the site, there is little likelihood of a release to air. Targets of potential concern in the air pathway are

approximately 1.5 acres of wetlands within a 0.5 mile radius of the site as well as other sensitive environments within a 4-mile radius of the site. These include several plant and animal species of concern, but no habitats of officially designated endangered species.

The site property is not fenced and four residences are located within 200 feet of contaminated soil. Since the USEPA removal action, analytical evidence indicates that levels of arsenic, cadmium, chromium, lead, selenium, cyanide, and bis(2-ethylhexyl) phthalate are present in soil on the site at levels above background. However, only levels of arsenic exceeded USEPA health-based benchmarks in on site soils. Arsenic was found in small localized areas that are unlikely to be subject to public contact. It is unlikely that the levels found under site conditions should constituent a threat to human health.

Based on the findings of this SI, it is recommended that a status of No Further Remedial Action Planned be assigned to this site and that no further investigations be performed there under CERCLA/SARA at this time.

1.0 INTRODUCTION

Under authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA), the North Carolina Superfund Section conducted a Site Inspection (SI) at the Supreme Finishing site (NCD 986 188 878). The purpose of this investigation was to collect sufficient information concerning conditions at the site to assess the threat posed to human health and the environment and to determine the need for additional CERCLA/SARA or other appropriate action. The scope of the investigation included reviewing previous file information, updating target data and non-sampling data from the Preliminary Assessment conducted in 1993, and sampling on site soils as well as background and downstream environmental sediments (August 2, 1994).

2.0 SITE DESCRIPTION, HISTORY, AND WASTE CHARACTERISTICS

2.1 LOCATION

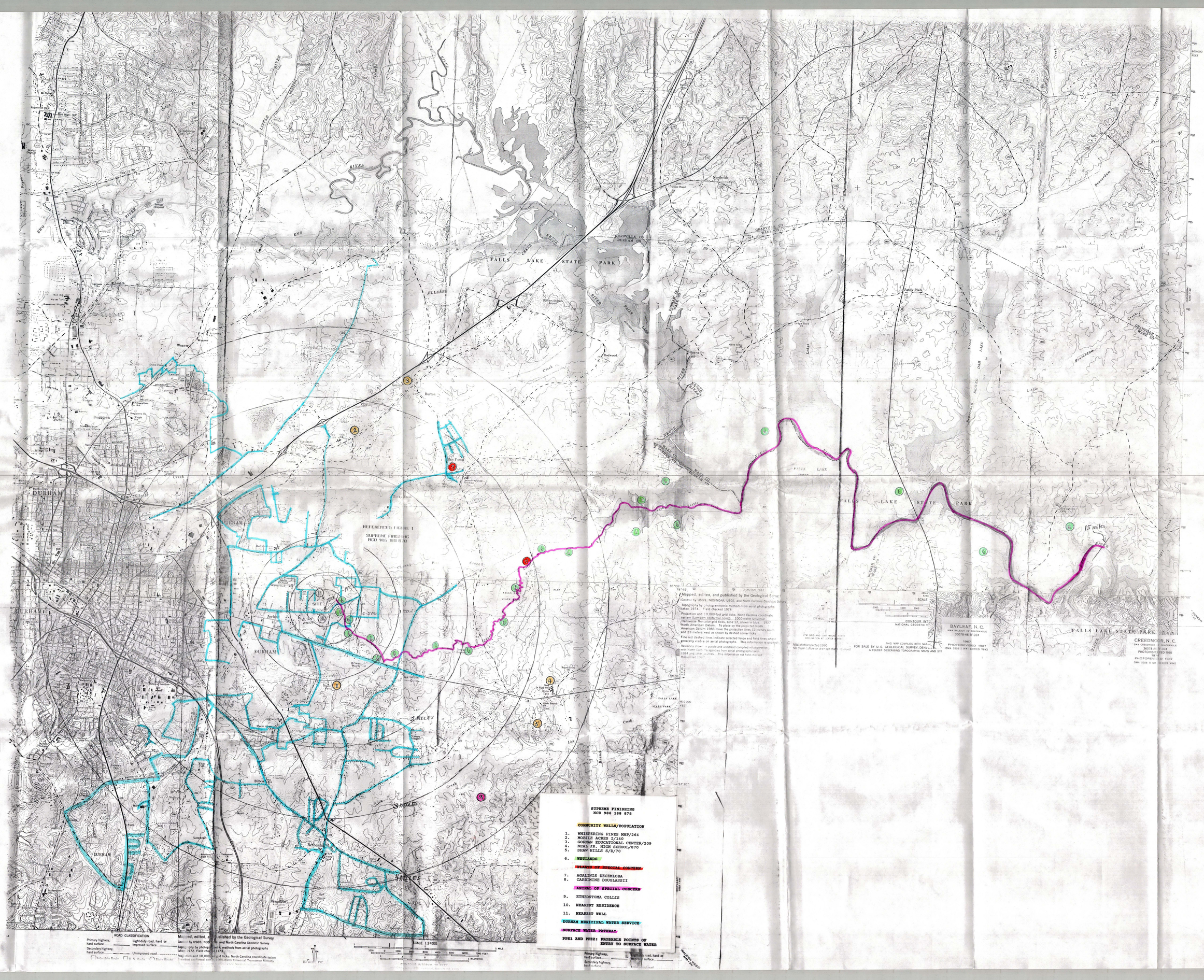
The site is located behind a residence at 3033 Ross Road (Refs. 11,12). The facility is located on a lot that is designated Lot #15, Durham County Deed Book 1000, Deed Page 912, Plat Page 90 (Ref. 12, pp. 9,11) and actually fronts on Fountain Street (Figures 1, 2, 3, 4). The geographic coordinates of the site are 35° 59' 36.5" N latitude and 78° 50' 23.0" W longitude (Ref. 2). To reach the site from Raleigh, take U.S. Highway 70 West to Holloway Street in Durham. Go east on Holloway to Chandler Street, then north on Chandler to Ross Road. On Ross Road proceed west to Fountain Street and turn north to reach the site, behind the house at 3033 Ross Road (Figures 3, 4).

2.2 DESCRIPTION

The Supreme Finishing site consists of an approximately 0.69 acre lot (Ref. 12) in a predominantly residential neighborhood on the outskirts of the city of Durham in Durham County, North Carolina. This is an abandoned plating, painting, and parts stripping facility located behind a residence at 3033 Ross Road (Ref. 11). Structures on the site include a concrete building and a smaller metal storage shed. Near the northern border of the property is a natural spring (Ref. 9, p. 29).

2.3 OPERATIONAL/REGULATORY HISTORY AND WASTE CHARACTERISTICS

Mr. Gerald Thacker reportedly operated Supreme Finishing, a painting and plating facility at the site from 1966 until he sold the property, along with the business and all contents, to Elry and Peggy Holloway in May of 1979. The Holloways continued operations at the facility until June of 1987. The facility was then leased to Dynamic Industries for spray painting and parts stripping purposes from June, 1987, until August, 1990. In 1991 the Holloways declared Chapter 11 bankruptcy and transferred the deed of the property to the City of Durham (Ref. 7, p. 7). The site has been vacant and abandoned since Dynamic Industries vacated the premises in 1990 (Ref. 10, p. 10). The residence and lot in front of the site were sold to another owner by the City and the lot behind the residence at 3033 Ross Road has been returned to the Holloways (Ref. 40).


FALLS LAKE STATE PARK
ENO RIVER
NEUSE RIVER
DURHAM
GRANVILLE CO
DURHAM CO
WAKE CO
BEAVERDAM DAM LAKE
REFERENCE POINT 1
SUPREME FINISHING
NCD 986 188 878
SITE
3 MILES
4 MILES
15 miles
SUPREME FINISHING
NCD 986 188 878
COMMUNITY WELLS/POPULATION
1. WHISPERING PINES MHP/264
2. MOBILE ACRES I/140
3. GORMAN EDUCATIONAL CENTER/209
4. NEAL JR. HIGH SCHOOL/870
5. SHAW HILLS S/D/70
6. WETLANDS
PLANTS OF SPECIAL CONCERN
7. AGALINIS DECEMLOBA
8. CARDIMINE DOUGLASSII
ANIMAL OF SPECIAL CONCERN
9. ETHEOSTOMA COLLIS
10. NEAREST RESIDENCE
11. NEAREST WELL
DURHAM MUNICIPAL WATER SERVICE
SURFACE WATER PATHWAY
PPE1 AND PPE2: PROBABLE POINTS OF ENTRY TO SURFACE WATER
ROAD CLASSIFICATION
Primary highway, hard surface — Light-duty road, hard or improved surface
Secondary highway, hard surface — Unimproved road
Interstate Route — U.S. Route — State Route
Mapped, edited, and published by the Geological Survey
Control by USGS, NOS/NOAA, USCE, and North Carolina Geodetic Survey
Topography by photogrammetric methods from aerial photographs taken 1972. Field checked 1973.
Projection and 10,000-foot grid ticks: North Carolina coordinate system (Lambert conformal conic). 1000-meter Universal Transverse Mercator
SCALE 1:24 000
1 MILE
1 KILOMETER
CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
BAYLEAF, N.C.
NW4 RALEIGH 15' QUADRANGLE
35078-H6-TF-024
1967
PHOTOREVISED 1987
DMA 5255 I NW—SERIES V842
CREEDMOOR, N.C.
SW4 CREEDMOOR 15' QUADRANGLE
36078-A5-TF-024
PHOTOINSPECTED 1990
1973
PHOTOREVISED 1987
DMA 5256 II SW—SERIES V842
Mapped, edited, and published by the Geological Survey
Control by USGS, NOS/NOAA, USCE, and North Carolina Geodetic Survey
Topography by photogrammetric methods from aerial photographs taken 1974. Field checked 1974
Projection and 10,000-foot grid ticks: North Carolina coordinate system (Lambert conformal conic). 1000-meter Universal Transverse Mercator grid ticks, zone 17, shown in blue
1927 North American Datum. To place on the projected North American Datum 1983 move the projection lines 12 meters south and 23 meters west as shown by dashed corner ticks
Fine red dashed lines indicate selected fence and field lines where generally visible on aerial photographs. This information is unchecked
Revisions shown in purple and woodland compiled in cooperation with North Carolina Agencies from aerial photographs taken 1984 and other sources. This information not field checked
Map edited 1987
THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS
Primary highway, hard surface — Light-duty road, hard or improved surface
Secondary highway, hard surface — Unimproved road

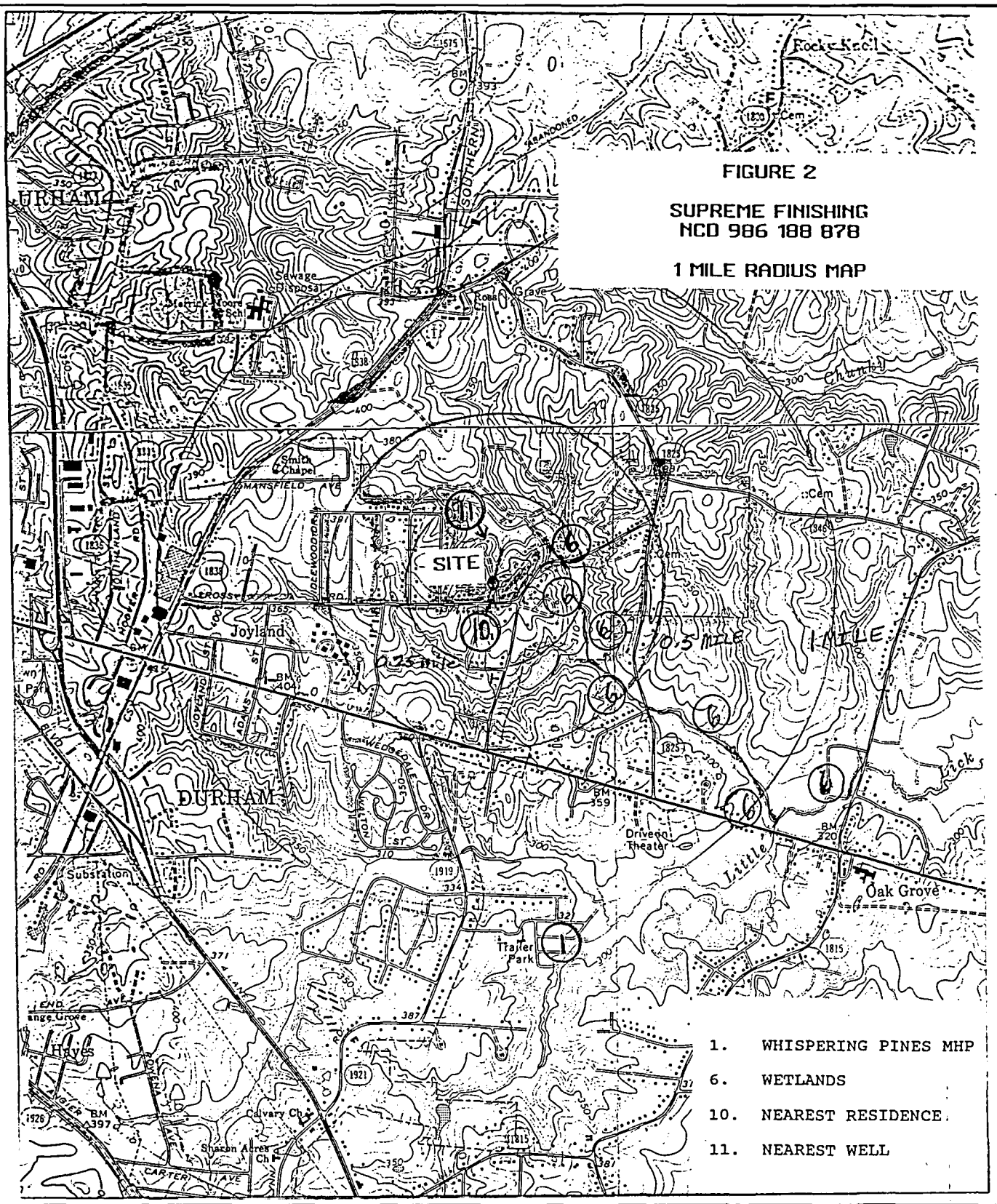


Fig. No: 2	Title: One Mile Radius Map		
North Carolina Division of Solid Waste Management	Scale: Not to Scale	Date: September 1995	Drawn By: I.Williams
Superfund Section	Site Name: Supreme Finishing		NCD 986 188 878

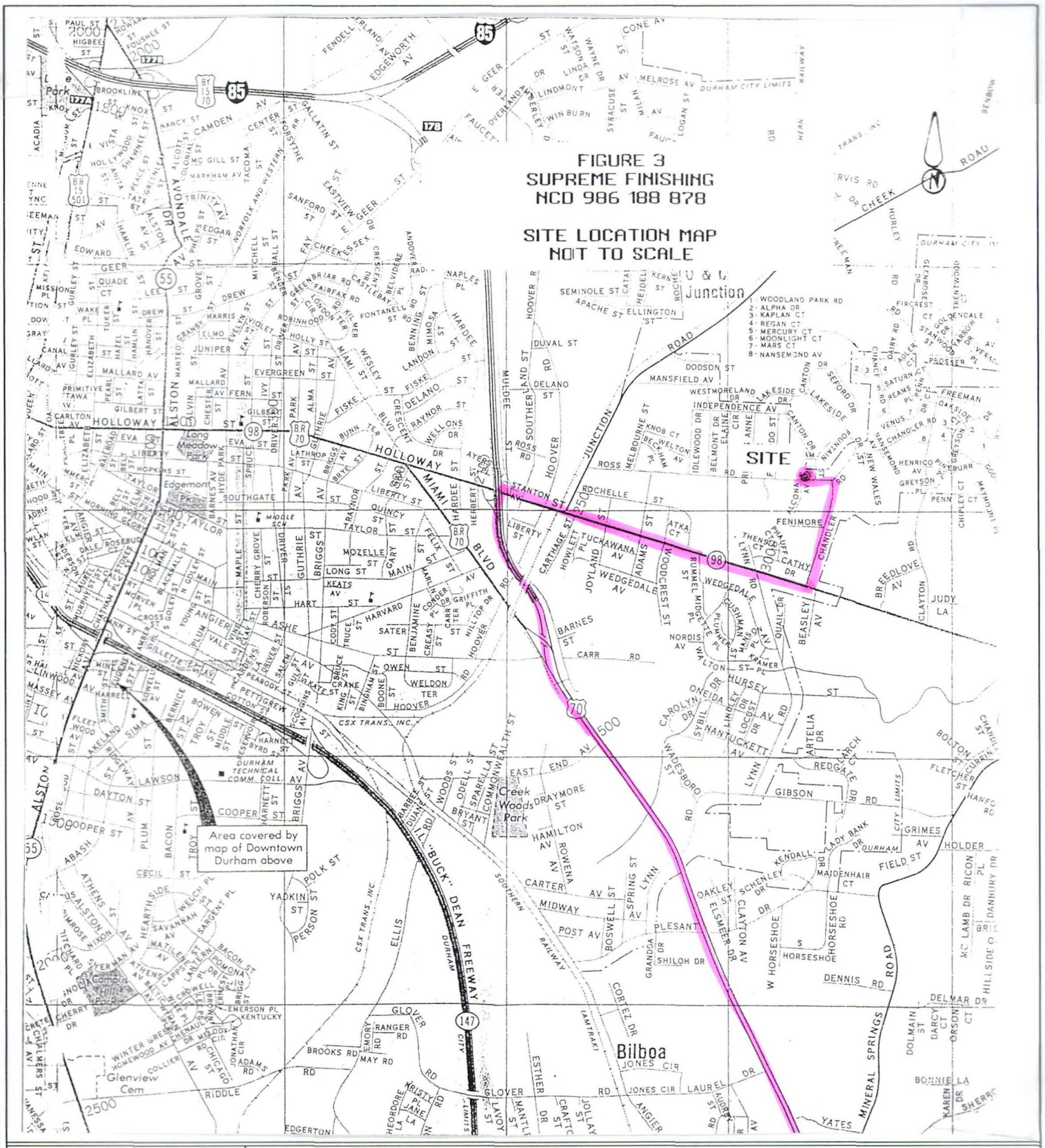


Fig. No: 3	Title: Site Location Map		
North Carolina Division of Solid Waste Management	Scale: Not to Scale	Date: September 1995	Drawn By: I.Williams
Superfund Section	Site Name: Supreme Finishing		NCD 986 188 878

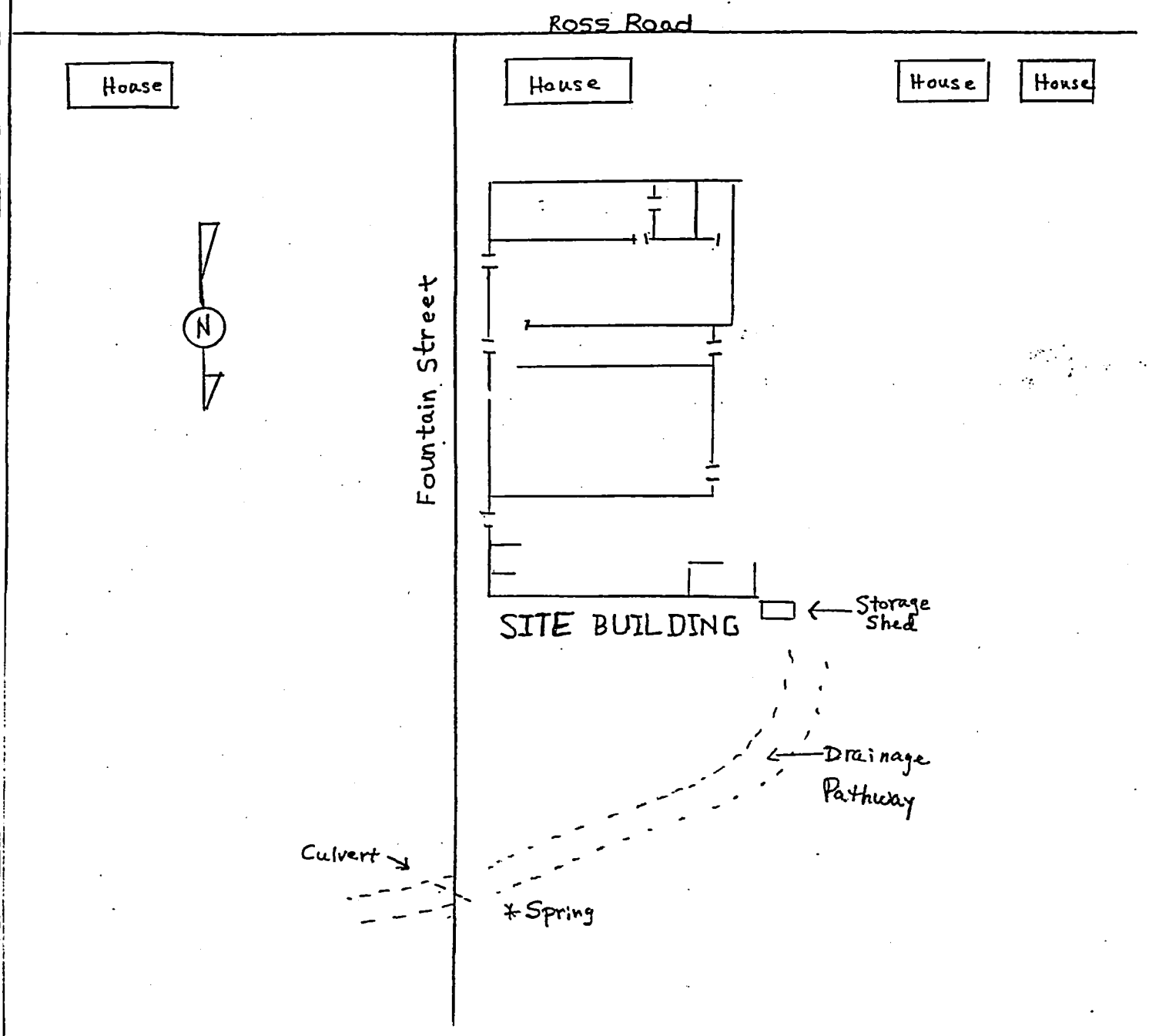


Fig. No: 4	Title: Site Layout Map		
North Carolina Division of Solid Waste Management	Scale: Not to Scale	Date: September 1995	Drawn By: I.Williams
Superfund Section	Site Name: Supreme Finishing		NCD 986 188 878

The site has been the object of emergency removal actions by the Hazardous Waste Section of the Solid Waste Management Division of the North Carolina Department of Environment, Health, and Natural Resources (DEHNR-HWS) and by the United States Environmental Protection Agency (USEPA), Region IV Waste Management Division. These actions were initiated because of citizen complaints concerning possible dumping at the site (Ref. 7, pp 4-5); Ref. 10, pp. 3-4).

2.4 PREVIOUS INVESTIGATIONS/ANALYTICAL RESULTS

On May 14, 1991, an investigation by DEHNR-HWS revealed the presence of drums, vats, and other containers of chemicals. These included potassium cyanide, cadmium salts, sulfuric acid, xylene, paint wastes, solvents, corrosives, flammables, wastes and unknowns. Nine containers of potassium cyanide, acid, wastes, and cadmium salts were removed. (Ref. 32, pp. 2, 7-12).

Sampling by the USEPA Technical Assistance Team (TAT) has occurred several times at the site. Sampling of soils and of materials from drums and vats was performed on November 19, 1991. Analytical results are given in Table I. Among the substances found at that time were cadmium, chromium, lead, and a number of organic compounds including toluene, xylenes and polynuclear aromatic hydrocarbons (PAH's) (Ref. 7, p. 108; Table I).

From August 19-21, 1992, USEPA-TAT collected soil samples at points illustrated in Figure 5A. These samples were analyzed only for metals and were found to contain levels of cadmium, chromium, and lead significantly above background. Results are shown in Table II (Ref. 7, pp. 62-64). More soil samples were collected on December 8, 1992. Elevated levels of cadmium, chromium, and lead were confirmed in soils at the site. Table III summarizes data for those samples (Ref. 7, p. 84). Sampling points are described in Reference 29 (Ref. 29).

Drums, vats, debris and contaminated soil have been removed from the site by DEHNR-HWS (May 1991) and the USEPA (August-April 1993) (Refs. 28; 32, pp. 4-5, 8-9; 10, p. 4). Post-removal sampling was performed by USEPA-TAT to confirm that USEPA action levels (clean-up target concentrations) for cadmium, chromium, and lead in soil have been achieved (Ref.28). These action levels were 39 parts per million (ppm) cadmium, 400 ppm chromium, and 500 ppm lead (Ref. 13).

Table IV contains analytical data for post-removal soil confirmation samples. Figure 5B shows sampling grids used in post-removal sampling. In grid 3, because of high cadmium findings, excavation was continued for one more foot of depth. When re-sampled, the soil in grid 3 was found to contain 8.7 ppm cadmium. Since the action levels for cadmium, chromium, and lead had been achieved, the excavation was considered complete, the area was back-filled with clean fill dirt, and the removal action was concluded (Ref. 28).

The North Carolina Superfund Section conducted a preliminary assessment (PA) of the site on April 1, 1993 and recommended the site for further action. From the PA, further sampling of on site soils as well as sampling of downstream environmental sediments were indicated to determine if both inorganic and organic contaminants above background remain on site and if migration of contaminants to adjacent property and to surface water had occurred (Ref. 33). For the SI, information from the PA was verified and updated as needed (Ref. 34).

TABLE I
11/19/91 SAMPLES

SUPREME FINISHING ANALYTICAL DATA

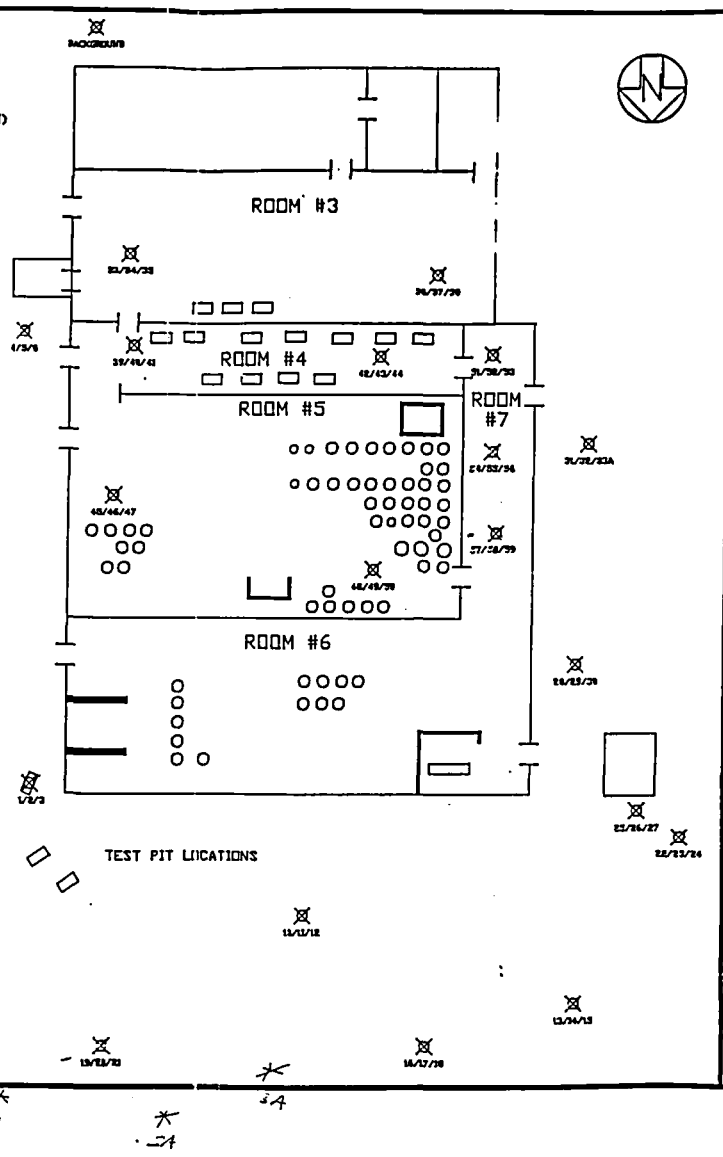
	Drum Room #1	VAT Room 4 #2	VAT Room 4 #3	Steel VAT Room 7 #4	Drum Room 6 #5	Drum Shed #6	VAT Room 7 #7	Soil NW Bldg. #8	Soil NW Corner #9	Soil NE Corner #10	Soil NE Corner #11	Duplicate #11
Cyanide, mg/kg			10	0.39	IS	8.3		3.2	7.2	0.62	6.6	12
pH		1.34	9.92	14.0		14.0	<2.0					
Flashpoint F	<140											
2-Butanone, mg/l	760J											
1,1-Dichloroethene, ug/kg									14	8.7	0.4J	
Ethylbenzene, mg/l	4800										0.7(ug/kg)	0.4J(ug/kg)
1,1-Dichloroethane, ug/kg									3.9	1.1		
4-Methyl-2-pentanone, mg/l	79,000											
Tetrachloroethene, ug/kg									5.7	1.7		
Toluene, mg/l	520,000							0.4J		0.4J(ug/kg)	0.6J(ug/kg)	0.7J(ug/kg)
1,1,1-Trichloroethane, ug/kg									86	33	1.2J	0.7J
Xylenes (total), mg/l	24,000							0.7JBR		0.9JBR(ug/kg)	1.7BR(ug/kg)	1.3J(ug/kg)
Methylene Chloride, ug/kg								11BR	11BR	5.0JBR		21BR
Benz(a)anthracene, ug/kg								87		28J	31J	28J
Anthracene, ug/kg								40			13J	13J
bis(2-Ethylhexyl)phthalate, mg/kg	230				7.2JBR(ug/l)			6400B(ug/kg)	6800B(ug/kg)	1300B(ug/kg)	15,000B(ug/kg)	12000B(ug/kg)
Butylbenzylphthalate, mg/kg	26							22J(ug/kg)		26J(ug/kg)	72J(ug/kg)	74J(ug/kg)
Di-n-butylphthalate, mg/kg	92				4.3JBR(ug/l)			14JBR(ug/kg)	15JBR(ug/kg)		25J(ug/kg)	21J(ug/kg)
2-Methylnaphthalene, mg/kg	5.2J							8.7J(ug/kg)			26J(ug/kg)	24J(ug/kg)
Naphthalene, mg/kg	70										14J(ug/kg)	13J(ug/kg)
Benzo(b)fluoranthene, ug/kg								240	28J	73	85	79
Benzo(k)fluoranthene, ug/kg								110	11J	24J	26J	30J
Total Arsenic, mg/l				0.3			1.0					
Total Barium, mg/l		140	0.6	0.6			2.6	440(mg/kg)	130(mg/kg)	93(mg/kg)	76(mg/kg)	91(mg/kg)
Total Cadmium, mg/l		0.3		0.1			42,000	32(mg/kg)	12(mg/kg)	14(mg/kg)	2.9(mg/kg)	2.7(mg/kg)
Total Chromium, mg/l		3700	0.3	0.3			420	1500(mg/kg)	250(mg/kg)	98(mg/kg)	120(mg/kg)	130(mg/kg)
Total Lead, mg/l			0.3	0.8			140	130(mg/kg)	5.8(mg/kg)	130(mg/kg)	120(mg/kg)	150(mg/kg)
Total Mercury, mg/kg										0.8		
Benzo(ghi)perylene, ug/kg								96	15J	21J	22J	21J
Benzo(a)pyrene, ug/kg								91		21J	21J	23J
Chrysene, ug/kg								210	25J	62J	69J	76
Dibenz(a,h)anthracene, ug/kg								18J				
Di-n-octylphthalate, ug/kg								53J			160	260
Fluoranthene, ug/kg								300	23J	94	89	86
Indeno(1,2,3-cd)pyrene, ug/kg								79		17J	21J	20J
Phenanthrene, ug/kg								100		22J	29J	32
Phenol, ug/kg											37J	40J
Pyrene, ug/kg								350	26J	88J	89J	110
Isophorone, ug/kg											13J	
2-Methylphenol, ug/kg											29J	31J
4-Methylphenol, ug/kg											18J	21J

IS Insufficient sample J estimated value, compound was detected below the quantitation limit. B compound was also detected in the associated blank.

R reject data due to the quantity detected in the associated blank.

ANALYTICAL DATA (mg/Kg)
(Values Greater than 3X Background)

Sample / Depth	CD	CR	PB
01 0"-6"	—	—	127
02 6"-12"	—	—	73
03 12"-18"	—	—	—
04 0"-6"	7	—	168
05 6"-12"	—	—	—
06 12"-18"	—	—	—
07 0"-6"	—	—	—
08 6"-12"	—	—	28
09 12"-18"	—	—	63
010 0"-6"	18	112	—
011 6"-12"	4	30	—
012 12"-18"	—	—	26
013 0"-6"	4	190	—
014 6"-12"	—	—	—
015 12"-18"	—	—	—
019 0"-6"	29	638	149
020 6"-12"	34	192	116
021 12"-18"	38	56	77
025 0"-6"	—	—	—
026 6"-12"	—	81	—
027 12"-18"	—	—	—
028 0"-6"	4	—	—
029 6"-12"	—	—	—
030 12"-18"	—	—	—
043 0"-6"	—	—	—
044 6"-12"	—	—	23
045 12"-18"	—	—	—
048 0"-6"	—	—	60
049 6"-12"	—	—	—
050 12"-18"	—	—	—
054 0"-6"	—	178	—
055 6"-12"	—	—	31
056 12"-18"	6	223	373
057 0"-6"	880	—	—
058 6"-12"	—	—	—
059 12"-18"	—	—	—
1A S	45	267	18
M	3	17	22
B	1	23	15
2A S	11	568	46
M	2	13	9
B	1	21	15
3A S	7	89	33
M	1	12	10
B	1	47	16



KEY

- ⊠ = SAMPLE LOCATION & NUMBER
- O = DRUM LOCATION

(Drawing Not to scale)

SUPREME FINISHING SITE
SOIL SAMPLING MAP
DURAHM, DURHAM COUNTY, NC
TDD # 04-9208-L019-0597

UNITED STATES EPA ENVIRONMENTAL PROTECTION AGENCY

WESTON MAJOR PROGRAMS DIVISION
REGION IV TECHNICAL ASSISTANCE TEAM

Fig. No: 5A	Title: EPA Soil Sampling Locations
North Carolina Division of Solid Waste Management Superfund Section	Scale: Not to Scale | Date: [illegible] | [illegible] Irene Williams Site Name: Supreme Finishing | [illegible] 986 100 870

TABLE II
8/19-21/92 SAMPLES

SUPREME FINISHING ANALYTICAL DATA
(mg/kg)

STATION NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
STATION	Pit #1	Pit #1	Pit #1	2'N	2'N	2'N	75'NE	75'NE	75'NE	50'N	50'N	50'N	75'NW	75'NW
LOCATION	(0-6)	(6-12)	(12-18)	(0-6)	(6-12)	(12-18)	(0-6)	(6-12)	(12-18)	(0-6)	(6-12)	(12-18)	(0-6)	(6-12)
Arsenic	0.66	1.19	2.32	0.48	0.82	0.81	0.45	0.46	0.74	2.04	1.31	0.99	0.46	0.46
Barium	59.6	48.5	98	51.4	34.7	34.5	110	73.5	63.9	72.5	60.9	43.4	30.5	19
Cadmium	1.0			7.01						10	4.29		4.29	
Chromium	29.8	22.1	32.8	36.4	13.9	7.0	24	18.5	17.3	112	49.5	15.1	190	15.4
Lead	127	74.5	15.2	188	14.4	10	16	20	62.6	9.9	13.3	20.3	10	5.54
Selenium												0.11		

STATION NO.	15	16	17	18	19	20	21	22	23	24	25	26	27	28
STATION	75'NW	100'N	100'N	100'N	100'N	100'N	100'N	40'N	40'N	40'N	NW	NW	NW	NW
LOCATION	(12-18)	(0-6)	(6-12)	(12-18)	East	East	East	X40'W	X40'W	X40'W	Corn.	Corn.	Corn.	Side
Arsenic	0.53	0.49	2.45	0.9	1.04	2.18	1.62	2.08	2.1	1.24	1.09	0.93	1.21	0.97
Barium	24	74.1	111	45.3	263	90.8	72.1	35.6	35.6	32.9	45.1	44.2	35.6	33.8
Cadmium					28.9	33.5	29.8							3.7
Chromium	9.62	17.5	18.1	12.7	658	192	57.7	9.9	18.3	19.2	14.2	80.8	89.9	18.1
Lead	2.5	10.8	12.9	12.3	149	116	77.4	9.9	9.62	10.2	13.7	9.62	7.69	13
Selenium	0.14	0.13						0.13		0.11			0.15	
Cyanide					2.9	4.4								

SUPREME FINISHING SITE ANALYTICAL DATA
(mg/kg)

STATION NO.	29	30	31	32	33	34	35	36	37	38	39	40	41	42
STATION	NW	NW	NW	NW	RM #3E	RM #3E	RM#3E	RM #3W	RM #3W	RM#3W	RM#4E	RM#4E	RM#4E	RM#4W
LOCATION	SIDE	SIDE	SIDE	SIDE	(0-6)	(6-12)	(12-18)	(0-6)	(6-12)	(12-18)	(0-6)	(6-12)	(12-18)	(0-6)
Arsenic	0.73	0.75	0.68	1.35	0.81	0.7	0.76	2.32	1.92	0.83	0.73	0.62	0.5	0.28
Barium	26.6	25.3	62.3	29.9	38.1	28.4	24	40	64	19.1	47	76.9	27.9	50
Cadmium												2.88		
Chromium	6.54	9.09	16.5	13.9	7.43	7.84	6.73	32.5	18.5	10.8	21.7	14.4	9.62	13.6
Lead	8.41	9.09	9.91	6.32	7.43	6.86	5.77	5.0	7.5	4.9	6.57	9.62	8.17	4.37
Selenium		0.10		0.11			0.14							

STATION NO.	43	44	45	46	47	48	49	50	51	52	53	54	55	56
STATION	RM # 4W	RM #4W	RM #5E	RM #5E	RM #5E	RM #5W	RM #5W	RM #5W	RM #7	RM #7-6	RM #7-6	RM #7-29	RM #7-29	RM #7-29
LOCATION	(6-12)	(12-18)	(0-6)	(6-12)	(12-18)	(0-6)	(6-12)	(12-18)	(0-6)	(6-12)	(12-18)	(0-6)	(6-12)	(12-18)
Arsenic	1.13	0.29	0.45	0.83	0.83	1.29	0.43	0.54	1.31	1.95	1.07	0.73	1.38	1.26
Barium	56.1	41.2	57	47.9	43.5	66.8	45.8	46.6	57.6	89.9	72.5	121	91.6	365
Cadmium											2.0	3.4		6.02
Chromium	14.8	9.8	11.5	8.84	9.26	7.94	7.94	6.73	17.3	25.3	20	108	35	225
Lead	8.67	5.39	4.5	23.2	9.26	59.8	7.01	4.81	9.43	6.57	7.0	8.25	30.8	373
Selenium	0.10	0.11				0.12								
Cyanide												5.2		6.6

SUPREME FINISHING SITE ANALYTICAL DATA
(mg/kg)

STATION NO.	57	58	59	33A	BKG
STATION	RM #7-50	RM #7-50	RM #7-50	NW BLDG	SE CORN.
LOCATION	(0-6)	(6-12)	(12-18)	(12-18)	(0-18)
Arsenic	0.69	1.99	0.69	0.97	1.88
Barium	49	62.6	24.8	121	121
Cadmium	280		5.39		
Chromium	24	18.9	8.33	14	14.5
Lead	13.5	7.28	4.9	8.72	6.54
Selenium			0.1		0.1

TABLE III
12/8/92 SAMPLES

SUPREME FINISHING SITE
ANALYTICAL DATA
SOIL SAMPLES

METALS (mg/kg)

SAMPLE ID	SFS01-S	SFS01-M	SFS01-B	SFS02-S	SFS02-M	SFS02-B
LOCATION	UPHILL SURFACE	UPHILL MIDDLE	UPHILL BOTTOM	LOWER DRAIN AREA	LOWER DRAIN AREA	LOWER DRAIN AREA
Barium	106	110	141	133	79.8	123
Cadmium	4.5	2.4	1.2	10.9	2.4	0.93
Chromium, total*	21.7 B	16.8 B	22.8 B	869 B	12.6 B	21.1 B
Lead	18.6	21.5	17.8	95.5	9.2	14.5
Selenium			5.4	6.7		3.3
Cyanide, total						-

SAMPLE ID	SFS03-S	SFS03-M	SFS03-B	SFS03-B	LAB BLANK
LOCATION	DRAIN AREA SURFACE	DRAIN AREA MIDDLE	DRAIN AREA BOTTOM	DUPLICATE	
Barium	98.9	48.9	178	165	
Cadmium	1.8	0.75	0.98	1.05	
Chromium, total*	89.1 B	12.3 B	46.7 B	34.6 B	0.36
Lead	32.7	9.9	16.1	14.0	
Selenium					
Cyanide, total	0.404	0.484			

NOTE: * - Trivalent Chromium
B - Analyte present in laboratory blank

TABLE IV
POST-REMOVAL SAMPLES

SUPREME FINISHING SITE
ANALYTICAL DATA

SOIL SAMPLES

METALS (mg/kg)

SAMPLE ID	#1	#2	#3	#4	#5
LOCATION	CONF #1	CONF #2	CONF #3	CONF #4	CONF #5
Arsenic	4.4	5.4	3.3	5.9	5.3
Barium	89	61	57	60	88
Cadmium	6.6	1.2	170	170	6.2
Chromium	58	23	14	16	140
Lead	21	14	19	15	66
Selenium			5.1		
Silver	0.79		0.40	0.73	0.69

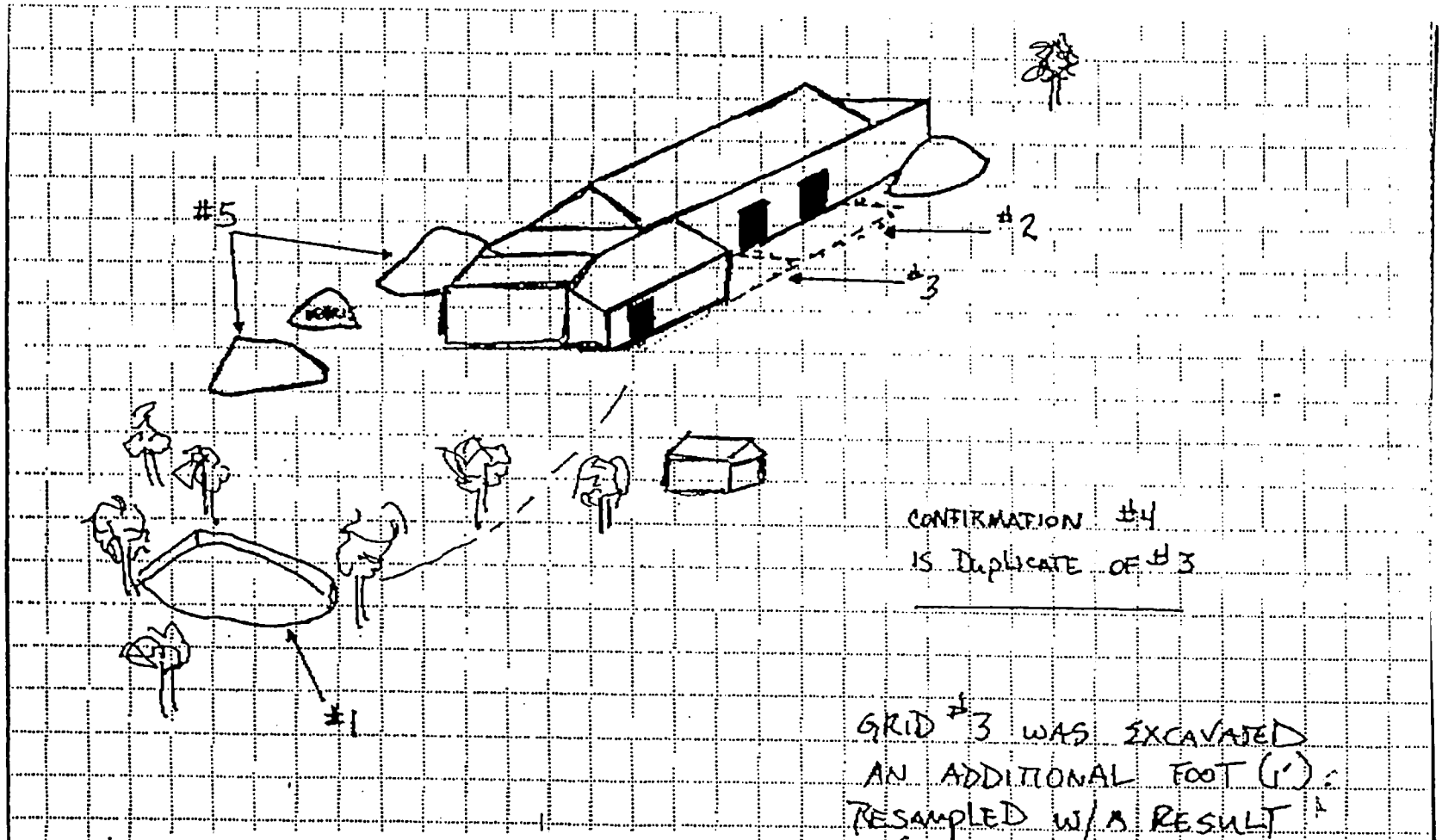


FIGURE 5B
SUPREME FINISHING
NCD 986 188 878
POST-REMOVAL
SOIL SAMPLING LOCATIONS
NOT TO SCALE

Fig. No: 5B	Title: Post-Removal EPA Soil Sampling Locations		
North Carolina Division of Solid Waste Management Superfund Section	Scale: Not to Scale	Date: September 1995	Drawn By: Irene Williams
	Site Name: Supreme Finishing		NCD 986 188 878

3.0 WASTE/SOURCE SAMPLING

3.1 Sampling Locations

Sampling during the SI targeted areas of soil that were known to be contaminated pre-removal as well as areas nearby to evaluate extent of contamination (Refs. 35, 36, 37). Soil samples taken in November, 1991, by USEPA-TAT were found to contain PAH's, including benzo(a)pyrene, pyrene, fluoranthene, and phenanthrene (Table I; Ref. 7, p. 108), but no post-removal samples were analyzed by USEPA-TAT for PAH's. For the SI, it was decided to analyze for selected metals, cyanide, volatile organics, and semi-volatiles (Ref. 35).

During the August 2, 1994 SI, samples were taken of soils near the buildings on site. These areas had been found to be contaminated prior to removal actions and were re-sampled to determine whether levels of contaminants significantly above background remain on the site and if contamination extends beyond that detected earlier by USEPA-TAT. Soil from the overland drainage pathway on the adjacent property was also sampled. This area had not been sampled by USEPA-TAT. Sampling locations are shown in Figure 7 and described in the SI sampling plan (Ref. 35), SI trip report (Ref.36) and in SI field notes (Ref. 37).

3.2 Analytical Results

Soil samples for this SI were analyzed for selected metals, cyanide, volatile organics, and semi-volatiles. Tables VI and VII present analytical results (Refs. 35, 36; Tables VI, VII). The Appendix to this report contains laboratory reports of analytical data (Appendix).

Elevated levels above background of arsenic, cadmium, chromium, lead, selenium, cyanide, and bis(2-ethylhexyl) phthalate were found in soils on site. Elevated levels of arsenic, cadmium, chromium, and lead were found in soil from the overland drainage pathway. Traces of chloroform and 1,1,1-trichloroethane were also detected in the drainage pathway (Tables VI,VII; Appendix). Except for arsenic (3.9 mg/kg), elevated levels of constituents found in soil samples do not exceed health-based benchmarks (Ref.39).

3.3 Conclusions

Areas of contaminated soil have been identified on the site and in the drainage pathway on the adjacent property. Since the facility is not fenced, there is potential for direct exposure to the general public. The total area of contaminated soil on the site property and in the drainage pathway was estimated to be 0.25 acre (10890 square feet) or approximately one third of the total area. This was accomplished using analytical data collected by both USEPA and the Superfund Section to estimate extent of surficial soil contamination and comparing this estimated area to the area of the site property plus that of the drainage pathway (Fig. 4)

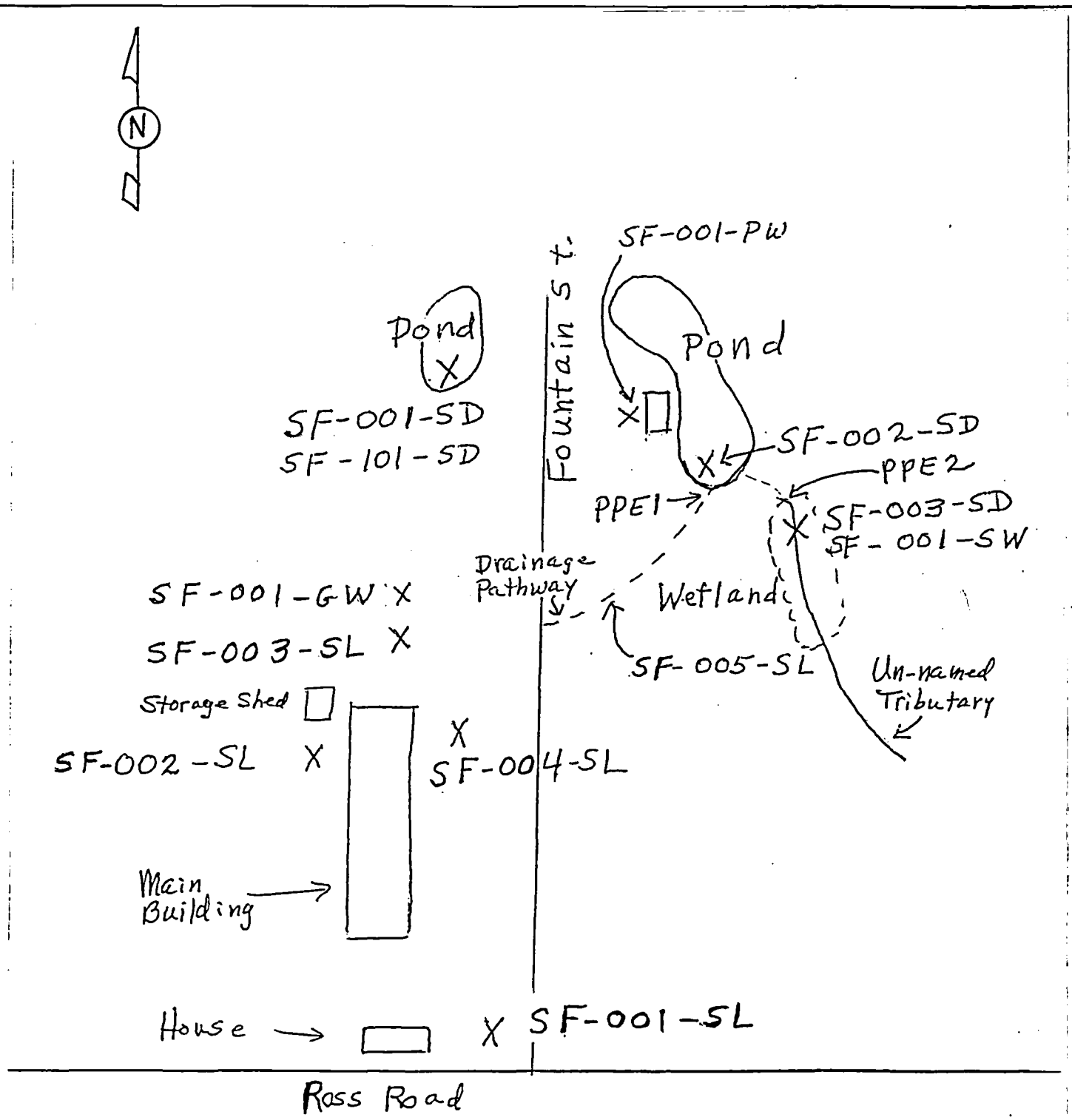


Fig. No: 7	Title: Site Inspection/Soil Sediment Sampling Locations		
North Carolina Division of Solid Waste Management	Scale: Not to Scale	Date: September 1995	Drawn By: I. Williams
Superfund Section	Site Name: Supreme Finishing		NCD 986 188 878

Supreme Finishing
NCD 986 188 878
Inorganic Analytical Data August 2, 1994
Table VI

LOCATION	BACKGROUND		W OF BUILDING		E OF BUILDING		N OF BUILDING		DRAINAGE PATH		BACKGROUND		BACKGROUND		POND NNE OF SITE		WETLAND	
LOCATION CODE	SF-001-SL		SF-002-SL		SF-003-SL		SF-004-SL		SF-005-SL		SF-001-SD		SF-101-SD		SF-002-SD		SF-003-SD	
MATRIX	SURFACE SOIL		SURFACE SOIL		SURFACE SOIL		SURFACE SOIL		SURFACE SOIL		SEDIMENT		SEDIMENT		SEDIMENT		SEDIMENT	
FIELD NUMBER	SF-3		SF-6		SF-9		SF-12		SF-15		SF-18		SF-21		SF-24		SF-27	
SAMPLE NUMBER	14171		14172		14173		14174		14175		14176		14177		14178		14179	
Analyte (mg/kg)	Total	TCLP	Total	TCLP	Total	TCLP	Total	TCLP	Total	TCLP	Total	TCLP	Total	TCLP	Total	TCLP	Total	TCLP
Arsenic	<2	<0.01	3.9	<0.01	<2	<0.01	<2	<0.01	2	<0.01	<2	<0.01	<2	<0.01	<2	<0.01	<2	<0.01
Barium	86	1.66	130	1.09	75	1.01	39	0.46	110	1.26	47	0.42	41	0.5	49	0.32	29	0.41
Cadmium	<9.8	<0.05	<9.8	<0.05	<9.8	<0.05	<9.8	<0.05	<9.8	0.05	<9.8	<0.05	<9.8	<0.05	<9.8	<0.05	<9.8	<0.05
Chromium	<9.8	<0.05	27	<0.05	12	<0.05	16	<0.05	45	<0.05	<9.8	<0.05	<9.8	<0.05	<9.8	<0.05	<9.8	<0.05
Lead	<20	<0.10	<20	<0.10	58	<0.10	49	<0.10	49	<0.10	<20	<0.10	<20	<0.10	<20	<0.10	<20	<0.10
Mercury	<0.09	<0.01	<0.09	<0.01	<0.09	<0.01	<0.09	<0.01	<0.09	<0.01	<0.09	<0.01	<0.09	<0.01	<0.09	<0.01	<0.09	<0.01
Selenium	<1	<0.005	<1	<0.005	1.1	<0.005	<1	<0.005	<1	<0.005	<1.9	<0.005	<1	<0.005	<1	<0.005	<1	<0.005
Silver	<9.8	<0.05	<9.8	<0.05	<9.8	<0.05	<9.8	<0.05	<9.8	<0.05	<9.8	<0.05	<9.8	<0.05	<9.8	<0.05	<9.8	<0.05
Cyanide	<8	NA	<8	NA	22	NA	37	NA	<8	NA	33	NA	13	NA	40	NA	<8	NA

Sampling by NC Division of Solid Waste Management, Superfund Section (Appendix).
Significant results (above background) are shaded.
NA = Not Applicable

Supreme Finishing
NCD 986 188 878
Summary of Organic Analytical Data
August 2, 1994
Table VII

LOCATION	BACKGROUND	W of BUILDING	E of BUILDING	N of BUILDING	DRAINAGE PATH	BACKGROUND	BACKGROUND	POND NNE OF SITE	WETLAND	TRIP BLANK
LOCATION CODE	SF-001-SL	SF-002-SL	SF-003-SL	SF-004-SL	SF-005-SL	SF-001-SD	SF-101-SD	SF-002-SD	SF-003-SD	SF-001-TB
MATRIX	SURFACE SOIL	SURFACE SOIL	SURFACE SOIL	SURFACE SOIL	SURFACE SOIL	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	ORGANIC-FREE WATER
VOLATILES (ug/kg)										
FIELD NUMBER	SF-1	SF-4	SF-7	SF-10	SF-13	SF-16	SF-19	SF-22	SF-25	SF-28
SAMPLE NUMBER	942860	942861	942862	942863	942864	942865	942866	942867	942868	942869
CONSTITUENTS										
Benzene	U	U	U	U	U	U	Trace[B]	U	U	U
2-Butanone	U	U	U	U	U	9J	9J	Trace	1J	Trace
Chloroform	U	U	U	U	Trace[C]	U	U	U	U	U
Ethylbenzene	U	U	U	U	U	U	1J	U	U	U
Toluene	U	U	U	U	U	131	329	U	Trace	U
1,1,1-Trichloroethane	U	U	U	U	Trace[C]	Trace[C]	U	U	U	U
Xylenes	U	U	U	U	U	U	Trace	U	Trace	U
Hydrocarbons (+/-)	-	-	-	-	-	+	+	-	-	-
SEMI-VOLATILES (ug/kg)										
FIELD NUMBER	SF-2	SF-5	SF-8	SF-11	SF-14	SF-17	SF-20	SF-23	SF-26	
SAMPLE NUMBER	942870	942871	942872	942873	942874	942875	942876	942877	942878	
CONSTITUENTS										
bis(2-Ethylhexyl) phthalate	U	U	1933	1067	U	U	U	330K	U	NA

Sampled by NC Division of Solid Waste Management, Superfund Section (Appendix).
Significant results (above background) are shaded.
Results for other volatiles and semivolatiles were below detection limits (Appendix).
NA = Not Applicable
U = Below Minimum Detection Limit.
B = Background present in lab blanks.
C = Possible lab contamination.
K = Actual value known to be less than value given.
J = Estimated value.

4.0 GROUND WATER PATHWAY

4.1 Hydrogeologic Setting

The site is located in Durham County which lies within the Piedmont physiographic province. The Piedmont is an uplifted peneplain in various stages of dissection, having a general slope from the mountains toward the Coastal Plain. In the southern part of Durham County the Piedmont upland is interrupted by a distinct lowland developed on weak Triassic Rocks (Ref. 4, p. 7). The rocks of the Triassic age are principally continental and consist of maroon to reddish-gray sandstones, shales, siltstones, conglomerates, and fanglomerates (Ref. 4, p. 26). The rocks dip to the southeast about 15 degrees and are bounded on the southeast by the Jonesboro fault. The Triassic rocks and the adjacent volcanic rocks have been intruded by diabasic dikes of Triassic age (Ref. 4 p. 90). Hydraulic conductivity for this type of geology is estimated to be 10-4 cm/sec (Ref. 30, Table 3-6). The 2-year 24-hour rainfall for the area is 4 inches (Ref. 31).

Ground water in the county is obtained from fractures and other secondary openings in the rocks or from the overlying mantle of soil and weathered rock. Three wells within 2 miles of the site have an average depth of 114 feet with depth of casing averaging 20 feet and depth to water level averaging 31 feet. These wells are drilled into Triassic rocks (Ref. 4, pp. 94-98).

4.2 Targets

The site is located just within the city limits of Durham (Fig. 1). Durham is served by the Durham municipal water system which uses intakes at Lake Michie and at the Little River Reservoir for its water sources. These intakes are located approximately 13 miles and 11 miles north of Durham, respectively. Both these intakes are upstream of the site. The Durham municipal water service area, as indicated on a water line map provided by the City of Durham, is marked on the topographic map (Ref. 26; Fig. 1).

There are a number of private and community wells within a 4-mile radius of the site (Ref. 6). The nearest well to the site was identified, by exclusion of the areas served by the Durham water system, as the private well denoted on the topographic map (Fig. 1). This well is about 700 feet north northeast of the site at the residence of Mr. Clyde Robinson (Figures 1, 2). The well is reportedly 140 feet deep (Ref. 9, p. 5). At the request of the owner, water from the well was sampled and analyzed for metals and volatile and base/neutral extractable organic chemicals in May of 1991 by the North Carolina Division of Environmental Management (DEM). No hazardous substances were detected at levels that would constitute a health threat (Ref. 24, 25). There are no wellhead protection areas within a 4 mile radius of the site (Ref. 3).

The population using ground water for drinking was estimated by counting the houses on the topographic map (Fig. 1) in those areas not served by the Durham municipal water system, and by applying appropriate 1990 census data to the number of households counted (2.4 persons per household) (Ref. 8). Pertinent community wells were identified from Public Water Supply records

(Ref. 6). These community wells are marked on the topographic map (Fig. 1). Table V, below, describes the population estimated to use ground water for drinking within a 4-mile radius of the site. Population figures for the community wells are included in the population using ground water shown in Table V to give a estimated total of 7630 ground water users. Table V also indicates that a total population of 57,330 live within a 4-mile radius of the site (Refs. 5, 6).

TABLE V

POPULATION DATA

Distance from Site Location	Population Per Ring (Ref.5)	Ground Water Users Per Ring (Ref. 6)
On site	0	0
0-1/4 mile	230	29
>1/4 to 1/2 mile	959	19
>1/2 to 1 mile	3205	266
>1 to 2 miles	9872	989
>2 to 3 miles	16512	2550
>3 to 4 miles	26552	3777
Total:	57330	7630

4.3 Ground Water Sampling

As mentioned above, the nearest well to the site was sampled in May of 1991 by the DEM. No hazardous substances were detected at levels that would constitute a health threat (Ref. 24, 25). No ground water sampling was performed by USEPA or by the N.C. Superfund as part of the August 2, 1994 SI (Ref. 36).

4.4 Conclusions

There are private and community wells within a four-mile radius of the site; however, analytical results from sampling the nearest well indicate no contamination attributable to the site.

5.0 SURFACE WATER PATHWAY

5.1 Hydrologic Setting

The topography of the site and surrounding area slopes to the north northeast toward a pond (Ref. 11; Fig. 1). Because of the topography and the presence of a culvert near the northern edge of the site property (Fig. 4), surface runoff drains under Fountain Street and overland for a total distance of approximately 500 feet to the north northeast of the site into a privately owned pond at a probable point of entry to surface water (PPE1). This point of entry is located about 200 feet downgradient of contaminated soil in the drainage pathway. For purposes of evaluating this site, this pond is considered one of two surface water pathways (Figures 1, 6).

From the pond at PPE1, surface water runoff travels via an intermittent stream to a perennial un-named tributary to Little Lick Creek at a second entry point (PPE2). The distance from contaminated soil associated with the site to this second PPE is approximately 0.5 mile. From PPE2, the un-named tributary flows southeast for about 1 mile to Little Lick Creek, which flows approximately 4.5 miles to Falls Lake. The 15-mile surface water pathway which begins at PPE2 extends about 9.5 miles downstream into Falls Lake Creek (Figures 1, 6).

There are no storm drains on the site or in the vicinity of the property that might divert surface water runoff (Ref. 16). The site is located outside the 500 year floodplain in an area of minimal flooding (Ref.17).

5.2 Surface Water Targets

There is no flow data available for the un-named tributary at PPE2; an estimated flow of 4 cubic feet per second (cfs) was used for evaluating the site. Approximately 2.5 miles downstream from PPE2, Little Lick Creek has a drainage area of 10.1 square miles and an average flow rate of 10.9 cubic feet per second (Ref. 15). The flow rate of Falls Lake is estimated from Neuse River flow data to be 600 cubic feet per second (Ref. 27).

There are no surface water intakes located within 15 miles downstream of either PPE. Two intakes for the city of Durham are located upstream of the site at Lake Michie and at the Little River Reservoir. These intakes are located approximately 13 and 11 miles north of Durham and are not in either surface water pathway for the site. An intake for the city of Raleigh, located at Falls Lake, is beyond the 15-mile downstream pathway from PPE2 (Ref. 14).

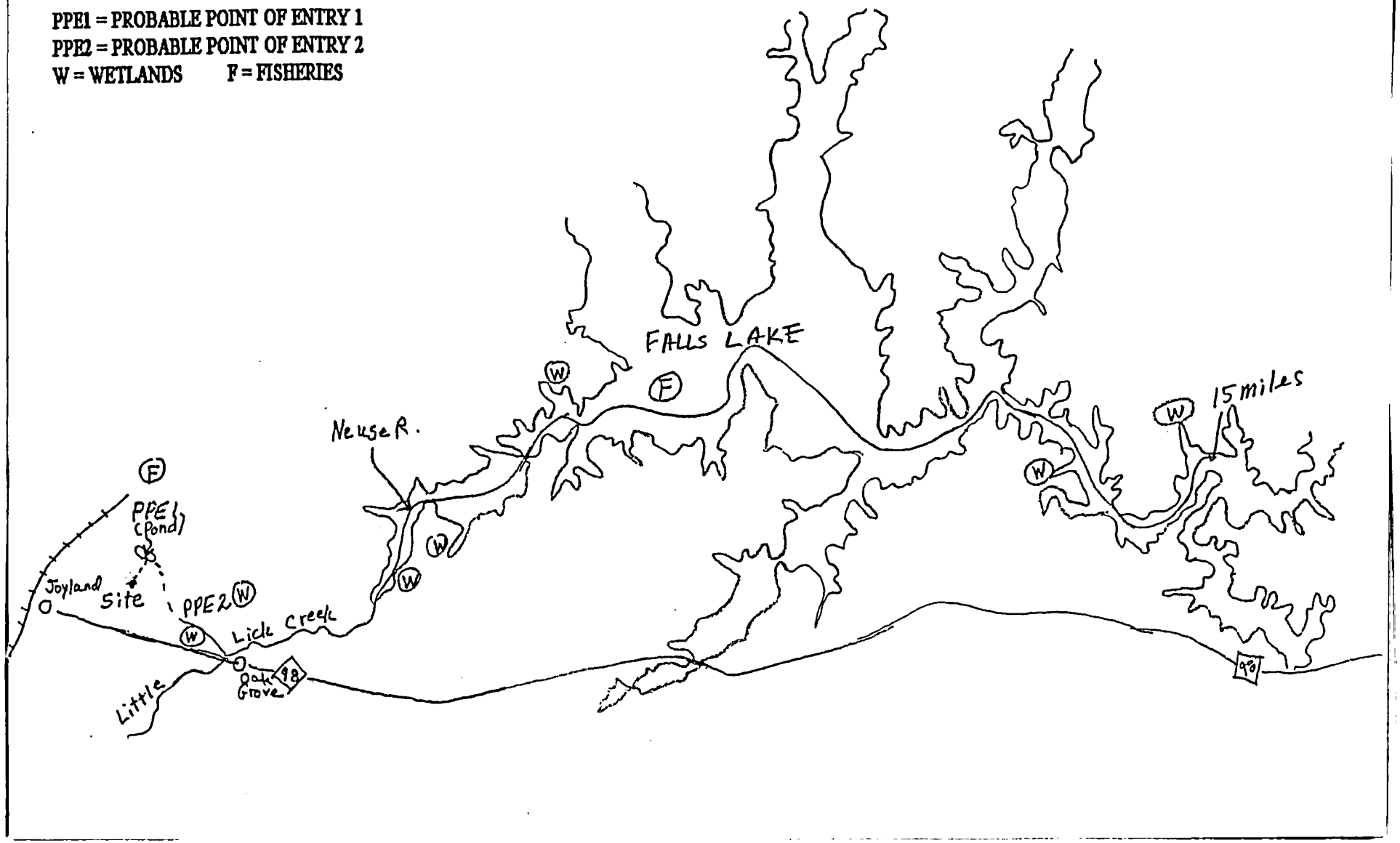


Fig. No: 6	Title: Surface Water Pathway		
North Carolina Division of Solid Waste Management Superfund Section	Scale: Not to Scale	Date: September 1995	Drawn By: Irene Williams
	Site Name: Supreme Finishing		NCD 986 188 878

Little Lick Creek is part of the Neuse River basin and is classified as either "WS-IV NSW" or "WS-IV NSW CA" waters. The Neuse River (Falls Lake below normal pool elevation) from Little Lick Creek to the end of the 15-mile surface water pathway at Falls Lake is classified "WS-IV&B NSW CA". "The "WS-IV" classification denotes waters protected as water supplies which are generally in moderately to highly developed watersheds. Certain point source discharges of treated wastewater are permitted. Local programs to control nonpoint sources and storm water discharge of pollution are required. These waters are suitable for all Class "C" uses. The "C" classification calls for protection of the water body for aquatic life propagation and survival, fishing, wildlife, secondary recreation, and agriculture. The "NSW" designation requires limitations on nutrient inputs (Ref. 18). The "CA" designation denotes a "critical area", defined as the area adjacent to a water supply intake or reservoir where risk associated with pollution is greater than from the remaining portions of the watershed (Ref. 23). Class "B" denotes waters protected for primary recreation and any other usage specified by the "C" classification (Ref. 18).

Reportedly, the pond 500 feet north northeast of the site at PPE1 is fished for recreation and as a food source for some local residents (Ref. 9, p. 5), but no harvest data are available. The un-named tributary to Little Lick Creek and Little Lick Creek itself are nursery areas for Falls Lake. Falls Lake is a major fishery (Ref. 20).

Wetlands are located in several areas within 15 miles downstream of PPE2. Wetlands begin at PPE2 and continue for approximately 2.5 miles downstream. More wetlands occur intermittently along the surface water pathway. The total wetland frontage along the 15 mile surface water pathway is approximately 12 miles (Ref. 21; Figures 1, 6).

There are no known critical habitats of plants or animals officially classified as "endangered species" in the 15-mile surface water pathway from PPE2, but there are several species of animals and plants of concern to the North Carolina Natural Heritage Program (Ref. 19). Habitats for these species are indicated on the topographic map (Fig. 1).

5.3 Sample Locations

During the August 2, 1994 SI, the NC Superfund Section collected sediment samples to determine whether site contaminants had migrated to surface water. These samples included two background sediment samples from a pond north northwest and upgradient of the site (samples SF-001-SD and SD-101-SD), one sediment sample at PPE1 at the downgradient pond north northeast of the site (sample SF-002-SD), and one sediment sample at the nearest downstream wetland at the un-named tributary to Little Creek at PPE2 (sample SF-003-SD). Sampling locations are shown in Figure 7 and described in the SI sampling plan (Ref. 35), SI trip report (Ref. 36) and in SI field notes (Ref. 37).

5.4 Analytical Results

Sediment samples were analyzed for selected metals, cyanide, volatile organics, and semi-volatiles. Tables VI and VII present analytical results (Refs. 35, 36; Tables VI, VII). The Appendix to this report contains laboratory reports of analytical data (Appendix).

Two background sediment samples at the pond north northwest and upgradient of the site contained 131 and 329 ug/kg toluene, respectively. One of these background sediment samples contained a trace of benzene and an estimated low level of ethylbenzene. Both contained estimated low levels of 2-butanone. One background sediment contained a trace of xylenes. A low level, below the minimum detection limit, of bis(2-ethylhexyl)phthalate was reported in a wetland sediment sample in the pond north northeast and downgradient of the site. The wetland sediment sample collected at PPE2 contained only traces of toluene and xylenes (Table VII; Appendix).

5.5 Conclusions

Analytical data indicate that no constituents attributable to the site were found at levels above detection limits in sediment samples in either of the two surface water pathways.

6.0 SOIL EXPOSURE AND AIR PATHWAYS

6.1 Physical Conditions

The site is located in a residential area. The property is not fenced (Fig. 4). Four residences are located within 200 feet of the site (Ref. 9, p. 6). Applying the factor of 2.4 persons per household, from U.S. Census data for Durham County (Ref. 8), to these 4 households, it is estimated that 10 persons live within 200 feet of the site. As mentioned above, the total area of contaminated soil on the site property and in the drainage pathway is estimated to be 0.25 acre (10890 square feet) (Fig. 4).

6.2 Soil and Air Targets

One residence, with two residents, is located within 200 feet of contaminated soil in the overland drainage pathway and on the same property as the contaminated soil. No workers are regularly present at the site since it has been abandoned (Ref. 11). There are no schools or day care centers within 200 feet of the site (Fig. 1, Ref. 22). The total population residing within 4 miles of the site is 57,330 (Ref. 5).

There are small areas of wetlands within a 0.5 mile radius of the site. The acreage of wetlands within a 0.25 mile radius of the site is approximately 1.0 acre and the acreage of wetlands within 0.5 mile totals approximately 1.5 acres (Ref. 21). There are no known critical habitats of plants or animals officially classified as "endangered species" within a 4-mile radius of the site, but there are several species of animals and plants of concern to the North Carolina Natural Heritage Program (Ref. 19). Habitats for these species are indicated on the topographic map (Fig. 1).

6.3 Soil Sample Locations

During the August 2, 1994 SI, on site soil samples were taken as described in Section 3.1 above. Soil from the overland drainage pathway on the adjacent property was also sampled. Sampling locations are shown in Figure 7 and described in the SI sampling plan (Ref.35), SI trip report (Ref.36) and in SI field notes (Ref. 37).

6.4 Soil Analytical Results

Soil samples were analyzed for metals, cyanide, volatile organics, and semi-volatiles. Tables VI and VII present analytical results (Refs.35, 36; Tables VI,VII). The Appendix to this report contains laboratory reports of analytical data (Appendix).

Elevated levels, significantly above background, of arsenic, cadmium, chromium, lead, selenium, cyanide, and bis(2-ethylhexyl)phthalate were found in soils on site. Elevated levels of arsenic, cadmium, chromium, and lead were found in soil from the overland drainage pathway. Traces of chloroform and 1,1,1-trichloroethane were also detected in the drainage pathway (Tables VI, VII; Appendix). Arsenic levels found in soil samples exceed health-based benchmarks (Ref.39).

6.5 Air Monitoring

No air monitoring was performed during the SI (Refs. 35, 36, 37).

6.6 Conclusions

Areas of contaminated soil have been identified on the site and in the drainage pathway on the adjacent property. Since the facility is not fenced, there is some potential for direct exposure to the general public. Of the constituents found in soils, only levels of arsenic exceed health-based benchmarks (Ref.39).

Because of the removals and the nature of the contaminants on the site, there is little likelihood of a release to air.

7.0 SUMMARY AND CONCLUSIONS

The Supreme Finishing site consists of an approximately 0.69 acre lot in a predominantly residential neighborhood on the outskirts of the city of Durham in Durham County, North Carolina. This is the site of an abandoned plating, painting, and parts stripping facility located behind a residence at 3033 Ross Road. On the site are a concrete building and a smaller metal storage shed.

Mr. Gerald Thacker reportedly operated Supreme Finishing, a painting and plating facility, at the site from 1966 until he sold the property and business to Elry and Peggy Holloway in May of 1979. The Holloways continued operations at Supreme Finishing until June 1987. The facility was

then leased to Dynamic Industries for spray painting and parts stripping purposes until August 1990. The site has been vacant and abandoned since 1990.

Several investigations have occurred at the site. Emergency removal actions have been performed there by DEHNR-HWS and by the USEPA, Region IV Waste Management Division.

On May 14, 1991 DEHNR-HWS performed an investigation and discovered drums, vats, and other containers of chemicals on the site. The chemicals included potassium cyanide, cadmium salts, sulfuric acid, xylene, paint wastes, solvents, corrosives, flammables, wastes, and unknowns. An emergency removal action was performed on May 14, 1991 by DEHNR-HWS. Nine containers of potassium cyanide, acid, wastes, and cadmium salts were removed.

Sampling by the USEPA Technical Assistance Team (TAT) has occurred several times at the site. Sampling of soils and of materials from drums and vats was performed on November 19, 1991. Among the substances found at that time were cadmium, chromium, lead, and a number of organic compounds including toluene, xylenes and PAH's.

From August 19-21, 1992, USEPA-TAT collected soil samples across the site to determine the extent of contamination. These samples were analyzed only for metals and were found to contain levels of cadmium, chromium, and lead significantly above background. More soil samples were collected on December 8, 1992. Elevated levels of cadmium, chromium, and lead were confirmed in soils at the site.

Drums, vats, debris and contaminated soil have been removed from the site by DEHNR-HWS (May 1991) and the USEPA-TAT (August-April 1993). Post-removal sampling was performed by USEPA-TAT to confirm that USEPA action levels (clean-up target concentrations) for cadmium, chromium, and lead in soil have been achieved. These action levels were 39 parts per million (ppm) cadmium, 400 ppm chromium, and 500 ppm lead.

The North Carolina Superfund Section conducted a PA of the site on April 1, 1993, and a SI on August 2, 1994. During the SI, post-removal samples were taken of soils on site (in and near areas that had been shown to contain contaminants prior to removal actions) to determine whether elevated levels of contaminants remain on the site. Soil was also sampled from the overland drainage pathway on adjacent property. Downstream environmental sediments were sampled to determine if migration of contaminants to surface water had occurred.

Post-removal soil samples collected during the SI indicate that there are areas of contaminated soil on the site. Soil samples were analyzed for selected metals, cyanide, volatile organics, and semi-volatiles. Elevated levels (above background levels) of arsenic, cadmium, chromium, lead, selenium, cyanide, and bis(2-ethylhexyl) phthalate were found in soils on site property. Elevated levels of arsenic, cadmium, chromium, and lead as well as traces of chloroform and 1,1,1-trichloroethane were found in soil from the overland drainage pathway. Only the arsenic level (3.9 mg/kg) exceeds health-based benchmarks for long term soil exposure set by USEPA.

The water table is quite near the surface of the ground on the site, as evidenced by a natural spring on the site property. There are private and community wells serving a population of 7630 persons within a four-mile radius of the site. However, analytical results from sampling the nearest well to the site indicate no contamination attributable to the site. The well is located approximately 700 feet north northeast from and downgradient of the site.

Surface runoff from the site is toward a private pond approximately 500 feet north northeast of the site via an overland pathway across the adjacent property. This pond constitutes one surface water pathway for the site and is used for recreational fishing. As mentioned above, soil samples collected from the overland drainage pathway revealed elevated levels of arsenic, cadmium, chromium, and lead as well as traces of chloroform and 1,1,1-trichlorethane approximately 200 feet from the pond. However, sediment sampled from the pond itself (near the drainage pathway) indicated no contaminants attributable to the site.

Other fisheries and wetlands occur in a second surface water pathway which begins at a perennial un-named tributary to Little Lick Creek and continues for 15 miles downstream via Little Lick Creek and Falls Lake. Sediment sampling at a wetland in an un-named tributary about 0.5 mile from contaminated soil in the drainage pathway, indicates no contaminants attributable to the site.

Since the facility is not fenced, there is some possibility of direct exposure to contaminated soil, but there are no workers, schools or day care centers in the vicinity of the site. Except for arsenic, elevated levels of metals found in soil samples on the site property and in the overland drainage pathway (on property adjacent to the site) do not exceed health-based benchmarks. Levels of arsenic above US-EPA health-based benchmarks were found in soils on the site property and in the drainage pathway. These levels of arsenic in small localized areas out of normal pedestrian traffic are not considered to pose a significant health threat.

Since the removal actions that have taken place at the site, there has been no air monitoring performed at the site. Because of the removals and the nature of the contaminants on the site, there is little likelihood of a release to air. Targets of potential concern in the air pathway are approximately 1.5 acres of wetlands within a 0.5 mile radius of the site as well as other sensitive environments within a 4-mile radius of the site. These include several plant and animal species of concern, but no habitats of officially designated endangered species.

The site property is not fenced and four residences are located within 200 feet of contaminated soil. Since the USEPA removal action, analytical evidence indicates that levels of arsenic, cadmium, chromium, lead, selenium, cyanide, and bis(2-ethylhexyl) phthalate are present in soil on the site at levels above background. However, only levels of arsenic exceeded USEPA health-based benchmarks in on site soils. Arsenic was found in small localized areas that are unlikely to be subject to public contact. It is unlikely that the levels found under site conditions should constituent a threat to human health.

Based on the findings of this SI, it is recommended that a status of No Further Remedial Action Planned be assigned to this site and that no further investigations be performed there under CERCLA/SARA at this time.

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NCD 986 188 878
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Supreme Finishing
NCD 986 188 878

Photograph 1: Background Soil Sample SF-001-SL

Photograph 2: Soil Sample SF-002-SL

Torrance, Calif. 90503 #PV119

Photograph 3: Soil Sample SF-003-SL

Photograph 4: Soil Sample SF-004-SL

Photograph 7: Soil Sample SF-002-SD

Photograph 8: Soil Sample SF-003-SD

Photograph 5: Soil Sample SF-005-SL
(Inside Treeline)

Photograph 6: Soil Sample SF-001-SD

Torrance, Calif. 90503 #PV119

APPENDIX

NC-DEHNR
Division of Solid Waste Management
☐ Superfund Section
☐ Hazardous Waste Section
☐ Solid Waste Section

Organics Lab: ____
Inorganics Lab: ✓

CHAIN OF CUSTODY RECORD

Project Name: Supreme Finishing
Site ID # (NCD#) NCD 986 188 878
Location: 3033 Ross Road
Address: Durham, NC

Sampled by: Irene Williams
Sampler ID ____
Telephone: ( ) 733 2801
Date Sampled: 8-2-94
Time Sampled: ____

RECEIVED OCT 31 1994 SUPERFUND SECTION

Sample Types: Soil ✓ Water ____ Waste ____ Other ____

Remarks: ____

Field Sample Numbers: SF-3, SF-6, SF-9, SF-12, SF-15

Relinquished by: V. Irene Williams (Signature) Date: 8/3/94 Time: 11:05

Received by: [signature] (Signature) Date: 3 Aug 94 Time: 11:05

Relinquished by: ____ (Signature) Date: ____ Time: ____

Received by: ____ (Signature) Date: ____ Time: ____

Relinquished by: ____ (Signature) Date: ____ Time: ____

Received by: ____ (Signature) Date: ____ Time: ____

Results Reported: [signature] (Signature) Date: 28 Sept 94 Time: ____

(A:\COCR.FRM)

NC DEHNR
Division of Solid Waste Management
☐ Superfund Section
☐ Hazardous Waste Section
☐ Solid Waste Section

Organics Lab: ____
Inorganics Lab: ✓

CHAIN OF CUSTODY RECORD

Project Name: Supreme Finishing
Site ID # (NCD#) NCD 986 188 878
Location: 3033 Ross Road
Address: Durham, NC

Sampled by: Irene Williams
Sampler ID ____
Telephone: ( ) 733-2801
Date Sampled: 8-2-94
Time Sampled: ____

Sample Types: Soil ____ Water ____ Waste ____ Other ✓ Sediment

Remarks: ____

Field Sample Numbers: SF-18, SF-21, SF-24, SF-27

Relinquished by: V. Irene Williams (Signature) Date: 8/3/94 Time: 11:05

Received by: [signature] (Signature) Date: 3 Aug 94 Time: 11:05

Relinquished by: ____ (Signature) Date: ____ Time: ____

Received by: ____ (Signature) Date: ____ Time: ____

Relinquished by: ____ (Signature) Date: ____ Time: ____

Received by: ____ (Signature) Date: ____ Time: ____

Results Reported: ____ (Signature) Date: ____ Time: ____

(A:\COCR.FRM)

N.C. Department of Environment, Health, & Natural Resources
Solid Waste Management Division

SAMPLE ANALYSIS REQUEST

State Laboratory of Public Health
P.O. Box 28047, 306 N. Wilmington Street
Raleigh, North Carolina 27611

Site Number NCD 986 188 878 Field Samp

SF-001-SL 08/02/94 0945 GRAB
Supreme Finishing, NC I. WILLIAMS
FRONT YARD OF RESIDENCE
ESD LAB METALS Soil
SF- 3

Name of Site Supreme Finishing Site Locat

Collected By Irene Williams ID# Date Coll

Agency: ___ Hazardous Waste ___ Solid Waste ✓ Superfund

Sample Type

Environmental	Concentrate	Comments
___ Ground water (1)	___ Solid (5)	
___ Surface water (2)	___ Liquid (6)	
✓ Soil (3)	___ Sludge (7)	Surface Soil
___ Other (4)	___ Other (8)	

Organic Chemistry

Parameter	Results (mg/l)
___ P&T:GC/MS	
___ Acid:B/N Ext.	
___ MTBE	

Radiochemistry

Parameter	Results (PCi/l)
___ Gross Alpha	
___ Gross Beta	

Microbiology

Parameter	Results (Col/100ml)

Inorganic Chemistry

Parameter	Results (~~mg/l~~) (mg/kg)
✓ Arsenic	<2
✓ Barium	86
✓ Cadmium	<9.8
Chloride	
✓ Chromium	<9.8
Copper	
Fluoride	
Iron	
✓ Lead	<20
Manganese	
✓ Mercury	<0.09
Nitrate	
✓ Selenium	<1
✓ Silver	<9.8
Sulfates	
Zinc	
pH	
Conductivity	
TDS	
TOC	
✓ Cyanide	<8

TCLP Compounds

Inorganic Compounds	Results (mg/l)
✓ Arsenic	<0.01
✓ Barium	1.66
✓ Cadmium	<0.05
✓ Chromium	<0.05
✓ Lead	<0.10
✓ Mercury	<0.01
✓ Selenium	<0.005
✓ Silver	<0.05

Organic Compounds	Results (mg/l)
benzene	
carbon tetrachloride	
chlordane	
chlorobenzene	
chloroform	
o-cresol	
m-cresol	
p-cresol	
cresol	
1,4-dichlorobenzene	
1,2-dichloroethane	
1,1-dichloroethylene	
2,4-dinitrotoluene	
heptachlor	
hexachlorobenzene	
hexachlorobutadiene	
hexachloroethane	
methyl ethyl ketone	
nitrobenzene	
pentachlorophenol	
pyridine	
tetrachloroethylene	
trichloroethylene	
2,4,5-trichlorophenol	
2,4,6-trichlorophenol	
vinyl chloride	
endrin	
lindane	
methoxychlor	
toxaphene	
2,4-D	
2,4,5-TP (Silvex)	

Date Received ___ Reported by ___

Date Extracted ___ Date Reported ___

014171 AUG 394

Date Analyzed ___ Lab Number ___

DHS 3191 (Revised 2/91)

N.C. Department of Environment, Health, & Natural Resources
Solid Waste Management Division

SAMPLE ANALYSIS REQUEST

State Laboratory of Public Health
P.O. Box 28047, 306 N. Wilmington Street
Raleigh, North Carolina 27611

Site Number NCD 986 188 878 Field Samp SF-002-SL 08/02/94 1000 GRAB
Supreme Finishing, NC I. WILLIAMS
Name of Site Supreme Finishing Site Locati 21'W OF BLDG., 30'SW OF SHED CORNER
ESD LAB METALS Soil
Collected By Irene Williams ID# Date Coll SF- 6

Agency: ___ Hazardous Waste ___ Solid Waste ✓ Superfund

Sample Type

Environmental	Concentrate	Comments
___ Ground water (1)	___ Solid (5)	
___ Surface water (2)	___ Liquid (6)	
✓ Soil (3)	___ Sludge (7)	Surface Soil
___ Other (4)	___ Other (8)	

Organic Chemistry

Parameter	Results(mg/l)
___ P&T:GC/MS	
___ Acid:B/N Ext.	
___ MTBE	

Radiochemistry

Parameter	Results (PCi/l)
___ Gross Alpha	
___ Gross Beta	

Microbiology

Parameter	Results (Col/100ml)

Inorganic Chemistry

Parameter	Results(mg/kg)
✓ Arsenic	3.9
✓ Barium	130
✓ Cadmium	<9.8
Chloride	
✓ Chromium	27
Copper	
Fluoride	
Iron	
✓ Lead	<20
Manganese	
✓ Mercury	<0.09
Nitrate	
✓ Selenium	<1
✓ Silver	<9.8
Sulfates	
Zinc	
pH	
Conductivity	
TDS	
TOC	
✓ Cyanide	<8

TCLP Compounds

Inorganic Compounds	Results(mg/l)
✓ Arsenic	<0.01
✓ Barium	1.09
✓ Cadmium	<0.05
✓ Chromium	<0.05
✓ Lead	<0.10
✓ Mercury	<0.01
✓ Selenium	<0.005
✓ Silver	<0.05

Organic Compounds	Results(mg/l)
___ benzene	
___ carbon tetrachloride	
___ chlordane	
___ chlorobenzene	
___ chloroform	
___ o-cresol	
___ m-cresol	
___ p-cresol	
___ cresol	
___ 1,4-dichlorobenzene	
___ 1,2-dichloroethane	
___ 1,1-dichloroethylene	
___ 2,4-dinitrotoluene	
___ heptachlor	
___ hexachlorobenzene	
___ hexachlorobutadiene	
___ hexachloroethane	
___ methyl ethyl ketone	
___ nitrobenzene	
___ pentachlorophenol	
___ pyridine	
___ tetrachloroethylene	
___ trichloroethylene	
___ 2,4,5-trichlorophenol	
___ 2,4,6-trichlorophenol	
___ vinyl chloride	
___ endrin	
___ lindane	
___ methoxychlor	
___ toxaphene	
___ 2,4-D	
___ 2,4,5-TP (Silvex)	

Date Received ___ Reported by ___

Date Extracted ___ Date Reported ___

014172 AUG 394

Date Analyzed ___ Lab Number ___

DHS 3191 (Revised 2/91)

N.C. Department of Environment, Health, & Natural Resources
Solid Waste Management Division

SAMPLE ANALYSIS REQUEST

State Laboratory of Public Health
P.O. Box 28047, 306 N. Wilmington Street
Raleigh, North Carolina 27611

Site Number NCD 986 188 878 Field Sam SF-003-SL 08/02/94 1038 GRAB
Supreme Finishing, NC I. WILLIAMS
Name of Site Supreme Finishing Site Local 15' DUE E OF NE CORNER OF BLDG.
ESD LAB METALS Soil
Collected By Irene Williams ID# Date Col SF- 9 Time

Agency: ___ Hazardous Waste ___ Solid Waste ✓ Superfund

Sample Type

Environmental	Concentrate	Comments
___ Ground water (1)	___ Solid (5)	
___ Surface water (2)	___ Liquid (6)	
✓ Soil (3)	___ Sludge (7)	Surface Soil
___ Other (4)	___ Other (8)	

Organic Chemistry

Parameter	Results(mg/l)
___ P&T:GC/MS	
___ Acid:B/N Ext.	
___ MTBE	

Radiochemistry

Parameter	Results (PCi/l)
___ Gross Alpha	
___ Gross Beta	

Microbiology

Parameter	Results (Col/100ml)

Inorganic Chemistry

Parameter	Results(mg/l) (mg/kg)
✓ Arsenic	<2
✓ Barium	75
✓ Cadmium	<9.8
___ Chloride	
✓ Chromium	12
___ Copper	
___ Fluoride	
___ Iron	
✓ Lead	58
___ Manganese	
✓ Mercury	<0.09
___ Nitrate	
✓ Selenium	1.1
✓ Silver	<9.8
___ Sulfates	
___ Zinc	
___ pH	
___ Conductivity	
___ TDS	
___ TOC	
✓ Cyanide	22

TCLP Compounds

Inorganic Compounds	Results(mg/l)
✓ Arsenic	<0.01
✓ Barium	1.01
✓ Cadmium	<0.05
✓ Chromium	<0.05
✓ Lead	<0.10
✓ Mercury	<0.01
✓ Selenium	<0.005
✓ Silver	<0.05

Organic Compounds	Results(mg/l)
___ benzene	
___ carbon tetrachloride	
___ chlordane	
___ chlorobenzene	
___ chloroform	
___ o-cresol	
___ m-cresol	
___ p-cresol	
___ cresol	
___ 1,4-dichlorobenzene	
___ 1,2-dichloroethane	
___ 1,1-dichloroethylene	
___ 2,4-dinitrotoluene	
___ heptachlor	
___ hexachlorobenzene	
___ hexachlorobutadiene	
___ hexachloroethane	
___ methyl ethyl ketone	
___ nitrobenzene	
___ pentachlorophenol	
___ pyridine	
___ tetrachloroethylene	
___ trichloroethylene	
___ 2,4,5-trichlorophenol	
___ 2,4,6-trichlorophenol	
___ vinyl chloride	
___ endrin	
___ lindane	
___ methoxychlor	
___ toxaphene	
___ 2,4-D	
___ 2,4,5-TP (Silvex)	

Date Received ___ Reported by ___

Date Extracted ___ Date Reported ___

014173 AUG 394

Date Analyzed ___ Lab Number ___

DHS 3191 (Revised 2/91)

N.C. Department of Environment, Health, & Natural Resources
Solid Waste Management Division

SAMPLE ANALYSIS REQUEST

State Laboratory of Public Health
P.O. Box 28047, 306 N. Wilmington Street
Raleigh, North Carolina 27611

Site Number NCD 986 188 878 Field Sa

SF-004-SL 08/02/94 1017 GRAB
Supreme Finishing, NC I. WILLIAMS
3' W OF RD., 6' N OF END OF MAIN BLDG.
ESD LAB METALS Soil
SF- 12

Name of Site Supreme Finishing Site Loc

Collected By Irene Williams ID# Date C Time

Agency: ___ Hazardous Waste ___ Solid Waste ✓ Superfund

Sample Type

Environmental	Concentrate	Comments
___ Ground water (1)	___ Solid (5)	
___ Surface water (2)	___ Liquid (6)	
✓ Soil (3)	___ Sludge (7)	Surface Soil
___ Other (4)	___ Other (8)	

Organic Chemistry

Parameter	Results(mg/l)
___ P&T:GC/MS	
___ Acid:B/N Ext.	
___ MTBE	

Radiochemistry

Parameter	Results (PCi/l)
___ Gross Alpha	
___ Gross Beta	

Microbiology

Parameter	Results (Col/100ml)

Inorganic Chemistry

Parameter	Results (mg/kg)
✓ Arsenic	<2
✓ Barium	39
✓ Cadmium	<9.8
Chloride	
✓ Chromium	16
Copper	
Fluoride	
Iron	
✓ Lead	49
Manganese	
✓ Mercury	<0.09
Nitrate	
✓ Selenium	<1
✓ Silver	<9.8
Sulfates	
Zinc	
pH	
Conductivity	
TDS	
TOC	
✓ Cyanide	37

TCLP Compounds

Inorganic Compounds	Results(mg/l)
✓ Arsenic	<0.01
✓ Barium	0.46
✓ Cadmium	<0.05
✓ Chromium	<0.05
✓ Lead	<0.10
✓ Mercury	<0.01
✓ Selenium	<0.005
✓ Silver	<0.05

Organic Compounds	Results(mg/l)
___ benzene	
___ carbon tetrachloride	
___ chlordane	
___ chlorobenzene	
___ chloroform	
___ o-cresol	
___ m-cresol	
___ p-cresol	
___ cresol	
___ 1,4-dichlorobenzene	
___ 1,2-dichloroethane	
___ 1,1-dichloroethylene	
___ 2,4-dinitrotoluene	
___ heptachlor	
___ hexachlorobenzene	
___ hexachlorobutadiene	
___ hexachloroethane	
___ methyl ethyl ketone	
___ nitrobenzene	
___ pentachlorophenol	
___ pyridine	
___ tetrachloroethylene	
___ trichloroethylene	
___ 2,4,5-trichlorophenol	
___ 2,4,6-trichlorophenol	
___ vinyl chloride	
___ endrin	
___ lindane	
___ methoxychlor	
___ toxaphene	
___ 2,4-D	
___ 2,4,5-TP (Silvex)	

Date Received ___ Reported by ___

Date Extracted ___ Date Reported ___

014174 AUG 394

Date Analyzed ___ Lab Number ___

DHS 3191 (Revised 2/91)

N.C. Department of Environment, Health, & Natural Resources
Solid Waste Management Division

SAMPLE ANALYSIS REQUEST

State Laboratory of Public Health
P.O. Box 28047, 306 N. Wilmington Street
Raleigh, North Carolina 27611

Site Number NCD 986 188 878 Field Sampl

SF-005-SL 08/02/94 1140 GRAB
Supreme Finishing, NC I. WILLIAMS
SURFACE SOIL ACROSS FOUNTAIN ST.
ESD LAB METALS Soil
SF- 15

Name of Site Supreme Finishing Site Locatio

Collected By Irene Williams ID# _____ Date Colle

Agency: ____ Hazardous Waste ____ Solid Waste ✓ Superfund

Sample Type

Environmental	Concentrate	Comments
____ Ground water (1)	____ Solid (5)	
____ Surface water (2)	____ Liquid (6)	
✓ Soil (3)	____ Sludge (7)	Surface Soil
____ Other (4)	____ Other (8)	

TCLP Compounds

Inorganic Compounds	Results(mg/l)
✓ Arsenic	<0.01
✓ Barium	1.26
✓ Cadmium	0.05
✓ Chromium	<0.05
✓ Lead	<0.10
✓ Mercury	<0.01
✓ Selenium	<0.005
✓ Silver	<0.05

Organic Chemistry

Parameter	Results(mg/l)
____ P&T:GC/MS	
____ Acid:B/N Ext.	
____ MTBE	

Radiochemistry

Parameter	Results (PCi/l)
____ Gross Alpha	
____ Gross Beta	

Microbiology

Parameter	Results (Col/100ml)

Inorganic Chemistry

Parameter	Results(mg/l) (mg/kg)
✓ Arsenic	2
✓ Barium	110
✓ Cadmium	<9.8
Chloride	
✓ Chromium	45
Copper	
Fluoride	
Iron	
✓ Lead	49
Manganese	
✓ Mercury	<0.09
Nitrate	
✓ Selenium	<1
✓ Silver	<9.8
Sulfates	
Zinc	
pH	
Conductivity	
TDS	
TOC	
✓ Cyanide	<8

Organic Compounds	Results(mg/l)
benzene	
carbon tetrachloride	
chlordane	
chlorobenzene	
chloroform	
o-cresol	
m-cresol	
p-cresol	
cresol	
1,4-dichlorobenzene	
1,2-dichloroethane	
1,1-dichloroethylene	
2,4-dinitrotoluene	
heptachlor	
hexachlorobenzene	
hexachlorobutadiene	
hexachloroethane	
methyl ethyl ketone	
nitrobenzene	
pentachlorophenol	
pyridine	
tetrachloroethylene	
trichloroethylene	
2,4,5-trichlorophenol	
2,4,6-trichlorophenol	
vinyl chloride	
endrin	
lindane	
methoxychlor	
toxaphene	
2,4-D	
2,4,5-TP (Silvex)	

Date Received _____ Reported by _____

Date Extracted _____ Date Reported _____

014175 AUG 394

Date Analyzed _____ Lab Number _____

DHS 3191 (Revised 2/91)

N.C. Department of Environment, Health, & Natural Resources
Solid Waste Management Division

SAMPLE ANALYSIS REQUEST

State Laboratory of Public Health
P.O. Box 28047, 306 N. Wilmington Street
Raleigh, North Carolina 27611

Site Number NCD 986 188 878 Field Sampl

SF-001-SD 08/02/94 0940 GRAB
Supreme Finishing, NC I. WILLIAMS
SEDIMENT IN POND NW OF SITE
ESD LAB METALS Sediment
SF- 18

Name of Site Supreme Finishing Site Locati

Collected By Irene Williams ID# Date Colle

Agency: ___ Hazardous Waste ___ Solid Waste ✓ Superfund

Sample Type

Environmental	Concentrate	Comments
___ Ground water (1)	___ Solid (5)	
___ Surface water (2)	___ Liquid (6)	
___ Soil (3)	___ Sludge (7)	
✓ Other (4)	___ Other (8) Sediment	

TCLP Compounds

Inorganic Compounds	Results(mg/l)
✓ Arsenic	<0.01
✓ Barium	0.42
✓ Cadmium	<0.05
✓ Chromium	<0.05
✓ Lead	<0.10
✓ Mercury	<0.01
✓ Selenium	<0.005
✓ Silver	<0.05

Organic Chemistry

Parameter	Results(mg/l)
___ P&T:GC/MS	
___ Acid:B/N Ext.	
___ MTBE	

Radiochemistry

Parameter	Results (PCi/l)
___ Gross Alpha	
___ Gross Beta	

Microbiology

Parameter	Results (Col/100ml)

Inorganic Chemistry

Parameter	Results(mg/kg)
✓ Arsenic	<2
✓ Barium	47
✓ Cadmium	<9.8
Chloride	
✓ Chromium	<9.8
Copper	
Fluoride	
Iron	
✓ Lead	<20
Manganese	
✓ Mercury	<0.09
Nitrate	
✓ Selenium	<1.9
✓ Silver	<9.8
Sulfates	
Zinc	
pH	
Conductivity	
TDS	
TOC	
✓ Cyanide	33

Organic Compounds	Results(mg/l)
benzene	
carbon tetrachloride	
chlordane	
chlorobenzene	
chloroform	
o-cresol	
m-cresol	
p-cresol	
cresol	
1,4-dichlorobenzene	
1,2-dichloroethane	
1,1-dichloroethylene	
2,4-dinitrotoluene	
heptachlor	
hexachlorobenzene	
hexachlorobutadiene	
hexachloroethane	
methyl ethyl ketone	
nitrobenzene	
pentachlorophenol	
pyridine	
tetrachloroethylene	
trichloroethylene	
2,4,5-trichlorophenol	
2,4,6-trichlorophenol	
vinyl chloride	
endrin	
lindane	
methoxychlor	
toxaphene	
2,4-D	
2,4,5-TP (Silvex)	

Date Received ___ Reported by ___

Date Extracted ___ Date Reported ___

014176 AUG 394

Date Analyzed ___ Lab Number ___

DHS 3191 (Revised 2/91)

N.C. Department of Environment, Health, & Natural Resources
Solid Waste Management Division

SAMPLE ANALYSIS REQUEST

State Laboratory of Public Health
P.O. Box 28047, 306 N. Wilmington Street
Raleigh, North Carolina 27611

Site Number NCD 986 188 878 Field Sam

SF-101-SD 08/02/94 1000 GRAB
Supreme Finishing, NC I. WILLIAMS
SEDIMENT IN POND NW OF SITE
ESD LAB METALS Sediment
SF- 21

Name of Site Supreme Finishing Site Loca

Collected By Irene Williams ID# Date Co

Agency: ____ Hazardous Waste ____ Solid Waste ✓ Superfund

Sample Type

Environmental	Concentrate	Comments
___ Ground water (1)	___ Solid (5)	
___ Surface water (2)	___ Liquid (6)	
___ Soil (3)	___ Sludge (7)	
✓ Other (4)	___ Other (8) Sediment	

TCLP Compounds

Inorganic Compounds	Results(mg/l)
✓ Arsenic	<0.01
✓ Barium	0.50
✓ Cadmium	<0.05
✓ Chromium	<0.05
✓ Lead	<0.10
✓ Mercury	<0.01
✓ Selenium	<0.005
✓ Silver	<0.05

Organic Chemistry

Parameter	Results(mg/l)
___ P&T:GC/MS	
___ Acid:B/N Ext.	
___ MTBE	

Inorganic Chemistry

Parameter	Results([redacted]) (mg/kg)
✓ Arsenic	<2
✓ Barium	41
✓ Cadmium	<9.8
Chloride	
✓ Chromium	<9.8
Copper	
Fluoride	
Iron	
✓ Lead	<20
Manganese	
✓ Mercury	<0.09
Nitrate	
✓ Selenium	<1
✓ Silver	<9.8
Sulfates	
Zinc	
pH	
Conductivity	
TDS	
TOC	
✓ Cyanide	13

Organic Compounds

Organic Compounds	Results(mg/l)
benzene	
carbon tetrachloride	
chlordane	
chlorobenzene	
chloroform	
o-cresol	
m-cresol	
p-cresol	
cresol	
1,4-dichlorobenzene	
1,2-dichloroethane	
1,1-dichloroethylene	
2,4-dinitrotoluene	
heptachlor	
hexachlorobenzene	
hexachlorobutadiene	
hexachloroethane	
methyl ethyl ketone	
nitrobenzene	
pentachlorophenol	
pyridine	
tetrachloroethylene	
trichloroethylene	
2,4,5-trichlorophenol	
2,4,6-trichlorophenol	
vinyl chloride	
endrin	
lindane	
methoxychlor	
toxaphene	
2,4-D	
2,4,5-TP (Silvex)	

Radiochemistry

Parameter	Results (PCi/l)
___ Gross Alpha	
___ Gross Beta	

Microbiology

Parameter	Results (Col/100ml)

Date Received ____ Reported by ____

Date Extracted ____ Date Reported ____

014177 AUG 394

Date Analyzed ____ Lab Number ____

DHS 3191 (Revised 2/91)

N.C. Department of Environment, Health, & Natural Resources
Solid Waste Management Division

SAMPLE ANALYSIS REQUEST

State Laboratory of Public Health
P.O. Box 28047, 306 N. Wilmington Street
Raleigh, North Carolina 27611

Site Number NCD 986 188 878 Field Samp

SF-002-SD 08/02/94 1025 GRAB
Supreme Finishing, NC I. WILLIAMS
SEDIMENT IN POND NNE OF SITE AT PPE 1
ESD LAB METALS Sediment
SF- 24

Name of Site Supreme Finishing Site Locat

Collected By Irene Williams ID# Date Coll

Agency: ___ Hazardous Waste ___ Solid Waste ✓ Superfund

Sample Type

Environmental	Concentrate	Comments
___ Ground water (1)	___ Solid (5)	
___ Surface water (2)	___ Liquid (6)	
___ Soil (3)	___ Sludge (7)	
✓ Other (4)	___ Other (8) Sediment	

TCLP Compounds

Inorganic Compounds	Results(mg/l)
✓ Arsenic	<0.01
✓ Barium	0.32
✓ Cadmium	<0.05
✓ Chromium	<0.05
✓ Lead	<0.10
✓ Mercury	<0.01
✓ Selenium	<0.005
✓ Silver	<0.05

Organic Chemistry

Parameter	Results(mg/l)
___ P&T:GC/MS	
___ Acid:B/N Ext.	
___ MTBE	

Inorganic Chemistry

Parameter	Results(mg/l) (mg/kg)
✓ Arsenic	<2
✓ Barium	49
✓ Cadmium	<9.8
Chloride	
✓ Chromium	<9.8
Copper	
Fluoride	
Iron	
✓ Lead	<20
Manganese	
✓ Mercury	<0.09
Nitrate	
✓ Selenium	<1
✓ Silver	<9.8
Sulfates	
Zinc	
pH	
Conductivity	
TDS	
TOC	
✓ Cyanide	40

Organic Compounds

Organic Compounds	Results(mg/l)
benzene	
carbon tetrachloride	
chlordane	
chlorobenzene	
chloroform	
o-cresol	
m-cresol	
p-cresol	
cresol	
1,4-dichlorobenzene	
1,2-dichloroethane	
1,1-dichloroethylene	
2,4-dinitrotoluene	
heptachlor	
hexachlorobenzene	
hexachlorobutadiene	
hexachloroethane	
methyl ethyl ketone	
nitrobenzene	
pentachlorophenol	
pyridine	
tetrachloroethylene	
trichloroethylene	
2,4,5-trichlorophenol	
2,4,6-trichlorophenol	
vinyl chloride	
endrin	
lindane	
methoxychlor	
toxaphene	
2,4-D	
2,4,5-TP (Silvex)	

Radiochemistry

Parameter	Results (PCi/l)
___ Gross Alpha	
___ Gross Beta	

Microbiology

Parameter	Results (Col/100ml)

Date Received ___ Reported by ___

Date Extracted ___ Date Reported 014178 AUG 394

Date Analyzed ___ Lab Number ___

DHS 3191 (Revised 2/91)

N.C. Department of Environment, Health, & Natural Resources
Solid Waste Management Division

SAMPLE ANALYSIS REQUEST

State Laboratory of Public Health
P.O. Box 28047, 306 N. Wilmington Street
Raleigh, North Carolina 27611

Site Number NCD 986 188 878 Field San

SF-003-SD 08/02/94 1210 GRAB
Supreme Finishing, NC I. WILLIAMS
SEDIMENT FROM WETLAND AND UNNAMED TRIB.
ESD LAB METALS Sediment
SF- 27

Name of Site Supreme Finishing Site Loc

Collected By Irene Williams ID# Date Co

Agency: ___ Hazardous Waste ___ Solid Waste ✓ Superfund

Sample Type

Environmental	Concentrate	Comments
___ Ground water (1)	___ Solid (5)	
___ Surface water (2)	___ Liquid (6)	
___ Soil (3)	___ Sludge (7)	
✓ Other (4)	___ Other (8) Sediment	

TCLP Compounds

Inorganic Compounds	Results(mg/l)
✓ Arsenic	<0.01
✓ Barium	0.41
✓ Cadmium	<0.05
✓ Chromium	<0.05
✓ Lead	<0.10
✓ Mercury	<0.01
✓ Selenium	<0.005
✓ Silver	<0.05

Organic Chemistry

Parameter	Results(mg/l)
___ P&T:GC/MS	
___ Acid:B/N Ext.	
___ MTBE	

Radiochemistry

Parameter	Results (PCi/l)
___ Gross Alpha	
___ Gross Beta	

Microbiology

Parameter	Results (Col/100ml)

Inorganic Chemistry

Parameter	Results(mg/kg)
✓ Arsenic	<2
✓ Barium	29
✓ Cadmium	<9.8
Chloride	
✓ Chromium	<9.8
Copper	
Fluoride	
Iron	
✓ Lead	<20
Manganese	
✓ Mercury	<0.09
Nitrate	
✓ Selenium	<1
✓ Silver	<9.8
Sulfates	
Zinc	
pH	
Conductivity	
TDS	
TOC	
✓ Cyanide	<8

Organic Compounds

Organic Compounds	Results(mg/l)
___ benzene	
___ carbon tetrachloride	
___ chlordane	
___ chlorobenzene	
___ chloroform	
___ o-cresol	
___ m-cresol	
___ p-cresol	
___ cresol	
___ 1,4-dichlorobenzene	
___ 1,2-dichloroethane	
___ 1,1-dichloroethylene	
___ 2,4-dinitrotoluene	
___ heptachlor	
___ hexachlorobenzene	
___ hexachlorobutadiene	
___ hexachloroethane	
___ methyl ethyl ketone	
___ nitrobenzene	
___ pentachlorophenol	
___ pyridine	
___ tetrachloroethylene	
___ trichloroethylene	
___ 2,4,5-trichlorophenol	
___ 2,4,6-trichlorophenol	
___ vinyl chloride	
___ endrin	
___ lindane	
___ methoxychlor	
___ toxaphene	
___ 2,4-D	
___ 2,4,5-TP (Silvex)	

Date Received ___ Reported by ___

Date Extracted ___ Date Reported ___

014179 AUG 394

Date Analyzed ___ Lab Number ___

DHS 3191 (Revised 2/91)

RECEIVED
AUG 23 1994
SUPERFUND SECTION

N.C. Dept. of Environment, Health and Natural Resources
Division of Laboratory Services
State Laboratory of Public Health
P.O. Box 28047, Raleigh, N.C. 27611

Environmental Sciences Analysis Report

Name of Owner, Patient or Supply: Supreme Finishing NCD 986 188 878 Irene Williams

Address: Superfund Section

County:

Report To: ~~401 Oberlin Road~~ Superfund Section

Address: 401 Oberlin Road

Date Collected: 8/2/94

Collected By: Irene Williams

Analysis Desired: VOA's (P+T: GC/ms)

Laboratory Number	Sample Number	Sample Description or Remarks (Type of Sample)	Results In
942860	SF-1	Soil 8/2/94 (3)	SEE ATTACHED SHEET(S)
942861	SF-4	Soil 8/2/94	
942862	SF-7	Soil 8/2/94	
942863	SF-10	Soil 8/2/94	
942864	SF-13	Soil 8/2/94	
942865	SF-16	Sediment 8/2/94 (4)	
942866	SF-19	Sediment 8/2/94	
942867	SF-22	Sediment 8/2/94	
942868	SF-25	Sediment 8/2/94	
942869	SF-28	Trip blank 8/2/94	

Date Received 8-3-94 VP

Date Reported 8-22-94

Date Extracted

Date Analyzed 8-17-94 → 8-19-94 MW

Reported By: John E. Neal

DEHNR Form 2364 Revised (9-89)
Laboratory
1658E

NC-DEHNR
Division of Solid Waste Management
☐ Superfund Section
☐ Hazardous Waste Section
☐ Solid Waste Section

Organics Lab: ✓
Inorganics Lab: ____

CHAIN OF CUSTODY RECORD

Project Name: Supreme Finishing
Site ID # (NCD#) NCD 986 188 878
Location: 3033 Ross Road
Address: Durham, NC

Sampled by: Irene Williams
Sampler ID ____
Telephone: ( ) 733-2801
Date Sampled: 8-2-94
Time Sampled: ____

Sample Types: Soil ✓ Water ____ Waste ____ Other ____

Remarks: VOA's (P+T: GC/ms)
~~AF~~

Field Sample Numbers: SF-1, SF-4, SF-7, SF-10, SF-13

Relinquished by: V. Irene Williams (Signature) Date: 8/3/94 Time: 10:30 Am

Received by: Vicki Painter (Signature) Date: 8-3-94 Time: 10:30

Relinquished by: ____ (Signature) Date: ____ Time: ____

Received by: ____ (Signature) Date: ____ Time: ____

Relinquished by: ____ (Signature) Date: ____ Time: ____

Received by: ____ (Signature) Date: ____ Time: ____

Results Reported: John L. Neal (Signature) Date: 8-22-94 Time: ____

(A:\COCR.FRM)

NC-DEHNR
Division of Solid Waste Management
☐ Superfund Section
☐ Hazardous Waste Section
☐ Solid Waste Section

Organics Lab: ✓
Inorganics Lab: ____

CHAIN OF CUSTODY RECORD

Project Name: Supreme Finishing
Site ID # (NCD#) NCD 986 188 878
Location: 3033 Ross Road
Address: Durham, NC

Sampled by: Irene Williams
Sampler ID
Telephone: ( ) 733-2801
Date Sampled: 8-2-94
Time Sampled:

Sample Types: Soil ____ Water ____ Waste ____ Other ✓ Sediment

Remarks: VOA's (P&T: GC/MS)

Field Sample Numbers: SF-16, SF-19, SF-22, SF-25

Relinquished by: V. Irene Williams (Signature) Date: 8/3/94 Time: 10:30 Am

Received by: Vicki Painter (Signature) Date: 8-3-94 Time: 10:30

Relinquished by: ____ (Signature) Date: ____ Time: ____

Received by: ____ (Signature) Date: ____ Time: ____

Relinquished by: ____ (Signature) Date: ____ Time: ____

Received by: ____ (Signature) Date: ____ Time: ____

Results Reported: John R. Neal (Signature) Date: 8-22-94 Time: ____

(A:\COCR.FRM)

NC-DEHNR
Division of Solid Waste Management
☐ Superfund Section
Hazardous Waste Section
Solid Waste Section

Organics Lab: ✓
Inorganics Lab: ____

CHAIN OF CUSTODY RECORD

Project Name: Supreme Finishing
Site ID # (NCD#) NCD 986 188 878
Location: 3033 Ross Road
Address: Durham, NC

Sampled by: Irene Williams
Sampler ID ____
Telephone: ( ) 733-2801
Date Sampled: 8-2-94
Time Sampled: ____

Sample Types: Soil ____ Water ✓ Waste ____ Other ____

Remarks: Trip blank - VOA's (P & T: GC/ms)

Field Sample Numbers: SF-28

Relinquished by: V. Irene Williams (Signature) Date: 8/3/94 Time: 1030AM

Received by: Vicki Painter (Signature) Date: 8-3-94 Time: 10:30AM

Relinquished by: ____ (Signature) Date: ____ Time: ____

Received by: ____ (Signature) Date: ____ Time: ____

Relinquished by: ____ (Signature) Date: ____ Time: ____

Received by: ____ (Signature) Date: ____ Time: ____

Results Reported: John L. Neal (Signature) Date: 8-22-94 Time: ____

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(1)

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

ORGANIC CHEMICAL ANALYSIS

PURGEABLE COMPOUNDS	LAB NO	942860	942861	942862	942863	942864	942865
	FIELD NO	SF-1	SF-4	SF-7	SF-10	SF-13	SF-16
COMPOUND	TYPE	(3)	(3)	(3)	(3)	(3)	(4)
	UNITS	µg/l (µg/kg)	µg/l (µg/kg)	µg/l (µg/kg)	µg/l (µg/kg)	µg/l (µg/kg)	µg/l (µg/kg)
CHLOROMETHANE	20 ppb	u	u	u	u	u	u
VINYL CHLORIDE	10						
BROMOMETHANE	20						
CHLOROETHANE	10						
TRICHLOROFLUOROMETHANE	10						
ACETONE	50						
1,1-DICHLOROETHENE	5						
IODOMETHANE	10						
METHYLENE CHLORIDE	5						
CARBON DISULFIDE	↓						
TRANS-1,2-DICHLOROETHENE	↓						
ACRYLONITRILE	200						
1,1-DICHLOROETHANE	5						↓
2-BUTANONE	50						9 J
CIS-1,2-DICHLOROETHENE	5					↓	u
CHLOROFORM	↓					trace C	↓
1,1,1-TRICHLOROETHANE	↓					trace C	trace C
CARBON TETRACHLORIDE	10					u	u
BENZENE	5						
1,2-DICHLOROETHANE	↓						
TRICHLOROETHENE	↓						
1,2-DICHLOROPROPANE	↓						
BROMODICHLOROMETHANE	10	↓	↓	↓	↓	↓	↓
	↑ MDL ↑						

B - BACKGROUND PRESENT IN LAB BLANKS.
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. The number is the Minimum Detection Limit.
NA - Not analyzed.
1/ - Tentative identification.
2/ - On NRDC List of Priority Pollutants.
H - COMPOUND REUABLY DETECTABLE ONLY AT HIGH CONCENTRATIONS.
C - POSSIBLE LAB CONTAMINATION.

(2)

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

ORGANIC CHEMICAL ANALYSIS

PURGEABLE COMPOUNDS	LAB NO	942860	942861	942862	942863	942864	942865
	FIELD NO	SF-1	SF-4	SF-7	SF-10	SF-13	SF-16
COMPOUND	TYPE	(3)	(3)	(3)	(3)	(3)	(4)
	UNITS	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg
DIBROMOMETHANE	5 ppb	u	u	u	u	u	u
4-METHYL-2-PENTANONE	50						
CIS-1,3-DICHLOROPROPENE	5						
TOLUENE							131
TRANS-1,3-DICHLOROPROPENE							u
1,1,2,2-TETRACHLOROETHANE	10						
1,1,2-TRICHLOROETHANE	5						
2-HEXANONE	50						
TETRACHLOROETHENE	5						
DIBROMOCHLOROMETHANE	10						
ETHYLENE DIBROMIDE	5						
CHLOROBENZENE							
1,1,1,2-TETRACHLOROETHANE	10						
ETHYL BENZENE	5						
XYLENES	10						
STYRENE	5						
BROMOFORM	10						
H TRANS-1,4-DICHLORO-2-BUTENE	80						
H 1,2,3-TRICHLOROPROPANE	200						
1,4-DICHLOROBENZENE	10						
1,2-DICHLOROBENZENE							
H 1,2-DIBROMO-3-CHLOROPROPANE	200						
H VINYL ACETATE							
Hydrocarbons/other	⊕/⊖	⊖	⊖	⊖	⊖	⊖	⊕
	↑MDL↑						

B - BACKGROUND PRESENT IN LAB BLANKS.
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. The number is the Minimum Detection Limit.
NA - Not analyzed.
1/ - Tentative identification.
2/ - On NRDC List of Priority Pollutants.
H - COMPOUND RELIABLY DETECTABLE ONLY AT HIGH CONCENTRATIONS.
C - POSSIBLE LAB CONTAMINATION.

3

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

ORGANIC CHEMICAL ANALYSIS

Trip Blk.

PURGEABLE COMPOUNDS	LAB NO	9428666	9428667	9428668	9428669		
	FIELD NO	SF-19	SF-22	SF-25	SF-28		
COMPOUND	TYPE	(4)	(4)	(4)	(4)	( )	( )
	UNITS	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg
CHLOROMETHANE	20 ppb	u	u	u	u		
VINYL CHLORIDE	10						
BROMOMETHANE	20						
CHLOROETHANE	10						
TRICHLOROFLUOROMETHANE	10						
ACETONE	50						
1,1-DICHLOROETHENE	5						
IODOMETHANE	10						
METHYLENE CHLORIDE	5						
CARBON DISULFIDE							
TRANS-1,2-DICHLOROETHENE							
ACRYLONITRILE	200						
1,1-DICHLOROETHANE	5						
2-BUTANONE	50	9J	trace	1J	trace		
CIS-1,2-DICHLOROETHENE	5	u	u	u	u		
CHLOROFORM							
1,1,1-TRICHLOROETHANE							
CARBON TETRACHLORIDE	10						
BENZENE	5	trace B					
1,2-DICHLOROETHANE		u					
TRICHLOROETHENE							
1,2-DICHLOROPROPANE							
BROMODICHLOROMETHANE	10						
	↑MDL↑						

B - BACKGROUND PRESENT IN LAB BLANKS.
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. The number is the Minimum Detection Limit.
NA - Not analyzed.
1/ - Tentative identification.
2/ - On NRDC List of Priority Pollutants.
H - COMPOUND RELIABLY DETECTABLE ONLY AT HIGH CONCENTRATIONS.
C - POSSIBLE LAB CONTAMINATION.

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

ORGANIC CHEMICAL ANALYSIS

Trip Blk.

PURGEABLE COMPOUNDS	LAB NO	9428666	9428667	9428668	9428669		
	FIELD NO	SF-19	SF-22	SF-25	SF-28		
COMPOUND	TYPE	(4)	(4)	(4)	(4)	( )	( )
	UNITS	µg/l (µg/kg)	µg/l (µg/kg)	µg/l (µg/kg)	(µg/l) µg/kg	µg/l µg/kg	µg/l µg/kg
DIBROMOMETHANE	5 ppb	u	u	u	u		
4-METHYL-2-PENTANONE	50						
CIS-1,3-DICHLOROPROPENE	5						
TOLUENE		329		trace			
TRANS-1,3-DICHLOROPROPENE		u		u			
1,1,2,2-TETRACHLOROETHANE	10						
1,1,2-TRICHLOROETHANE	5						
2-HEXANONE	50						
TETRACHLOROETHENE	5						
DIBROMOCHLOROMETHANE	10						
ETHYLENE DIBROMIDE	5						
CHLOROBENZENE							
1,1,1,2-TETRACHLOROETHANE	10						
ETHYL BENZENE	5	1J					
XYLENES	10	trace		trace			
STYRENE	5	u		u			
BROMOFORM	10						
H TRANS-1,4-DICHLORO-2-BUTENE	80						
H 1,2,3-TRICHLOROPROPANE	200						
1,4-DICHLOROBENZENE	10						
1,2-DICHLOROBENZENE							
H 1,2-DIBROMO-3-CHLOROPROPANE	200						
H VINYL ACETATE							
hydrocarbons/other	(+)/(−)	(+)	(−)	(−)	(−)		
	↑MDL↑						

B - BACKGROUND PRESENT IN LAB BLANKS.
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. The number is the Minimum Detection Limit.
NA - Not analyzed.
1/ - Tentative identification.
2/ - On NRDC List of Priority Pollutants.
H - COMPOUND RELIABLY DETECTABLE ONLY AT HIGH CONCENTRATIONS.
C - POSSIBLE LAB CONTAMINATION.

N.C. Dept. of Environment, Health and Natural Resources
Division of Laboratory Services
State Laboratory of Public Health
P.O. Box 28047, Raleigh, N.C. 27611

Environmental Sciences Analysis Report

Name of Owner, Patient or Supply: Supreme Finishing NCD 986 188878 Irene Williams

Address: Superfund Section

County:

Report To: Superfund Section

Address: 401 Oberlin Road

Date Collected: 8/2/94

Collected By: Irene Williams

Analysis Desired: Extractable Organics (Acid: B/N Ext.) (No separate pest. scan)

Laboratory Number	Sample Number	Sample Description or Remarks	Results In
942870	SF-2	Soil 8/2/94	SEE ATTACHED SHEET(S)
942871	SF-5	Soil 8/2/94	
942872	SF-8	Soil 8/2/94	
942873	SF-11	Soil 8/2/94	
942874	SF-14	Soil 8/2/94	
942875	SF-17	Sediment 8/2/94	
942876	SF-20	Sediment 8/2/94	
942877	SF-23	Sediment 8/2/94	
942878	SF-26	Sediment 8/2/94	

Date Received 8-3-94 VP

Date Reported 8-18-94

Date Extracted 8-10-94 SA, AB

Date Analyzed 8-14-94 BD

Reported By: John L. Neal

DEHNR Form 2364 Revised (9-89)
Laboratory
1658E

NC-DEHNR
Division of Solid Waste Management
[redacted] Superfund Section
☐ Hazardous Waste Section
[redacted] Solid Waste Section

Inorganics Lab: ✓

CHAIN OF CUSTODY RECORD

Project Name: Supreme Finishing
Site ID # (NCD#) NCD 986 188 878
Location: 3033 Ross Road
Address: Durham, NC

Sampled by: Irene Williams
Sampler ID
Telephone: ( ) 733-2801
Date Sampled: 8-2-94
Time Sampled:

Sample Types: Soil ✓ Water Waste Other

Remarks: Extractables (Acid: B/N Ext)
No Separate pesticide Scan.

Field Sample Numbers: SF-2 SF-5 SF-8 SF-11 SF-14

Relinquished by: V. Irene Williams (Signature) Date: 8/3/94 Time: 10:30 Am

Received by: Vicki Painter (Signature) Date: 8-3-94 Time: 10:30 AM

Relinquished by: (Signature) Date: Time:

Received by: (Signature) Date: Time:

Relinquished by: (Signature) Date: Time:

Received by: (Signature) Date: Time:

Results Reported: John L. Real (Signature) Date: 8-18-94 Time:
942870 - 942878

(A:\COCR.FRM)

NC-DEHNR
Division of Solid Waste Management
☐ Superfund Section
☐ Hazardous Waste Section
☐ Solid Waste Section

Organics Lab: ✓
Inorganics Lab: _____

CHAIN OF CUSTODY RECORD

Project Name: Supreme Finishing
Site ID # (NCD#) NCD 986 188 878
Location: 3033 Ross Road
Address: Durham, NC

Sampled by: Irene Williams
Sampler ID
Telephone: ( ) 733-2801
Date Sampled: 8-2-94
Time Sampled:

Sample Types: Soil _____ Water _____ Waste _____ Other ✓ Sediment

Remarks: Extractables (Acid: B/N Ext)
No separate pesticide scan.

Field Sample Numbers: SF-17, SF-20, SF-23, SF-26

Relinquished by: Y. Irene Williams (Signature) Date: 8/3/94 Time: 10:30Am

Received by: Vicki Painter (Signature) Date: 8-3-94 Time: 10:30AM

Relinquished by: _____ (Signature) Date: _____ Time: _____

Received by: _____ (Signature) Date: _____ Time: _____

Relinquished by: _____ (Signature) Date: _____ Time: _____

Received by: _____ (Signature) Date: _____ Time: _____

Results Reported: John L. Rea (Signature) Date: 8-18-94 Time: _____
942870-942878

(A:\COCR.FRM)

(1)

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

ORGANIC CHEMICAL ANALYSIS

BASE/NEUTRAL AND ACID EXTRACTABLES	LAB NO	942870	942871	942872	942873	942874	942875
	FIELD #	SF2	SF5	SF8	SF11	SF14	SF17
COMPOUND	TYPE	(3)	(3)	(3)	(3)	(3)	(4)
	UNITS	~~µg/L~~ µg/kg	~~µg/L~~ µg/kg	~~µg/L~~ µg/kg	~~µg/L~~ µg/kg	~~µg/L~~ µg/kg	~~µg/L~~ µg/kg
-nitrosodimethylamine	10/330	U	U	U	U	U	U
is(2-chloroethyl)ether	↓						
2-chlorophenol							
phenol							
,3-dichlorobenzene							
1,4-dichlorobenzene							
1,2-dichlorobenzene							
is(2-chloroisopropyl)ether							
hexachloroethane							
N-nitroso-di-n-propylamine							
nitrobenzene							
isophorone							
2-nitrophenol							
2,4-dimethylphenol							
is(2-chloroethoxy)methane							
2,4-dichlorophenol							
1,2,4-trichlorobenzene							
naphthalene							
hexachlorobutadiene							
4-chloro-m-cresol							
hexachlorocyclopentadiene							
2,4,6-trichlorophenol							
2-chloronaphthalene							
acenaphthylene							
dimethyl phthalate							
2,6-dinitrotoluene							
acenaphthene	↓						
2,4-dinitrophenol	50/1650						
2,4-dinitrotoluene	10/330						
4-nitrophenol	50/1650						
fluorene	10/330						
4-chlorophenylphenylether	↓						
diethyl phthalate	↓						
4,6-dinitro-o-cresol	50/1650						
diphenylamine	10/330						
azobenzene	↓						
4-bromophenylphenylether	↓						
hexachlorobenzene	↓						
pentachlorophenol	50/1650						
phenanthrene	10/330						
anthracene	↓						
dibutyl phthalate	↓	✓	✓	✓	✓	✓	✓
fluoranthene	↓						

MDL
H_2O/SOIL

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. The number is the Minimum Detection Limit. MDL
NA - Not analyzed.
1/ - Tentative identification.
2/ - On NRDC List of Priority Pollutants.

N.C. Division of Health Services
DHS 3068-0 (4/86 Laboratory)

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

ORGANIC CHEMICAL ANALYSIS

BASE/NEUTRAL AND ACID EXTRACTABLES	LAB NO	942870	942871	942872	942873	942874	942875
	FIELD #	SF2	SF5	SF8	SF11	SF14	SF17
COMPOUND	TYPE	(3)	(3)	(3)	(3)	(3)	(4)
	UNITS	~~µg/l~~ µg/kg	~~µg/l~~ µg/kg	~~µg/l~~ µg/kg	~~µg/l~~ µg/kg	~~µg/l~~ µg/kg	~~µg/l~~ µg/kg
pyrene	10/330	U	U	U	U	U	U
benzidine	50/1650						
butyl benzyl phthalate	10/330						
benz(a)anthracene							
chrysene							
3,3-dichlorobenzidine	50/1650						
bis(2-ethylhexyl)phthalate	10/330			1,933	1,067		
di-n-octyl phthalate	10/330			U	U		
benzo(b)fluoranthene	50/1650						
benzo(k)fluoranthene							
benzo(a)pyrene							
indeno(1,2,3-cd)pyrene							
dibenzo(a,h)anthracene							
benzo(g,h,i)perylene							
aniline	50/1650	U	U	U	U	U	U
benzoic acid							
benzyl alcohol							
4-chloroaniline							
dibenzofuran	10/330						
2-methylnaphthalene							
2-methylphenol							
4-methylphenol							
2-nitroaniline	50/1650						
3-nitroaniline							
4-nitroaniline							
2,4,5-trichlorophenol							

MDL
H2O/50/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. The number is the Minimum Detection Limit. MDL
NA - Not analyzed.
1/ - Tentative identification.
2/ - On NRDC List of Priority Pollutants.

N.C. Division of Health Services
DHS 3068-0 (4/86 Laboratory)

(3)

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

ORGANIC CHEMICAL ANALYSIS

BASE/NEUTRAL AND ACID EXTRACTABLES	LAB NO	942876	942877	942878			
	FIELD #	SF 20	SF 23	SF 26			
COMPOUND	TYPE	(4)	(4)	(4)	( )	( )	( )
	UNITS	~~µg/l~~ µg/kg	~~µg/l~~ µg/kg	~~µg/l~~ µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg
-nitrosodimethylamine	10/330	U	U	U			
is(2-chloroethyl)ether							
2-chlorophenol							
phenol							
,3-dichlorobenzene							
1,4-dichlorobenzene							
1,2-dichlorobenzene							
is(2-chloroisopropyl)ether							
exachloroethane							
N-nitroso-di-n-propylamine							
itrobenzene							
sophorone							
2-nitrophenol							
2,4-dimethylphenol							
is(2-chloroethoxy)methane							
2,4-dichlorophenol							
1,2,4-trichlorobenzene							
aphthalene							
exachlorobutadiene							
4-chloro-m-cresol							
exachlorocyclopentadiene							
2,4,6-trichlorophenol							
2-chloronaphthalene							
acenaphthylene							
imethyl phthalate							
2,6-dinitrotoluene							
acenaphthene	↓						
2,4-dinitrophenol	50/1650						
2,4-dinitrotoluene	10/330						
4-nitrophenol	50/1650						
fluorene	10/330						
-chlorophenylphenylether							
diethyl phthalate	↓						
4,6-dinitro-o-cresol	50/1650						
diphenylamine	10/330						
azobenzene							
4-bromophenylphenylether							
hexachlorobenzene	↓						
pentachlorophenol	50/1650						
phenanthrene	10/330						
anthracene							
dibutyl phthalate							
fluoranthene	↓	✓	✓	✓			

MDL
H_2O/SOIL

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. The number is the Minimum Detection Limit. MDL
NA - Not analyzed.
1/ - Tentative identification.
2/ - On NRDC List of Priority Pollutants.

N.C. Division of Health Services
DHS 3068-0 (4/86 Laboratory)

(4)

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

ORGANIC CHEMICAL ANALYSIS

BASE/NEUTRAL AND ACID EXTRACTABLES	LAB NO	942876	942877	942878			
	FIELD #	SF 20	SF 23	SF 26			
COMPOUND	TYPE	(4)	(4)	(4)	( )	( )	( )
	UNITS	~~µg/l~~ µg/kg	~~µg/l~~ µg/kg	~~µg/l~~ µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg
pyrene	10/330	U	U	U			
benzidine	50/1650						
butyl benzyl phthalate	10/330						
benz(a)anthracene							
chrysene							
3,3-dichlorobenzidine	50/1650						
bis(2-ethylhexyl)phthalate	10/330		330K				
di-n-octyl phthalate	10/330		U				
benzo(b)fluoranthene	50/1650						
benzo(k)fluoranthene							
benzo(a)pyrene							
indeno(1,2,3-cd)pyrene							
dibenzo(a,h)anthracene							
benzo(g,h,i)perylene							
aniline	50/1650	U	U	U			
benzoic acid							
benzyl alcohol							
4-chloroaniline							
dibenzofuran	10/330						
2-methylnaphthalene							
2-methylphenol							
4-methylphenol							
2-nitroaniline	50/1650						
3-nitroaniline							
4-nitroaniline							
2,4,5-trichlorophenol							

MDL
H_2O/501L

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. The number is the Minimum Detection Limit. MDL
NA - Not analyzed.
1/ - Tentative identification.
2/ - On NRDC List of Priority Pollutants.

N.C. Division of Health Services
DHS 3068-0 (4/86 Laboratory)

REFERENCES

LATITUDE AND LONGITUDE CALCULATION WORKSHEET #2
LI USING ENGINEER'S SCALE (1/60)

SITE NAME: Supreme Finishing CERCLIS #: NCD 986 188 878

AKA: SSID:

ADDRESS: 3033 Ross Road

CITY: Durham STATE: NC ZIP CODE:

SITE REFERENCE POINT: A point 100' N of the NNE corner of building

USGS QUAD MAP NAME: Southeast Durham TOWNSHIP: — N/S RANGE: — E/W

SCALE: 1:24,000 MAP DATE: 1973 SECTION: — 1/4 — 1/4 — 1/4

MAP DATUM: (1927) 1983 (CIRCLE ONE) MERIDIAN: —

COORDINATES FROM LOWER RIGHT (SOUTHEAST) CORNER OF 7.5' MAP (attach photocopy):

LONGITUDE: 78° 45' 0" LATITUDE: 35° 52' 30"

COORDINATES FROM LOWER RIGHT (SOUTHEAST) CORNER OF 2.5' GRID CELL:

LONGITUDE: 78° 50' 0" LATITUDE: 35° 57' 30"

CALCULATIONS: LATITUDE (7.5' QUADRANGLE MAP)

A) NUMBER OF RULER GRADUATIONS FROM LATITUDE GRID LINE TO SITE REF POINT: 383

B) MULTIPLY (A) BY 0.3304 TO CONVERT TO SECONDS:

A x 0.3304 = 126.54"

C) EXPRESS IN MINUTES AND SECONDS (1'= 60"): 2' 6.54"

D) ADD TO STARTING LATITUDE: 35° 57' 30.0" + 2' 6.54 =

SITE LATITUDE: 35° 59' 36.5"

CALCULATIONS: LONGITUDE (7.5' QUADRANGLE MAP)

A) NUMBER OF RULER GRADUATIONS FROM RIGHT LONGITUDE LINE TO SITE REF POINT: 69

B) MULTIPLY (A) BY 0.3304 TO CONVERT TO SECONDS:

A x 0.3304 = 22.8"

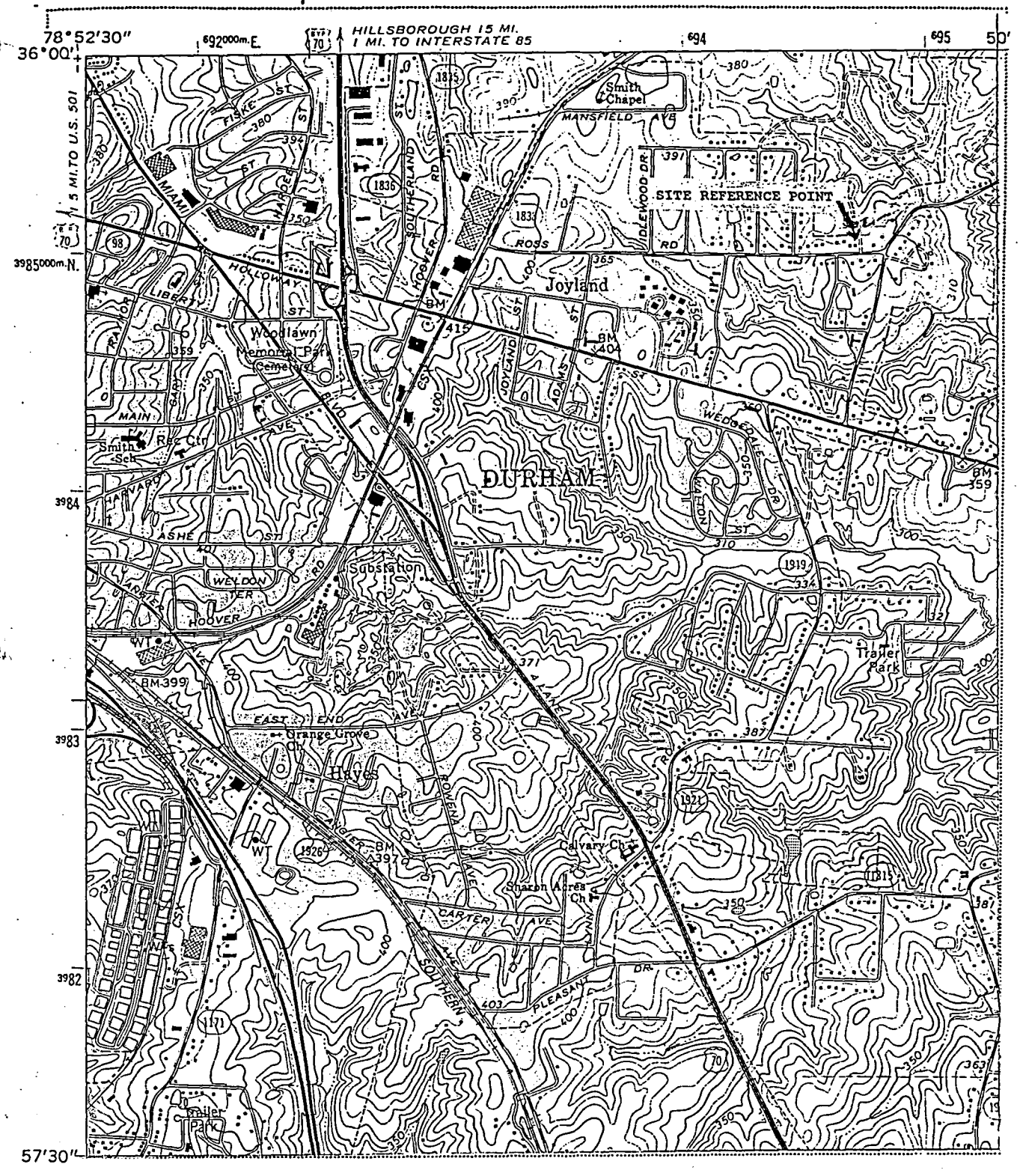
C) EXPRESS IN MINUTES AND SECONDS (1'= 60"): 0' 23.0"

D) ADD TO STARTING LONGITUDE: 78° 50' 0.0" + 0' 23.0 =

SITE LONGITUDE: 78° 50' 23.0"

INVESTIGATOR: Irene Williams DATE: 4/20/93

SITE NAME: Supreme Finishing NUMBER: NCD 986 188 878



TOPOGRAPHIC MAP QUADRANGLE NAME: Southeast Durham SCALE: 1:24,000

COORDINATES OF LOWER RIGHT-HAND CORNER OF 2.5-MINUTE GRID:

LATITUDE: 35° 57' 30" LONGITUDE: 78° 50' 0"

Ref. 3

MEMO

TO: Superfund Section Staff

FROM: Jeanette Stanley
Environmental Chemist
NC Superfund Section

DATE: August 29, 1995

SUBJECT: Update on Status of Wellhead Protection Programs in N.C.

I spoke with Mr. Randy Prillaman, Hydrogeologist, NC DEM (919) 733-3221 x424. North Carolina now has primacy in approval of wellhead protection areas.

There are no well head protection areas yet. He expects Gaston County to have the first well head protection area in the state of North Carolina. He will call me when this area is approved.

Ref. 4

GEOLOGY AND GROUND-WATER
in the
DURHAM AREA, NORTH CAROLINA

By

GEORGE L. BAIN
Geologist, U. S. Geological Survey

Chemical Quality of Water Section

By

J. D. THOMAS, *Chemist*, U. S. Geological Survey

GROUND-WATER BULLETIN NUMBER 7

NORTH CAROLINA
DEPARTMENT OF WATER RESOURCES
GEORGE E. PICKETT, *Director*

Division of Ground Water
HARRY M. PEEK, *Chief*

Prepared Cooperatively By
the Geological Survey
United States Department of the Interior

May
1966

GEOGRAPHY

Area and Population

The area covered by this report totals 2,605 square miles. According to the 1960 Bureau of the Census report, the Durham area has a population of 269,741, or about 103 per square mile. There are 15 cities and towns having a population of more than 1,000 each. Of these, Asheboro, Chapel Hill, and Durham have a population in excess of 10,000. The city of Durham is by far the largest with a population of 79,398. With the exception of the Durham-Chapel Hill, and Asheboro-Randleman areas, the report area is almost exclusively rural.

Economic Development

According to the 1960 Census, 62 percent of the Durham area is classed as farmland.

The agricultural products include tobacco, corn, hay, dairy products, livestock, and poultry. Tobacco is the chief cash crop and is the major source of income for many farm families. The broiler industry is an important source of farm income in Chatham County.

Manufacturing is important in the Durham area. Many people who operate small farms are employed on a full or part-time basis by industry. Industries include the manufacture of cigarettes, furniture, textiles, lumber, brick, and tile; the production of crushed stone; and poultry processing.

Mineral resources of economic importance include shale, clay, stone, pyrophyllite, and coal (Broadhurst, 1955). Copper, gold, lead, zinc, quartz, iron ore, and kyanite also are present in the Durham area. Triassic shale and clay used in the manufacture of brick and tile, and stone, which is crushed for road metal and general construction purposes, are the area's most valuable mineral resources. Argillite from the argillite-graywacke unit (pl. 2) meets the rigid requirements for primary highway construction. The argillite, where it is well sheared and jointed, has proved to be an economic source of crushed stone, owing to its ease of excavation and crushing. Where the argillite has a well-developed bedding plane cleavage and is not deformed, it is a potential source of building stone.

Pyrophyllite is mined only at Hillsboro in Orange County.

Coal is interbedded with the Triassic rocks in southern Chatham County in economic quantities (Reinemund, 1955), but it is not being mined at the present time. Copper deposits occur in Person County, and in Chatham County near Harpers Cross Roads, but they are not economically important under present market conditions.

Climate

Comparison of U. S. Weather Bureau records at five stations for the 30-year period 1931-60 reveals that the Durham area has a normal annual temperature of 60.1° F. Records of precipitation for the same period show that the normal annual precipitation at nine stations ranges from a maximum of 45.14 in. at Moncure in Chatham County to a minimum of 42.65 in. at Durham in Durham County. The normal monthly precipitation and temperature at the Chapel Hill station are plotted on figure 2.

Physiography and Drainage

The Durham area is within the Piedmont physiographic province. According to Fenneman (1938), the Piedmont is an uplifted peneplain in various stages of dissection, having a general slope from the mountains toward the Coastal Plain. In the southern part of Durham County and in the eastern part of Chatham County (pl. 2) the Piedmont upland is interrupted by a distinct lowland developed on weak Triassic rocks.

Topographic coverage is available for approximately one-tenth of the report area. Where coverage is not available, relief is estimated to rarely exceed 300 feet and to average about 50 feet per mile. An exception is in the vicinity of the Uwharrie Mountains in Randolph County, where relief commonly is in excess of 400 feet per mile. The Piedmont upland slopes from 850 feet in northwestern Randolph County to 180 feet in southeastern Chatham County, and from 700 feet in northeastern Orange County to 250 feet in eastern Durham County.

Surface water, derived from direct runoff and ground-water discharge, is drained by four major stream systems—the Pee Dee, the Cape Fear, the Neuse, and the Roanoke Rivers (fig. 3). Randolph County is drained by the Uwharrie River, which empties into the Pee Dee River, and by the Deep River, which empties into the Cape Fear River. The Deep River, which

or slate between them as one unit, which he called the Virgilina Greenstone.

The age of the mafic tuff and flow unit is not known. It is given a tentative age of Ordovician(?) on the basis of its apparent conformity in places to the underlying argillite-graywacke unit.

Granite and Granodiorite Unit

Volcanic and sedimentary rocks in the Durham area have been intruded and locally altered by plutonic igneous rocks that range in composition from granite to gabbro. Because compositions vary considerably from place to place and within the same pluton, it is difficult to separate the different varieties into mappable units. For convenience, rocks ranging in composition from granite to granodiorite were mapped as one unit.

Granite crops out in the northwestern part of Randolph County (pl. 2), in the north-central part of Chatham County, in the southeastern and northwestern parts of Orange County, and in the southwestern and central parts of Person County. The granite plutons listed above include xenoliths of volcanic rocks and other igneous varieties too small to map. The granite is pink to gray, medium-grained to porphyritic, well jointed, and locally sheared. Orthoclase and plagioclase feldspar, biotite mica, and quartz give the granite an equigranular texture. The granite weathers to pink, light-red or cream-colored soils.

The rest of the granite and granodiorite unit contains rocks that are mostly granodiorite in composition. As in the case of the granite, the granodiorite includes rocks of other compositions. Volcanic rocks and dikelike bodies of pegmatite, granite, diorite, and amphibolite are present. The contacts between the granodiorite and the country rock are less well defined and the alteration halo wider than that of granite. In some places, such as the area west of Carrboro, the granodiorite appears to have emplaced itself by assimilation of volcanic rock. Most rock classed as granodiorite is well jointed and is mantled by light-gray to dark-red saprolite.

Both granite and granodiorite weather deep enough in some localities to permit construction of large-diameter bored and dug wells below the lowest level of the water table. Large

residual boulders and unweathered rock are close to the surface in areas where relief is great enough that the weathered material has been removed by erosion.

Diorite Unit

Diorite occurs in plutons and dikes massive enough to map only in Person County. The largest outcrop of diorite is in the vicinity of Hurdle Mills. Another outcrop is approximately 2 miles south of Hesters Store in southwestern Person County and another is in the northeastern section of the county north of Dixons Store. The diorite generally is fine to medium grained, massive, well jointed, and not deeply weathered. Weathering colors range from dark brown on nearly fresh rock to dark red on thoroughly decomposed rock.

Gabbro Unit

Gabbro sills and dikes are relatively plentiful in the Durham area. This is especially true of western Randolph County, where a swarm of gabbro sills and dikes have intruded the argillite and the metavolcanic unit in a few places. Gabbro sills and dikes in this area show good conformity to regional structure. Most of the high peaks and ridges in western Randolph County are underlain by gabbro. Gabbro also occurs north of Calvander in Orange County, and in Person County southeast of Moriah and north of Denny Store. The gabbro is medium grained to pegmatitic, massive, and well jointed. It weathers from dark, dun-colored to dark-red shallow soils.

The age of the various intrusions is not known. However, they are younger than the mafic tuff and flow unit which they intrude and older than the Triassic which they do not intrude. They are classed as Mississippian(?) in this report.

Triassic Unit

In the Durham area rocks of Late Triassic age are exposed in a northeastward-trending structural and topographic lowland known as the Deep River Triassic basin. This basin is structurally similar to several isolated basins located at intervals within the Piedmont Province from Nova Scotia to South Carolina.

The Deep River basin extends northeastward from western Moore County to east-central Granville County. Along its nearly 100-mile length, it includes parts of southern and southeastern Chatham County, southeastern Orange County, and most of Durham County. Its maximum and minimum widths are about 20 and 5 miles, respectively.

The rocks of Triassic age are principally continental and consist of maroon to reddish-gray sandstones, shales, siltstones, conglomerates, and fanglomerates (fig. 8). However, coal beds are interbedded with gray to black shales and siltstones, indicating that during at least part of Triassic time restricted lakes or marshland favorable to the accumulation of vegetable matter existed and that the rate of sedimentation probably was slow.

Although gross lithologies are similar from outcrop to outcrop, individual beds change rapidly in thickness laterally, and in lithology both laterally and vertically. These factors have an important effect on the location of suitable ground-water supplies. Wells which penetrate the coarser, better sorted sandstones tend to yield more water than those in the relatively tighter shales and siltstones.

The Triassic rocks are separated from the metamorphic and igneous rocks to the east by the Jonesboro fault, which generally is well defined by a northwestward-facing fault scarp. The Triassic rocks are bordered on the west by volcanic and igneous rocks of the slate belt. The western contact in the Durham area is straight locally, but more often is a sinuous line caused by the original uneven surface upon which the basal Triassic rocks were deposited and by the notching effect of tranverse streams that have eroded through the thin updip edge of the Triassic. Where straight, the contact possibly is controlled by a western border fault such as that found by Conley (1962a) in Moore County. The western contact is offset locally by cross faults such as those mapped by Reinemund in the southern part of Chatham County.

In the Deep River basin the Triassic rocks dip 10° to 20° to the southeast, in contrast to those of the Dan River basin of North Carolina and Virginia (Mundorff, 1948) which dip to the northwest. Possibly, the monoclinal dip results in part from an initial dip and in part from contemporaneous and postdepositional movements along the Jonesboro fault. A few flowing wells

Figure 8. Outcrop of light-gray sandstone in the Triassic unit near Seaforth, Chatham County.

are present in the Triassic rocks of Durham and Chatham Counties. Water percolating downdip through the more permeable sandstones develops sufficient artesian pressure, or head, to produce flowing wells in some localities.

Maximum thickness of the Triassic wedge has been estimated to range from 7,000 to 8,000 feet in the southern part of the basin to 4,000 to 5,000 feet in southeastern Chatham County. Prouty (1931) has estimated that in the northern part of the basin (Durham County area) the Triassic rocks may be as thick as 10,000 feet.

In Late Triassic time the sedimentary rocks were intruded by dikes and sills of diabase, which have formed narrow baked zones along their contacts. These diabase dikes are frequently found in the slate belt of North Carolina. The writer was able to trace one such dike in Randolph County for a distance of 7 miles.

Time did not permit separation of the Triassic into lithologic units. Reinemund divided the Triassic rocks in the vicinty of the Deep River coal field into the following formations, which

Table. 9. Chemical Analyses of Ground Water for Chatham County
(Numbers heading the columns correspond to well numbers in table 8)

(Parts per million)

Date of collection	21	22	25	33	40	53	57	74	77	83	85	87	89	92	95	96	97	98	99	101	102	104
	12/7/61	12/7/61	12/7/61	7/30/59	12/1/61	12/1/61	12/1/61	12/1/61	12/1/61	12/1/61	12/1/61	1/10/54	10/10/59	12/1/61	12/1/61	12/1/61	1/10/54	10/10/59	12/1/61	7/30/59	12/1/61	12/1/61
Silica (SiO_2)	35	31	35	30	26	21	21	21	20	20	21	20	32	21	21	21	20	32	20	20	21	21
Aluminum (Al)	.0	.1	.2	.0	.1	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.1	.1
Iron (Fe)	.38	.28	.2	.1	.1	.2	.1	.1	.1	.1	.1	.1	.1	.26	.1	.1	.1	.1	.1	.17	.1	.16
Manganese (Mn)	.08	.06	.03	.08	.02	.04	.02	.06	.02	.02	.02	.1	.06	.03	.02	.02	.1	.06	.1	.06	.02	.03
Calcium (Ca)	2.1	23	142	51	156	32	32	7.4	32	37	32	18	61	37	32	32	18	61	32	71	32	42
Magnesium (Mg)	.4	3.1	33	8.1	27	3.3	4.3	2.3	3.3	4.2	4.2	3.3	5.0	4.2	4.2	4.2	3.3	5.0	4.2	24	4.2	5.3
Sodium (Na)	1.8	2.1	42	15	26	2.8	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	43	2.3	24
Potassium (K)	.7	4.1	.1	.8	2.1	.1	.1	.6	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.4	.1	.1
Lithium (Li)	.0	.2	.4	.1	.2	.1	.1	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1
Bicarbonate (HCO_3)	14	4	228	138	28	144	122	19	122	150	150	130	150	150	150	150	130	150	150	201	150	18
Sulfate (SO_4)	1.8	2.2	4.4	1.3	3.6	3.6	2.2	3.4	2.2	2.8	2.8	3.4	5.5	2.8	2.8	2.8	3.4	5.5	2.8	3.0	2.8	3.4
Chloride (Cl)	4.5	3.8	280	7.5	22	2.2	2.2	3.4	2.2	2.2	2.2	51	2.2	2.2	2.2	2.2	51	2.2	2.2	143	2.2	2.2
Fluoride (F)	.0	.1	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.1	.1
Nitrate (NO_3)	1.0	4	.2	.1	.1	.1	.1	4.7	.1	.1	.1	.1	.4	.1	.1	.1	.1	.4	.1	2.2	.1	.1
Phosphate (PO_4)	.0	.0	.0	.1	.0	.1	.1	.1	.1	.1	.1	.1	.1	.0	.1	.1	.1	.1	.1	.0	.1	.0
Dissolved solids	61	147	654	134	254	178	122	20	118	187	156	118	283	187	156	156	118	283	156	485	156	211
Hardness as $CaCO_3$	5	71	482	125	342	113	92	28	92	136	136	92	245	136	136	136	92	245	136	276	136	19
Noncarbonate	0	35	299	0	118	0	0	0	0	0	0	0	0	0	0	0	0	0	0	111	0	18
Specific conductance	47	180	1100	287	520	233	256	22	256	245	245	256	450	235	245	245	256	450	235	748	245	180
pH	6.1	6.8	7.3	7.5	7.1	7.2	7.1	6.7	7.1	7.0	7.3	7.1	7.0	7.0	7.3	7.3	7.1	7.0	7.3	7.1	7.3	6.1
Color	3	3	3	5	3	15	3	3	3	3	3	10	3	3	3	3	10	3	3	8	3	7
Map mark	Granite gneiss	Granite gneiss-pegmatite-rite	Meta-volcanic	Meta-volcanic	Meta-volcanic	Meta-volcanic	Triassic	Meta-volcanic	Triassic	Meta-volcanic	Meta-volcanic	Argillite-graywacke	Meta-volcanic	Meta-volcanic	Meta-volcanic	Meta-volcanic	Argillite-graywacke	Meta-volcanic	Triassic	Meta-volcanic	Triassic	Argillite-graywacke

[1] Bromide (Br)—2.3 ppm.

Durham County

(Area 299 square miles; population 111,995)

Durham County is the smallest county in the Durham area. It is bounded on the north by Person County, on the west by Alamance County, on the south by Chatham and Wake Counties, and on the east by Wake and Granville Counties. Durham, the county seat, is the largest city in the Durham area and has a population of 78,302. Other towns include Bethesda and Rougemont. Most of the people in Durham County are employed by industry and supporting services in the city of Durham. The American Tobacco Co. and the Liggett and Myers Tobacco Co. are located in the city of Durham. The northern and eastern parts of the county are still largely devoted to agriculture. Tobacco, corn, small grains, and livestock are the chief agricultural products.

Durham County is drained by the New Hope, Neuse, Eno, Little, and Flat Rivers. The confluence of the Eno and Flat Rivers east of Fairntosh marks the beginning of the Neuse River.

The topography of Durham County is dominated by a lowland developed on Triassic rocks. The Triassic lowland, which occupies most of the county, is bordered on the northwest and the southeast by a distinct excarpment of the resistant volcanic rocks. The undulating, submaturely dissected upland surface developed on the resistant volcanic rocks is similar to that of adjacent counties in the Piedmont province. This surface generally slopes to the southeast. The highest elevations are in the northern part, north and east of Rougemont. The lowest elevations are in the eastern part of the county along the Neuse River and in the southern part of the county along the tributaries of the New Hope River.

Geology

The northwestern third of the county is underlain by rocks included in the metavolcanic unit (pl. 2). The metavolcanic unit in Durham County includes felsic to mafic tuffs and flows and thin interbeds of sedimentary rock. Acidic volcanic rocks predominate in a belt ranging from 2 to 4 miles in width along the Triassic contact. Intermediate to basic volcanic rocks crop out in the northwest corner, and a narrow belt of volcanic rock

crops out on the southeast side of the Triassic lowland in eastern Durham County. Rocks of higher metamorphic grade, which occur just east of this narrow outcrop belt of volcanic rock, are included within the mica gneiss and schist unit.

Rocks of the metavolcanic unit are overlain by a dominantly sedimentary unit designated as the argillite-graywacke unit on the geologic map. Argillite, graywacke sandstone, and interbeds of tuff are exposed in synclinal structures along the Orange-Durham County line.

Granodiorite plutons have intruded the metavolcanic unit and are exposed west and north of Durham. The largest of these is exposed from the Triassic contact north of Fairntosh northward to the Durham-Person County line.

Approximately two-thirds of the county is underlain by Triassic rocks. This unit includes maroon to gray, arkosic sandstones, siltstones, shales, and fanglomerates. The rocks dip to the southeast about 15° and are bounded on the southeast by the Jonesboro fault. The Triassic rocks and the adjacent volcanic rocks have been intruded by diabasic dikes of Triassic age.

Ground Water

Most of the industry and more than one-half the people in Durham County obtain their water from surface water impounded in Lake Michie. Water needs outside the city of Durham are supplied by ground water obtained from wells and springs.

Ground water in the county is obtained from fractures and other secondary openings in the rocks or from the overlying mantle of soil and weathered rock. Since the depth of dug wells usually is limited by the depth to unweathered rock, dug wells generally are not deep enough to intersect the water table during periods of drought. Consequently, drilled wells are more dependable sources of ground water, being more easily constructed below the water table. Drilled wells have the added advantage of being less susceptible to contamination by surface water.

Data from 72 wells in Durham County are summarized in table 10.

Comparison of yields in table 10 indicates that rocks of the metavolcanic unit yield nearly twice as much per foot of well

Table 10. Summary of well data in Durham County according to rock type

Map unit	Number of wells	Yield (gallons per minute)		Average depth (feet)	Average water level (feet below LSD 2/)
		Average	Per foot of well		
Granite and granodiorite	5	3.8	0.04	89.6	21.4
Metavolcanic	19	11.7	.11	107.8	30.2
Triassic 1/	45	8.1	.06	137.8	25.2
Triassic diabase	3	8.0	.04	202.0	41.0

1/Does not include Triassic diabase

2/Land-surface datum

as do the Triassic rocks. Average yields tabulated for the granite and granodiorite unit and the Triassic diabase probably are not significant because of the small number of wells inventoried in these units.

Great differences in yield from place to place in the same rock unit have been noted. Figures 15 and 16 show that depth of weathered material has a greater influence on yield in the metavolcanic and argillite-graywacke units than does topography, but figures 17 and 18 indicate that topography has a greater influence on yield in the Triassic and granite and granodiorite units than does depth of weathering. At least three factors—rock type, depth of weathering, and topography—govern the potential yield at any one locality in Durham County.

Plate 1 shows the areal distribution of relative yield in the Durham area. Comparison of this map with plate 2 shows that rocks of the metavolcanic unit northwest of and adjacent to the Triassic lowland have a greater yield per foot of uncased hole than the Triassic rocks have. In the unshaded areas a well 80 feet deep with 30 feet of casing should yield 5 gpm or more. Wells in the areas shown by a horizontal-line pattern should yield less than 5 gpm for the same well and casing depths. Areas in which yields would be expected to be less than 1 gpm for the same depths of well and casing are shown in a crosshatched pattern.

Figure 24 consists of two selected hydrographs which illus-

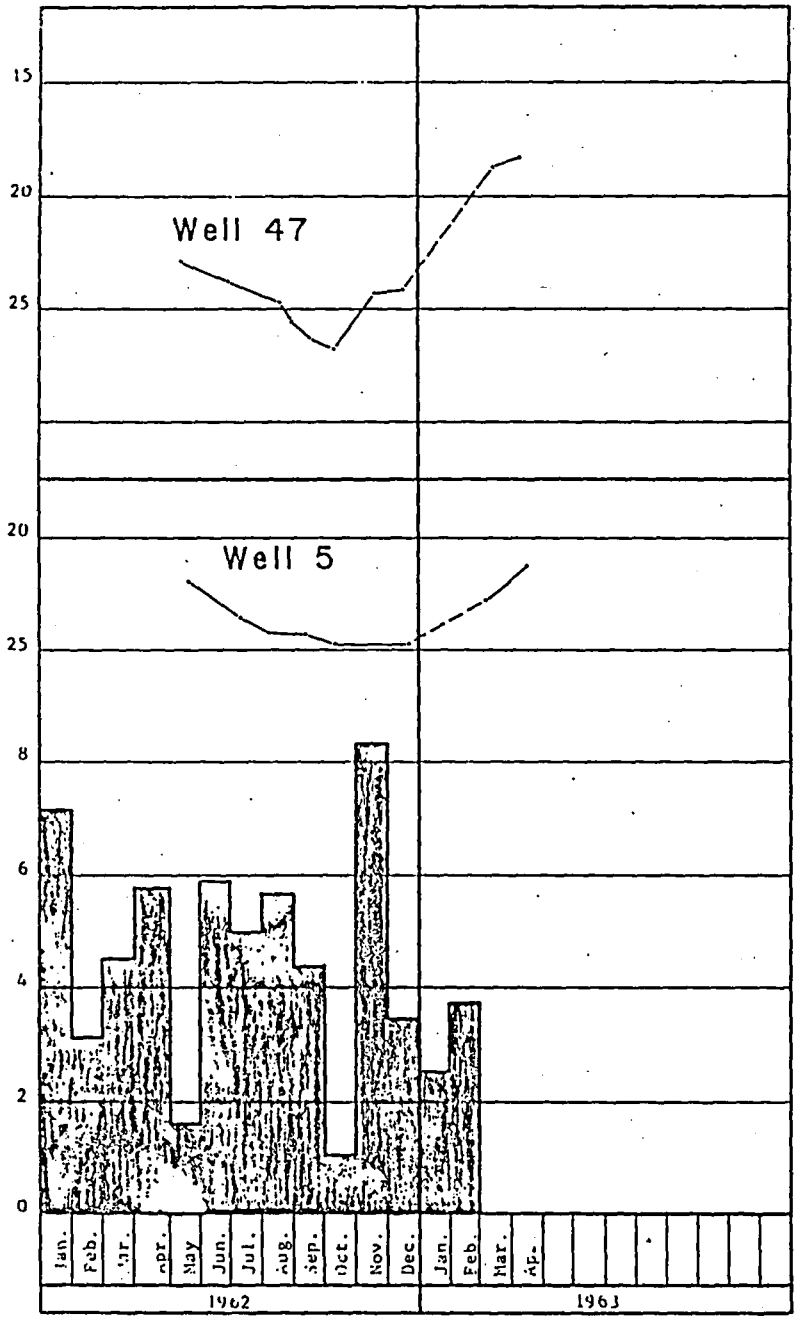


Figure 24. Selected hydrographs showing seasonal fluctuation of the water table in Durham County.

trate the seasonal fluctuation of the water table in Durham County.

Quality of Water

Ground water in Durham County is principally a calcium bicarbonate type and is suitable for most domestic, municipal, and industrial purposes.

Iron exceeded U. S. Public Health Service recommendations of 0.3 ppm in one of the water samples analyzed. Chloride concentrations were below the recommended 250 ppm maximum in all water samples except one. Hardness ranged from 45 ppm to 524 ppm.

Analyses of ground water from nine selected wells in the county are listed in table 12.

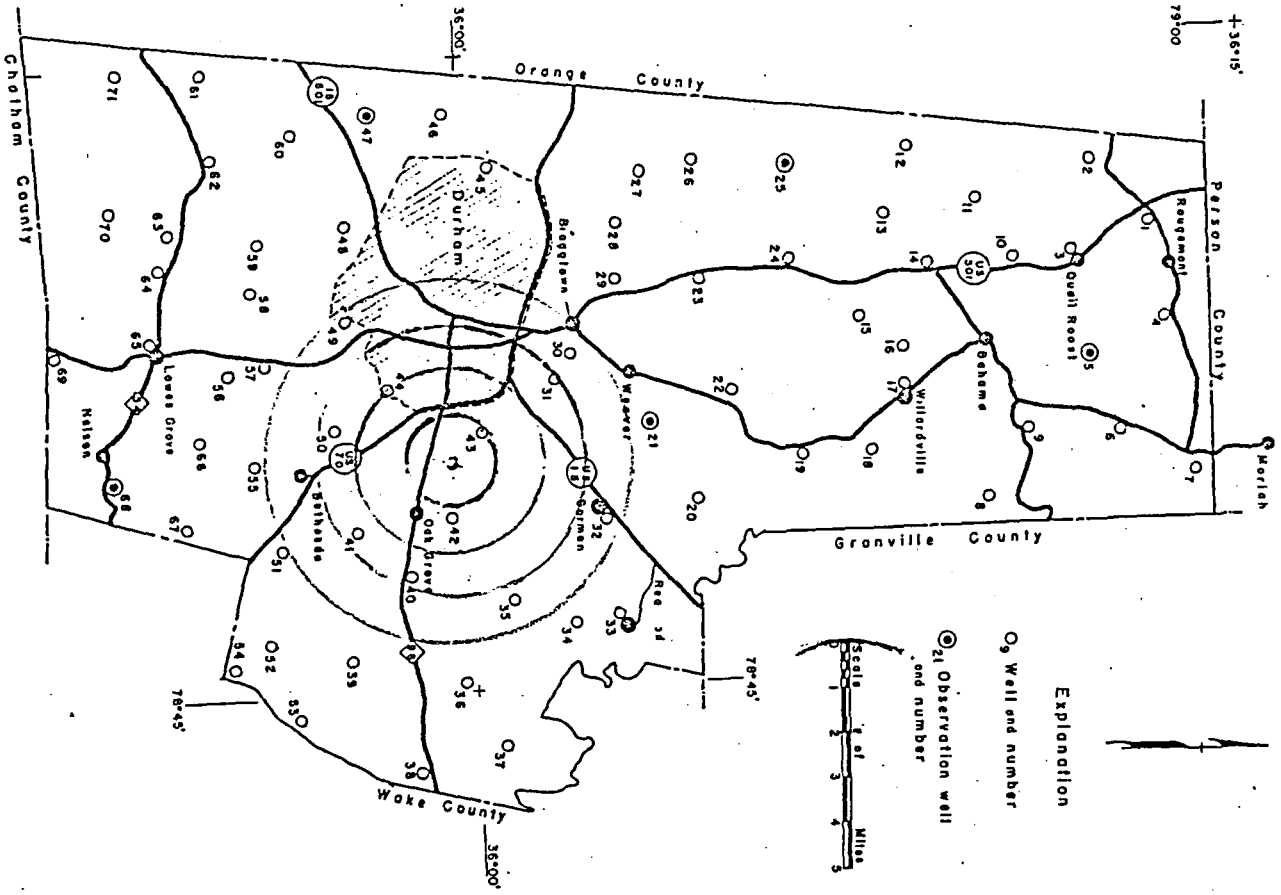


Figure 25. Map of Durham County showing the location of wells.

Table 11. Records of Wells in Durham County

(Reported hardness: H,hard; M,medium; S,soft)
(Type of well: B,bored; D,dug; Dr,drilled. Relative yield: gallons per minute per foot of uncased hole.)

Well no.	Location	Owner	Topography	Type of well	Depth (ft.)	Diameter (in.)	Water-bearing material	Depth of casing (ft.)	Water level (ft.)	Yield (gpm)	Relative yield (gallons per foot)	Reported hardness	Remarks
1	Rougemont-----	Jack Clayton---	Slope--	-Dr---	88	6	Mafic tuff----	18	8	23	0.33	S	
2	1.6 mi. SW of Rougemont---	G. E. May------	Knoll--	-do---	80	6	Felsic tuff---	27	------	5	.10	S	
3	Quail Roost---	Quail Roost Farms--------	--do---	-do---	190	8	Andesitic tuff	------	------	50	-------	S	Analysis in table.
4	2.5 mi. E of Rougemont---	N. V. Rhew-----	Slope--	-do---	48	6	Granodiorite and tuff----	18	10	2	0.07	S	
5	2.0 mi. E of Quail Roost-	R. R. Tilley---	Hill---	-do---	91	6	Granodiorite--	------	12	12	-------	S	Observation well; analysis in table.
6	3.7 mi. E of Quail Roost-	W. M. Bacon----	Flat---	-do---	96	6	-----do-------	10	20	1	0.01	M	Limy taste reported.
7	1.9 mi. S of Moriah------	Owen Howerton--	Hill---	-do---	170	6	Acid crystal tuff--------	30	17	2	.01	---------	Analysis in table.
8	3.5 mi. E of Bahama------	Rufus Roberts--	--do---	-do---	92	6	Mafic sheared tuff--------	41	21	1.5	.03	S	
9	2.0 mi. E of Bahama------	L. O. Ellis----	--do---	-do---	49	6	Acid tuff-----	26	25	3	.13	M	
10	1.3 mi. S of Quail Roost-	W. A. Roseborough------	--do---	-do---	265	6	Mafic tuff----	25	175	15	.06	---------	
11	2.5 mi. SW of Quail Roost-	George Burton--	Slope--	-do---	73	6	Bedded andesitic tuff--	------	20	5	-------	S	
12	4.5 mi. SW of Quail Roost-	Vernon Tilley--	--do---	-do---	54	6	Mafic tuff----	6	24	8.5	0.18	M	
13	3.5 mi. SW of Bahama------	W. G. Matthews-	Hill---	-do---	80	6	Acid tuff and rhyolite----	60	------	22	1.10	S	
14	2.0 mi. SW of Bahama------	Cad Wilkins----	Ridge--	-do---	65	6	Acid tuff-----	------	------	6	-------	M	Limy taste reported.
15	2.9 mi. SW of Bahama------	Coy Ellis------	Slope--	-do---	90	6	-----do-------	------	8	25	-------	S	
16	1.8 mi. S of Bahama------	W. A. Stroud---	--do---	-D----	35	30	Granodiorite--	------	25	----	-------	H	Do.
17	Willardville--	Charlie Crabtree ------	--do---	-Dr---	90	6	-----do-------	39	35	1+	0.02	S	

(Reported hardness: H,hard; M,medium; S,soft)
(Type of well: B,bored; D,dug; Dr,drilled. Relative yield: gallons per minute per foot of uncased hole.)

Well no.	Location	Owner	Topography	Type of well	Depth (ft.)	Diameter (in.)	Water-bearing material	Depth of casing (ft.)	Water level (ft.)	Yield (gpm)	Relative yield (gallons per foot)	Reported hardness	Remarks
18	3.6 mi. SE of Bahama------	Stagville Farm, Inc.	Slope--	-Dr---	105	6	Triassic------	21	7	40	0.48	S	Slight limy taste reported.
19	4.8 mi. SE of Bahama------	Fairntosh Farms	Knoll--	-do---	300	8	-----do-------	------	20	25	-------	H	Analysis in table.
20	2.2 mi. N of Gorman------	E. B. Hudson---	Flat---	-do---	125	5	-----do-------	------	17	12	-------	S	
21	4.0 mi. NE of downtown Durham------	A. G. Dickey---	Slope--	-do---	80	6	-----do-------	------	15	8	-------	S	Observation well.
22	3.8 mi. S of Bahama------	W. C. McFarland	Flat---	-do---	77	6	-----do-------	------	-----	20	-------	M	
23	5.0 mi. SW of Bahama------	E. J. Shaw-----	Slope--	-do---	204	4	Triassic diabase-----	------	20	2	-------	H	Iron reported.
24	4.0 mi. SW of Bahama------	Carver Realty--	--do---	-do---	190	6	Rhyolite and crystal tuff	11	-----	1	-------	--------	
25	5.6 mi. SW of Bahama------	E. T. Garrett--	--do---	-do---	136	6	Lithic crystal tuff--------	------	-----	10	-------	S	Observation well.
26	6.3 mi. NW of downtown Durham------	J. A. Revill---	Flat---	-do---	76	6	-----do-------	------	4	20+	-------	S	Analysis in table.
27	5.0 mi. NW of downtown Durham------	W. H. Stanley--	Ridge--	-do---	115	6	Felsic tuff---	60	20	4	0.07	---------	
28	4.0 mi. NW of downtown Durham------	S. G. Lindsey--	Hill---	-do---	160	6	Triassic------	25	-----	1.5	.01	---------	
29	4.0 mi. N of downtown Durham------	J. C. Holloway	Flat---	-do---	150	6	-----do-------	14	20	1.5	.01	S	
30	Braggtown-----	Braggtown Baptist Church--	Hill---	-do---	180	6	-----do-------	------	25	15	-------	---------	

Table 11. Records of Wells in Durham County (Continued)

(Reported hardness: H,hard; M,medium; S,soft)
(Type of well: B,bored; D,dug; Dr,drilled. Relative yield: gallons per minute per foot of uncased hole.)

Well no.	Location	Owner	Topography	Type of well	Depth (ft.)	Diameter (in.)	Water-bearing material	Depth of casing (ft.)	Water level (ft.)	Yield (gpm)	Relative yield (gallons per foot)	Reported hardness	Remarks
31	2.5 mi. NE of downtown Durham-------	J. W. Dossett--	Slope--	-Dr---	125	6½	Triassic------	------	-----	2.5	-------	S	
32	Gorman--------	C. C. Edwards--	Hill---	-do---	115	6½	-----do-------	15	17	10	0.10	S	
33	Redwood-------	L. E. Creech---	Low knoll-	-do---	80	6	-----do-------	------	20	7	-------	S	
34	1.2 mi. S of Redwood-----	M. C. Clayton--	Knoll---	-do---	142	6	-----do-------	------	20	7+	-------	S	
35	2.5 mi. S of Redwood-----	L. E. Watson---	Slope---	-do---	102	6	-----do-------	------	------	5	-------	S	
36	3.7 mi. SE of Redwood-----	H. O. Carpenter	Ridge---	-do---	96	6	-----do-------	------	35	10	-------	S	Limy taste reported.
37	3.8 mi. SE of Redwood-----	R. Beddingfield	--do---	-do---	140	6	-----do-------	40	------	8	0.08	M	
38	5.5 mi. SE of Redwood-----	Clarence Carroll------	Slope--	-do---	100	6	Mafic tuff----	------	------	6	-------	S	
39	4.4 mi. NE of Bethesda----	A. Lopez,Sr.---	Hill---	-do---	140	6	Triassic------	------	25	5	-------	S	Analysis in table.
40	1.5 mi. E of Oak Grove---	Mrs. Husketh---	Slope--	-do---	70	6	-----do-------	------	15	15	-------	H	Limy taste reported.
41	1.3 mi. SE of Oak Grove---	E. S. Sherron--	Hill---	-do---	100	6	-----do-------	------	------	1	-------	H	Do.
42	0.6 mi. N of Oak Grove---	Kenneth Bailey-	--do---	-do---	112	6	-----do-------	-----	40	3	-------	S	Analysis in table.
43	2.2 mi. NW of Oak Grove---	Fred Terrell---	--do---	-do---	125	6½	-----do-------	28	34	3	0.03	S	
44	2.2 mi. SE of downtown Durham------	Martha Rempsey-	Flat---	-do---	105	6½	-----do-------	12	20	10	.11	S	
45	3.2 mi. W of downtown Durham------	T. E. Scholl---	Slope--	-do---	300	6	-----do-------	15	------	3	.01	M	Limy taste reported.

(Reported hardness: H,hard; M,medium; S,soft)
(Type of well: B,bored; D,dug; Dr,drilled. Relative yield: gallons per minute per foot of uncased hole.)

Well no.	Location	Owner	Topography	Type of well	Depth (ft.)	Diameter (in.)	Water-bearing material	Depth of casing (ft.)	Water level (ft.)	Yield (gpm)	Relative yield (gallons per foot)	Reported hardness	Remarks
46	4.2 mi. W of downtown Durham------	W. L. Daniels--	Slope--	-Dr---	123	6	Granite-------	------	30	3	-------	S	
47	4.6 mi. SW of downtown Durham------	E. P. Garrett--	Low hill-	-do---	223	4	Triassic------	120	25	2	0.01	---------	Observation well.
48	3.0 mi. SW of downtown Durham------	A. L. Warren---	Slope--	-do---	95	6	-----do-------	------	15	10+	-------	M	
49	2.2 mi. S of downtown Durham------	Mack A. Wright-	Hill---	-do---	127	6½	-----do-------	12	14	3	0.03	M	
50	1.2 mi. NW of Bethesda----	A. O. Fowler---	Slope--	-do---	84	6	-----do-------	30	40	20	.04	M	
51	1.8 mi. E of Bethesda----	V. R. Parrish--	--do---	-do---	100	6½	-----do-------	21	19	3	.04	S	
52	4.0 mi. E of Bethesda----	H. W. Nichols--	Flat---	-do---	170	6½	-----do-------	28	30	9	.06	M	
53	5.5 mi. E of Bethesda----	D. P. Poplin---	--do---	-do---	87	6	Quartz dike in tuff-----	60	30	14+	.53	S	
54	4.7 mi. E of Bethesda----	Henry Elliot---	Low knoll	-do---	150	6½	Triassic------	12	27	1	.01	S	
55	1.0 mi. S of Bethesda----	Gerald Downey--	Flat---	-do---	155	6½	-----do-------	19	22	6	.04	S	
56	1.6 mi. N of Lowes Grove-	C. S. Williams-	Slope--	-do---	65	6	-----do-------	22	18	6	.14	S	
57	2.5 mi. N of Lowes Grove-	Edwards Realty-	--do---	-do---	170	6½	-----do-------	12	24	1.5	.01	S	
58	2.5 mi. NW of Lowes Grove-	C. C. Taylor---	Flat---	-do---	165	6½	-----do-------	32	23	2	.02	S	
59	3.2 mi. NW of Lowes Grove-	Clifton Scott--	Draw---	-do---	110	6½	-----do-------	11	10	10	.10	M	

Table 11. Records of Wells in Durham County (Continued)

(Reported hardness: H,hard; M,medium; S,soft)
(Type of well: B,bored; D,dug; Dr,drilled. Relative yield: gallons per minute per foot of uncased hole.)

Well no.	Location	Owner	Topography	Type of well	Depth (ft.)	Diameter (in.)	Water-bearing material	Depth of casing (ft.)	Water level (ft.)	Yield (gpm)	Relative yield (gallons per foot)	Reported hardness	Remarks
60	5.2 mi. SW of downtown Durham------	R. B. McFarland	Slope--	-Dr---	270	6	Triassic diabase-----	10	90	2	0.01	H	Analysis in table.
61	3.4 mi. E of Chapel Hill-	J. H. Bost-----	Low hill-	-do---	132	6	Triassic shale and diabase-	------	13	20	-------	S	
62	4.4 mi. W of Lowes Grove-	Jack Mangum----	--do---	-do---	125	6	Triassic------	------	40	10	-------	S	
63	2.7 mi. W of Lowes Grove-	Daniel P. Jones	Draw---	-do---	115	6	-----do-------	------	0+	----	-------	S	Flows 3-5 gpm.
64	2.0 mi. W of Lowes Grove-	Lowes Grove Fire Tower---	Hill---	-do---	150	6	-----do-------	12	40	3	0.02	---------	
65	Lowes Grove---	Worth Goodwin--	Slope--	-do---	120	6½	-----do-------	14	25	10	.10	S	
66	2.4 mi. S of Bethesda----	Mrs. L. H. Jenkins------	Low knoll	-do---	85	5	-----do-------	------	42	3	-------	S	
67	2.8 mi. SE of Bethesda----	J. H. Kerr-----	Flat---	-do---	140	6	-----do-------	------	40	6	-------	S	
68	0.7 mi. E of Nelson------	Raleigh-Durham Airport------	Draw---	-do---	264	6	-----do-------	------	-----	1	-------	---------	Observation well.
69	2.5 mi. SW of Nelson------	Artie High-----	Hill---	-do---	135	6	-----do-------	12	33	7	0.06	M	
70	3.2 mi. SW of Lowes Grove-	F. B. McKinney-	Flat---	-do---	109	6	-----do-------	------	30	9	-------	H	Analysis in table.
71	3.5 mi. SE of Chapel Hill-	Jessie Jones--	Low hill-	-do---	86	6	-----do-------	------	12	6	-------	M	

Site Name: Supreme Finishing
Site Number: NCD 986 188 878

Site Location: Durham, N.C.
Durham County
Latitude: 35 59 36.5
Longitude: 78 50 23.0

Date: April 20, 1993

Calculation Results

Distance from Site Location	Population Per Ring	Population Cumulative	Number of Households Per Ring	Number of Households Cumulative
0 to 1/4 mile	230	230	87	87
>1/4 to 1/2 mile	959	1,189	363	450
>1/2 to 1 mile	3,205	4,394	1,180	1,630
>1 to 2 miles	9,872	14,266	3,915	5,545
>2 to 3 miles	16,512	30,778	7,114	12,659
>3 to 4 miles	26,552	57,330	10,764	23,423

Note: The populations and number of households within specified target distance rings were calculated for the NC Superfund Section by the NC State Center for Geographic Information and Analysis using the 1990 US Census data. These values were calculated by summing the population and the number of households data for each census block located within each target ring. For census blocks lying only partially within the ring, the per cent area of the block within the ring was multiplied by the population and household densities of the block.

September 21, 1993

TO: File

FROM: Irene Williams, Environmental Chemist Irene Williams
N.C. Superfund Section

RE: Supreme Finishing (NCD 986 188 878)
Estimation of ground water users

The population using ground water for drinking within a 4-mile radius of the site was estimated by counting the houses on the topographic map in those areas not served by the Durham Municipal water system, and by applying appropriate 1990 census data to the number of households counted (2.40 persons per household). Community wells were identified from Public Water Supply records (attached). Population figures for these community wells were added to the population using private wells to obtain the following totals:

Distance	Private Users Houses	Private Users Persons	Community Well Users	Totals
Onsite	0	0	0	0
0-1/4 mi.	12	29	0	29
>1/4-1/2 mi.	8	19	0	19
>1/2-1 mi.	111	266	0	266
>1-2 mi.	302	725	364	1089
>2-3 mi.	1004	2410	140	2550
>3-4 mi.	1095	2628	806	3434
Total:				7387

Attachment

PMMGRID STATE N.C. PUBLIC WATER SUPPLY SYSTEM 03/08/95

ACTIVE SYSTEMS

GRID LATITUDE: 355600 / 360330, LONGITUDE: 0784600 / 0785500

PWS ID	SYSTEM NAME	TYPE	POPULATION	RES.PERSON WORK PHONE	SOURCE NAME	SOURCE TYPE.	SOURCE AVAIL.	LATITUDE	LONGITUDE
* 332106	WHISPERING PINES MHP	C	264	9195962951	WELLS	G	P	355750	784650
	~~WHISPERING PINES MHP~~	~~C~~	~~264~~	~~9195962951~~	~~WELLS~~	~~G~~	~~P~~	~~355750~~	~~784650~~
	~~WHISPERING PINES MHP~~	~~C~~	~~264~~	~~9195962951~~	~~WELLS~~	~~G~~	~~P~~	~~355750~~	~~784650~~
* 332108	MOBILE ACRES I	C	140	9193838545	WELLS	G	P	360140	785000
	~~MOBILE ACRES I~~	~~C~~	~~140~~	~~9193838545~~	~~WELLS~~	~~G~~	~~P~~	~~360140~~	~~785000~~
	~~MOBILE ACRES I~~	~~C~~	~~140~~	~~9193838545~~	~~WELLS~~	~~G~~	~~P~~	~~360140~~	~~785000~~
	~~MOBILE ACRES I~~	~~C~~	~~140~~	~~9193838545~~	~~WELLS~~	~~G~~	~~P~~	~~360140~~	~~785000~~
	~~MOBILE ACRES I~~	~~C~~	~~140~~	~~9193838545~~	~~WELLS~~	~~G~~	~~P~~	~~360140~~	~~785000~~
* 332109	SHAW HILLS B/D	C	70	9194773222	WELL	G	P	355811	784710
332122	CANTEBURY ESTATES	C	188	9194677854	WELL	G	P	355630	784950
	CANTEBURY ESTATES	C	188	9194677854	WELL	G	P	355630	784950
332422	STARLITE DRIVE IN THEATRE	N	100	9199344625	WELL	G	P	360140	785055
* 332440	NEAL JR HIGH SCHOOL	P	870	9195603827	WELLS	G	P	355850	784910
	~~NEAL JR HIGH SCHOOL~~	~~P~~	~~870~~	~~9195603827~~	~~WELLS~~	~~G~~	~~P~~	~~355850~~	~~784910~~
332461	FINA OIL CO	N	50	9192861663	WELL	G	P	360130	785100
332465	BIBLE BAPTIST CHURCH	N	93	9196882832	WELL	G	P	360030	785230
	BIBLE BAPTIST CHURCH	N	93	9196882832	WELL	G	P	360030	785230
	BIBLE BAPTIST CHURCH	N	93	9196882832	WELL	G	P	360030	785230
332475	COUNCIL CHRISTIAN ACADEMY	N	158	9196822131	WELL	G	P	360120	784820
332476	GORMAN BAPTIST CHURCH	N	80	9196883947	WELL	G	P	360230	784900
332488	HOMESTEAD HEIGHTS SWIM-TENNIS	N	100	9194770892	WELL	G	P	360315	785450
332498	BYRDS BAR B QUE	N	75	9196828353	WELL	G	P	360020	785020
332511	IMMANUEL FREEWILL BAPTIST CH	N	120	9195960098	WELL	G	P	355630	785145
332523	ROGERS GROVE BAPTIST CHURCH	N	75	9195548611	WELL	G	P	355900	784630
332526	OLIVE BRANCH BAPTIST CHURCH	N	90	9195960928	WELL	G	P	355830	784700
332528	PLAINVIEW BAPTIST CHURCH	N	150	9196822736	WELL	G	P	360140	784700
332542	JAKES GARAGE	N	25	9194772563	WELL	G	P	360330	785330
332543	GORMANS GROCERY	N	65	9196822288	WELL	G	P	360200	784930
332548	DAYS INN MOTEL	N	26	9196884338	WELL	G	P	360215	785110
332549	RECORD BAR WAREHOUSE	N	30	9197816417	WELL	G	P	355810	785222
* 332558	GORMAN EDUCATIONAL CENTER	P	209	9196888081	WELL #1	G	P	360248	784910

* Pertinent to site.

Ref. 7

RECEIVED
APR - 8 1993
SUPERFUND SECTION

SUPREME FINISHING SITE

DURHAM, DURHAM COUNTY, NORTH CAROLINA

PHASE I

SITE INVESTIGATION AND STABILIZATION REPORT

U.S. ENVIRONMENTAL PROTECTION AGENCY

REGION IV

ATLANTA, GEORGIA

FACT SHEET

SITE NAME:	Supreme Finishing Site
SIZE:	29,977 Square Feet (.69 Acres)
LOCATION:	Durham, Durham County, North Carolina
PROJECT DATES:	16 May 1991 (Emergency Response Investigation) 18 November 1991 (Chemical Inventory & Sampling) 01 May 1992 (Site Secured from Unauthorized Entry) 18 August 1992 (Site Stabilization, Soil Sampling, ERCS Hazard Categorization and Bulking Activities)
PROJECT COSTS:	$38,100 (as of 27 August 1991)

SUMMARY OF EVENTS

Responding to a health complaint from a property owner, a North Carolina Department of Natural Resources (NCDNR) representative was summoned to the abandoned Supreme Finishing Site on 14 May 1991. NCDNR detected the presence of cyanide gas inside the structure. Many drums of potentially hazardous chemicals were observed, including two drums containing potassium cyanide. Nine of the most apparently hazardous drums of chemicals were immediately manifested for disposal from the site by the NCDNR.

Subsequently, the EPA was contacted and TAT was tasked to investigate the Site. On 16 May 1991, OSC Danner and TAT arrived on site and conducted an emergency response site investigation. Cyanide gas was not detected but the presence of various quantities of both hazardous and unknown chemicals were observed and documented.

OSC Mike Taylor later requested a further investigation at the site. On 18 November 1991, TAT documented site conditions and inventoried all chemicals in both the main structure and an adjacent shed. TAT sampled a select number of soil locations adjacent to the main structure. Potentially hazardous, unknown substances within the actual site structure were also sampled. A title search was also conducted to ascertain property ownership.

Laboratory analysis of the samples determined the presence of hazardous priority pollutant compounds. Many of these compounds were present both in vats within the building and in soil samples adjacent to the structure.

01 May 1992 TAT was dispatched to secure the site from unauthorized entry. Both site structures had been broken into but no spillage of vat, drum or pail contents had occurred. TAT secured the buildings and posted NO TRESPASSING signs.

On 18 August 1992, OSC Mike Taylor, TAT and ERCS arrived on site to commence the final phase of site investigation and stabilization activities. Soil core samples were taken by TAT at 21 separate locations both below the site concrete floor and surrounding the main structure. ERCS dug several trenches and investigated overgrown areas north of the site for hidden hazardous materials. Leaking drums and vat materials were overpacked. Hazard Categorization tests of all chemicals on site were conducted. Chemicals having similar properties were bulked. The site was then secured and 24 hour security was retained to ensure site integrity.

Principle Organic Hazardous Constituent (POHC): Paint Solids

OSC: Mike Taylor

ERCS Contractor: Environmental Technology of North America, Inc. (ETI)

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I. INTRODUCTION/SITE HISTORY

This interim removal report has been prepared in accordance with the requirements of Technical Direction Document (TDD) #04-9210-0059 assigned to the Roy F. Weston, Inc., Technical Assistance Team (TAT), by On-Scene Coordinator (OSC) Mike Taylor of the U.S. Environmental Protection Agency (EPA). Previous site investigative work has been performed by TAT under TDD numbers #04-9207-0016, #04-92007-0016A, #04-9105-0022, #04-9111-0002, #04-9111-0002A, #04-9111-0002B, #04-9111-L013, #04-9205-0001, #04-9208-0011, #04-9208-L019.

Prior to 1979, the Supreme Finishing Company, located at 3033 Ross Road in Durham, Durham County, North Carolina, was owned and operated by Gerald Thacker as an unlicensed "Job-Shop" metal finishing company. Various heavy-metal plating and painting operations occurred at this facility for an unknown number of years.

In May 1979, the business was sold to Elry and Peggy S. Holloway. Apparently, similar activities transpired at the site until approximately 1982. According to a neighbor, Mr. J. R. Dean of 3047 Ross Road, the building has been abandoned since 1982.

On 14 May 1991, responding to a health complaint by a property owner, an NCDNR representative was summoned to the abandoned Supreme Finishing Company. Cyanide gas was detected inside the structure by the NCDNR. Also, many drums of potentially hazardous

chemicals were observed both inside the main structure and inside an adjoining shed. Nine of the most apparently hazardous drums of chemicals, including two drums containing potassium cyanide, were immediately manifested for disposal.

On 13 June 1991, Elry and Peggy S. Holloway filed Chapter 11 Bankruptcy with the district court in Durham, North Carolina. On 19 June 1991, a court order was granted transferring the Supreme Finishing Site property deed to the City of Durham.

This report will summarize the on-site activities performed by EPA, TAT, and ERCS between the time periods from 16 May 1991 through 29 August 1992.

II. SUMMARY OF ACTIVITIES

A. EMERGENCY RESPONSE SITE INVESTIGATION

Refer to TDD #04-9105-0022-1611 for a complete accounting of the initial site investigation. The overall scope of this TDD was to investigate the Supreme Finishing Site and ascertain if a threat to the environment existed.

On 15 May 1991, OSC Dora Ann Danner contacted the Atlanta TAT office requesting an emergency response site investigation at the Supreme Finishing Company, located in Durham, Durham County, North Carolina. A release of hydrogen cyanide gas and potassium cyanide plating liquids had been reported by the NCDNR.

On 16 May 1992, after an air monitoring survey of the site by TAT, using standard instruments and Drager Cyanide Tubes, it was determined that conditions immediately dangerous to life and health (IDLH) were not present. All air monitoring readings were within accepted background levels.

There were numerous drums, vats and pails, containing a variety of paints, solvents, acids and bases scattered both throughout the main building and the adjoining shed.

The variety of hazardous materials inside both structures did present a potential threat to the environment and public health and would be addressed by the EPA during subsequent visits.

B. CHEMICAL INVENTORY/DRUM AND SOIL SURVEY

Refer to TDD #04-9111-0002 for a complete accounting of the chemical inventory and drum and soil analysis. The overall scope of this TDD was to conduct a general chemical inventory and sample a selected number of drums and soil locations. On-site Hazard Categorization (HazCat) analysis was to be conducted on the drum samples. TAT was also tasked to conduct a property title search.

On 19 November 1991, OSC Taylor and TAT arrived on site. Chemicals both inside the main structure and the adjoining shed were inventoried (Attachment G - VCR Tape dated 19 November 1991).

Seven samples of unknown materials from containers inside the structures were taken by TAT. A on-site HAZCAT analysis of these samples was conducted confirming the presence of acids, bases and flammable materials.

TAT sampled four areas adjacent to the northern wall of the main structure. Subsequent analysis detected a variety of priority pollutant compounds in the samples.

A title search at the Durham County Tax Assessor determined that the former property owners were Elry and Peggy Holloway and that on 19 June 1991, Elry and Peggy Holloway declared Chapter 11 Bankruptcy and transferred the deed of the property to the City of Durham.

C. SITE SECURED FROM UNAUTHORIZED ENTRY

Refer to TDD #04-9205-0001 for a complete accounting of TAT activities. The overall scope of this TDD was to investigate a report that the site buildings had been vandalized, compromising the integrity of the site.

On 01 May 1992, TAT arrived on site and performed a cursory examination of the property and found the main building and adjoining shed to be unsecured. Although the office area and other areas of the structures were messy, no spillage of drum, vat or pail contents was apparent.

TAT proceeded to board up all open windows, nail shut or otherwise secure doors and post "NO TRESPASSING" signs on both structures.

D. SITE STABILIZATION, HAZARD CATEGORIZATION AND SOIL SAMPLING

The overall scope of TDD #04-9210-0059 was to initiate activities leading towards eventual removal of all hazardous substances on site and ultimately site closure. The areas of soil contamination were also more closely defined by utilizing extensive soil core sampling techniques throughout the site.

On 18 August 1992, OSC Mike Taylor, TAT and ERCS arrived on site (Attachment G - VCR Tape dated 20 August to 29 August 1992). The integrity of the site had been once again been compromised. Plywood, which had previously secured the entrance and a window at the SE corner of the structure, had been removed. The door to the shed at the NW quadrant of the site was found to be ajar.

From 18 October until 20 October 1992, ERCS staged all pails, drums and miscellaneous containers in Room #5 of the building. All drums and bags of chemicals from the shed were concurrently staged (Photo 1 and 2). These containers were sampled and on-site Hazard Categorization analysis was conducted by an ERCS chemist.

After HazCat analysis was completed, chemicals of similar characteristics were identified and bulked into their respective 55 gallon drums (Attachment J - HazCat Logs, Photo 3 and Figure 4).

Chemicals and sludges in the vats were also tested and bulked in 55 gallon drums. Fifteen different compatibility groups were identified consisting of paint liquids, bulked acids, neutral liquids, base liquids, base sludge, waste water, chromic acid, cadmium liquids, flammable liquids, paint solids, neutral solids, base solids, solid acids and solid oxidizer (Table 1). An (estimated) total of 2370 gallons of liquid wastes and 8265 pounds of solid wastes were generated.

All empty containers, including those generated during the bulking process, were crushed and disposed as non-hazardous, solid waste (Photo 4). This waste was placed in a 20-yard dumpster and sent to a local solid waste landfill.

On 18 and 19 August 1992, "suspicious" areas NE of the structure were investigated. These locations coincided with those noted during previous TAT site investigations. Using a back-hoe, ERCS uncovered empty half-round tanks, metal racks and a variety scrap metal. No hazardous substances were uncovered during the digging operations (Photo 5). This area was very soft from the outflow of a small natural spring.

On 19 August 1992, three pits were dug at the NE corner of the main structure. A neighbor, Mr. J.R. Dean, stated to OSC Taylor that he had seen the former owner, Elry Holloway, bury "something" at that location approximately 10 to 12 years ago. No drums, odors or chemical staining was apparent (Photo 6). The various clay and

soil layers were observed to have been undisturbed.

On 19, 20 and 21 August 1992, soil core samples were taken by TAT at 21 separate locations both below the site concrete floor and surrounding the main structure (Figure 5, Table 2 and Attachment F analytical data).

To preclude any future potential hazardous substance storage capability, ERCS was directed by OSC Taylor to cut holes in all vats located in Rooms 5, 6 and 7. On 27 and 28 August 1992, ERCS cut holes in all fiberglass, plastic and steel vats inside the building (Photo 7 and 8).

On 28 August 1992, ERCS triple rinsed all empty 55-gallon drums with water. The rinsate was bulked and staged in Room #5. The rinsed, empty drums were then staged in Room #3.

On 28 and 29 August 1992, ERCS staged all drums containing hazardous materials in Rooms #5 and #6 (Table 1). These drums were arranged according to general chemical classification groupings (Figure 4). Samples for Profile Analysis were also taken at this time.

Photos 1, 2, 8, 9 and 10 depict the appearance of the site prior to securing the building on 29 August 1992. Twenty-four hour security was retained to ensure site integrity. All personnel demobilized from the site on 29 August 1992.

Removal activities are contingent on the resulting disposal profile analysis.

ANALYTICAL SOIL DATA INTERPRETATION

A total of 61 soil samples were submitted to the laboratory for analysis. At each soil core location, with the exception of the background sample, three depths were sampled, 0 to 6 inches, 6 to 12 inches and 12 to 18 inches (Table 2). At the background location, a composite from 0 to 18 inches was taken.

All samples were analyzed for cyanide, and eight RCRA metals (Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium and Silver). To pinpoint potential soil "hot" spots, data from the background can be used as a guideline in assessing general site soil contamination. It is suggested that three times the individual background analytical values be used to pinpoint potential areas for remediation throughout the site.

Using these guidelines, Figure 5 depicts potential areas of concern. It should be noted that trends depicted in Figure 5 are generally in accordance with those identified in the 18 November 1991 site investigation (TDD #04-9111-0002).

Areas generally north and northeast of the rear wall of the main site building exhibit cadmium, chromium and lead contamination. As indicated on page 120 of TAT log notes, sample location 19/20/21 is

adjacent to a quantity of buried debris. Analytical data indicate the presence of high levels of cadmium, lead, chromium and traces of cyanide at this point. Without further sampling and analysis, it is not possible to define the extent of soil contamination at these locations.

Chromium and lead contamination were also present in Room #7, Sample 56. This particular location was next to a vat containing chromic acid.

Traces of lead, chromium and cadmium were also present in a total of 12 different soil core locations. Soil metals contamination is consistent with the site chemical inventory.

Following review of the analytical data, OSC Taylor will determine the applicability for further federal action.

TABLE 1
QUANTITIES & TYPES OF STAGED MATERIALS.
(Estimated Volumes of Liquid Waste Streams)

Gallons	Waste Stream Name
330	Paint Liquids
425	Bulked Acids
460	Neutral Liquids
440	Base Liquids
55	Base Sludge
220	Waste Water
55	Chromic Acid
55	Cadmium Liquid
30	Flammable Liquids
.5	Organic Base/Flammable Liquid
2370	**TOTAL GALLONS (estimated)**

Estimated Weights of Solid Waste Streams

Weight (lbs.)	Waste Stream Name
3850	Paint Solids
500	Neutral Solids
2900	Base Solids
1000	Solid Acids
15	Solid Oxidizer
8265	**TOTAL POUNDS (estimated)**

TABLE 2
CORE SAMPLE LOCATIONS AND SAMPLE DEPTH.

SAMPLE #	DEPTH	LOCATION
1/2/3	0"-6"/6"-12"/12"-18"	10'S/7'E OF NE CORNER BUILDING
4/5/6	0"-6"/6"-12"/12"-18"	2'N LOADING DOCK/EAST SIDE BUILDING
7/8/9	0"-6"/6"-12"/12"-18"	75'N OF NE CORNER BUILDING
10/11/12	0"-6"/6"-12"/12"-18"	50'N OF CENTER OF N WALL BUILDING
13/14/15	0"-6"/6"-12"/12"-18"	75'N/10'W OF NW CORNER BUILDING
16/17/18	0"-6"/6"-12"/12"-18"	100'N/17'E OF NW CORNER BUILDING
19/20/21	0"-6"/6"-12"/12"-18"	100'N/39'E OF NW CORNER BUILDING
22/23/24	0"-6"/6"-12"/12"-18"	40'N/40'W/ OF NW CORNER BUILDING
25/26/27	0"-6"/6"-12"/12"-18"	NW CORNER OF SHED
28/29/30	0"-6"/6"-12"/12"-18"	30'S/8'W OF NW CORNER OF BUILDING
31/32/33A	0"-6"/6"-12"/12"-18"	56'N/6'W OF SW CORNER BUILDING
33/34/35	0"-6"/6"-12"/12"-18"	15'N/5'W OF SE CORNER ROOM #3
36/37/38	0"-6"/6"-12"/12"-18"	21'N/23'W OF SE CORNER ROOM #3
39/40/41	0"-6"/6"-12"/12"-18"	4.5'N/8.5'W OF SE CORNER ROOM #4
42/43/44	0"-6"/6"-12"/12"-18"	10.5'N/19.5'W OF SE CORNER ROOM #4
45/46/47	0"-6"/6"-12"/12"-18"	26'N/6'W OF SE CORNER ROOM #5
48/48/50	0"-6"/6"-12"/12"-18"	38'N/21'W OF SE CORNER ROOM #5
51/52/53	0"-6"/6"-12"/12"-18"	ON-CENTER AT 6'N OF S WALL IN ROOM #7
54/55/56	0"-6"/6"-12"/12"-18"	ON-CENTER AT 29'N OF S WALL IN ROOM #7
57/58/59	0"-6"/6"-12"/12"-18"	ON-CENTER AT 50'N OF S WALL IN ROOM #7
BACKGROUND	0"-18"	16'S/16'W OF NE CORNER BUILDING

NOTE: BUILDING REFERS TO MAIN SITE STRUCTURE

V. ROSTER OF AGENCIES, ORGANIZATIONS, AND INDIVIDUALS

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U.S. Environmental Protection Agency
Emergency Response Branch, Region IV
345 Courtland Street, NE
Atlanta, Georgia 30356
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Terry W. Waddell, Waste Management Specialist
North Carolina Dept. of Environment, Health &
Natural Resources
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James Hawkins
Charles DuBois
Roy F. Weston, Incorporated
Technical Assistance Team
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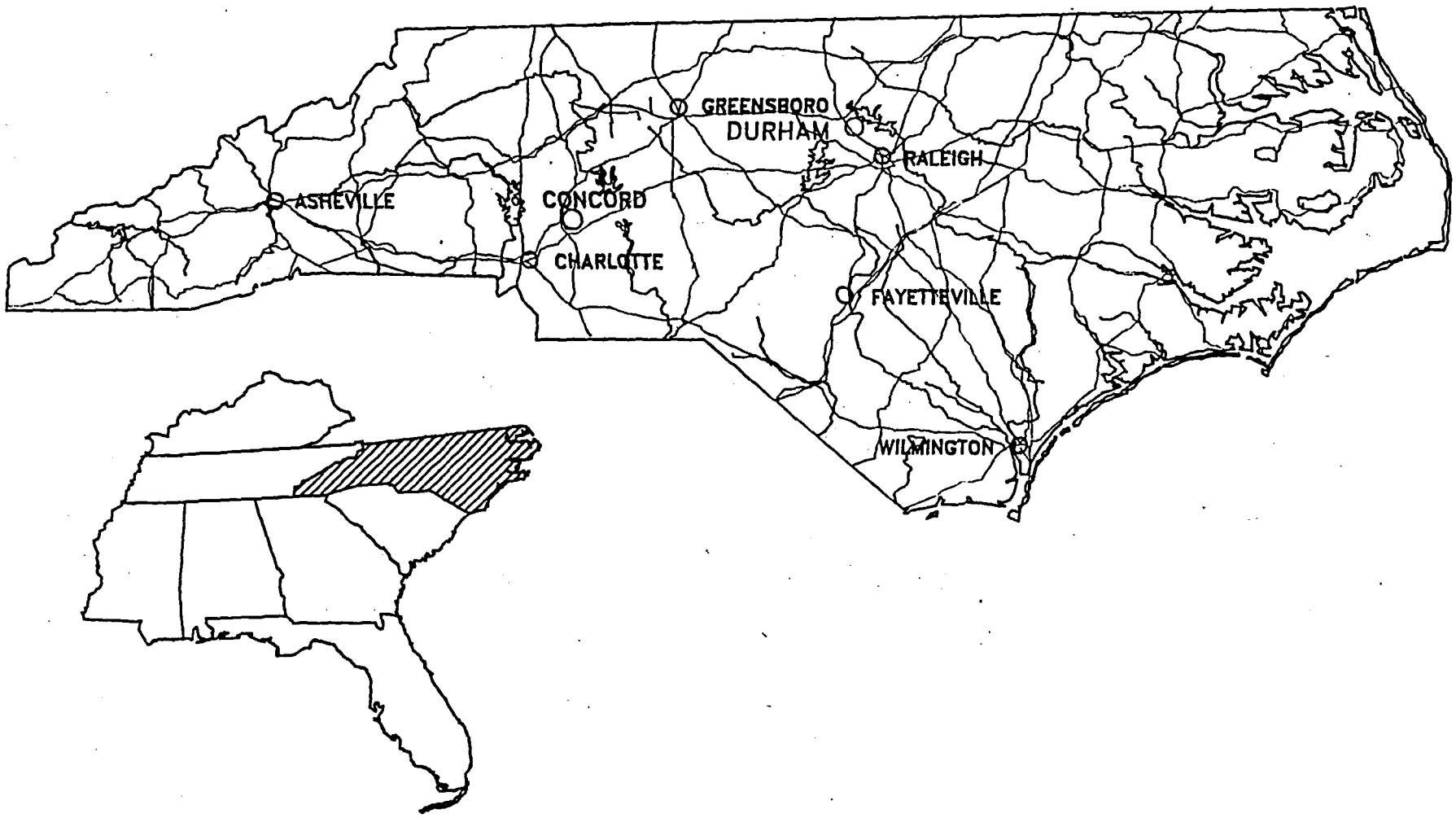
Bldg. 300, Suite 325
Atlanta, Georgia 30318
(404) 352-4147

Terry D. Helms, Response Manager
Environmental Technology of North America, Incorporated
2264 Northwest Parkway
Suite E
Marietta, Georgia 30067
(404) 850-0777

FIGURE 1

General Site Location Map

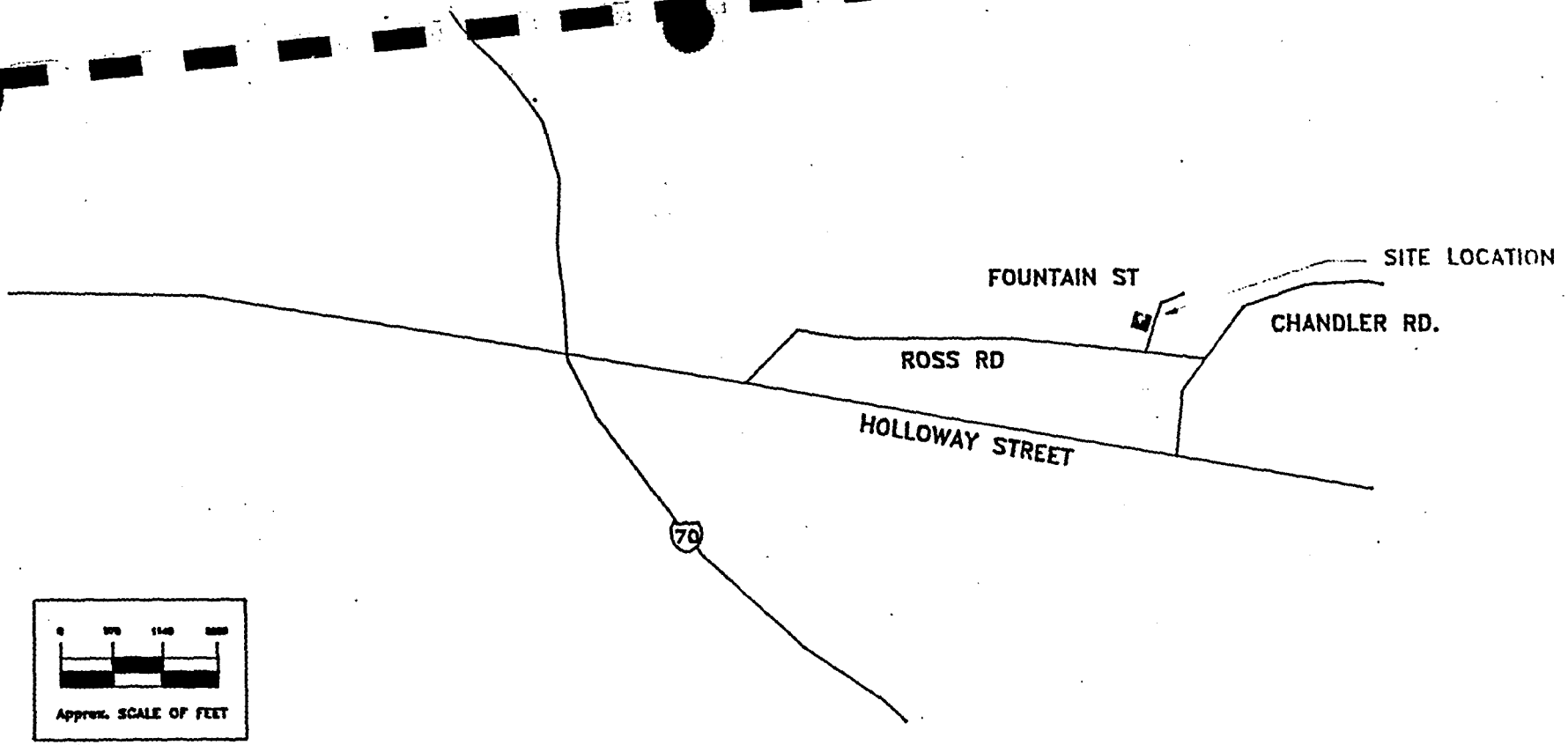


SUPREME FINISHING SITE
SITE LOCATION MAP
DURHAM, DURHAM COUNTY, NC
TDD #04-9208-L019-0597

WESTON MAJOR PROGRAMS DIVISION
REGION IV TECHNICAL ASSISTANCE TEAM

FIGURE 2

Site Location Area Map

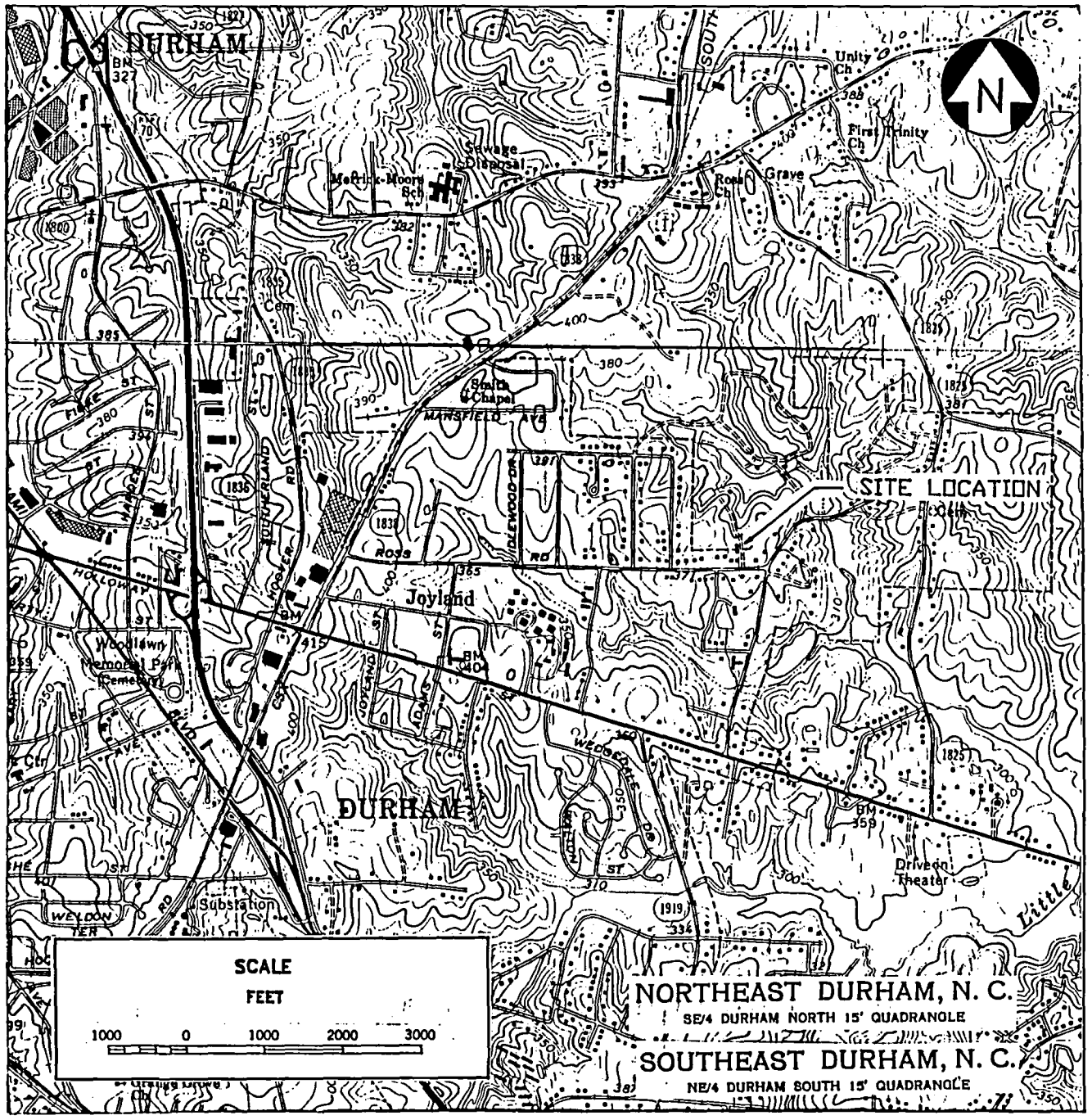


SUPREME FINISHING SITE
SITE AREA MAP
DURHAM, DURHAM COUNTY, NC
TDD #04-9208-L019-0597

WESTON MAJOR PROGRAMS DIVISION
REGION IV TECHNICAL ASSISTANCE TEAM

FIGURE 3

Site Location Topographic Map



SUPREME FINISHING SITE
DURHAM, DURHAM COUNTY, NC
TDD #04-9208-L019-0597
SITE TOPOGRAHY MAP

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY EPA

WESTON MAJOR PROGRAMS DIVISION

REGION IV TECHNICAL ASSISTANCE TEAM

FIGURE 4

Site Materials Staging Map

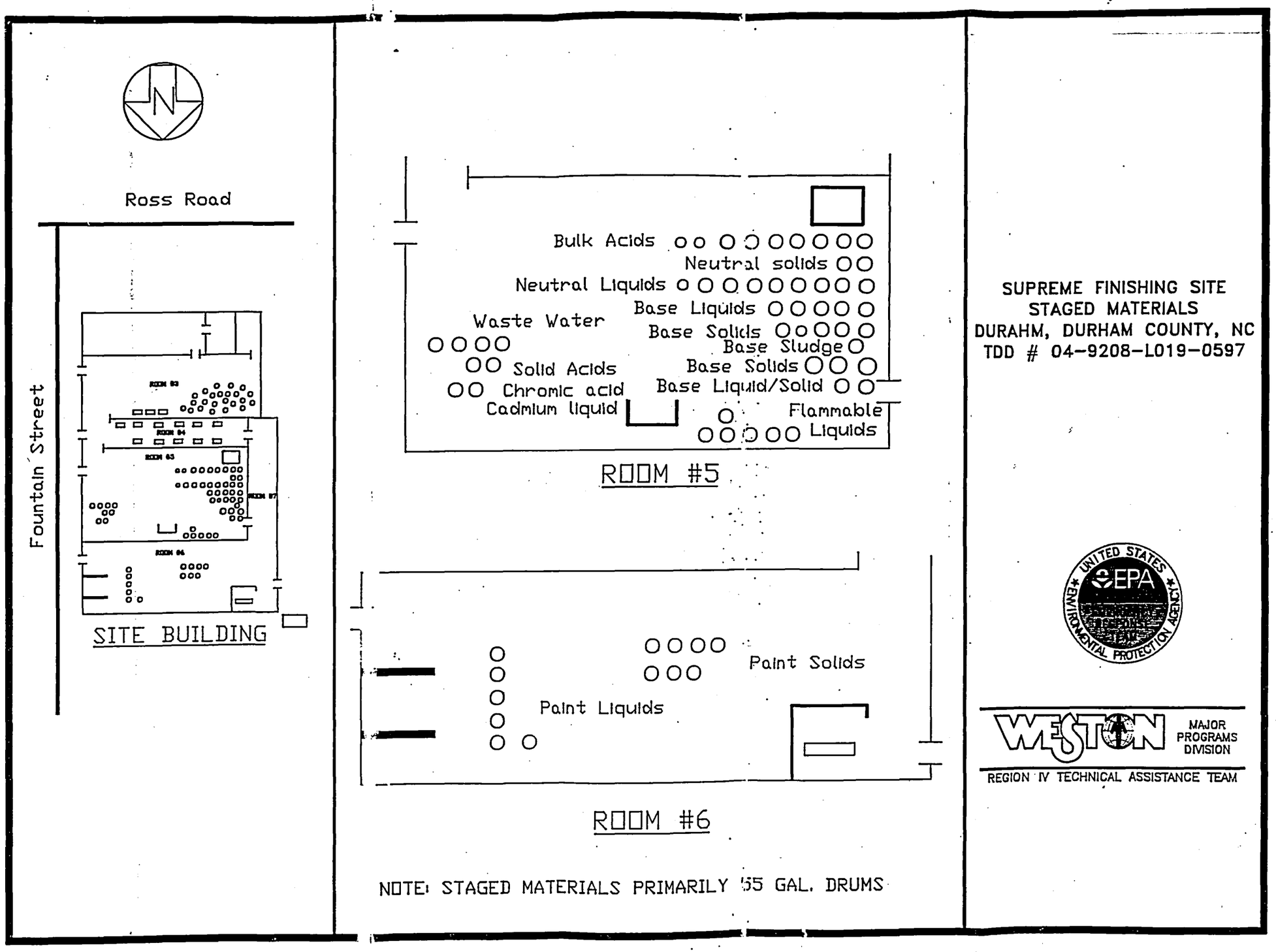
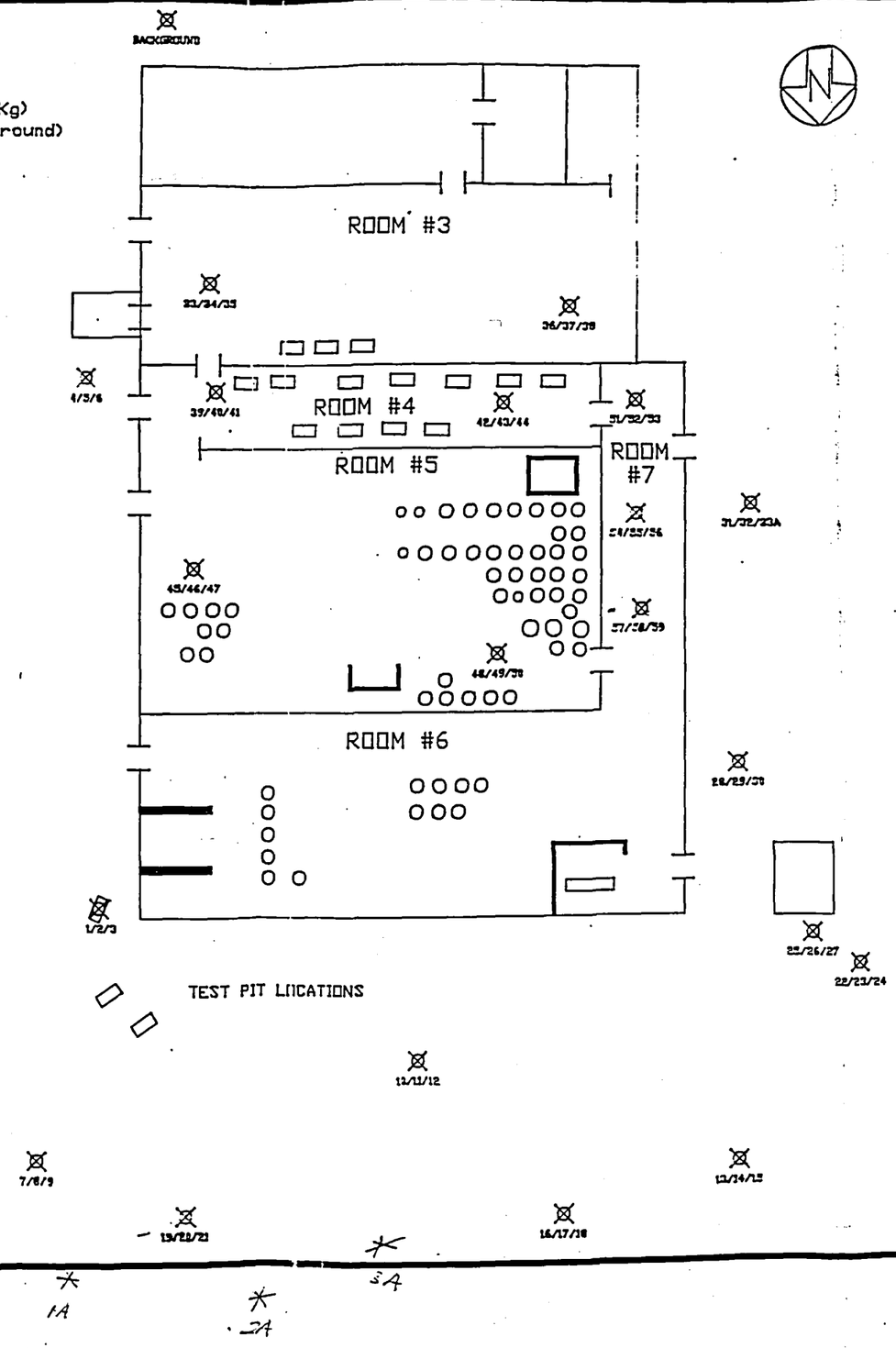

N
Ross Road
Fountain Street
SITE BUILDING
Bulk Acids
Neutral solids
Neutral Liquids
Base Liquids
Waste Water
Base Solids
Base Sludge
Solid Acids
Base Solids
Chromic acid
Base Liquid/Solid
Cadmium liquid
Flammable
Liquids
ROOM #5
Paint Solids
Paint Liquids
ROOM #6
NOTE: STAGED MATERIALS PRIMARILY 55 GAL. DRUMS
SUPREME FINISHING SITE
STAGED MATERIALS
DURAHM, DURHAM COUNTY, NC
TDD # 04-9208-L019-0597
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
EPA
WESTON
MAJOR PROGRAMS DIVISION
REGION IV TECHNICAL ASSISTANCE TEAM

FIGURE 5

Site Soil Sampling Map

ANALYTICAL DATA (mg/Kg)
(Values Greater than 3X Background)

Sample / Depth		CD	CR	PB
#1	0"-6"	—	—	127
#2	6"-12"	—	—	75
#3	12"-18"	—	—	—
#4	0"-6"	7	—	188
#5	6"-12"	—	—	—
#6	12"-18"	—	—	—
#7	0"-6"	—	—	—
#8	6"-12"	—	—	20
#9	12"-18"	—	—	63
#10	0"-6"	10	112	—
#11	6"-12"	4	50	—
#12	12"-18"	—	—	20
#13	0"-6"	4	190	—
#14	6"-12"	—	—	—
#15	12"-18"	—	—	—
#19	0"-6"	29	458	149
#20	6"-12"	34	192	116
#21	12"-18"	30	58	77
#25	0"-6"	—	—	—
#26	6"-12"	—	81	—
#27	12"-18"	—	—	—
#28	0"-6"	4	—	—
#29	6"-12"	—	—	—
#30	12"-18"	—	—	—
#45	0"-6"	—	—	—
#46	6"-12"	—	—	23
#47	12"-18"	—	—	—
#48	0"-6"	—	—	60
#49	6"-12"	—	—	—
#50	12"-18"	—	—	—
#54	0"-6"	—	108	—
#55	6"-12"	—	—	31
#56	12"-18"	6	225	373
#57	0"-6"	280	—	—
#58	6"-12"	—	—	—
#59	12"-18"	—	—	—
1A	S	4.5	24.7	18
	m	3	17	22
	B	1	23	10
2A	S	11	569	46
	m	2	13	9
	B	1	21	15
3A	S	2	89	33
	m	1	12	10
	B	1	47	16



KEY

31/32/33A = SAMPLE LOCATION & NUMBER (0-6"/6"-12"/12"-18")

O = DRUM LOCATION

(Drawing Not to scale)

SUPREME FINISHING SITE
SOIL SAMPLING MAP
DURAHM, DURHAM COUNTY, NC
TDD # 04-9208-L019-0597

WESTON MAJOR PROGRAMS DIVISION

REGION IV TECHNICAL ASSISTANCE TEAM

ATTACHMENT A

Photographs

PHOTO # 1
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

SUBJECT: DRUMS OF PAINT SOLIDS AND PAINT LIQUIDS

LOCATION: ROOM 6
SUPREME FINISHING SITE
DURHAM, DURHAM COUNTY, NC

TDD#: 04-9210-0059-4059
DATE: 08/29/92
TIME: 1030
PHOTOGRAPHER: TAT JAMES HAWKINS
WITNESS:
FILM: 3M **ASA:**100
LOCATION OF NEGATIVE: ATLANTA TAT OFFICE

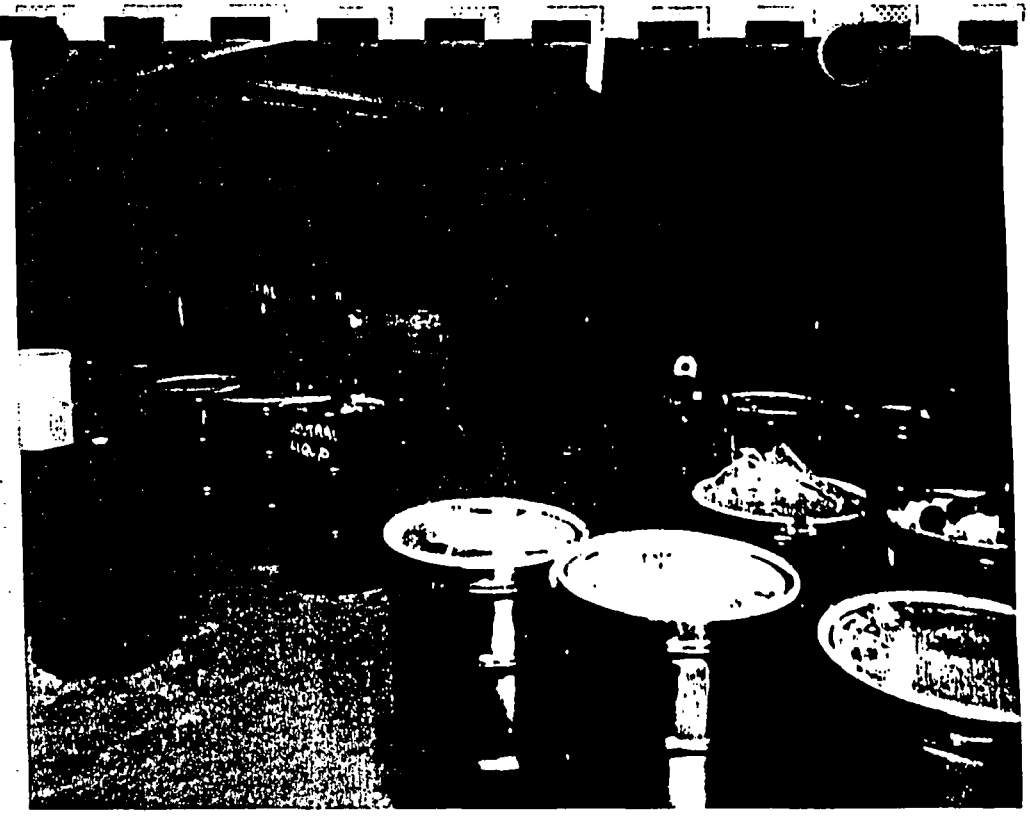


PHOTO # 2
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

SUBJECT: DRUMS OF BULKED MATERIALS

LOCATION: ROOM 5
SUPREME FINISHING SITE
DURHAM, DURHAM COUNTY, NC

TDD#: 04-9210-0059-4059
DATE: 08/29/92
TIME: 1030
PHOTOGRAPHER: TAT JAMES HAWKINS
WITNESS:
FILM: 3M **ASA:**100
LOCATION OF NEGATIVE: ATLANTA TAT OFFICE

PHOTO # 3
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

SUBJECT: ERCS BULKING PAINT SLUDGES

LOCATION: ROOM 5
SUPREME FINISHING SITE
DURHAM, DURHAM COUNTY, NC

TDD#: 04-9210-0059-4059
DATE: 08/25/92
TIME: 0947
PHOTOGRAPHER: TAT JAMES HAWKINS
WITNESS:
FILM: 3M **ASA:**100
LOCATION OF NEGATIVE: ATLANTA TAT OFFICE

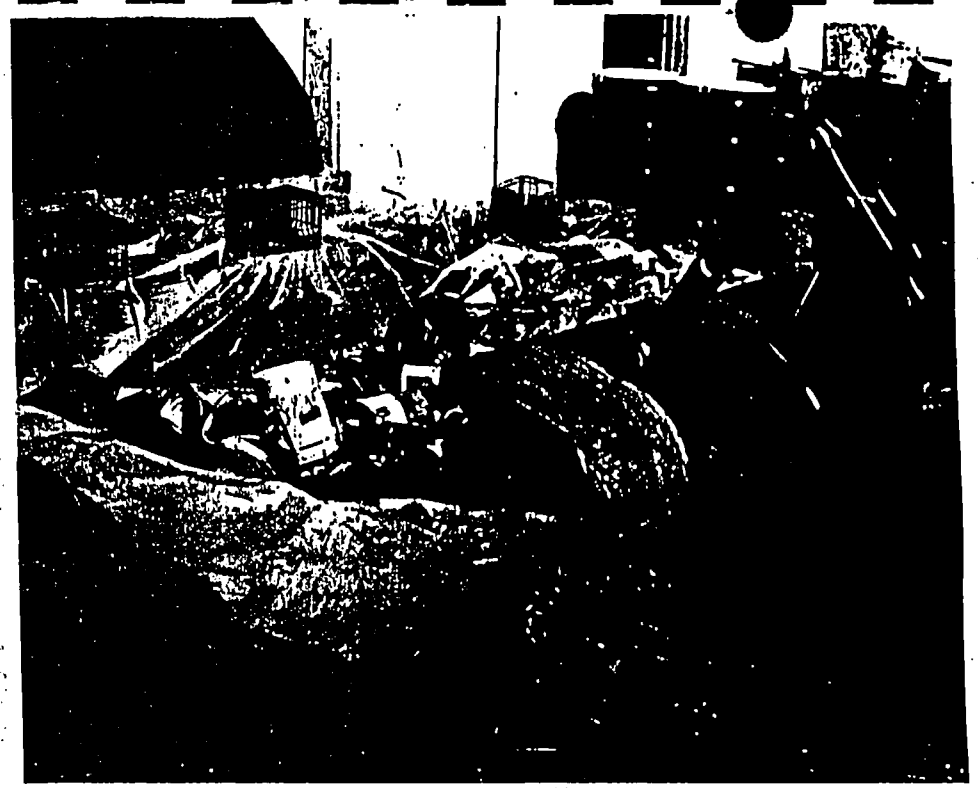


PHOTO # 4
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

SUBJECT: ERCS CRUSHING EMPTY CONTAINERS

LOCATION: EAST SIDE MAIN STRUCTURE/CONCRETE LOADING DOCK
SUPREME FINISHING SITE
DURHAM, DURHAM COUNTY, NC

TDD#: 04-9210-0059-4059
DATE: 08/25/92
TIME:
PHOTOGRAPHER: TAT JAMES HAWKINS
WITNESS:
FILM: 3M **ASA:**100
LOCATION OF NEGATIVE: ATLANTA TAT OFFICE

PHOTO # 5
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

SUBJECT: ERCS INVESTIGATING AREA BEHIND MAIN STRUCTURE

LOCATION: NE QUADRANT OF SITE
SUPREME FINISHING SITE
DURHAM, DURHAM COUNTY, NC

TDD#: 04-9210-0059-4059
DATE: 08/18/92
TIME: 1420
PHOTOGRAPHER: TAT JAMES HAWKINS
WITNESS:
FILM: 3M **ASA:**100
LOCATION OF NEGATIVE: ATLANTA TAT OFFICE

PHOTO # 6
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

SUBJECT: ERCS DIGGING TRENCHES TO ASCERTAIN THE LOACTION OF POTENTIAL BURIED DRUMS

LOCATION: NE QUADRANT OF SITE
SUPREME FINISHING SITE
DURHAM, DURHAM COUNTY, NC

TDD#: 04-9210-0059-4059
DATE: 08/19/92
TIME: 1050
PHOTOGRAPHER: TAT JAMES HAWKINS
WITNESS:
FILM: 3M **ASA:**100
LOCATION OF NEGATIVE: ATLANTA TAT OFFICE

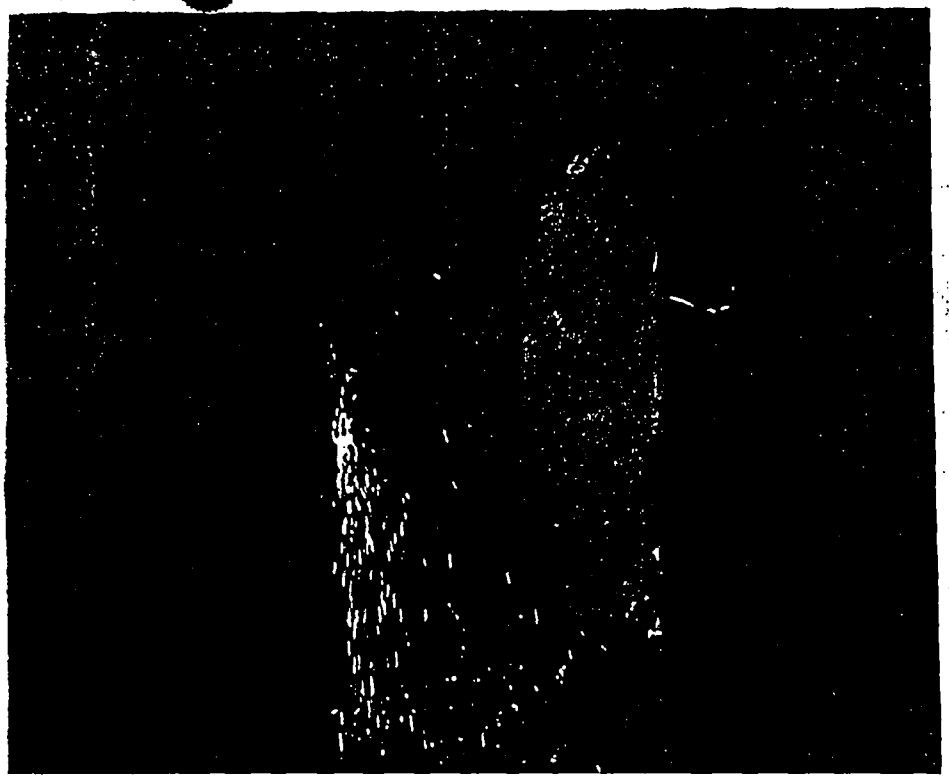


PHOTO # 7
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

SUBJECT: ERCS DISPATCHING METAL TANK

LOCATION: ROOM #4
SUPREME FINISHING SITE
DURHAM, DURHAM COUNTY, NC

TDD#: 04-9210-0059-4059
DATE: 08/27/92
TIME: 1515
PHOTOGRAPHER: TAT JAMES HAWKINS
WITNESS:
FILM: 3M **ASA:**100
LOCATION OF NEGATIVE: ATLANTA TAT OFFICE

PHOTO # 8
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

SUBJECT: DEPICTION OF DISPATCHED TANKS AND ROOM #4 AFTER FLOOR DECONTAMINATED WITH WATER

LOCATION: ROOM #4
SUPREME FINISHING SITE
DURHAM, DURHAM COUNTY, NC

TDD#: 04-9210-0059-4059
DATE: 08/28/92
TIME:
PHOTOGRAPHER: TAT JAMES HAWKINS
WITNESS:
FILM: 3M **ASA:**100
LOCATION OF NEGATIVE: ATLANTA TAT OFFICE

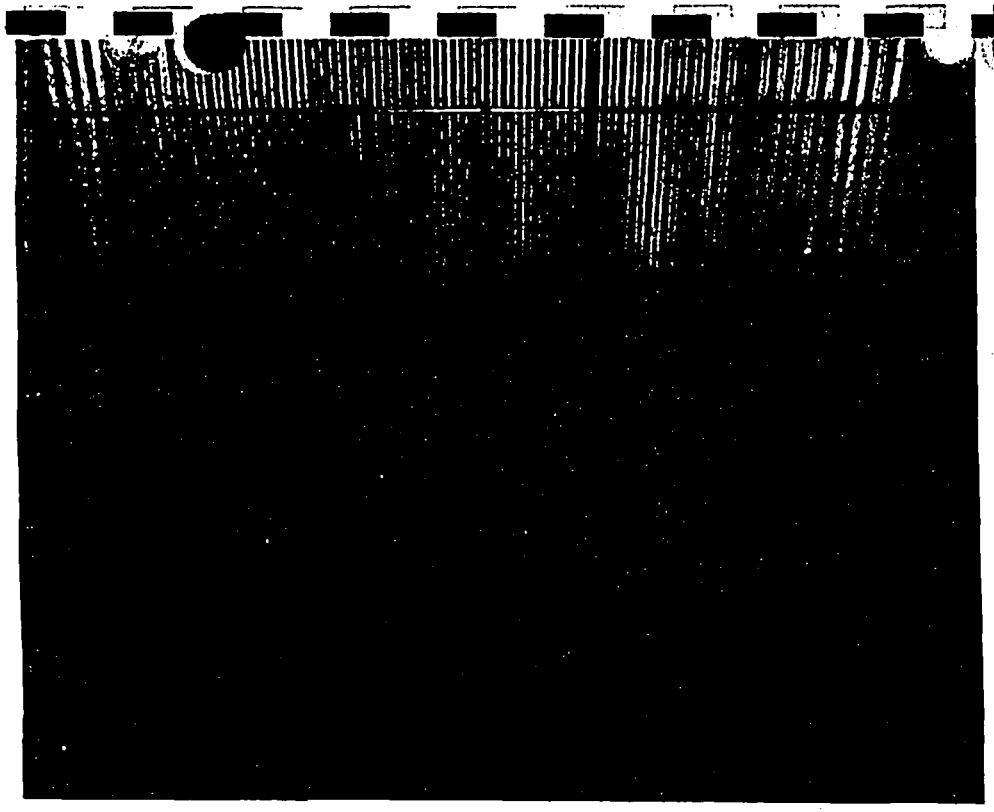


PHOTO # 9
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

SUBJECT: AREA WHICH FORMERLY HAD A MULTITUDE OF 55 GALLON DRUMS
(SEE PHOTO #6 /TDD #04-9111-0002-2068)

LOCATION: ROOM #6
SUPREME FINISHING SITE
DURHAM, DURHAM COUNTY, NC

TDD#: 04-9210-0059-4059
DATE: 08/29/92
TIME: 1030
PHOTOGRAPHER: TAT JAMES HAWKINS
WITNESS:
FILM: 3M **ASA:**100
LOCATION OF NEGATIVE: ATLANTA TAT OFFICE

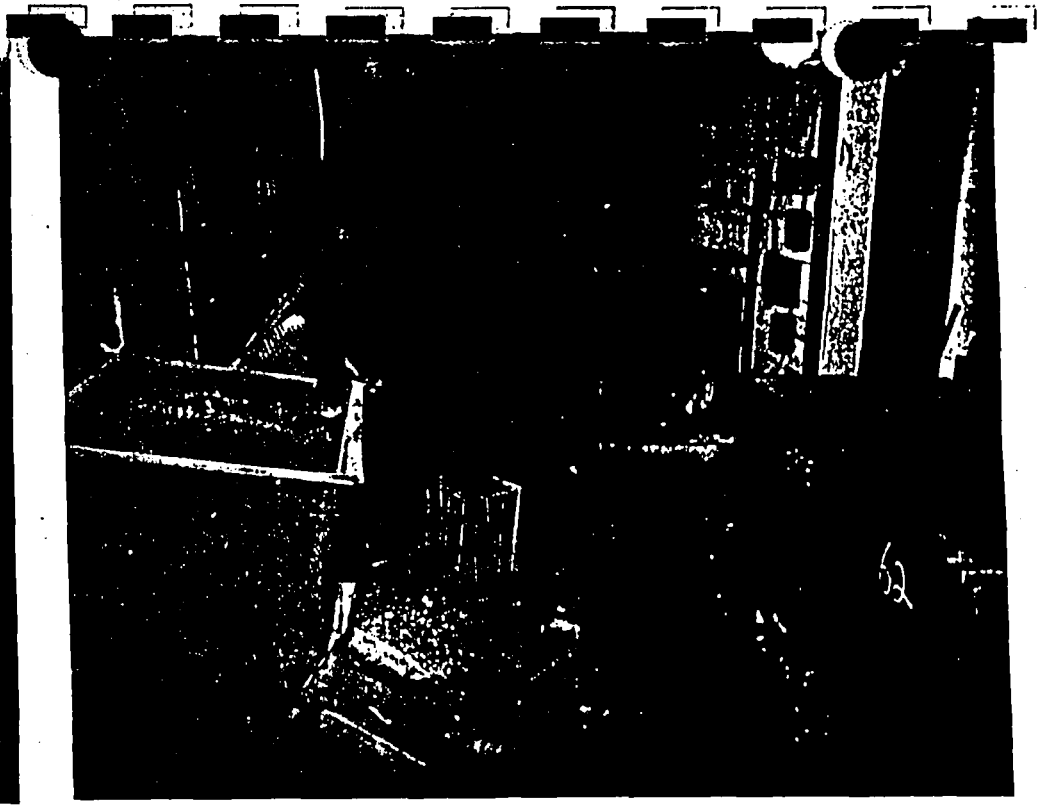


PHOTO # 10
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

SUBJECT: VIEW OF ROOM #7 AFTER REMOVAL OF VAT CHEMICALS

LOCATION: ROOM #7
SUPREME FINISHING SITE
DURHAM, DURHAM COUNTY, NC

TDD#: 04-9210-0059-4059
DATE: 08/29/92
TIME: 1030
PHOTOGRAPHER: TAT JAMES HAWKINS
WITNESS:
FILM: 3M **ASA:**100
LOCATION OF NEGATIVE: ATLANTA TAT OFFICE

ATTACHMENT B

Log Notes

15 & 16 Aug 92
Days off

17 Aug 92 (Mon) ½ hr. lunch / 8 hr.

0700 Arrive in Office: Commence loading equipment for Mobe to Supreme Finishing PCS: 2657

0800 Mobe to Supreme Finishing

1530 Arrive at Hotel (Dushore, NC)

18 Aug 92 (Tue) 1 hr. lunch

0715 Arrive at Supreme Finishing Site PCS: 2657

0730 TAT Hawkins observes that the North East Door & Window ~~door~~ S.H (Previously secured with Plywood by TAT) were vandalized and the Plywood removed. The shed behind the main bldg ~~and~~ had its lock broken off & the 2x4 wood securing the ~~door~~ door was not nailed to the shed as previously secured by TAH

0741 ETI Personnel arrive (6 workers)

0800 OSC Mike Taylor arrive on site

0815 OSC Taylor briefs ETI Crew on specifics of site

0830 Neighbor Mr. Dean (East of site) states that he saw fresh dirt digging on ~~site~~ site (East of site) six years ago

0915 TAT Hawkins & 1 ETI Personnel dressed to conduct air monitoring inside site

0925 TAT Hawkins, OSC Taylor & Greg Evans (ETI chemist) enter site bldg & survey w/ OVA & PID (N monitor) in level B w/ Tyvek PPE

0945 Bldg ~~site~~ S.H surveyed w/ Air Monitoring. No readings above background (1 ppm) reflected

1000 OSC Taylor, Hawkins & Evans exit site

1005 ETI crew set up decon. area & staging area

1045 Crew has safety meeting - Slips, Trips, Falls; watch for insect, snakes & Lots of Chemicals (weather - overcast, Temp: 75°F

1100 Crew dons level C & enters initial entry into Site bldg.

1130 Crew commences removing debris from bldg.

1148 OSC Taylor enters site in level C PPE

Now Crew using barrel cart to move drums

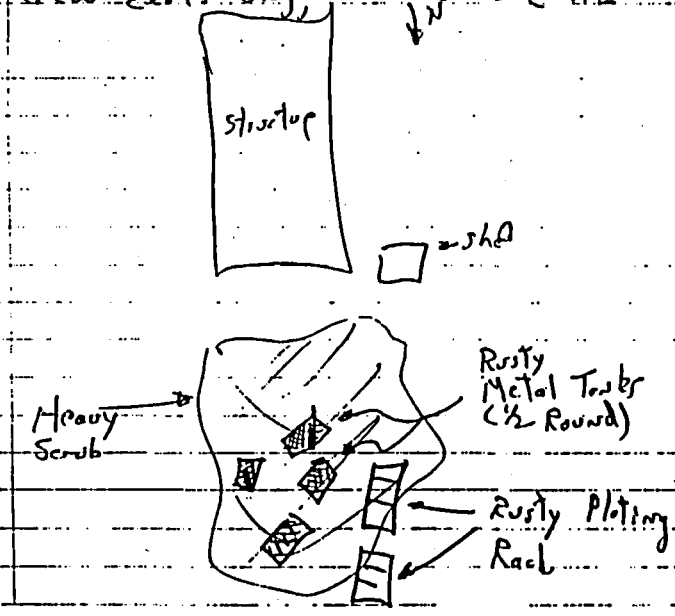
1209 Crew & OSC Taylor exit hot zone & break for lunch

1315 Back to work

1420 Backhoe operator commences clearing brush ~~behind~~ S.H behind (North side) of Main Structure (TAT Hawkins photo documents activities)

Soil very soft & contains wood debris

1440 Crew exits bldg & doffs level C PPE



18 Aug 92 (cont.)

1510 TAT Hawkins photo documents staged 5 gal buckets in blg.

~~1522~~ 1530 Metal debris & ½ Round Section uncovered by backhoe (Photo documented by TAT Hawkins)

~~1555~~ 1555 Crew dons PPE (level C) & enters hot zone, continue staging of drums inside blg.

1600 ETI chemist using "brush hog" to make weeds around site

1605 OSC Taylor dons level C PPE & enters Site blg.

1615 Crew Commences removing 5 gal. Containers from shed & stages materials inside blg. Backhoe is stuck in soft mud behind blg.

1650 Crew Exits blg & takes liquid replenishment. Majority of 1 & 5 gallon Containers from shed have been moved into main structure & staged

1800 Security arrives on Site

1815 Tow Truck arrives to remove Backhoe from area where stuck in mud

1820 Crew Exits hot zone & doffs PPE; ~~Majority~~ All of 1 & 5 gallon cans & 55 gallon drums staged. All materials from shed with the exception of 1 deteriorated 55 gallon drum & several open bags of unknown chemicals

1900 All Personnel leave Site

18 Aug 92

19 Aug 92 (Wed) Thirlwish/Ilhr.

~~0700~~ 0630 O.H. TAT Hawkins goes to fire station on Holloway St. & speaks to Captain Lemons & informs Lemons of the activities at supreme finishing (Home Not # 560-4255; Fire Station #2 560-4221)

0650 TAT Hawkins & ETI Crew on Site, Weather Clear Sky Temp 76°F

0700 Security leaves site

0702 OSC Mike Taylor on Site, Crew Commences setting up eqpt. for days activities

0715 Activities for clearing brush from West Side of building Commence

0750 TAT Hawkins dons level C PPE & enters Site blg

0800 5 gallon & 5 gallon Containers of Paint & Chemicals were observed staged in Room #5 & #6

0848 Clearing brush activities at North end of blg Commence; Crew Don Saran Suits level C for bulking activities

0903 TAT Hawkins photo documents Crew Sorting Cans of Paints/Chemicals in Room #5

0915 Bulking of Paint Solids Continues

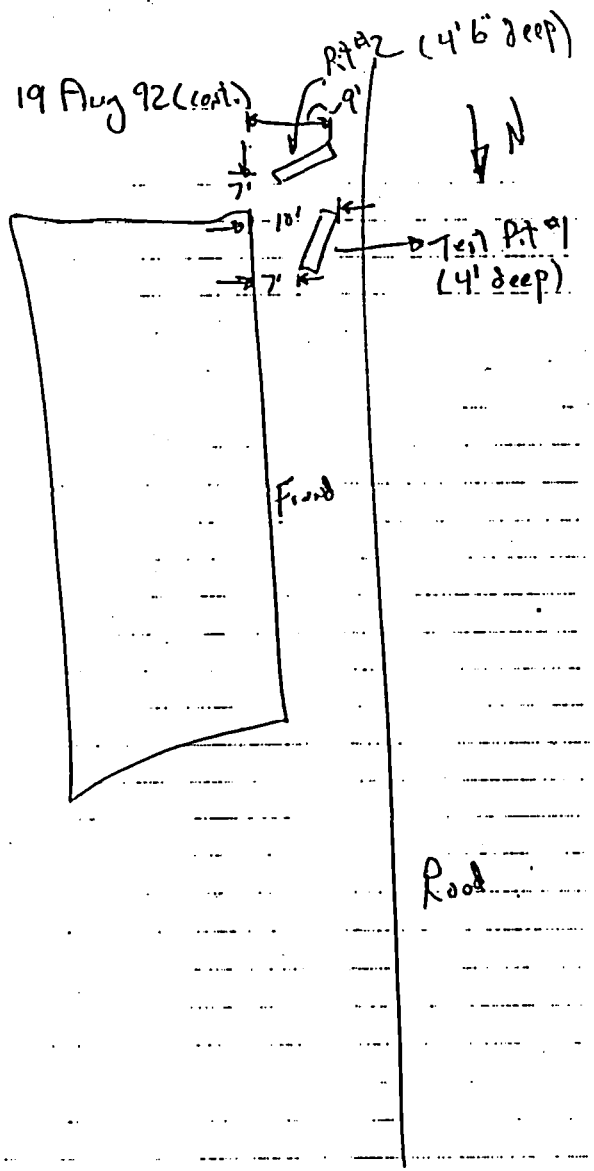
0930 OSC Taylor dons level C PPE & enters blg

0945 All Personnel exit blg & doff PPE and take liquid replenishment (weather 80°F/Clear) (Crew Stated that they were having "breakthru" with their cartridges); PPE will upgrade to level B

1025 Test Pit being dug adjacent to NE Corner of structure (Test Pit #1)

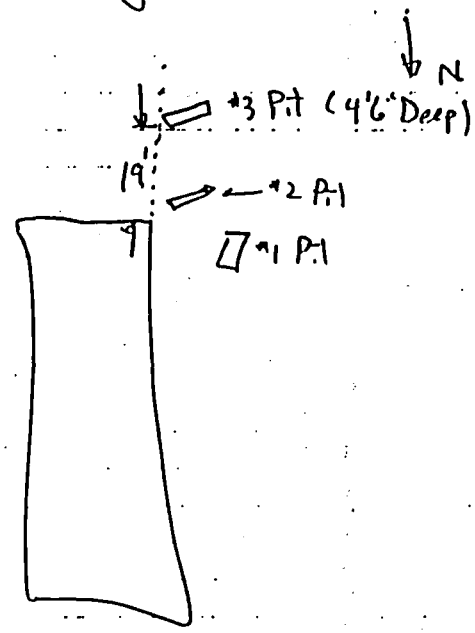
19 Aug 92

19 Aug 92 (cont.)



Pit #1 & #2 indicate no contamination & reveal previously undisturbed layers of clay. No Debris are at Bottom of Sides of Pit #2 & #1

19 Aug 92 (cont.)



1050 Pit #3 Completed - No Traces of debris or contamination in Pit #3. Pit #3 consists of undisturbed layers of Clay. TAT Hawkins photodocuments digging of Pit #1, 2 & #3

1055 Crew does level B PPE w/ Saran Suit & commences bulking Points

1105 TAT Hawkins Photo documents Crew in level B bulking Points

1119 Rental Service brings Compressor

Noon Crew Exits Bldg. & Doffs PPE and breaks for lunch

1300 Back to Work

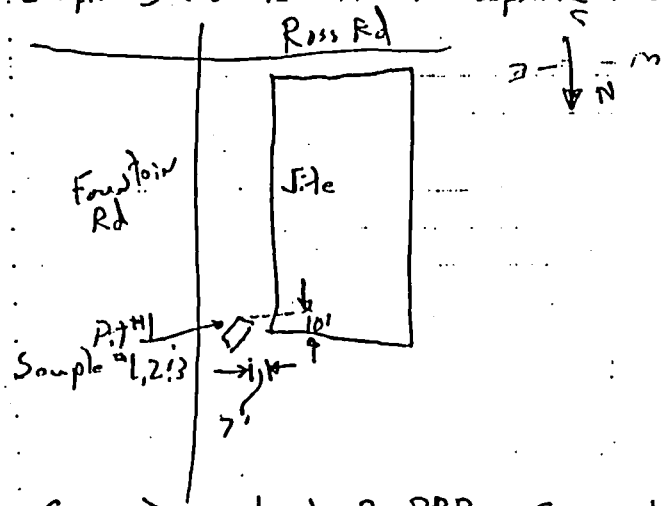
1330 Crew does level B & commences bulking

Terry Waddell State DEP on Site

1350 Crew is Separating Pb based vs Non-Pb Paints

19 Aug 92

1445 Sample #1 (0"-6") Pit #1 Composite Taken
1450 Sample #2 (6"-12") Pit #1 Composite Taken
1455 Sample #3 (12"-18") Pit #1 Composite taken



1600 Crew Donns level B PPP w/ Saws to Commence Bulking activities
1602 Pits #1,2&3 are filled in with soil with the backhoe
1619 Crew Exits H.T Zone & doffs PPE; 27 Samples were taken from 30gal & 55 gallon drums
1630 OSC Taylor dons level C PPE & enters bldg to mark areas where concrete floor will be broken to Sample soil under slab; Crew enters site in level B to Sample remaining drums
1640 TAT Hawkins leaves site to Pick up TAT Dubois at Airport
1800 Arrive at Site; Crew Continue to Sample; Chemist Continues to HazCat bulkwaste
1815 Crew exits bldg; Security on Site

19 Aug 92 (cont.)

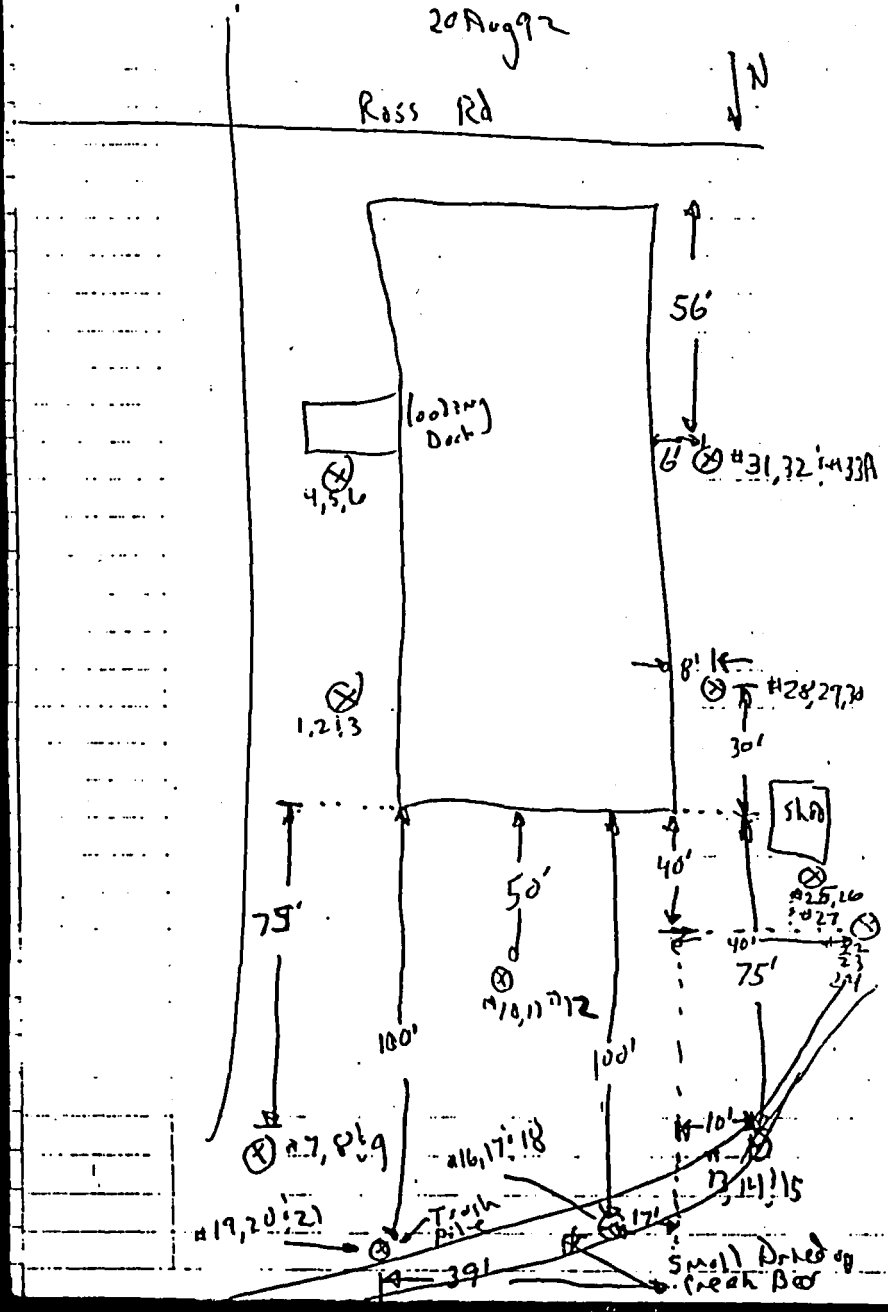
1830 Crew Commences to Clean Equip & Secure Area
1900 All Personnel leave Site

Jay P. Hawk
19 Aug 92

20 Aug 92 (Thur.) Thr. Work/11 hrs

0700 TAT Hawkins & Dubois arrive on site; ETI crews arrive (weather: Overcast, Rain); OSC Mike Taylor
0710 Safety Meeting - Be careful when handling Chemicals, watch for falling in bldg
0803 Samples #4, 5 & 6 Taken 2' North of loading Dock on East Side of Bldg (Front of bldg.) #4 (0"-6"), #5 (6"-12"), #6 (12"-18")
0815 Samples #7, 8, 9 (75' NE of Bldg) #7 (0"-6") #8 (6"-12") #9 (12"-18")
0830 Samples #10, 11 & 12 (50' N from Ctr of Bldg) #10 (0"-6") #11 (6-12") #12 (12"-18")
0850 Samples #13, 14 & 15 (75' NW of Bldg) #13 (0"-6"), #14 (6"-12") #15 (12"-18")
0920 Samples #16, 17 & 18 (100' N of Bldg) #16 (0"-6") #17 (6"-12") #18 (12"-18")
0935 Samples #19, 20 & 21 (100' N of East Edge of Bldg) #19 (0"-6"), #20 (6"-12") #21 (12"-18") (Bored thru Trash Pile - old knit Cap, Glass, old Roofing material)
1055 Samples #22, 23, 24 (NW of Shed) #22 (0"-6") 23 (6"-12") #24 (12"-18")
1107 Sample #25, 26 & #27 (at NW corner of Shed) 25 (0-6") #26 (6-12") #27 (12"-18")
*1000 (into entry) Terry Waddell on Site

20 Aug 92



20 Aug 92 (cont)

1145 Samples on NW side of bldg #28, 29 & 30 (pp 120) #28 (0"-6") #29 (6"-12") #30 (12"-18")

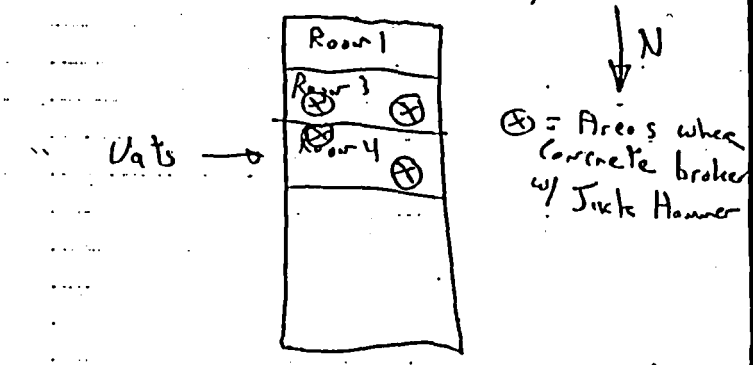
1150 Samples on NW side of bldg #31, 32, 33A (pp 120) #31 (0"-6") #32 (6"-12") #33A (12"-18")

Noon Terry Wattel State of NC off site, Crew breaks for lunch

1300 Back to work. Crew Continues to bulk chemicals; Chemist to date has conducted approx 150 Hazcat Categorization tests.

1320 TAT Hawkins under documents Supervision Finishing Sample locations and various Site activity, Crew Continues Sampling activities and bulking point sludges,

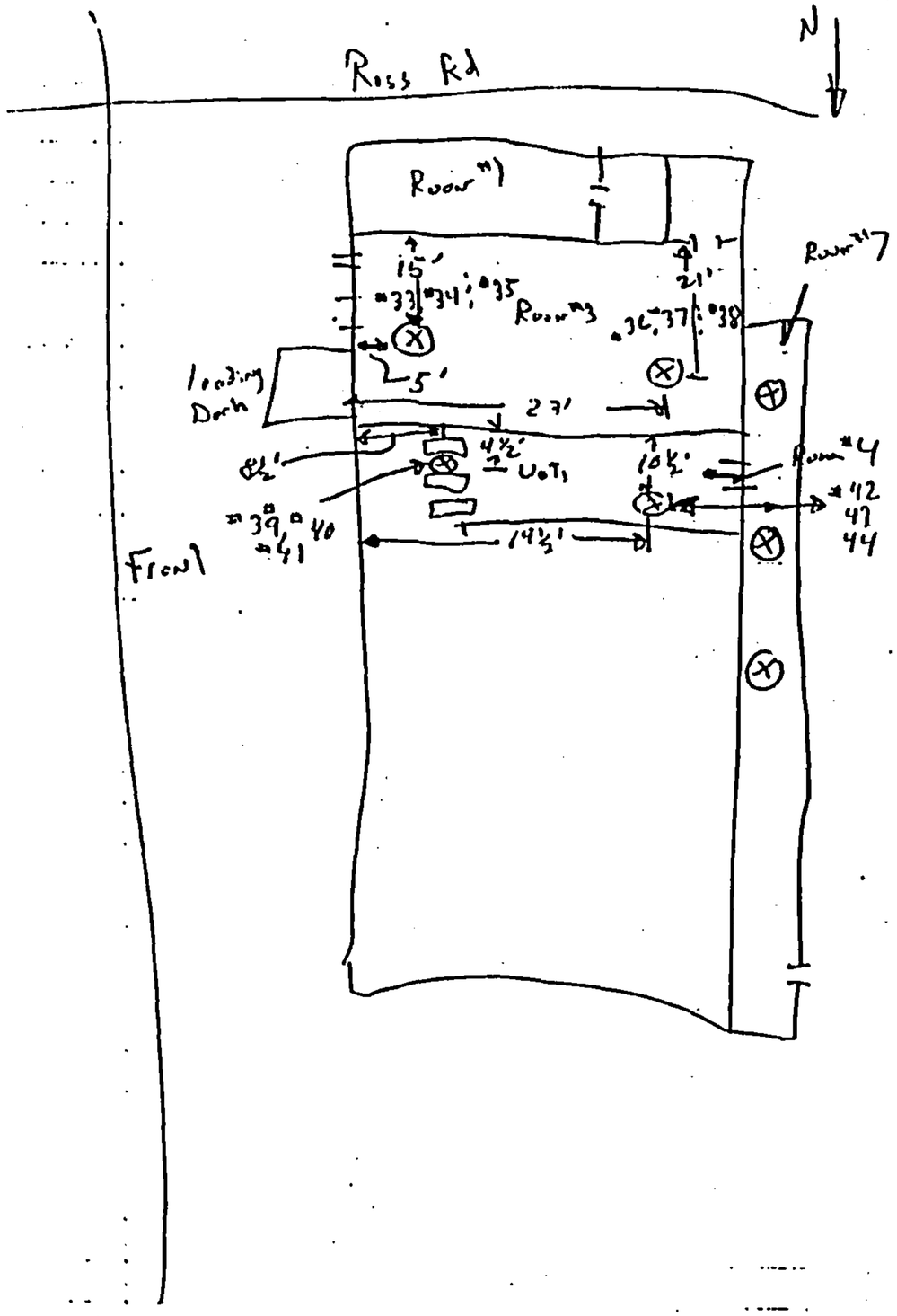
1400 TAT Hawkins commence using Jackhammer to break concrete slab in (Two places in Room #3 and Room #4)



1515 TAT Exit bldg & Doff PPE and take liquid replenishment

20 Aug 92

8-20-92



20 Aug 92

1620 Samples #33, 34 & 35 taken in Room #3 (East corner); #33 (0"-6") #34 (6"-12") #35 (12"-18")

1635 Samples #36, 37 & 38 taken in Room #3 (west corner); #36 (0"-6"), #37 (6"-12") #38 (12"-18")

1645 Samples #39, 40 & 41 Taken in Vat Room #4 (East corner); #39 (0"-6") #40 (6"-12") #41 (12"-18")

1710 Samples #42, 43 & 44 Taken in Vat Room #4 (West corner); #42 (0"-6"), #43 (6"-12") #44 (12"-18")

~~1715 Sample~~

1720 Mts Hawkins & Dubois Ex-7 Hot Take & lake liquid replenishment

1750 Crew Dons level B PPE & enters Bldg; Commence bulking Points & chemical samples lost few hazardous Samples

1750 ~~Seen~~ Security arrives on Site

1830 Crew Exits Bldg & Doffs PPE & commences Cleaning Eqpt.

1900 All Personnel leave Site

20 Aug 92

21 Aug 92 (Fri) 1hr. lunch/11hr

0645 weather: Temp 69°F / Clear Sky ; TAT Hawkins ; Dubois on Site; Security Guard No Present —

0700 ETJ Personnel : OSC Mike Taylor on Site; Crew has Safety meeting

0715 Crew dons level B PPE ; enters bldg to commence sorting ; bulking chemicals

0945 Crew breaks; TAT Hawkins & Dubois don level C PPE ; Enter Bldg and Jackhammer holes in Room #5

1045 Sample Room #7 - 6' from South Wall Sample #51 (0"-6") #52 (6"-12") #53 (12"-18")

1102 Sample Room 7 - 29 ft from South Wall Sample #54 (0"-6") Sample 55 (6"-12") #56 (12"-18")

1115 Sample Room #7 - 50' from South Wall Sample #57 (0"-6") #58 (6"-12") 59 (12"-18")

1130 Sampling Complete in Room 7. TAT's exit bldg & doff PPE and take liquid replenishment

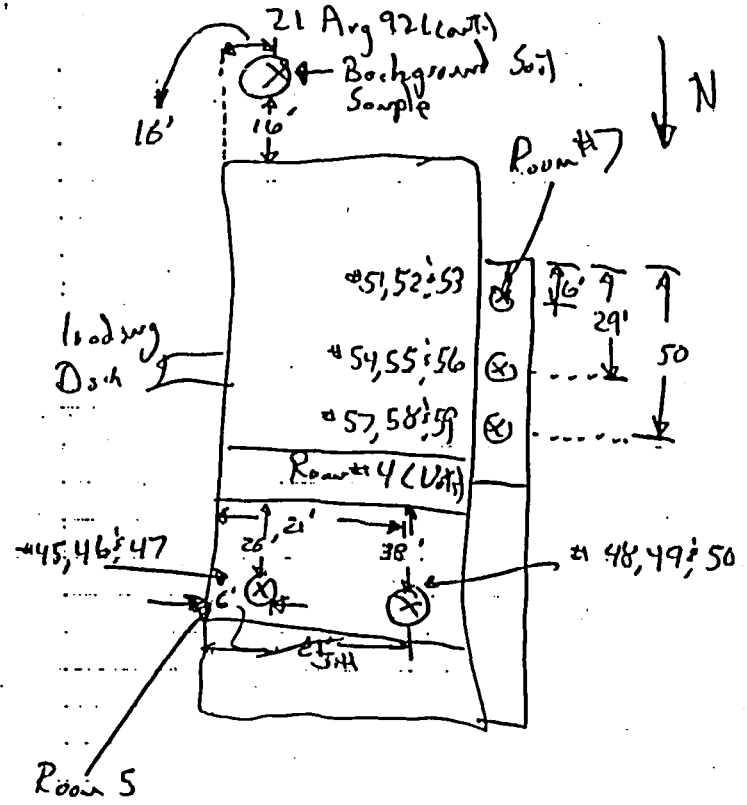
Noon Crew breaks for lunch

1300 Back to work; Crew dons level B PPE & enters bldg; Commence work w/ bulking materials

1505 Sample Room #5 Concrete Bore hole - East end of Room Sample #45 (0"-6") Sample #46 (6"-12") Sample #47 (12"-18")

1515 Sample Thru Jackhammered Concrete floor Room 5 (West End); Sample #48 (0"-6") #49 (6"-12") #50 (12"-18")

1700 Sample Background - 0" to 18" at SE Corner Bldg 16' S + 16' W



1701 Crew Breaks

1733 Back to work; Crew commence segregating & bulking materials in Room 6

1830 Crew Exits bldg (Room #6) & doffs PPE bulking of Points completed

1900 All Personnel off Site; Security on Site

21 Aug 92

22 Aug 92 (Sat.) 1hr. lunch / 11 hr.

0700 Weather: Clear Sky / Temp 69°F ; TATs Hawkins & Dubois on Site ; ETI & OSC Mike Taylor on Site ; Security on Site

0730 Crew Commences Cleaning Eqpt & reading eqpt for Cutting of dried Paint Cans for Solids bulking

0945 TAT Hawkins drives TAT Dubois to airport (Dubois departs from Site to Atlanta)

1030 TAT Hawkins look at Site ; Crew wrapping Poly around air line hoses to Protect hoses during the cutting & bulking of Solid Paint Products

Noon Crew breaks for lunch

1300 Back to work, Crew donns level B PPE & Commences to cut up Dried Paint ~~Paint~~ Cans

1315 TAT Hawkins Video Documents activities of Site & Crew activities cutting metal Paint Cans containing Solidified Paints

1400 TAT Exits Site

1425 OSC Taylor exits bldg

1430 Crew exits bldg & Doffs level B PPE
5 & 5 gallon Cans have been cut in half

1510 Crew donns level B PPE & commence with Cutting Metal Cans in half

1630 Small Fire is started by sparks from Cutting wheel, ETI immediately extinguish fire w/ dry chemical extinguisher - no detrimental effects or problems caused by incident

1635 Crew exits bldg, doffs PPE & takes liquid replenishment

1655 Due to fire, all further cutting will be done outside on Plywood & Visqueen ; Crew moving materials outside

1710 TAT Hawkins video & Still Photos Cutting Can operation

22 Aug 92 (cont.)

1750 Castor Security arrives on Site

1806 Crew Commence Cutting operation 1 Gallon Cans of Solid Paints

1830 Crew Complete with Cutting Tools & Doffs PPE

1900 All Personnel off site

23 Aug 92 (Sunday) ~~½ hr. lunch~~ J.H. /12 hr.

Day off. No Work Performed at Site

24 Aug 92 (Monday) ½ hr. lunch/12 hr.

0700 Carter Security leaves site; TAT Hawkins on Site (Weather: 69°F/Clear Sky); S-ETI Personnel on site, OSC Mike Taylor on Site

0715 Safety Meeting: Crew discuss planned daily activities

0730 Crew donns level B PPE w/ Saran Suits to commence bulking Powders; miscellaneous liquids (Base-Neutral)

0735 Bulking Commences

0825 TAT Hawkins video & photo documents bulking activities

0833 Crew exits bldg; doffs PPE; 99% of the solids bulking completed

0900 Crew donns level B PPE w/ Saran Suits & enters bldg.

0940 Crew Exits bldg & Doffs PPE and takes liquid replenishment. Duke Power rep. checks Power (Power has been cut off with pliers Previously - Power is disconnected from the top of the telephone pole)

1020 Crew exits bldg; doffs PPE and takes liquid replenishment. Erika Orlon BEI rep on site

1030 BFI Rep off site (Neighbor ~~downwind~~ North of Site - Clyde Robertson)

1045 Crew donns level B PPE and enters bldg & continues bulking remaining chemicals

1116 ETI Crew member Dave Wintree, exits bldg and enters safety shower to wash off a ~~small~~ quantity of chemical that had splashed onto his mask

1130 Crew exits structure, doffs PPE & takes liquid replenishment

23 Aug 92 (cont.)

Noon Crew breaks for lunch

1300 Back to work

Clyde Robertson
48 Carlton St.
27703
919/596-3644

Agnes Gutschfield
3031 Ross Rd
919/596-3963

J. R. Dean
3047 Ross Rd
Durham, NC 27703
919/596-6922 or ~~2457~~ 247 J.H. 5257

1343 Crew donns level B w/ Saran Suits PPE and enters bldg

(Crew bulked Solid Base & Solid Neutrals in 55 gal drums; Pumped units containing Acids & Neutral liquids in 55 gallon Poly Drums)

1900 Security on Site; All Personnel off Site; TAT delivers samples to FedEx office

1930 TAT Hawkins complete w/ Sample delivery

23 Aug 92

25 Aug 92 (Tue) No Injury/12 hr.

0645 TAT Hawkins on Site; Security leaves Site
weather: Clear Sky / 68°F

0700 ERCS on Site, OSC Mike Taylor on Site - Crew discuss plan for days activities - continue bulking of vat ~~liquid~~ liquids

0722 BFI brings dumpster

0738 TAT Video documents Site Conditions! Photo document BFI Rolloff. Rolloff was brought to Site w/ approx 1 yard of garbage already with

0755 Crew dons level B PPE; commences bulking vat materials

0930 Crew Exits bldg; Diaphragm Pumps employing vats clogged. Paint Cans containing small amounts of residual paints are continuing to be scraped & paints are being bulked

0947 TAT Hawkins photodocuments Room #2 (Vat Room) outside of bldg (indicating 55g drums used for vat liquids & Room #5 (where paint cans w/ small quantities of sludge are being bulked)

0950 TAT Hawkins assists ERCS (Takes lids off paint cans & hands almost empty cans to ERCS crew member for scraping & bulking paint

1055 TAT Exits Bldg; dons PPE! OSC Taylor Dons PPE & assists RM

1115 TAT Hawkins leaves site ~~for~~ until to work on 1900-55 with ETI ~~PCP~~ PCT

1500 TAT arrive on Site. Complete 1900-55 work; All vats have been pumped - fresh water (small amount) put in vats for cleaning; work on scraping paint sludge from 1-5 gallon continues

1530 TAT Hawkins photodocuments crew scraping paint from paint cans for bulking purposes

25 Aug 92 (Tue)

1640 Bulking of Paint Sludges continues

Current Bulked Inventory

QTY	Name Product	Drum
~~IIII~~	Bulked Acids	55gal
~~IIII~~ II	Neutral liquids	55gal
I	Chromic Acid	55gal
II	Base liquids	55gal
I	Waste water	55gal

1830 Crew Exits bldg. 90% of Paint Cans have been scraped; All vats have been pumped & water has been added to vats to clean & dissolve solids. Drums have been moved inside bldg in Room 5 & staged

1845 Security on Site

1900 All Personnel off Site

25 Aug 92

26 August 92 (Wed) Thirteen/11hr

0700 TAT Hawkins, ERCS on Site; weather: Clear/68F
OSC Mike Taylor on Site

Staged Full Drums as of Current

Qty	Name of Product	Drum
IIII	Bulked Acids	55 gal Poly
I	Neutral Solids	30 gal Fiber
~~III~~ II	Neutral Liquids	55 gal Steel
I	Base Liquids	55 gal Poly
I	Paint Liquids	55 gal Steel
I	Lead Paint Liquids	55 gal Steel
I	Lead Paint Solids	55 gal Steel
~~IIII~~	Paint Liquids	55 gal Steel
~~IIII~~	Paint Solids	55 gal Steel
I	Base Solids	42 gal Steel
I	Base Liquids	55 gal Steel
III	Chromic Acids (Partial Drum)	55 gal Poly
I	Waste Water	55 gal Steel
Total 32	x 55 (& 30, & 42) gal Drums	

0735 Crew dons level C w/ Saran PPE and Enters bldg

0740 Crew Commences pumping rinse water & created accumulated sludges from vats into 55 gallon drums

0845 Crew Commences removing tanks/vats from Room 4 for later cutting with Sawzall so vats can't be used again (Activities further documented by TAT Hawkins)

0900 Crew Exits bldg, doffs level C PPE, takes liquid replacement

1030 TAT Hawkins conducts PH & oxidizer test on sample of Liquid from a vat located in Room #7 (East Wall); PH = 1; fresh oxidizer

1031 Crew dons level C ppe w/ Saran Suits & commences cleaning activities in bldg

26 August 92 (cont.)

~~0930~~ 1130 Crew Exits bldg & doffs level C PPE; Crew experiencing difficulty with air operated diaphragm pump clogging

1145 Crew breaks for lunch

Noon TAT Hawkins off site to PST Hotel to complete daily 1900-55

1400 TAT Hawkins arrives at site, Crew Continues to pump tanks in Room #7

1500 Crew Exits bldg & doffs PPE; takes liquid replacement

1530 Crew dons level C PPE w/ Saran Suits and Commences pumping acid liquids

1615 Crew Exits bldg; doffs PPE. Pumping of rinsate from vats completed

1620 Hard rain commences

1655 Crew dons level C w/ Saran PPE and enters bldg. and commences to shovel sludge from vats in Room #7

1700 OSC Taylor off site for the day

1720 Wash Continues on Removing Sludge from vats

1815 Crew ~~Exits~~ Exits bldg; Commences daily site clean up & securing activities

1830 Security on Site

1900 All Personnel off Site

26 Aug 92

27 Aug 92 (Thur) 1hr lunch/11hr.

0635 TAT Hawkins on Site; Security leaves Site; Weather: Foggy/65°F

0700 ETI Crew on Site

0715 Crew dons level C PPE w/ Saran Suits; enters bldg; Cleaning last vat in Room 7 commences; Remaining paint being scraped from 1 gallon cans commences

0800 OSC Mike Taylor on Site

0810 Crew commences bulking small quantities of chem cols; Got slight chemical reaction when about 8oz of Pipperdine was bulked with flammable liquids; Bulking of Pipperdine was ceased when vapors commenced from the 55 gal drum

0915 Crew exits bldg & doffs PPE & takes liquid replenishment

0930 Crew dons PPE & enters bldg; Commencing bulking of small quantities of flammable liquids

1000 Crew commences scraping & cleaning residuals from floor of shed

(740-1754 RM Helms Phone #)

404/550-9240 EPA - 1363 OSC Taylor #

1045 Crew uses partner saw to cut contaminated portion of wooden shed floor

919/596-3580 Supreme Finishing Phone

1130 Crew exits bldg & Doffs PPE

1140 Crew breaks for lunch; TAT breaks for lunch. goes to PCI (Hilt-) to work on 1900-55 Daily

1340 TAT back at Site (Site # 919/596-1435), Crew completed cutting contaminated wood floor finished; Cutting of Tanks in Room #4 Commences; Bulking of Flammable liquids continues

1358 OSC Taylor dons level C PPE & enters bldg.

1415 TAT Hawkins Video documents Vats ordered destroyed by OSC Taylor & partially decontaminated chemicals

27 Aug 92 (Thur)

1425 Crew ~~exits~~ OH exits bldg & doffs PPE and takes liquid replenishment

1515 TAT Hawkins video & Photo documents Vats being set up and the inside of shed (after decon)

1600 Crew Exits bldg, Doffs PPE; takes liquid replenishment

1630 Crew dons level C PPE & enters bldg. Commences bulking boxes & commences cutting Vats Rain Commences

1730 OSC Taylor off Site (9.5 hr Work)

1815 Crew Exits bldg, Doffs PPE & Commences daily clean up

1830 ETI Crew off Site

1900 Center Security on Site; TAT Hawkins off Site

27 Aug 92

28 Aug 92 (Fri) Thu/Lunch/11 hr OT

0640 TAT Hawkins on Site; Security leaves; Weather: Overcast / Temp 69°F

0700 EII Crew on Site

0715 Crew dons level C PPE; Decontamination of backhoe commences; cutting of remaining tots commences

0745 OSC Mike Taylor on Site; TAT Hawkins Video documents site activities, decon of backhoe; surrounding residences

0812 Crew continues to bulk final quantity of Acids & Neutral materials in level B gear PPE

0914 Crew Complete w/ Bulking. 2 Crew members exit bldg & doff PPE & take liquid replenishment

0930 Crew dons level C PPE & enters bldg & commences final staging activities

0955 OSC Taylor dons level C PPE & enters bldg to survey site activities

1015 Repair of damaged sections of West Side Cemetery

As Per OSC Mike Taylor:

Durham Police: 919/560-4427

Arson Div Fire dept 560-4245 (Milton Smith)

Fire Marshall 560-4242 (George King)

560-4233 (Direct line)

Mr Vandergrift (Asst. Fire Marshall) 560-4233

Carter Security: ~~919~~ 800/612-4144

" " Capt. Vincent 800/612-3672

Grady # @ Site: 919/596-1435

1100 Remaining Acids bulked. Crew exits bldg, doffs PPE & takes liquid replenishment

Noon Crew breaks, Slight Rain

1300 Back to work. Crew commences staging drums, Triple Rinsing Empty Drums, Cleaning

28 Aug 92 (cont)

1300 (cont) floor of Vat room

1600 OSC Taylor Off Site

1715 Crew Dons PPE & commences rinsing Empty Drums; Cleaning of floor in Vat Room Commences

1805 Crew Commences pumping rinse water from floor of Vat room into 55 gallon steel drums. Crew cleaning & decontaminating eqpt. (Triple rinsed empty drums have been staged in Room #3).

1900 Carter Security on Site; All Personnel off Site

28 Aug 92

29 Aug 92 (Sat.) Thr. (unit)

0700 Carter Security leaves Site; TAT Hawkins; ETI Crew on Site; Weather: Clear Sky / 60°F

0715 Crew commences planning for sampling of all bulked material Composite

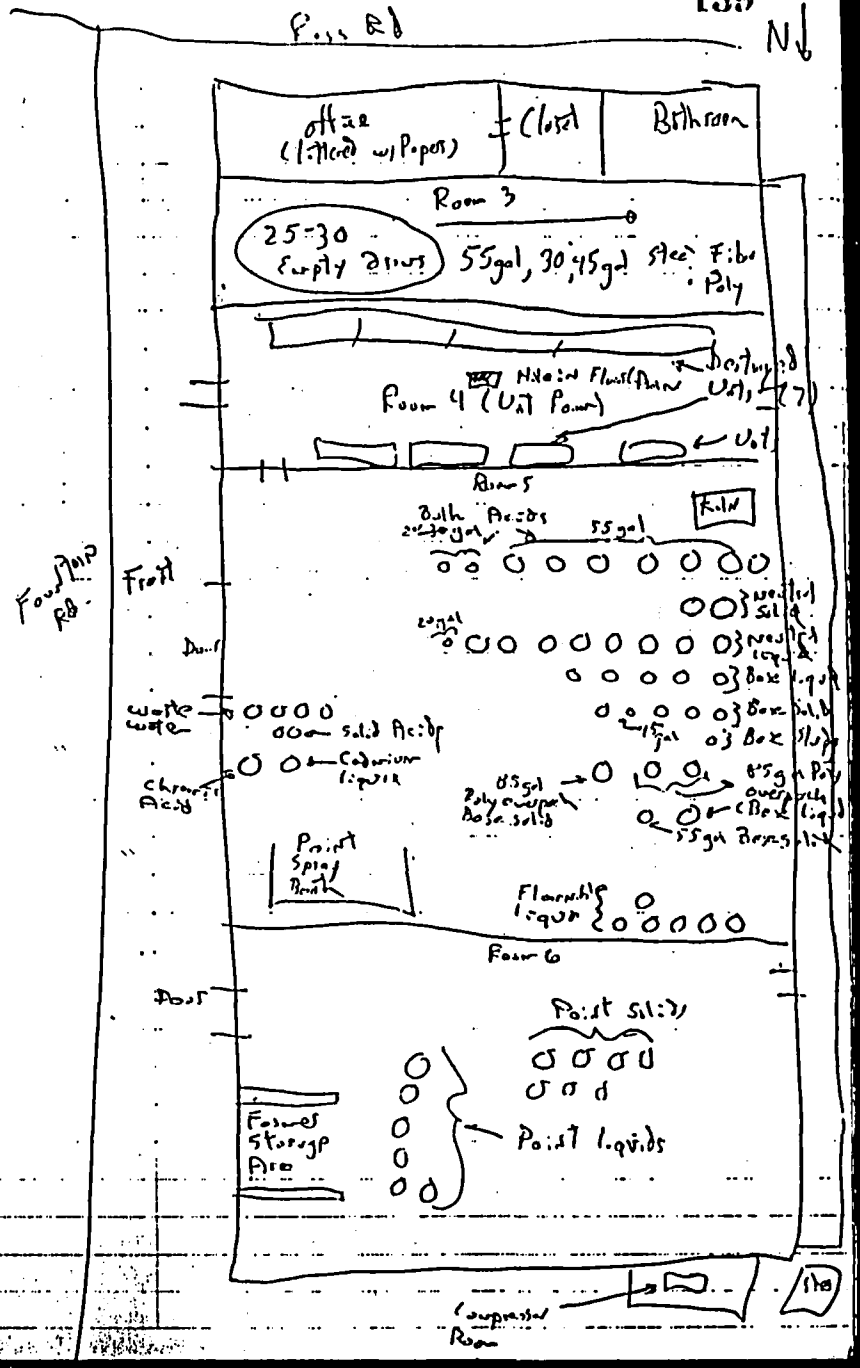
0725 TAT Hawkins leaves site to PCT Hotel's room to wash out Polrep; 1200-55 daily

1000 TAT arrives at Site; Crew approximately ½ completed with taking samples of drums for profile analysis; GTE telephone company rep was on site & disconnected the telephone according to ERCS, the rep. stated that the connection was illegal & could result in federal prosecution

1030 TAT Hawkins Photo & Video documents inside of Supreme Finishing Site

55 gal Steel Paint solids } Room 6
55 gal Steel 230 gal Paint liquids

Qty	Volume	Type Drum	Total Gallons of Drums	Material	Comment
IIII II	55 gal	Poly	385 gal	Bulked Acids	Room 5
II	30 gal	Poly	40 gal	Bulked Acids	
I	55 gal	Steel		Neutral Solid	
IIII III	55 gal	Steel	440 gal	Neutral liquid	
I	20 gal	Poly	20 gal	neutral liquid	
IIII	55 gal	Poly	275	Base liquid	
IIII	55	Steel		Base Solid	
I	95	Steel		Base ~~Sludge~~ Solid	
I	55	Steel	55 gal	Base Sludge	
IIII	55	Steel	220 gal	Waste water	
II	55	Steel		Solid Acids	
I	55	Poly	55 gal	Chromic Acid	
I	55	Poly	55 gal	Cadmium liquid	
I	85 (55)	Poly		Base Solid	
III	85 (55)	Poly	165 gal	Base liquid	
I	55	Steel		Base Solid	(¼ full)
IIII	55	Steel	330 gal	Flammable liquid	



29 Aug 92 (cont)

Volume of Waste Streams

Individual Volume (Estimated) Waste Stream

(Gallons)	(Name)
✓ 330 gallons	Paint Liquids
✓ 385 gallons	Bulked Acids
✓ 40 gallons	Bulked Acids
✓ 440 gallons	Neutral liquids
✓ 20 gallons	Neutral liquids
✓ 275 gallons	Base Liquids
✓ 55 gallons	Base Sludge
✓ 220 gallons	Waste Water
✓ 55 gallons	Chromic Acid
✓ 55 gallons	Cadmium liquid
✓ 165 gallons	Base Liquid
✓ 330 gallons	Flammable Liquids
Total 2,370 gallons	liquid Waste Streams

Individual Weight (Estimated)

Volume	(Pounds)	Name Waste Stream
385 gal	550 lbs/Drum × 7 Drums = 3850 lbs	Paint Solids ✓
55 gal	450 lbs/Drum × 1 Drum = 450 lbs	Neutral Solids ✓
220 gal	500 lbs/Drum × 4 Drums = 2000 lbs	Base Solids ✓
45 gal	200 lbs/Drum × 1 Drum = 200 lbs	Base Solids ✓
110 gal	500 lbs/Drum × 2 drums = 1000 lbs	Solid Acid ✓
55 gal	500 lbs/Drum × 1 drum = 500 lbs	Base Solid ✓ (over packed)
14 gal	200 lbs/Drum × 1 drum = 200 lbs	Base Solid ✓ (¼ full 55 gal drum)
20 gal	50 lbs/Drum × 1 drum = 50 lbs	Neutral Solid ✓
	8250	

Total Estimated Wt = 9350 lbs est

Total of 63 drums of liquids Generated

29 Aug 92 (cont)

1150 Crew loads extra drums not used in project onto EII Truck; RM Helms; CTI Crew sample drums

An estimated total of 2,370 gallons of various liquids/sludges and 8,250 pounds of solids were generated at the Supreme Finishing site; Also 2 lab Packs containing ½ gal of P. peroxide liquid and 15 lbs of oxidizer solid were generated

Noon Crew breaks for lunch; returns rental compressor & generator to Rental Dealer;

Types of Waste Streams:

1. Paint Liquids (Sludges)
2. Paint Solids
3. Neutral liquids
4. Neutral Solids
5. Acid liquids
6. Base liquids
7. Acid Solids
8. Base Solids
9. Heavy Metal liquid (Cadmium)
10. Flammable liquids
11. Waste Water
12. Chromic Acid

Plus 15 lbs Oxidizer Solid
½ Gal Organic Base Flammable Liquid

1300 Back to work; Final Sampling commences; Waste Profile

1315 BFI Hauler removed full roll-off from site

1600 Tent Housing Video documents outside of site; ERCS has boarded up all doors & windows of site

29 Aug 92 (Cont)

1630 TAT Hawkins leaves site; moves to Atlanta TAT
offices 3 EPCS Personnel demobe from site; RM
Terry Helms still on site waits for security
expected to arrive on site at 1700 — 0
2300 Arrive at TAT office 1
2330 Complete unloading & cleaning Eqpt. —

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ATTACHMENT C

Site Safety Plan

WESTON MAJOR PROGRAMS DIVISION
HEALTH AND SAFETY PLAN
EMERGENCY RESPONSE / SITE INVESTIGATION

TDD No. 9105-0022-1611 Site Name: ~~Supreme~~ SUPREME FINISHING

Site Address: Street No. 3033 ROSS ~~AVENUE~~ J.H. Road

City DURHAM

County/State DURHAM COUNTY, NORTH CAROLINA

Site Contact / Phone No.: JACK BUTLER (NC DEPT ENV. PROT) 919/733-2801

Directions to Site:(Att.Map) I-85 TO DURHAM then Rt 70 East to Hwy 98 (Holloway St) to Chandler (left on Chandler) to Ross (left on Ross) → Site is on Right 3033 Ross Avenue

Historical/Current Site Information:

DEFUNCT PLATING FACILITY N.C. STATE REPORTS 40-50 DRUMS OF PLATING WASTE LOCATED ON THE PROPERTY AND ACCESSIBLE TO PUBLIC

Incident Type:
- ( ) Air Release -
- ( ) Spill -
- ( ) Fire -
- (✓) HW Site -

Location Class : ( ) Industrial (✓) Commercial ( ) Urban/Residential ( ) Rural

USEPA Contact: ~~Matt~~ Mike Taylor Date of Initial Site Activities: 5/15/91

Original HASP: Yes ✓ Modification Number: ____

Lead TAT: J. HAWKINS Site Health & Safety Coordinator: J. HAWKINS

Response Activities/Duration (fill in as applicable)

Emergency Response:
- (✓) Perimeter Recon. ____
- (✓) Site Entry ____
- (✓) Visual Documentation: ____
- (✓) Multi-media Sampling: ____
- ( ) Decontamination: ____

Assessment:
- ( ) Perimeter Recon. ____
- ( ) Site Entry ____
- ( ) Visual Documentation: ____
- ( ) Multi-media Sampling: ____
- ( ) Decontamination: ____

Physical Safety Hazards to Personnel

(✓) Heat ( ) Cold ( ) Precipitation ( ) Confined Space ( ) Terrain
(✓) Walking/Working Surfaces ( ) Fire & Explosion ( ) Oxygen Deficiency
( ) Underground Utilities ( ) Overhead Utilities ( ) Heavy Equipment
(✓) Unknowns in Drums, Tanks, Containers ( ) Ponds, Lagoons, Impoundments
( ) Rivers, Streams ( ) Pressurized Containers, Systems ( ) Noise
( ) Illumination ( ) Nonionizing Radiation ( ) Ionizing Radiation

Biological Hazards to Personnel

( ) Infectious/Medical/Hospital Waste ( ) Non-domesticated Animals ( ) Insects
( ) Poisonous Plants/Vegetation ( ) Raw Sewage

Training Requirements

(✓) 40 Hour General Site Worker Course with three days supervised experience.
(✓) 24 Hour Course for limited, specific tasks with one day supervised experience.
( ) 24 Hour Course for Level D Site with one day supervised experience.
(✓) 8 Hour Annual Refresher Health and Safety Training.
( ) 8 Hour Management/Supervisor Training in addition to basic training course.
( ) Site Specific Health and Safety Training.
( ) Pre-entry training for emergency response skilled support personnel.

Medical Surveillance Requirements

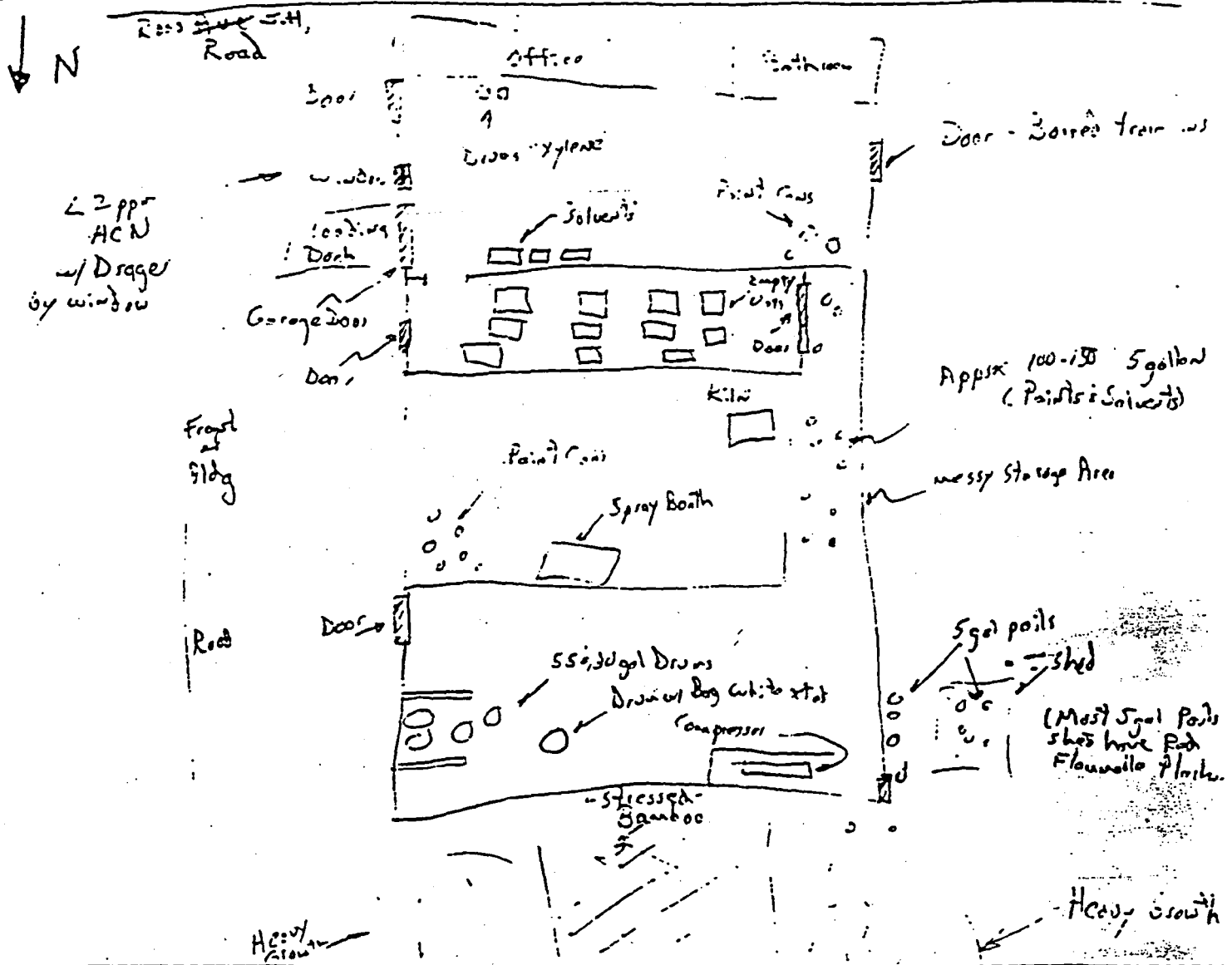
(✓) Baseline initial physical examination with physician certification.
(✓) Annual medical examination with physician certification.
( ) Site Specific medical monitoring protocol (Radiation, Pesticide, PCB, Metals).
( ) Asbestos Worker medical protocol.
( ) Exempt from medical surveillance: _____
(✓) Examination required in event of chemical exposure or trauma.

Chemical Hazards to Personnel

Physical Parameters	Chemical Contaminant	Chemical Contaminant	Chemical Contaminant	Chemical Contaminant
	POTASSIUM CYANIDE SOLUTIONS	CHROMIUM	NICKEL	
Exposure Limits IDLH Level	___ ppm ___ mg/m³ PEL 4.7 ppm ___ mg/m³ TLV ___ ppm 50 mg/m³ IDLH	___ ppm .5 mg/m³ PEL ___ ppm ___ mg/m³ TLV ___ ppm N/E mg/m³ IDLH	___ ppm ___ mg/m³ PEL ___ ppm ___ mg/m³ TLV ___ ppm ___ mg/m³ IDLH CA	___ ppm ___ mg/m³ PEL ___ ppm ___ mg/m³ TLV ___ ppm ___ mg/m³ IDLH
Physical Form Sol.Liq.Gas Color	✓ Solid ✓ Liquid ___ Gas ___ Color crystalline, white solids	✓ Solid ___ Liquid ___ Gas ___ Color	✓ Solid ___ Liquid ___ Gas ___ Color	___ Solid ___ Liquid ___ Gas ___ Color
Odor	almonds	NA	NA	
Flash Point Flammable limits	NA Degrees F or C ___% UEL ___% LEL NA	NA Degrees F or C ___% UEL ___% LEL	___ Degrees F or C ___% UEL ___% LEL NA	___ Degrees F or C ___% UEL ___% LEL
Vapor Press.: Vapor Dens.:	0/0 mm/Hg ___ Air = 1	0 mm/Hg ___ Air = 1	0 mm/Hg ___ Air = 1	___ mm/Hg ___ Air = 1
Specific Gravity	1.55 Water = 1	7.14 Water = 1	8.9 Water = 1	___ Water = 1
Solubility	SOL			
Incompatible Materials	Strong Oxidizers acid Salts	STRONG OXIDIZER ie. hydrogen PEROXIDE	STRONG ACIDS SULFUR, WOOD & COMBUSTIBLES	
Route of Exposure	✓ Inh ✓ Abs ✓ Con ✓ Ing	✓ Inh ✓ Abs ___ Con ✓ Ing	✓ Inh ___ Abs ✓ Con ✓ Ing	___ Inh ___ Abs ___ Con ___ Ing
Symptoms of Acute Exposure	ASPHY/DEATH VOMIT,	HISTOLIC FIBROSIS & LUNGS	HEADACHE, VERTIGO GASTRIC PAIN COUGH	
First Aid Treatment	SOAP WASH IMMED. MED. ATTN	WASH IMMED. SEEK MED. ATTN	WASH, RESPIRATORY SUPPORT, IMMED. MEDICAL ATTN	
Ion Potential	NA eV	NA eV	NA eV	___ eV
Instruments for Detection	___ PID w/___ Probe ___ FID ___ CGI ___ RAD ✓ Det Tube ___ Ph Other ___	___ PID w/___ Probe ___ FID ___ CGI ___ RAD ___ Det Tube ___ Ph Other ___	___ PID w/___ Probe ___ FID ___ CGI ___ RAD ___ Det Tube ___ Ph Other ___	___ PID w/___ Probe ___ FID ___ CGI ___ RAD ___ Det Tube ___ Ph Other ___

Site Control Measures

Site Map with work zones:



Decontamination Procedures

( ) Wet Decontamination - using:_____

(X) Dry Decontamination

Description of Site Specific Decontamination Plan: DISPOSABLE PPE WILL BE USED; BAGGED WHEN SITE WORK COMPLETE AND LEFT ON SITE

Adequacy of decontamination determined by: MRDoyle

ASK TO BE PFORMED/AIR ITORING EQUIRED	ANTICIPATED LEVEL OF PROTECTION	TYPE OF CHEMICAL PROTECTIVE COVERALL	INNER GLOVE OUTER GLOVE BOOT COVER	TYPE OF APR CARTRIDGE OR CANISTER
PERIMETER RECON	D	—	—	—
DRUM SAMPLING	B	SARANEX W/APRON	VINYL/LATEX NITRILE OUTER	SCBA
RECON OF NTERIOR OF STRUCTURES	B	"	"	"

cy and Types of Air Monitoring: (✓) Continuous ( ) Routine - _____ ( ) Periodic - _____

RECT EADING STRUMENTS	COMBUSTIBLE GAS/OXYGEN METER (1)	RADIATION SURVEY METER/PROBE (2)	PHOTOIONIZATION DETECTOR/PROBE (3)	FLAME IONIZATION DETECTOR (4)	CHEM. DETECTOR TUBE (5)
NUMBER	[illegible]		[illegible]	[illegible]	[illegible]
L. DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MEMBER	[illegible]		[illegible]	[illegible]	[illegible]
TION LEVEL	≥ 20%LEL ≤19.5%, ≥23% O_2 - LEAVE	3X BACKGRND - CAUTION: 1 MR/HR-LEAVE	UNKNOWNS 0-5 UNITS:"C" 5-500:"B"	UNKNOWNS 0-5 UNITS:"C" 5-500:"B"	PEL/TLV COMPARE W/PF

Emergency Phone Numbers

Emergency Contact	Location	Phone Number	Notified
Hospital	DUKE UNIVERSITY HOSP. DUKE UNIV. ROAD	919/684-8111	N
Ambulance	DURHAM COUNTY GENERAL AMBULANCE	919/470-7351	
Police	DURHAM	919/560-4427	N
Fire Dept.	DURHAM	919/560-4242	N

Chemical Trauma Capability? (✓) Yes ( ) No If no, closest backup:_____ Phone:_____

Directions to Hospital (attach map) - Route verified by:_____ Date: __/__/__

BUSINESS ROUTE (BR) 70W, ONE MILE EAST OF BYPASS 15

Additional Emergency Phone Contacts

Contact	Phone Number
WESTON 24 hr. Hotline	215-524-1925 215-524-1926
WESTON Medical Emergency Service	513-421-3063
Chemtrec	800-424-9300
ATSDR	404-639-0615
BATF (explosives information)	800-424-9555
National Response Center	800-424-8802
National Poison Control Center	800-942-5969

HASP prepared by: WILLIAM R DOYLE Date: 5/15/91

Response/Entry Approval by: W.T. BLASINGAME Date: 5/15/91

Final Approval/Modification to Original HASP by:_____ Date: __/__/__

Physical Description of Site and Response Activities

Size of Site: 150' x 50' Terrain Industrial Weather [illegible]

Distance to Nearest: Residence [illegible] School — Hospital —

Public Building ____ Other —

Evacuation: ( ) Yes (X) No By Whom: ____

Nearest Waterway: ____ Distance from Site: ____

Condition	Observed	Potential	None	Comments/Observations
Surface Water Contamination			X	
Ground Water Contamination			X	
Drinking Water Contamination			X	
Air Release			X	[illegible] Tony Wardell [illegible]
Soil Contamination		X		Stressed Vegetation Behind Site & Barren Growth [illegible]
Stressed Vegetation		X		
Dead Animal Species			X	

Actions Taken On-Site:

Perimeter Monitoring: (X) Yes ( ) No

Site Entry by TAT: (X) Yes ( ) No

Tasks Conducted	Level of Protection/Specific PPE Used
Perimeter Monitoring	D w/ Tyvek Hats & Steel Toe Work Boots
Site Entry into Building	B w/ Tyvek & SCBA, Hard Hat w/ [illegible] Rubber Boots

Air Monitoring Summary Log

Date: 5/16/91

Data Collected by: James Lawrence

Data to be summarized by a "Range od readings,i.e..- Low to High" and "Average" by location.

Station/Location	CGI/O_2 Meter	Radiation Meter	~~PID~~ HNU/Probe	FID/OVA	Detector Tube
By Front Window	20.5% O_2 < 1% LEL	Not Used	1 ppm	2 ppm	< 2 ppm HC
In All Areas of Building	20.5% O_2 < 1% LEL	Not Used	3ppm - 5ppm	7ppm - 8ppm	< 2 ppm HCN

Summary/Comments:

Hazardous Waste Site and Environmental Sampling Activities

Off Site: ( ) Yes (X) No
On Site: ( ) Yes (X) No

Describe types of samples and methods used to obtain samples: [illegible]

Was Laboratory notified of Potential Hazard Level Of Samples? ( ) Yes ( ) No

Note: The nature of the work assignment may require the use of the following procedures/programs which w included as Attachments to this HASP as applicable: Emergency Response Plan, Confined Space Entry Procedures, Spill Containment Program.

Disclaimer: This Health and Safety Plan (HASP) was prepared for work to be conducted under the Techni Assistance Team (TAT) Contract 68-WO-0036 for Zone I. Use of this HASP by WESTON and its subcontr is intended to fulfill the OSHA requirements found in 29 CFR 1910.120. Items not specifically covered in t HASP are included by reference to 29 CFR 1910 and 1926.

The signatures below indicate that the individuals have read and understood this Health and Safety Plan.

PRINTED NAME	SIGNATURE	AFFILIATION	DATE
CHARLES A. DUBOIS	C.A. DuBois	TAT	8/19/92
James Hawkins	[illegible]	TAT	5-15-91
Tera Ann Hanner	[illegible]	EPA	5-16-91
[illegible]	Jon G. Masoni	TAT	5-16-91
[illegible]	[illegible]	TAT	11-18-91
Michael Taylor	Michael Taylor	EPA	11-18-91

Final Submission of HASP by:	James Hawkins [illegible]/92	Date
Post Response Review by:		
Post Response Approval by:	Scott Hunter	11/21/92
TAT HSO Review by:		

COMMENTS/FOLLOWUP

First Trip [illegible]
Second Trip Time Sampling.

JOB SAFETY & HEALTH PROTECTION

The Occupational Safety and Health Act of 1970 provides job safety and health protection for workers by promoting safe and healthful working conditions throughout the Nation. Requirements of the Act include the following:

Employers

All employers must furnish to employees employment and a place of employment free from recognized hazards that are causing or are likely to cause death or serious harm to employees. Employers must comply with occupational safety and health standards issued under the Act.

Employees

Employees must comply with all occupational safety and health standards, rules, regulations and orders issued under the Act that apply to their own actions and conduct on the job.

The Occupational Safety and Health Administration (OSHA) of the U.S. Department of Labor has the primary responsibility for administering the Act. OSHA issues occupational safety and health standards, and its Compliance Safety and Health Officers conduct jobsite inspections to help ensure compliance with the Act.

Inspection

The Act requires that a representative of the employer and a representative authorized by the employees be given an opportunity to accompany the OSHA inspector for the purpose of aiding the inspection.

Where there is no authorized employee representative, the OSHA Compliance Officer must consult with a reasonable number of employees concerning safety and health conditions in the workplace.

Complaint

Employees or their representatives have the right to file a complaint with the nearest OSHA office requesting an inspection if they believe unsafe or unhealthful conditions exist in their workplace. OSHA will withhold, on request, names of employees complaining.

The Act provides that employees may not be discharged or discriminated against in any way for filing safety and health complaints or for otherwise exercising their rights under the Act.

Employees who believe they have been discriminated against may file a complaint with their nearest OSHA office within 30 days of the alleged discrimination.

Citation

If upon inspection OSHA believes an employer has violated the Act, a citation alleging such violations will be issued to the employer. Each citation will specify a time period within which the alleged violation must be corrected.

The OSHA citation must be prominently displayed at or near the place of alleged violation for three days, or until it is corrected, whichever is later, to warn employees of dangers that may exist there.

Proposed Penalty

The Act provides for mandatory penalties against employers of up to $1,000 for each serious violation and for optional penalties of up to $1,000 for each nonserious violation. Penalties of up to $1,000 per day may be proposed for failure to correct violations within the proposed time period. Also, any employer who willfully or repeatedly violates the Act may be assessed penalties of up to $10,000 for each such violation.

Criminal penalties are also provided for in the Act. Any willful violation resulting in death of an employee, upon conviction, is punishable by a fine of not more than $10,000, or by imprisonment for not more than six months, or by both. Conviction of an employer after a first conviction doubles these maximum penalties.

Voluntary Activity

While providing penalties for violations, the Act also encourages efforts by labor and management, before an OSHA inspection, to reduce workplace hazards voluntarily and to develop and improve safety and health programs in all workplaces and industries. OSHA's Voluntary Protection Programs recognize outstanding efforts of this nature.

Such voluntary action should initially focus on the identification and elimination of hazards that could cause death, injury, or illness to employees and supervisors. There are many public and private organizations that can provide information and assistance in this effort, if requested. Also, your local OSHA office can provide considerable help and advice on solving safety and health problems or can refer you to other sources for help such as training.

Consultation

Free consultative assistance, without citation or penalty, is available to employers, on request, through OSHA supported programs in most State departments of labor or health.

More Information

Additional information and copies of the Act, specific OSHA safety and health standards, and other applicable regulations may be obtained from your employer or from the nearest OSHA Regional Office in the following locations:

Atlanta, Georgia
Boston, Massachusetts
Chicago, Illinois
Dallas, Texas
Denver, Colorado
Kansas City, Missouri
New York, New York
Philadelphia, Pennsylvania
San Francisco, California
Seattle, Washington

Telephone numbers for these offices, and additional area office locations, are listed in the telephone directory under the United States Department of Labor in the United States Government listing.

Washington, D.C.
1985
OSHA 2203

William E. Brock, Secretary of Labor

U.S. Department of Labor
Occupational Safety and Health Administration

Under provisions of Title 29, Code of Federal Regulations, Part 1903.2(a)(1) employers must post this notice (or a facsimile) in a conspicuous place where notices to employees are customarily posted.

ATTACHMENT D

Analytical Data

WESTON 1575 Northside Dr., N.W., Suite 325, Bldg. 300, Atlanta, GA 30318 404-352-4147

TECHNICAL ASSISTANCE TEAM FOR EMERGENCY RESPONSE REMOVAL AND PREVENTION
EPA CONTRACT 68-WO-0036

MEMORANDUM

TO: File

FROM: Paula C. MacLaren PCM
Analytical Coordinator

THRU: Donnissa L. Duvic WRD for DLD
ATATL, Region IV

SUBJECT: Supreme Finishing Site Analytical Data
TDD# 04-9208-L019-0597

DATE: 23 September 1992 (Rec'd 10-7-92)

Arkansas Analytical, Inc. Laboratory analyzed 61 soil samples for total RCRA metals and cyanide. The samples were collected at the Supreme Finishing site over a three day period on 19 August 1992 through 21 August 1992. Quality control samples included seven matrix spikes and sample duplicates along with required laboratory blanks. The analytical report was received within the required three week turnaround time.

The laboratory blank showed no contamination of the metals of interest. Matrix spikes and duplicate analyses were performed on the following sample station numbers: 8,14,24,32,33A,46.

Silver analysis experienced the most matrix interference with all seven spikes showing extremely low percent recoveries. All laboratory control samples for silver, however, were within the QA/QC recommended limit of 80-120%. Instrument detection limit for silver was 1.00 mg/kg. Several arsenic recoveries could not be quantified due to high sample concentrations. Lead analysis showed some wide variance in reproducibility with three out of seven exceeding the 20% relative percent difference (RPD) guideline. Sample no. 46 showed an extremely high lead RPD and, so another duplicate analysis was performed. These results were 24.8 mg/l and 23.3 mg/l giving an acceptable 6% RPD. Arsenic showed two out of seven duplicate RPD to slightly exceed 20% while chromium had one out of seven high.

Based on the information provided the quality of data is sufficient to support the values given.

A summary of the data can be found on the following pages.

cc: Mike Taylor
Jim Hawkins

SUPREME FINISHING ANALYTICAL DATA
(mg/kg)

STATION NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
STATION	Pit #1	Pit #1	Pit #1	2'N	2'N	2'N	75'NE	75'NE	75'NE	50'N	50'N	50'N	75'NW	75'NW
LOCATION	(0-6)	(6-12)	(12-18)	(0-6)	(6-12)	(12-18)	(0-6)	(6-12)	(12-18)	(0-6)	(6-12)	(12-18)	(0-6)	(6-12)
Arsenic	0.66	1.19	2.32	0.48	0.82	0.81	0.45	0.46	0.74	2.04	1.31	0.99	0.46	0.46
Barium	59.6	48.5	98	51.4	34.7	34.5	110	73.5	63.9	72.5	60.9	43.4	30.5	19
Cadmium	1.0			7.01						10	4.29		4.29	
Chromium	29.8	22.1	32.8	36.4	13.9	7.0	24	18.5	17.3	112	49.5	15.1	190	15.4
Lead	127	74.5	15.2	188	14.4	10	16	20	62.6	9.9	13.3	20.3	10	5.54
Selenium												0.11		

STATION NO.	15	16	17	18	19	20	21	22	23	24	25	26	27	28
STATION	75'NW	100'N	100'N	100'N	100'N	100'N	100'N	40'N	40'N	40'N	NW	NW	NW	NW
LOCATION	(12-18)	(0-6)	(6-12)	(12-18)	East	East	East	X40'W	X40'W	X40'W	Corn.	Corn.	Corn.	Side
Arsenic	0.53	0.49	2.45	0.9	1.04	2.18	1.62	2.08	2.1	1.24	1.09	0.93	1.21	0.97
Barium	24	74.1	111	45.3	263	90.8	72.1	35.6	35.6	32.9	45.1	44.2	35.6	33.8
Cadmium					28.9	33.5	29.8							3.7
Chromium	9.62	17.5	18.1	12.7	658	192	57.7	9.9	18.3	19.2	14.2	80.8	89.9	18.1
Lead	2.5	10.8	12.9	12.3	149	116	77.4	9.9	9.62	10.2	13.7	9.62	7.69	13
Selenium	0.14	0.13						0.13		0.11			0.15	
Cyanide					2.9	4.4								

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SUPREME FINISHING SITE ANALYTICAL DATA
(mg/kg)

STATION NO.	29	30	31	32	33	34	35	36	37	38	39	40	41	42
STATION	NW	NW	NW	NW	RM #3E	RM #3E	RM#3E	RM #3W	RM #3W	RM#3W	RM#4E	RM#4E	RM#4E	RM#4W
LOCATION	SIDE	SIDE	SIDE	SIDE	(0-6)	(6-12)	(12-18)	(0-6)	(6-12)	(12-18)	(0-6)	(6-12)	(12-18)	(0-6)
Arsenic	0.73	0.75	0.68	1.35	0.81	0.7	0.76	2.32	1.92	0.83	0.73	0.62	0.5	0.28
Barium	26.6	25.3	62.3	29.9	38.1	28.4	24	40	64	19.1	47	76.9	27.9	50
Cadmium												2.88		
Chromium	6.54	9.09	16.5	13.9	7.43	7.84	6.73	32.5	18.5	10.8	21.7	14.4	9.62	13.6
Lead	8.41	9.09	9.91	6.32	7.43	6.86	5.77	5.0	7.5	4.9	6.57	9.62	8.17	4.37
Selenium		0.10		0.11			0.14							

STATION NO.	43	44	45	46	47	48	49	50	51	52	53	54	55	56
STATION	RM # 4W	RM #4W	RM #5E	RM #5E	RM #5E	RM #5W	RM #5W	RM #5W	RM #7	RM #7-6	RM #7-6	RM #7-29	RM #7-29	RM #7-29
LOCATION	(6-12)	(12-18)	(0-6)	(6-12)	(12-18)	(0-6)	(6-12)	(12-18)	(0-6)	(6-12)	(12-18)	(0-6)	(6-12)	(12-18)
Arsenic	1.13	0.29	0.45	0.83	0.83	1.29	0.43	0.54	1.31	1.95	1.07	0.73	1.38	1.26
Barium	56.1	41.2	57	47.9	43.5	66.8	45.8	46.6	57.6	89.9	72.5	121	91.6	365
Cadmium											2.0	3.4		6.02
Chromium	14.8	9.8	11.5	8.84	9.26	7.94	7.94	6.73	17.3	25.3	20	108	35	225
Lead	8.67	5.39	4.5	23.2	9.26	59.8	7.01	4.81	9.43	6.57	7.0	8.25	30.8	373
Selenium	0.10	0.11				0.12								
Cyanide												5.2		6.6

SUPREME FINISHING SITE ANALYTICAL DATA
(mg/kg)

STATION NO.	57	58	59	33A	BKG
STATION	RM #7-50	RM #7-50	RM #7-50	NW BLDG	SE CORN.
LOCATION	(0-6)	(6-12)	(12-18)	(12-18)	(0-18)
Arsenic	0.69	1.99	0.69	0.97	1.88
Barium	49	62.6	24.8	121	121
Cadmium	280		5.39		
Chromium	24	18.9	8.33	14	14.5
Lead	13.5	7.28	4.9	8.72	6.54
Selenium			0.1		0.1

September 10, 1992

Ms. Paula Maclaren
Roy F. Weston Inc./ Major Program
575 Northside Drive, Bldg 300 #325
Atlanta, Georgia 30318

Re: Supreme Finishing Site
Project Number: 2657
Date Sampled: 8/18-21/92
Date Received: 8/25/92

ANALYTICAL RESULTS

Metals and Cyanide : Total (ug/g) (ppm)

Lab Number:	92-1871	92-1872	92-1873	92-1874	92-1875	92-1876	92-1877	92-1878	92-1879	92-1880
Station Number:	1	2	3	4	5	6	7	8	9	10
Station Location:	Pit #1 (0"-6")	Pit #1 (6"-12")	Pit #1 (12"-18")	2'N Loading Dock (0"-6")	2'N Loading Dock (6"-12")	2'N Loading Dock (12"-18")	75'NE Bldg (0"-6")	75'NE Bldg (6"-12")	75'NE Bldg (12"-18")	50'N Center Bldg (0"-6")
Arsenic	0.66	1.19	2.32	0.48	0.82	0.81	0.45	0.46	0.74	2.04
Barium	59.6	48.5	98	51.4	34.7	34.5	110	73.5	63.9	72.5
Cadmium	1.0	<0.50	<0.50	7.01	<0.50	<0.50	<0.50	<0.5	<0.50	10
Chromium	29.8	22.1	32.8	36.4	13.9	7.0	24	18.5	17.3	112
Lead	127	74.5	15.2	188	14.4	10	16	20	62.6	9.9
Mercury	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Selenium	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Silver	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Cyanide	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5

QUALITY CONTROL RESULTS

Metals and Cyanide

	ug/g Blank	Percent Variance Duplicate	Percent Recovery Matrix Spike	Percent Recovery Control Spike	SW-846 Method of Analysis	SW-846 Method of Prep	Date of Analysis
Arsenic	<0.10	22.8	40	108	7061	7061	9-3-92
Barium	<10.0	17.7	130	103	7080	3050	8-28-92
Cadmium	<0.50	0	104	107	7130	3050	8-28-92
Chromium	<2.50	5.4	106	106	7190	3050	8-28-92
Lead	<2.50	9.4	88	98.5	7420	3050	8-28-92
Mercury	<0.20	0	107	91.1	7471	7471	9-2-92
Selenium	<0.10	0	99.2	95	7741	7741	9-2-92
Silver	<1.00	0	16	92.6	7760	3050	8-28-92
Cyanide (Batch 1)	<1.5	10.9	102	103	9010	9010	8-26-92
Cyanide (Batch 2)	<1.5	0	—	77.2	9010	9010	9-4-92

Analyzed by: Rodney L. Williams / Lessie R. Redican
Rodney L. Williams/ Lessie R. Redican

Reviewed by: Norma J. James / Laura W. Young
Norma J. James/Laura W. Young

Argus Analytical Inc. · 501 North University · Little Rock, AR 72205 · (501) 664-5661 · FAX (501) 664-5891

September 10, 1992

Ms. Paula Maclaren
by F. Weston Inc./ Major Program
575 Northside Drive, Bldg 300 #325
Atlanta, Georgia 30318

Re: Supreme Finishing Site
Project Number: 2657
Date Sampled: 8/18-21/92
Date Received: 8/25/92

ANALYTICAL RESULTS

Metals and Cyanide : Total (ug/g) (ppm)

Lab Number:	92-1881	92-1882	92-1883	92-1884	92-1885	92-1886	92-1887	92-1888	92-1889	92-1890
Station Number:	11	12	13	14	15	16	17	18	19	20
Station Location:	50'N Center Bldg (6"-12")	50'N Center Bldg (12"-18")	75'NW of Bldg (0"-6")	75'NW of Bldg (6"-12")	75'NW of Bldg (12"-18")	100'N of Bldg (0"-6")	100'N of Bldg (6"-12")	100'N of Bldg (12"-18")	100'N of East Edge of Bldg (0"-6")	100'N of East Edge of Bldg (6"-12")
Arsenic	1.31	0.99	0.46	0.46	0.53	0.49	2.45	0.9	1.04	2.18
Barium	60.9	43.4	30.5	19	24	74.1	111	45.3	263	90.8
Cadmium	4.29	<0.50	4.29	<0.50	<0.50	<0.50	<0.50	<0.50	28.9	33.5
Chromium	49.5	15.1	190	15.4	9.62	17.5	18.1	12.7	658	192
Lead	13.3	20.3	10	5.54	2.5	10.8	12.9	12.3	149	116
Mercury	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Selenium	<0.10	0.11	<0.10	<0.10	0.14	0.13	<0.10	<0.10	<0.10	<0.10
Silver	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Cyanide	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	2.9	4.4

QUALITY CONTROL RESULTS

Metals and Cyanide

	ug/g Blank	Percent Variance Duplicate	Percent Recovery Matrix Spike	Percent Recovery Control Spike	SW-846 Method of Analysis	SW-846 Method of Prep	Date of Analysis
Arsenic	<0.10	24.5	149	110	7061	7061	9-3-92
Barium	<10.0	0.5	105	103	7080	3050	8-28-92
Cadmium	<0.50	0	120	99	7130	3050	8-28-92
Chromium	<2.50	64.1	116	103	7190	3050	8-28-92
Lead	<2.50	28	93.5	99.7	7420	3050	8-28-92
Mercury	<0.20	0	93.3	95.6	7471	7471	9-2-92
Selenium	<0.10	0	114	92.9	7741	7741	9-2-92
Silver	<1.00	0	10	97	7760	3050	8-28-92
Cyanide (Batch 1)	<1.5	7.7	91	94.9	9010	9010	8-27-92
Cyanide (Batch 2)	<1.5	10.9	102	103	9010	9010	8-26-92
Cyanide (Batch 3)	<1.5	0	—	77.2	9010	9010	9-4-92
Cyanide (Batch 4)	<1.5	0	—	93	9010	9010	9-3-92

Analyzed by: Rodney L. Williams / Lessie R. Redican

Rodney L. Williams/ Lessie R. Redican

Reviewed by: Norma J. James / Laura W. Young

Norma J. James/ Laura W. Young

Arkansas Analytical, Inc. · 501 North University · Little Rock, AR 72205 · (501) 664-5661 · FAX (501) 664-5891

September 10, 1992

Ms. Paula Maclaren
Roy F. Weston Inc./ Major Program
.575 Northside Drive, Bldg 300 #325
Atlanta, Georgia 30318

Re: Supreme Finishing Site
Project Number: 2657
Date Sampled: 8/18-21/92
Date Received: 8/25/92

ANALYTICAL RESULTS

Metals and Cyanide : Total (ug/g) (ppm)

Lab Number:	92-1891	92-1892	92-1893	92-1894	92-1895	92-1896	92-1897	92-1898	92-1899	92-1900
Station Number:	21	22	23	24	25	26	27	28	29	30
Station Location:	100'N of East Edge of Bldg (12"-18")	40'N x 40'W Shed (0"-6")	40'N x 40'W Shed (6"-12")	40'N x 40'W Shed (12"-18")	NW Corner Shed (0"-6")	NW Corner Shed (6"-12")	NW Corner Shed (12"-18")	NW Side Bldg (0"-6")	NW Side Bldg (6"-12")	NW Side Bldg (12"-18")
Arsenic	1.62	2.08	2.1	1.24	1.09	0.93	1.21	0.97	0.73	0.75
Barium	72.1	35.6	35.6	32.9	45.1	44.2	35.6	33.8	26.6	25.3
Cadmium	29.8	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	3.7	<0.50	<0.50
Chromium	57.7	9.9	18.3	19.2	14.2	80.8	89.9	18.1	6.54	9.09
Lead	77.4	9.9	9.62	10.2	13.7	9.62	7.69	13	8.41	9.09
Mercury	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Selenium	<0.10	0.13	<0.10	0.11	<0.10	<0.10	0.15	<0.10	<0.10	0.10
Silver	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Cyanide	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5

QUALITY CONTROL RESULTS

Metals and Cyanide

	ug/g Blank	Percent Variance Duplicate	Percent Recovery Matrix Spike	Percent Recovery Control Spike	SW-846 Method of Analysis	SW-846 Method of Prep	Date of Analysis
Arsenic	<0.10	20.2	*	106	7061	7061	9-3-92
Barium	<10.0	11.3	88.5	102	7080	3050	8-28-92
Cadmium	<0.50	0	97	103	7130	3050	8-28-92
Chromium	<2.50	6.8	106	97.6	7190	3050	8-28-92
Lead	<2.50	5.9	87.5	97.4	7420	3050	8-28-92
Mercury	<0.20	0	91.1	88.9	7471	7471	9-2-92
Selenium	<0.10	8.3	101	104	7741	7741	9-2-92
Silver	<1.00	0	12	86.8	7760	3050	8-28-92
Cyanide (Batch 1)	<1.5	0	98.1	LIA	9010	9010	8-28-92
Cyanide (Batch 2)	<1.5	7.7	91	94.9	9010	9010	8-27-92

* Masked by analyte.

LIA means lost in analysis.

Analyzed by: Rodney L. Williams Lessie Redican
Rodney L. Williams/ Lessie R. Redican

Reviewed by: Norma J. James Laura W. Young
Norma J. James/ Laura W. Young

· 501 North University · Little Rock, AR 72205 · (501) 664-5661 · FAX (501) 664-5801

September 10, 1992

Ms. Paula Maclaren
Roy F. Weston Inc./ Major Program
.575 Northside Drive, Bldg 300 #325
Atlanta, Georgia 30318

Re: Supreme Finishing Site
Project Number: 2657
Date Sampled: 8/18-21/92
Date Received: 8/25/92

ANALYTICAL RESULTS

Metals and Cyanide : Total (ug/g) (ppm)

Lab Number:	92-1901	92-1902	92-1903	92-1904	92-1905	92-1906	92-1907	92-1908	92-1909	92-1910
Station Number:	31	32	33	34	35	36	37	38	39	40
Station Location:	NW Side Bldg (0"-6")	NW Side Bldg (6"-12")	Und Slab Room #3 East (0"-6")	Und Slab Room #3 East (6"-12")	Und Slab Room #3 East (12"-18")	Und Slab Room #3 West (0"-6")	Und Slab Room #3 West (6"-12")	Und Slab Room #3 West (12"-18")	Und Slab Room #4 East (0"-6")	Und Slab Room #4 East (6"-12")
Arsenic	0.68	1.35	0.81	0.7	0.76	2.32	1.92	0.83	0.73	0.62
Barium	62.3	29.9	38.1	28.4	24	40	64	19.1	47	76.9
Cadmium	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	2.88
Chromium	16.5	13.9	7.43	7.84	6.73	32.5	18.5	10.8	21.7	14.4
Lead	9.91	6.32	7.43	6.86	5.77	5.0	7.5	4.9	6.57	9.62
Mercury	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Selenium	<0.10	0.11	<0.10	<0.10	0.14	<0.10	<0.10	<0.10	<0.10	<0.10
Silver	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Cyanide	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5

QUALITY CONTROL RESULTS

Metals and Cyanide

	ug/g Blank	Percent Variance Duplicate	Percent Recovery Matrix Spike	Percent Recovery Control Spike	SW-846 Method of Analysis	SW-846 Method of Prep	Date of Analysis
Arsenic	<0.10	9.6	*	105	7061	7061	9-3-92
Barium	<10.0	7.7	91.9	103	7080	3050	8-28-92
Cadmium	<0.50	0	102	108	7130	3050	8-28-92
Chromium	<2.50	7.9	96.5	107	7190	3050	8-28-92
Lead	<2.50	4	94	108	7420	3050	8-28-92
Mercury	<0.20	0	83.6	93.3	7471	7471	9-2-92
Selenium	<0.10	14.8	82.9	85.7	7741	7741	9-2-92
Silver	<1.00	0	6	96.4	7760	3050	8-28-92
Cyanide (Batch 1)	<1.5	0	103	87.9	9010	9010	9-1-92
Cyanide (Batch 2)	<1.5	0	98.1	LIA	9010	9010	8-28-92

*Masked by analyte.

LIA means lost in analysis.

Analyzed by: Rodney L. Williams / Lessie R. Redican

Rodney L. Williams/ Lessie R. Redican

Reviewed by: Norma J. James / Laura W. Young

Norma J. James/ Laura W. Young

Inc. · 501 North University · Little Rock, AR 72205 · (501) 664-5661 · FAX (501) 664-5801

September 10, 1992

Ms. Paula Maclaren
by F. Weston Inc./ Major Program
575 Northside Drive, Bldg 300 #325
Atlanta, Georgia 30318

Re: Supreme Finishing Site
Project Number: 2657
Date Sampled: 8/18-21/92
Date Received: 8/25/92

ANALYTICAL RESULTS

Metals and Cyanide : Total (ug/g) (ppm)

Lab Number:	92-1911	92-1912	92-1913	92-1914	92-1915	92-1916	92-1917	92-1918	92-1919	92-1920
Station Number:	41	42	43	44	45	46	47	48	49	50
Station Location:	Und Slab Room #4 East (12"-18")	Und Slab Room #4 West (0"-6")	Und Slab Room #4 West (6"-12")	Und Slab Room #4 West (12"-18")	Und Slab Room #5 East (0"-6")	Und Slab Room #5 East (6"-12")	Und Slab Room #5 East (12"-18")	Und Slab Room #5 West (0"-6")	Und Slab Room #5 West (6"-12")	Und Slab Room #5 West (12"-18")
Arsenic	0.5	0.28	1.13	0.29	0.45	0.83	0.83	1.29	0.43	0.54
Barium	27.9	50	56.1	41.2	57	47.9	43.5	66.8	45.8	46.6
Cadmium	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5
Chromium	9.62	13.6	14.8	9.8	11.5	8.84	9.26	7.94	7.94	6.73
Lead	8.17	4.37	8.67	5.39	4.5	23.2	9.26	59.8	7.01	4.81
Mercury	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Selenium	<0.10	<0.10	0.10	0.11	<0.10	<0.10	<0.10	0.12	<0.10	<0.10
Silver	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Cyanide	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5

QUALITY CONTROL RESULTS

Metals and Cyanide

	ug/g Blank	Percent Variance Duplicate	Percent Recovery Matrix Spike	Percent Recovery Control Spike	SW-846 Method of Analysis	SW-846 Method of Prep	Date of Analysis
Arsenic	<0.10	12	107	108	7061	7061	9-3-92
Barium	<10.0	8.8	96.1	97.1	7080	3050	8-28-92
Cadmium	<0.50	0	98	96	7130	3050	8-28-92
Chromium	<2.50	9.5	108	103	7190	3050	8-28-92
Lead	<2.50	120	97.5	107	7420	3050	8-28-92
Mercury	<0.20	0	93.3	86.7	7471	7471	9-2-92
Selenium	<0.10	0	85	104	7741	7741	9-2-92
Silver	<1.00	0	10	102	7760	3050	8-28-92
Cyanide (Batch 1)	<1.5	0	97.4	94.8	9010	9010	9-2-92
Cyanide (Batch 2)	<1.5	0	103	87.9	9010	9010	9-1-92

Analyzed by: Rodney L. Williams / Lessie R. Redican

Reviewed by: Norma J. James / Laura W. Young

Arkansas Analytical, Inc. · 501 North University · Little Rock, AR 72205 · (501) 664-5661 · FAX (501) 664-5891

September 10, 1992

Ms. Paula Maclaren
Roy F. Weston Inc./ Major Program
1575 Northside Drive, Bldg 300 #325
Atlanta, Georgia 30318

Re: Supreme Finishing Site
Project Number: 2657
Date Sampled: 8/18-21/92
Date Received: 8/25/92

ANALYTICAL RESULTS

Metals and Cyanide : Total (ug/g) (ppm)

Lab Number:	92-1921	92-1922	92-1923	92-1924	92-1925	92-1926	92-1927	92-1928	92-1929	92-1930
Station Number:	51	52	53	54	55	56	57	58	59	33A
Station Location:	Room 7 6' from SouthWall (0"-6")	Room 7 6' from SouthWall (6"-12")	Room 7 6' from SouthWall (12"-18")	Room 7 29' from SouthWall (0"-6")	Room 7 29' from SouthWall (6"-12")	Room 7 29' from SouthWall (12"-18")	Room 7 50' from SouthWall (0"-6")	Room 7 50' from SouthWall (6"-12")	Room 7 50' from SouthWall (12"-18")	NW Side Bldg (12"-18")
Arsenic	1.31	1.95	1.07	0.73	1.38	1.26	0.69	1.99	0.69	0.97
Barium	57.6	89.9	72.5	121	91.6	365	49	62.6	24.8	121
Cadmium	<0.50	<0.50	2.0	3.4	<0.50	6.02	280	<0.50	5.39	<0.50
Chromium	17.3	25.3	20	108	35	225	24	18.9	8.33	14
Lead	9.43	6.57	7.0	8.25	30.8	373	13.5	7.28	4.9	8.72
Mercury	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Selenium	<0.10	<0.10	0.13	<0.10	<0.10	<0.10	<0.10	<0.10	0.1	<0.10
Silver	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Cyanide	<1.5	<1.5	<1.5	5.2	<1.5	6.6	<1.5	<1.5	<1.5	<1.5

QUALITY CONTROL RESULTS

Metals and Cyanide

	ug/g Blank	Percent Variance Duplicate	Percent Recovery Matrix Spike	Percent Recovery Control Spike	SW-846 Method of Analysis	SW-846 Method of Prep	Date of Analysis
Arsenic	<0.10	18.6	*	103	7061	7061	9-3-92
Barium	<10.0	6.1	92.9	102	7080	3050	8-28-92
Cadmium	<0.50	0	97	103	7130	3050	8-28-92
Chromium	<2.50	2.9	89.5	110	7190	3050	8-28-92
Lead	<2.50	47.8	90	104	7420	3050	8-28-92
Mercury	<0.20	0	88.9	82.2	7471	7471	9-2-92
Selenium	<0.10	0	114	106	7741	7741	9-2-92
Silver	<1.00	0	8	102	7760	3050	8-28-92
Cyanide (Batch 1)	<1.5	0	97.4	94.8	9010	9010	9-2-92
Cyanide (Batch 2)	<1.5	0	—	77.2	9010	9010	9-8-92

*Masked by analyte.

Analyzed by: Rodney L. Williams / Lessie R. Redican

Reviewed by: Norma J. James / Laura W. Young

Arkansas Analytical, Inc. · 501 North University · Little Rock, AR 72205 · (501) 664-5661 · FAX (501) [illegible]

September 10, 1992

Ms. Paula Maclaren
Roy F. Weston Inc./ Major Program
1575 Northside Drive, Bldg 300 #325
Atlanta, Georgia 30318

Re: Supreme Finishing Site
Project Number: 2657
Date Sampled: 8/18-21/92
Date Received: 8/25/92

ANALYTICAL RESULTS

Metals and Cyanide : Total (ug/g) (ppm)

Lab Number:	92-1931
Station Number:	Background
Station Location:	SE Corner Bldg 16'S x 16'W (0'-18")
Arsenic	1.88
Barium	121
Cadmium	<0.50
Chromium	14.5
Lead	6.54
Mercury	<0.20
Selenium	0.1
Silver	<1.00
Cyanide	<1.5

QUALITY CONTROL RESULTS

Metals and Cyanide

	ug/g Blank	Percent Variance Duplicate	Percent Recovery Matrix Spike	Percent Recovery Control Spike	SW-846 Method of Analysis	SW-846 Method of Prep	Date of Analysis
Arsenic	<0.10	18.6	*	103	7061	7061	9-3-92
Barium	<10.0	6.1	92.9	102	7080	3050	8-28-92
Cadmium	<0.50	0	97	103	7130	3050	8-28-92
Chromium	<2.50	2.9	89.5	110	7190	3050	8-28-92
Lead	<2.50	47.8	90	104	7420	3050	8-28-92
Mercury	<0.20	0	88.9	82.2	7471	7471	9-2-92
Selenium	<0.10	0	114	106	7741	7741	9-2-92
Silver	<1.00	0	8	102	7760	3050	8-28-92
Cyanide (Batch 1)	<1.5	0	97.4	93.0	9010	9010	9-3-92

* Masked by analyte.

Analyzed by: Rodney L. Williams/ Lessie R. Radican

Reviewed by: Norma J. James/ Laura W. Young

Arkansas Analytical, Inc. · 501 North University · Little Rock, AR 72205 · (501) 664-5661 · FAX (501) 664-5801

ATTACHMENT E

Chain-of-Custody

U. S. ENVIRONMENTAL PROTECTION AGENCY
REGION 4 TAT

CHAIN OF CUSTODY RECORD

ENVIRONMENTAL SERVICES DIVISION
COLLEGE STATION ROAD
ATHENS, GEORGIA 30613

PROJ. NO. 2657

PROJECT NAME Supreme Finishing Site

SAMPLERS (Signature) Jo P. Newton, C.H. DuBose

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Metals	Cyanide	REMARKS/TAG NUMBERS	92-
1	8-19 92	1445	X		Pit #1 (0"-6")	1	X	X	07879	1871
2	8-19 92	1450	X		Pit #1 (6"-12")	1	X	X	08866	1872
3	8-19 92	1455	X		Pit #1 (12"-18")	1	X	X	08968	1873
4	8-20 92	0803	X		2' N loading dock (0"-6")	1	X	X	08969	1874
5		0803	X		2' N loading dock (6"-12")	1	X	X	02982	1875
6		0803	X		2' N loading dock (12"-18")	1	X	X	02983	1876
7		0815	X		75' NE Bldg (0"-6")	1	X	X	03281	1877
8		0815	X		75' NE Bldg (6"-12")	1	X	X	01363	1878
9		0815	X		75' NE Bldg (12"-18")	1	X	X	01364	1879
10		0830	X		50' N Center Bldg (0"-6")	1	X	X	01365	1880
11		0830	X		50' N Center Bldg (6"-12")	1	X	X	01366	1881
12		0830	X		50' N Center Bldg (12"-18")	1	X	X	08672	1882
13		0850	X		75' NW of BLDG (0"-6")	1	X	X	08845	1883
14		0850	X		75' NW of BLDG (6"-12")	1	X	X	08846	1884

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Jo P. Newton	8/24/92 1930	Fed. Ex.			
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Fed Ex	8/25 10:00	Jana W. Young			

Remarks: Metals {As, Ba, Cd, Cr, Pb, Hg, Se & Ag}; Cyanide

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory. Pink copy retained by laboratory; Yellow copy retained by samplers; Blue copy extra copy as needed.

T4-4247

U. S. ENVIRONMENTAL PROTECTION AGENCY — CHAIN OF CUSTODY RECORD

REGION [illegible]

ENVIRONMENTAL SERVICES DIVISION
COLLEGE STATION RD
ATHENS, GEORGIA 30613

PROJ. NO.: 2657

PROJECT NAME: SUPREME FINISHING SITE

SAMPLERS (Signature): [illegible]

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Metals	Cyanide	REMARKS/TAG NUMBERS 92-
15	8/20/92	0850	X		75' NW OF BLDG (12"-18")	1	X	X	02819 1885
16		0920	X		100' N OF BLDG (0"-6")	1	X	X	08704 1886
17		0920	X		100' N OF BLDG (6"-12")	1	X	X	08750 1887
18		0920	X		100' N OF BLDG (12"-18")	1	X	X	08766 1888
19		0935	X		100' N OF EAST EDGE OF BLDG (0"-6")	1	X	X	08776 1889
20		0935	X		100' N OF E. EDGE OF BLDG (6"-12")	1	X	X	08777 1890
21		0935	X		100' N OF E. EDGE OF BLDG (12"-18")	1	X	X	08778 1891
22		1055	X		40'N x 40'W Shed (0"-6")	1	X	X	08783 1892
23		1055	X		40'N x 40'W Shed (6"-12")	1	X	X	08794 1893
24		1055	X		40'N x 40'W Shed (12"-18")	1	X	X	02980 1894
25		1107	X		NW Corner Shed (0"-6")	1	X	X	03398 1895
26		1107	X		NW Corner Shed (6"-12")	1	X	X	03981 1896
27		1107	X		NW Corner Shed (12"-18")	1	X	X	03983 1897
28		1145	X		NW Side Bldg (0"-6")	1	X	X	02820 1898

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Remarks
[illegible]	8-24-92 1930	Fed Ex.				Metals & Cyanide
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	
Fed Ex	8-25-92 10:00	[illegible]				

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory. Pink copy retained by laboratory; Yellow copy retained by samplers, Blue copy extra copy as needed.

T4-4248

U. S. ENVIRONMENTAL PROTECTION AGENCY
REGION 4 TAT

CHAIN OF CUSTODY RECORD

ENVIRONMENTAL SERVICES DIVISION
COLLEGE STATION ROAD
ATHENS, GEORGIA 30613

PROJ. NO. 2657
PROJECT NAME Supreme Finishing Site
SAMPLERS (Signature)

Water/Wastewater | Soil/Sed/Sldg | Waste | Misc

Circle/add Parameters Desired ( ) - Indicates Separate Containers

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	(Gal G (ext org. Pest) (EP) (herb)	40 ml vial (VOA)	250 ml G (TOX)	P (Bod, TSS, Cl, Fl, Sol, etc)	1LG (phenol) (O&G) (pest)	1LP (met, hard) (Toc, COD, N, P, etc)	0.5-1LP (S)	½ gal or 1LP (CN)	8 oz G (ext org. pest, herb) (met) (EP)	4 oz G (VOA)	P or G (CN, S⁻, N, P, COD, etc)	8 oz G (ext org. pest, herb, VOA)	8 oz G (EP) (met, CN, S⁻, FP) (FP, BTU)	Metals	Cyanide	REMARKS/TAG NUMBERS	92-
29	8/20/92	1145	X		NW Side Bldg. (6"-12")	1														X	X	02829	1899
30		1145	X		NW Side Bldg (12"-18")	1														X	X	02830	1900
31		1150	X		NW Side Bldg (0"-6")	1														X	X	03378	1901
32		1150	X		NW Side Bldg (6"-12")	1														X	X	03393	1902
33		1620	X		Under Slab Room #3 East (0"-6")	1														X	X	02817	1903
34		1620	X		Under Slab Room #3 East (6"-12")	1														X	X	08703	1904
35		1620	X		Under Slab Room #3 East (12"-18")	1														X	X	02637	1905
36		1635	X		Under Slab Room #3 West (0"-6")	1														X	X	02807	1906
37		1635	X		Under Slab Room #3 West ~~(0"-6")~~ (6"-12")	1														X	X	02808	1907
38		1635	X		Under Slab Room #3 West (12"-18")	1														X	X	02809	1908
39		1645	X		Under Slab Room #4 East (0"-6")	1														X	X	02810	1909
40		1645	X		Under Slab Room #4 East (6"-12")	1														X	X	02811	1910
41		1645	X		Under Slab Room #4 East (12"-18")	1														X	X	02812	1911
42		1710	X		Under Slab Room #4 West (0"-6")	1														X	X	02813	1912

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Remarks
	8-24-92 1930	Fed. Ex.				Metals & Cyanide
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	
Fed Ex.	8-25-92 10:00					

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory. Pink copy retained by laboratory; Yellow copy retained by samplers; Blue copy extra copy as needed.

T4-4249

U. S. ENVIRONMENTAL PROTECTION AGENCY
REGION 4 TAT

CHAIN OF CUSTODY RECORD

ENVIRONMENTAL SERVICES DIVISION
COLLEGE STATION ROAD
ATHENS, GEORGIA 30613

PROJ. NO. 2G517
PROJECT NAME Supreme Finishing Site
SAMPLERS (Signature) Jos P. Durkin

Water/Wastewater | Soil/Sed/Sldg | Waste | Misc

Circle/add Parameters Desired ( ) - Indicates Separate Containers: (Gal G (ext org. Pest) (EP) (herb) | 40 ml vial (VOA) | 250 ml G (TOX) | P (Bod, TSS, Cl, Fl, Sot, etc) | ILG (phenol) (O&G) (pest) | ILP (met, herb) (Toc, COD, N, P, etc) | 0.5-ILP (S") | ½ gal or ILP (CN) | 8 oz G (ext org. pest, herb) (met) (EP) | 4 oz G (VOA) | P or G (CN, S", N, P, COD, etc) | 8 oz G (ext org. pest, herb, VOA) | 8 oz G (EP) (met, CN, S", FP) (FP, BTU) | Metals | Cyanide

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Metals	Cyanide	REMARKS/TAG NUMBERS 92-
43	5-20-92	1710	X		Under Slab Room #4 West (6"-12")	1	X	X	F4-02815 1913
44	5-20-92	1710	X		Under Slab Room #4 West (12"-18")	1	X	X	02818 1914
45	5-21-92	1505	X		Under Slab Room #5 East (0"-6")	1	X	X	08970 1915
46		1505	X		Under Slab Room #5 East (6"-12")	1	X	X	08971 1916
47		1505	X		Under Slab Room #5 East (12"-18")	1	X	X	08972 1917
48		1515	X		Under Slab Room #5 West (0"-6")	1	X	X	08973 1918
49		1515	X		Under Slab Room #5 West (6"-12")	1	X	X	08974 1919
50		1515	X		Under Slab Room #5 West (12"-18")	1	X	X	08975 1920
51		1045	X		Room 7 - 6' from South Wall (0"-6")	1	X	X	07873 1921
52		1045	X		Room 7 - 6' from South Wall (6"-12")	1	X	X	07874 1922
53		1045	X		Room 7 - 6' from South Wall (12"-18")	1	X	X	07875 1923
54		1102	X		Room 7 - 29' from South Wall (0"-6")	1	X	X	07876 1924
55		1102	X		Room 7 - 29' from South Wall (6"-12")	1	X	X	07877 1925
56		1102	X		Room 7 - 29' from South Wall (12"-18")	1	X	X	07878 1926

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Jos P. Durkin	5-24-92	Fed. Ex			
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Fed Ex	5-25-92 10:00	Samuel W. Young			

Remarks: Metals & Cyanide

SAMPLE #54 was broken in transit.

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory. Pink copy retained by laboratory; Yellow copy retained by samplers; Blue copy extra copy as needed.

T4-4250

U. S. [redacted] TAL [redacted] EC [redacted] AGE [redacted] [redacted] OF C [redacted] DY [redacted] RD [redacted]
REGIO

SEP 16 1992

ENVIRONMENTAL SERVICES DIVISION
COLLEGE STATION RD
ATHENS, GEORGIA 3061

PROJ. NO.	PROJECT NAME
2657	Supreme Finishing Site

SAMPLERS (Signature)

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Water/Wastewater															Soil/Sed/Sldg		Waste	Misc						REMARKS/TAG NUMBERS	
							(Gal G (ext org, Pest) (EP) (herb)	40 ml vial (VOA)	250 ml G (TOX)	P (Bod, TSS, Cl, Fl, SO4, etc)	ILG (phenol) (O&G) (pest)	ILP (met, herb) (Toc, COD, N, P, etc)	0.5-ILP (S")	½ gal or ILP (CN)	8 oz G (ext org, pest, herb) (met) (EP)	4 oz G (VOA)	P or G (CN, S", N, P, COD, etc)	8 oz G (ext org, pest, herb, VOA)	8 oz G (EP) (met, CN, S", FP) (PP, BTU)	Metals CN-										92-	
57	8-21-92	1115	X		Room 7 - 50' from South wall (0"-6")	1																X	X								08673	1927
58	↓	1115	X		Room 7 - 50' from South wall (6"-12")	1																X	X								08686	1928
59	↓	1115	X		Room 7 - 50' from South wall (12" to 18")	1																X	X								08916	1929
33A ~~60~~	8-20-92	1150	X		NW Side Bldg (12"-18")	1																X	X								03395	1930
—	8-21-92	1700	X		Background - SE Corner Bldg 0"-18" 16' S & 16' W	1																X	X								08977	1931

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Remarks
[signature]	8-24-92	Fed. Ex.				Metals & CN-
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	
Fed Ex	8-25-92 10:00	[signature]				

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory, Pink copy retained by laboratory; Yellow copy retained by samplers; Blue copy extra copy as needed.

T4-4251

ATTACHMENT F

Polreps

Hawkins
Supreme 1
8/25/92

SUPREME FINISHING
DURHAM, DURHAM COUNTY, NORTH CAROLINA

POLREP #1

TO: DOUG LAIR, ERRB/REGION IV/CHIEF
DEBBIE DIETRICK, HEADQUARTERS
VICKI ANTONIADES, HEADQUARTERS/REGIONAL COORDINATOR
MICHAEL HENDERSON, REGION IV/COMMUNITY RELATIONS

FROM: MIKE TAYLOR, OSC

DATE: 17 AUGUST 92 TO 23 AUGUST 92

BACKGROUND

SUPREME FINISHING SERVED PRIMARILY AS A NON-PERMITTED METAL FINISHING BUSINESS. VARIOUS METAL PLATING AND PAINTING ACTIVITIES ENSUED FOR SOME 15 TO 20 YEARS FROM THE EARLY 1960'S UNTIL 1986. CHAPTER 11 BANKRUPTCY WAS DECLARED BY THE FIRM IN JUNE 1991.

ON 15 MAY 1992, THE EPA HAD BEEN REQUESTED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT, HEALTH AND NATURAL RESOURCES (NCDNR) TO RESPOND TO AN IMMEDIATELY DANGEROUS TO LIFE AND HEALTH SITUATION (IDLH). THE PRESENCE OF HYDROGEN CYANIDE GAS, DRUMS OF CYANIDE CONTAINING MATERIALS AND DRUMS OF OTHER CHEMICALS HAD BEEN OBSERVED INSIDE THE ABANDONED SUPREME FINISHING BUILDING.

THE SITE HAS BEEN VANDALIZED TWICE, SINCE MAY OF 1992. THE TECHNICAL ASSISTANCE TEAM WAS MOBILIZED TO SECURE THE SITE.

ACTIVITIES

1) OSC MIKE TAYLOR TAT AND ERCS MOBILIZED TO THE SUPREME FINISHING SITE LOCATED IN DURHAM, DURHAM COUNTY, NORTH CAROLINA. AA A RESULT OF EXISTING IDLH CONDITIONS, ERCS WAS TASKED TO STABILIZE AND SECURE THE SITE.

2) 125 CONTAINERS OF CHEMICALS WERE SAMPLED. A CHEMIST CONDUCTED FIELD HAZARD CATEGORIZATION ANALYSIS (HAZCAT) ON ALL SAMPLES. FIVE SEPARATE COMPATIBILITY GROUPS WERE IDENTIFIED CONSISTING OF ACIDS, BASES, FLAMMABLE, OXIDIZERS AND BASE-NEUTRALS.

3) ALL CHEMICAL CONTAINERS WERE STAGED INSIDE THE STRUCTURE ACCORDING TO HAZCAT ANALYSIS. THOSE MATERIALS OF SIMILAR CHEMICAL CHARACTERISTICS WERE BULKED ACCORDINGLY.

4) ONE AND FIVE GALLON METAL CONTAINERS CONTAINING SOLIDIFIED PAINTS WERE CUT IN HALF. THE SOLIDIFIED PAINTS WERE BULKED INTO 55 GALLON DRUMS. THE METAL CONTAINERS WERE STAGED FOR LATER CRUSHING AND DISPOSAL AS NON-HAZARDOUS WASTE.

5) A TOTAL OF 21 CORE SAMPLES WAS TAKEN BY TAT TO ASCERTAIN THE LEVEL OF SITE SOIL CONTAMINATION. EACH CORE WAS DIVIDED INTO THREE SEPARATE ALIQUOT COMPOSITES.

6) ERCS REMOVED BRUSH FROM AN OVERGROWN AREA OF THE SITE TO ASCERTAIN THE EXISTENCE OF ABANDONED DRUMS. DRUMS WERE NOT DETECTED.

7) SECURITY WAS RETAINED TO PRECLUDE VANDALISM.

FUTURE ACTIVITIES

1) CONTAMINATED SOILS AND VARIOUS CURRENTLY IDENTIFIED HAZARDOUS MATERIALS WILL BE PROFILED FOR FUTURE TRANSPORTATION AND DISPOSAL.

2) THE SITE WILL BE SECURED FOR EVENTUAL CLOSURE AND RELINQUISHMENT TO THE CITY OF DURHAM, NORTH CAROLINA.

SUPREME FINISHING SITE
DURHAM, DURHAM COUNTY, NORTH CAROLINA

POLREP #2

TO: DOUG LAIR, ERRB/REGION IV/CHIEF
DEBBIE DIETRICK, HEADQUARTERS
VICKI ANTONIADES, HEADQUARTERS/REGIONAL COORDINATOR
MICHAEL HENDERSON, REGION IV/COMMUNITY RELATIONS

FROM: MIKE TAYLOR, OSC

DATE: 1 SEPTEMBER 1992

TDD# 04-9208-0011-2657

ACTIVITY DATES: 24 AUG 92 TO 30 AUG 92

PERSONNEL ON SITE: 1 - EPA
1 - TAT
5 - ERCS

BACKGROUND

SUPREME FINISHING SERVED PRIMARILY AS A NON-PERMITTED METAL FINISHING BUSINESS. FROM THE EARLY 1960'S UNTIL 1986, VARIOUS METAL PLATING AND PAINTING ACTIVITIES ENSUED AT THE SITE. CHAPTER 11 BANKRUPTCY WAS DECLARED BY THE FIRM IN JUNE 1991.

ON 15 MAY 1992, THE EPA HAD BEEN REQUESTED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT, HEALTH AND NATURAL RESOURCES (NCDNR) TO RESPOND TO AN IMMEDIATELY DANGEROUS TO LIFE AND HEALTH SITUATION (IDLH) AT THE SITE. THE PRESENCE OF HYDROGEN CYANIDE GAS, DRUMS OF CYANIDE CONTAINING MATERIALS AND DRUMS OF OTHER CHEMICALS HAD BEEN NOTED BY NCDNR OFFICIALS INSIDE THE ABANDONED STRUCTURE.

THE SITE HAS BEEN VANDALIZED TWICE, SINCE MAY OF 1992. IN MAY 1992, THE TECHNICAL ASSISTANCE TEAM HAD BEEN MOBILIZED TO SECURE THE SITE RESULTING FROM ONE OF THE INCIDENTS.

ACTIVITIES

1) ALL MATERIALS WERE STAGED INSIDE THE STRUCTURE ACCORDING TO PREVIOUS HAZARD CATEGORIZATION (HAZCAT) ANALYSIS.

2) MATERIALS OF SIMILAR CHEMICAL CHARACTERISTICS WERE BULKED IN 55 GALLON POLY (OR STEEL) DRUMS AND THEN FURTHER STAGED. A VARIETY OF HAZARDOUS SOLIDS AND LIQUIDS CONTAINED IN VATS WERE ALSO INCLUDED IN THIS PROCESS. A TOTAL OF APPROXIMATELY 2370 GALLONS OF LIQUID WASTES AND 8250 POUNDS OF SOLID WASTES, CONTAINED IN 63 DRUMS, WERE GENERATED DURING THE BULKING PROCESS.

3) STEEL, POLY AND FIBERGLASS VATS PREVIOUSLY CONTAINI HAZARDOUS MATERIALS WERE DISPATCHED TO PREVENT POTENTIAL FUTU USE FOR HOLSING HAZARDOUS SUBSTANCES.

4) ERCS SAMPLED COMPOSITES OF ALL BULKED MATERIALS. THE SAMPLES WERE SENT TO A LABORATORY FOR DISPOSAL PROFILE ANALYSIS

5) ONE AND FIVE GALLON METAL CONTAINERS CONTAINING SOLIDIFI PAINTS WERE CUT IN HALF. VARIOUS SOLIDIFIED PAINTS AND PAI SLUDGES WERE BULKED INTO 55 GALLON DRUMS. THE EMPTY METAL PAI CANS, GENERATED FROM THE BULKING PROCESS, WERE DISPOSED AS NO HAZARDOUS WASTE INTO A 20 YARD DUMPSTER.

6) EMPTY 30 AND 55 GALLON DRUMS GENERATED FROM THE BULKI PROCESS WERE TRIPLE RINSED AND STAGED IN A SEPARATE AREA OF T STRUCTURE.

7) 60 COMPOSITE SOIL SAMPLES, FOR DETERMINING THE EXTENT OF SI CONTAMINATION, WERE SENT TO A LABORATORY FOR ANALYSIS.

8) SECURITY WAS RETAINED TO PRECLUDE VANDALISM.

9) OSC MIKE TAYLOR, TAT AND ERCS DEMOBILIZED FROM THE SIT CONDITIONS PREVIOUSLY DETERMINED TO BE IMMEDIATELY DANGEROUS LIFE AND HEALTH (IDLH) HAVE BEEN STABILIZED.

FUTURE ACTIVITIES

1) A 24 HOUR SECURITY DETAIL WILL REMAIN ON SITE UNTIL A HAZARDOUS MATERIALS HAVE BEEN PROPERLY MANIFESTED AND DISPOSED.

2) CONTAMINATED SOILS AND VARIOUS CURRENTLY IDENTIFIED HAZARDO MATERIALS WILL BE PROFILED FOR FUTURE TRANSPORTATION AND DISPOS TO PERMITTED DISPOSAL FACILITIES.

3) THE SITE WILL BE SECURED FOR EVENTUAL CLOSURE A RELINQUISHMENT TO THE CITY OF DURHAM, NORTH CAROLINA.

WESTON 1575 Northside Dr., N.W., Suite 325, Bldg. 300, Atlanta, GA 30318 404-352-4147

TECHNICAL ASSISTANCE TEAM FOR EMERGENCY RESPONSE REMOVAL AND PREVENTION
EPA CONTRACT 68-WO-0036

MEMORANDUM

TO: File

FROM: Paula C. MacLaren
Analytical Coordinator

THRU: Donnissa L. Duvic
ATATL, Region IV

SUBJECT: Supreme Finishing Site Analytical Data
TDD# 04-9212-L002-0683

DATE: 13 January 1993

EcoTek LSI Laboratory analyzed nine soil samples taken on 08 December 1992 from the Supreme Finishing Site for RCRA metals, total chromium, hexavalent chromium and total cyanide analyses. Sample duplicate, matrix spike and laboratory blank analyses were also performed with the sample set for quality control purposes. Hexavalent chromium was analyzed within 24 hours of sample receipt. The analytical report was received within the required two week period.

The laboratory blank showed slight total chromium contamination of the analytical process. The effect on sample total chromium concentrations has been evaluated and presented in the data summary.

The matrix spike was performed on samples SFS03-M and SFS02-B. All metal spike percent recoveries were within the QA/QC recommended range of 80%-120%.

A summary of the sample data can be found on the following page.

cc: Mike Taylor
W.T. Blasingame

SUPREME FINISHING SITE
ANALYTICAL DATA
SOIL SAMPLES

METALS (mg/kg)

SAMPLE ID	SFS01-S	SFS01-M	SFS01-B	SFS02-S	SFS02-M	SFS02-B
LOCATION	UPHILL SURFACE	UPHILL MIDDLE	UPHILL BOTTOM	LOWER DRAIN AREA	LOWER DRAIN AREA	LOWER DRAIN AREA
Barium	106	110	141	133	79.8	123
Cadmium	4.5	2.4	1.2	10.9	2.4	0.93
Chromium, total*	21.7 B	16.8 B	22.8 B	869 B	12.6 B	21.1 B
Lead	18.6	21.5	17.8	95.5	9.2	14.5
Selenium			5.4	6.7		3.3
Cyanide, total						

SAMPLE ID	SFS03-S	SFS03-M	SFS03-B	SFS03-B	LAB BLANK
LOCATION	DRAIN AREA SURFACE	DRAIN AREA MIDDLE	DRAIN AREA BOTTOM	DUPLICATE	
Barium	98.9	48.9	178	165	
Cadmium	1.8	0.75	0.98	1.05	
Chromium, total*	89.1 B	12.3 B	46.7 B	34.6 B	0.36
Lead	32.7	9.9	16.1	14.0	
Selenium					
Cyanide, total	0.404	0.484			

NOTE: * - Trivalent Chromium
B - Analyte present in laboratory blank

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U. S. ENVIRONMENTAL PROTECTION AGENCY
REGION 4 TAT

CHAIN OF CUSTODY RECORD

ENVIRONMENTAL SERVICES DIVISION
COLLEGE STATION ROAD
ATHENS, GEORGIA 30613

21358

PROJ. NO.

PROJECT NAME: SUPREME FINISHING

SAMPLERS (Signature): W.T. Blessing

Water/Wastewater | Soil/Sed/Sldg | Waste | Misc

Circle/add Parameters Desired ( ) - Indicates Separate Containers

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	(Gal G (ext org, Pest) (EP) (herb)	40 ml vial (VOA)	250 ml G (TOX)	P (Bod, TSS, Cl, Fl, Sol, etc)	K,G (phenol) (O&G) (pest)	ILP (inst, hard) (Toc, COD, N, P, etc)	0.5-ILP (S)	½ gal or ILP (CN)	8 oz G (ext org, pest, herb) (met) (EP)	4 oz G (VOA)	P or G (CN, S=, N, P, COD, etc)	8 oz G (ext org, pest, herb, VOA)	8 oz G (EP) (met, CN, S=, FP) (FP, BTU)	8 oz G, MET - CN - HEX Cr	REMARKS/TAG NUMBERS
SF501-S	12/8	1045		✓	UPHILL SURFACE	1														X	T3 - 10154
SF501-M	12/8	1045		✓	UPHILL MIDDLE	1														X	T3 - 10155
SF501-B	12/8	1045		✓	UPHILL BOTTOM	1														X	T3 - 10156
SF502-S	12/8	1120		✓	LOWER DRAIN AREA	1														X	T3 - 10157
SF502-M	12/8	1130		✓	LOWER DRAIN AREA	1														X	T3 - 10158
SF502-B	12/8	1140		✓	LOWER DRAIN AREA	1														X	T3 - 10159
SF503-S	12/8	1150		✓	DRAIN AREA SURFACE	1														X	T3 - 10160
SF503-M	12/8	1150		✓	DRAIN AREA MIDDLE	1														X	T3 - 10161
SF503-MI	12/8	1150		✓	DRAIN AREA ~~BOTTOM~~ MATRIX SPIKE	1														X	T3 - 10162
SF503-B	12/8	1150		✓	DRAIN AREA BOTTOM	1														X	T3 - 10163
SF503-BI	12/8	1150		✓	DRAIN AREA DUPLICATE	1														X	T3 - 10164

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Remarks
W.T. Blessing	12/10/92 1105	John Rosellor				SAMPLES PLACED ON ICE IN COOLER
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory, Pink copy retained by laboratory; Yellow copy retained by samplers; Blue copy extra copy as needed.

T4-4722

EcoTek LSI
EcoTek Laboratory Services Incorporated

3342 International Park Drive, S.E.
Atlanta, Georgia 30316
(404) 244-0827
Fax # (404) 243-5355

December 29, 1992

Ms. Paula MacLaren
Roy F. Weston
1575 Northside Drive, NW
Suite 325, Building 300
Atlanta, GA 30318

Dear Ms. MacLaren:

Enclosed along with this letter are the hard copy results for the sample(s) received December 10, 1992. This information was faxed to you today.

Please contact Craig Johnson at (404) 244-0827 if you have any questions. Also, please refer to LSDG number 21338 in future correspondence.

Sincerely,

ECOTEK LABORATORY SERVICES, INC.

Donald L. Dihel
Quality Assurance Manager

Craig Johnson
Senior Project Manager

RECEIVED
DEC 31 1992
RSW

FAXED 12/29/92 pm

Enclosures.
DLD/CCJ/crb

EcoTek LSI
EcoTek Laboratory Services Incorporated

CASE NARRATIVE FOR GENERAL CHEMISTRY

Client: Roy F. Weston

LSDG: 21338

Project: Supreme Finishing

* Hexavalent Chromium, SW 846 7196

  Chromium in the hexavalent state forms a purple color with diphenylcarbazide in an acidic environment. The color complex is read on a spectrophotometer.

* Cyanide, SW-846 Method 9012

  The cyanide as hydrocyanic acid (HCN) is released by means of a reflux-distillation operation and absorbed in a scrubber containing sodium hydroxide solution. The cyanide ion in the absorbing solution is then determined colorimetrically.

* All QA/QC requirements were within acceptable limits

RECEIVED
DEC 3 1 1993
R

EcoTek LSI
EcoTek Laboratory Services Incorporated

General Chemistry
Total Cyanide

Client: Roy F. Weston
LSDG: 2133801
Matrix: Soil
Method: SW-846 9012

Client Reference No.: Supreme Finishing
Date Received: 12/10/92
Date of Extraction: 12/18/92
Date of Analysis: 12/22/92

Lab Sample ID	Client ID	Units	Dilution Factor	Result	Detection Limit	Note
2133801	SFS01-S	mg/kg	1	<0.159	0.159	
2133802	SFS01-M	mg/kg	1	< 0.156	0.156	
2133803	SFS01-B	mg/kg	1	<0.158	0.158	
2133804	SFS02-S	mg/kg	1	<0.188	0.188	
2133805	SFS02-M	mg/kg	1	<0.153	0.153	
2133806	SFS02-B	mg/kg	1	<0.162	0.162	
2133807	SFS03-S	mg/kg	1	0.404	0.158	
2133808	SFS03-M	mg/kg	1	0.484	0.150	
2133809	SFS03-B	mg/kg	1	<0.150	0.150	

RECEIVED
DEC 31 1992

EcoTek LSI
EcoTek Laboratory Services Incorporated

General Chemistry
Hexavalent Chromium

Client: RFW
LSDG: 2133801
Matrix: Soil
Method: S.M. 3350D

Client Reference No.: Supreme Finishing
Date Received: 12/10/92
Date of Analysis: 12/10/92

Lab Sample ID	Client ID	Units	Dilution Factor	Result	Detection Limit	Note
2133801	SFS01-S	mg/kg	1	< 0.628	0.628	
2133802	SFS01-M	mg/kg	1	< 0.645	0.645	
2133803	SFS01-B	mg/kg	1	< 0.650	0.650	
2133804	SFS02-S	mg/kg	1	< 0.766	0.766	
2133805	SFS02-M	mg/kg	1	< 0.609	0.609	
2133806	SFS02-B	mg/kg	1	< 0.594	0.594	
2133807	SFS03-S	mg/kg	1	< 0.693	0.693	
2133808	SFS03-M	mg/kg	1	< 0.598	0.598	
2133809	SFS03-B	mg/kg	1	< 0.651	0.651	

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BLANK ANALYTICAL RESULTS

Client: RFW
LSDG: 21338

Sample Receipt Date: 12/10/92
Client Reference No.: Supreme Finishing

Method Blank - Analyte	Concentration (mg/kg)	Detection Limit (mg/kg)
Hexavalent Chromium	<0.5	0.5
Total Cyanide	< 0.125	0.125

NA = Not Applicable.

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EcoTek Laboratory Services Incorporated

DUPLICATE RESULTS

Client: RFW
LSDG: 21338
Matrix: Soil

Sample Receipt Date: 12/10/92
Sampling Date: 12/8/92
Client Reference No.: Supreme Finishing

Lab Sample ID	Client ID	Analyte	Sample Result mg/kg	Duplicate Result mg/kg	% RPD	Comments
2133806	SFS02-B	Cr +6	< 0.594	< 0.594	NA	
2133809	SFS03-B	Cyanide	<0.150	<0.150	NA	

NA = Not Applicable

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MATRIX SPIKE ANALYTICAL RESULTS

Client: RFW
LSDG: 21338
Matrix: Soil

Sample Receipt Date: 12/10/92
Sampling Date: 12/8/92
Client Reference No.: Supreme Finishing

Lab Sample ID	Client ID	Analyte	Spike Concentration mg/kg	Unspiked Result mg/kg	Spiked Result mg/kg	% Recovery
2133806	SFS02-B	Cr +6	2.97	< 0.594	3.23	108.8
2133808	SFS03-M	Cyanide	147.0	0.484	117.5	79.6

% Recovery Limit = 75-125 %.

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CASE NARRATIVE FOR METALS ANALYSIS
Method SW-846

Client: Roy F. Weston

Case: Supreme Finishing

LSDG: 21338

- **Analysis** - Metals analysis was performed on nine soil samples for RCRA metals. The samples were prepared and analyzed according to SW-846. The following methods and instruments were used for analysis:

Analysis	Instrument	Digestion Method	Analysis Method
ICP	TJA ICAP 61E	3050	6010
CVAA	TJA CVAA S-12	7471	7471

- **QA/QC** - All appropriate QC data was within acceptable control limits with the following exceptions:

  - Chromium was observed in the preparation blank at a concentration greater than the instrument detection limit. The concentration observed is to low to be considered significant to the analysis.

  - The sample duplicates relative percent difference (RPD) was above the 0 - 20% control limits for Chromium at 29.6% RPD. The nonhomogenous nature of the soil sample is probably the cause of the duplicate failure.

- **General Discussion** - Interference was noted for Arsenic in all samples requiring a five or ten fold dilution.

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Trace Metals Analytical Results
Method SW-846

Client: RFW
Client Reference No.: Supreme Finishing
Client Sample No.: SFS01-S

Lab Sample ID: 2133801
Date Received: December 10, 1992
Matrix: Soil

Analyte	Date Analyzed	Dilution Factor	Result mg/kg	Detection Limit mg/kg	Note
Arsenic	12/22/92	10	<23.6	23.6	
Barium	12/22/92	1	106	0.12	
Cadmium	12/22/92	1	4.5	0.25	
Chromium	12/22/92	1	21.7	0.25	B,*
Lead	12/22/92	1	18.6	1.5	
Mercury	12/16/92 13:19	1	<0.064	0.064	
Selenium	12/22/92	1	<3.0	3.0	
Silver	12/22/92	1	<0.50	0.50	

B = The analyte was observed in the preparation blank.
* = The sample matrix duplicate's relative percent difference, RPD, was above the 0 - 20% control limits.
N = The sample matrix spike's percent recovery was outside of the 75 - 125% control limits.
E = The ICP serial dilution sample's percent difference was above the 0 - 10% control limits.

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Trace Metals Analytical Results
Method SW-846

Client: RFW
Client Reference No.: Supreme Finishing
Client Sample No.: SFS01-M

Lab Sample ID: 2133802
Date Received: December 10, 1992
Matrix: Soil

Analyte	Date Analyzed	Dilution Factor	Result mg/kg	Detection Limit mg/kg	Note
Arsenic	12/22/92	10	<21.5	21.5	
Barium	12/22/92	1	110	0.11	
Cadmium	12/22/92	1	2.4	0.23	
Chromium	12/22/92	1	16.8	0.23	B,*
Lead	12/22/92	1	21.5	1.4	
Mercury	12/16/92 13:20	1	<0.056	0.056	
Selenium	12/22/92	1	<2.7	2.7	
Silver	12/22/92	1	<0.45	0.45	

B = The analyte was observed in the preparation blank.
* = The sample matrix duplicate's relative percent difference, RPD, was above the 0 - 20% control limits.
N = The sample matrix spike's percent recovery was outside of the 75 - 125% control limits.
E = The ICP serial dilution sample's percent difference was above the 0 - 10% control limits.

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Trace Metals Analytical Results
Method SW-846

Client: RFW
Client Reference No.: Supreme Finishing
Client Sample No.: SFS01-B

Lab Sample ID: 2133803
Date Received: December 10, 1992
Matrix: Soil

Analyte	Date Analyzed	Dilution Factor	Result mg/kg	Detection Limit mg/kg	Note
Arsenic	12/22/92	10	<23.8	23.8	
Barium	12/22/92	1	141	0.12	
Cadmium	12/22/92	1	1.2	0.25	
Chromium	12/22/92	1	22.8	0.25	B,*
Lead	12/22/92	1	17.8	1.5	
Mercury	12/16/92 13:22	1	<0.063	0.063	
Selenium	12/22/92	1	5.4	3.0	
Silver	12/22/92	1	<0.50	0.50	

B = The analyte was observed in the preparation blank.
* = The sample matrix duplicate's relative percent difference, RPD, was above the 0 - 20% control limits.
N = The sample matrix spike's percent recovery was outside of the 75 - 125% control limits.
E = The ICP serial dilution sample's percent difference was above the 0 - 10% control limits.

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Robbie Weems

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Trace Metals Analytical Results
Method SW-846

Client: RFW
Client Reference No.: Supreme Finishing
Client Sample No.: SFS02-S

Lab Sample ID: 2133804
Date Received: December 10, 1992
Matrix: Soil

Analyte	Date Analyzed	Dilution Factor	Result mg/kg	Detection Limit mg/kg	Note
Arsenic	12/22/92	10	<25.4	25.4	
Barium	12/22/92	1	133	0.13	
Cadmium	12/22/92	1	10.9	0.27	
Chromium	12/22/92	1	869	0.27	B,*
Lead	12/22/92	1	95.5	1.6	
Mercury	12/16/92 13:23	1	<0.075	0.075	
Selenium	12/22/92	1	6.7	3.2	
Silver	12/22/92	1	<0.53	0.53	

B = The analyte was observed in the preparation blank.
* = The sample matrix duplicate's relative percent difference, RPD, was above the 0 - 20% control limits.
N = The sample matrix spike's percent recovery was outside of the 75 - 125% control limits.
E = The ICP serial dilution sample's percent difference was above the 0 - 10% control limits.

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Trace Metals Analytical Results
Method SW-846

Client: RFW
Client Reference No.: Supreme Finishing
Client Sample No.: SFS02-M

Lab Sample ID: 2133805
Date Received: December 10, 1992
Matrix: Soil

Analyte	Date Analyzed	Dilution Factor	Result mg/kg	Detection Limit mg/kg	Note
Arsenic	12/22/92	10	<22.0	22.0	
Barium	12/22/92	1	79.8	0.12	
Cadmium	12/22/92	1	2.4	0.23	
Chromium	12/22/92	1	12.6	0.23	B,*
Lead	12/22/92	1	9.2	1.4	
Mercury	12/16/92 13:25	1	<0.061	0.061	
Selenium	12/22/92	1	<2.8	2.8	
Silver	12/22/92	1	<0.46	0.46	

B = The analyte was observed in the preparation blank.
* = The sample matrix duplicate's relative percent difference, RPD, was above the 0 - 20% control limits.
N = The sample matrix spike's percent recovery was outside of the 75 - 125% control limits.
E = The ICP serial dilution sample's percent difference was above the 0 - 10% control limits.

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Trace Metals Analytical Results
Method SW-846

Client: RFW
Client Reference No.: Supreme Finishing
Client Sample No.: SFS02-B

Lab Sample ID: 2133806
Date Received: December 10, 1992
Matrix: Soil

Analyte	Date Analyzed	Dilution Factor	Result mg/kg	Detection Limit mg/kg	Note
Arsenic	12/22/92	10	<23.6	23.6	
Barium	12/22/92	1	123	0.12	
Cadmium	12/22/92	1	0.93	0.25	
Chromium	12/22/92	1	21.1	0.25	B,*
Lead	12/22/92	1	14.5	1.5	
Mercury	12/16/92 13:27	1	<0.062	0.062	
Selenium	12/22/92	1	3.3	3.0	
Silver	12/22/92	1	<0.50	0.50	

B = The analyte was observed in the preparation blank.
* = The sample matrix duplicate's relative percent difference, RPD, was above the 0 - 20% control limits.
N = The sample matrix spike's percent recovery was outside of the 75 - 125% control limits.
E = The ICP serial dilution sample's percent difference was above the 0 - 10% control limits.

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Trace Metals Analytical Results
Method SW-846

Client: RFW
Client Reference No.: Supreme Finishing
Client Sample No.: SFS03-S

Lab Sample ID: 2133807
Date Received: December 10, 1992
Matrix: Soil

Analyte	Date Analyzed	Dilution Factor	Result mg/kg	Detection Limit mg/kg	Note
Arsenic	12/22/92	10	<22.6	22.6	
Barium	12/22/92	1	98.9	0.12	
Cadmium	12/22/92	1	1.8	0.24	
Chromium	12/22/92	1	89.1	0.24	B,*
Lead	12/22/92	1	32.7	1.4	
Mercury	12/16/92 13:28	1	<0.060	0.060	
Selenium	12/22/92	1	<2.8	2.8	
Silver	12/22/92	1	<0.47	0.47	

B = The analyte was observed in the preparation blank.
* = The sample matrix duplicate's relative percent difference, RPD, was above the 0 - 20% control limits.
N = The sample matrix spike's percent recovery was outside of the 75 - 125% control limits.
E = The ICP serial dilution sample's percent difference was above the 0 - 10% control limits.

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Trace Metals Analytical Results
Method SW-846

Client: RFW
Client Reference No.: Supreme Finishing
Client Sample No.: SFS03-M

Lab Sample ID: 2133808
Date Received: December 10, 1992
Matrix: Soil

Analyte	Date Analyzed	Dilution Factor	Result mg/kg	Detection Limit mg/kg	Note
Arsenic	12/22/92	5	<10.8	10.8	
Barium	12/22/92	1	48.9	0.11	
Cadmium	12/22/92	1	0.75	0.23	
Chromium	12/22/92	1	12.3	0.23	B,*
Lead	12/22/92	1	9.9	1.4	
Mercury	12/16/92 13:35	1	<0.061	0.061	
Selenium	12/22/92	1	<2.7	2.7	
Silver	12/22/92	1	<0.46	0.46	

B = The analyte was observed in the preparation blank.
* = The sample matrix duplicate's relative percent difference, RPD, was above the 0 - 20% control limits.
N = The sample matrix spike's percent recovery was outside of the 75 - 125% control limits.
E = The ICP serial dilution sample's percent difference was above the 0 - 10% control limits.

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Trace Metals Analytical Results
Method SW-846

Client: RFW
Client Reference No.: Supreme Finishing
Client Sample No.: SFS03-B

Lab Sample ID: 2133809
Date Received: December 10, 1992
Matrix: Soil

Analyte	Date Analyzed	Dilution Factor	Result mg/kg	Detection Limit mg/kg	Note
Arsenic	12/22/92	10	<24.2	24.2	
Barium	12/22/92	1	178	0.13	
Cadmium	12/22/92	1	0.98	0.26	
Chromium	12/22/92	1	46.7	0.26	B,*
Lead	12/22/92	1	16.1	1.5	
Mercury	12/16/92 13:43	1	<0.064	0.064	
Selenium	12/22/92	1	<3.1	3.1	
Silver	12/22/92	1	<0.51	0.51	

B = The analyte was observed in the preparation blank.
* = The sample matrix duplicate's relative percent difference, RPD, was above the 0 - 20% control limits.
N = The sample matrix spike's percent recovery was outside of the 75 - 125% control limits.
E = The ICP serial dilution sample's percent difference was above the 0 - 10% control limits.

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EcoTek Laboratory Services Incorporated

Trace Metals Analytical Results
Preparation Blank Results

Client: RFW
Client Reference No.: Supreme Finishing
Client Sample No.: Not Applicable

Lab Sample ID: PBW
Date Received: Not Applicable
Matrix: Water

Analyte	Date/Time Analyzed	Dilution Factor	Result mg/kg	Detection Limit mg/kg	Note
Arsenic	12/22/92	1	<1.9	1.9	
Barium	12/22/92	1	<0.10	0.10	
Cadmium	12/22/92	1	<0.20	0.20	
Chromium	12/22/92	1	0.36	0.20	B
Lead	12/22/92	1	<1.2	1.2	
Mercury	12/16/92 13:17	1	<0.050	0.050	
Selenium	12/22/92	1	<2.4	2.4	
Silver	12/22/92	1	<0.40	0.40	

B = The analyte was observed in the preparation blank.

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EcoTek Laboratory Services Incorporated

Trace Metals Sample Duplicate Results
Method SW-846

Client: RFW
Client Reference No.: Supreme Finishing
Client Sample No.: SFS03-B

Lab Sample ID: 2133809
Date Received: December 10, 1992
Matrix: Soil

Analyte	Date Analyzed	Dilution Factor	Sample Result mg/kg	Duplicate Results mg/kg	RPD
Arsenic	12/22/92	10	<24.2	<24.2	NA
Barium	12/22/92	1	177.71	164.63	7.6
Cadmium	12/22/92	1	0.98481	1.0544	6.8
Chromium	12/22/92	1	46.736	34.682	29.6
Lead	12/22/92	1	16.084	13.950	14.2
Mercury	12/16/92 13:43	1	<0.064	<0.064	NA
Selenium	12/22/92	1	<3.1	<3.1	NA
Silver	12/22/92	1	<0.51	<0.51	NA

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EcoTek LSI
EcoTek Laboratory Services Incorporated

Trace Metals Analytical Results
Blank Spike Results

Client: RFW
Client Reference No.: Supreme Finishing
Client Sample No.: Not Applicable

Lab Sample ID: LCSMS
Date Received: Not Applicable
Matrix: Water

Analyte	Date/Time Analyzed	Dilution Factor	Result mg/kg	True Value mg/kg	% Recovery
Arsenic	12/22/92	1	89.6	100	89.6
Barium	12/22/92	1	93.6	100	93.6
Cadmium	12/22/92	1	89.4	100	89.4
Chromium	12/22/92	1	90.2	100	90.2
Lead	12/22/92	1	86.3	100	86.3
Mercury	12/16/92 13:14	1	0.53	0.5	106.0
Selenium	12/22/92	1	90.6	100	90.6
Silver	12/22/92	1	90.7	100	90.7

Control Limits = 75 - 125%

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Trace Metals Matrix Spike Results
Method SW-846

Client: RFW
Client Reference No.: Supreme Finishing
Client Sample No.: SFS03-M

Lab Sample ID: 2133808
Date Received: December 10, 1992
Matrix: Soil

Analyte	Date Analyzed	Spike Conc. mg/kg	Sample Result mg/kg	Spike Result mg/kg	% Recovery
Arsenic	12/22/92	117.41	<10.8	102.38	87.2
Barium	12/22/92	117.41	48.9	164.10	98.1
Cadmium	12/22/92	117.41	0.75	112.43	95.1
Chromium	12/22/92	117.41	12.3	124.86	95.9
Lead	12/22/92	117.41	9.9	115.61	90.0
Mercury	12/16/92 13:35	0.60805	<0.061	0.64453	106.0
Selenium	12/22/92	117.41	<2.7	108.77	92.6
Silver	12/22/92	117.41	<0.46	111.43	94.9

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WESTON 1575 Northside Dr., N.W., Suite 325, Bldg. 300, Atlanta, GA 30318 404-352-4147

TECHNICAL ASSISTANCE TEAM FOR EMERGENCY RESPONSE REMOVAL AND PREVENTION
EPA CONTRACT 68-WO-0036

MEMORANDUM

TO: File

FROM: Donnissa L. Duvic
ATATL, Region IV

THRU: William R. Doyle
TATL, Region IV

SUBJECT: Supreme Finishing Analytical Data
TDD# 04-9111-L013-0448

DATE: 20 December 1991

Kiber Analytical Services conducted the requested analyses on eleven samples submitted from the Supreme Finishing site. The data was two days late and incurred a penalty of five percent against the total invoice cost.

The soil samples had exceeded their holding time by five days for the cyanide analysis. The values detected may actually be higher.

The metals matrix spike recoveries for five out of eight elements was below 80%. The volatile matrix spike recovery data revealed two out of five compounds had recoveries slightly below 80% and one out of five compounds had a recovery above 120%. The volatile matrix spike duplicate data revealed one out of five compounds to have a recovery slightly below 80% and one out of five compounds had a recovery above 120%. The semivolatile matrix spike data revealed nine out of ten compounds to have recoveries below 80%. The semivolatile matrix spike duplicate data revealed all compounds had recoveries below 80%. Sample eleven was used for QC purposes.

A summary of the data is found on the following page.

cc: Mike Taylor
Jim Hawkins

[redacted]PR[redacted]E [redacted]ISH[redacted]G A[redacted]ALYTICA[redacted]AT[redacted]

	Drum Room #1	VAT Room 4 #2	VAT Room 4 #3	Steel VAT Room 7 #4	Drum Room 6 #5	[redacted]rum[redacted]shed #6	[redacted]VAT Room 7 #7	S[redacted] NW Bldg. #8	[redacted]il [redacted] NW Corner #9	Soil [redacted] NE Corner #10	Soil [redacted] #11	[redacted]Dupl[redacted] #11
Cyanide, mg/kg			10	0.39	IS	8.3		3.2	7.2	0.62	6.6	12
pH		1.34	9.92	14.0		14.0	<2.0					
Flashpoint F	<140											
2-Butanone, mg/l	760J											
1,1-Dichloroethene, ug/kg									14	8.7	0.4J	
Ethylbenzene, mg/l	4800										0.7(ug/kg)	0.4J(ug/kg)
1,1-Dichloroethane, ug/kg									3.9	1.1		
4-Methyl-2-pentanone, mg/l	79,000											
Tetrachloroethene, ug/kg									5.7	1.7		
Toluene, mg/l	520,000							0.4J		0.4J(ug/kg)	0.6J(ug/kg)	0.7J(ug/kg)
1,1,1-Trichloroethane, ug/kg									86	33	1.2J	0.7J
Xylenes (total), mg/l	24,000							0.7JBR		0.9JBR(ug/kg)	1.7BR(ug/kg)	1.3J(ug/kg)
Methylene Chloride, ug/kg								11BR	11BR	5.0JBR		21BR
Benz(a)anthracene, ug/kg								87		28J	31J	28J
Anthracene, ug/kg								40			13J	13J
bis(2-Ethylhexyl)phthalate, mg/kg	230				7.2JBR(ug/l)			6400B(ug/kg)	6800B(ug/kg)	1300B(ug/kg)	15,000B(ug/kg)	12000B(ug/kg)
Butylbenzylphthalate, mg/kg	26							22J(ug/kg)		26J(ug/kg)	72J(ug/kg)	74J(ug/kg)
Di-n-butylphthalate, mg/kg	92				4.3JBR(ug/l)			14JBR(ug/kg)	15JBR(ug/kg)		25J(ug/kg)	21J(ug/kg)
2-Methylnaphthalene, mg/kg	5.2J							8.7J(ug/kg)			26J(ug/kg)	24J(ug/kg)
Naphthalene, mg/kg	70										14J(ug/kg)	13J(ug/kg)
Benzo(b)fluoranthene, ug/kg								240	28J	73	85	79
Benzo(k)fluoranthene, ug/kg								110	11J	24J	26J	30J
Total Arsenic, mg/l				0.3			1.0					
Total Barium, mg/l		140	0.6	0.6			2.6	440(mg/kg)	130(mg/kg)	93(mg/kg)	76(mg/kg)	91(mg/kg)
Total Cadmium, mg/l		0.3		0.1			42,000	32(mg/kg)	12(mg/kg)	14(mg/kg)	2.9(mg/kg)	2.7(mg/kg)
Total Chromium, mg/l		3700	0.3	0.3			420	1500(mg/kg)	250(mg/kg)	98(mg/kg)	120(mg/kg)	130(mg/kg)
Total Lead, mg/l			0.3	0.8			140	130(mg/kg)	5.8(mg/kg)	130(mg/kg)	120(mg/kg)	150(mg/kg)
Total Mercury, mg/kg										0.8		
Benzo(ghi)perylene, ug/kg								96	15J	21J	22J	21J
Benzo(a)pyrene, ug/kg								91		21J	21J	23J
Chrysene, ug/kg								210	25J	62J	69J	76
Dibenz(a,h)anthracene, ug/kg								18J				
Di-n-octylphthalate, ug/kg								53J			160	260
Fluoranthene, ug/kg								300	23J	94	89	86
Indeno(1,2,3-cd)pyrene, ug/kg								79		17J	21J	20J
Phenanthrene, ug/kg								100		22J	29J	32
Phenol, ug/kg											37J	40J
Pyrene, ug/kg								350	26J	88J	89J	110
Isophorone, ug/kg											13J	
2-Methylphenol, ug/kg											29J	31J
4-Methylphenol, ug/kg											18J	21J

IS Insufficient sample J estimated value, compound was detected below the quantitation limit. B compound was also detected in the associated blank.

R reject data due to the quantity detected in the associated blank.

U.S. Department of Commerce
Economics and Statistics Administration
BUREAU OF THE CENSUS

1990 CPH-1-35

CENSUS '90

1990 Census of Population and Housing

Summary Population and Housing Characteristics

North Carolina

Ref. 8

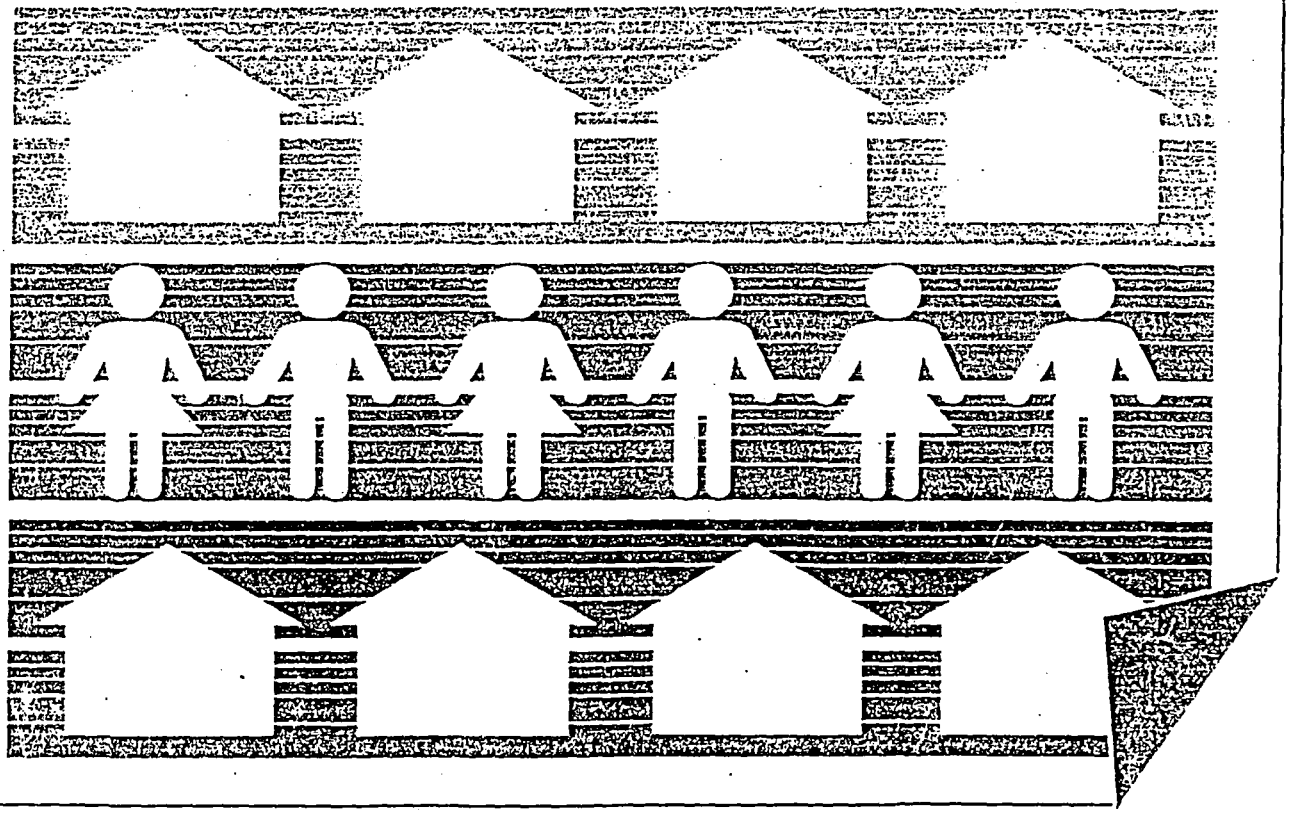


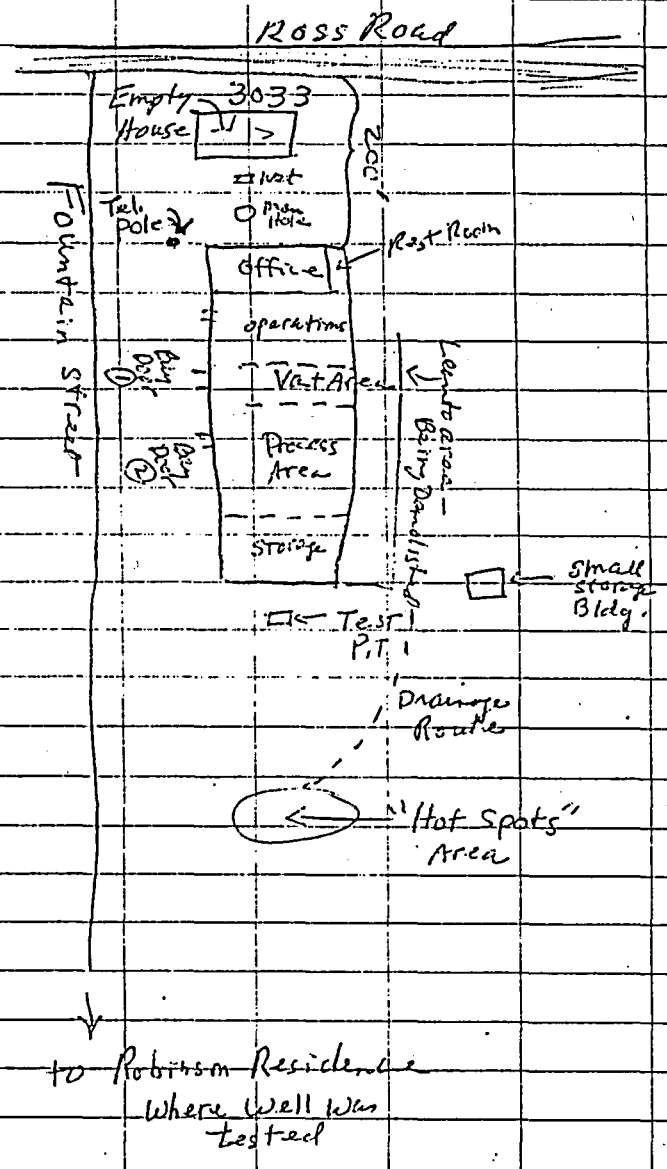
Table 5. Household, Family, and Group Quarters Characteristics: 1990—Con.

[For definitions of terms and meanings of symbols, see text]

State County County Subdivision Place	Persons in households	All households	Family households: Total	Family households: Married-couple family	Family households: Female householder, no husband present	Nonfamily households: Total	Nonfamily households: Householder living alone: Total	Nonfamily households: Householder living alone: 65 years and over: Total	Nonfamily households: Householder living alone: 65 years and over: Female	Persons per— Household	Persons per— Family	Persons in group quarters: Total	Persons in group quarters: Institutionalized persons	Persons in group quarters: Other persons in group quarters
Davidson County—Con.														
Lexington township	28 937	11 815	8 381	6 300	1 670	3 434	2 991	1 294	1 022	2.45	2.92	471	441	30
Lexington city (pt.)	16 189	6 864	4 553	3 107	1 213	2 311	2 030	943	757	2.36	2.91	100	70	30
Welcome CDP (pt.)	3 009	1 143	905	798	79	238	204	76	60	2.63	2.99	-	-	-
Midway township	9 868	3 678	3 004	2 637	263	674	587	190	162	2.68	3.00	29	29	-
Welcome CDP (pt.)	335	135	110	95	12	25	19	3	3	2.48	2.71	-	-	-
Reedy Creek township	3 563	1 359	1 060	920	96	299	259	99	78	2.62	3.00	-	-	-
Welcome CDP (pt.)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver Hill township	4 658	1 749	1 420	1 254	113	329	286	88	71	2.66	2.99	-	-	-
Thomasville township	30 357	12 230	8 917	6 882	1 600	3 313	2 898	1 287	1 037	2.48	2.93	445	444	1
High Point city (pt.)	43	17	15	14	-	2	2	2	2	2.53	2.53	-	-	-
Thomasville city	15 592	6 529	4 381	2 985	1 137	2 148	1 885	838	684	2.39	2.94	323	322	1
Tyro township	6 328	2 460	1 895	1 610	211	565	507	198	165	2.57	2.95	48	48	-
Yadkin College township	619	238	174	142	16	64	54	19	14	2.60	2.97	-	-	-
Davie County	27 541	10 785	8 270	6 999	953	2 515	2 246	1 025	817	2.55	2.95	318	288	30
Calahaln township	1 778	677	534	463	55	143	128	62	52	2.63	3.01	8	-	8
Clarksville township	2 504	975	759	666	61	216	191	87	71	2.57	2.94	-	-	-
Farmington township	7 968	3 081	2 464	2 158	218	617	542	239	187	2.59	2.93	22	22	-
Fulton township	1 627	616	499	439	36	117	105	46	31	2.64	2.95	4	-	4
Jerusalem township	4 636	1 807	1 365	1 112	199	442	404	200	157	2.57	2.99	-	-	-
Cooleemee town	971	409	300	240	49	109	104	64	54	2.37	2.81	-	-	-
Mocksville town (pt.)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mocksville township	6 730	2 740	1 953	1 560	314	787	705	307	246	2.46	2.95	284	266	18
Mocksville town (pt.)	3 225	1 383	922	693	190	461	417	191	163	2.33	2.90	174	163	11
Shady Grove township	2 298	889	696	601	70	193	171	84	73	2.58	2.94	-	-	-
Duplin County	39 368	14 925	11 036	8 376	2 099	3 889	3 553	1 779	1 439	2.64	3.12	627	560	67
Albertson township	1 359	489	372	298	48	117	96	46	38	2.78	3.19	-	-	-
Cypress Creek township	2 695	1 043	810	669	107	233	217	105	91	2.58	2.99	-	-	-
Faison township	3 170	1 205	850	648	155	355	319	159	120	2.63	3.20	-	-	-
Calypso town	481	186	136	104	27	50	47	26	20	2.59	3.09	-	-	-
Faison town	701	288	176	127	33	112	98	60	47	2.43	3.13	-	-	-
Mount Olive town (pt.)	1	1	-	-	-	1	1	-	-	1.00	-	-	-	-
Glisson township	1 004	393	298	244	41	95	92	41	36	2.55	3.01	4	-	4
Island Creek township	7 514	2 882	2 106	1 526	481	776	724	376	305	2.61	3.12	74	74	-
Greenevers town	512	186	136	75	52	50	47	24	23	2.75	3.32	-	-	-
Teachey town	244	95	69	50	15	26	25	12	8	2.57	3.07	-	-	-
Wallace town (pt.)	2 851	1 157	811	586	195	346	319	177	149	2.46	2.99	60	60	-
Kenansville township	3 264	1 213	923	694	174	290	271	110	83	2.69	3.15	352	352	-
Kenansville town	656	290	196	155	34	94	90	41	33	2.26	2.82	200	200	-
Limestone township	5 405	2 090	1 567	1 295	206	523	470	252	220	2.59	3.04	22	17	5
Beulaville town	921	411	274	194	67	137	122	63	52	2.24	2.77	12	12	-
Magnolia township	1 972	725	555	397	121	170	153	70	42	2.72	3.14	-	-	-
Magnolia town	747	289	213	139	62	76	69	31	16	2.58	3.03	-	-	-
Rockfish township	1 185	448	329	244	64	119	110	48	45	2.65	3.17	-	-	-
Harrells town (pt.)	2	1	1	1	-	-	-	-	-	2.00	2.00	-	-	-
Wallace town (pt.)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rose Hill township	2 752	1 063	756	559	151	307	283	169	136	2.59	3.14	11	11	-
Rose Hill town	1 276	536	356	266	68	182	172	114	92	2.37	2.99	11	11	-
Smith township	1 871	710	543	450	73	167	157	81	76	2.64	3.07	22	-	22
Warsaw township	5 191	1 960	1 417	948	409	543	513	243	184	2.65	3.21	106	106	-
Warsaw town	2 753	1 095	767	473	268	328	314	160	129	2.51	3.10	106	106	-
Wolfscrape township	1 986	704	510	404	69	194	148	79	63	2.82	3.12	36	-	36
Durham County	173 310	72 297	45 985	33 614	10 321	26 312	20 860	5 553	4 471	2.40	2.99	8 525	2 175	6 350
Carr township	2 034	773	624	550	50	149	127	45	38	2.63	2.96	-	-	-
Durham township	130 384	56 581	33 252	22 449	9 118	23 329	18 353	4 785	3 852	2.30	2.97	8 194	1 844	6 350
Durham city (pt.)	128 537	55 971	32 751	22 061	9 023	23 220	18 261	4 753	3 829	2.30	2.96	7 990	1 640	6 350
Parkwood CDP (pt.)	2	1	1	1	-	-	-	-	-	2.00	2.00	-	-	-
Lebanon township	13 753	4 692	4 162	3 763	318	530	468	166	130	2.93	3.13	129	129	-
Durham city (pt.)	16	5	5	3	2	-	-	-	-	3.20	3.20	-	-	-
Mangum township	3 902	1 423	1 138	1 000	96	285	235	90	68	2.74	3.10	-	-	-
Oak Grove township	12 250	4 646	3 711	3 167	398	935	816	302	244	2.64	2.98	176	176	-
Durham city (pt.)	33	13	9	8	1	4	4	4	4	2.54	3.22	-	-	-
Gorman CDP	1 090	423	319	269	38	104	92	43	38	2.58	3.02	-	-	-
Triangle township	10 987	4 182	3 098	2 585	341	1 084	861	165	139	2.63	3.07	26	26	-
Chapel Hill town (pt.)	1 115	498	287	246	36	211	152	11	8	2.24	2.85	-	-	-
Durham city (pt.)	18	7	6	6	-	1	1	-	-	2.57	2.83	-	-	-
Morrisville town (pt.)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Parkwood CDP (pt.)	4 121	1 407	1 144	988	137	263	210	43	36	2.93	3.29	-	-	-
Edgecombe County	55 856	20 319	15 085	10 600	4 293	5 234	4 703	2 124	1 717	2.75	3.25	702	657	45
Township 1, Tarboro	15 636	5 570	4 337	2 921	1 207	1 633	1 521	759	647	2.62	3.16	508	488	20
Princeville town	1 648	621	432	175	234	189	180	106	87	2.65	3.30	4	-	4
Tarboro town	10 533	4 241	3 005	2 155	730	1 236	1 163	600	520	2.42	3.05	504	488	16
Township 2, Lower Conetoe	1 553	550	423	327	69	127	104	45	35	2.82	3.28	-	-	-
Conetoe town	292	105	75	49	23	30	24	14	14	2.78	3.36	-	-	-
Township 3, Upper Conetoe	724	239	192	131	46	47	40	18	12	3.03	3.42	-	-	-
Speed town	88	32	25	16	6	7	7	3	2	2.75	3.16	-	-	-
Township 4, Deep Creek	804	264	220	157	51	44	38	20	13	3.05	3.35	-	-	-
Township 5, Lower Fishing Creek	1 481	500	375	251	99	125	105	40	23	2.96	3.43	-	-	-
Leggett town	108	36	27	24	1	9	8	1	-	3.00	3.59	-	-	-
Township 6, Upper Fishing Creek	1 754	589	446	301	119	143	131	61	45	2.98	3.54	-	-	-
Whitakers town (pt.)	464	158	119	78	31	39	36	22	17	2.94	3.49	-	-	-
Township 7, Swift Creek	3 088	1 044	800	517	219	244	207	45	34	2.96	3.40	165	165	-
Battleboro town (pt.)	280	100	73	39	26	27	25	9	6	2.80	3.34	-	-	-
Rocky Mount city (pt.)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Township 8, Sparta	1 333	467	366	296	52	101	89	37	28	2.85	3.28	-	-	-
Township 9, Otter Creek	1 736	590	491	400	65	199	184	94	74	2.52	3.04	12	-	12
Macclesfield town	493	218	144	116	21	74	70	47	42	2.26	2.81	-	-	-
Township 10, Lower Town Creek	3 293	1 178	891	621	223	287	267	134	106	2.80	3.31	-	-	-
Pinetops town	1 514	566	409	265	125	157	152	85	65	2.67	3.27	-	-	-
Township 11, Walnut Creek	1 597	557	442	346	73	115	94	19	15	2.87	3.23	-	-	-
Township 12, Rocky Mount	20 215	7 329	5 349	3 098	1 978	1 980	1 764	800	647	2.76	3.28	17	4	13
Rocky Mount city (pt.)	17 040	6 124	4 416	2 327	1 856	1 708	1 520	713	583	2.78	3.33	17	4	13
Township 13, Coker	1 471	496	409	336	59	87	73	23	14	2.97	3.31	-	-	-
Township 14, Upper Town Creek	1 171	446	344	298	33	102	86	29	24	2.63	3.02	-	-	-
Sharpsburg town (pt.)	70	25	21	17	2	4	3	-	-	2.80	3.10	-	-	-

22.

4/1/93 Supreme Finishing Site



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23.

Supreme Finishing Site 4/1/93

Pat Derosa and I -

Arrived site 950 Am - met with:

Mike Taylor - EPA

Chuck DuBois - Weston

Taylor says no one living in house at 3033 Ross since EPA became involved in 1990.

DuBois reviewed voluminous safety and work plan - very detailed.

Mike has aerial photos of area also.

① 3 sets of sampling - Nov 91 - presence of haz substances

② 9/92 identified areas 0-6", 6-12", 12-18" and per location

Cd, Cr, Pb main constituents

39ppm 400ppm 500ppm (Total Cr.)

Diane Williams 4/1/93

Ref. 9

Only heavy metals showed -
sampled for VOC, semi vol., inorg's

Got analytical data back

③ Prior sampling in 12/92
in "smell" - just metals
this time

Test pit - gravel

Gravelled to dirt floor in
lean-to addition. Now being
demolished for removal.

Track hammered through
floor to spot check - no
contamination found

Dec. 869 ppm Cr -
all samples are surface
soil - less than 2 feet -

No buried drums found.

Haz cat - categorized -
then stored into 55 yellow

Steve Willis 4/1/93

P. 2

drums.

Reviewed Mike records,
photos, aerial photos.

Vats, drums etc. in photos.

Haven't found any pipes from
trap in building to exterior.

Pipe may have gone to
anterior but it's no longer
there - may have been removed.

Went through floor & found
no contam. Sample #39-44 under
vat. Mike expected was drains.
No significant analytical results -
sampled adjacent to the sump.

Hoped sampling points in
"dry creek bed" behind site ("Hot Spots").

Neighbors reported building to
County - origin of all this.

Ronald Thacker mid-60's - plating
until mid '70s. Thacker lives in
Rosemont - brother lives near
site. He sold to Holloways.
They leased to Al Sharkis of
Dynamic Industries for a
plating operation 1986-1988?

Steve Willis 4/1/93

An order was never sent to the Holloways because of bankruptcy. Holloways unresponsive. Refused clean up.

Will be coming back in 2-3 weeks to finish removal. Stockpiling now.

Confirmation sample will be taken to be sure met action levels required.

Note that behind house ~12' back of house — apparently a trap — 12 more feet toward a "man hole" — round metal cover. Could this be a "clean out" for city sewer. Later found "trap" to be just a hole filled with water.

Part of lean-to had already been removed — this will be completed as part of this phase of removal.

Supreme Foundry actually fronts on Fountain but used 30 33 Rose.

Mike had located a "line" Gas line + "gas man" came while we were there. This may delay the project.

Gene Williams 4/1/93

p.4

Invert now everything flowed to center.

Agnes Crutchfield line, went down on Rose — city water but septic tank.

Mike reported lot of break-ins in area recently.

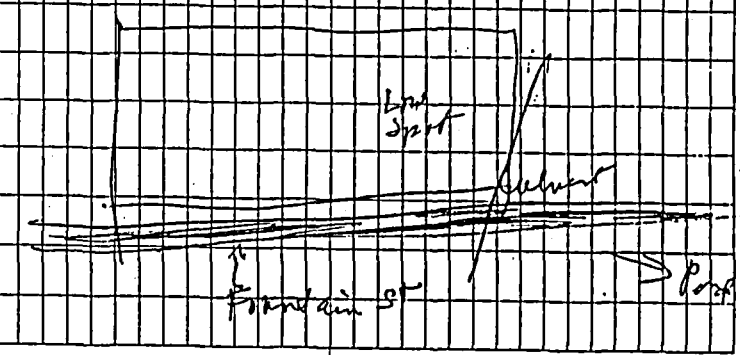
Drainage along west of bldg spring north, flows back of bldg to a *

Spring near Fountain Street

Test pit dry in NW corner.

* Drainage: low area behind building — see photo.

At rear of property culvert goes under Fountain. If overflow from wet weather drainage might go via this to other property or to pond. (It is fished.)



Gene Williams 4/1/93

Mike pointed out sampling areas.
He indicated instruments probably
stayed on site.
Note: some vats were fiber glass,
some metal.
Building appears to have been
built in various stages. Concrete
floor varied from 8" to 3" thick.
No contam. found under it so main
building will not be torn down.

Reportedly ~ 100 gal. of waste washed
out of bay door of vat area.
Next door - Mr Dean.

Loading dock supposedly cut
into septic tank drain field.
drainage from house into
loading dock area. Weston may
a sump pump.

Brannen used 3033 address.

Note: Background soil sample about 20'
from telephone pole toward house.
Dave Williams 4/1/93

Chuck Dubois will send all
manuscripts as soon as
gets to Atlanta.

1200 Proceeded to Robinson
residence. Buried well in front 140'
depth. Haven't drunk directly
from well in years. Mrs Robinson (deceased)
had reportedly seen Thackeray
dumping. Still burns in
drinking water. Used for cooking &
bathing. At one time had
noticed odor - like rotten eggs -
but she was reassured - (House built
in 1958.) Thought odor might have come other source.
Pond used for fishing &
they (fishermen) eat the fish. People
also fish the smaller pond.
She discourages people from swimming.

Small pond overflows to large lake -
there that we overflows into another.
There used to be another pond from
the natural spring on the site
property. At one time years ago an

Dave Williams 4/1/93

dam was there - now there are large pine trees there.

Also met Mr. Robinson. He can't remember who drilled well in 1958.

2:00 pm Twin Lakes Park - City of Dunham - behind Robinson's house - water flows under road through culvert - another lake. Playground & picnic area. Apparently Lakeside sent into park & stops. (~25 miles)

Went down Princess Ann and scouted area for wells etc. Marked streets that just end now on water line map.

Returned to site and estimated houses within 200' of site. These are the Dean residence at 3047 Ross, the

Jane Williams 4/1/93

vacant Holloway house at 3033 Ross, the Crutchfield residence at 3031 Ross and a vacant house just West of 3031 Ross (3025).

We confirmed that Chuck DuBois will mail us reports, lab data, and sketches when he returns to Atlanta after this phase of the removal has been completed.

We explored the area further to note potential wells of concern on Chandler, Breedlove and Clayton. 10 houses were counted on Breedlove, 15 on Clayton and 1 on Holloway. 2 wells were noted on Chandler at 314 and 208.

Note that while at site Mike Taylor and I reviewed the "Proposed Actions" from his Action Memorandum of 8/6/92.

Jane Williams 4/1/93

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

Ref. 10

RECEIVED
FEB 01 1993
SUPERFUND SECTION

JAN 28 1993

Ms. Pat De Rosa
Superfund Section
P.O. Box 27687
Raleigh, NC 27611-7687

RE: Request for Site Information

Dear Ms. De Rosa:

The following documents are being sent to you, per Bill Steiner's request.

Should you have any questions or need any further assistance or information, please contact me, Tracy Palmer, at (404) 347-3931.

Sincerely yours,

Tracy Palmer
Emergency Response

Printed on Recycled Paper

RECEIVED
FEB 1 1993
RECEIVING SECTION

SUPREME FINISHING
3033 Ross Avenue
Durham, NC

Ref No. 05671
EPA Id NCD986188878

Removal Action: Michael Taylor, OSC
Started: 08/18/92
Completed: --------

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

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

RECEIVED
FEB 1 1993
RECORDS SECTION

YELLOW

ACTION-MEMORANDUM

DATE: AUG 0 6 1992

SUBJECT: Removal Authorization for the Supreme Finishing Site Durham, Durham County, North Carolina

FROM: Michael Taylor, On-Scene Coordinator
Emergency Response and Removal Branch

TO: Joseph R. Franzmathes, Director
Waste Management Division

I. PURPOSE

The purpose of this Action Memorandum is to request and document approval of the proposed removal action described herein for the Supreme Finishing Site, Durham, Durham County, North Carolina, hereafter referred to as the "Site".

II. SITE CONDITIONS AND BACKGROUND

The Site is an abandoned plating and painting facility located in a predominantly residential neighborhood adjacent a vacant house. The facility contains various drums, vats, and containers all of which contain hazardous substances as defined in Section 101 (14) of CERCLA, as amended, 42 U.S.C. $ 9601 (14). There are minimal site controls in place. The windows and doors have been secured with "NO TRESPASSING" signs mounted around the perimeter. The Site was referred to the Emergency Response and Removal Branch (ERRB) by the Waste Management Branch for North Carolina Department of Natural Resources (NCDNR).

A. Site Description

1. Removal Site Evaluation - On May 15, 1991, EPA Emergency Response and Removal Branch (ERRB) responded to a report from the Hazardous Waste Section for NCDNR, that an abandoned plating facility had a release of hydrogen cyanide gas and contained approximately 40 drums of cyanides, acids and salt wastes. EPA was informed that "conditions immediately dangerous to life

3/OSC Taylor	4WD/Chief RMS Steiner	4WD/Chief ERRB LAIR	4WD/Assoc. Director WMD Superfund GREEN
7-30-92	7-30	7-31	8/3/92

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and health (IDLH) existed at the Site". The State hired Four Seasons Industrial Services to overpack and remove nine hazardous waste containers which were sent to Laidlaw Environmental Services in Reidsville, North Carolina. The State claimed their funds were exhausted and could not continue to pursue Site activities. However, hazardous substances on-site continue to present an imminent and substantial endangerment to the public and the environment.

Upon arrival the responding On-Scene Coordinator (OSC), accompanied by the Technical Assistance Team (TAT), found an abandoned block frame building with a small metal storage shed directly behind the main structure. The building is in the middle of an established residential neighborhood. Directly adjacent the Site exists a wooded lot with a drainage ditch to carry runoff from the Site into a pond nearby. TAT conducted perimeter and interior air monitoring. The Hazardous Waste Branch from the State of North Carolina removed the cyanide drums prior to EPA arrival. Air monitoring revealed IDLH conditions no longer existed.

A preliminary assessment was conducted by EPA and discovered the presence of various quantities of hazardous and unknown chemicals. The facility consists of five specific work areas that contain 12 open vats, approximately 400 containers of paint and solvents as well as several small quantity containers labelled "flammable". In addition 85 drums with volumes of 30 and 55 gallons are stored throughout the building. Several drums contain flammable and corrosive substances. Numerous drums show signs of pressure and bulging around the lids. The facility includes a dry-kiln, spray booths for painting with a small metal shed located on the back section for storage of approximately 150 containers. The shed storage contains corrosive and flammable containers packed to capacity that are deteriorating and leaking. The main facility and shed are minimally secure.

There is documentation of soil contamination around the perimeter of the facility. Soil sampling and analysis detected elevated metal levels around a drainage area behind the building. This area is suspected to have been caused by a drainage pipe installed by the original owner/operator in 1966.

2. Physical Location - The Site is located at 3033 Ross Road in Durham, North Carolina. This facility is found eight miles southeast of downtown Durham and 12 miles north of Raleigh . Residential single-family homes are directly adjacent the Site. Approximately 20 residential homes with a substantial number of children are located within a one block area. Highway 98 is less than a mile from the Site. The CSX railroad track is three blocks due west in a light industrial setting. Two churches are located less than a mile northwest of the Site. Ross Road is a local schoolbus route for the area.

3. Site Characteristics - Durham county officials condemned the building prior to State and ERRB involvement. The Site consists of an abandoned plating facility that currently stores drums, vats and various containers of plating wastes. The Site poses a potential fire and explosion threat that would affect approximately three to five thousand people within a mile radius. A portion of the property has been placed for sale with a local realtor.

There have been claims that open dumping and releases into the environment took place around the perimeter of the facility during operations from a former owner and operator. Evidence indicates there are elevated metal levels within the soil adjacent the facility. A drainage ditch flows along one side of the facility into a local pond where livestock obtain water. Overflow from the pond flows into an adjacent drainage ditch away from the Site.

4. Release or threatened release into the environment of a hazardous substance or pollutant or contaminant - The following substances were found as a result of sampling containers and soil on-site. These samples were collected on November 19, 1991.

Hazardous Substance	Concentration	Location
Toluene	520,000 mg/l	Sample #1
Xylene	24000 mg/l	Drum
Ethyl Benzene	4800 mg/l	
Flashpoint F	< 140	
Barium (total)	140 mg/l	Sample #2
Chromium (total)	3700 mg/l	Vat
pH	1.34	
Cyanide	10 mg/kg	Sample #3
pH	9.92	Vat

Hazardous Substance	Concentration	Location
Cyanide	8.3 mg/kg	Sample #6
pH	14	Drum Shed
Cadmium	42,000 mg/l	Sample #7
Chromium	420 mg/l	Vat
Lead	140 mg/l	
pH	< 2.0	
Barium	440 mg/kg	Sample #8
Chromium	1500 mg/kg	Soil NW
Lead	130 mg/kg	Bldg.
Barium	130 mg/kg	Sample #9
Chromium	250 mg/kg	Soil NW
Cyanide	7.2 mg/kg	Corner

5. NPL Status - The Site is not listed on the NPL.

B. Other Actions to Date

1. Previous Actions - ERRB responded to a call from NCDNR on May 15, 1991 concerning a cyanide gas release and drums of cyanides, acids, and bases inside a facility within a residential neighborhood. The State of North Carolina was on-site and conducted a small removal of nine cyanide drums. EPA responded and performed a preliminary site investigation. The State of North Carolina continued to control the Site and attempted enforcement actions. The State notified the owner of the property with a "NOTICE OF VIOLATION" along with a "COMPLIANCE SCHEDULE" on May 31, 1991. A deadline for remediation by the owner was set for September 1, 1991. The deadline passed with no response from the owner.

In November of 1991 EPA ERRB conducted a site assessment and sampling analysis to determine all contaminants on-site. ERRB, accompanied by the State, obtained 11 samples from containers and soil at the Site.

The State continued control of the Site and enforcement actions through March of 1992. The Site was vandalized in April of 1992 allowing the threat of human contact as well as a fire and explosion threat. EPA secured the Site from local exposure and the immediate threat to the public. "Hazardous" indicators were placed

on-site to warn potential trespassers and vandals. The local law enforcement was notified and requested to patrol the Site.

Information Request letters and Notice of Liability were submitted to all Potentially Responsible Parties (PRP) in May of 1992.

2. Current Actions - Currently the Site is being monitored by EPA. Information requests from the PRPs are being reviewed by EPA. EPA's Office of Regional Counsel (ORC) is obtaining access to the property.

C. State and Local Authorities' Role

1. State and Local Actions to Date - The State of North Carolina controlled the Site from initial response in May of 1991 until March of 1992. No legal action has been undertaken by the State or local authorities.

2. Potential for Continued State/Local Response - It is unlikely that any State or other political subdivision will undertake any response activity on this Site in the future due to the lack of available funding.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

A. Threats to Public Health or Welfare

The Site contains various substances and containers posing a direct human contact threat as well as a fire and explosion threat to the public and environment.

The Agency for Toxic Substances and Disease Registry (ATSDR) has been consulted concerning local health risks from the Site. In consideration of the fire and explosion threat from hazardous substances and wastes on-site, as well as its proximity to the local population, ATSDR views the Site as a health threat to the neighborhood and recommends a removal action.

The facility contains open vats of acids, strong oxidizers and wastes. The vats are badly deteriorated with indications of seepage from piping. In addition, there is documentation of open drums and containers which have released their contents onto the facility floor. There have been pH readings taken from the facility floor that reveals a pH level of less than 2 units.

Flammable and/or corrosive labels are found on 50 percent of the containers in the main facility and storage shed.

An air release from a fire and/or explosion from the Site would cause harmful vapors and gases to immediately affect the nearby population.

There are residents located within 100 feet of the Site. This facility operated in the middle of a predominately residential neighborhood. Duke University Hospital is located within four miles and the Raleigh-Durham Airport is located within eight miles of the Site. A public school is located within one mile, as well as three churches and a small shopping area is in the vicinity. Approximately three to five thousand people would be affected within a mile radius if a fire and/or explosion were to occur.

The Site was subjected to vandalism in April of 1992. This presents a continued health threat to the public as long as there are hazardous substances and waste on-site. There have been threats of burning the Site on numerous occasions by anonymous telephone calls and letters. In addition, there are claims that drums may have been buried behind the facility.

B. Threats to the Environment

The potential for a fire and/or explosion at this Site presents a definite environmental threat through air releases of poisonous gases and vapors. In addition, a release of the hazardous substances would contaminate the surrounding soil as well as surface and groundwater.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, welfare or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

Removal of hazardous substances and off-site RCRA disposal is the only feasible solution for mitigating threats posed by the situation. Site stabilization without disposal would provide only a temporary solution for the Site.

A. Proposed Actions

1. Proposed Action Description - The following actions are proposed for this Site:

✓(a) Contain hazardous liquids from the vats.
✓(b) Overpack all leaking containers (drums, cans, canisters).
✓(c) Segregate and stage all containers on-site.
✓(d) Conduct compatibility tests and develop appropriate waste groups for disposal.
✓(e) Conduct and obtain soil samples to determine extent of soil contamination around the Site.
✓(f) Perform core sampling of the facility to determine soil contamination. (<2')
✓(g) Determine if there are buried drums on the property. (Dig into area where reported - found none)
(h) Excavate contaminated soil and perform confirmation sampling.
(i) Arrange for disposal of all hazardous waste to a permitted waste facility.

do prior

Confirmation of soil contamination beneath the facility floor may be required. There exists the strong possibility of contamination beneath the concrete and gravel flooring since the facility started operations in 1966. Future sampling and analysis may warrant demolition of the facility. The extent of contamination may increase the ceiling costs for the Site in the future.

2. Contribution to Remedial Performance - This removal action will abate the immediate threats identified in the preceding sections of this Action Memorandum. No further actions are foreseen after removal is complete.

3. Description of Alternative Technologies - Alternative technologies will be considered once the extent of Site contaminants and waste are known.

4. Applicable or Relevant and Appropriate Requirements (ARARs) - The Federal ARARs determined to be appropriate for the Site are the Resource Conservation Recovery Act (RCRA), and the Toxic Substance Control Act (TSCA). Off-site disposal will be conducted in accordance with EPA's Off-Site Disposal Policy as referenced in 53 FR 48218-48234 dated November 29, 1988.

5. Project Schedule - Response action at this Site will be initiated upon approval of this Action Memorandum. Foregoing any unexpected delays, all actions are expected to be completed within six months.

B. Estimated Costs

Extramural Costs:

Regional Allowance Costs:(ERCS)	$347,350
(15% contingency)	52,103
Subtotal	399,453
Other Extramural Costs Not Funded From the Regional Allowance	
Total TAT, including multiplier costs	$ 36,500
Subtotal, Extramural Costs	$435,953
Extramural Costs Contingency (20%)	87,190
TOTAL, EXTRAMURAL COSTS	$523,143
Intramural Costs:	
Direct (400 hrs at $30/hr)	$ 12,000
Indirect (400 hrs at $54/hr)	$ 21,600
TOTAL, INTRAMURAL COSTS	$ 33,600
TOTAL, REMOVAL PROJECT CEILING	$556,743

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

If action is delayed there is an increased risk of a release to the environment, and an increased risk of fire/explosion, posing a danger to the public health and welfare.

VII. OUTSTANDING POLICY ISSUES

An issue at hand pertains to the State of North Carolina and its off-site disposal situation. The State of North Carolina failed to site its incinerator within the State, which was a requirement of the Southeastern Waste Compact. In reaction to this, some states have attempted to restrict shipment of RCRA and CERCLA wastes from North Carolina. EPA will be considerate of this issue during cleanup and disposal activities.

VIII. ENFORCEMENT

"Enforcement Sensitive"

IX. RECOMMENDATION

This decision document represents the selected removal action for the Supreme Finishing Site, in Durham, Durham County, North Carolina, developed in accordance with CERCLA as amended and not inconsistent with the NCP. This decision is based on the administrative record for the Site. Conditions at the Site meet the NCP section 300.415 (b)(2) criteria for a removal and I recommend your approval of the proposed removal actions. The total project ceiling, if approved, will be $556,743. Of this, an estimated $347,350 comes from the Regional removal allowance.

Approval:_____ Date:_____

Disapproval:_____ Date:_____

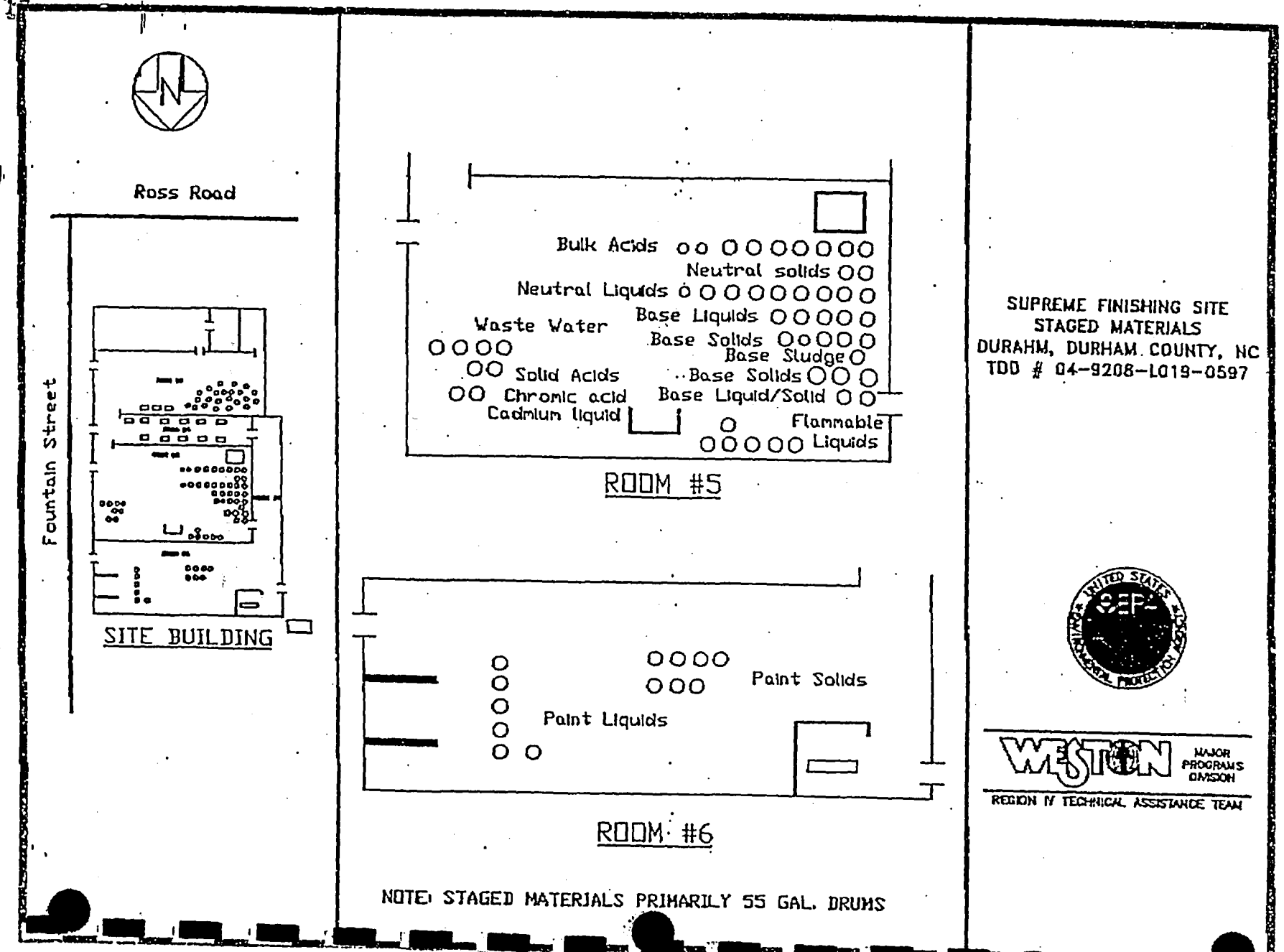
"Enforcement Sensitive"

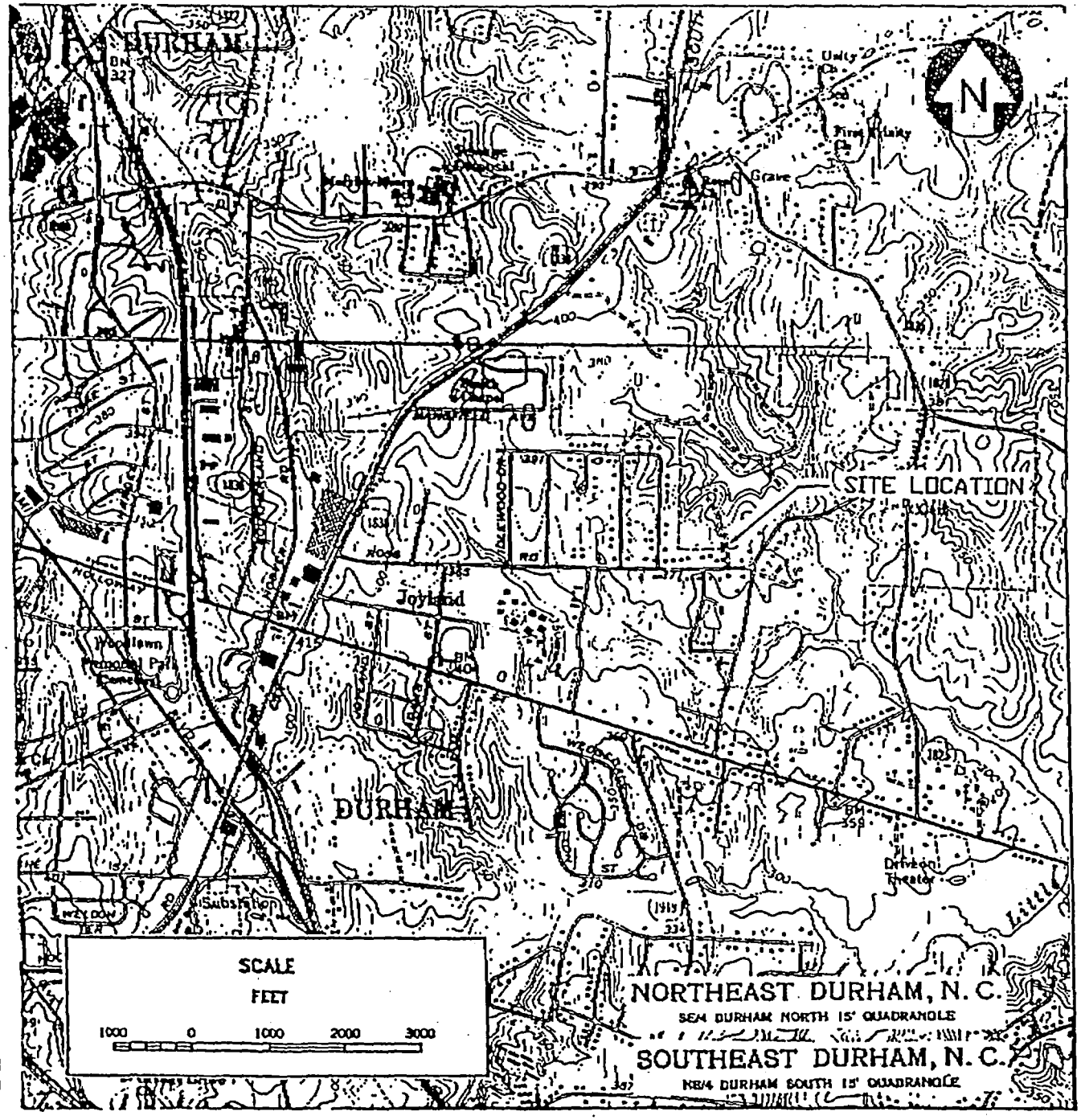
The State of North Carolina Hazardous Waste Section notified EPA ERRB in response to a cyanide gas release from an abandoned facility containing additional drums of hazardous substances on May 15, 1991. EPA responded to provide assistance to the State. The State of North Carolina issued a Notice of Violation along with a Compliance Schedule to the landowner (PRP) on May 31, 1991. The deadline set by the State for response was September of 1991. The deadline passed and with no response from the PRP.

There are three identified PRPs, Gerald Thacker, Elry and Peggy Holloway, and Al Shakir of Dynamic Industries. Gerald Thacker was the original owner and operator of the Site. Mr. Thacker operated a painting and plating facility from 1966 until it was liquidated in 1978. He then sold the property along with the business and all contents to Elry and Peggy Holloway in May of 1979. Mr. Thacker claims no responsibility to this Site and has refused to participate in removal actions. The Holloways continued operations until June of 1987. The business was then leased to Dynamic Industries for spray painting and parts stripping purposes from June of 1987 until August of 1990. The Site has been vacant and abandoned since Dynamic Industries left the premises. Elery and Peggy Holloway filed Chapter 11 bankruptcy in June of 1991. The Holloways claim they are not financially capable of addressing the Site and offer little concern over the threats this Site poses. The Holloways have refused to respond to Information Requests from EPA. They have refused to assume any responsibility for addressing the Site. There have been comments to EPA from Peggy Holloway stating she wishes the State or EPA would tear down the building. Al Shakir has filed Chapter 13 personal bankruptcy in November of 1991. Upon reviewing the financial statement submitted by Dynamic Industries it reveals the company is financially unable to conduct a removal at this time.

Site was vandalized in April of 1992. All windows and doors were broken allowing the threat of human contact and greater threat of a fire and/or explosion to occur. Several of the Site containers were reported moved and thrown around on-site. EPA secured the facility after the landowner refused to address the problems because they were financially unable to respond. Since this event occurred there have been several threats, verbal and written, stating the facility would be torched. In addition, anonymous phone calls have been made to officials with the Hazardous Waste Branch of the State of North Carolina stating the Site will be torched and burned. EPA received an anonymous letter in June of 1992 stating a PRP offered $1,000 to have the Site burned. The local Durham County Arson Section as well as the Federal Bureau of Investigations (FBI) was notified of these threats.

p.11
RECEIVED
FEB 1 1993
REPORTING SECTION





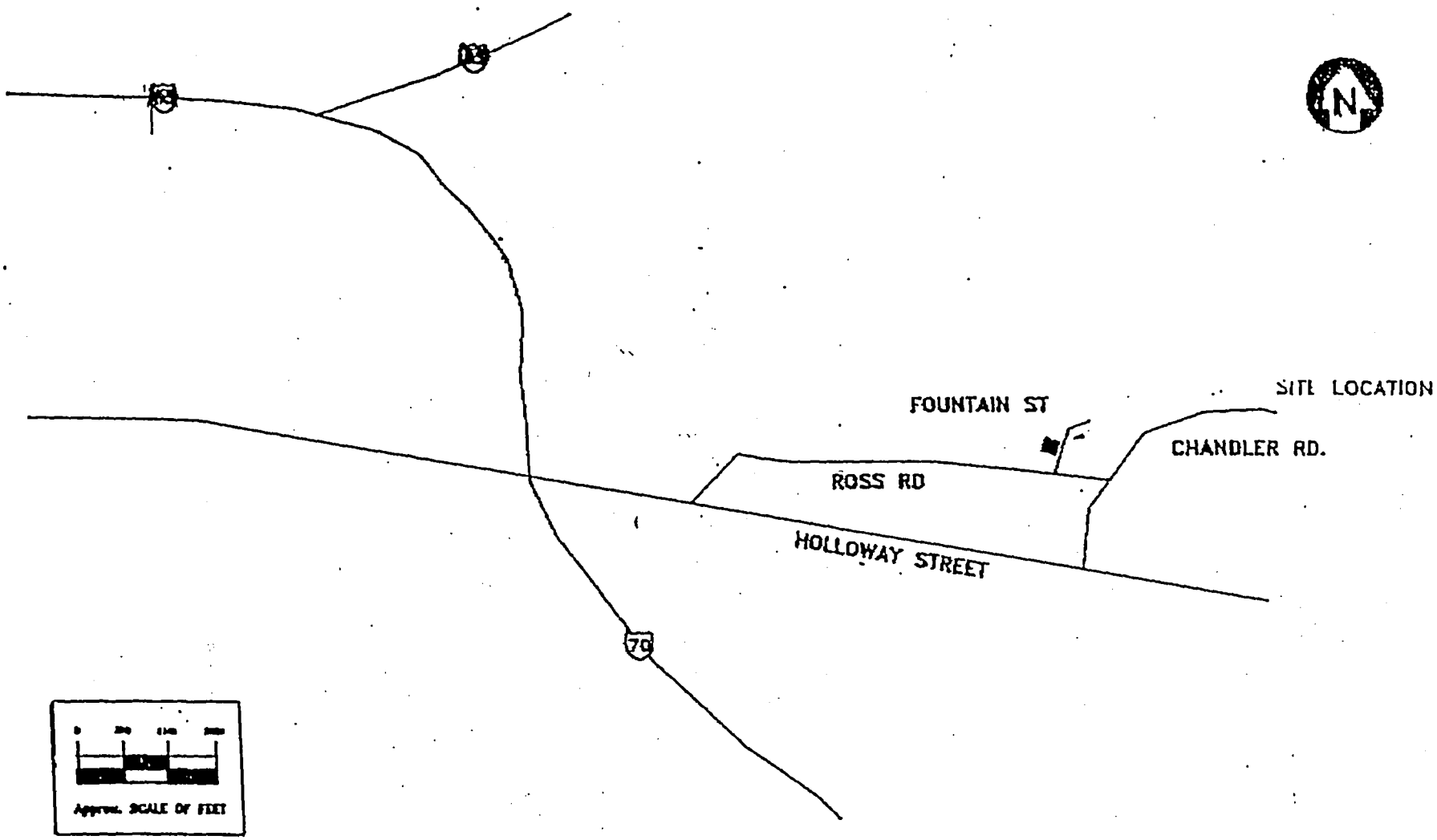
SUPREME FINISHING SITE
DURHAM, DURHAM COUNTY, NC
TDD #04-9208-L019-0597
SITE TOPOGRAHY MAP

WESTON MAJOR PROGRAMS DIVISION

REGION IV TECHNICAL ASSISTANCE TEAM

Dec 04 '92 11:22 No.005 P.02

p.13



SUPREME FINISHING SITE
SITE AREA MAP
DURHAM, DURHAM COUNTY, NC
TDD #04-9208-L019-0597

WESTON MAJOR PROGRAMS DIVISION
REGION IV TECHNICAL ASSISTANCE TEAM

Ref. 11

April 5, 1993

TO: File

FROM: Irene Williams, Environmental Chemist Irene Williams
N.C. Superfund Section

RE: Supreme Finishing Site (NCD 986 188 878)
PA Reconnaissance, April 1, 1993

On April 1, 1993, Ms. Pat DeRosa and I performed a Preliminary Assessment reconnaissance at the Supreme Finishing Site. This is an abandoned plating and painting facility located behind a vacant house at 3033 Ross Road, actually fronting on Fountain Street, in Durham, NC. The site has been the object of an emergency removal action by DEM. A later removal action was initiated by EPA under the direction of Mr. Michael Taylor, Environmental Scientist and On-Scene Coordinator.

Mr. Taylor, Mr. Chuck DuBois, Environmental Scientist of Roy F. Weston, Inc., and others were at the site continuing work there, excavating and stockpiling contaminated soils and demolishing a lean-to portion of the building when we arrived at the site. Taylor and DuBois escorted us around the site and explained in detail what actions had already been taken and the plans for completing the removal. Mr. DuBois will mail us copies of reports, analytical data, and drawings for our files. They also showed us aerial and other photos of the area made prior to EPA removal actions.

Soil samples have been taken at several points on the site property including a background sample from an area that was not suspected to be contaminated. Even samples of soil under the floor were collected by jack-hammering through concrete. The floor ranged in thickness from about 3" to 8". When soil removal is completed, more soil samples will be taken in order to confirm that EPA action levels have been achieved. No samples were taken off-site. Surface soil samples were taken at 3 depth levels: 0-6", 6-12", and 12-18." According to Taylor, elevated levels of cadmium, lead, and total chromium are the contaminants of concern. The highest results were obtained for soil sampled in a low-lying area behind the building.

While we were there, it was discovered that an area believed to be a septic tank actually had a metal man-hole cover that had been overgrown. This may be over a clean-out trap of some sort. Between that spot and the vacant house was a hole that at first appeared to be a trap of some kind.

It was evident that surface water runoff followed a drainage route along the west side of the building, in a northerly direction, then flowed behind the building to a low area. At the rear of the property a culvert passes under Fountain Street (unpaved) to other property. It appeared that any runoff that passed through this culvert would flow to a pond on the property across Fountain Street. Taylor reported that no sampling was taken off-site and that the analytical data and topography suggested that the contamination did not migrate from the site.

We proceeded to the Robinson residence at C-48 Canton St. (veers off Fountain) and talked with Ms. Linda Robinson and her father Mr. Clyde Robinson. They have an underground well that was drilled in 1958 which Mr. Robinson estimated to be 140 feet deep. He said he could not remember who drilled the well. At their request, the well water was tested in 1991 and found to be safe for drinking, but they still prefer to drink bottled water. They use the well water for cooking, bathing, etc. Ms. Robinson showed us a pond and which overflows into the lake that is behind the house. She also indicated the former location of another pond in a low area which now has a good stand of large pine trees. This low spot is likely to receive runoff from the culvert that crosses Fountain Street from the site. Drainage would then feed into the lake behind the Robinson residence.

We explored the surrounding area including Twin Lakes Park, a City of Durham recreational area located on Lakeside Drive across the lake from the Robinson residence mentioned above. We also scouted other streets in the area counting houses that are not on city water and marking on our water lines map the streets that are incomplete.

We returned to the site to confirm with Taylor and DuBois that more information will be mailed to us soon. We also reviewed the "Proposed Actions" for the removal that Taylor had designated in his Action Memorandum of August 6, 1992.

Ref. 12

September 16, 1993

TO: File

FROM: Irene Williams, Environmental Chemist Irene Williams
N.C. Superfund Section

RE: Supreme Finishing (NCD 986 188 878)
Investigation of deeds and property listing

Materials provided by Michael Taylor, USEPA On Site Coordinator for removal activities at the subject site included copies of deeds of trust and property listings for the lot on which the facility is located as well as the lot on which the residence at 3033 Ross Road, Durham, is located. See attachments.

913

FILED
BOOK 1060 PAGE 913-915
MAY 11 2 27 PM '83
RUTH G. LARRETT
REGISTER OF DEEDS
DURHAM COUNTY, NC

Recording: Time, Book and Page

SATISFACTION: The debt secured by the within Deed of Trust together with the note(s) secured thereby has been satisfied in full.

This the ..... day of ..... 19.....

Signed: .....

.....

.....

Tax Lot No. ..... Parcel Identifier No. .....

Verified by ..... County on the ..... day of ..... 19.....

by .....

Mail after recording to James Reinhardt P.O. Box 576 Durham, NC

This instrument was prepared by .....

Brief description for the Index

NORTH CAROLINA DEED OF TRUST

THIS DEED of TRUST made this day of , 19 , by and between:

GRANTOR	TRUSTEE	BENEFICIARY
ELRY HOLLOWAY AND WIFE, PEGGY S. HOLLOWAY	JAMES A. COLE, JR.	HENRY GERALD THACKER

Enter in appropriate block for each party: name, address, and, if appropriate, character of entity, e.g. corporation or partnership.

The designation Grantor, Trustee, and Beneficiary as used herein shall include said parties, their heirs, successors, and assigns, and shall include singular, plural, masculine, feminine or neuter as required by context.

WITNESSETH, That whereas the Grantor is indebted to the Beneficiary in the principal sum of SEVENTY NINE THOUSAND AND NO/100 Dollars ($79,000.00), as evidenced by a promissory note of even date herewith, the terms of which are incorporated herein by reference. The final due date for payment of said promissory note, if not sooner paid, is June 10, 1982

NOW, THEREFORE, as security for said debt and a valuable consideration, receipt of which is hereby acknowledged, the Grantor has bargained, sold, given, granted and conveyed and does by these presents bargain, sell, give, grant and convey to said Trustee, his heirs, or successors, and assigns, the parcel(s) of land situated in the City of Durham Oak Grove and City Outside Township, Durham County, North Carolina, and more particularly described as follows:

SEE EXHIBIT A ATTACHED HERETO.

N.C. Bar Assoc. Form No. 5 © 1976, Revised 1977.

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TO HAVE AND TO HOLD said real property with all privileges and appurtenances thereunto belonging, to the said Trustee, his heirs, successors and assigns forever, upon the trusts, terms and conditions, and for the uses hereinafter set forth.

If the Grantor shall pay the Note secured hereby in accordance with its terms, together with interest thereon, and any renewals or extensions thereof in whole or in part, and shall comply with all of the covenants, terms, and conditions of this deed of trust, then this conveyance shall be null and void and may be cancelled of record at the request of the Grantor. If, however, there shall be any default in any of the covenants, terms, or conditions of the note secured hereby, or any failure or neglect to comply with the covenants, terms, or conditions contained in this deed of trust, then and in any of such events, if the default is not made good within fifteen (15) days, the note shall, at the option of the Beneficiary, at once become due and payable without notice, and it shall be lawful for and the duty of the Trustee, upon request of the Beneficiary, to sell the land herein conveyed at public auction for cash, after having first given such notice of hearing as to commencement of foreclosure proceedings and obtained such findings or leave of court as may be then required by law and giving such notice and advertising the time and place of such sale in such manner as may be then provided by law, and upon such and any resales and upon compliance with the then law relating to foreclosure proceedings to convey title to the purchaser in fee simple.

The proceeds of the sale shall after the Trustee retains his commission be applied to the costs of sale, the amount due on the note hereby secured and otherwise as required by the then existing law relating to foreclosures. The Trustee's commission shall be five per cent of the gross proceeds of the sale or the minimum sum of $ 500.00, whichever is greater, for a completed foreclosure. In the event foreclosure is commenced, but not completed, the Grantor shall pay all expenses incurred by Trustee and a partial commission computed on five per cent of the outstanding indebtedness or the above stated minimum sum, whichever is greater, in accordance with the following schedule, to wit: one-fourth thereof before the Trustee issues a notice of hearing on the right to foreclose; one-half thereof after issuance of said notice; three-fourths thereof after such hearing; and the greater of the full commission or minimum after the initial sale.

And the said Grantor does hereby covenant and agree with the Trustee as follows:

1. INSURANCE. Grantor shall keep all improvements on said land, now or hereafter erected, constantly insured for the benefit of the Beneficiary against loss by fire, windstorm and such other casualties and contingencies, in such manner and in such companies and for such amounts, not exceeding that amount necessary to pay the sum secured by this deed of trust, and as may be satisfactory to the Beneficiary. Grantor shall purchase such insurance, pay all premiums therefor, and shall deliver to Beneficiary such policies along with evidence of premium payment as long as the note secured hereby remains unpaid. If Grantor fails to purchase such insurance, pay the premiums therefor or deliver said policies along with evidence of payment of premiums thereon, then Beneficiary, at his option, may purchase such insurance. Such amounts paid by Beneficiary shall be added to the Note secured by this Deed of Trust, and shall be due and payable upon demand by Grantor to Beneficiary.

2. TAXES, ASSESSMENTS, CHARGES. Grantor shall pay all taxes, assessments and charges as may be lawfully levied against said premises within thirty (30) days after the same shall become due. In the event that Grantor fails to so pay all taxes, assessments and charges as herein required, then Beneficiary, at his option, may pay the same and the amounts so paid shall be added to the Note secured by this Deed of Trust, and shall be due and payable upon demand by Grantor to Beneficiary.

3. PARTIAL RELEASE. Grantor shall not be entitled to the partial release of any of the above described property unless a specific provision providing therefor is included in this Deed of Trust. In the event a partial release provision is included in this Deed of Trust, Grantor must strictly comply with the terms thereof. Notwithstanding anything herein contained, Grantor shall not be entitled to any release of property unless Grantor is not in default and is in full compliance with all of the terms and provisions of the Note, this Deed of Trust, and any other instrument that may be securing said Note.

4. WASTE. The Grantor covenants that he will keep the premises herein conveyed in as good order, repair and condition as they are now, reasonable wear and tear excepted, and that he will not commit or permit any waste.

5. WARRANTIES. Grantor covenants with Trustee and Beneficiary that he is seized of the premises in fee simple, has the right to convey the same in fee simple, that title is marketable and free and clear of all encumbrances, and that he will warrant and defend the title against the lawful claims of all persons whomsoever, except for the exceptions hereinafter stated. Title to the property hereinabove described is subject to the following exceptions:

6. SUBSTITUTION OF TRUSTEE. Grantor and Trustee covenant and agree to and with Beneficiary that in case the said Trustee, or any successor trustee, shall die, become incapable of acting, renounce his trust, or for other similar or dissimilar reason become unacceptable to the holder of the Note, then the holder of the Note may appoint, in writing, a trustee to take the place of the Trustee; and upon the probate and registration of the same, the trustee thus appointed shall succeed to all the rights, powers, and duties of the Trustee.

7. CIVIL ACTION. In the event that the Trustee is named as a party to any civil action as trustee in this Deed of Trust, the Trustee shall be entitled to employ an attorney at law, including himself if he is a licensed attorney, to represent him in said action and the reasonable attorney's fees of the Trustee in such action shall be paid by Beneficiary and charged to the Note and secured by this Deed of Trust.

8. PRIOR LIENS. Default under the terms of any instrument secured by a lien to which this deed of trust is subordinate shall constitute default hereunder.

IN WITNESS WHEREOF, the Grantor has hereunto set his hand and seal, or if corporate, has caused this instrument to be signed in its corporate name by its duly authorized officers and its seal to be hereunto affixed by authority of its Board of Directors, the day and year first above written.

(Corporate Name)

By: _____

_____ President

ATTEST:

_____ Secretary (Corporate Seal)

USE BLACK INK ONLY

Elry Holloway (SEAL)
ELRY HOLLOWAY

Peggy S. Holloway (SEAL)
PEGGY S. HOLLOWAY

_____ (SEAL)

_____ (SEAL)

SEAL-STAMP

NORTH CAROLINA, Durham County.

I, a Notary Public of the County and State aforesaid, certify that ELRY HOLLOWAY AND PEGGY S. HOLLOWAY (Grantors) personally appeared before me this day and acknowledged the execution of the foregoing instrument. Witness my hand and official stamp or seal, this 11th day of May, 1979.

My commission expires: 11-18-81 Carol H. Lowrey, Notary Public

Use Black Ink

SEAL-STAMP

NORTH CAROLINA, _____ County.

I, a Notary Public of the County and State aforesaid, certify that _____ personally came before me this day and acknowledged that _____ he is _____ Secretary of _____ a North Carolina corporation, and that by authority duly given and as the act of the corporation, the foregoing instrument was signed in its name by its _____ President, sealed with its corporate seal and attested by _____ as its _____ Secretary.

Witness my hand and official stamp or seal, this _____ day of _____, 19____.

My commission expires: _____ _____ Notary Public

Use Black Ink

Durham Co NC

The foregoing Certificate(s) of Carol H. Lowrey Np of Durham Co NC

is/are certified to be correct. This instrument and this certificate are duly registered at the date and time and in the Book and Page shown on the first page hereof.

Ruth C. Garrett MAY 11 1979 REGISTER OF DEEDS FOR Durham COUNTY

By: Jackie D. Brown Deputy/Assistant Register of Deeds.

N.C. Bar Assoc. Form No. 5 © 1976, Revised 1977.

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NORTH CAROLINA — DURHAM COUNTY

This deed drawn by STUBBS, COLE, BREEDLOVE & PRENTIS Attorney at Law

THIS DEED, made this 8th day of May 19 79 by

Henry Gerald Thacker and wife, Gwendolyn B. Thacker
Elry Holloway and wife, Peggy S. Holloway

to

Grantors

Grantees:

WITNESSETH: That the Grantors, in consideration of Ten Dollars and other valuable considerations to them paid by the Grantees, the receipt of which is hereby acknowledged, have bargained and sold, and by these presents do grant, bargain, sell and convey unto the Grantees, their heirs or successors and assigns,

the parcel(s) of land in Durham County, North Carolina in City Outside township, more particularly described as follows:

BEGINNING at a stake located at the northwestern intersection of Ross Road and Fountain Street and running thence from said beginning point along and with the northern side of Ross Road North 87° 45' West 75 feet to a stake in the line of Agnes Turner Crutchfield; thence along and with said Crutchfield line North 2° 15' East 150 feet to a stake, a corner of Lot No. 15 as shown on the plat hereinafter referred to; and running thence along and with the southern line of said Lot No. 15 South 87° 45' East 75 feet to a stake in the western side of Fountain Street; thence along and with the western side of said Fountain Street South 2° 15' West 150 feet to a stake, the point and place of BEGINNING, containing 11,250 square feet, more or less, and being all of Lot No. 13 as shown on that map entitled "Property of Henry Gerald Thacker" dated December 6, 1977 drawn by J. Watts Copley, Registered Land Surveyor, and being duly filed for record in Plat Book 93 at Page 90 in the Office of the Register of Deeds of Durham County, to which plat reference is hereby expressly made for a more particular description of same.

THIS CONVEYANCE IS NOT SUBJECT TO NORTH CAROLINA REAL ESTATE EXCISE TAX

Henry Gerald Thacker

This property was conveyed to Grantors by deed recorded in Deed Book 241 Page 497 Durham County Registry

TO HAVE AND TO HOLD the aforesaid parcel(s) of land and all privileges and appurtenances thereunto belonging to the said Grantees their heirs, or successors, and assigns forever.

And the said Grantors for themselves, their heirs, executors and administrators, covenant with the Grantees, their heirs or successors, and assigns that they are seized of said premises in fee and have the right to convey the same in fee simple, that the same are free from encumbrances except as set forth in this instrument; and that they will warrant and defend the title to the same against the claims of all persons whomsoever.

The plural number as used herein shall equally include the singular.

IN TESTIMONY WHEREOF, the said Grantors have hereunto set their hands and seals the day and year first above written.

NOTARIAL SEAL HERE

LINDA FRANCES LYON
NOTARY PUBLIC
DURHAM COUNTY, N.C.

Henry Gerald Thacker (SEAL)
Henry Gerald Thacker

Gwendolyn B. Thacker (SEAL)
Gwendolyn B. Thacker

(SEAL)

(SEAL)

NOTARIAL SEAL HERE

NORTH CAROLINA — DURHAM COUNTY

I, Linda Frances Lyon, a Notary Public, do hereby certify that Henry Gerald Thacker and wife, Gwendolyn B. Thacker, Grantors, each personally appeared before me this day and acknowledged the due execution of the foregoing deed.

Witness my hand and notarial seal, this 8th day of May 19 79

SIGNATURE OF NOTARY REQUIRED

Linda Frances Lyon, Notary Public

My commission expires March 25, 19 84

NORTH CAROLINA — DURHAM COUNTY

I, , a Notary Public, do certify that

personally appeared before me this day and being duly sworn stated, that in his presence

signed or acknowledged the execution of the foregoing deed of conveyance

Witness my hand and notarial seal, this day of , 19

SIGNATURE OF NOTARY REQUIRED

Notary Public

My commission expires , 19

FILED
BOOK 1000 PAGE 978
MAY 11 4 48 PM '79
RUTH C. GARRETT
REGISTER OF DEEDS
DURHAM COUNTY, NC

DO NOT USE THIS SPACE

STATE OF NORTH CAROLINA, COUNTY OF DURHAM

The foregoing certificate of Linda Frances Lyon, a Notary Public of Durham County, N. C., is certified to be correct.

This 11 day of May 19 79

Ruth C. GARRETT
REGISTER OF DEEDS

Jackie S. Brown - Dep.
Register of Deeds of Durham County

p-4

DEED OF TRUST

1 - 379

THIS DEED OF TRUST is made this 26th day of April, 19 79, among the Grantor, Elry Holloway and wife, Peggy S. Holloway (herein "Borrower"), Central Carolina Bank & Trust Company (herein "Trustee"), and the Beneficiary, Security Savings & Loan Association, Durham, N.C., a corporation organized and existing under the laws of North Carolina, whose address is P. O. Box 3849, Durham, N.C. 27702 (herein "Lender").

BORROWER, in consideration of the indebtedness herein recited and the trust herein created, irrevocably grants and conveys to Trustee and Trustee's successors and assigns, in trust, with power of sale, the following described property located in the County of Durham, State of North Carolina:

BEGINNING at an iron pipe at the point of intersection of the northern right of way of Ross Road and the western right of way of Fountain Street; running thence with the north right of way of Ross Road North 87° 45' West 75 feet to an iron pipe; thence North 2° 15' East 150 feet to an iron pipe; thence South 87° 45' East 75 feet to an iron pipe; thence South 2° 15' West 150 feet to the iron pipe at the point and place of BEGINNING and being all of Lot 13 of the property of Henry Gerald Thacker as per plat and survey thereof now on file in the office of the Register of Deeds of Durham County in Plat Book 93 at Page 90, to which plat reference is hereby made for a more particular description of same.

Sub. Tr.
Bk 1563
Pg 689
12-5-89
Sub. Tr.
Bk 1673
Pg 384
7-30-90

which has the address of 3033 Ross Road (Street), Durham (City),
North Carolina 27703 (herein "Property Address"); (State and Zip Code)

TO HAVE AND TO HOLD unto Trustee and Trustee's successors and assigns, forever, together with all the improvements now or hereafter erected on the property, and all easements, rights, appurtenances, rents (subject however to the rights and authorities given herein to Lender to collect and apply such rents), royalties, mineral, oil and gas rights and profits, water, water rights, and water stock, and all fixtures now or hereafter attached to the property, all of which, including replacements and additions thereto, shall be deemed to be and remain a part of the property covered by this Deed of Trust; and all of the foregoing, together with said property (or the leasehold estate if this Deed of Trust is on a leasehold) are herein referred to as the "Property";

TO SECURE to Lender (a) the repayment of the indebtedness evidenced by Borrower's note dated April 26, 1979 (herein "Note"), in the principal sum of Twenty-One Thousand Four Hundred and No/100 Dollars, with interest thereon, providing for monthly installments of principal and interest, with the balance of the indebtedness, if not sooner paid, due and payable on May 1, 1994; the payment of all other sums, with interest thereon, advanced in accordance herewith to protect the security of this Deed of Trust; and the performance of the covenants and agreements of Borrower herein contained; and (b) the repayment of any future advances, with interest thereon, made to Borrower by Lender pursuant to paragraph 21 hereof (herein "Future Advances").

Borrower covenants that Borrower is lawfully seised of the estate hereby conveyed and has the right to grant and convey the Property, that the property is unencumbered, and that Borrower will warrant and defend generally the title to the Property against all claims and demands, subject to any declarations, easements or restrictions listed in a schedule of exceptions to coverage in any title insurance policy insuring Lender's interest in the Property.

p. 5

RETURN TO: CITY OF DURHAM, REAL ESTATE DEPT.

BOOK 1664 PAGE 456

FILED
JUN 19 1991
U.S. Bankruptcy Court
Durham, NC

UNITED STATES BANKRUPTCY COURT
FOR THE MIDDLE DISTRICT OF NORTH CAROLINA

In re:	)	
	)	
Elry and Peggy S. Holloway,	)	Chapter 11 Case No.
	)	
Debtors.	)	89-13125C-11
	)	

ORDER AUTHORIZING TRANSFER OF PROPERTY BY DEED
IN LIEU OF CONDEMNATION

Upon motion of the debtors-in-possession and after appropriate notice and opportunity for hearing, this matter was brought on before the undersigned judge in open court on June 13, 1991. There were no objections to the motion and the Court having reviewed the motion and having heard statements of counsel in support of it, now hereby finds good cause to grant the motion.

IT IS HEREBY ORDERED that the debtors-in-possession are authorized to transfer to the City of Durham by deed in lieu of condemnation the real property identified in the Option Agreement attached to the Motion to Transfer.

IT IS FURTHER ORDERED pursuant to §363(f) of the Bankruptcy Code that any and all liens and interests upon the property being transferred shall fasten upon the sale proceeds and that the said real property shall be deeded to the City of Durham free and clear of all liens and interests.

This 19 day of June, 1991.

JERRY G. TART
United States Bankruptcy Judge

[Hold/Order Auth Sale]

A True Copy
Tested 7-1-91
William L. Stillwell, Clerk
U.S. Bankruptcy Court
By: Jacqueline H. Hayes
Deputy Clerk

FILED
BOOK 1664 PAGE 456-462
'91 JUL 1 PM 4 18
RUTH C. GARRETT
REGISTER OF DEEDS
DURHAM COUNTY, N.C.

IT IS DIRECTED THAT A COPY OF THIS ORDER BE MAILED ON THE PARTIES TO THIS ACTION BY
Douglas G. Wickham
AND A CERTIFICATE OF SERVICE BE FILED WITH THE COURT WITHIN 3 DAYS.

10682

17.00

p. 6

City of Durham. Conditions have been stated in the Agreement whose intent is to leave the Debtors-in-Possession with a liveable and marketable remainder after the taking by condemnation. The sum of Two Hundred and Ninety-Four Thousand Dollars ($294,000.00) is to be paid for all the Property.

7. The Debtors-in-Possession are credibly informed that the price to be received for said Property is a fair and reasonable price for the Property and that it would be to the benefit and best interest of the estate for the Debtors-in-Possession to permit the City of Durham to purchase the Property by condemnation under the terms of the Agreement attached hereto.

8. Village Bank and Planters Bank (now Centura Bank) hold first mortgage liens on portions of the Property, but the sale proceeds will represent a substantial reduction in each of their first mortgage liens. Debtors-in-Possession represent to the Court that, in each instance, the fair market value of Property remaining after condemnation subject to each lien far exceeds the amount of mortgage debt which will remain on each tract. Debtors-in-Possession therefore also move the Court pursuant to §363(f) of the Bankruptcy Code to transfer all liens and interests which may be on Property being taken by the City of Durham in the condemnation transfer from the Property of sale to the proceeds.

9. The holders of such liens could be compelled in a legal or equitable proceeding to accept a money satisfaction of their interest; and substantial net sale proceeds will, in each instance, be received by the lienholder as a result of this transfer of Property.

10. The Agreement calls for the sale to be closed on or before July 1, 1991. The matter is subject to approval by the Durham City Council and is to be placed on the City Council agenda at its regular meeting on June 17, 1991. As a condition of its Agreement, the City has required that the Debtors-in-Possession obtain Bankruptcy Court approval for this transfer of Property. Debtors-in-Possession, therefore, request that this Motion be calendared at the regular June 13, 1991, Court calendar to be heard in the Durham, North Carolina, Bankruptcy Court.

WHEREFORE, your Debtors-in-Possession pray this Court enter an Order approving transfer of the subject Property by condemnation to the City of Durham under the terms of the Agreement attached to this Motion and pray further for an Order that any and all liens and interests which may attach to the Property be transferred to the proceeds of its sale. Debtors-in-Possession pray further that the matter be heard in a timely manner on the June 13, 1991, Court calendar in Durham, North Carolina.

This 31st day of May, 1991.

Douglas Q. Wilkham
Attorney for Debtors-in-Possession
State Bar No.: 13991
Post Office Box 667
Raleigh, North Carolina 27602-0667
Telephone: (919) 821-8080

Date 7-1-91

E. Jacqueline A. Hays

(R.E. Mouse Trans Proc)

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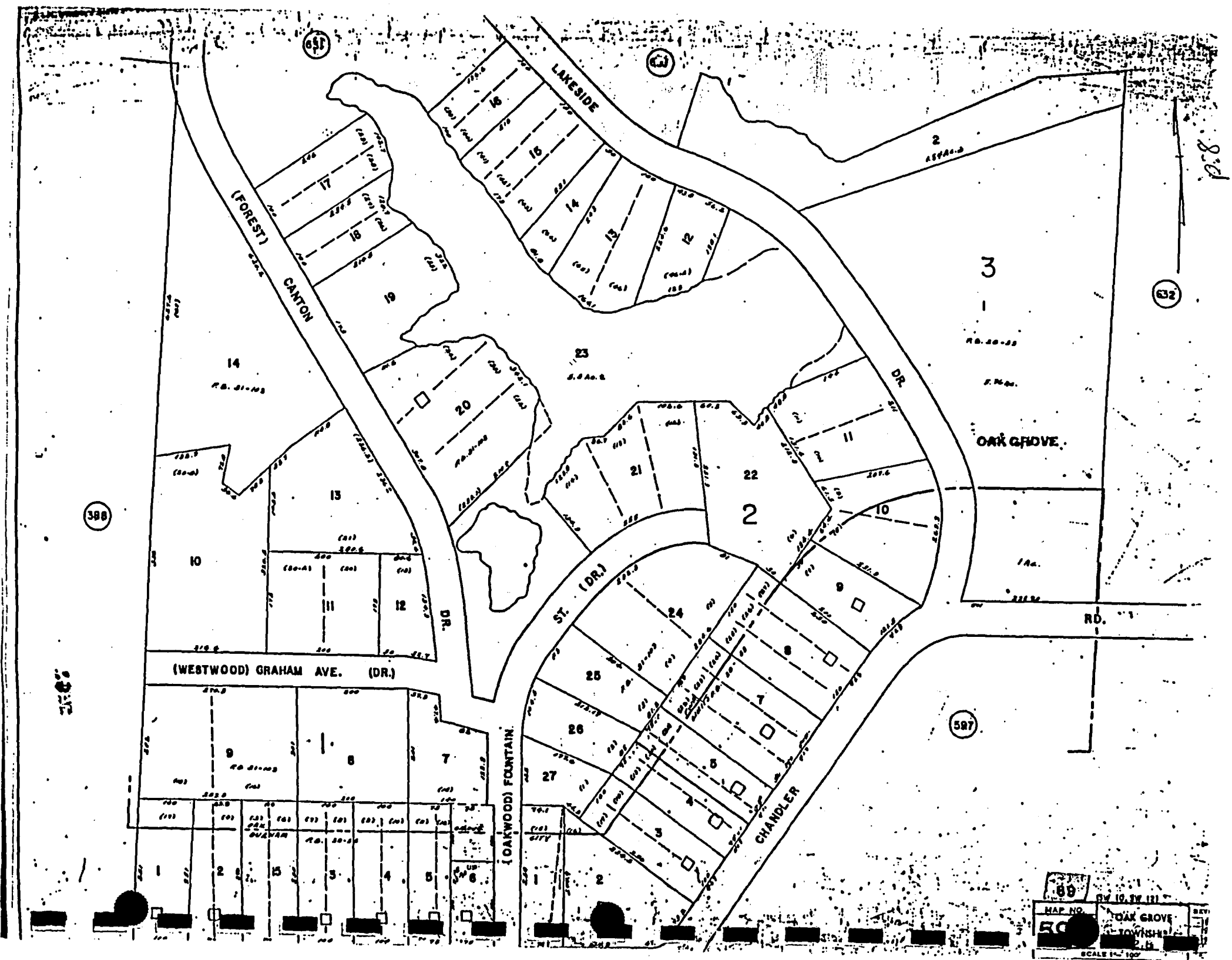
LAKESIDE
(FOREST) CANTON
DR.
(WESTWOOD) GRAHAM AVE. (DR.)
ST. (DR.)
(OAKWOOD) FOUNTAIN
CHANDLER
DR.
OAK GROVE
RD.
OAK GROVE
TOWNSHIP
MAP NO.
89
SCALE 1" = 100'

MAGNETIC NORTH

GRAHAM AVENUE

CANTON STREET

DRENT OVERTON
DB 221-56

20,977 SQ. FT.

CONTROL CORNER

CITY LIMITS

LEGEND

IRON STAKE

AGNES TURNER CRUTCHFIELD
DB 579-446

11,250 SQ. FT.

FOUNTAIN STREET

ROSS ROAD

CONTROL CORNER

CURVE DATA

REFERENCES:

J. WATTS COPLEY, LAND SURVEYOR
DURHAM, NORTH CAROLINA

PROPERTY OF

HENRY GERALD THACKER

OAK GROVE TOWNSHIP, DURHAM COUNTY, N.C.

SCALE: 1" = 60'

DATE:

DRAWN BY: W. S. W.

HOLLOWAY ELRY K09

DURHAM COUNTY

Office Hours 8:30-5:00 Monday-Friday Telephone 560-0300

REAL AND PERSONAL PROPERTY LISTING AS OF JANUARY 1 1991

ACCOUNT NO	TOWNSHIP	RECEIPT NO
3370380	02 CITY-OUT	

TO AVOID 10% LATE CHARGE THIS FORM MUST BE COMPLETED, SIGNED, AND RETURNED OR POSTMARKED NO LATER THAN JANUARY 31ST
TO COUNTY ASSESSOR
ROOM 208
DURHAM COUNTY JUDICIAL BUILDING
DURHAM, NC 27701

SEQ.	LOTS/ACRES	PROPERTY ID AND DESCRIPTION	CHECK REFERENCE ✓	VALUATION
	1.00 L	598 -01-006 - 3033 ROSS RD #13		36,060

MOTOR VEHICLES, CAMPERS & TRAILERS (UTIL./BOAT TRAILERS) MOBILE HOMES, BOATS & MOTORS, AIRPLANES, TRUCK CAMPERS & COVERS

ITEM TYPE	YEAR	MAKE	MODEL/STYLE	VEHICLE ID NUMBER	YEAR PURCHASED	COST

① LAST NAME FIRST MI

HOLLOWAY ELRY
② CO-OWNER & WIFE PEGGY S
ADDRESS BOX 238-A
ADDRESS RT 1
CITY, STATE ZIP BAHAMA NC 27503

TITLE IN THE NAME OF

EMPLOYER

DAYTIME PHONE

SIGNATURE DATE

① SOCIAL SEC NUMBER

① SPOUSE SOCIAL SECURITY NUMBER

AFFIRMATION OF PROPERTY OWNER - [illegible]

PLEASE BE SURE TO COMPLETE THE BACK

DO NOT FOLD #0146621#

SC F90-9266

p.10

[redacted]

OWNER	PROPERTY LOCATION	LEGAL
OLLOWAY, E. & WIFE PEGGY	0000 FOUNTAIN ST	SHOP OAKWOOD DR #15 THRU LAKES REV SEC

ACCOUNT NO	DEED BOOK	DEED PAGE	PLAT BOOK	PLAT PAGE	% OWNER	NBHD CODE	EXEMPT					
3370380	1000	912	93	90	1.00	G40B	TAXABLE		1	1	5/20/85	12 8/29/83

CONSTRUCTION DETAIL

OUNDAT-CONTINUOUS FOOTI*		
UB FLR-SLAB ON GRADE *		
XT WL1-CONCRETE BLOCK *		
XT WL2-CORRUGATED ASBES*		
F STR -WOOD TRUSS *		
F COVR-ASPHALT OR COMPO*		
NT WL1-MASONRY OR MINIM*		
NT FL1-CONCRETE FINISHE*		
T FUEL-GAS *		
T TYPE-FORCED AIR-DUCTE*		
C TYPE-NONE *		
ESTRMS- 1 *		
TOTAL POINTS *		79

CTR: SHAPE*QUAL*SIZE
AVG) 1.00*1.19= * 1.19
TOTAL QUALITY INDEX = 94

YP	GROSS	PCT	EFFEC	RPL C
AS	2,700	100	2,700	35,532
OF	360	150	540	7,103
ST	1,995	50	998	13,134

OT	5,055	3,060	55,772															

MARKET VALUE

USE	QUAL	EFF. AREA	QUAL INDEX	EFFECTIVE BASE RATE	REPL COST NEW	YOB	AYB	EYB	ADR				PCT COND
4104		4,238	94	13.16	55,772	58	58	530	00	00	00	00	4700

LIGHT MANUFACTURING

Corrugated Asbestos

DEPRECIATION

CONSTRUCTION	MARKET	
	26,210	
	8,000	
	34,210	
	34,210	
	34,210	

COMMERCIAL/CONDO
HT & AC NONE
STORIES 01
FIXTURES-0005
LOCATN
FRAME -MASONRY 11
C & INS-NO CEIL - NO INSU
WALL HT 10 FACTOR .96

1000	91205/72			79,000

```
                    +-----------93-----------+
                 +9-+                        I
                 8US1                        I
+12+-18-+--------72--------+                 I
I  IBAS                    I                 4
IAOF                       I                 1
3  3                       3                 I
0  0                       0                 I
I  1                       I                 I
+12+-----------90----------+--30---+
```

DURHAM COUNTY, NORTH CAROLINA

SUPREME FINISHING CO.
REMODELED IN 1967

DESCRIPTION	LENGTH	WIDTH	UNITS	UNIT PRICE							OBXF DEPR VALUE
24SHED	14	30	400	.	0001	000005				000	
24SHED	11	16	400	.	0001	000005				000	

TOTAL OB/XF VALUE

JANUARY FILES
JTG

BAS=W90AOF=W12S30E 12N30ES30E 90N30WL1=S30E 30N
41W93S3N95E72S.

BEST USE	USE CODE	LOCAL ZONING	FRONTAGE	DEPTH	DEPTH OR SIZE	LAND MOD	COND FACTOR	RF	TA	LF	TF	SF	TR	LAND UNIT PRICE	TOTAL LAND UNITS	UNIT TYPE	TOTAL ADJ	ADJUSTED UNIT PRICE	LAND VALUE	BLDG PARCEL VALUE
COMMERCIAL	1000	C 1	138	140	1000		100							8,00000	100	L	100	8,00000	8,000	12,980
																				4,880
																				17,860

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[redacted] LOC [redacted] 5033 RUSS [redacted] RD 5033 RUSS RD [redacted]

[redacted] WIFE [redacted]

ACCOUNT NO	DELD BOOK	DEED PAGE	PLAT BOOK	PLAT PAGE	% OWNER	NBHD CODE	EXEMPT							
3370380	1000	978	93	90	1.00	640B	TAXABLE			1		5/20/84	21	5/18/84

CONSTRUCTION DETAIL

```
FOUNDAT-CONTINUOUS FOUTI*
SUB FLR-WOOD            *
EXT WL1-COMMON BRICK    *  3
RF STR -GABLE           *
RF COVR-ASPHALT OR COMPO*  3
INT WL1-DRYWALL/SHEETROC*  27
INT FL1-CARPET          *  11
INT FL2-HARDWOOD        *
HT FUEL-ELECTRIC        *
HT TYPE-BASEBOARD HEAT  *  3
AC TYPE-NONE            *
BEDROOM-BAS 3           *  8
BATHS  -BAS 1           *
        TOTAL POINTS    *  92
FCTR: SHAPE*QUAL*SIZE
(AVG ) 1.00*1.00*1.15= * 1.15
   TOTAL QUALITY INDEX =  114
SHAPE  -RECTANGULAR DESI
```

TYP	GROSS	PCT	EFFEC	RPL. C
BAS	816	100	816	30,698
STP	40	10	4	150
FEP	112	70	78	2,934
FCP	552	25	138	5,192
TOT	1,520		228	38,974

MARKET VALUE

PICE	INCL	EFF AREA	QUAL INDEX	EFFECTIVE BASE RATE	REPL COST NEW
0	0	1,034	114	37.62	38,974

SINGLE FAMILY RESIDENTIAL 1.0 STORY

DEPRECIATION

EYB	AYB	% NRM				PCT COND
57	57	28	0	0	0	72

```
                    +--------30--------+
                    4FCP               I
+---------34--------+                 I
IBAS                1                  I
[                   1                  2
1                   0                  0
[                   +-8--+             I
2                   IFEP I             I
4                   I    6             I
I                   1    +-----22------+
I                   4    I
I                   I    8
I                   I    I
+--12--+-8-+--14---+-8--+
       5STP5
       +-8-+
```

DURHAM COUNTY, NORTH CAROLINA

CONSIDERATION VALUE

	MARKET
DEPRECIATED BUILDING VALUE	28,060
TOTAL DEPRECIATED VALUE	
TOTAL LAND VALUE	8,000
	36,060
TOTAL APPRAISED VALUE	36,060
TOTAL APPRAISED VALUE	36,060

SALES DATA

DEED RECORD	DATE				PRINCIPAL

NOTES

CODE	DESCRIPTION	LENGTH	WIDTH	UNITS	UNIT PRICE	% GOOD	YB	YAB	EYB	ADJ	%	FUNCTIONAL CONDITION	OB/XF DEPR VALUE
TOTAL OB/XF VALUE													

JANUARY FILES

ITG

BUILDING DIMENSIONS

BAS=W34S24F12S1P=S5E8N6N8#F22FFP=N14#CP=E8S8E
22N20W30S14#E8S14W8#N24#.

BEST USE	USE CODE	LOCAL ZONING	FRONTAGE	DEPTH	DEPTH OR SIZE	LAND IND	COND FACTOR	RF	TA	LF	TF	SF	TR	LAND UNIT PRICE	TOTAL LAND UNITS	UNIT TYPE	TOTAL ADJUST	ADJUSTED UNIT PRICE	LAND VALUE	PRO-RATED PARCEL VALUE
SFR	0100	R 20	75	150	100	00	100							8,00000	100	L	100	8,00000	8,000	16,230
																				3,380
																				19,610

P.12

NORTH CAROLINA — DURHAM COUNTY

This deed drawn by STUBBS, COLE, BREEDLOVE & PRENTIS Attorney at Law

THIS DEED, made this 8th day of May 1979 by

012

Henry Gerald Thacker and wife, Gwendolyn B. Thacker Grantors,
to
Elry Holloway and wife, Peggy S. Holloway

Grantees.

WITNESSETH: That the Grantors, in consideration of Ten Dollars and other valuable considerations to them paid by the Grantees, the receipt of which is hereby acknowledged, have bargained and sold, and by these presents do grant, bargain, sell and convey unto the Grantees, their heirs or successors and assigns,

The parcel(s) of land in Durham County, North Carolina in Oak Grove & City Outside Township, more particularly described as follows:

BEGINNING at a stake located on the western side of Fountain Street, said stake being also located at the northeastern corner of Lot No. 13 as shown on the plat hereinafter referred to; and running thence along and with the northern line of said Lot No. 13 North 87° 45' West 75 feet to a stake in the line of Agnes Turner Crutchfield; thence along and with said Crutchfield line North 2° 15' East 100 feet to a stake; thence North 87° 45' West 75 feet to a stake, a corner of Brent Overton; thence along and with said Overton line North 2° 15' East 201.00 feet to a stake in the southern side of Graham Avenue; thence along and with the southern side of Graham Avenue in an easterly direction along an arc having a radius of 163.70 feet, a distance of 57.90 feet to a stake at the southwestern intersection of said Graham Avenue with Canton Street; thence along and with the right of way of said Canton Street South 2° 52' 15" East 47.21 feet to a stake; thence continuing with the right of way line of said Canton Street South 73°10' 42" East 81.71 feet to a stake at the southwestern intersection of said Canton Street with Fountain Street; thence along and with the western side of said Fountain Street South 2° 15' West 123.30 feet to a stake; thence continuing with the right of way line of said Fountain Street South 87° 45' East 10.00 feet to a stake marked control corner as shown on the plat hereinafter referred to; thence continuing with the western side of said Fountain Street South 2° 15' West 100.00 feet to a stake; the point and place of BEGINNING containing 29,977 square feet, more or less, and being all of Lot No. 15 as shown on that map entitled "Property of Henry Gerald Thacker" dated December 6, 1977, drawn by J. Watts Copley, Registered Land Surveyor, and being duly filed for record in Plat Book 93 at Page 90 in the Office of the Register of Deeds of Durham County to which plat reference is hereby expressly made for a more particular description of same.

This property was conveyed to Grantors by deed recorded in Deed Book 241 267 Page 497 511 Durham County Registry

TO HAVE AND TO HOLD the aforesaid parcel(s) of land and all privileges and appurtenances thereunto belonging to the said Grantees, their heirs, or successors, and assigns forever.

And the said Grantors for themselves, their heirs, executors and administrators, covenant with the Grantees, their heirs or successors, and assigns that they are seized of said premises in fee and have the right to convey the same in fee simple, that the same are free from encumbrances except as set forth in this instrument; and that they will warrant and defend the title to the same against the claims of all persons whomsoever.

The plural number as used herein shall equally include the singular.

IN TESTIMONY WHEREOF, the said Grantors have hereunto set their hands and seals the day and year first above written.

NOTARIAL SEAL HERE

LINDA FRANCES LYON NOTARY PUBLIC DURHAM COUNTY

Henry Gerald Thacker (SEAL)

Gwendolyn B. Thacker (SEAL)

(SEAL)

(SEAL)

NOTARIAL SEAL HERE

NORTH CAROLINA — DURHAM COUNTY

I, Linda Frances Lyon a Notary Public do hereby certify that HENRY GERALD THACKER AND GWENDOLYN B. THACKER Grantors each personally appeared before me this day and acknowledged the due execution of the foregoing deed.

Witness my hand and notarial seal, this 5th day of May 19 79

SIGNATURE of NOTARY REQUIRED

Linda Frances Lyon Notary Public

My commission expires March 25, 1984 19

NORTH CAROLINA — DURHAM COUNTY

I, , a Notary Public, do certify that

personally appeared before me this day and being duly sworn stated, that in his presence

signed or acknowledged the execution of the foregoing deed of conveyance.

Witness my hand and notarial seal, this day of 19

SIGNATURE of NOTARY REQUIRED

Notary Public

My commission expires 19

FILED

BOOK 1000 PAGE 913

MAY 11 2 26 PM '79

RUTH C. GARRETT
REGISTER OF DEEDS
DURHAM COUNTY, NC

DO NOT USE THIS SPACE

STATE OF NORTH CAROLINA COUNTY OF DURHAM

The foregoing certificate of Linda Frances Lyon a Notary Public of Durham County, N. C., is certified to be correct.

This 11 day of May 19 79

RUTH C. GARRETT
REGISTER OF DEEDS

Jackie S. Brown - Dep.
Register of Deeds of Durham County.

D.13

July 22, 1993

TO: File

FROM: Irene Williams, Environmental Chemist Irene Williams
N.C. Superfund Section

RE: Supreme Finishing (NCD 986 188 878)
Teleconference concerning USEPA action limits

I spoke to Mike Taylor, USEPA On-site Coordinator, about the "action levels" that were set for the site removal action. He stated that the "cleanup levels" in soil for this site were as follows:

Cadmium:	39 ppm
Chromium:	400 ppm
Lead:	500 ppm

September 23, 1993

TO: File

FROM: Irene Williams, Environmental Chemist Irene Williams
N.C. Superfund Section

RE: Supreme Finishing (NCD 986 188 878)
Teleconferences concerning surface water intakes

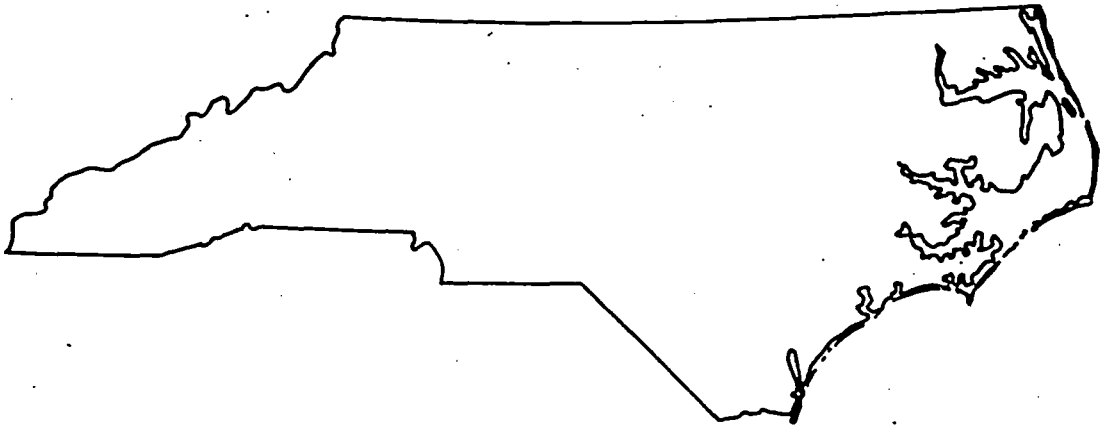
On July 14, 1993, I spoke to Mr. Don Greeley of the City of Durham Engineering Department (560-4326) to verify the locations of surface water intakes for Durham. He confirmed that both intakes are north of the city on Lake Michie and approximately 1 mile south of Lake Michie at Little River Reservoir.

To check on surface water intakes downstream of the site, I contacted Mr. J. D. Monroe (919/486-1191), Water Treatment Plant Consultant, Public Water Supplies, on September 23, 1993. Mr. Monroe and I discussed the surface water pathway. He consulted Durham County and Wake County maps and indicated that an intake for the city of Raleigh, located at Falls Lake, is beyond the 15-mile downstream pathway for the site.

Ref. 15

Water Resources Data North Carolina Water Year 1988

by B.C. Ragland, R.G. Garrett, R.G. Barker, W.H. Eddins, and J.F. Rinehardt



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT NC-88-1
Prepared in cooperation with the North Carolina
Department of Natural Resources and
Community Development, and with other
State, municipal, and Federal agencies

0208700780 LITTLE LICK CREEK ABOVE SECONDARY ROAD 1814 NEAR OAK GROVE, NC

LOCATION.--Lat 35°59'11", long 78°47'58", Durham County, Hydrologic Unit 03020201, on right bank 300 ft upstream from bridge on Secondary Road 1814, and 1.3 mi northeast of Oak Grove.

DRAINAGE AREA.--10.1 mi^2.

PERIOD OF RECORD.--October 1982 to current year.

GAGE.--Water-stage recorder. Datum of gage is 265 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except those for periods Oct. 3 - Dec. 20, March 18 - May 20, and June 28 - Sept. 30 due to beaver dams below gage, and estimated daily discharges, which are poor. Slight diurnal fluctuation at low flow. An average of 37.4 ft^3/s was diverted from the Neuse River basin for Durham municipal water supply, of which 1.5 ft^3/s was diverted to the Cape Fear River basin. An average of 0.8 ft^3/s was returned as treated effluent upstream from station. No flow occurs periodically. Minimum discharge for current water year also occurred on August 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	.77	.62	4.0	3.8	1.8	e1.6	1.8	1.9	.70	.86	.74
2	.80	.66	.59	20	3.7	1.6	e1.3	1.7	2.1	.69	.82	.70
3	.90	.61	1.0	76	24	1.7	e1.1	1.6	7.5	.60	.86	.59
4	.89	.62	1.0	72	170	1.9	e1.8	2.2	4.9	.61	1.1	.68
5	.93	.66	.69	31	46	2.4	e4.7	4.4	3.5	.52	1.2	16
6	1.0	.64	.49	10	15	2.0	e2.1	5.8	3.2	.45	.90	1.6
7	3.4	.77	.41	5.0	6.7	1.8	e5.0	5.1	2.8	.41	.84	.66
8	1.1	.80	.51	5.7	5.5	1.6	e7.4	2.3	2.7	.51	.98	.75
9	.98	.72	.50	5.1	4.7	5.1	e1.7	2.2	4.3	.82	.76	6.1
10	1.1	.93	1.6	4.2	3.9	8.4	e1.2	2.1	11	1.3	.69	14
11	.99	.90	3.8	3.8	8.1	4.5	e1.8	2.4	3.9	1.4	.72	1.5
12	.83	.88	1.4	3.5	47	2.4	e2.0	2.4	2.9	1.3	.57	1.2
13	.92	.60	1.2	4.2	18	3.8	e11	3.2	2.6	2.6	.36	1.9
14	.91	.61	1.3	5.6	6.8	2.9	3.8	3.4	2.5	.82	.34	.85
15	.96	.86	33	3.9	5.7	2.0	2.3	3.6	1.4	1.1	.37	8.9
16	1.0	.98	9.8	3.4	5.0	1.6	2.1	4.3	.85	1.1	.38	.75
17	1.1	2.2	2.4	4.3	3.8	1.2	1.6	4.7	.80	.99	.35	5.4
18	1.1	3.6	1.5	59	3.2	1.8	1.6	7.3	15	.94	.38	18
19	1.2	1.9	1.9	44	4.7	11	98	10	1.9	1.1	.66	4.9
20	1.6	1.0	2.3	89	7.9	4.3	43	36	1.4	2.0	.97	3.0
21	1.3	.75	3.5	32	4.1	2.7	13	4.4	1.9	.64	1.1	2.0
22	1.2	.71	25	15	3.0	2.2	5.0	2.8	1.0	1.8	.87	1.2
23	1.2	.64	7.1	7.6	2.8	2.2	2.9	2.2	.91	2.2	.97	1.2
24	1.2	.86	3.6	5.2	2.7	2.3	2.4	3.1	.84	3.6	1.3	8.0
25	1.3	1.5	3.9	30	2.4	2.4	2.0	2.4	1.0	15	1.0	17
26	1.5	1.8	4.1	34	2.2	4.1	2.4	2.0	1.6	7.0	1.2	3.2
27	11	2.4	14	9.5	2.3	13	2.3	2.1	4.3	1.7	1.3	1.7
28	3.6	3.5	75	5.5	2.1	3.8	18	1.8	1.7	1.6	1.4	1.1
29	1.1	9.9	35	4.6	2.0	2.6	3.0	1.6	.98	1.1	27	.88
30	.88	4.6	9.5	4.3	---	e2.2	2.1	1.6	.62	1.1	3.0	.88
31	.89	---	4.6	4.1	---	e1.8	---	1.6	---	.96	1.0	---
MEAN	1.55	1.58	8.11	19.5	14.4	3.33	8.27	4.26	3.07	1.83	1.75	4.18
MAX	11	9.9	75	89	170	13	98	36	15	15	27	18
MIN	.80	.60	.41	3.4	2.0	1.2	1.1	1.6	.62	.41	.34	.59
IN.	.18	.17	.93	2.23	1.54	.38	.91	.49	.34	.21	.20	.46

e Estimated

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	2.43	8.93	14.4	19.8	27.0	23.4	14.4	9.03	1.64	2.25	5.67	2.40
MAX	7.30	38.9	33.9	36.7	36.2	43.3	32.2	20.1	3.61	6.00	23.3	7.88
(WY)	1983	1986	1984	1987	1984	1983	1987	1983	1983	1984	1986	1987
MIN	.517	.707	4.87	4.70	5.51	3.33	1.20	1.35	.505	.759	1.27	.346
(WY)	1987	1985	1985	1986	1986	1988	1985	1987	1985	1983	1983	1984

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	5.96		10.9	
HIGHEST ANNUAL MEAN			17.8	1984
LOWEST ANNUAL MEAN			5.85	1985
HIGHEST DAILY MEAN	170	Feb 4	515	Aug 20 1986
LOWEST DAILY MEAN	.34	Aug 14	.13	Jul 17 1983
INSTANTANEOUS PEAK FLOW	300	Feb 4	1720	Aug 20 1986
INSTANTANEOUS PEAK STAGE	6.22	Feb 4	9.26	Aug 20 1986
INSTANTANEOUS LOW FLOW	.09*	Aug 13	0*	Aug 28 1984
ANNUAL RUNOFF (INCHES)	8.01		14.6	
10 PERCENTILE	12		19	
50 PERCENTILE	1.9		1.5	
95 PERCENTILE	.57		.35	

* See REMARKS.

SOUTH ATLANTIC SLOPE BASIN

Lakes and Reservoirs in South Atlantic Slope basin

02067800; 02067820 TALBOTT AND TOWNES RESERVOIRS 1/.--on Dan River. The two reservoirs are operated as a unit for storage of water for Pinnacles hydroelectric plant. Talbott Dam (drainage area, 20.2 mi^2), lat 36°40'36", long 80°23'51", Patrick County, VA, Hydrologic Unit 03010103, 4.5 mi northeast of Kibler. Townes Dam (drainage area, 32.9 mi^2), lat 36°41'11", long 80°25'49", Patrick County, VA, Hydrologic Unit 03010103, 4 mi north of Kibler. PERIOD OF RECORD, February 1939 to December 1945 and January 1948 to September 1960 (combined monthend contents only published in WSP 1723), October 1960 to current year.

Total capacity of Talbott Reservoir, 350,000,000 ft^3 and Townes Reservoir, 60,000,000 ft^3. Storage was started in Talbott Reservoir on Feb. 13, 1939, and in Townes Reservoir several months earlier. Records furnished by city of Danville, VA. (See sta 02068500)

02077280 HYCO LAKE.--Lat 36°30'28", long 79°02'48", Person County, Hydrologic Unit 03010104, at outlet control structure 0.4 mi northwest of dam on Hyco River, 1.1 mi southwest of McGehees Mill and 8 mi northwest of Roxboro. DRAINAGE AREA, 189 mi^2. PERIOD OF RECORD, October 1964 to current year. Prior to October 1970, published as "Roxboro Steam-Electric Generating Plant Lake." GAGE, water-stage recorder and tape gage. Prior to Feb. 11, 1965, staff gage at upstream end of outlet control structure. Datum of gage is 399.79 ft, National Geodetic Vertical Datum of 1929 (levels by Carolina Power and Light Co.).

Lake, used for cooling water at the Roxboro Steam-Electric Generating Plant of Carolina Power and Light Co., first began to fill Sept. 19, 1964, and first reached spillway elevation (9.97 ft gage height) Mar. 19, 1965. Total capacity at top of spillway is 3,288,000,000 ft^3. Lake cannot be drawn below -0.03 ft (bottom of gated flume).

02079964 LAKE GASTON.--Lat 36°30'04", long 77°48'43", Halifax County, Hydrologic Unit 03010106, at Gaston Dam on Roanoke River, 0.2 mi upstream from Black Gut Creek, and 2.7 mi northwest of Thelma. DRAINAGE AREA, 8,339 mi^2. PERIOD OF RECORD, October 1962 to current year. GAGE, water-stage recorder and staff gage. Datum of gage is National Geodetic Vertical Datum of 1929.

Lake, used mainly for hydroelectric power development, was first filled Oct. 13-15, 1962, and has a total capacity of 22,434,000,000 ft^3. Usable capacity of 20,127,000,000 ft^3 between elevations 165 ft and 203 ft (top of spillway gates) of which 2,788,000,000 ft^3 between elevations 200 ft and 203 ft is reserved for flood control. Storage for power generation is 10,673,000,000 ft^3 between elevations 185 ft and 200 ft. Records furnished by Virginia Electric and Power Co. (See sta 02080500)

02080100 ROANOKE RAPIDS LAKE.--Lat 36°29'10", long 77°39'31", Halifax County, Hydrologic Unit 03010107, at Roanoke Rapids Dam on Roanoke River, 1.5 mi upstream from bridge on State Highway 48, and 2.2 mi north of Roanoke Rapids. DRAINAGE AREA, 8,395 mi^2. PERIOD OF RECORD, June 1955 to September 1960 (monthend contents only published in WSP 1723), October 1960 to current year. GAGE, water-stage recorder and staff gage. Datum of gage is National Geodetic Vertical Datum of 1929.

Lake, used for hydroelectric power development, was put in operation June 25, 1955, and has a total capacity of 3,360,220,000 ft^3 at normal highwater elevation of 132.0 ft and 3,515,290,000 ft^3 at elevation 132.75 ft (top of gates). Records furnished by Virginia Electric and Power Co. (See sta 02080500)

02087182 FALLS LAKE.--Lat 35°56'00", long 78°35'00", Wake County, Hydrologic Unit 03020201, at Falls Dam on Neuse River at Falls, 10 mi north of Raleigh, and 235 mi above mouth. DRAINAGE AREA, 770 mi^2. PERIOD OF RECORD, February 1979 to current year. Datum of gage is National Geodetic Vertical Datum of 1929.

Lake, used for flood control, water supply, low-flow augmentation, and recreation. Temporary storage began May 1981 for water supply for city of Raleigh during drought conditions. Jan. 13, 1983, gates closed and normal pool elevation of 250 ft reached Dec. 7, 1983. (See sta 02087183)

02098197 B. EVERETT JORDAN LAKE.--Lat 35°39'17", long 79°04'02", Chatham County, Hydrologic Unit 03030002, at B. Everett Jordan Dam on Haw River, 0.3 mi downstream of mouth of New Hope River, 2.5 mi north of Moncure, 4.2 mi upstream of mouth of Haw River, and 202.2 mi upstream from mouth of Cape Fear River. DRAINAGE AREA, 1,700 mi^2. PERIOD OF RECORD, December 1972 to current year. GAGE, water-stage recorder and staff gage at dam. Datum of gage is National Geodetic Vertical Datum of 1929.

Lake, used for flood control, water supply, low-flow augmentation, and recreation. Some storage was affected during construction and then operated temporarily as a "dry reservoir" January 1975 to August 1981, and reservoir began filling September 1981 and reached normal pool elevation of 216 ft Feb. 4, 1982. Total capacity is 32,825,074,000 ft^3 at elevation 240.0 ft of which 23,454,011,000 ft^3 is controlled flood storage. (See sta 02098198)

02111391 W. KERR SCOTT RESERVOIR.--Lat 36°08'04", long 81°13'30", Wilkes County, Hydrologic Unit 03040101, at W. Kerr Scott Dam on Yadkin River, 0.1 mi upstream from Fish Trap Creek, 2.0 mi upstream from Millers Creek, and 4.0 mi west of Wilkesboro. DRAINAGE AREA, 350 mi^2, approximately. PERIOD OF RECORD, August 1962 to current year. GAGE, water-stage recorder and staff gage at dam. Datum of gage is National Geodetic Vertical Datum of 1929.

Lake, used for flood control, low-flow augmentation, and recreation. Some storage was affected during construction in July 1962, but gates were closed Aug. 22, 1962, and reservoir reached minimum pool elevation on Sept. 11, 1962. Total capacity is 6,664,680,000 ft^3 of which 6,316,200,000 ft^3 is controlled storage. Records furnished by Corps of Engineers. (See sta 02129000)

02122400 HIGH ROCK LAKE.--Lat 35°36'02", long 80°14'06", Davidson County, Hydrologic Unit 03040103, at High Rock Dam on Yadkin River, 0.8 mi northwest of High Rock, 2 mi upstream from Lick Creek, and 256 mi upstream from mouth of Pee Dee River in Winyah Bay. DRAINAGE AREA, 4,000 mi^2, approximately. PERIOD OF RECORD, November 1927 to September 1960 (monthend contents only, published in WSP 1723), October 1960 to current year. GAGE, water-stage recorder and staff gage at dam. Datum of gage is 30.9 ft below National Geodetic Vertical Datum of 1929.

Lake, used for hydroelectric power development, was first put in operation Nov. 7, 1927. Total capacity is 11,090,000,000 ft^3 and usable capacity is 10,230,000,000 ft^3 between elevations 625 ft and 655 ft gage datum (top of gates). Records furnished by Yadkin, Inc. (See sta 02129000)

1/ Included in this report because they materially affect runoff at Dan River near Francisco.

July 14, 1993

TO: File

FROM: Irene Williams, Environmental Chemist
N.C. Superfund Section

RE: Supreme Finishing (NCD 986 188 878)
Teleconference concerning storm drains

On the above date I spoke with Mr. Wayne Brogden of the City of Durham Engineering Department (560-4326) concerning storm drains and sewers in the vicinity of the site. After investigation he stated that he saw no indication of any such structure in the area in question.

overpass.

ID cap in power pole on NW. side of Old Erwin Road, 100' it[illegible]tersection with N.C. 751.

ID cap in top of wooden wheelguard on left downstream Old Erwin Road bridge over Mud Creek, 1,400' E. of Corn-Ro[illegible]

d[illegible] on left downstream corner of culvert on N.C. r[illegible]dy Creek, just E. of U.S. 15-501.

ID[illegible]p in power pole in SE. corner of intersection of Club vard[illegible]nd Washington Street.

ID cap in power pole in SE. corner of intersection of Brook-rec[illegible]nd Glendale Avenue.

ID[illegible]p in power pole in SE. corner of intersection of Ruby ashington Streets.

ID[illegible]ap in telephone pole just S. of the intersection of ga[illegible] Street and Chamberlain Ave.

led square on right downstream corner of culvert on S.R. ov[illegible] Eno River Tributary 1, 1.0 mile S. of S.R. 1656.

ar[illegible].C.H.C. bronze disk in concrete post, 4.5' off E. side 1648, .9 mile N. of intersection of S.R. 1648 and S.R.

ar[illegible].C.H.C. bronze disk in concrete post on top of E. bank . 1648, 1.0 mile N. of intersection of S.R. 1648 and S.R.

lec[illegible]uare in top of curb on NE. side of N.C. 751 in eastern n[illegible]f its intersection with Constitution Drive, 3' NW. of drain.

- ID[illegible]ap in W. side of 24" pine, 8' E. of NE. end of bridge on Ur[illegible]rsity Trail over Mud Creek, 1,900' SW. of intersection C. 751 and Constitution Drive.

lec[illegible]e in top downstream end of pipe on Erwin Road at y C[illegible]

Refer to the FLOOD INSURANCE RATE MAP EFFECTIVE date shown on this map to determine when actual rates apply to structures in the zones where elevations or depths have been established.

To determine of flood insurance is available in this community, contact your insurance agent, or call the National Flood Insurance Program, at (800) 638-6620

Ref. 17

APPROXIMATE SCALE

1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

CITY OF DURHAM, NORTH CAROLINA

DURHAM COUNTY

(SEE MAP INDEX FOR PANELS NOT PRINTED)

PANEL 20 OF 35

COMMUNITY-PANEL NUMBER

370086 0020 D

MAP REVISED:

JANUARY 15, 1982

federal emergency management agency

federal insurance administration

eled square in left downstream corner of culvert on Gregson
et [illegible]t ramp off I-85 over South Ellerbe Creek Tributary.

ele [illegible]quare in left downstream corner of culvert on Duke
et Exit ramp off I-85 over South Ellerbe Creek Tributary.

sele [illegible]quare in left downstream corner of culvert on Knox St.
So[illegible]h Ellerbe Creek, 400' E. of Ruffin Street.

seled square in left downstream corner of culvert on Green
et [illegible]er South Ellerbe Creek 75' W. of its intersection with
d [illegible]eet.

CE [illegible] cap in power pole on Markham Ave. over South Ellerbe
ek, [illegible]00' W. of its intersection with Rand Street.

CE [illegible] cap in power pole with "Bus Stop" sign in SE
er [illegible] intersection of N. Duke Street and Dacian Avenue.

CE [illegible] cap in power pole in NW. corner of intersection of Duke
et [illegible]d Trinity Avenue.

sele [illegible] square in left downstream corner of culvert on Drew
et [illegible] Goose Creek.

sel[illegible] [illegible]are in left downstream corner of culvert on Juniper
et [illegible]r Goose Creek.

CE [illegible] cap in light pole in NW. corner of intersection of Gilbert
et [illegible]d Alston Avenue.

sele [illegible] square in left downstream corner of culvert on Holloway
et over Goose Creek.

sel[illegible] [illegible] square in left downstream corner of culvert on Liberty
et [illegible]er Goose Creek.

CE [illegible] cap in power pole with transformer on E. side of Guess
d [illegible]' S. of its intersection with Cammie Street.

sele [illegible] square in top left downstream culvert under the inter-
tion of Preston Avenue and Cammie Street.

sel[illegible] [illegible] square in downstream end of culvert on Rowemont
/e [illegible]r Warren Creek, 800' E. of Glasgow Street.

seled square in left downstream corner of culvert on Carver
et [illegible]er Warren Creek, 150' E. of Preston Avenue.

sele [illegible] square in right upstream corner of culvert on Hillandale
d over Warren Creek Tributary A .

CE [illegible] cap in 24" white oak, 25' E. of Warren Creek Tributary
, 0.[illegible] mile N. along creek from Hillandale Road.

seled square in headwall between two culverts on Crystal
a R[illegible]d over Warren Creek Tributary A , 700' W. of Guess
d.

sele [illegible]are in left downstream corner of culvert on Guess
d o[illegible]arren Creek Tributary A , 400' N. of Cannon Drive.

sele [illegible] square in left downstream corner of culvert on S.R.
9 o[illegible]r Warren Creek Tributary A , 0.3 mile N. of Carver
et.

[illegible] square in top of abutment on right downstream corner
[illegible]401 bridge over Eno River, 0.2 mile S. of S.R. 1449.

[illegible] N.C. Highw[illegible]

KEY TO MAP

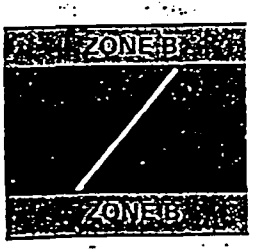
500-Year Flood Boundary

100-Year Flood Boundary

Zone Designations*

100-Year Flood Boundary

500-Year Flood Boundary



Base Flood Elevation Line With Elevation In Feet** — 513 —

Base Flood Elevation In Feet Where Uniform Within Zone** (EL 987)

Elevation Reference Mark RM7 ×

River Mile • M1.5

**Referenced to the National Geodetic Vertical Datum of 1929

*EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
A0	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1)-and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

NOTES TO USER

Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

This map is for flood insurance purposes only; it does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

For adjoining map panels, see separately printed Index To Map Panels.

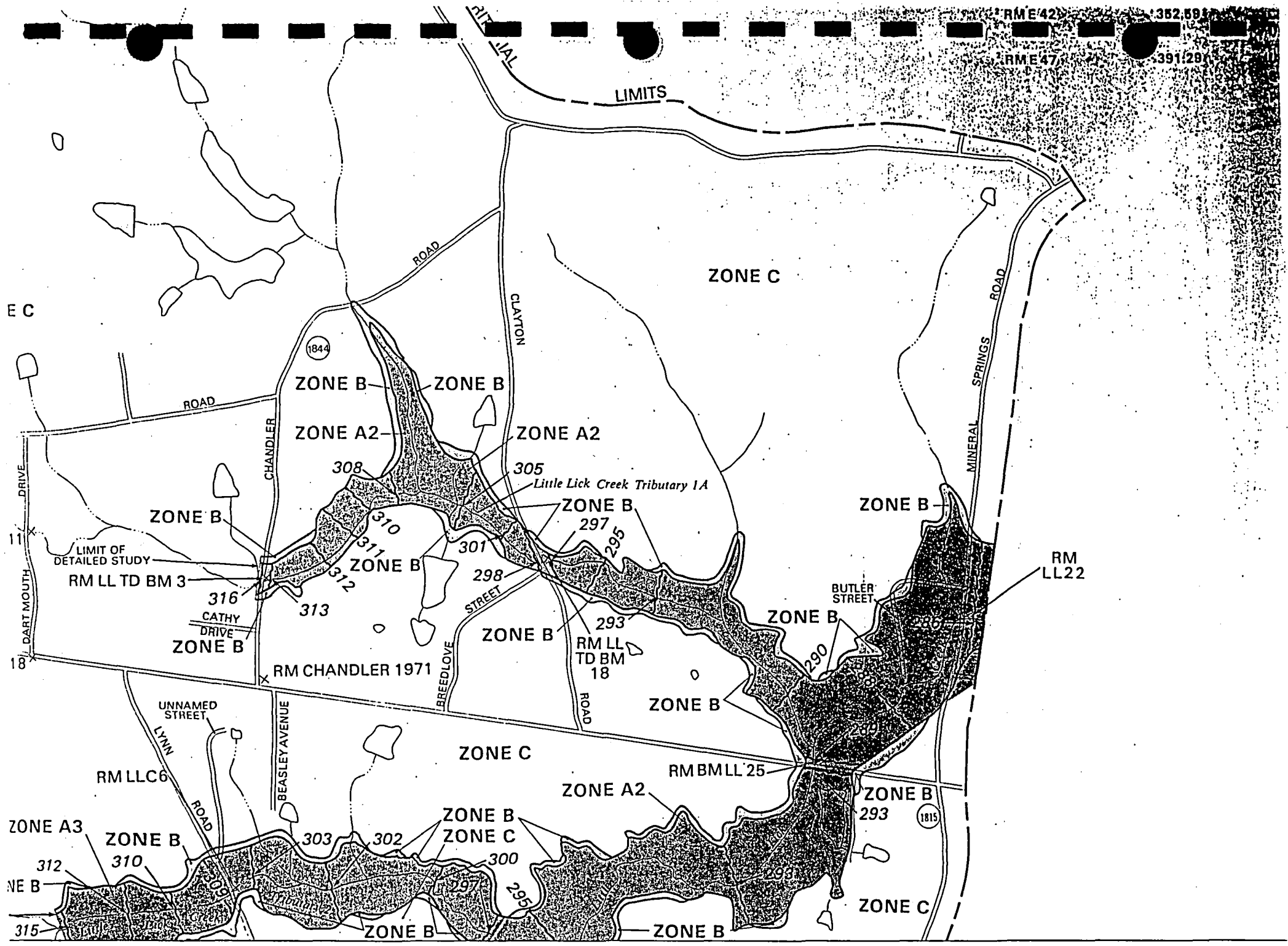
INITIAL IDENTIFICATION

FEBRUARY 1, 1974

FLOOD HAZARD BOUNDARY MAP REVISIONS:

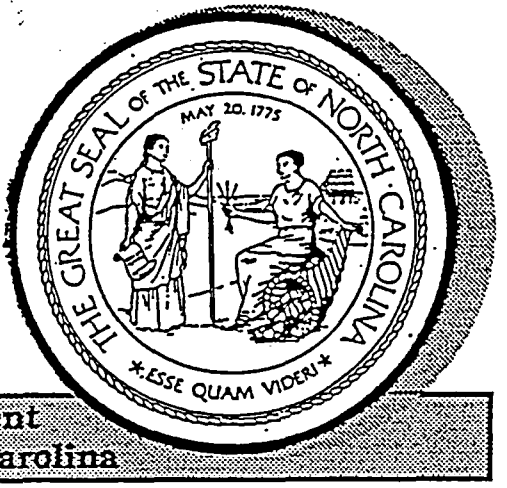
8 13 76

FLOOD INSURANCE RATE MAP EFFECTIVE:


RM E 42
352.69
RM E 47
391.29
LIMITS
ZONE C
ROAD
CLAYTON
MINERAL SPRINGS ROAD
1844
ZONE B
ZONE B
ZONE A2
ZONE A2
308
305
Little Lick Creek Tributary 1A
ZONE B
ZONE B
310
311
312
297
295
301
298
293
ZONE B
LIMIT OF DETAILED STUDY
RM LL TD BM 3
316
313
CATHY DRIVE
ZONE B
STREET
ZONE B
RM LL TD BM 18
BREEDLOVE
ROAD
RM CHANDLER 1971
CHANDLER
DRIVE
DARTMOUTH
ZONE B
BUTLER STREET
RM LL22
ZONE B
290
ZONE B
UNNAMED STREET
LYNN ROAD
BEASLEY AVENUE
ZONE C
RM BM LL 25
RM LLC6
ZONE A2
ZONE B
293
1815
ZONE A3
ZONE B
312
310
303
302
ZONE B
ZONE C
300
297
295
293
ZONE C
315
ZONE B
ZONE B

STATE OF
NORTH CAROLINA
DEPARTMENT OF
ENVIRONMENT, HEALTH,
AND NATURAL RESOURCES

Classifications and Water Quality Standards Assigned to The Waters of the Neuse River Basin



Division of Environmental Management
Raleigh, North Carolina

Reprint from North Carolina Administrative Code: 15A NCAC 2B .0315
Current through: February 1, 1993

SECTION .0300 - ASSIGNMENT OF STREAM CLASSIFICATIONS

.0301 CLASSIFICATIONS: GENERAL

(a) Schedule of Classifications. The classifications assigned to the waters of the State of North Carolina are set forth in the schedules of classifications and water quality standards assigned to the waters of the river basins of North Carolina, 15A NCAC 2B .0302 to .0317. These classifications are based upon the existing or contemplated best usage of the various streams and segments of streams in the basin, as determined through studies and evaluations and the holding of public hearings for consideration of the classifications proposed.

(b) Stream Names. The names of the streams listed in the schedules of assigned classifications were taken as far as possible from United States Geological Survey topographic maps. Where topographic maps were unavailable, U.S. Corps of Engineers maps, U.S. Department of Agriculture soil maps, and North Carolina highway maps were used for the selection of stream names.

(c) Classifications. The classifications assigned to the waters of North Carolina are denoted by the letters WS-I, WS-II, WS-III, WS-IV, WS-V, B, C, SA, SB, and SC in the column headed "class." A brief explanation of the "best usage" for which the waters in each class must be protected is given as follows:

Fresh Waters

Class WS-I:	waters protected as water supplies which are in natural and undeveloped watersheds; point source discharges of treated wastewater are permitted pursuant to Rules .0104 and .0211 of this Subchapter; local programs to control nonpoint source and stormwater discharge of pollution are required; suitable for all Class C uses;
Class WS-II:	waters protected as water supplies which are generally in predominantly undeveloped watersheds; point source discharges of treated wastewater are permitted pursuant to Rules .0104 and .0211 of this Subchapter; local programs to control nonpoint source and stormwater discharge of pollution are required; suitable for all Class C uses;
Class WS-III:	waters protected as water supplies which are generally in low to moderately developed watersheds; point source discharges of treated wastewater are permitted pursuant to Rules .0104 and .0211 of this Subchapter; local programs to control nonpoint source and stormwater discharge of pollution are required; suitable for all Class C uses;
Class WS-IV:	waters protected as water supplies which are generally in moderately to highly developed watersheds; point source discharges of treated wastewater are permitted pursuant to Rules .0104 and .0211 of this Subchapter; local programs to control nonpoint source and stormwater discharge of pollution are required; suitable for all Class C uses;
Class WS-V:	waters protected as water supplies which are generally upstream and draining to Class WS-IV waters; no categorical restrictions on watershed development or treated wastewater discharges are required, however, the Commission or its designee may apply appropriate management requirements as deemed necessary for the protection of downstream receiving waters (15A NCAC 2B .0203); suitable for all Class C uses;
Class B:	primary recreation and any other usage specified by the "C" classification;
Class C:	aquatic life propagation and survival, fishing, wildlife, secondary recreation, and agriculture.

Tidal Salt Waters

Class SA:	shellfishing for market purposes and any other usage specified by the "SB" and "SC" classification;
Class SB:	primary recreation and any other usage specified by the "SC" classification;
Class SC:	aquatic life propagation and survival, fishing, wildlife, and secondary recreation.

Hiwassee River Basin (Rule .0302); Little Tennessee River Basin and Savannah River Drainage Area (Rule .0303); French Broad River Basin (Rule .0304); Watauga River Basin (Rule .0305); Broad River Basin (Rule .0306); New River Basin (Rule .0307); Catawba River Basin (Rule .0308); Yadkin-Pee Dee River Basin (Rule .0309); Lumber River Basin (Rule .0310); Roanoke River Basin (Rule .0313); Tar-Pamlico River Basin (Rule .0316); Pasquotank River Basin (Rule .0317).

History Note: Statutory Authority G.S. 143-214.1; 143-215.1; 143-215.3(a)(1);
Eff. February 1, 1976;
Amended Eff. August 3, 1992; August 1, 1990; October 1, 1989; November 1, 1986.

.0315 NEUSE RIVER BASIN

Name of Stream	Description	Class	Classification Date	Classification Index No.
Dial Creek	From source to a point 0.5 mile downstream of Durham County SR 1603	WS-III NSW	8/3/92	27-3-6-(1)
Dial Creek	From a point 0.5 mile downstream of Durham County SR 1603 to Lake Michie, Flat River	WS-III NSW CA	8/3/92	27-3-6-(2)
Dry Creek	From source to a point 0.3 mile downstream of Durham County SR 1616	WS-III NSW	8/3/92	27-3-7-(1)
Dry Creek	From a point 0.3 mile downstream of Durham County SR 1616 to Lake Michie, Flat River	WS-III NSW CA	8/3/92	27-3-7-(2)
Rocky Creek	From source to Durham County SR 1616	WS-III NSW	8/3/92	27-3-7.5-(1)
Rocky Creek	From Durham County SR 1616 to Lake Michie, Flat River	WS-III NSW CA	8/3/92	27-3-7.5-(2)
Flat River	From dam at Lake Michie to a point 1.6 miles downstream of Durham County SR 1004	WS-IV NSW	8/3/92	27-3-(8)
Flat River (including the Flat River Arm of Falls Lake)	From a point 1.6 miles downstream of Durham County SR 1004 to Falls Lake, Neuse River	WS-IV NSW CA	8/3/92	27-3-(9)
Knap of Reeds Creek	From source to a point 0.3 mile upstream of mouth of Camp Creek	WS-II NSW	8/3/92	27-4-(1)
Knap of Reeds Creek (including Butner Lake below normal water elevation 356 ft. MSL)	From a point 0.3 mile upstream of mouth of Camp Creek to dam at Lake Butner	WS-II NSW CA	8/3/92	27-4-(2)
Camp Creek	From source to a point 0.3 mile upstream of mouth	WS-II NSW	8/3/92	27-4-3-(1)
Camp Creek	From a point 0.3 mile upstream of mouth to Butner Lake, Knap of Reeds Creek	WS-II NSW CA	8/3/92	27-4-3-(2)
Dickens Creek	From source to a point 0.6 mile upstream of mouth	WS-II NSW	8/3/92	27-4-4-(1)
Dickens Creek	From a point 0.6 mile upstream of mouth to Butner Lake, Knap of Reeds Creek	WS-II NSW CA	8/3/92	27-4-4-(2)
Unnamed Tributary to Knap of Reeds Creek	From source to a point 0.6 mile upstream of mouth	WS-II NSW	8/3/92	27-4-5-(1)
Unnamed Tributary to Knap of Reeds Creek (Lighting Lake)	From a point 0.6 mile upstream of mouth to Butner Lake, Knap of Reeds Creek	WS-II NSW CA	8/3/92	27-4-5-(2)
Knap of Reeds Creek	From dam at Butner Lake to a point 0.8 mile upstream of mouth	WS-IV NSW	8/3/92	27-4-(6)
Picture Creek	From source to Granville County SR 1112	C NSW	12/1/83	27-4-7-(1)
Picture Creek	From Granville County SR 1112 to Knap of Reeds Creek	WS-IV NSW	8/3/92	27-4-7-(2)
Knap of Reeds Creek	From a point 0.8 mile upstream of mouth to Falls Lake, Neuse River	WS-IV NSW CA	8/3/92	27-4-(8)
Ellerbe Creek	From source to U.S. Hwys. 15 & 501 Business (Roxboro Street)	C NSW	12/1/83	27-5-(0.3)
Ellerbe Creek	From U.S. Hwys. 15 & 501 Business to a point 0.2 mile upstream of Durham County SR 1632	WS-IV NSW	8/3/92	27-5-(0.7)
Goose Creek	From source to Ellerbe Creek	WS-IV NSW	8/3/92	27-5-1

Ref. 19

July 6, 1993

TO: File

FROM: Irene Williams, Environmental Chemist Irene Williams
N.C. Superfund Section

RE: Supreme Finishing (NCD 986 188 878)
Investigation of sensitive environments

On the above date, at the Natural Heritage Program office, seventh floor Archdale Building, I reviewed topographical maps (USGS quads) appropriate to the site for any annotations within a 4-mile radius of the site and within the 15-mile downstream surface water pathway of the site. See attachment for list of items noted.

Attachment

SPECIAL PLANTS (Ref. 1)

SCIENTIFIC NAME	COMMON NAME	STATUS NC	STATUS US	RANK NC	RANK GLOB
Silphium terebinthinaceum	Prairie Dock	C		S2	G4G5
Agalinis decemloba	Piedmont Gerardia	SR		S2	G3G4
Cardimine douglassii	Douglass' Bittercress	SR		S2	G5

SPECIAL ANIMALS (Ref. 2)

Etheostoma collis	Carolina darter	SC		S3	G3

IDENTIFIED PRIORITY AREAS

Duke Lane Reunion Glade

Upper Lick Creek Slopes

Middle Lick Creek Bottomlands (Local)

ABBREVIATIONS

NC STATUS FOR PLANTS (PLANT CONSERVATION PROGRAM):
C=CANDIDATE SR=SIGNIFICANTLY RARE
US STATUS FOR PLANTS (US Fish and Wildlife Service)

NC RANK FOR PLANTS (NATURE CONSERVANCY)
S2=IMPERILED IN NC BECAUSE OF RARITY
S3=RARE OR UNCOMMON IN NC

GLOBAL (GLOB) RANK FOR PLANTS (CONSENSUS OF EXPERTS)
G3=EITHER VERY RARE AND LOCAL THROUGHOUT ITS RANGE OR FOUND LOCALLY IN A RESTRICTED RANGE
G4=APPARENTLY SECURE GLOBALLY, MAY BE QUITE RARE IN PARTS OF ITS RANGE
G5=DEMONSTRABLY SECURE GLOBALLY, MAY BE QUITE RARE IN PARTS OF ITS RANGE

REFERENCES:
1. Natural Heritage Program List of the Rare Plant Species of North Carolina, Compiled by Alan S. Weakley, North Carolina Heritage Program, 1990.
2. Natural Heritage Program List of the Rare Animal Species of North Carolina, Compiled by Harry E. LeGrand, Jr., North Carolina Natural Heritage Program, 1990.

August 18, 1993

TO: File

FROM: Irene Williams, Environmental Chemist Irene Williams
N.C. Superfund Section

RE: Supreme Finishing (NCD 986 188 878)
Fishing conditions in surface water pathway

On the above date I spoke with Franklin McBride, Wildlife Resources Commission, Boating and Inland Fisheries, 733-3633, concerning fishing conditions in the un-named tributary to Little Lick Creek, Little Lick Creek itself, and Falls Lake. These are the three portions of the 15-mile downstream pathway from the site. He indicated that Falls Lake is a major fishery and the tributary and creek are nursery areas for Falls Lake.

September 21, 1993

TO: File

FROM: Irene Williams, Environmental Chemist Irene Williams
N.C. Superfund Section

RE: Supreme Finishing (NCD 986 188 878)
Wetlands identification

Wetlands occur at the probable point of entry (PPE) and continue for approximately 2.5 miles downstream. More wetlands occur intermittently for the remainder of the 15 mile surface water pathway. Total wetland frontage within the target pathway is estimated to be 12 miles.

These figures were determined by measuring the wetland frontages on the following quadrangle maps prepared by the National Wetlands Inventory, U.S. Department of the Interior, Fish and Wildlife Service.

1. Southeast Durham, NC 9/30/87
2. Northeast Durham, NC 9/12/93
3. Bayleaf, NC 9/30/87
4. Creedmoor, NC 9/12/88

Ref. 22

September 23, 1993

TO: File

FROM: Irene Williams, Environmental Chemist Irene Williams
N.C. Superfund Section

RE: Supreme Finishing (NCD 986 188 878)
Day care centers in vicinity of site

During the Preliminary Assessment reconnaissance of the site, no day care centers were noticed in the vicinity of the site. Review of the September 1992 monthly alphabetic listing of facilities from the Division of Facility Services, Child Day Care Section, revealed that the closest day care center is located at 2703 Holloway Street. This center is approximately 0.7 mile from the site and within the area served by the Durham municipal water supply system.

Ref. 23

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

ADMINISTRATIVE CODE SECTION

15A NCAC 2B .0100 - Procedures for Assignment of Water Quality Standards

15A NCAC 2B .0200 - Classifications and Water Quality Standards Applicable to Surface Waters of North Carolina

Amended Effective February 1, 1993

Environmental Management Commission
Raleigh, North Carolina

required on a case-by-case basis. The size of the control system must take into account the runoff from any pervious surfaces draining to the system.

(C) All waters classified WS-I or WS-II and all waters located in the 20 coastal counties as defined in Rule 15A NCAC 2H .1002(9) are excluded from this requirement since they already have requirements for nonpoint source controls.

If an applicant objects to the requirements to protect high quality waters and believes degradation is necessary to accommodate important social and economic development, the applicant can contest these requirements according to the provisions of G.S. 143-215.1(e) and 150B-23.

(e) Outstanding Resource Waters (ORW) are a special subset of High Quality Waters with unique and special characteristics as described in Rule .0216 of this Section. The water quality of waters classified as ORW shall be maintained such that existing uses, including the outstanding resource values of said Outstanding Resource Waters, will be maintained and protected.

History Note: Statutory Authority G.S. 143-214.1; 143-215.1; 143-215.3(a)(1);
Eff. February 1, 1976;
Amended Eff. February 1, 1993; April 1, 1991; August 1, 1990; October 1, 1989.

.0202 DEFINITIONS

The definition of any word or phrase used in these rules shall be the same as given in Article 21, Chapter 143 of the General Statutes of North Carolina. The following words and phrases, which are not defined in this article, will be interpreted as follows:

(1) Acute toxicity to aquatic life means lethality or other harmful effects sustained by either resident aquatic populations or indicator species used as test organisms in a controlled toxicity test due to a short-term exposure (relative to the life cycle of the organism) to a specific chemical or mixture of chemicals (as in an effluent). Short-term exposure for acute tests is generally 96 hours or less. Acute toxicity will be determined using the following procedures:

(a) for specific chemical constituents or compounds, acceptable levels will be equivalent to a concentration of one-half or less of the Final Acute Value (FAV) as determined according to "Guidelines for Deriving Numerical Water Quality Criteria for the Protection of Aquatic Life and its Uses" published by the Environmental Protection Agency and referenced in the Federal Register (50 FR 30784, July 29, 1985).

(b) for specific chemical constituents or compounds for which values described under Subparagraph (1)(a) of this Rule can not be determined, acceptable levels will be equivalent to a concentration of one-third or less of the lowest available LC50 value.

(c) for effluents, acceptable levels are defined as no statistically measurable lethality (99 percent confidence level using Students t test) during a specified exposure period. Concentrations of exposure will be determined on a case-by-case basis.

(d) in instances where detailed dose response data indicate that levels of acute toxicity are significantly different from those defined in this Rule, the Director may determine on a case-by-case basis an alternate acceptable level through statistical analyses of the dose response curve.

(2) Acute to Chronic Ratio (ACR) means the ratio of acute toxicity expressed as an LC50 for a specific toxicant or an effluent to the chronic value for the same toxicant or effluent.

(3) Agricultural uses include the use of waters for stock watering, irrigation, and other farm purposes.

(4) Approved treatment, as applied to water supplies, means treatment accepted as satisfactory by the Division of Environmental Health or Division of Environmental Management.

(5) Average (except bacterial) means arithmetical average and includes the analytical results of all samples taken during the specified period; all sampling shall be done as to obtain the most representative sample under prevailing conditions:

(a) Daily Average for dissolved oxygen, shall be of at least four samples;

(b) Weekly Average means the average of all daily composite samples obtained during the calendar week; if only one grab sample is taken each day, the weekly average is the average of all daily grab samples; a minimum of three daily grab samples is needed to calculate a weekly average;

(c) Monthly Average means the average of all daily composites (or grab samples if only one per day) obtained during the calendar month.

Ref. 24

September 23, 1993

TO: File

FROM: Irene Williams, Environmental Chemist Irene Williams
N.C. Superfund Section

RE: Supreme Finishing (NCD 986 188 878)
Teleconference with Dr. Ken Rudo, Environmental Epidemiology

On the above date I spoke with Dr. Rudo (733-3410) to follow through on FAX message I sent on September 21, 1993, concerning the laboratory results for the Robinson well near the Supreme Finishing site. He indicated that there might have been some aesthetic problems with the water at the time of sampling, but no health hazards. See attached FAX message.

Attachment

September 21, 1993

TO: Dr. Ken Rudo

FROM: Irene Williams, Environmental Chemist Irene Williams
N.C. Superfund Section

RE: Supreme Finishing (NCD 986 188 878)
Laboratory results for Robinson well water

I spoke to you earlier about the attached 1991 analytical data from testing performed on a domestic well near the Supreme Finishing site. We have the data in our files but no record of your comments regarding whether the water was considered safe to drink at the time sampling was done.

Please review the attached metals data and send your comments to me by FAX at 733-4811 today if at all possible. I have enclosed only the metals data since both the volatiles and semivolatiles analyses resulted only in "U (COMPOUND ANALYZED FOR NOT DETECTED)" for each item.

If you have any questions please call me at 733-2801. Thank you for your help.

COUNTY Durham

QUAD NO. I42 SERIAL NO. _____

LAT. _____ LONG. _____

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

Shipped by: Bus, Courier, Other State car

COLLECTOR(S) H. Richmond DATE 5/15/91 TIME 1430

N.C. DEPARTMENT OF NATURAL RESOURCES & COMMUNITY DEVELOPMENT

DEM

GROUNDWATER FIELD/LAB FORM

SAMPLE PRIORITY

☐ ROUTINE ☒ EMERGENCY

RECEIVED JUN 6 1991

LAB NUMBER 8 16410

DATE RECEIVED 910515 Time 1550

Rec'd by: HMW From: Bus-Courier

Other _____

DATA ENTRY BY: Da CK: DS

DATE REPORTED: 5/29/91

PURPOSE: BASELINE, COMPLAINT, COMPLIANCE, LUST, OTHER Emer. Response (circle one)

FIELD ANALYSES

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

Temp. 10 _____ °C Odor none

Appearance Clear Taste N/A

Field Analysis By: _____

Owner Robinson Well

Location or site Ross Road, Durham

Description of sampling point Spigot at house - domestic well

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

Remarks pumped well 1/10 minutes prior to sampling - (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	
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	
	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	

X	Ag - Silver 1077	<5.0	ug/l
X	Al - Aluminum 1105	<50	ug/l
X	Ba - Barium 1007	430	ug/l
	Ca - Calcium 916	58	mg/l
X	Cd - Cadmium 1027	<2.0	ug/l
X	Chromium:Total 1034	<25	ug/l
X	Cu - Copper 1042	<2.0	ug/l
X	Fe - Iron 1045	55	ug/l
	Hg - Mercury 71900		ug/l
	K - Potassium 937		mg/l
X	Mg - Magnesium 927	4.1	mg/l
X	Mn - Manganese 1055	150	ug/l
X	~~Na - Sodium 929~~	22	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	130	ug/l

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

Lab Comments: _____

GW-54 Rev'd 7/85

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

COUNTY Durham

QUAD NO. I42 SERIAL NO. _____

LAT. _____ LONG. _____

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

Shipped by: Bus, Courier, Other State car

COLLECTOR(S) H. Richmond DATE 5/15/91 TIME 1430

N.C. DEPARTMENT OF NATURAL RESOURCES & COMMUNITY DEVELOPMENT

DEM

GROUNDWATER FIELD/LAB FORM

SAMPLE PRIORITY

☐ ROUTINE ☒ EMERGENCY

REC'D JUN 6 1991

LAB NUMBER 8 16410

DATE RECEIVED 910515 Time 1550

Rec'd by: HMW From: Bus-Courier

Other _____

DATA ENTRY BY: Da CK: DS

DATE REPORTED: 5/29/91

PURPOSE: BASELINE, COMPLAINT, COMPLIANCE, LUST, OTHER Emer. Response (circle one)

FIELD ANALYSES

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

Temp. 10 _____ °C Odor none

Appearance Clear Taste N/A

Field Analysis By: _____

Owner Robinson Well

Location or site Ross Road, Durham

Description of sampling point Spigot at house - domestic well

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

Remarks pumped well 1/10 minutes prior to sampling - (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
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
	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	<50	ug/l
X	Ba - Barium 1007	430	ug/l
	Ca - Calcium 916	58	mg/l
X	Cd - Cadmium 1027	<2.0	ug/l
X	Chromium:Total 1034	<25	ug/l
X	Cu - Copper 1042	<2.0	ug/l
X	Fe - Iron 1045	55	ug/l
	Hg - Mercury 71900		ug/l
	K - Potassium 937		mg/l
X	Mg - Magnesium 927	4.1	mg/l
X	Mn - Manganese 1055	150	ug/l
~~X~~	~~Na - Sodium 929~~	22	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	130	ug/l

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

Lab Comments: _____

GW-54 Rev'd 7/85 For Dissolved Analysis - submit filtered sample and write "DIS" in block

Ref. 25

SEMIVOLATILE ORGANICS REPORT - DEM LAB

LAB NUMBER: 1G410

SUPERVISOR RZK
DATE: 5/21/91

REPORTED BY MD
CHECKED BY SM
REVIEWED BY PM

ENTERED BY DA 5/21/91
CHECKED BY LS

SAMPLE TYPE: WATER

DILUTION FACTOR: _____

CAS NUMBER	TQL X 1		CONC. UG/L
108-95-2	10	PHENOL	U
111-44-4	10	BIS(2-CHLOROETHYL) ETHER	U
95-57-8	10	2-CHLOROPHENOL	U
541-73-1	10	1,3-DICHLOROBENZENE	U
106-46-7	10	1,4-DICHLOROBENZENE	U
100-51-6	20	BENZYL ALCOHOL	U
95-50-1	10	1,2-DICHLOROBENZENE	U
95-48-7	10	2-METHYLPHENOL	U
108-60-1	10	BIS(2-CHLOROISOPROPYL) ETHER	U
106-44-5	10	4-METHYLPHENOL	U
621-64-7	10	N-NITROSO-DI-N-PROPYLAMINE	U
67-72-1	10	HEXACHLOROETHANE	U
98-95-3	10	NITROBENZENE	U
78-59-1	10	ISOPHORONE	U
88-75-5	10	2-NITROPHENOL	U
105-67-9	10	2,4-DIMETHYLPHENOL	U
65-85-0	50	BENZOIC ACID	U
111-91-1	10	BIS(2-CHLOROETHOXY) METHANE	U
120-83-2	10	2,4-DICHLOROPHENOL	U
120-82-1	10	1,2,4-TRICHLOROBENZENE	U
91-20-3	10	NAPHTHALENE	U
106-47-8	20	4-CHLOROANILINE	U
87-68-3	10	HEXACHLOROBUTADIENE	U
59-50-7	20	4-CHLORO-3-METHYLPHENOL	U
91-57-6	10	2-METHYLNAPHTHALENE	U
77-47-4	10	HEXACHLOROCYCLOPENTADIENE	U
88-06-2	10	2,4,6-TRICHLOROPHENOL	U
95-95-4	10	2,4,5-TRICHLOROPHENOL	U
91-58-7	10	2-CHLORONAPHTHALENE	U
88-74-4	50	2-NITROANALINE	U
131-11-3	10	DIMETHYL PHTHALATE	U
208-96-8	10	ACENAPHTHYLENE	U
606-20-2	10	2,6-DINITROTOLUENE	U
99-09-2	50	3-NITROANALINE	U
83-32-9	10	ACENAPHTHENE	U
51-28-5	50	2,4-DINITROPHENOL	U
100-02-7	50	4-NITROPHENOL	U
132-64-9	10	DIBENZOFURAN	U
121-14-2	10	2,4-DINITROTOLUENE	U
84-66-2	10	DIETHYL PHTHALATE	U
7005-72-3	10	4-CHLOROPHENYL PHENYL ETHER	U
86-73-7	10	FLUORENE	U
100-01-6	50	4-NITROANALINE	U
534-52-1	50	4,6-DINITRO-2-METHYL PHENOL	U

SEMIVOLATILE ORGANICS REPORT - DEM LAB

86-30-6	10	N-NITROSODIPHENYLAMINE	U
101-55-3	10	4-BROMOPHENYL PHENYL ETHER	U
118-74-1	10	HEXACHLOROBENZENE	U
87-86-5	50	PENTACHLOROPHENOL	U
85-01-8	10	PHENANTHRENE	U
120-12-7	10	ANTHRACENE	U
84-74-2	10	DI-N-BUTYL PHTHALATE	U
206-44-0	10	FLUORANTHENE	U
129-00-0	10	PYRENE	U
85-68-7	10	BUTYLBENZYL PHTHALATE	U
91-94-1	20	3,3'-DICHLOROBENZIDINE	U
56-55-3	10	BENZO(A)ANTHRACENE	U
218-01-9	10	CHRYSENE	U
117-81-7	10	BIS(2-ETHYLHEXYL) PHTHALATE	U
117-84-0	10	DI-N-OCTYL PHTHALATE	U
205-99-2	10	BENZO(B)FLUORANTHENE	U
207-08-9	10	BENZO(K)FLUORANTHENE	U
50-32-8	10	BENZO(A)PYRENE	U
193-39-5	10	INDENO(1,2,3-CD)PYRENE	U
53-70-3	10	DIBENZO(A,H)ANTHRACENE	U
191-24-2	10	BENZO(G,H,I)PERYLENE	U

OTHER SEMIVOLATILE ORGANICS FOR SAMPLE NUMBER:1G410

TQL= TARGET QUANTITATION LIMIT
T= TENTATIVELY IDENTIFIED ESTIMATED CONC.
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

EHNR/DEM LABORATORY VOLATILES ANALYTICAL REPORT

LAB NO 1G 410

REPORTED BY
CHECKED BY
REVIEWED BY

SUPERVISOR REK
DATE 5/17/91
ENTERED BY 5/20/91
CHECKED BY

SAMPLE TYPE: WATER ANALYSIS RESULTS

CAS#	VOA Target Compound	TQL ug/l	Conc Detected UG/L		MS	CAS#	VOA Target Compound	TQL ug/l	Conc Detected UG/L		MS
75-35-4	1,1-Dichloroethene	0.75		U		96-18-4	1,2,3-Trichloropropane	0.25		U	
75-09-2	Methylene Chloride	0.25		U		108-86-1	Bromobenzene	1.00		U	
156-60-5	trans-1,2-Dichloroethene	0.75		U		95-49-8	2-Chlorotoluene	0.25		U	
75-34-3	1,1-Dichloroethane	0.25		U		106-43-4	4-Chlorotoluene	0.25		U	
590-20-7	2,2-Dichloropropane	0.25		U		541-73-1	1,3-Dichlorobenzene	0.25		U	
156-59-4	cis-1,2-Dichloroethene	0.25		U		106-46-7	1,4-Dichlorobenzene	0.25		U	
67-66-3	Chloroform	0.25		U		95-50-1	1,2-Dichlorobenzene	0.25		U	
74-97-5	Bromochloromethane	0.75		U		96-12-8	1,2-Dibromo-3-Chloropropane	1.00		U	
71-55-6	1,1,1-Trichloroethane	0.25		U		120-82-1	1,2,4-Trichlorobenzene	0.25		U	
563-58-6	1,1-Dichloropropene	0.25		U		87-68-3	Hexachlorobutadiene	0.25		U	
56-23-5	Carbon Tetrachloride	0.75		U		87-61-6	1,2,3-Trichlorobenzene	0.75		U	
107-06-2	1,2-Dichloroethane	0.25		U		71-43-2	Benzene	1.00		U	
79-01-6	Trichloroethene	0.25		U		108-88-3	Toluene	1.00		U	
78-87-5	1,2-Dichloropropane	0.25		U		100-41-4	Ethylbenzene	1.00		U	
75-27-4	Bromodichloromethane	0.25		U		108-38-3	m,p-Xylenes	1.00		U	
74-95-3	Dibromomethane	1.00		U		95-47-6	o-Xylene	1.00		U	
10061-01-5	cis-1,3-Dichloropropene	0.25		U		100-42-5	Styrene	1.00		U	
10061-02-6	trans-1,3-Dichloropropene	0.25		U		98-82-8	Isopropylbenzene	1.00		U	
79-00-5	1,1,2-Trichloroethane	0.25		U		103-65-1	n-Propylbenzene	1.00		U	
127-18-4	Tetrachloroethene	0.25		U		108-67-8	1,3,5-Trimethylbenzene	1.00		U	
142-28-9	1,3-Dichloropropane	0.25		U		98-06-6	tert-Butylbenzene	1.00		U	
124-48-1	Dibromochloromethane	0.75		U		95-63-6	1,2,4-Trimethylbenzene	1.00		U	
106-93-4	1,2-Dibromoethane	1.00		U		135-98-8	sec-Butylbenzene	1.00		U	
108-90-7	Chlorobenzene	0.25		U		99-87-6	p-Isopropyltoluene	1.00		U	
630-20-6	1,1,1,2-Tetrachloroethane	0.25		U		104-51-8	n-Butylbenzene	1.00		U	
75-25-2	Bromoform	1.00		U		91-20-3	Naphthalene	1.00		U	
79-34-5	1,1,2,2-Tetrachloroethane	0.75		U							

TQL- target quantitation limit
T- tentatively identified compound
E- estimated value
U- compound was analyzed for but not detected
N- not analyzed for this compound
D- detected below quantitation limit
MS- X=GC/MS analysis performed
TQL subject to change due to instrument sensitivity
COMMENTS:

Other purgeables (up to 10 highest peaks) — Conc Detected UG/L

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

September 24, 1993

TO: File

FROM: Irene Williams, Environmental Chemist Irene Williams
N.C. Superfund Section

RE: Supreme Finishing (NCD 986 188 878)
Estimation of Falls Lake flow rate

Using as a reference Drainage Areas of Selected Sites on Streams in North Carolina, U.S. Geological Survey Open-File Report 83-211, 1983, by Robert L. Meikle, and the rainfall data and formula provided in Map of Mean Annual Runoff for the Northeastern, Southeastern, and Mid-Atlantic United States, Water Years 1951-80, 1990, by William R. Krug, et al, it was estimated that the flow of Falls Lake averages approximately 600 cubic feet per second.

This result is based on a figure of 14 inches mean annual runoff and drainage areas of 535 square miles, 560 square miles, 620 square miles, and 677 square miles for the Neuse River in and near the 15-mile surface water pathway for the site.

References attached

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DRAINAGE AREAS OF SELECTED SITES ON STREAMS IN NORTH CAROLINA

By Robert L. Meikle

Open-File Report 83-211

Prepared in cooperation with the
NORTH CAROLINA DEPARTMENT OF NATURAL
RESOURCES AND COMMUNITY DEVELOPMENT

Raleigh, North Carolina
1983

STATION NUMBER	STATION NAME	DRAINAGE AREA (SQ MI)	SITE TYPE	LAT	LONG	QUAD NAME	COUNTY CODE
0208678910	ELLERBE C TRIB AT HOLLOWAY ST AT DURHAM	0.77	20	355933	785306	SOUTHWEST DURHAM	063
0208679911	GOOSE C AT MTH AT DURHAM	6.60	20	360140	785156	NORTHEAST DURHAM	063
0208684100	ELLERBE C AT WEAVER	19.7	20	360230	785127	NORTHEAST DURHAM	063
0208684900	ELLERBE C NR GORMAN	21.9	20	360333	784958	NORTHEAST DURHAM	063
0208684910	ELLERBE C TRIB AT MTH NR GORMAN	1.34	20	360323	784934	NORTHEAST DURHAM	063
0208684980	ELLERBE C AT SR 1632 NR GORMAN	24.5	20	360333	784903	NORTHEAST DURHAM	063
0208683900	ELLERBE C AT MTH NR DURHAM	26.7	20	360410	784707	NORTHEAST DURHAM	063
0208692000	NEUSE R NR REDWOOD	514.	20	360410	784646	NORTHEAST DURHAM	063
0208693100	NEUSE R TRIB HEADWATERS AT NORTH SIDE	2.11	20	360504	784458	CREEDMOOR	077
0208693400	NEUSE R TRIB AT SR 1724 AT NORTH SIDE	1.40	20	360503	784456	CREEDMOOR	077
0208693500	NEUSE R TRIB AT I-85 S NR BUTNER	5.05	11	360500	784600	NORTHEAST DURHAM	077
0208693650	NEUSE R TRIB AT MTH NR REDWOOD	10.5	20	360349	784619	NORTHEAST DURHAM	063
0208694855	PANTHER C AT SR 1818 AT GLEN FOREST	2.53	20	360202	784847	NORTHEAST DURHAM	063
0208694910	PANTHER C AT MTH NR REDWOOD	5.48	20	360323	784617	NORTHEAST DURHAM	063
0208697410	NEUSE R TRIB AT MTH AT REDWOOD	1.99	20	360306	784600	NORTHEAST DURHAM	063
0208700000	NEUSE R NR NORTHSIDE	535.	01	360254	784459	CREEDMOOR	183
0208700659	L LICK C HEADWATERS AT DURHAM	1.93	20	355852	785031	SOUTHEAST DURHAM	063
0208700709	L LICK C TRIB AT MTH NR DURHAM	1.79	20	355857	784930	SOUTHEAST DURHAM	063
0208700779	L LICK C TRIB AT MTH NR OAK GROVE	3.13	20	355911	784801	SOUTHEAST DURHAM	063
0208700800	L LICK C AT SR 1814 NR OAK GROVE	10.1	20	355911	784757	SOUTHEAST DURHAM	063
0208700810	L LICK C AB CHUNKY PIPE C NR GLEN FOREST	13.8	20	360008	784729	NORTHEAST DURHAM	063
0208700870	CHUNKY PIPE C AT MTH NR ROCKY KNOLL	2.92	20	360009	784730	NORTHEAST DURHAM	063
0208700888	L LICK C AT SR 1811 NR GLEN FOREST	15.1	20	360019	784744	NORTHEAST DURHAM	063
0208700900	L LICK C TRIB AT MTH NR GLEN FOREST	2.09	20	360025	784637	NORTHEAST DURHAM	063
0208701000	L LICK C NR REDWOOD	19.4	02	360057	784538	NORTHEAST DURHAM	063
0208701010	L LICK C AT MTH NR REDWOOD	22.5	20	360102	784409	CREEDMOOR	063
0208701300	NEUSE R NR CREEDMOOR	560.	11	360108	784410	CREEDMOOR	183
0208701500	LEDGE C AT SR 1215 NR STEM	3.28	20	361034	784252	STEM	077
0208701600	LEDGE C AB LAKE ROGERS NR CREEDMOOR	6.79	02	360834	784219	STEM	077
0208701650	HOLMAN C AT SR 1131 NR STEM	2.52	20	361100	784240	STEM	077
0208701710	HOLMAN C AT SR 1129 NR STEM	6.24	20	361013	784130	STEM	077
0208701800	HOLMAN C NR CREEDMOOR	9.59	02	360811	784150	STEM	077
0208702100	LEDGE C AT CREEDMOOR	17.5	20	360745	784220	STEM	077
0208702210	LEDGE C AT SR 1724 NR CREEDMOOR	20.8	20	360613	784230	CREEDMOOR	077
0208702220	LEDGE C AT SR 1901 NR SANDY PLAIN	24.4	20	360435	784228	CREEDMOOR	077
0208702390	LEDGE C TRIB 2 AT US 15 NR NORTH SIDE	1.95	20	360619	784330	CREEDMOOR	077
0208702400	LEDGE C TRIB 2 NR NORTHSIDE	3.86	02	360432	784317	CREEDMOOR	077
0208702450	LEDGE C TRIB 2 AT MTH NR NORTH SIDE	4.92	20	360349	784307	CREEDMOOR	183
0208702600	LEDGE C NR CREEDMOOR	31.2	20	360318	784309	CREEDMOOR	183
0208702700	LEDGE C AT MTH NR CREEDMOOR	33.3	20	360137	784242	CREEDMOOR	183
0208702709	LICK C HEADWATERS NR BETHESDA	1.49	20	355737	784801	SOUTHEAST DURHAM	063
0208702769	LICK C TRIB AT MTH NR BETHESDA	2.03	20	355741	784753	SOUTHEAST DURHAM	063
0208702879	MARTIN B AT MTH NR OAK GROVE	2.49	20	355805	784611	SOUTHEAST DURHAM	063
0208702900	LICK C NR OAK GROVE	8.75	11	355806	784610	SOUTHEAST DURHAM	063
0208702981	ROCKY B AT MTH NR LEESVILLE	2.68	20	355841	784452	BAYLEAF	063
0208703000	LICK C NR DURHAM	13.8	02	355850	784419	BAYLEAF	063
0208703300	LICK C NR ROGERS STORE	16.4	02	355945	784327	BAYLEAF	063
0208703600	LAUREL C NR ROGERS STORE	2.77	02	355900	784308	BAYLEAF	063
0208703625	LICK C AT MTH NR SANDY PLAIN	22.0	20	360029	784227	CREEDMOOR	063
0208703650	NEUSE R AT NC 50 NR SANDY PLAIN	620.	20	360054	784129	CREEDMOOR	183
0208703754	BEAVERDAM C TRIB NR WILTON	1.19	20	360740	783653	WILTON	077
0208703769	BEAVERDAM C TRIB NR GRISSOM	2.86	20	360644	783712	GRISSOM	077
0208703900	BEAVERDAM C NR WILTON	8.88	20	360606	783755	CREEDMOOR	077
0208703940	REEDY B AT MTH NR CREEDMOOR	3.04	20	360542	783810	CREEDMOOR	077
0208704590	ROBERTSON C AT SR 1638 NR CREEDMOOR	4.41	20	360832	783941	STEM	077
0208704595	CEDAR C AT MTH NR CREEDMOOR	3.56	20	360731	783942	STEM	077
0208704600	ROBERTSON C AT NC 56 NR CREEDMOOR	9.28	02	360718	783943	CREEDMOOR	077
0208704800	ROBERTSON C NR CREEDMOOR	12.0	20	360610	783933	CREEDMOOR	077
0208704850	ROBERTSON C AT MTH NR CREEDMOOR	14.9	20	360444	783950	CREEDMOOR	077
0208704900	BEAVERDAM C BL ROBERTSON C NR CREEDMOOR	28.8	20	360442	783950	CREEDMOOR	077
0208705163	SMITH C HOW NR POCOMOKE	1.71	20	360535	783339	GRISSOM	077
0208705185	SMITH C TRIB NR GRISSOM	0.93	20	360545	783514	GRISSOM	077
0208705200	SMITH C AT GRISSOM	6.23	02	360518	783608	GRISSOM	077
0208705300	SMITH C NR GRISSOM	9.08	02	360416	783815	CREEDMOOR	077
0208705350	SMITH C AT MTH NR SANDY PLAIN	11.0	20	360412	784015	CREEDMOOR	077
0208705800	BEAVERDAM C NR GRISSOM	42.5	11	360409	784016	CREEDMOOR	077
0208706000	BEAVERDAM C NR CREEDMOOR	44.2	02	360319	784038	CREEDMOOR	183
0208706300	L BEAVERDAM C NR PURNELL	3.76	02	360227	784020	CREEDMOOR	183
0208706600	BEAVERDAM C AT MTH NR CREEDMOOR	52.5	20	360121	784111	CREEDMOOR	183
0208706650	NEUSE R TRIB NR BAYLEAF	1.50	20	360009	784000	CREEDMOOR	183
0208706900	NEUSE R NR BAYLEAF	677.	20	360008	783954	CREEDMOOR	183
0208707190	W PRONG NR NEW LIGHT	2.95	20	360319	783444	GRISSOM	077
0208707200	W PRONG TRIB NR GRISSOM	1.85	02	360307	783436	GRISSOM	077
0208707208	MILL C NR GRISSOM	3.34	20	360227	783500	GRISSOM	077
0208707211	NEW LIGHT C NR NEW LIGHT	9.80	20	360215	783533	GRISSOM	183
0208707215	NEW LIGHT C AT SR 1911 NR PURNELL	12.2	20	360137	783606	GRISSOM	183
0208707335	BUCKHORN C NR GRISSOM	2.98	20	360135	783656	GRISSOM	183
0208708000	NEW LIGHT C NR PURNELL	19.2	02	360048	783743	CREEDMOOR	183
0208708010	NEW LIGHT C AT MTH NR PURNELL	21.9	20	360012	783828	CREEDMOOR	183
0208708055	ROCKY B AT MTH NR BAYLEAF	1.44	20	355855	783758	BAYLEAF	183
0208711715	UPPER BARTON C AT SR 1831 NR BAYLEAF	4.79	20	355700	784210	BAYLEAF	183
0208711770	UPPER BARTON C AT SR 1844 NR BAYLEAF	8.33	20	355735	784045	BAYLEAF	183
0208712000	UPPER BARTON C NR BAYLEAF	12.4	02	355821	783918	BAYLEAF	183
0208713990	LOWER BARTON C AT NC 50 NR BAYLEAF	4.12	20	355541	784103	BAYLEAF	183
0208714000	LOWER BARTON C TRIB NR RALEIGH	0.66	03	355444	784055	BAYLEAF	183

MAP OF MEAN ANNUAL RUNOFF FOR THE NORTHEASTERN, SOUTHEASTERN, AND MID-ATLANTIC UNITED STATES, WATER YEARS 1951–80

By
William R. Krug, Warren A. Gebert, David J. Graczyk, U.S. Geological Survey;
Donald L. Stevens, Jr., Eastern Oregon State College;
Barry P. Rochelle, Northrop Services, Inc.;
and M. Robbins Church, U.S. Environmental Protection Agency

U.S. GEOLOGICAL SURVEY

Water-Resources Investigations Report 88–4094

Prepared in cooperation with the
U.S. ENVIRONMENTAL PROTECTION AGENCY

Madison, Wisconsin
1990

sions that the methods that used the area-weighted average of the drainage area or the centroid of the drainage area produced somewhat better correlations—that is, the interecept was closer to zero, the standard errors were small, and the correlation coefficients were larger. These methods have slightly greater power to predict actual runoff

Additional statistical investigation found no significant differences in reliability of the runoff estimates among the areas. No significant differences existed in the errors for stations with drainage areas of differing size.

USE OF MEAN ANNUAL RUNOFF MAP

Mean annual runoff for a site can be estimated from the runoff map by several methods. The simplest method of estimating the runoff is to locate the site on the runoff map and to identify the runoff contour nearest the site. This method, however, is less accurate than other methods. The most accurate method is to draw the drainage basin on the runoff map, and use the runoff contours to divide the basin into bands of differing runoff. The area of each of the bands within the drainage basin is then determined. The areas of the separate bands are then used to compute a weighted average runoff for the basin. For example, if 50 percent of the basin is in an area of 18 in/yr (inches per year) of runoff, 30 percent in an area of 20 in/yr of runoff and 20 percent in an area of 22 in/yr of runoff the mean annual runoff would be calculated as follows:

$$0.5 \times 18 + 0.3 \times 20 + 0.2 \times 22 = 19.4$$

Runoff estimated from the map is in inches per year, averaged over the entire drainage basin. Multiply this value by the drainage area, in square miles, and divide by 13.58 to convert to mean annual discharge, in cubic feet per second. In the above example, assume the drainage area of the site is 100 mi^2. The mean annual discharge, in cubic feet per second, would be:

$$19.4 \times 100/13.58 = 143$$

The runoff map was prepared to allow estimation of mean annual runoff at sites where no streamflow data are available. The map represents mean annual runoff for areas with natural land cover. Caution should be used in applying the map to estimate runoff for areas that are not natural land areas. The runoff map should not be used for areas, such as large urban areas, where the land cover has been altered in ways that would change the amount of runoff. The runoff map is not applicable for lakes or bays, for coastal wetlands affected by tides, for streams controlled by reservoirs large enough to influence the total annual streamflow, or for streams with substantial diversions.

Local features could cause the runoff at a particular site to differ substantially from the runoff indicated by the runoff map. The geology of the drainage basin might cause substantial amounts of water to enter or leave the basin as ground water. This could substantially increase or decrease the runoff. For example, a stream with a small drainage area that includes a large spring probably would have higher average streamflow than indicated by the runoff map.

Table 5.—Descriptive statistics of errors in estimated runoff at 93 test stations

Method	Mean absolute value	Mean	Standard error of mean	Standard deviation
		Error, in inches		
Area-weighted	2.0	–0.35	0.30	2.9
Centroid	2.2	–.71	.33	3.1
GIS	2.7	–1.74	.37	3.6
Nearest-inch	2.8	–1.77	.38	3.7
Nearest contour	2.8	–1.79	.39	3.8
		Percent error		
Area-weighted	9.0	–0.54	1.3	12.9
Centroid	9.8	–.71	1.4	13.5
GIS	12.0	–6.42	1.6	15.9
Nearest-inch	12.1	–6.20	1.6	15.6
Nearest-contour	12.2	–6.26	1.6	15.8

CHARLESTON
RICHMOND
James
Appomattox
Nottoway
Roanoke
River
Danville
VIRGINIA
NORTH CAROLINA
SOUTH CAROLINA
RALEIGH
Tar
Neuse
River
Fayetteville
Cape
Fear
Chowan R
Yadkin
River
Catawba
Clinch
Fork
Broad
Saluda
LAKE MURRAY
COLUMBIA
Wateree
LAKE MARION
Santee
Sumter
Black
Waccamaw
LONG BAY
ONSLOW
BULLS BAY
Edisto
South
Fork
SAVANNAH
Athens
Marietta
Little
Pee Dee
River

Ref. 28

July 12, 1993

TO: File

FROM: Irene Williams, Environmental Chemist Irene Williams
N.C. Superfund Section

RE: Supreme Finishing (NCD 986 188 878)
Teleconference with Mr. Chuck DuBois, Roy F. Weston, Inc., Technical Assistance Team

Mr. DuBois and I talked about the post-removal confirmation soil samples that were taken from the site. He supplied by FAX pertinent analytical data and a drawing of the sampling grids (attached) with the final result of 8.7 ppm for cadmium which was obtained after further excavation. He indicated that the excavation was considered complete and back-filled with clean fill dirt.

Attachments

SUPREME FINISHING SITE
ANALYTICAL DATA

SOIL SAMPLES

METALS (mg/kg)

SAMPLE ID	#1	#2	#3	#4	#5
LOCATION	CONF #1	CONF #2	CONF #3	CONF #4	CONF #5
Arsenic	4.4	5.4	3.3	5.9	5.3
Barium	89	61	57	60	88
Cadmium	6.6	1.2	170	170	6.2
Chromium	58	23	14	16	140
Lead	21	14	19	15	66
Selenium			5.1		
Silver	0.79		0.40	0.73	0.69

WESTON
MANAGERS DESIGNERS/CONSULTANTS

SHEET ____ of ____

CLIENT/SUBJECT _____ W.O. NO. _____

TASK DESCRIPTION _____ TASK NO. _____

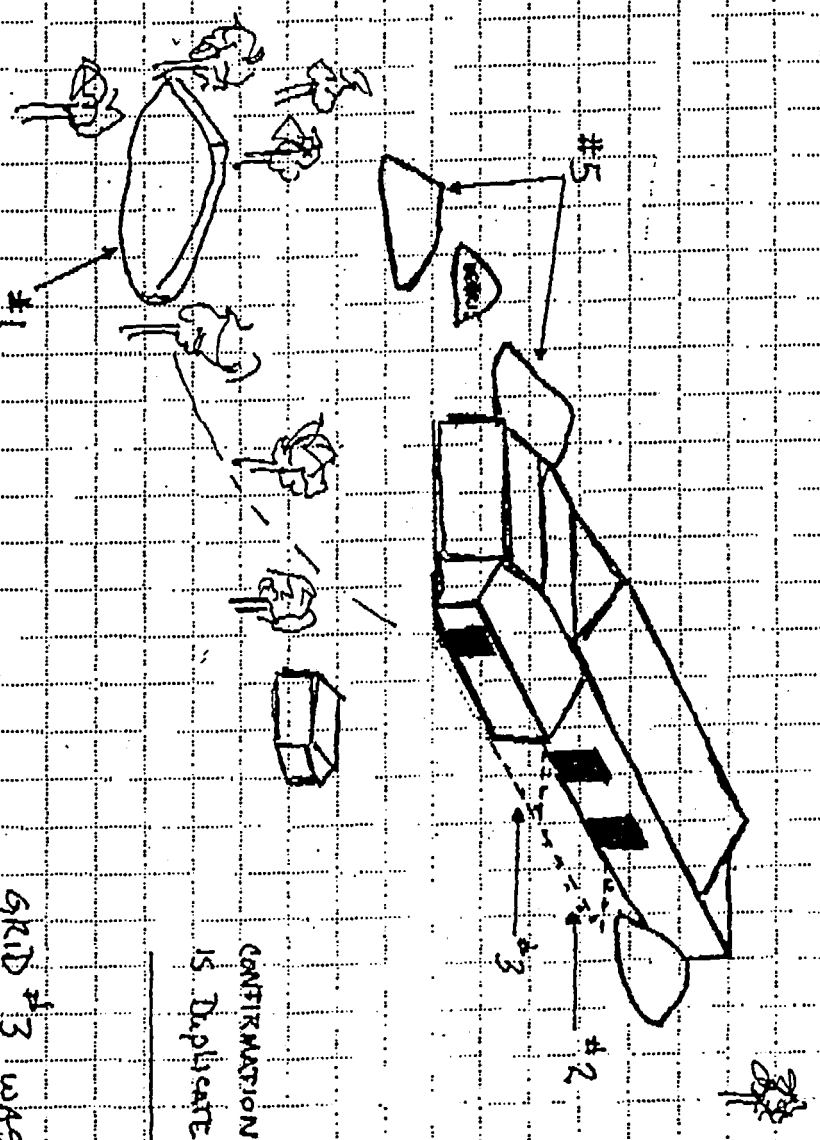
PREPARED BY _____ DEPT _____ DATE _____

MATH CHECK BY _____ DEPT _____ DATE _____

METHOD REV. BY _____ DEPT _____ DATE _____

APPROVED BY _____

DEPT _____ DATE _____



DRAFT

CONFIRMATION #4 IS DUPLICATE OF #3

GRID #3 WAS EXCAVATED AN ADDITIONAL FOOT (1') & RESAMPLED W/A RESULT OF 8.7 CADMIUM THEN BACKFILLED.

RFW 10-05-003/A-5/85
512-5643

U. S. ENVIRONMENTAL PROTECTION AGENCY
REGION 4 TAT

CHAIN OF CUSTODY RECORD

ENVIRONMENTAL SERVICES DIVISION
COLLEGE STATION ROAD
ATHENS, GEORGIA 30613

21358

PROJECT NO.

PROJECT NAME: SUPREME FINISHING

SAMPLERS (Signature): W.T. Blessing

Circle/add Parameters Desired ( ) - Indicates Separate Containers

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	(Gal) G (ext org, Pest) (EP) (herb)	40 ml vial (VOA)	250 ml G (TOX)	P (Bod, TSS, Cl, Fl, Sot, etc)	1LG (phenol) (O&G) (pest)	1LP (met, hard) (Toc, COD, N, P, etc)	0.5-1LP (S²⁻)	½ gal or 1LP (CN)	8 oz G (ext org, pest, herb) (met) (EP)	4 oz G (VOA)	P or G (CN, S²⁻, N, P, COD, etc)	8 oz G (ext org, pest, herb) (VOA)	8 oz G (EP) (met, CN, S²⁻, FP) (FP, BTU)	8 oz G, MET - CN - HEX U	REMARKS/TAG NUMBERS
							Water/Wastewater												Soil/Sed/Slug	Waste	Misc
SF501-S	12/8	1045		✓	UPHILL SURFACE	1														X	T3 - 10154
SF501-M	12/8	1045		✓	UPHILL MIDDLE	1														X	T3 - 10155
SF501-B	12/8	1045		✓	UPHILL BOTTOM	1														X	T3 - 10156
SF502-S	12/8	1120		✓	LOWER DRAIN AREA	1														X	T3 - 10157
SF502-M	12/8	1130		✓	LOWER DRAIN AREA	1														X	T3 - 10158
SF502-B	12/8	1140		✓	LOWER DRAIN AREA	1														X	T3 - 10159
SF503-S	12/8	1150		✓	DRAIN AREA SURFACE	1														X	T3 - 10160
SF503-M	12/8	1150		✓	DRAIN AREA MIDDLE	1														X	T3 - 10161
SF503-MS	12/8	1150		✓	DRAIN AREA ~~BOTTOM~~ MATRIX SPIKE	1														X	T3 - 10162
SF503-B	12/8	1150		✓	DRAIN AREA BOTTOM	1														X	T3 - 10163
SF503-BD	12/8	1150		✓	DRAIN AREA DUPLICATE	1														X	T3 - 10164

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Remarks
W.T. Blessing	12/10/92 1105	John Roberts				SAMPLES PLACED ON ICE IN COOLER
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory, Pink copy retained by laboratory; Yellow copy retained by samplers; Blue copy extra copy as needed.

T4-4722

Ref. 29

Ref. 30

Federal Register

Friday
December 14, 1990

Part II

Environmental Protection Agency

40 CFR Part 300
Hazard Ranking System; Final Rule

DEPARTMENT OF COMMERCE
Jesse H. Jones, Secretary

WEATHER BUREAU
F. W. Reichelderfer, Chief

TECHNICAL PAPER NO. 40

RAINFALL FREQUENCY ATLAS OF THE UNITED STATES

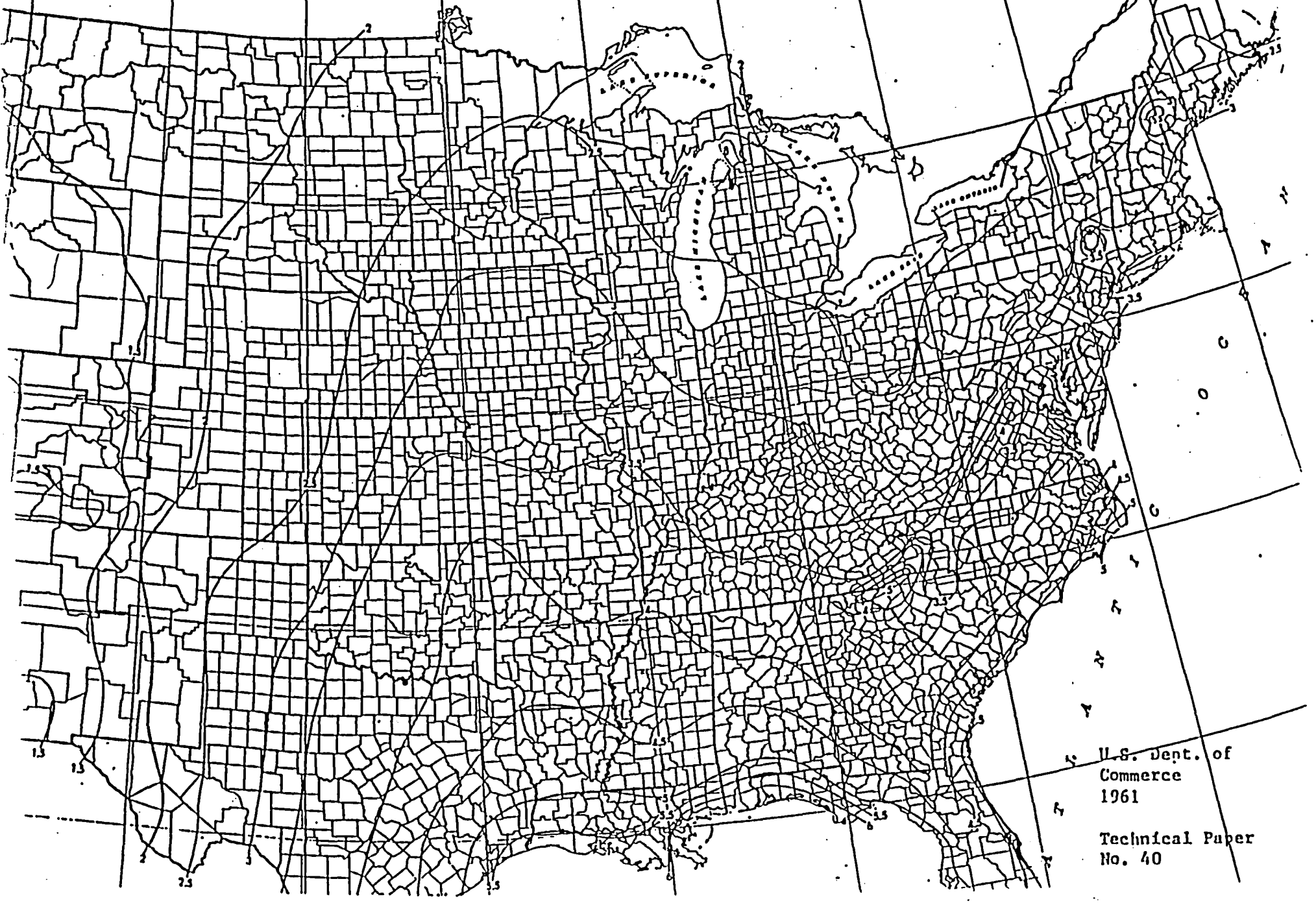
for Durations from 30 Minutes to 24 Hours and Return Periods from 1 to 100 Years

Prepared by
DAVID M. HERSHFIELD
Cooperative Studies Section, Hydrologic Services Division
for
Engineering Division, Soil Conservation Service
U.S. Department of Agriculture

PROPERTY OF EPA
FIT IV

Ref. 31

2-YEAR 24-HOUR RAINFALL (INCHES)



U.S. Dept. of Commerce
1961

Technical Paper No. 40

RECEIVED
MAR 1 1993
SUPERFUND SECTION

State of North Carolina
Department of Environment, Health, and Natural Resources
512 North Salisbury Street • Raleigh, North Carolina 27604
Division of Solid Waste Management
James B. Hunt, Jr., Governor
Telephone 919-733-2178
Jonathan B. Howes, Secretary

Ref. 32

March 11, 1993

MEMORANDUM

TO: Bill Meyer, Director
Solid Waste Management Division

THROUGH: Jerry Rhodes, Chief
Hazardous Waste Section

FROM: Doug Holyfield, Head
Waste Management Branch

RE: Holloway Property - Ross Road Site
Emergency Removal Project

For your information, I have attached a chronology of site activities since our discovery and investigation of the site in May 1991. A site visit by Mr. Terry Waddell on Monday, March 8, 1993 indicated that a small panel on the rear of the building was loose which may contravene site security. This information was relayed to Mike Taylor EPA-OSC on March 9, 1993. Mr. Taylor informed Mr. Waddell that all materials in the building have been removed and that they were scheduled to return to the site in approximately two weeks to remove soils adjacent to the building. These soils contain elevated metal concentrations (no specific information on levels were provided). Mr. Waddell will keep abreast of site activities proposed by EPA and will forward any further information as it becomes available.

attachments:

cc: Terry Waddell
Larry Perry
Irene Williams
Steve Parascandola

P.O. Box 27687, Raleigh, North Carolina 27611-7687 Telephone 919-733-4984 Fax # 919-733-0513

An Equal Opportunity Affirmative Action Employer

CHRONOLOGICAL SITE VISIT
FOR 3033 ROSS Rd
(Supreme Finishing)
T. WADDELL

MAR 1993 Received Hazardous Waste Section

5/3/91 – INTIAL SITE Visit (FACILITY ACCESSIBLE)
5/14/91 – Primary INVESTIGATION with Mrs Holloway
** (Emergency Response INTIATED) * Some WASTE removal
5/15/91 – Site visit – (SECURITY Check)
5/16/91 – Site visit – (MET WITH EPA TAT) site secure

8/7/91 – Site visit – ATTEMP MADE to obtain files, key will NOT work on file cabnet
8-12-91 – Site visit – Condemed Sign Posted by City
8-19-91 – Cut Bolt on File Cabnet, obtained files (Permission from Holloway)
9-16-91 – Site visit, Looked into ATTIC FOR Additional Files
9-17-91 – Site visit, SAMPLED AREA at rear of Building
9-23 91 – Site visit, MET with Al SHAKIR of Dynamic Ind. to I.D. his WASTE.
10-3-91 – Site visit, MET with Vendor & Shakir to obtain COST of DISPOSAL
11-19-91 – Site visit, MET with Mike TAylor, USEPA, to give site keys, & brief on history
11-20-91 – Site visit (ck on Security.)
4-28-92 Site visit, (ck on Security) site has been VANdalized

** SEE DETAILED REPORT ATTACHED WITH EXPENSE SHEET
* SEE ATTACHED MANIFEST.

5-19-92 – Site visit, ck on security

8-19-92 – Site visit, Met with Mike Taylor, USEPA, Prior to "Haz.-Cating"

8-20-92 – Site visit EPA HAZCATING site for future removal of All WASTE and CONTAMINATION

9-23-92 – ~~8-23-9~~ Site visit with L. Lambeth, US EPA, Talked with guard. Note possible break in attempts

1-13-93 – Site visit, No changes

11/19/91 – SITE TURNED OVER TO EPA. NO ENTERING FACILITY ~~ACCE~~ EXCEPTING in LEVEL B

3-8-93 Site visit indicated loose panels at rear of building. This was communicated to Mike TAYLOR EPA-OSC.

Mr. Taylor indicated that they would return to site in approx. 2 weeks to excavate soil around building (high metal concentrations). All material inside building has been removed.

NORTH CAROLINA HAZARDOUS WASTE MANIFEST

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039. Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. NCTM A0003036000001 — Manifest Document No.

2. Page 1 of 1 — Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address: Attn: Bill Meyer, Peggy Holloway Property - NCDHR, PO Box ~~2091~~ 27687, Raleigh, NC ~~27602-2091~~ 27611-7687

A. State Manifest Document Number

B. State Generator's ID: 3033 Ross Rd, Durham, NC 27703

4. Generator's Phone: (919) 733-2178

5. Transporter 1 Company Name: Four Seasons Industrial Services, Inc. — 6. US EPA ID Number: NCD991277732

C. State Transporter's ID

D. Transporter's Phone: (919) 273-2718

7. Transporter 2 Company Name — 8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address: Laidlaw Environmental Services, Inc., Rt 11, Box J, Reidsville, NC 27320 — 10. US EPA ID Number: NCD000641511

G. State Facility's ID

H. Facility's Phone: (919) 342-6106

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. ~~RQ, Waste, Potassium Cyanide, solid, Poison B UN1680~~	~~2~~	~~DM~~	~~300~~	~~P~~	D003, ~~P098~~
b. RQ, Waste, Acid, liquid, n.o.s. Corrosive Material NA 1760	2	DF	110	G	D002
c. RQ, Hazardous Waste Solid, n.o.s. ORM-E NA9189 (Cadmium)	2	DM	200	P	D006
d. RQ, Hazardous Waste Solid, n.o.s. ORM-E NA9189 (Cadmium)	3	DF	300	P	D006

J. Additional Descriptions for Materials Listed Above

~~a) overpacked 30 ea DM in 17H-55 metal drums~~
b) overpacked 17E55 metal (non-leaking) in E9618 (Poly OP)
c) overpacked fiber drums in 17H-55
d) 2@55, 1@85 op (Poly) 4 units total inside

K. Handling Codes for Wastes Listed Above

11.A. Item moved to manifest #00002 per D.O.T. requirements

15. Special Handling Instructions and Additional Information

24 Emergency (919) 273 2718
Land Ban Certification to follow prior to receipt at TSDF (For transportation only)

Bill to: FSIS PO Box 16590 Greensboro, NC 27416 ph: (919) 273-2718
Attn: Kenn Webb
Ref: Proj. # 91-50077

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month Day Year
Terry Lundell-Inv. Hlths	[signature]	10/5/14/91

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year
John P. Wilson	[signature]	10/5/14/91

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year
Tony D. Brown	[signature]	10/5/23/91

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month Day Year
Jeff Skinner	[signature]	10/5/21/91

EPA Form 8700-22 (Rev. 11-88) Previous editions are obsolete.

INSTRUCTIONS ON BACK SHEET

NORTH CAROLINA HAZARDOUS WASTE MANIFEST

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039. Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. NCTMP0010319600012 — Manifest Document No.

2. Page 1 of 1

Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address: Peggy Holloway Property - NCDHENR, PO Box 27687, Raleigh, NC 27611-7687; Attn: Bill Meyer

4. Generator's Phone (919) 733 2178

A. State Manifest Document Number

B. State Generator's ID 3033 Ross Rd Durham, NC

5. Transporter 1 Company Name: Four Seasons Industrial Services, Inc — 6. US EPA ID Number: NCD919127732

C. State Transporter's ID

D. Transporter's Phone (919) 273-2718

7. Transporter 2 Company Name — 8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address: Laidlaw Environmental Services, Inc, Rt 11, Box 5, Reidsville, NC 27320 — 10. US EPA ID Number: NCD990196181

G. State Facility's ID

H. Facility's Phone (919) 342-6106

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ, Waste, Potassium Cyanide, Solid, n.o.s. Poison B UN 1680	2	DM	300	P	D003, P098
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above: a) overpacked, 30 gal DM in 17H-55 gal drums (Removed from manifest #00001 due to acids present, separate per DOT requirements on loading)

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information: 24 hr Emergency (919) 273-2718 (see land ban notification) Bill to: FSIS PO Box 16590 Greensboro NC 27416 PO# Ref: 91-50077 ph (919) 273-2718

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: Terry W. Wadell - NCHHS — Signature: [signature] — Month Day Year: 10 5 2 1 91

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Michael Setliff — Signature: [signature] — Month Day Year: 10 5 2 1 91

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name — Signature — Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Jeff Skinner — Signature: [signature] — Month Day Year: 10 5 2 1 91

EPA Form 8700-22 (Rev. 11-88) Previous editions are obsolete

INSTRUCTIONS ON BACK SHEET

**

DEPARTMENT OF HUMAN RESOURCES
DIVISION OF HEALTH SERVICES
ENVIRONMENTAL HEALTH SECTION

REPORT OF INVESTIGATION OR INSPECTION OF Holloway Property

Place visited Former Dynamic Industries **Date** 5-15 **1991**

Address 3033 Ross Rd., Durham, N.C. 27703 **Time spent** 10½ hrs.

By whom Terry W. Waddell, N.C. Hazardous Waste Section

Persons contacted Peggy Holloway - owner, J.R. Dean - neighbor, Randy Beck - Durham City
Linda Robinson - neighbor, Bill Coley Durham Co E.M.A.
(Owner, agent, tenant, manager, other)

Reason for visit complaint from Randy Beck - Durham City Housing Inspector of an Abandoned Industrial site with drums visible through window and beside main structure

Copies to:

REPORT: Directions: Hwy 70-E Exit Hwy 98 to Wake Forest. Turn Left onto Chandler Rd Turn Left onto Ross Rd. Turn Right First Dirt Rd (Fountain Rd) Supreme Finishing Sign. The Building Structure is a white one story build with a stagnate water area in at the front of Build.

4-29-91 - H.W. Section Supervisor L. Perry Recieved the complaint of the Facility with abandoned drums inside and outside from Randy Beck, City Durham housing inspector, (560-4570). Complaint was originally initially generated by a citizen to Durham Co. Emergency Management Coordinator William Coley (560-4 Larry Perry forwarded the complaint to Mr. Terry W. Waddell, regional waste Management Spec. (222 0621)

5-3-91 - Waddell visited the Hollaway property initially. The site consisted of one 1 story white building of block & metal construction with a small (10'x10') metal utility Bldg to the rear. The site was overgrown with grass and other natural vegetation. All main structure doors were Locked. The metal utility bld was not Locked, Looking through the window of the main door, 3 drums were visible, contents unknown, not leaking, and appeared to be in good condition. No other containers were visible through window. The North end (Right) of the main structure had several containers of various condition and fullness. Contents appeared to be mostly rainwater. Area around containers was very unstable from wooden plates and scrap metal. Outside (10'x10') utility Bld was Latched but no Lock. I opened the door to find many containers with Labels of Solvents, corrosives, unknowns. Some container contents had reacted and formed crystals (corrosive). Photos were taken of front & side of main structure and inside of metal utility Bld. Photos # 14, 16, 17, 20 and 21. Attemp to Contact Randy Beck was not successful. Site appeared stable.

5-6-91 - Randy Beck was contacted Monday Morning to gather further information. Beck reported the same finding as Waddell during his visit but he did not see metal utility Bld. Beck reported the the property was half in City and half in County. The facility proper was in the County, therefore he had no enforcement authority but to inform. Beck indicated that Property owner was Elry & Peggy Holloway, Rt 1 Box 238-A, Bahama N.C. 27503 Ph # 477-1732. Waddell Called the Holloway number - Left message on answer machine to return call.

5-9-91 ~~[illegible]~~ HAVE NOT RECIEVED A RETURN CALL FROM Mr. or Mrs Holloway. ATTEMP to call again, Left message to return CALL ASAP.

5-13-91 HAVE NOT RECIEVED CALL FROM Mr or Mrs Holloway. ATTEMP to Contact was successful, SET up meeting for 5-14-91 @ 11:00am at the site.

5-14-91 10:00am No Power to the site! Myself + Peggy Holloway Present. (SITE Tour revealed 5 basic AREA plus an detached METAL UTILITY Bld.)

- Initial ENTRY was into room #1. (Room #1 was the only area of main structure where containers were visible) Room #1 ~~contained~~ contains: ~~[illegible]~~ one container (55 gal) Labeled "Xylene", ~~[illegible]~~ two containers ~~of~~ (55 gal) of WASTE Paint, 2 VATS of dirty solvents and 1 drum of dirty solvent (STRONG odor when Lids raised). Photos #1, 2, 3.
- Room #2 was entered from Room #1. Room #2 contains 11 VATS of which 7 contained material. A 15 gal container Labeled Sulfuric acid was ~~located between~~ with contents was Located between VATS. Photos #4, 5
- Room #5 is entered through room #2 and room #4 ~~and outside door~~. A Potassium Cyanide Labeled container was Located within 6 ft of VAT ROOM 2 (Room #2) and within 2-3 feet of a black unlabeled container (with contents) which resemble sulfuric acid container. Within 6 to 8 feet, another container (unLabeled) the same size, color + type ~~as~~ the Cyanide Labeled Container, had approx 3" to 4" ~~of~~ thick layer of CRYSTALS around the top. I assume this also to be Cyanide. STACKED in the upper ~~cor~~ southern corner of room #5 was 5 to 6 containers Labeled Cadium Salts. In Close ~~[illegible]~~ proximity of the Cadium Salts + Potassium Cyanide were TWO VATS with obvious corrosive contents. The floor of room #5 was gravel. (Photos 6, 7, 8, 9) WALKING in AREA was difficult due to NO Light, pallets ~~[illegible]~~ debree. NO obvious odors were detected. Consider this a Serious situation due ~~to [illegible]~~ potential to toxic gas.
- Room #3 is entered through room #2 + room #4 + over head door (Jammed). This room contained a kiln ~~[illegible]~~ spray booth. Many containers of Paint related material of various fullness was stacked against wall beside paint Booth. Photos #10
- Room #4 is entered through room #3 and room #5. This area contained many 55 gallon drum of unknown + Label materials. 2 of the drums with NOT flamable Labels and stenciled ~~Paint~~ Lacquer thinner was expanding. Tapping the drum reveal contents under some pressure. Consider this a dangerous fire + explosion risk. Photo 11, 12
- Metal Utility Bld was accessed by rear door + around outside of Bld. Heavy vegetation ~~prevented~~ Limited access. Door unLocked but Latched. Inside were several container Label paint + related materials with flamable Liquid DOT Labels. OTHER containers ~~[illegible]~~ appear to be of a corrosive nature. Crystal from corrosive reaction covered floor. Bld accessible but could be ~~Locked~~ secured.
- Outside, beside Northern END of Bld, were several 55 gallon drum of Various fullness as NOTED on 5-3-91 Intial visit.
- Beside Rear door (in front of Metal Utility Bld) were several 55 gallon Containers with appear to have been paint related material. No apparent labels.

5-11-91 (Cont.)

- I informed Peggy Holloway of the imminent danger and indicated an immediate response will be made. Mrs Holloway said that she was not financially able to hire a company to respond. She said that her & her husband had filed Chapter 11 Bankruptcy. She also indicated that she was not aware of the present situation until now. Her ATTORNEY Doug Wickham 821-8080 is her agent.
- Ms Holloway said she called Dynamic Industries (Last occupant) about what material they left ~~Dynamic~~ Dynamic Industries ~~According to~~ said that they were looking for a buyer for some of the chemicals. They had no use for them were they moved to. (Dynamic Industries, 1521 WAITE AVE, WAKE FOREST PH # 554-1399. Contact Mr. CHAVIS) Dynamic Indust. VACATED in NOV.-DEC 1990. Dynamic Leased premises from Holloways.
- Before Dynamic Industries, Elry Holloway operated Supreme Finishes. Peggy & Elry Holloway purchased property from Gerald THacker 471-2303 who started operated Supreme Finishes, ~~also~~

11:45am. Secured the site. Called Larry Perry by Pager 12:15 ~~12:30~~ no contact. ~~Larry P. said he would~~ Informed Larry of Imminent hazard & finances situation of Ms. Holl ~~Larry P~~ instructed me to leave ~~to~~ immediately ~~fro~~ for Raleigh to ~~talk~~ Bill Meyer. He would call Bill to initial Emergency Response. Left 12:30pm

1:15pm Met with Bill Meyer & Steve Reed. showed Photos of Rocs Rd Site. Bill agreed that an Emergency Exist and would begin process to free up Emergency funds to eliminate Imm. hazard

- Contacted Emergency Management, Dwayne Moore to alert Durham Co. and Durham City to situation & set up site security ASAP.
- Bill, at my request, Contacted 4 season Industrial Services to respond.

2:30 - Arrived back at Holloway Property. No response as of yet. Used neighbors phone to call Raleigh to inform of present status.

3:15 - Durham Co Deputy arrived.

3:20 - Four Season Arrived to access site. (Ed Setzer

3:40 - Emergency Management Bill Colley 560-1517 Arrived with Durham City Fire and HazMAT Team. (CAPT J.S. Krokowski & Tony Mangum.) to provide backup.

4:15 - Obtain approval to funding EE. Four Season EE Crew arrives Program Manage. Ken Webb. 273 2718. Funds to remove imminate hazard & stabilize site.

5:20 - ~~Ken I:~~ instruct Ken Webb to stablize & remove Potassium Cyanides, & Expand Containers. (2) Work begins. Emergency Site # NCTMP0003036

5:45 – Dr. Ken Rudo (733-3410) Toxicologist, N.C. suggest that Cadium salts be ~~rer~~ removed also. I agreed + Cadium was added to the action.

9:40 MATERIAL in question removed, site secured. MATERIAL will be transported to GSX Reidsville for further profiling for proper ID.

8:00 pm
-15-91 Met with Larry Perry at Holloway Property. Toured site. Checked accessible file at site from ~~reports~~ for possible responsible parties

9:00 STEVE Reed paged to find out possible COST KEN Webb estimated about $15,000.

9:10: Ken Rudo – ASK him to CONTACT LINDA Robinson 596 3644. Linda Robinson Live behind the site. She said that in the 70's Chemical were dump on ground. She fear that her well MAY be contaminated. Ken agreed to ASSIST HER.

9:15 Tim Dmaldly. DEM – Left Message for Jay Zimmerman, supervisor ground H_2O, to be alerted of possible contamination.

3:00 Meeting in Bill Mayers OFFICE ATTENDING Jack Butler – CERCLA, Jerry Knudes – NCHWS, Judy Bulla – Attorney General, Larry Perry – N-CHWS & Terry Waddell – NCHWS, Bill Mayer DSWM. Reason for meeting was to decide the best course to take after emergency response.

(1) Call EPA immediate removal team to evaluate the site for possible EPA funded action

(2) Identify all responsible parties.

(3) Check to find out if or the Building is on a septic tank system.

5-16-91 -- Met with [illegible] and EPA TAT. Jim Hawkins, John Mason & Dora Ann Donner for EPA evaluation. I agreed with our conclusions. Site stable & secure.

5-16-91 -- Durham Co H.D. -- NO Record of a septic tank being installed

5-16-91 – Peggy Holloway – indicated that Bilding is on a sp septic Tank but has City H_2O. Holloway's purchased property from Harold Thacker May 10th 1971. Tim to purchase Thacker lived in house on property and operated Supreme Finishing for 13 years → (1986). Mr. Elvy Holloway operated Supreme Finishing from 1979 to 1987. Only did finishing work such as painting. Mr. Holloway said that all

DEPARTMENT OF HUMAN RESOURCES
DIVISION OF HEALTH SERVICES
ENVIRONMENTAL HEALTH SECTION

REPORT OF INVESTIGATION OR INSPECTION OF_____

Place visited _____ **Date** _____ **19**___

Address _____ **Time spent** _____

By whom _____

Persons contacted _____
(Owner, agent, tenant, manager, other)

Reason for visit _____

Copies to:

REPORT:

of their business activities (Supreme Finishing) is in file cabinet on site including a purchase inventory from Thacker.
Allaway Filed for bankruptcy Dec of 1989 (Chapter 11)

Form 1489 Rev. 5/80

FOUR SEASONS INDUSTRIAL SERVICES, INC.
Post Office Box 16590
Greensboro, North Carolina 27416
(919) 273-2718

№ 14750

NON-HAZARDOUS WASTE MANIFEST

Manifest # 00001 F.S.I.S. JOB # 91-5007 Date: 5/17/91

Generator: Roy Holloway, Property Mgr NCDHR Phone No.: (919) 733-2170
PO Box 2091 EPA ID No.: NCD981000036
Raleigh, NC 27602-2091 Contact: Terry Liddell

Process which generated waste: Emergency Response

I certify that the materials described below are properly described, classified, packaged, marked & labeled, and are in proper condition to be transported in commerce under the applicable regulations of the State, the Environmental Protection Agency and the Department of Transportation. I certify that the waste described below is non-hazardous. I certify that the specific waste was delivered to the carrier named below for legal treatment, storage, or disposal at the site indicated.

Date 5/17/91 Signature [illegible]

Description of waste	Circle Form	Quantity	Circle Units	Container	
				No.	Type
[illegible]	Solid Liquid Gas Sludge	30	Gallons Cu. Yds. (Pounds) Tons	2	Poly Bags

Transporter: Four Seasons Industrial Services, Inc Unit Number(s) ER van
PO Box 16590 Phone No.: (919) 273-2718
Greensboro, NC 27416 EPA ID No.: NCD911277732
Vechicle License Tag Number(s) LM 1180 (NC) Container: 51 truck

I certify that the specified waste was transferred in a registered (licensed) vehicle to the disposal treatment, storage, or disposal facility named below and was accepted.

Pick-up Driver's Signature	Date	Delivering Driver's Signature	Date
[illegible]	5/17/91		

Facility: Four Seasons Industrial Services, Inc Phone No. (919) 273-2718
519 Patton Ave
Greensboro, NC 27406 Contact: Wayman Autrey

Handling Method: Solidify, Hence landfill

I certify that the transporter above delivered the specified material to this TSD facility and was accepted and properly handled in the above manner. We are authorized and qualified by the State of NC to handle this material.

Date _____ Signature: _____

p.11

FOUR SEASONS INDUSTRIAL SERVICES, INC.

Post Office Box 16590, Greensboro, North Carolina 27416 919-273-2718

Client: N.C. Dept. of Environment Health & Natural Resources

Job Location: Holloway Property, Fountain Rd, Durham, NC

Billing Address: NC DEHNR, PO Box 27687, Raleigh, NC 27611-7687

(Hours past 5 pm @ OT Rates)

Job #: 91-50077

P.O.#:

Date: 5/14/91

Prepared By: K. Webb

Contact: Terry Waddell

Phone: (919) 733 2178

TIME & MATERIAL [X] CONTRACT [ ]

PERSONNEL

CODE	Reg-Hrs	O.T.-Hrs	Name	CODE	Reg-Hrs	O.T.-Hrs	Name
PR01	1.5	5.5	K. Webb *	PR06	1.75	5.5	E. Setzer **
PR02	1.5	5.5	J. Richardson *	PR03	1.75	5.5	G. Pickard **
PR02	1.5	5.5	D. White *				
PR03	1.5	5.5	R. Goldowski *		1.5		Hep J. Wilcox
PR03	1.5	5.5	J. Wilcox *		1.5		R. Goldowski

TRANSPORTATION

CODE	Quantity	Miles	Trans-Unit	CODE	Quantity	Miles	Trans-Unit
TV05	1 day	220	ER Van 579				
TV09	1 day	120	PU 29				
TV09	1 day	120	PU 16				
TV01	1 day	120	PU 2				

EQUIPMENT

CODE	Hours	Equipment Units	CODE	Hours	Equipment Units
TV09	1 day	PU 16 Pickup	ES09	1 day	OVA
TV07	1 day	PU 2 Service Truck	ES01	1 day	UEL/O2
TV05	1 day	579 ER Van	ES07		
TV09	1 day	PU 29 Pickup	ES03	1 day	Mobil Phone (2 ea)
TV02	1	P6 Pump truck ***	EL10	1 day	Generator
			EL11	1 day	Lights

*** from nearby project will be picked (No purging required)

MATERIALS

CODE	Quantity	Materials / Supplies	CODE	Quantity	Materials / Supplies
MG06	2 rolls	Barricade Tape	ES13	3 sets	SCBA Units
MG03	1 roll	Poly (1/4 roll only)	ES02	3 sets	PTT Headset
MG04	5 ea	Drum liners	MS06	20 pr	Surgeons Gloves
MG05	2 roll	Duct tape	MS07	3 sets	Chemrel (Level B)
MS08	4 pr	Nitrile Gloves	PR12	5 ea	Wilson full face
MS02	6 ea	Yellow Gloves	MS04	7 pr	PVC gloves
MOTH	3	trash bags	MS18	6 pr	Cartridges T-05

OTHER

CODE	Qty/Hrs	Other Descriptions	CODE	Qty/Hrs	Other Descriptions
EOTH	1 ea	Crane Mats	DR06	2 ea	Cyanide
EOTH	1 ea	Drager Tubes & Pump	DR06	2 ea	Acid (overpacks)
MG21	1 ea	Poly overpacks	DR06	5 ea	Cadmium Salts (1 oz)
MG22	1 ea	Poly SS 30 gal (NH)	DR01	2 bags	PPE
MG22	2 ea	Poly SS 30 gal (open)	MOTH	2 ea	arm thieves (5 ea)
MOTH	4	Rolls (O White)			

Description of Services: Leave GSO 2:30 pm arrive 4:15 pm; ** leave from Henderson NC arrive 3:15 pm secure containers to direction of State OSC remove all drums of containerized material to TCDF (Laidlaw) for analysis and disposal. Recertify

off site 9:30 pm (NTE $25,000)

(hr Demob

(Note: This is not an invoice or a complete inventory of time and materials for this project, but a total up to this date)

Employee Signature: [signature]

Client Signature: [signature]

Ref. 33

STATE OF NORTH CAROLINA

Department of Environment, Health, and Natural Resources
Division of Solid Waste Management
Superfund Section

PRELIMINARY ASSESSMENT

Supreme Finishing
Durham, Durham County, North Carolina
NCD 986 188 878

September 1993

Irene Williams, Environmental Chemist
Division of Solid Waste Management
Superfund Section

Ref. 34

August 29, 1995

TO: File

FROM: Irene Williams, Environmental Chemist Irene Williams
N.C. Superfund Section

RE: Supreme Finishing (NCD 986 188 878)
Updating references

On August 17, 1995 I spoke with Mr. Wayne Brogden and Mr. Don Greeley of the City of Durham Engineering Department (560-4326) to verify the information in Reference 14 of the PA report and to determine if any changes in water lines or population distribution pertinent to the site have taken place since September 23, 1993 that would affect HRS evaluation of the site. I learned that a new major water line in the area is under construction but not yet in service, two new subdivisions have been built and are on city water, there are still no storm drains in the vicinity of the site, and no new surface water intakes have been added for Durham. This indicates that no significant changes in the ground water using population have occurred (except minor changes in populations using community wells) and that the water intake situation for Durham has not changed in the ensuing period.

Changes in population using community wells as reflected in March 8, 1995 NC Public Water Supply System data provided by Ms. Martha Moore have been used to update PA Reference 6 for purposes of the Site Inspection (SI).

On August 18, 1995 I spoke with Mr. J.D. Monroe (910/486-1191 or pager: 1-800-412-1798), Water Treatment Plant Consultant, Public Water Supplies. He verified that there have been no changes in surface water intakes in the 15-mile surface water pathway since our September 23, 1993 teleconference (Reference 14 of the PA report). I also checked the Wake Forest quad topographic map for the nearest Raleigh intake downstream of the site and verified that the location is beyond the end of the 15-mile surface water pathway for the site.

On August 25, 1995, I verified that the day care center information cited in Reference 22 of the PA report is the most current in our files.

On August 29, 1995, I verified that the Flood Insurance Map cited in Reference 17 of the PA report and that the stream classification information cited in References 18 and 23 of the PA report are the most recent in our files.

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

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

Ref. 35

DEHNR

July 15, 1994

Ms. Cindy Gurley
EPA NC CERCLA Project Officer
U. S. EPA Region IV Waste Division
345 Courtland Street, NE
Atlanta, GA 30365

Subject: Site Inspection Sampling Plan
Supreme Finishing Site (NCD 986 188 878)
Durham, Durham County, NC

Dear Ms. Gurley:

This letter contains the proposed sampling plan for the Site Inspection of the Supreme Finishing Site (NCD 986 188 878) Durham, Durham County, North Carolina. The site is an abandoned plating and painting facility. The site has been the object of emergency removal actions by the Hazardous Waste Section of the Solid Waste Management Division of the North Carolina Department of Environment, Health, and Natural Resources (DEHNR-HWS) and by the United States Environmental Protection agency (USEPA), Region IV Waste Management Division. Investigation by DEHNR-HWS revealed the presence of vats and drums of chemicals, including cyanide, chromium, cadmium, lead, toluene, xylene, and ethyl benzene at the facility. Soil samples were found to contain these analytes as well as polynuclear aromatic hydrocarbons (PAH's). Drums, vats, debris and some contaminated soil have been removed from the site by DEHNR-HWS and the USEPA. Areas of contaminated soil may remain on the property.

Surface runoff from the site is toward a private pond about 500 feet north northeast of the site via an overland pathway which includes a culvert under the street adjacent to the site. This private pond is a fishery. Other fisheries as well as wetlands occur in the 15-mile surface water pathway. On the site, in an area where contaminated soil was removed, is a spring. This is also near the culvert which directs surface water runoff onto the adjacent property.

The primary purpose of this site inspection is to determine if contaminants have migrated from the site via the ground water and surface water pathways. Additionally, source samples will be taken of soils from areas at the edges of locations where soil removals occurred to determine whether levels of contaminants significantly above background remain on the site. Samples will be analyzed for metals, cyanide, volatile organics, and semi-volatile organics.

The attached table and figure show the proposed sampling locations, analytes and a rationale for each sample. Analysis will be performed by the NC Laboratory of Public Health in Raleigh, NC. With your approval of this sampling plan, we intend to sample the site on or about August 2, 1994. If you have any questions, please contact me at (919) 733-2801.

Sincerely,

Irene Williams

Irene Williams
Environmental Chemist
Superfund Section

Attachments

Approved by: _____ Date: _____
Cindy Gurley
NC CERCLA Project Officer

TABLE OF RECOMMENDED SAMPLES
SITE INSPECTION
SUPREME FINISHING
NCD 986 188 878
DURHAM, DURHAM COUNTY, NC

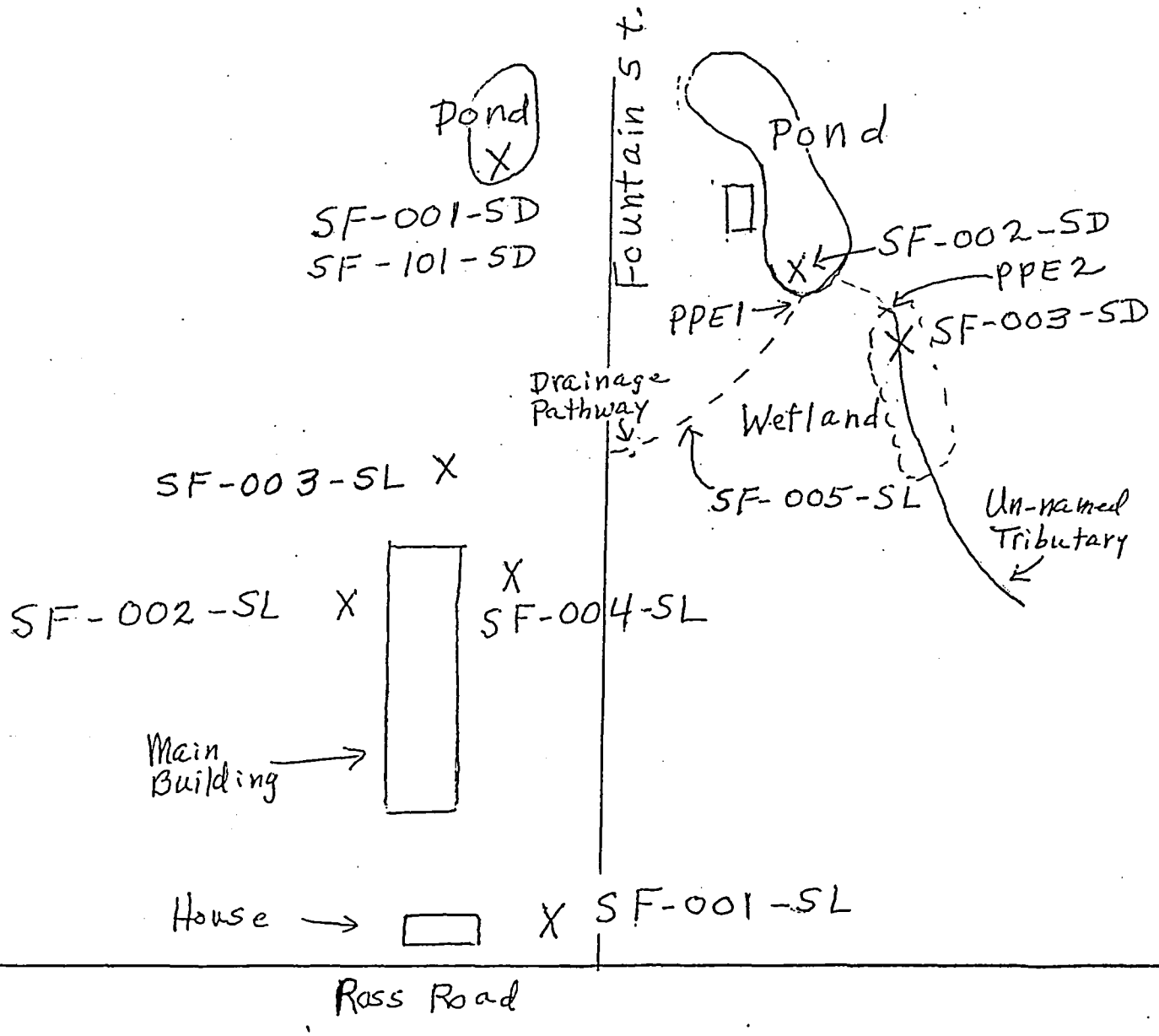
SAMPLE ID	TYPE/ANALYSES	RATIONALE	DESCRIPTION
SF-001-SL	SURFACE SOIL, V,E,I,P,PCB,CN	BACKGROUND SOIL	SE CORNER OF SITE; DEPTH: 1"-6"
SF-001-SS	SUBSURF.SOIL, V,E,I,P,PCB,CN	BACKGROUND SOIL	SE CORNER OF SITE; DEPTH: 12"-18"
SF-002-SL	SURFACE SOIL, V,E,I,P,PCB,CN	DETERMINE IF CONTAMINANTS ABOVE BACKGROUND REMAIN IN SOIL ON SITE	SURFACE SOIL NORTH OF MAIN BLDG NEAR SPRING; DEPTH: 1"-6"
SF-002-SS	SUBSURF.SOIL, V,E,I,P,PCB,CN	SAME AS ABOVE	N OF MAIN BLDG NEAR SPRING;DEPTH: 12"-18"
SF-003-SL	SURFACE SOIL, V,E,I,P,PCB,CN	SAME AS ABOVE	SURFACE SOIL W OF MAIN BLDG; DEPTH: 1"-6"
SF-003-SS	SUBSURF.SOIL, V,E,I,P,PCB,CN	SAME AS ABOVE	W OF MAIN BLDG;DEPTH: 12"-18"
SF-004-SL	SURFACE SOIL, V,E,I,P,PCB,CN	SAME AS ABOVE	SURFACE SOIL NEAR NW CORNER OF MAIN BLDG; DEPTH: 1"-6"
SF-004-SS	SUBSURF.SOIL, V,E,I,P,PCB,CN	SAME AS ABOVE	NEAR NW CORNER OF MAIN BLDG; DEPTH: 12"-18"

SF-001-SD	SEDIMENT, V,E,I,P,PCB,CN	BACKGROUND SEDIMENT	SEDIMENT FROM POND SE OF SITE
SF-002-SD	SEDIMENT, V,E,I,P,PCB,CN	DETERMINE IF CONTAMINANTS HAVE MIGRATED INTO SURFACE WATER PATHWAY (POND)	SEDIMENT FROM POND AT PPE1
SF-003-SD	SEDIMENT, V,E,I,P,PCB,CN	DETERMINE IF CONTAMINANTS HAVE MIGRATED INTO SURFACE WATER PATHWAY (WETLAND)	SEDIMENT FROM WETLAND AND UN-NAMED TRIBUTARY AT PPE2
SF-103-SD	SEDIMENT, V,E,I,P,PCB,CN	SAME AS ABOVE	DUPLICATE OF SF-003-SD
SF-001-PW	WATER FROM PRIVATE DRINKING WATER WELL, V,E,I,P,PCB,CN	DETERMINE IF CONTAMINANTS HAVE MIGRATED INTO GROUND WATER	WATER FROM ROBINSON'S WELL N OF SITE
SF-101-PW	WATER FROM PRIVATE DRINKING WATER WELL, V,E,I,P,PCB,CN	SAME AS ABOVE	WATER FROM PRIVATE WELL S OF SITE
SF-001-TB	TRIP BLANK; V	DETERMINE IF SAMPLES CONTAMINATED DURING STORAGE AND TRANSPORTATION	ORGANIC-FREE WATER FROM LAB, WITH PRESERVATIVE
SF-001-PB	PRESERVATIVE BLANK; I	DETERMINE IF PRESERVATIVE USED IN FIELD WAS CONTAMINATED	DEIONIZED WATER FROM LAB PRESERVED AT END OF SAMPLING

V = VOLATILES, E = EXTRACTABLE ORGANICS, I = INORGANICS,
P = PESTICIDES, PCB = POLYCHLORINATED BIPHENYLS, CN=CYANIDE

Supreme Finishing
NCD 986 188 878
Planned Sampling Points for
Site Inspection

(Not to Scale)



Ref. 36

August 3, 1994

TO: File

FROM: Irene Williams, Environmental Chemist Irene Williams
N.C. Superfund Section

RE: Supreme Finishing (NCD 986 188 878)
Site Inspection Sampling Visit

On August 2, 1994, Bob Gandley, Jeanette Stanley, Harry Zinn, Dave Lilley and I went to the site area to collect on-site and off-site soil samples, off-site sediment samples, and, if feasible, a water sample from an on-site spring. We arrived at the site at approximately 8:45 AM. First we explored the site to select the best locations for soil samples and to investigate whether it would be wise to attempt to collect a spring water sample. The area of the spring was very overgrown and muddy. There seemed no way to obtain a water sample that would be identifiable as spring water as opposed to surface water runoff; therefore, no water sample was collected. We spent some time locating a culvert that passes under Fountain Street because of the heavy undergrowth. When located, the end of the culvert across the street from the site appeared to be blocked with soil. Team B, Jeanette Stanley and Harry Zinn, remained at the site to collect on-site and background surface soil samples (SF-001-SL, SF-002-SL, SF-003-SL, and SF-004-SL). A list and sketch of sample locations are attached.

Team A, Bob Gandley and I, proceeded north on Fountain Street, then north northwest onto Canton Street, to a pond on the west side of Canton. There we collected two widely separated background sediment samples (SF-001-SD and SF-101-SD). We then crossed the street and sampled sediment in the large pond behind the Robinson residence at 48 Canton (SF-002-SD). At this stage, Mr. Clyde Robinson came out and talked with us about the site and the area in general.

Both teams took a quick refreshment break and then returned to the site area. Irene Williams and Harry Zinn collected a surface soil sample (SF-005-SL) in the drainage pathway to the east of Fountain Street. The entire group drove to the Twin Lakes Park on the west side of the large pond behind the Robinson residence to verify the location of the drainage pathway. We then went to the wetland which crosses under Chandler Street and collected a sediment sample (SF-003-SD). This concluded sampling.

Attachments

TABLE OF RECOMMENDED SAMPLES
SITE INSPECTION
SUPREME FINISHING
NCD 986 188 878
DURHAM, DURHAM COUNTY, NC

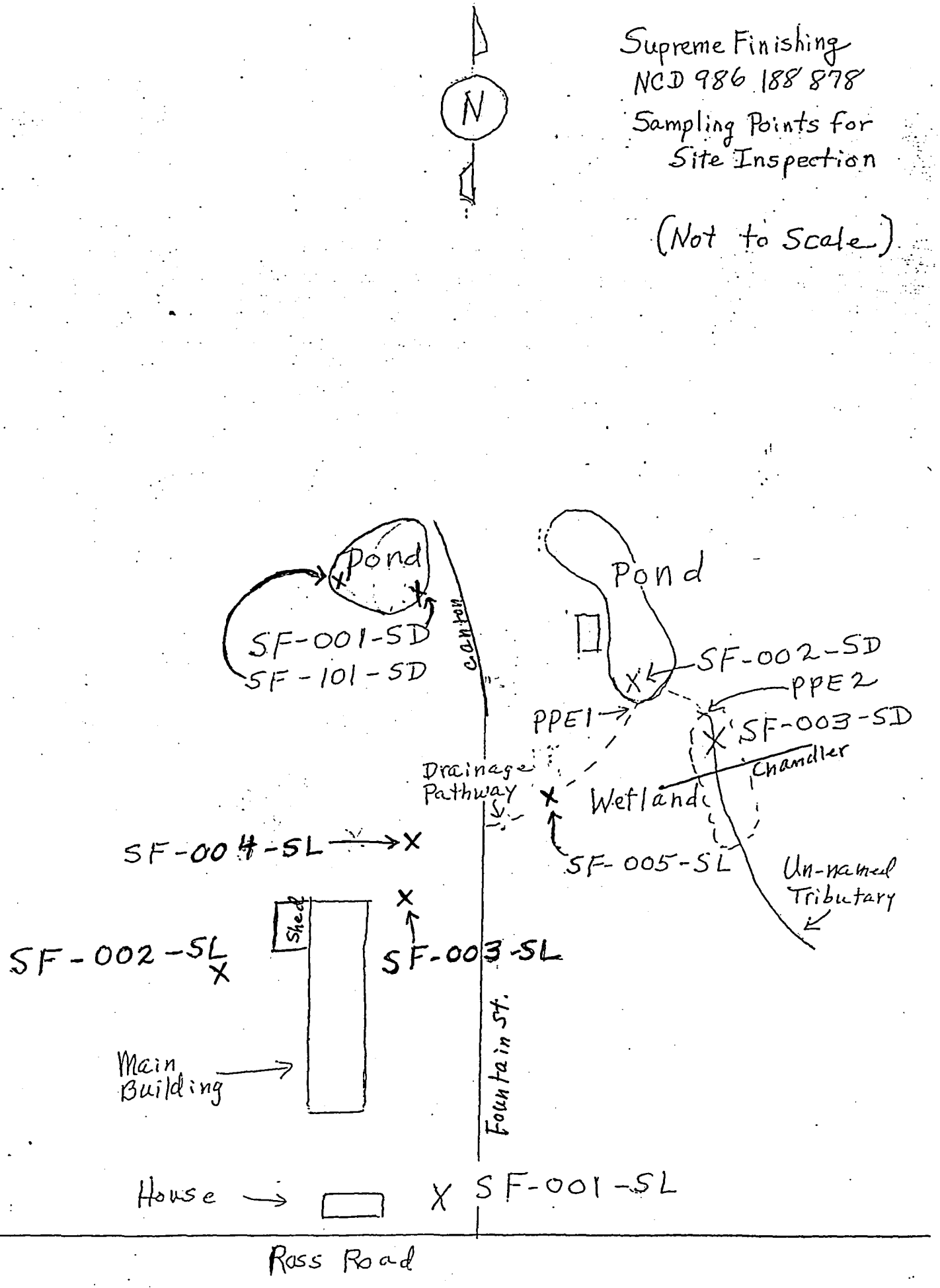
SAMPLE ID	TYPE/ANALYSES	RATIONALE	DESCRIPTION
SF-001-SL	SURFACE SOIL, V,E,I,P,PCB,CN	BACKGROUND SOIL	SE CORNER OF SITE; DEPTH: 1"-6"
SF-001-SS	SUBSURF.SOIL, V,E,I,P,PCB,CN	BACKGROUND SOIL	SE CORNER OF SITE; DEPTH: 12"-18"
SF-002-SL	SURFACE SOIL, V,E,I,P,PCB,CN	DETERMINE IF CONTAMINANTS ABOVE BACKGROUND REMAIN IN SOIL ON SITE	SURFACE SOIL NORTH OF MAIN BLDG NEAR SPRING; DEPTH: 1"-6"
SF-002-SS	SUBSURF.SOIL, V,E,I,P,PCB,CN	SAME AS ABOVE	N OF MAIN BLDG NEAR SPRING;DEPTH: 12"-18"
SF-003-SL	SURFACE SOIL, V,E,I,P,PCB,CN	SAME AS ABOVE	SURFACE SOIL W OF MAIN BLDG; DEPTH: 1"-6"
SF-003-SS	SUBSURF.SOIL, V,E,I,P,PCB,CN	SAME AS ABOVE	W OF MAIN BLDG;DEPTH: 12"-18"
SF-004-SL	SURFACE SOIL, V,E,I,P,PCB,CN	SAME AS ABOVE	SURFACE SOIL NEAR NW CORNER OF MAIN BLDG; DEPTH: 1"-6"
SF-004-SS	SUBSURF.SOIL, V,E,I,P,PCB,CN	SAME AS ABOVE	NEAR NW CORNER OF MAIN BLDG; DEPTH: 12"-18"

SF-001-SD	SEDIMENT, V,E,I,P,PCB,CN	BACKGROUND SEDIMENT	SEDIMENT FROM POND SE OF SITE
SF-002-SD	SEDIMENT, V,E,I,P,PCB,CN	DETERMINE IF CONTAMINANTS HAVE MIGRATED INTO SURFACE WATER PATHWAY (POND)	SEDIMENT FROM POND AT PPE1
SF-003-SD	SEDIMENT, V,E,I,P,PCB,CN	DETERMINE IF CONTAMINANTS HAVE MIGRATED INTO SURFACE WATER PATHWAY (WETLAND)	SEDIMENT FROM WETLAND AND UN-NAMED TRIBUTARY AT PPE2
SF-103-SD	SEDIMENT, V,E,I,P,PCB,CN	SAME AS ABOVE	DUPLICATE OF SF-003-SD
SF-001-PW	WATER FROM PRIVATE DRINKING WATER WELL, V,E,I,P,PCB,CN	DETERMINE IF CONTAMINANTS HAVE MIGRATED INTO GROUND WATER	WATER FROM ROBINSON'S WELL N OF SITE
SF-101-PW	WATER FROM PRIVATE DRINKING WATER WELL, V,E,I,P,PCB,CN	SAME AS ABOVE	WATER FROM PRIVATE WELL S OF SITE
SF-001-TB	TRIP BLANK; V	DETERMINE IF SAMPLES CONTAMINATED DURING STORAGE AND TRANSPORTATION	ORGANIC-FREE WATER FROM LAB, WITH PRESERVATIVE
SF-001-PB	PRESERVATIVE BLANK; I	DETERMINE IF PRESERVATIVE USED IN FIELD WAS CONTAMINATED	DEIONIZED WATER FROM LAB PRESERVED AT END OF SAMPLING

V = VOLATILES, E = EXTRACTABLE ORGANICS, I = INORGANICS,
P = PESTICIDES, PCB = POLYCHLORINATED BIPHENYLS, CN=CYANIDE

Supreme Finishing
NCD 986 188 878
Sampling Points for
Site Inspection

(Not to Scale)



8/2/94 Supreme Finishing

Arrived Site 0845 - explored & selected soil sampling areas - Left HB & JS to sample. BG & I went to "background" pond for 2 separate sediment sample.
SF-001-SD sampled at 940 AM for VOA's, Metals, EXT & CN
SF-101-SD sampled at 1000 AM at other end of background pond.
Off to large pond near Robinson for sample SF-002-SD as close to drainage pathway as possible. (1025 AM)
Mr Robinson came out to visit just as we were leaving.

We took a quick bathroom break - returned to Fountain St. and collected soil in drainage pathway across Fountain St. from site (see JS's book) (See p. 62).
Proceeded to Twin Lakes Park to check on drainage path - then on to wetland off Chandler Road.

Steve Williams 8/2/94

on side of road toward the site. Plenty of water in a well-defined stream bed.

Note - at background pond noticed lot of fish, frogs, tadpoles. Also saw tadpoles in wet area of spring on site.
Unable to sample spring as could not be sure where it fed into the holes which always also apparently contained muddy runoff water.

Left the area by 1230 PM for lunch & return to Tyler.

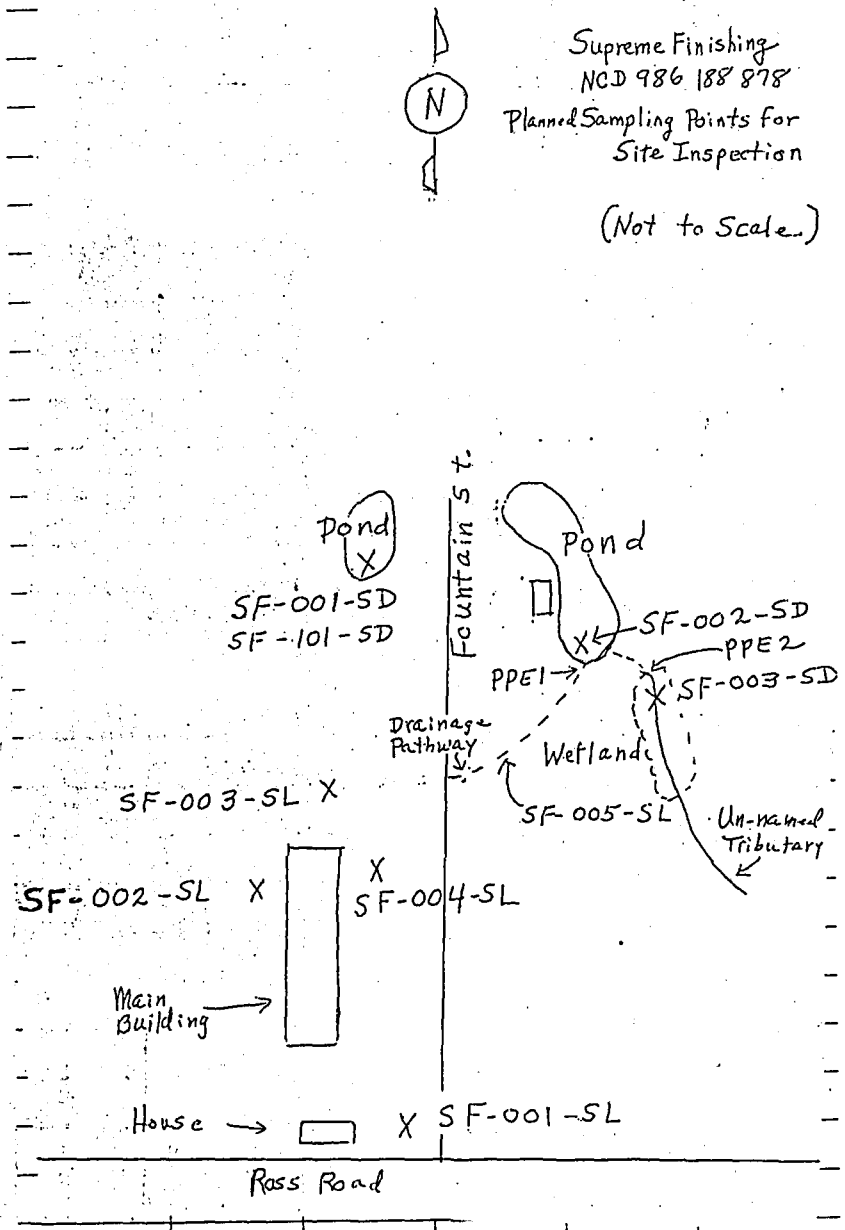
Notes: Pgs. Copied from J. Stanley's log book follow on pp. 59-63

Sketch adapted from sampling plan follows on p. 58.

Steve Williams 8/2/94

Supreme Finishing
NCD 986 188 878
Planned Sampling Points for
Site Inspection

(Not to Scale)



Supreme Finishing
8/2/94
arrived at site 0845
present B. Gandley
H. Zinn
D. Gilley
J. Stanley
T. Williams

VOA Soil Lot # 1057013

Semi/metal soil Lot # 0232023

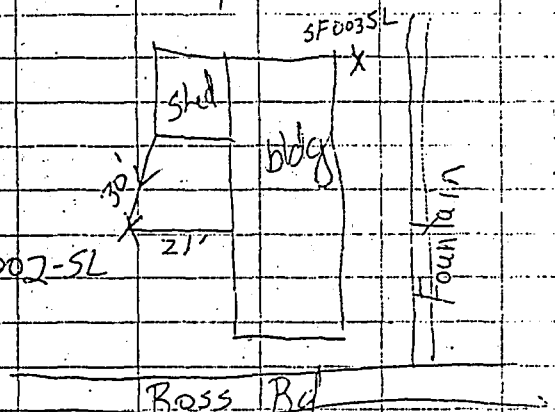
Sunny 80's Hazy Hot + Humid
SF001-SL Sample Located 20 FT
From Power Pole 2047462 0616010
Along Parallel to Fountain ~~Ross~~ Rd

Brown Silty Clay at 4" depth
VOA collected Photo 1 and Photo 2
at 09:35
Land does not appear to be well maintained
BNA + Metals collected at 09:45

SF-002-SL -

21' W of bldg.

30' SW of shed corner



SF-002-SL- VOA 0955

Photo #3 Looking from North at SF-002-SL

Photo #4 Looking South from shed corner at SF-002-SL

Soil - red clay -

VOA sample collected at 4"

BNA + Metal collected at 4-6"

SF-002-SL (1001am)

SF-004-SL Located 3' west of Road and 6' North of End of main Building

Photo 5 + Photo 6

Photo 5 Looking North Alley Fountain

Photo 6 Looking SW towards Main Bldg.

VOA Collected at 10:10

Soil is a Brown Silty Soil

BNA + Metals collected at 10:17

SF-003-SL Located 15' due East of NE Corner of bldg.

Soil Brown, Silty

Volatiles - 10:27

Photo #7 SF-003-SL from east looking West

Semi Metals SF-003-SL 10:38am

Began Sampling - SF-005-SL
on surface drainage pathway
inside tree line
~25 yds W of Rd.
~60 yds NE of Bldg
Decayed Pine Roots
present in sample

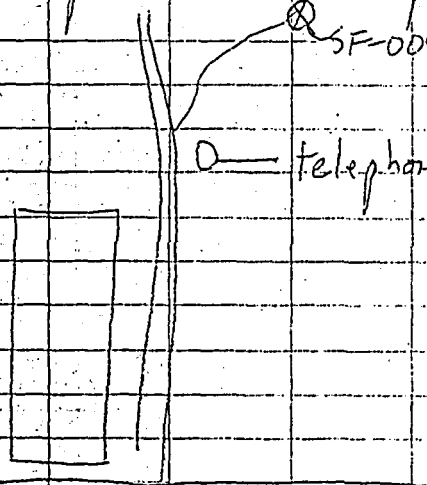


photo # 8 - SF-005-SL
looking E from Fountain
(see Dave's white shirt)

SF-005-SL VOA 1135

SF005-SL - BNA/Metals 1140
composited in situ

Photo # 9 Looking N from
Chandler Rd. 1/2 to w/L
receiving drainage from Twin
Lakes Pond

SF-003-SD 1206 VOA
~ 25 yd. N of Chandler Rd
Sediment - sand + clay mixture
Photo # 10 - Sample Location

BNA/Metals - 1210
composited in situ
prepared trip blank 1225
left 1235

4/2/94

End of Supreme Finishing Entry

Ref. 38

SUPERFUND CHEMICAL DATA MATRIX

APPENDIX B TABLES

June 1994

HAZARD RANKING SYSTEM
Hazardous Substance Benchmarks
(333 Substances)

Substance Name	CAS Number	SOIL PATHWAY Reference Dose Screen Conc (mg/kg)	SOIL PATHWAY Cancer Risk Screen Conc (mg/kg)
Dinoseb	000088-85-7	5.8E+02	...
Dioxane, 1,4-	000123-91-1	...	5.3E+01
Dioxathion	000078-34-2	...	...
Diphenylhydrazine, 1,2-	000122-66-7	...	7.3E-01
Diquat	000085-00-7	1.3E+03	...
Disulfoton	000298-04-4	2.3E+01	...
Diuron	000330-54-1	1.2E+03	...
Endosulfan (I or II)	000115-29-7	3.5E+03*	...
Endosulfan sulfate	001031-07-8	...	...
Endothall	000145-73-3	1.2E+04	...
Endrin	000072-20-8	1.7E+02	...
Endrin aldehyde	007421-93-4	... *	...
Ethion	000563-12-2	2.9E+02	...
Ethyl acetate	000141-78-6	5.2E+05	...
Ethyl benzene	000100-41-4	5.8E+04	...
Ethyl chloride	000075-00-3	...	...
Ethyl ether	000060-29-7	1.2E+05	...
Ethyldipropylthiocarbamate, s-	000759-94-4	1.5E+04	...
Ethylene glycol	000107-21-1	1.2E+06	...
Ethylene glycol monoethyl ether	000110-80-5	...	...

HAZARD RANKING SYSTEM
Hazardous Substance Benchmarks
(333 Substances)

Substance Name	CAS Number	SOIL PATHWAY Reference Dose Screen Conc (mg/kg)	SOIL PATHWAY Cancer Risk Screen Conc (mg/kg)
Dichloroethylene, trans-1,2-	000156-60-5	1.2E+04	...
Dichlorophenol, 2,4-	000120-83-2	1.7E+03	...
Dichlorophenoxyacetic acid, 2,4-	000094-75-7	5.8E+03	...
Dichloropropane, 1,2-	000078-87-5	...	8.6E+00
Dichloropropene, 1,3-	000542-75-6	1.7E+02	3.2E+00
Dichlorvos	000062-73-7	2.9E+02*	2.0E+00
Dicofol	000115-32-2	...	...
Dieldrin	000060-57-1	2.9E+01	3.6E-02
Diethyl phthalate	000084-66-2	4.7E+05	...
Diethylene glycol	000111-46-6	...	...
Diisopropylmethyl-phosphonate	001445-75-6	4.7E+04	...
Dimethoate	000060-51-5	1.2E+02	...
Dimethoxybenzidine, 3,3-	000119-90-4	...	4.2E+01
Dimethyl phenol, 2,4-	000105-67-9	1.2E+04	...
Dimethyl phthalate	000131-11-3	5.8E+06	...
Dimethyl sulfate	000077-78-1	...	...
Dinitrobenzene, 1,3-	000099-65-0	5.8E+01	...
Dinitrophenol, 2,4-	000051-28-5	1.2E+03	...
Dinitrotoluene, 2,4-	000121-14-2	1.2E+03	...
Dinitrotoluene, 2,6-	000606-20-2	5.8E+02*	...

HAZARD RANKING SYSTEM
Hazardous Substance Benchmarks
(333 Substances)

Substance Name	CAS Number	SOIL PATHWAY Reference Dose Screen Conc (mg/kg)	SOIL PATHWAY Cancer Risk Screen Conc (mg/kg)
DDT	000050-29-3	2.9E+02	1.7E+00
DEF	000078-48-8	1.7E+02*	...
Di-n-butyl phthalate	000084-74-2	5.8E+04	...
Di-n-octyl phthalate	000117-84-0	1.2E+04	...
Diazinon	000333-41-5	5.2E+02	...
Dibenz(a,h)anthracene	000053-70-3	...	...
Dibenzofuran	000132-64-9	...	...
Dibromo-3-chloropropane, 1,2-	000096-12-8	...	4.2E-01
Dibromochloromethane	000124-48-1	1.2E+04	6.9E+00
Dibromoethane, 1,2-	000106-93-4	...	6.9E-03
Dicamba	001918-00-9	1.7E+04	...
Dichlorobenzene, 1,2-	000095-50-1	5.2E+04	...
Dichlorobenzene, 1,3-	000541-73-1	...	...
Dichlorobenzene, 1,4-	000106-46-7	...	2.4E+01
Dichlorobenzidine, 3,3-	000091-94-1	...	1.3E+00
Dichlorodifluoromethane	000075-71-8	1.2E+05	...
Dichloroethane, 1,1-	000075-34-3	5.8E+04*	...
Dichloroethane, 1,2-	000107-06-2	...	6.4E+00
Dichloroethene, 1,1-	000075-35-4	5.2E+03	9.7E-01
Dichloroethylene, cis-1,2-	000156-59-2	5.8E+03	...

HAZARD RANKING SYSTEM
Hazardous Substance Benchmarks
(333 Substances)

Substance Name	CAS Number	SOIL PATHWAY Reference Dose Screen Conc (mg/kg)	SOIL PATHWAY Cancer Risk Screen Conc (mg/kg)
Chromium(III)	016065-83-1	5.8E+05	...
Chromium(VI)	018540-29-9	2.9E+03*	...
Chrysene	000218-01-9	...	...
Cobalt	007440-48-4	...	...
Copper	007440-50-8	...	...
Copper cyanide	000544-92-3	2.9E+03	...
Coumaphos	000056-72-4	...	...
Creosote	008001-58-9	...	...
Cresol, m-	000108-39-4	2.9E+04	...
Cresol, p-	000106-44-5	2.9E+03*	...
Cumene	000098-82-8	2.3E+04	...
Cyanazine	021725-46-2	1.2E+03	6.9E-01*
Cyanide	000057-12-5	1.2E+04	...
Cyanogen	000460-19-5	2.3E+04	...
Cyanogen bromide	000506-68-3	5.2E+04	...
Cyclohexane	000110-82-7	...	...
Cyclohexanone	000108-94-1	2.9E+06	...
Cyclotrimethylenetrinitriamine	000121-82-4	1.7E+03	5.3E+00
DDD	000072-54-8	...	2.4E+00
DDE	000072-55-9	...	1.7E+00

HAZARD RANKING SYSTEM
Hazardous Substance Benchmarks
(333 Substances)

Substance Name	CAS Number	SOIL PATHWAY Reference Dose Screen Conc (mg/kg)	SOIL PATHWAY Cancer Risk Screen Conc (mg/kg)
Carbaryl	000063-25-2	5.8E+04	...
Carbofuran	001563-66-2	2.9E+03	...
Carbon disulfide	000075-15-0	5.8E+04	...
Carbon Tetrachloride	000056-23-5	4.1E+02	4.5E+00
Carbophenothion	000786-19-6	...	...
Cesium	007440-46-2	... *	... *
Chloral	000075-87-6	1.2E+03	...
Chlordane	000057-74-9	3.5E+01	4.5E-01
Chlorine cyanide	000506-77-4	2.9E+04	...
Chloro-3-methylphenol, 4-	000059-50-7	1.2E+06	...
Chloroaniline, p-	000106-47-8	2.3E+03	...
Chlorobenzene	000108-90-7	1.2E+04	...
Chloroform	000067-66-3	5.8E+03	9.6E+01
Chloromethane	000074-87-3	...	4.5E+01
Chloromethyl methyl ether	000107-30-2	...	...
Chloromethyloxirane, 2-	000106-89-8	1.2E+03*	5.9E+01
Chloronaphthalene, 2-	000091-58-7	4.7E+04	...
Chlorophenol, 2-	000095-57-8	2.9E+03	...
Chlorpyrifos	002921-88-2	1.7E+03	...
Chromium	007440-47-3	2.9E+03	...

HAZARD RANKING SYSTEM
Hazardous Substance Benchmarks
(333 Substances)

Substance Name	CAS Number	SOIL PATHWAY Reference Dose Screen Conc (mg/kg)	SOIL PATHWAY Cancer Risk Screen Conc (mg/kg)
Benzoic acid	000065-85-0	2.3E+06	...
Benzonitrile	000100-47-0	...	...
Benzothiazole, 1,2,-	000095-16-9	...	...
Benzyl chloride	000100-44-7	...	3.4E+00
Beryllium	007440-41-7	2.9E+03	1.4E-01
Biphenyl, 1,1-	000092-52-4	2.9E+04	...
Bis (2-ethylhexyl) phthalate	000117-81-7	1.2E+04	4.2E+01
Bis(2-chloroethoxy)methane	000111-91-1	...	...
Bis(2-chloroethyl)ether	000111-44-4	...	5.3E-01
Bis(chloromethyl)ether	000542-88-1	...	2.7E-03
Boron	007440-42-8	5.2E+04	...
Bromodichloromethane	000075-27-4	1.2E+04	9.4E+00*
Bromomethane	000074-83-9	8.2E+02	...
Bromoxynil	001689-84-5	1.2E+04	...
Butadiene, 1,3-	000106-99-0	...	...
Butanol	000071-36-3	5.8E+04	...
Butylbenzyl phthalate	000085-68-7	1.2E+05	...
Butyric acid, 4-(2,4-dichlorophenoxy)	000094-82-6	4.7E+03	...
Cadmium	007440-43-9	2.9E+02	...
Captan	000133-06-2	7.6E+04	1.7E+02

HAZARD RANKING SYSTEM
Hazardous Substance Benchmarks
(333 Substances)

Substance Name	CAS Number	SOIL PATHWAY Reference Dose Screen Conc (mg/kg)	SOIL PATHWAY Cancer Risk Screen Conc (mg/kg)
Aniline	000062-53-3	...	1.0E+02
Anthracene	000120-12-7	1.7E+05	...
Antimony	007440-36-0	2.3E+02	...
Arsenic	007440-38-2	1.7E+02	3.3E-01
Asbestos	001332-21-4	...	...
Atrazine	001912-24-9	2.0E+04*	2.6E+00
Azinphos- ethyl	002642-71-9	...	...
Azinphos- methyl	000086-50-0	...	...
Aziridine	000151-56-4	...	...
Barium	007440-39-3	4.1E+04	...
Barium cyanide	000542-62-1	5.8E+04	...
Benz(a)anthracene	000056-55-3	...	...
Benzene	000071-43-2	...	2.0E+01
Benzene carbonyl chloride	000098-88-4	...	...
Benzidine	000092-87-5	1.7E+03	2.5E-03
Benzo(a)pyrene	000050-32-8	...	8.0E-02
Benzo(g,h,i)perylene	000191-24-2	...	...
Benzo(j,k)fluorene	000206-44-0	2.3E+04	...
Benzo(k)fluoranthene	000207-08-9	...	...
Benzofluoranthene, 3,4-	000205-99-2	...	...

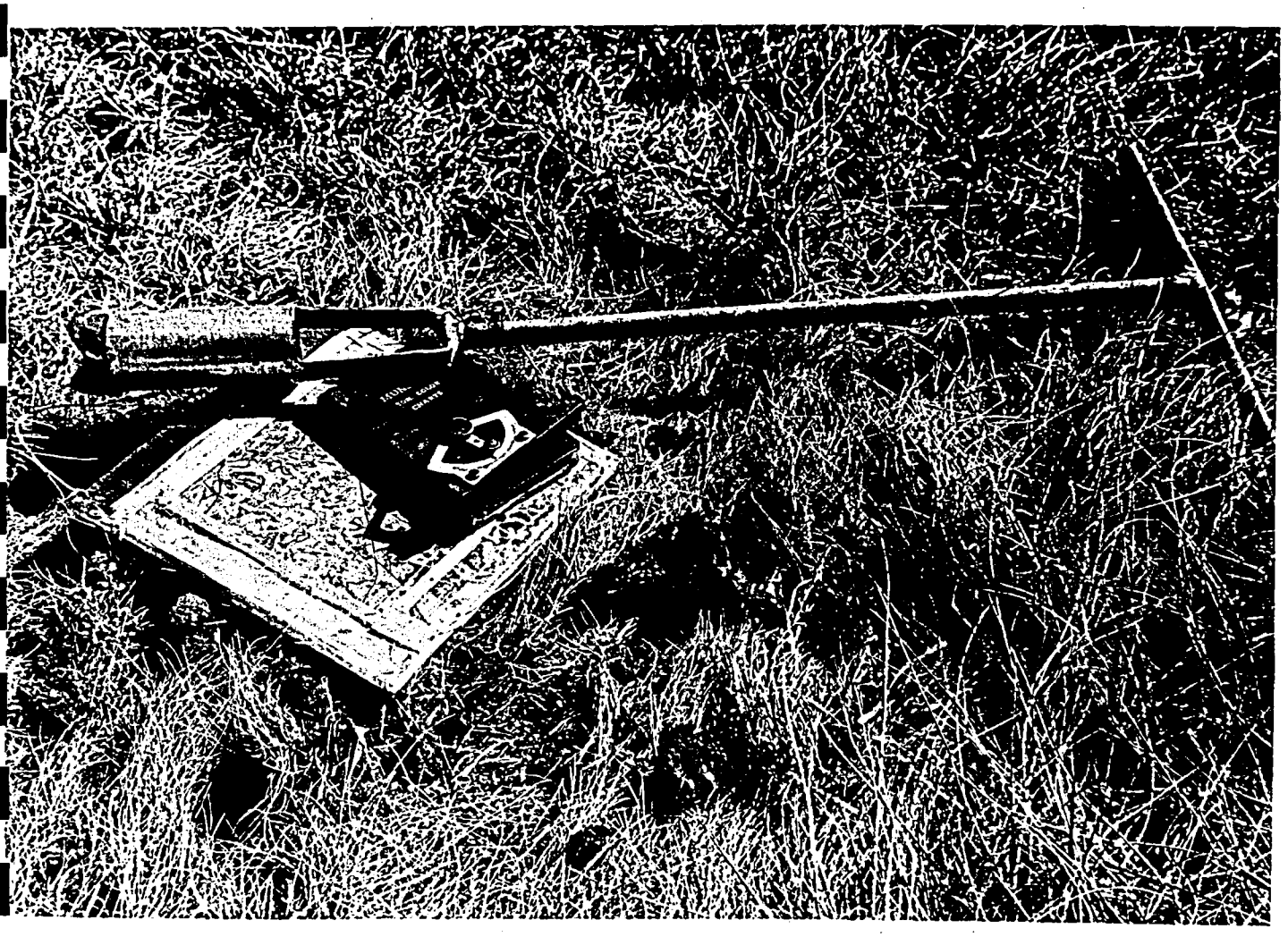
HAZARD RANKING SYSTEM
Hazardous Substance Benchmarks
(333 Substances)

Substance Name	CAS Number	SOIL PATHWAY Reference Dose Screen Conc (mg/kg)	SOIL PATHWAY Cancer Risk Screen Conc (mg/kg)
Acenaphthene	000083-32-9	3.5E+04	...
Acenaphthylene	000208-96-8	...	...
Acetaldehyde	000075-07-0	...	...
Acetone	000067-64-1	5.8E+04	...
Acetonitrile	000075-05-8	3.5E+03	...
Acetophenone	000098-86-2	5.8E+04	...
Acetyl-2-thiourea, 1-	000591-08-2	...	...
Acrolein	000107-02-8	1.2E+04	...
Acrylamide	000079-06-1	1.2E+02	1.3E-01
Acrylic acid	000079-10-7	4.7E+04	...
Acrylonitrile	000107-13-1	...	1.1E+00
Adipic acid	000124-04-9	...	...
Aldicarb	000116-06-3	5.8E+02*	...
Aldrin	000309-00-2	1.7E+01	3.4E-02
Allyl alcohol	000107-18-6	2.9E+03	...
Aluminum	007429-90-5	...	...
Aluminum phosphide	020859-73-8	2.3E+02	...
Ammonia	007664-41-7	2.0E+07	...
Ammonium picrate	000131-74-8	...	...
Ammonium sulfamate	007773-06-0	1.2E+05	...

Ref. 39

SOIL SURVEY OF

Durham County, North Carolina



United States Department of Agriculture
Soil Conservation Service
in cooperation with
North Carolina Agricultural Experiment Station

seen within an area that is dominantly of a recognized soil phase.

Some mapping units are made up of soils of different series, or of different phases within one series. Two such kinds of mapping units are shown on the soil map of Durham County, soil complexes and undifferentiated groups.

A soil complex consists of areas of two or more soils, so intermingled or so small in size that they cannot be shown separately on the soil map. Each area of a complex contains some of each of the two or more dominant soils, and the pattern and relative proportions are about the same in all areas. The name of a soil complex consists of the names of the dominant soils, joined by a hyphen. White Store-Urban land complex, 0 to 10 percent slopes, is an example.

An undifferentiated group is made up of two or more soils that could be delineated individually but are shown as one unit because, for the purpose of the soil survey, there is little value in separating them. The pattern and proportion of soils are not uniform. An area shown on the map may be made up of only one of the dominant soils, or of two or more. The name of an undifferentiated group consists of the names of the dominant soils, joined by "and." Cartecay and Chewacla soils is an example.

In most areas surveyed there are places where the soil material is so rocky, so shallow, or so severely eroded that it cannot be classified by soil series. These places are shown on the soil map and are described in the survey, but they are called land types and are given descriptive names. Gullied land, clayey materials, is a land type in Durham County.

While a soil survey is in progress, samples of soils are taken, as needed, for laboratory measurements and for engineering tests. Laboratory data from the same kinds of soil in other places are assembled. Data on yields of crops under defined practices are assembled from farm records and from field or plot experiments on the same kinds of soil. Yields under defined management are estimated for all the soils.

But only part of a soil survey is done when the soils have been named, described and delineated on the map, and the laboratory data and yield data have been assembled. The mass of detailed information then needs to be organized in such a way as to be readily useful to different groups of users, among them farmers, managers of woodland, and engineers.

On the basis of yield and practice tables and other data, the soil scientists set up trial groups. They test these groups by further study and by consultation with farmers, agronomists, engineers, and others, then adjust the groups according to the results of their studies and consultation. Thus, the groups that are finally evolved reflect up-to-date knowledge of the soils and their behavior under present methods of use and management.

General Soil Map

The general soil map at the back of this survey shows, in color, the soil associations in Durham County. A soil association is a landscape that has a distinctive proportional pattern of soils. It normally consists of one or more major soils and at least one minor soil, and it is named for the major soils. The soils in one association may occur in another, but in a different pattern.

A map showing soil associations is useful to people who want a general idea of the soils in the county, who want to compare different parts of a county, or who want to know the location of large tracts that are suitable for a certain kind of land use. Such a map is a useful general guide in managing a watershed, a wooded tract, or a wildlife area, or in planning engineering works, recreational facilities, and community developments. It is not a suitable map for planning the management of a farm or field, or for selecting the exact location of a road, building, or similar structure, because the soils in any one association ordinarily differ in slope, depth, stoniness, drainage, and other characteristics that affect their management.

The soil associations in this county have been grouped according to general kinds of landscape. The six groups and the nine soil associations are described on the following pages.

Well Drained and Moderately Well Drained, Nearly Level to Moderately Steep Soils Formed in Material Derived From Shale and Sandstone

The three associations in this group make up about 54 percent of the county. The landscape is dominantly one of broad smooth areas and rolling slopes. The soils formed in acid Triassic material.

1. White Store-Creedmoor association

Gently sloping to moderately steep, moderately well drained soils that have a subsoil of dominantly firm and very firm clay; on uplands

This association is characterized by fairly broad, gently sloping ridges and rolling to strongly sloping side slopes. It makes up about 40 percent of the county. It is 65 percent White Store soils, 10 percent Creedmoor soils, and 25 percent Mayodan, Pinkston, and Iredell soils.

White Store soils are moderately well drained. Their sandy loam surface layer is underlain by strong-brown firm clay loam and yellowish-red very firm clay.

Creedmoor soils also are moderately well drained. Their surface layer is sandy loam. The upper part of the subsoil is pale-brown or brownish-yellow, friable sandy clay loam; and the lower part is light yellowish-brown or light-gray, firm or very firm clay or silty clay.

Most of the association is forested. The rest is cultivated and pastured. The major soils are well suited to tobacco, corn, soybeans, small grain, and forage crops (fig. 2).

The chief limitations for farm and nonfarm purposes are the very slow permeability of the soils, the high shrink-swell potential, and the erosion hazard resulting from runoff and slope.

The city of Durham and most of its suburbs are on this association.

2. Mayodan-Granville-Creedmoor association

Nearly level to moderately steep, well drained and moderately well drained soils that have a subsoil of dominantly friable sandy clay loam; on uplands

This association is characterized by broad, smooth ridges and rolling side slopes. It makes up about 6 percent of the county. It is 50 percent Mayodan soils, 20 percent Granville soils, 10 percent Creedmoor soils, and 20 percent White Store and Pinkston soils.

A2—3 to 9 inches, light yellowish-brown (10YR 6/4) sandy loam; weak, medium, granular structure; very friable; common medium roots; strongly acid; abrupt, wavy boundary.

B1—9 to 12 inches, reddish-yellow (7.5YR 6/6) sandy clay loam; moderate, medium, subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; common medium pores; very strongly acid; clear, wavy boundary.

B2t—12 to 30 inches, strong-brown (7.5YR 5/8) clay; moderate, medium, subangular blocky structure; firm, sticky, plastic; few fine roots; common fine pores; few discontinuous clay films on faces of peds; strongly acid; gradual, wavy boundary.

B3—30 to 36 inches, mottled strong-brown (7.5YR 5/6) and very pale brown (10YR 7/4) clay loam; weak, medium, subangular blocky structure; firm, slightly sticky, slightly plastic; few, fine, hard, white silty fragments; strongly acid; gradual, wavy boundary.

C—36 to 60 inches, mottled strong-brown (7.5YR 5/6), very pale brown, (10YR 7/4) and white (10YR 8/2) saprolite that crushes to silt loam; massive; friable; very strongly acid.

Depth to bedrock is more than 4 feet. The B horizon is very strongly acid or strongly acid.

The Ap horizon, if present, is yellowish brown, and the A1 horizon is dark brown or dark grayish brown. The A2 horizon is commonly yellow, light yellowish brown, or brown. The B1 horizon, if present, is reddish-yellow or brownish-yellow sandy clay loam or loam. The B2t horizon is strong-brown or brownish-yellow clay or sandy clay. The B3 horizon is strong-brown and very pale brown clay loam, sandy clay loam, or loam. The B horizon commonly has very pale brown mottles. The C horizon is mottled strong-brown, brown, very pale brown, yellow, red, or white saprolite that crushes to silt loam or loam.

Wedowee sandy loam, 10 to 15 percent slopes (WmD).—This well-drained soil is on side slopes adjacent to major drainageways in the uplands. It has the profile described as representative of the series. Areas occur as long, narrow bands that are roughly rectangular in shape and range from 2 to 8 acres in size.

Included with this soil in mapping are areas where stones are on the surface and spots where the soil is eroded. Also included are areas of Nason soils.

This Wedowee soil is easy to keep in good tilth, and it can be worked throughout a wide range of moisture content. Infiltration is moderate, and runoff is rapid.

This soil is well suited to tobacco, corn, soybeans, small grain, hay, and pasture. Slope and the erosion resulting from runoff are the major concerns in management. Capability unit IVe-1; woodland suitability group 3o7.

Wedowee sandy loam, 15 to 25 percent slopes (WmE).—This well-drained soil is on side slopes adjacent to major drainageways in the uplands. It has a surface layer of yellowish-brown or dark-brown sandy loam. Its subsoil is reddish-yellow to strong-brown, firm clay loam to sandy clay loam. Areas occur as long, narrow bands that are roughly rectangular in shape and range from 2 to 15 acres in size.

Included with this soil in mapping are places where slopes are more than 25 percent. Also included are areas of Nason soils.

Infiltration is moderate, and runoff is rapid.

This soil is well suited to pine and hardwood forest and to pasture. Slope and the erosion resulting from runoff are the major concerns in management. Capability unit VIe-1; woodland suitability group 3r8.

Wehadkee Series

The Wehadkee series consists of nearly level, poorly drained soils on flood plains. These soils formed in fine loamy alluvium washed from soils on uplands.

In a representative profile the surface layer is brown silt loam about 7 inches thick. The subsoil to a depth of about 46 inches is mottled light-gray, friable silty clay loam. Below this to a depth of 60 inches is mottled dark-brown and light-gray, friable clay loam.

Wehadkee soils are flooded very frequently for very brief periods. They are low in natural fertility and medium in organic-matter content. Permeability is moderate, and available water capacity is high. The root zone is deep. Shrink-swell potential is low. The seasonal high water table is generally at or near the surface late in winter and early in spring.

Most of the acreage is now forested with mixed hardwoods. If adequately drained, these soils are fairly well suited to some row crops, including corn. The major limitations are wetness and flooding.

Representative profile of Wehadkee silt loam in a hardwood forest 5.7 miles southwest from Durham on U.S. 15-501; 100 feet south of road, and 100 feet west of New Hope Creek:

A1—0 to 7 inches, brown (10YR 5/3) silt loam; weak, coarse, granular structure; friable, slightly sticky, slightly plastic; many fine roots; few brittle concretions; medium acid; abrupt, smooth boundary.

B1—7 to 12 inches, light-gray (10YR 7/2) silty clay loam; many, coarse, distinct, dark-brown (10YR 4/3) mottles; weak, medium, subangular blocky structure; friable, slightly sticky, slightly plastic; common fine roots; common medium pores; common, small, soft, dark-brown concretions; medium acid; clear, wavy boundary.

B2g—12 to 46 inches, light-gray (10YR 7/1) silty clay loam; common, medium, distinct, yellowish-brown (10YR 5/6) and dark-brown (10YR 4/3) mottles; weak, coarse, subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots to a depth of about 24 inches; common medium pores; common small concretions; medium acid; gradual, irregular boundary.

B3—46 to 60 inches, mottled dark-brown (10YR 4/3) and light-gray (10 YR 7/1) clay loam; weak, medium, subangular blocky structure; friable, slightly sticky, slightly plastic; common, small, soft, dark-brown concretions; medium acid.

Depth to bedrock is more than 5 feet. The B horizon is medium acid or slightly acid.

The Ap horizon, if present, is grayish brown, and the A1 horizon is brown, grayish brown, or gray. The B1 horizon is light-gray or gray silty clay loam or loam. The B2 horizon is light-gray or gray silty clay loam or clay loam mottled with yellowish brown and dark brown. The B3 horizon is mottled dark brown or brown and light gray. The C horizon, if present, is commonly gray or light-gray sandy loam or gray stratified sand and gravel.

Wehadkee silt loam (Wn).—This poorly drained soil is on narrow flood plains. Areas generally occur as narrow bands parallel to small streams and are 3 to 50 acres in size. Slopes range from 0 to 2 percent.

Included with this soil in mapping are areas of Congaree and Chewacla soils.

This Wehadkee soil is easy to keep in good tilth, and it can be worked throughout a wide range of moisture. Infiltration is moderate, and runoff is slow.

This soil is fairly well suited to corn and pasture. Flooding and wetness are the major concerns in management. Capability unit IVw-1; woodland suitability group 1w9.

White Store Series

The White Store series consists of nearly level to moderately steep, moderately well drained soils on uplands. The landscape is one of rounded divides and steep side slopes. These soils formed under forest vegetation, in material weathered from Triassic Mudstone.

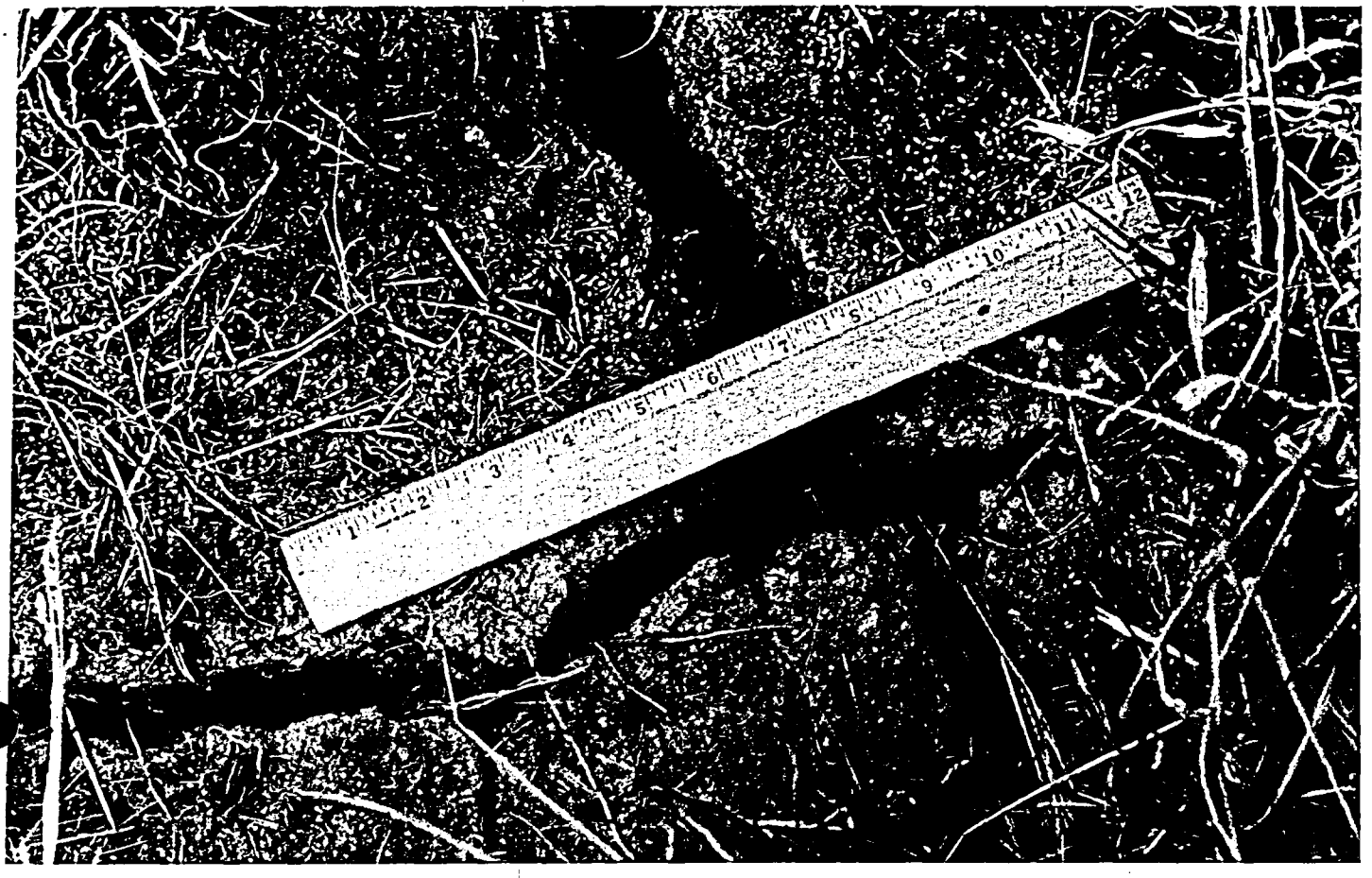


Figure 8.—**Cracks 1¾ inches wide and 10 inches deep in a White Store soil.**

In a representative profile the surface layer is brown sandy loam about 6 inches thick. The subsoil is about 29 inches thick. The upper part is strong-brown, firm clay loam. The lower part is mottled yellowish-red, very firm clay. The underlying material to a depth of 60 inches is dark reddish-brown, highly weathered sandstone and shale and mottled red and pink, partly weathered, fine-grained sandstone that crushes to fine sandy loam.

White Store soils are low in natural fertility and organic-matter content. Permeability is very slow, and available water capacity is medium. The root zone is deep. Shrink-swell potential is high; the soil shrinks when dry and swells when wet (fig. 8). Depth to the seasonal high water table is about 1½ feet.

Most of the acreage is forested with loblolly pine and low-quality hardwoods. The rest is chiefly in pasture or under cultivation. The soils are well suited to most crops commonly grown in the county, including tobacco, corn, and small grain. The major limitations are the erosion hazard resulting from runoff, the very slow permeability, the steep slopes, the high shrink-swell potential, and a perched water table.

Representative profile of White Store sandy loam, 2 to 6 percent slopes, in a young pine forest 1 mile north of Nelson on State Road 1959 at the intersection with State Road 1969; 25 feet west of road:

Ap—0 to 6 inches, brown (10YR 5/3) sandy loam; weak, medium, granular structure; very friable; common fine roots; few quartz pebbles; medium acid; abrupt, wavy boundary.

B1t—6 to 10 inches, strong-brown (7.5YR 5/6) clay loam; weak, medium, subangular blocky structure; firm, sticky, plastic; few fine roots; few discontinuous clay films; few quartz pebbles; strongly acid; clear, wavy boundary.

B21t—10 to 22 inches, yellowish-red (5YR 5/6) clay; common, medium, distinct, reddish-brown (5YR 4/4) and yellowish-brown (10YR 5/6) mottles; prismatic structure parting to moderate, fine and medium, blocky structure; very firm, very sticky, very plastic; few fine roots; common continuous clay films on faces of peds; very strongly acid; gradual, wavy boundary.

B22t—22 to 28 inches, yellowish-red (5YR 4/6) clay; many, medium, distinct, reddish-brown (5YR 4/4) and light brownish-gray (10YR 6/2) mottles; moderate, medium, blocky structure; very firm, very plastic, very sticky; few discontinuous clay films on faces of peds; very strongly acid; gradual, wavy boundary.

B3t—28 to 35 inches, yellowish-red (5YR 5/6) clay; many, coarse, distinct mottles and streaks of reddish brown (2.5YR 4/4) and gray (10YR 5/1); weak, medium, blocky structure; very firm, sticky, plastic; few discontinuous clay films on faces of peds; few small flakes of mica; common soft shale fragments; very strongly acid; gradual, wavy boundary.

C1—35 to 38 inches, dark reddish-brown (2.5YR 3/4), highly weathered sandstone and shale containing pockets of

clay; many, coarse, distinct, gray (10YR 6/1) and yellowish-brown (10YR 5/4) mottles; massive; friable; few small flakes of mica; strongly acid; clear boundary.

C2—38 to 60 inches, mottled red and pink, partly weathered, fine-grained sandstone that crushes to fine sandy loam; massive; medium acid.

Depth to bedrock is more than 4 feet. The B horizon is very strongly acid or strongly acid.

The Ap horizon is brown or yellowish brown, and the A1 horizon, if present, is grayish brown, brown, or yellowish brown. The A horizon is sandy loam or clay loam. The B1t horizon, if present, is strong-brown or brown clay, clay loam, or sandy clay loam. The B2t horizon is yellowish-red or reddish-brown clay to silty clay. The B3 horizon, if present, is reddish-yellow, yellowish-red, dark reddish-brown, or dusky red clay to silty clay loam. The B horizon has many red, brownish-yellow, or gray mottles. The upper part of the C horizon is commonly dark reddish-brown, weathered sandstone or siltstone that has gray mottles. The lower part of the C horizon is gray, red, and light-red, partly weathered sandstone.

White Store sandy loam, 2 to 6 percent slopes (WsB).—This moderately well drained soil is on broad ridges on uplands. It has the profile described as representative of the series. Areas are generally elliptical in shape and 2 to 10 acres in size.

Included with this soil in mapping are areas of similar soils that have a surface layer of fine sandy loam or silt loam and a few small areas where the soil is eroded. Also included are a few areas of Creedmoor and Mayodan soils.

This White Store soil is easy to keep in good tilth. Because the subsoil is very slowly permeable, however, tillage is restricted after heavy rain. Infiltration is moderate, and runoff is medium.

This soil is well suited to tobacco, corn, small grain, hay, and pasture. Erosion resulting from runoff, high shrink-swell potential, and very slow permeability are the major concerns in management. Capability unit IIe-3; woodland suitability group 4c2.

White Store sandy loam, 6 to 10 percent slopes (WsC).—This moderately well drained soil is on narrow side slopes on uplands. It has a surface layer of brown or yellowish-brown sandy loam. Its subsoil is yellowish-red, very firm clay or silty clay that in most places is mottled with red and gray. Areas occur as narrow bands that are roughly rectangular in shape and range from 3 to 15 acres in size.

Included with this soil in mapping are areas of soils that have a surface layer of fine sandy loam and a few areas where the soil is eroded. Also included are a few acres of Creedmoor and Pinkston soils.

This White Store soil is easy to keep in good tilth, and it can be worked throughout a wide range of moisture content. Infiltration is moderate, and runoff is rapid.

The soil is well suited to pine and hardwood forests and to corn, tobacco, small grain, and pasture. The slope, the erosion resulting from runoff, the high shrink-swell potential, and the very slow permeability are the major concerns in management. Capability unit IIIe-3; woodland suitability group 4c2.

White Store sandy loam, 10 to 25 percent slopes (WsE).—This moderately well drained soil is on side slopes adjacent to major drainageways in uplands. It has a surface layer of yellowish-brown or grayish-brown sandy loam. Its subsoil is yellowish-red, very firm clay. Areas occur as long, narrow bands that are roughly rectangular in shape and 3 to 20 acres in size.

Included with this soil in mapping are areas of soils that have a surface layer of fine sandy loam or loam and spots where the soil is eroded. Also included are areas of Mayodan and Pinkston soils.

Infiltration is moderate, and runoff is rapid.

This soil is well suited to pine and hardwood forests and to pasture. The slope, the erosion resulting from runoff, the high shrink-swell potential, and the very slow permeability are the major concerns in management. Capability unit VIe-1; woodland suitability group 4c2.

White Store clay loam, 2 to 10 percent slopes, eroded (WvC2).—This moderately well drained soil is on ridges and narrow side slopes on uplands. It has a surface layer of yellowish-brown clay loam. Its subsoil is reddish-brown, very firm clay that in most places is mottled with red and gray. Areas occur as narrow bands that are roughly rectangular in shape and 2 to 25 acres in size.

Included with this soil in mapping are a few spots where the surface layer is fine sandy loam and a few acres where shallow gullies have formed. Also included are a few acres of Pinkston and Wilkes soils.

This White Store soil is easy to keep in good tilth, but it can be worked within only a narrow range of moisture content because the surface layer has a high content of clay. Infiltration is slow, and runoff is rapid.

This soil is well suited to pine and hardwood forest and to pasture. The slope, the erosion resulting from runoff, the high shrink-swell potential, and the very slow permeability are the major concerns in management. Capability unit VIe-2; woodland suitability group 4c2.

White Store clay loam, 10 to 25 percent slopes, eroded (WvE2).—This moderately well drained soil is on side slopes adjacent to major drainageways on uplands. It has a surface layer of yellowish-brown clay loam. Its subsoil is yellowish-red, very firm clay or silty clay. Areas occur as long, narrow bands that are roughly rectangular in shape and 2 to 20 acres in size.

Included with this soil in mapping are a few spots where the surface layer is fine sandy loam and a few places where deep gullies have formed. Also included are areas of Pinkston soils.

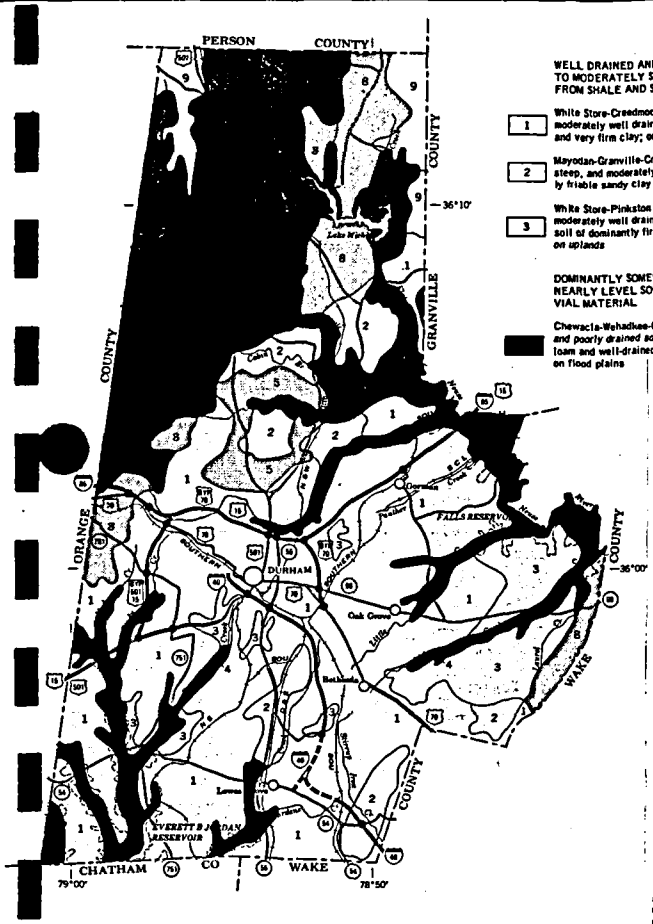
Infiltration is slow, and runoff is rapid.

This soil is suited to pine and hardwood forests and to pasture. The slope, the erosion resulting from runoff, the high shrink-swell potential, and the very slow permeability are the major concerns in management. Capability unit VIIe-2; woodland suitability group 4c2.

White Store-Urban land complex, 0 to 10 percent slopes (WwC).—This complex consists of White Store soil and Urban land, which is mainly White Store soil material. As much as 30 percent of each mapped area is covered by streets, houses, and other structures. About 30 percent is an undisturbed White Store soil. About 25 percent is a White Store soil that in places has been covered with as much as 18 inches of fill material and in other places has had as much as two-thirds of the original soil material removed. The rest is fill, 18 inches or more thick, or places where the original soil material has been cut away. The fill material is commonly a mixture of sandy loam and clay.

Included with this complex in mapping are areas of Creedmoor and Mayodan soils. Capability unit unassigned; woodland suitability group unassigned.

White Store-Urban land complex, 10 to 25 percent slopes (WwE).—This complex consists of White Store soil and Urban land, which is mainly White Store soil material.



SOIL ASSOCIATIONS

WELL DRAINED AND MODERATELY WELL DRAINED, NEARLY LEVEL TO MODERATELY STEEP SOILS FORMED IN MATERIAL DERIVED FROM SHALE AND SANDSTONE

1 — White Store-Creedmoor association: Gently sloping to moderately steep, moderately well drained soils that have a subsoil of dominantly firm and very firm clay; on uplands

2 — Mayodan-Granville-Creedmoor association: Nearly level to moderately steep, and moderately well drained soils that have a subsoil of dominantly friable sandy clay loam; on uplands

3 — White Store-Pinkston association: Gently sloping to moderately steep, moderately well drained and excessively drained soils that have a subsoil of dominantly firm and very firm clay and friable fine sandy loam; *on uplands*

DOMINANTLY SOMEWHAT POORLY DRAINED AND POORLY DRAINED, NEARLY LEVEL SOILS SUBJECT TO FLOODING: FORMED IN ALLUVIAL MATERIAL

Chewacla-Wehadkee-Congaree association: Somewhat poorly drained *and poorly drained soils that have a subsoil of dominantly silty clay* loam and well-drained soils that are dominantly silt loam throughout; on flood plains

DOMINANTLY MODERATELY WELL DRAINED, NEARLY LEVEL TO SLOPING SOILS FORMED IN MATERIAL DERIVED FROM DIORITE

5 — Iredell-Mecklenburg association: Moderately well drained and well drained soils that have a subsoil of dominantly very firm and firm and firm clay; on uplands

WELL-DRAINED, GENTLY SLOPING TO MODERATELY STEEP SOILS FORMED IN MATERIAL DERIVED FROM SLATES

Georgeville-Herndon association: Gently sloping to strongly sloping, well-drained soils that have a subsoil of dominantly firm silty clay; on uplands

Nason-Tatum association: Strongly sloping to moderately steep, well-drained soils that have a subsoil of dominantly firm clay; on uplands

WELL-DRAINED, GENTLY SLOPING AND SLOPING SOILS FORMED IN MATERIAL DERIVED FROM GRANITES

8 — Appling-Cecil association: Gently sloping to moderately steep, well-*drained soils that have a subsoil of dominantly firm clay; on uplands*

MODERATELY WELL DRAINED, GENTLY SLOPING AND SLOPING SOILS FORMED IN MATERIAL DERIVED FROM GRANITES AND SLATES

9 — Helena-Lignum association: Gently sloping and sloping, moderately well drained soils that have a subsoil of dominantly firm to extremely firm *silty clay and clay; on uplands*

Compiled 1974

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
NORTH CAROLINA AGRICULTURAL EXPERIMENT STATION

GENERAL SOIL MAP
DURHAM COUNTY, NORTH CAROLINA

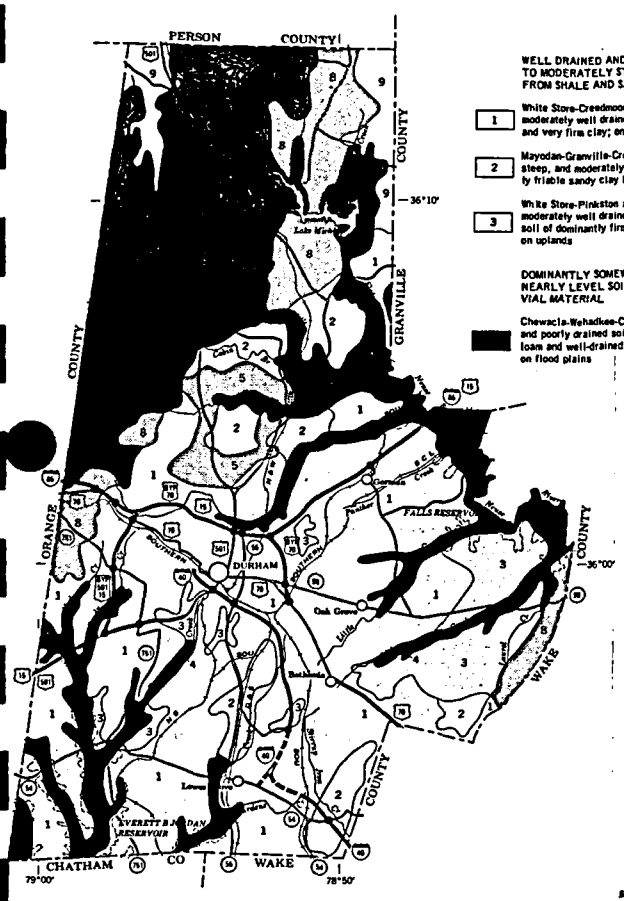
Scale 1:190,080

1 0 1 2 3 4 Miles

Each area outlined on this map consists of more than one kind of soil. The map is thus meant for general planning rather than a basis for decisions on the use of specific tracts.

U. S. DEPARTMEN
SOIL CONSERVATI

SYMBOL



SOIL ASSOCIATIONS

WELL DRAINED AND MODERATELY WELL DRAINED, NEARLY LEVEL TO MODERATELY STEEP SOILS FORMED IN MATERIAL DERIVED FROM SHALE AND SANDSTONE

1 White Store-Creedmoor association: Gently sloping to moderately steep, moderately well drained soils that have a subsoil of dominantly firm and very firm clay; on uplands

2 Mayodan-Granville-Creedmoor association: Nearly level to moderately steep, and moderately well drained soils that have a subsoil of dominantly friable sandy clay loam; on uplands

3 White Store-Pinkston association: Gently sloping to moderately steep, moderately well drained and excessively drained soils that have a subsoil of dominantly firm and very firm clay and friable fine sandy loam; on uplands

DOMINANTLY SOMEWHAT POORLY DRAINED AND POORLY DRAINED, NEARLY LEVEL SOILS SUBJECT TO FLOODING: FORMED IN ALLUVIAL MATERIAL

Chewacla-Wehadkee-Congaree association: Somewhat poorly drained and poorly drained soils that have a subsoil of dominantly silty clay loam and well-drained soils that are dominantly silt loam throughout; on flood plains

DOMINANTLY MODERATELY WELL DRAINED, NEARLY LEVEL TO SLOPING SOILS FORMED IN MATERIAL DERIVED FROM DIORITE

5 Iredell-Mecklenburg association: Moderately well drained and well drained soils that have a subsoil of dominantly very firm and firm and firm clay; on uplands

WELL-DRAINED, GENTLY SLOPING TO MODERATELY STEEP SOILS FORMED IN MATERIAL DERIVED FROM SLATES

Georgeville-Herndon association: Gently sloping to strongly sloping, well-drained soils that have a subsoil of dominantly firm silty clay; on uplands

Nason-Tatum association: Strongly sloping to moderately steep, well-drained soils that have a subsoil of dominantly firm clay; on uplands

WELL-DRAINED, GENTLY SLOPING AND SLOPING SOILS FORMED IN MATERIAL DERIVED FROM GRANITES

8 Appling-Cecil association: Gently sloping to moderately steep, well-drained soils that have a subsoil of dominantly firm clay; on uplands

MODERATELY WELL DRAINED, GENTLY SLOPING AND SLOPING SOILS FORMED IN MATERIAL DERIVED FROM GRANITES AND SLATES

9 Helena-Lignum association: Gently sloping and sloping, moderately well drained soils that have a subsoil of dominantly firm to extremely firm silty clay and clay; on uplands

Compiled 1974

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
NORTH CAROLINA AGRICULTURAL EXPERIMENT STATION

GENERAL SOIL MAP
DURHAM COUNTY, NORTH CAROLINA

Scale 1:190,080
1 0 1 2 3 4 Miles

Each area outlined on this map consists of more than one kind of soil. The map is thus meant for general planning rather than a basis for decisions on the use of specific tracts.

June 7, 1995

TO: File

FROM: Irene Williams, Environmental Chemist Irene Williams
N.C. Superfund Section

RE: Supreme Finishing (NCD 986 188 878)
Teleconferences regarding site ownership

Pursuant to a May 26, 1995 call from Ms. Yvonne Overton, 596-2890, who lives near the site I sent Larry Perry a memo and discussed the question of current status with him. Larry has collected no further information on the site since the Superfund began investigating the site.

On the above date I spoke with Mrs. Betty Pittard, City of Durham Real Estate Development Office (560-4195 or 560-4689) and learned that a lien that the city had on properties belonging to Elry and Peggy Holloway has been canceled.

I then spoke to Ms. Lisa Witherspoon at the Tax Assessors Department concerning the 3033 Ross Road address. She said that address was listed as belonging to Bryant Timothy High. She then searched under Elry Holloway's name and found a Fountain Street listing for Lot 15 (dimensions 105'X85') and a shop building, with shop, in the Twin Lakes area, (Book 1000, page 912).

Next I called Mrs. Yvonne Overton to report my findings and left her a message.

September 21, 1993

TO: File

FROM: Irene Williams, Environmental Chemist Irene Williams
N.C. Superfund Section

RE: Supreme Finishing (NCD 986 188 878)
Wetlands identification

Wetlands occur at the probable point of entry (PPE) and continue for approximately 2.5 miles downstream. More wetlands occur intermittently for the remainder of the 15 mile surface water pathway. Total wetland frontage within the target pathway is estimated to be 12 miles.

These figures were determined by measuring the wetland frontages on the following quadrangle maps prepared by the National Wetlands Inventory, U.S. Department of the Interior, Fish and Wildlife Service.

1. Southeast Durham, NC 9/30/87
2. Northeast Durham, NC 9/12/93
3. Bayleaf, NC 9/30/87
4. Creedmoor, NC 9/12/88

Acreage of wetlands within a 0.5 mile of the site were estimated using a planimeter to be approximately 1.0 acre within 0.25 mile and about 0.5 acre between 0.25 and 0.5 mile for a total of approximately 1.5 acres within 0.5 mile.