558SERBSF10,632

558SERBSF10,632

Site Name (Subject):	TRAMCO, INC.
Site ID (Document ID):	NCD067392175
Document Name (DocType):	Preliminary Assessment/Site Inspection (PA/SI)
Report Segment:	
Description:	Screening Site Investigation
Date of Document:	6/4/1989
Date Received:	
Box: *Enter SF and # with no spaces*	SF10,632
Access Level:	PUBLIC
Division:	WASTE MANAGEMENT
Section:	SUPERFUND
Program (Document Group):	SERB (SERB)
Document Category:	FACILITY

Print Report for Record | Go to New Blank Record | Go to New Record - (default to last record values) | Delete Record

NORTH CAROLINA

DHR/DHS

Tramco, Inc.
NCD067392175
Screening Site Investigation

June 1989

CERCLA

By Edward Wallingford
Environmental Chemist
SUPERFUND BRANCH
SOLID WASTE MANAGEMENT SECTION

SITE SCREENING INVESTIGATION REPORT

Tramco, Inc
NCD 067 392 175
Connelly Springs, NC 28617
Burke County (12)

June 1989

Superfund Branch
Solid Waste Management Section
North Carolina Division of Health Services

Prepared by:	Assisted by:	Assisted by:
Ed Wallingford	Jack Butler	Grover Nicholson
Environmental Chemist	Environmental Engineer	Geologist
Project Leader	Project Investigator	Project Investigator

North Carolina Department of Human Resources
Division of Health Services
P.O. Box 2091 • Raleigh, North Carolina 27602-2091

James G. Martin, Governor
David T. Flaherty, Secretary

Ronald H. Levine, M.D., M.P.H.
State Health Director

4 June 1989

Ms. Denise Smith
NC CERCLA Project Officer
345 Courtland Street, NE
Atlanta, GA 30365

RE: Screening Site Investigation
Tramco, Inc. - NCD148522055
Rt. 3, Box 409, Connelly Springs, NC 28617
Burke County (12)
Congressional District - 10

Dear Ms. Smith:

Enclosed please find the Screening Site Investigation report for the subject site.

Tramco, Inc. is an active transformer reconditioning facility located in northeastern Burke County. The company has been on the site about 3 years, however, the history of transformer reconditioning at the site dates back to 1985. Tramco, Inc. is not listed by RCRA; Polychlorinated Biphenyls (PCBs), the contaminants of concern at this site are are TOSCA regulated substances. At one time, as many as about 500 transformers have been stored in the open and uncovered, on site. Several of these had been noted to have leaked oil onto the ground. Evidence of several areas of leakage was seen on a NC Superfund Branch site sampling visit on 16 March 1989. These areas appeared as darkened soil and were generally no larger than 6 feet in diameter. Analysis of soil samples from the site indictated two apparently localized areas of PCB contamination. Samples from on-site and nearby off-site wells did not indicate the presence of contamination.

The area surrounding the site is generally rural residential. Although unthreatened surface water is available to some of the area, many of the nearby residents use groundwater as a sole source of drinking water.

The population density in the site area is low. An estimated 3142 and 4990 people use groundwater within a 3-mile and a 4-mile distance from the site. No surface water intakes were identified within 3-miles downstream from the probable point of contaminant migration. No critical habitats or wetlands are located within 15-miles of the site. Because this site appears to be small localized areas of contamination, the threat to groundwater and surface water appears to be limited. It is therefore recommended that this site be deferred to the NC Inactive Hazardous Waste Sites Program.

If you have any questions, please call me at (919) 733-2801.

Sincerely,

Edward D. Wallingford
Environmental Chemist
NC DHR/DHS Superfund Branch

cc: Kelly Cain

EXECUTIVE SUMMARY

Tramco, Inc. is an active transformer reconditioning facility located in northeastern Burke County. The company has been on the site about 3 years, however, the history of transformer reconditioning at the site dates back to 1985. Tramco, Inc. is not listed by RCRA; Polychlorinated Biphenyls (PCBs), the contaminants of concern at this site are are TOSCA regulated substances. At one time, as many as about 500 transformers have been stored in the open and uncovered, on site. Several of these had been noted to have leaked oil onto the ground. Evidence of several areas of leakage was seen on a NC Superfund Branch site sampling visit on 16 March 1989. These areas appeared as darkened soil and were generally no larger than 6 feet in diameter. Analysis of soil samples from the site indictated two apparently localized areas of PCB contamination. Samples from on-site and nearby off-site wells did not indicate the presence of contamination.

The area surrounding the site is generally rural residential. Although unthreatened surface water is available to some of the area, many of the nearby residents use groundwater as a sole source of drinking water. The population density in the site area is low; only about 3142 and 4990 people were estimated to use groundwater within a 3-mile and a 4-mile distance from the site. No surface water intakes were identified within 3-miles downstream from the probable point of contaminant migration. No critical habitats or wetlands are located within 15-miles of the site. Because this site appears to be small localized areas of contamination, the threat to groundwater and surface water appears to be limited.

Table of Contents

Executive Summary

1.0 Background
- 1.1 Location
- 1.2 Site Layout
- 1.3 Ownership History
- 1.4 Site Use History
- 1.5 Permit and Regulatory History
- 1.6 Remedial Actions to Date
- 1.7 Summary Trip Report

2.0 Environmental Setting
- 2.1 Topography
- 2.2 Surface Water
- 2.3 Geology, Soils, and Groundwater
- 2.4 Climate and Meteorology
- 2.5 Land Use
- 2.6 Population Distribution and Water Supply
- 2.7 Critical Environments

3.0 Waste Types and Quantities

4.0 Laboratory Data

5.0 Toxicological/Chemical Characteristics

1.0 BACKGROUND

1.1 Site Location

The Tramco, Inc. facility resides in the northeast corner of Burke County, roughly two miles north of Icard, NC (Map 1). The site is located on SR 1611, approximately 0.2 miles northeast of the intersection with SR 1614. The mailing address is Rt. 3, Box 409, Connelly Springs NC, 28617. Geographical coordinates for the site are: latitude 35° 45′ 15" and longitude 081° 28′ 30" (Map 2).

1.2 Site Layout

The Tramco, Inc. facility occupies an area of approximately 8.7 unfenced acres (19). An 11,000 sq. ft. warehouse/office building is the only structure located on site; all transformer reconditioning operations are performed within this building (11,19) (Map 3). Four underground storage tanks are located near the northwest corner of the building and are reportedly used for storing used and new transformer oil (4). During a 14 March 1989 NC Superfund Branch site sampling visit, approximately 120 transformers were seen stored on wooden pallets. These transformers were in an area roughly 200 feet NE of the building and were stored, uncovered, in the open. Plant personnel report that only non-PCB-containing transformers are stored in the open. Moreover, PCB-containing transformers, which are no longer serviced at the facility, were formerly stored inside the building. Several areas of darkened soil were evident in the field behind the building and appeared to be leaked oil. These areas were generally about six feet in diameter. At the northwest corner of the property, was a disposal area for used wooden pallets (4).

1.2 Ownership and Site Use History

From 1985 to 1986, the Tramco, Inc. was owned and operated by Larry Dean Austin and Deborah Austin (P.O. Box 666 Icard, NC 28612) (4,9,19). During this time the facility was used for reconditioning transformers. In 1986, the Austins sold the Tramco, Inc. company assets to Kenneth G. Zion (Rt. 3, Box 409, Connelly Springs, NC 28617) who used it to form Zion, Inc. (4,9) The Austins are the current owners of the property, and lease it to Mr. Zion (9,19). Mr. Zion currently runs a similar reconditioning operation at the site, and continues to use the Tramco, Inc. name (9). Prior to 1985, the site property was used as farmland (4).

Both PCB- (polychlorinated biphenyl-) containing transformers and non-PCB-containing transformers have been reconditioned on-site in the past (4,7). In July/August 1988, Tramco, Inc. discontinued the reconditioning of transformers with PCB levels in excess of 50-ppm (4). Reportedly, most of the transformers that are now received at the facility do not contain oil and those that do, the PCB content is under 50-ppm (7). Moreover, about "99+%" of the transformers currently recieved by the facility are tested for PCBs before receipt (4).

The transformer refurbishing process involves draining the carcass of any fluid, rewinding the coil if necessary, replacing the bushings and gaskets, refilling the transformer with new oil and cleaning the exterior with a mineral spirits soaked rag. If there are heavy carbon deposits, "good" used oil is used to rinse the carcass before refilling (7). The drained oil is collected in an underground storage tank and stored until disposal. The PCB-containing oil is disposed of under the regulations outlined in 40 CFR 761.60 and is taken off-site by PPM, Inc. in Atlanta, GA (4,7,8). Non-PCB "junk" oil is taken off-site by Holston Energy of Waynesville, NC (7). Some PCB-containing oil spills have occurred in the past, however, they were reportedly contained within the building (4).

1.4 Permit and Regulatory History

Tramco, Inc. does not maintain RCRA status. Polychlorinated biphenyls, the suspected contaminants at this site, are not a RCRA hazardous waste.

1.5 Remedial Actions to Date

No remedial actions have been taken at this site to date.

1.6 Summary Trip Report (4)

On 16 April 1989, NC Superfund Branch personnel Ed Wallingford and Grover Nicholson conducted a field investigation of the Tramco, Inc. site. Wallingford and Nicholson met with Bob Windmiller (Tramco, Inc. Plant Manager) and David Rust (Burke County Environmental Health Supervisor) to discuss the purpose of the investigation and obtain background information. After the meeting, the site toured and photographs were taken. Of particular interset, approximately 120 uncovered transformers and several areas of darkened soil were noted in the field behind the facility. Seven fill pipes for underground storage tanks were also noted in an area adjacent to the Tramco building.

Because of time constraints, samples were taken on-site prior to obtaining background samples. Three surface soil samples were taken from areas of darkened soil, and one surface soil sample was obtained from the end of the facility loading dock. A 6", drilled, PVC well located in front of the facility provided an on-site groundwater sample. Background surface soil and groundwater were sampled at the private residence of Ms. Lenora Berry (Rt. 2, Box 347, Connelly Springs NC 28612). The Berry residence is located across NC 1614 from the site. An additional off-site groundwater sample was obtained at the residence of Mr. Wiley Brittain (Rt. 4, Box 4138, Connelly Springs NC). The Berry and Brittain wells are located approximately 280 ft. and 1600 ft. from the back of the Tramco facility, respectively. The samples were submitted to DHR/DHS State Laboratory of Public Health for analysis.

2.0 ENVIRONMENTAL SETTING

2.1 Topography

The Tramco, Inc. site resides in the northeast section of Burke County (Map 1) and is part of the Piedmont Physiographic Province. The topography of this section of the county is characterized by residual hills that stand out above the peneplain; these hills are separated by broad valleys. All of Burke County resides within the Catawba River Drainage Basin (17). The site is at an elevation of about 1200 feet above MSL and has a grade of less than 3% (Map 2). Elevations within three miles of the site range from 1000 feet to 1581 feet. The slope of the intervening terrain between the site and the nearest surface water is approximately 3% (160 ft. drop per 0.9 mile) (Map 2).

2.2 Surface Water

Drowning Creek is the nearest perennial water body that is along the probable route of migration for surface runoff from the site. This creek is located approximately 0.9 miles southeast of the site and flows roughly 5.3 miles to the Catawba River (Map 2). Drowning Creek was designated a "Class C" fresh water in 1974. "Class C" waters are used for fish and wildlife propagation, secondary recreation, agriculture and other uses requiring waters of lower quality. An extended 15-mile migration pathway courses the Catawba River. The Catawba River south of the Rhodiss Dam was designated in 1986 as "WS-III" and "WS-III&B" fresh water. "WS-III" waters are a water supply segment with no categorical restrictions on watershed development or discharges; suitable for all Class C uses.

The "B" designation indicates that the water is for primary recreation and other uses specified by ther "C" classification (18). The water supply intakes for the cities of Longview and Hickory are respectively located approximately 1.2 and 1.3 miles downstream on the Catawba River from its point of confluence with Drowning Creek. These surface water supplies serve roughly 4030 people in Longview and 27,000 in Hickory (13,14).

2.3 Geology, Soils and Groundwater

Soils within the immediate vicinity of the site are classified as Pacolet clay loam (Map 4). The Pacolet series consists of well drained, moderately permeable, soils of Piedmont uplands. Typically, these soils have 3 inches of brown sandy loam surface layer, red clayey subsoils to 37 inches and overly weathered rock (12). Permeabilities for Pacolet soils are in the 10^{-5} to 10^{-7} cm/sec range (12).

Geologically, the site is located in an area of quartz-biotite gneiss (17)(Map 5). Weathering of the gneiss produces a layer of saprolite which overlies the bedrock (15). Groundwater is contained in the pore spaces of the saprolite and bedrock fractures. The groundwater in the pore spaces generally acts as a reservoir that recharges the fracture system. Because it is hydraulically well connected, the bedrock/saprolite system acts as one aquifer (15). The hydraulic conductivity of the saprolite and bedrock are in the 10^{-3} cm/sec range (16). Data from several nearby wells indicate water levels at about 23 to 62 feet below land surface (17).

2.4 Climate and Meteorology

Average monthly temperatures range from 43°F in January to 77°F in July (21). The average net annual precipitation is 11 inches (50 inches precipitation minus 39 inches evaporation); the one year, 24 hour rainfall is 3 inches (21,22). The prevailing winds are generally out of the northeast at a mean speed of 7 miles per hour (21).

2.5 Land Use

The site resides at northeast section of Burke County. Since 1985 the site has been used for commercial transformer refurbishing. Prior to 1985 the land was used as farmland (4). The immediate area around the site is mostly rural residential and agricultural. The site property is surrounded by single family dwellings.

2.6 Population Distribution and Water Supply

Assuming the population density of the site's four mile region equals that of Burke County (1980 population density equals 144 people per square mile (23)), the site demography is as follows:

- within 1-mile of the site	452
- within 2-miles of the site	1810
- within 3-miles of the site	4071
- within 4-miles of the site	7237

Several different water systems supply treated surface water to residents and businesses within a four mile region from the site. These systems include the Icard Township Water Corporation, the Town of Rhodhiss, the Town of Valdese, the Town of Rutherford College and Burke County (19,20,24,27). The distribution lines for each supply are highlighted on Map 2. Valdese obtains its raw water from the Catawba River at an intake located 4-5 miles above Rhodhiss Dam. The Valdese system supplies the Burke County, Rutherford College, and Icard Township Water Corporation systems (27). The Town of Rhodhiss buys all of its water from Granite Falls which is located out of the site region (24,25).

Groundwater is obtained from community wells (Map 2), non-community wells and private wells. An estimated 3142 and 4990 people within 3 and 4 miles (respectively) of the site use groundwater as a sole source of drinking water (18)(25). Seven community well systems were located within four miles of the site; the nearest community well is 2.7 miles SE of the site (26). The nearest well to the site is at the residence of Ms. Lenora Berry; it is located about 300 feet from the site (Map 2).

2.7 Critical Environments

No critical habitats of federally listed endangered species or appreciable wetlands are located within 15 miles downstream of the site (10)(Map 2).

3.0 WASTE TYPES AND QUANTITIES

Tramco, Inc. is a transformer reconditioning operation that has been on site for about 3 years, however, the history of transformer reconditioning at the site dates back to 1985 (4,9). At one time, as many as about 500 transformers reportedly have been stored in the open on site (1,5). Several of these have in the past been noted to have leaked oil onto the ground. Indeed, several areas of leaked oil were apparent during a 29 May 1987 NC NRCD DEM Mooresville Regional Office site inspection and during a 16 March 1989 NC Superfund Branch site sampling visit (4,5). The amount and composition of oil that had leaked from the transformers is unknown.

4.0 LABORATORY DATA

A groundwater sample from the well of a Mr. Jerry Rogers (Rt.4, Box 410, Connely Spings, NC 28612) was obtained by the NC Department of Environmental Management- Moorevilles Regional Office on 3 June 1987 (5). This well is owned by a Mr. Munday (address unknown) and is located approximately 700 feet west of the transformer storage area (see Map 2). Analysis of this sample failed to indicate the presence of PCB contamination. (32).

Map 2 shows the sampling locations for the 16 March 1989 site sampling visit at the Tramco, Inc. facility. Surface soil samples were taken in the field behind the main building, from the loading dock area, and at the private residence of Ms. Lenora Berry (Rt. 2, Box 347, Connelly Springs, NC 28612). Sample T-2c was a surface soil composite from two discolored areas in drainage area that is located approximately 70 feet northeast of the northeast corner of the building. Sample T-3c was a surface soil composite from a string of discolored areas that are located approximately 300 feet north of the Tramco loading dock. Sample T-4c was a surface soil composite from two discolored areas that are located about 375 and 410 feet north and NNE of the northeast corner of the facility. Sample T-5 was surface soil taken near the pallet disposal area. Sample T-6c was a surface soil composite from a discolored area at the end of the loading dock. Sample OS-2 was surface soil taken 15 feet from SR 1611 at the Berry residence. The Berry residence is located south of the site, directly across SR 1611.

On-site water samples were obtained from the Tramco well; off-site water samples were obtained from the private residences of Ms. Berry and Mr. Wiley Brittain (Rt. 4, Box 4138, Connelly Springs, NC, 28612). The Berry well is located approximately 205 feet from the Tramco, Inc. building. The Brittain well is located approximately 1700 feet NE of the Tramco, Inc. building.

Organic constituents were analyzed by purge and trap gas chromatography/ mass spectrometry (GC/MS) and base, neutral, and acid extractables-GC/MS. Poly-chlorinated biphenyls (PCBs) were analyzed by GC with an electron capture detector. The analytical results are presented in Table 1.

The presence of the hydrocarbons and the poly-aromatic hydrocarbons is likely to be traced to leaked transformer oil. The compound, 1,2,4-trichlorobenzene, is a solvent in synthetic transformer oil.

5.0 TOXICOLOGICAL/CHEMICAL CHARACTERISTICS

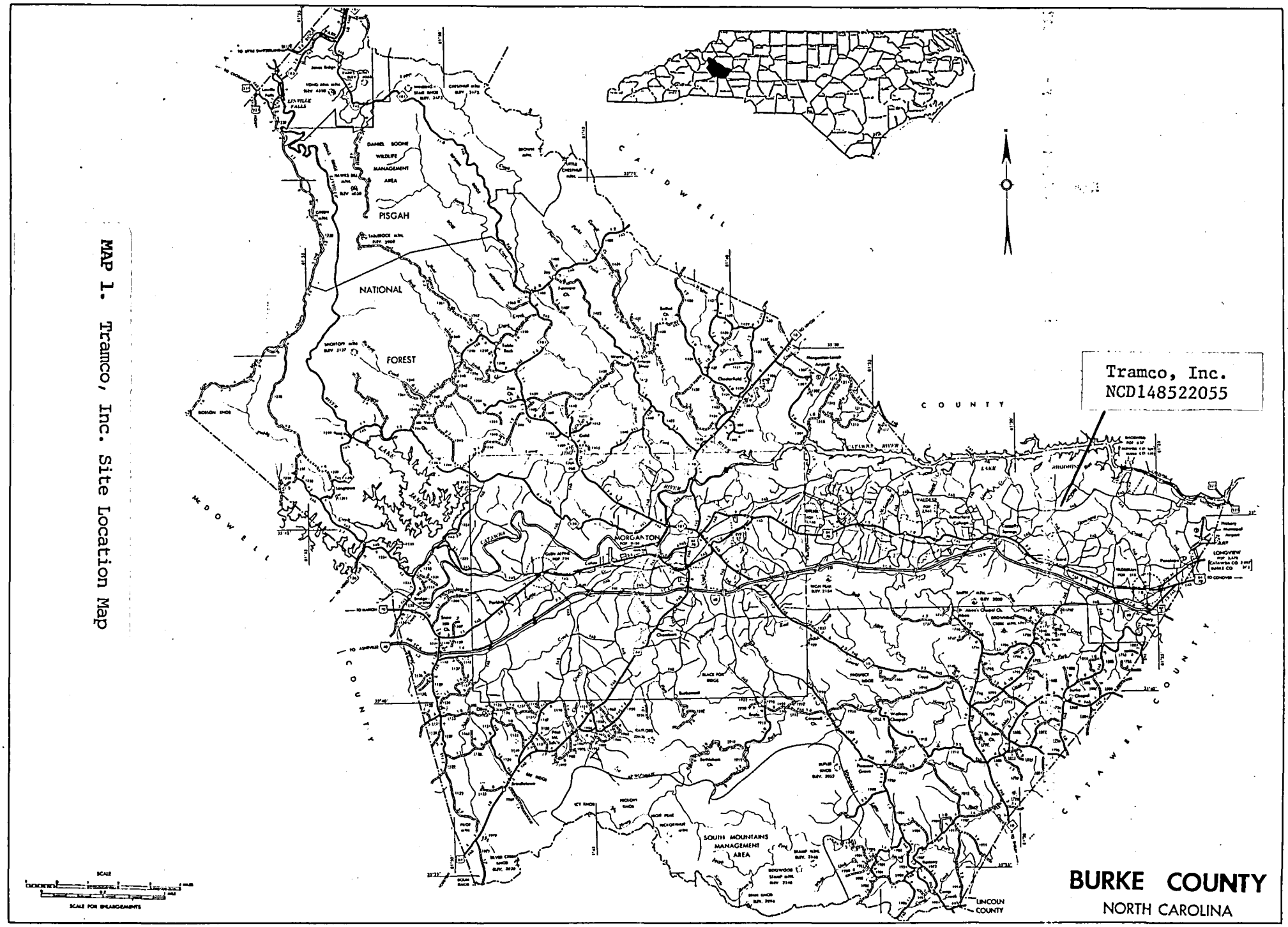
The toxicological and chemical characteristics for PCBs and 1,2,4 trichlorobenzene are given in references 28,29,30,31.

Table 1. **Tramco Organic Sample Analyses**

Sample No.	Location	PCB 1260 mg/kg	1,2,4 trichlorobenzene mg/kg	napthalene mg/kg	benzo(k)fluoranthene mg/kg	benzo(a)pyrene mg/kg	benzo(g,h,i)perylene mg/kg	2 methylnapthalene mg/kg	hydrocarbons (presence/absence)
T-1	Tramco Well	---	---	---	---	---	---	---	---
T-2c	Drainage area soil	45.0	---	---	---	---	---	---	+
T-3c	Discolored soil area	---	---	---	---	---	---	---	+
T-4c	Discolored soil area	---	---	---	---	---	---	---	+
T-5	Pallet area soil	---	---	---	---	---	---	---	+
T-6c	Loading dock soil	1604.0	3900	330K	1650K	1833	1650K	330K	+
OS-1	Berry Well	---	---	---	---	---	---	---	---
OS-2	Berry Soil	---	---	---	---	---	---	---	---
OS-3	Brittain Well	---	---	---	---	---	---	---	---

K - actual value is known to be less than value given

MAPS



MAP 1. Tramco, Inc. Site Location Map

DREXEL, N. C.
N3545—W8130/7.5
1956

GRANITE FALLS, N.C
N3545—W8122.5/7.5
1970
AMS 4755 IV SW—SERIES V842

Rhodhiss Lake/Lake Hickory/Catawba River - serves as a discontinuity to the aquifer of concern.

BIG "T" COUNTRY PARK- one community well that serves a population of about 84

WESTVIEW ACRES - one community well that serves apopulation of about 76

RIVERSIDE MHP- community well that serves a population of about 120 (no confirmation)

PINE MOUNTAIN LAKES DEV.-community well that serves a population of about 100 (no confirmation)

B & E MHP - one community well that serves a population of about 163

CRESTVIEW S/D-community well that serves a population of about 100 (no confirmation)

CLAY TRAILER PARK 2- one community well that serves a population of about 114

Brittain Well
Tramco, Inc.
NCD148522055
Munday Well
Berry Well

Town of Valdese - obtains water from the Catawba River, 4-5 miles upstream of the Rhodhiss Dam.

Icard Township Water Corp. - purchases water from Valdese

Burke County Water System - purchases water from Valdese.

Rutherford College Water System - purchases water from Valdese.

Town of Rhodhiss Water System - purchases water from Granite Falls.

SCALE 1:24000
CONTOUR INTERVAL 40 FEET
DASHED LINES REPRESENT 20-FOOT CONTOURS
DATUM IS MEAN SEA LEVEL

QUADRANGLE LOCATION

ROAD CLASSIFICATION
Heavy-duty — Light-duty
Medium-duty — Unimproved dirt
U. S. Route — State Route

VALDESE, N. C.
N3537.5—W8122.5/7.5
1956

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, WASHINGTON, D. C. 20242
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

Mapped, edited, and published by the Geological Survey

Control by USGS and USC&GS

Topography by photogrammetric methods from aerial photographs taken 1966. Field checked 1970

Polyconic projection. 1927 North American datum
10,000-foot grid based on North Carolina coordinate system
1000-meter Universal Transverse Mercator grid ticks, zone 17, shown in blue

Red tint indicates area in which only landmark buildings are shown

UTM GRID AND 1970 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

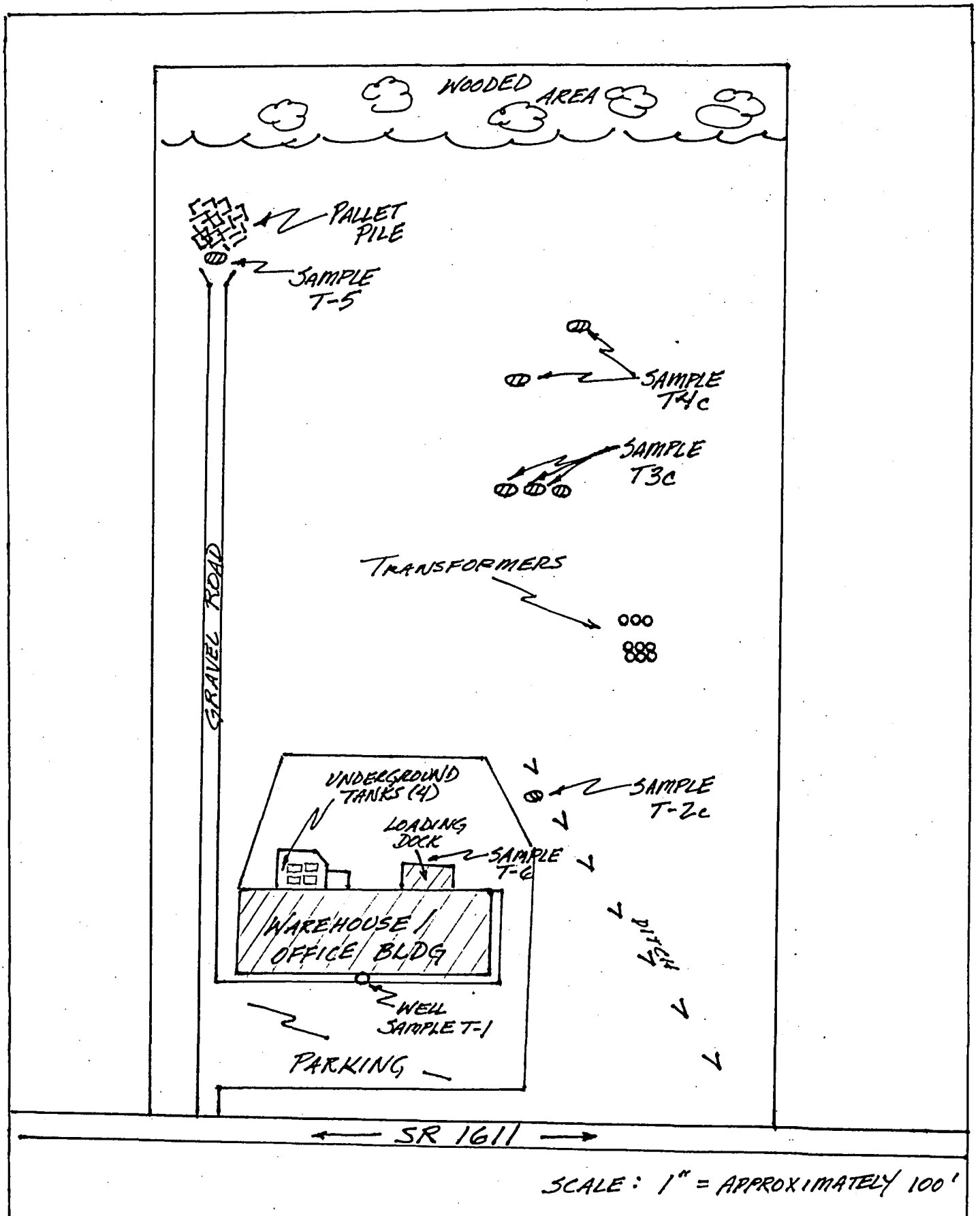
SCALE 1:24000
CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL

QUADRANGLE LOCATION

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

LONGVIEW, N. C.
N3537.5—W8122.5/7.5
1970
AMS 4755 III NW—SERIES V842

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, WASHINGTON 25, D. C.
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

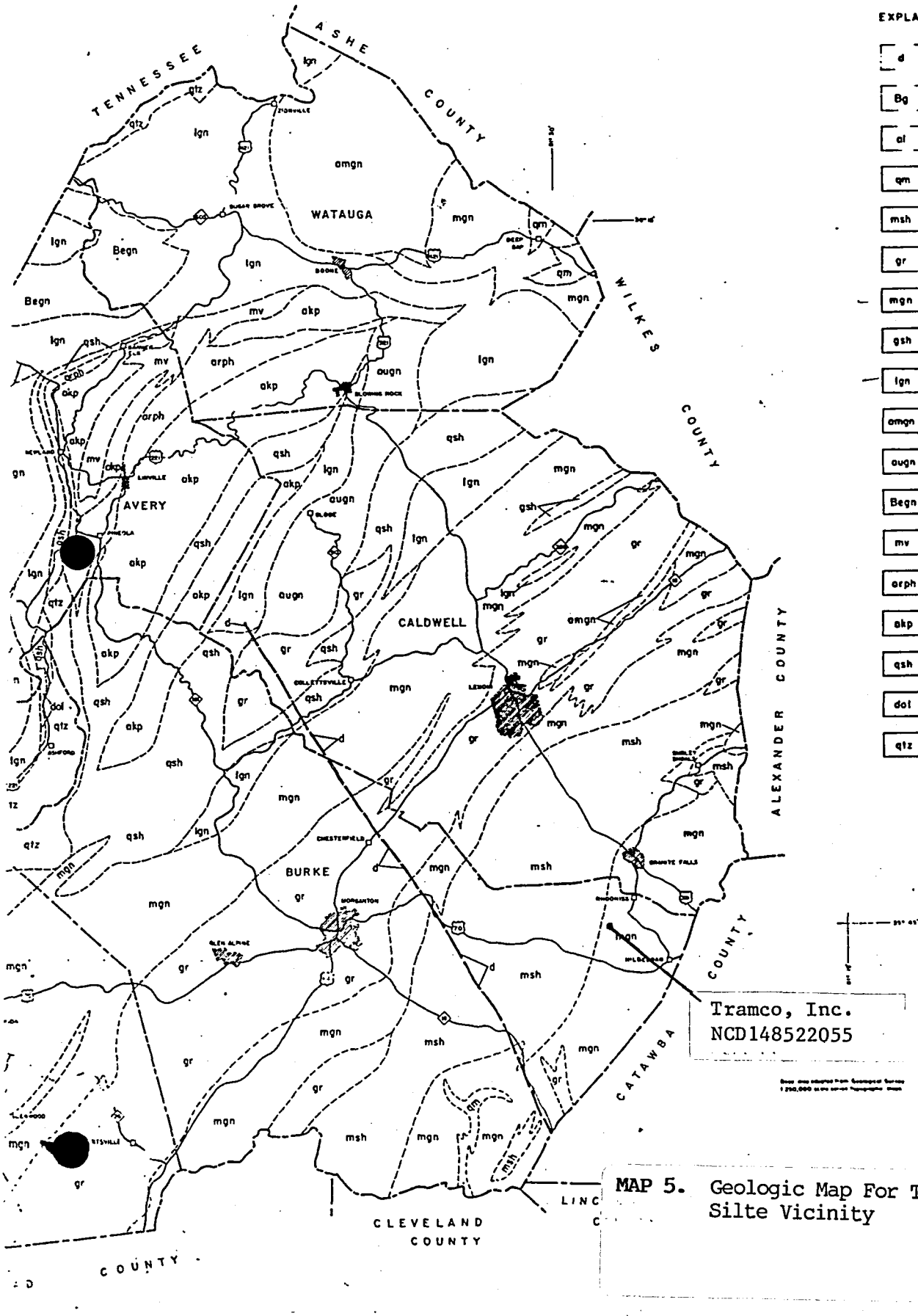


MAP 3. TRAMCO, INC. SITE LAYOUT

MAP 4. Detailed Soil Identification Map For Tramco, Inc. Vicinity

SOIL IDENTIFICATION LEGEND
BURKE COUNTY, NORTH CAROLINA
APRIL, 1989

Field Symbol	Map Unit Name
4A (4)	Chewacla loam, 0 to 2 percent slopes, frequently flooded
30B	Pacolet sandy loam, 2 to 8 percent slopes
30C	Pacolet sandy loam, 8 to 15 percent slopes
30D	Pacolet sandy loam, 15 to 25 percent slopes
30E (30F)	Pacolet sandy loam, 25 to 50 percent slopes
30B2	Pacolet clay loam, 2 to 8 percent slopes, eroded
30C2	Pacolet clay loam, 8 to 15 percent slopes, eroded
35C	Wedowee sandy loam, 8 to 15 percent slopes
35E	Wedowee sandy loam, 25 to 45 percent slopes



MAP 5. Geologic Map For Tramco, Inc. Silte Vicinity

PHOTOS: Tramco, Inc. Site Sampling Visit, 16 March 1989

North side of Tramco facility; Sample T-6c taken below loading dock show at left of photo view.

Sample T-1: Tramco well adjacent to Southside of building.

Sample T-4c: Darkened soil area approximately 375 feet North of building; photo looking West

Approximately 120 transformers located about 200 feet NW of building.

Munday residence; photo looking East

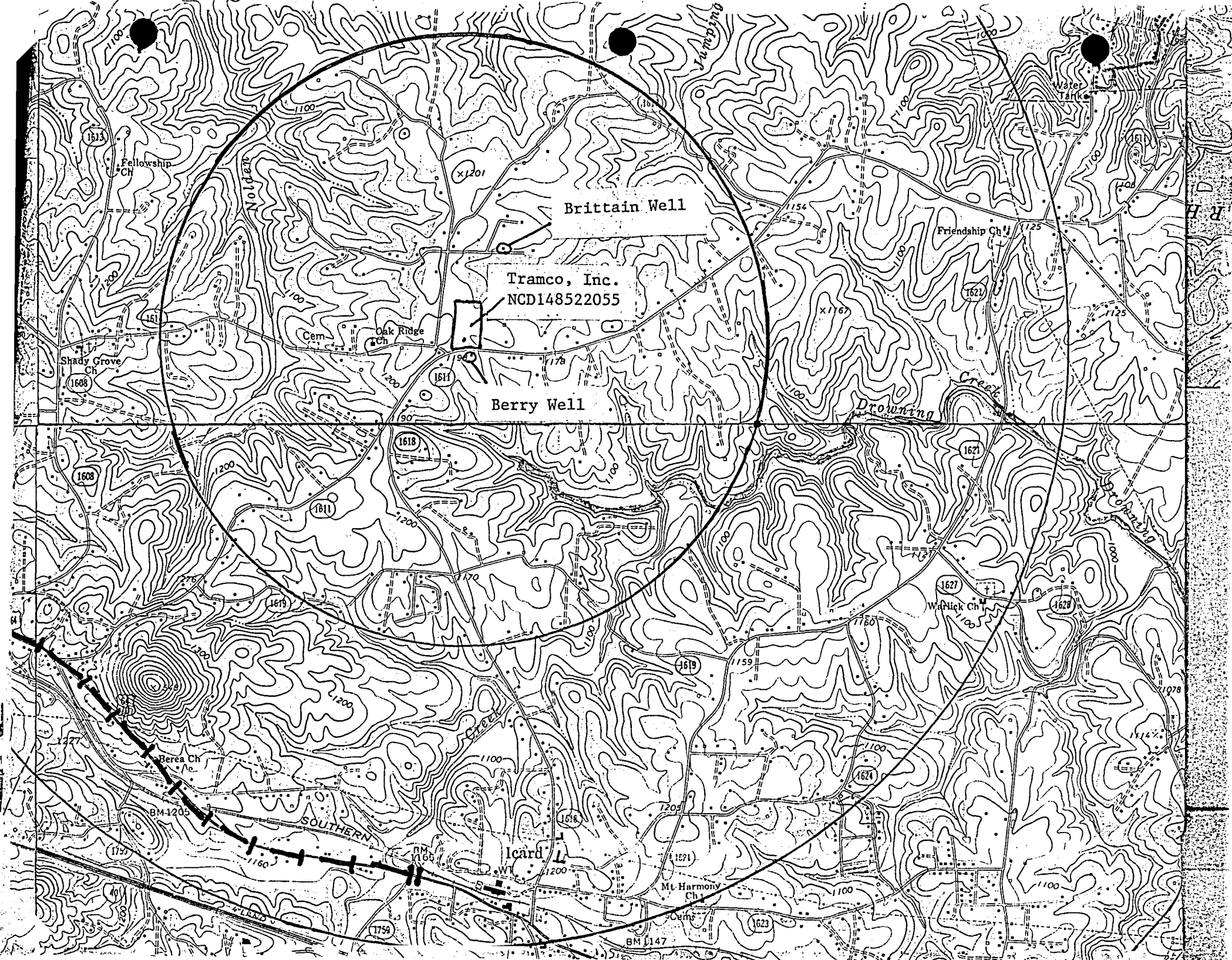
Old pallet pile at NW corner of the facility property; photo looking NW.

Sample T-5: Darkened soil area approximately 7 feet from old pallet pile.

Sample T-2c: Wet area with darkened soil, approximately 70 feet NW of building; photo looking SE.

Berry residence; photo looking SSE from Tramco parking lot.

Sample OS-2: Berry residence, background soil; photo looking NNE at Tramco facility.


Brittain Well
Tramco, Inc.
NCD148522055
Berry Well
Fellowship Ch
Shady Grove Ch
Cem
Oak Ridge Ch
Neptune
Friendship Ch
Water Tank
Drowning Creek
Warlick Ch
Berea Ch
SOUTHERN
Icard
Mt Harmony Ch
Cems
BM 1205
BM 1165
BM 1147
1613
1608
1611
1618
1619
1621
1627
1628
1624
1623
1759

N. C. Department of Human Resources
Division of Health Services

SAMPLE ANALYSES REQUEST

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

Site Number NCD 067392175 Field Sample Number 4320

Name of Site TRAMCO, INC. Site Location CONNELLY SPRINGS NC

Collected By E. WALLINGFORD ID# 44 Date Collected 3-16-89 Time 15:15

Type of Sample:

Environmental	Concentrate	Comments
✓ Groundwater (1)	___ Solid (5)	T-1 TRAMCO WELL
___ Surface Water (2)	___ Liquid (6)	
___ Soil (3)	___ Sludge (7)	
___ Other (4)	___ Other (8)	

RECEIVED
MAY 09 1989
SUPERFUND BRANCH

INORGANIC CHEMISTRY

Extractables		Total			
Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
___ Arsenic		___ Arsenic		___ Silver	
___ Barium		___ Barium		___ Sulfates	
___ Cadmium		___ Cadmium		___ Zinc	
___ Chromium		___ Chloride		___ Ph	
___ Lead		___ Chromium		___ Conductivity	
___ Mercury		___ Copper		___ TDS	
___ Selenium		___ Fluoride		___ TOC	
___ Silver		___ Iron			
		___ Lead			
		___ Manganese			
		___ Mercury			
		___ Nitrate			
		___ Selenium			

ORGANIC CHEMISTRY

Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
✓ P&T:GC/MS		___ EDB		___ Methoxychlor	
___ Acid:B/N Ext.		___ PCB's		___ Toxaphene	
___ TOX		___ Petroleum		___ 2,4-D	
		___ Endrin		___ 2,4,5-TP (silvex)	
		___ Lindane			

MICROBIOLOGY

Parameter
___ (MF) Coliform Colonies/100mls
___ (MPN) Coliform Colonies/100mls

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received 3-17-89 PW Date Reported 4-24-89

Date Extracted Date Analyzed 3-30-89 mw

Reported By John R. Neal Lab Number 900689

DHS 3191 (Revised 7/85)
Solid and Hazardous Waste (Review 7/87)

#900689-900700

N. C. Department of Human Resources
Division of Health Services

SAMPLE ANALYSES REQUEST

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

Site Number NCD 067392175 Field Sample Number 4321

Name of Site TRAMCO, INC. Site Location CONNELLY SPRINGS NC

Collected By E. WALLINGFORD ID# 44 Date Collected 3-16-89 Time 15:15

RECEIVED
SUPERFUND BRANCH

Type of Sample:

Environmental	Concentrate	Comments
✓ Groundwater (1)	___ Solid (5)	T-1 TRAMCO WELL
___ Surface Water (2)	___ Liquid (6)	
___ Soil (3)	___ Sludge (7)	
___ Other (4)	___ Other (8)	

INORGANIC CHEMISTRY

Extractables		Total			
Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
___ Arsenic		___ Arsenic		___ Silver	
___ Barium		___ Barium		___ Sulfates	
___ Cadmium		___ Cadmium		___ Zinc	
___ Chromium		___ Chloride		___ Ph	
___ Lead		___ Chromium		___ Conductivity	
___ Mercury		___ Copper		___ TDS	
___ Selenium		___ Fluoride		___ TOC	
___ Silver		___ Iron		___	
___		___ Lead		___	
___		___ Manganese		___	
___		___ Mercury		___	
___		___ Nitrate		___	
___		___ Selenium		___	

ORGANIC CHEMISTRY

Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
___ P&T:GC/MS		___ EDB		___ Methoxychlor	
✓ Acid:B/N Ext.		✓ PCB's	<0.0001 ppm	___ Toxaphene	
___ TOX		___ Petroleum		___ 2,4-D	
___		___ Endrin		___ 2,4,5-TP (silvex)	
___		___ Lindane		___	

MICROBIOLOGY

Parameter
___ (MF) Coliform Colonies/100mls
___ (MPN) Coliform Colonies/100mls
___
___

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	
___	
___	

Date Received 3-17-89 PW Date Reported

Date Extracted BN/A 3-23-89 AA,LB,JM PCB 3-22-89 AA,VP,JM Date Analyzed PCB's 3-22-89 VP BNA 3-29-89 BD

Reported By Lab Number 990690

DHS 3191 (Revised 7/85)
Solid and Hazardous Waste (Review 7/87)

N. C. Department of Human Resources
Division of Health Services

SAMPLE ANALYSES REQUEST

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

Number NCD 067392175 Field Sample Number 4322

Name of Site TRAMCO, INC. Site Location CONNELLY SPRINGS NC

Collected By E. WALLINGFORD ID# 44 Date Collected 3-16-89 Time 15:24

RECEIVED
MAR 20 1989
SUPERFUND BRANCH

Type of Sample:

Environmental	Concentrate	Comments
___ Groundwater (1)	___ Solid (5)	T-2c TRAMCO SURFACE SOIL
___ Surface Water (2)	___ Liquid (6)	
✓ Soil (3)	___ Sludge (7)	
___ Other (4)	___ Other (8)	

INORGANIC CHEMISTRY

Extractables		Total			
Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
Arsenic		Arsenic		Silver	
Barium		Barium		Sulfates	
Cadmium		Cadmium		Zinc	
Chromium		Chloride		Ph	
Lead		Chromium		Conductivity	
Mercury		Copper		TDS	
Selenium		Fluoride		TOC	
Silver		Iron			
		Lead			
		Manganese			
		Mercury			
		Nitrate			
		Selenium			

ORGANIC CHEMISTRY

Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
P&T:GC/MS		EDB		Methoxychlor	
✓ Acid:B/N Ext.		✓ PCB's (#1260)	45.0 ppm	Toxaphene	
TOX		Petroleum		2,4-D	
		Endrin		2,4,5-TP (silvex)	
		Lindane			

MICROBIOLOGY

Parameter
(MF) Coliform Colonies/100mls
(MPN) Coliform Colonies/100mls

RADIOCHEMISTRY

Parameter	Results PCi/1
Gross Alpha	
Gross Beta	

Date Received 3-17-89 PW Date Reported

Date Extracted PCB's 3/20/89 VP BNA 3-23-89 PW Date Analyzed PCB's 3-22-89 VP BNA 4-6-89 BD

Reported By Lab Number 900691

DHS 3191 (Revised 7/85)
Solid and Hazardous Waste (Review 7/87)

N. C. Department of Human Resources
Division of Health Services

SAMPLE ANALYSES REQUEST

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

Number NCD 067392175 Field Sample Number 4323

Name of Site TRAMCO, INC. Site Location CONNELLY SPRINGS NC

Collected By E. WALLINGFORD ID# 44 Date Collected 3-16-89 Time 15:45

RECEIVED
MAR 1989
SUPERFUND BRANCH

Type of Sample:

Environmental	Concentrate	Comments
___ Groundwater (1)	___ Solid (5)	T-3c TRAMCO SURFACE SOIL
___ Surface Water (2)	___ Liquid (6)	
✓ Soil (3)	___ Sludge (7)	
___ Other (4)	___ Other (8)	

INORGANIC CHEMISTRY

Extractables		Total			
Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
Arsenic		Arsenic		Silver	
Barium		Barium		Sulfates	
Cadmium		Cadmium		Zinc	
Chromium		Chloride		Ph	
Lead		Chromium		Conductivity	
Mercury		Copper		TDS	
Selenium		Fluoride		TOC	
Silver		Iron			
		Lead			
		Manganese			
		Mercury			
		Nitrate			
		Selenium			

ORGANIC CHEMISTRY

Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
P&T:GC/MS		EDB		Methoxychlor	
✓ Acid:B/N Ext.		✓ PCB's	<1.0 ppm*	Toxaphene	
TOX		Petroleum		2,4-D	
		Endrin		2,4,5-TP (silvex)	
		Lindane			

*INCREASED DETECTION LIMIT-DUE TO LARGE AMOUNT OF HYDROCARBON BACKGROUND.

MICROBIOLOGY

Parameter
(MF) Coliform Colonies/100mls
(MPN) Coliform Colonies/100mls

RADIOCHEMISTRY

Parameter	Results PCi/1
Gross Alpha	
Gross Beta	

Date Received 3-17-89 PW Date Reported

Date Extracted PCBs 3/20/89 VP BNA 3/23/89 PW Date Analyzed PCBs 3-21-89 VP BNA 4-6-89 BD

Reported By Lab Number 930692

DHS 3191 (Revised 7/85)
Solid and Hazardous Waste (Review 7/87)

N. C. Department of Human Resources
Division of Health Services

SAMPLE ANALYSES REQUEST

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

Number NCD 067392175 Field Sample Number 4324

Name of Site TRAMCO, INC. Site Location CONNELLY SPRINGS NC

Collected By E. WALLINGFORD ID# 44 Date Collected 3-16-89 Time 15:52

RECEIVED
MAY 05 1989
SUPERFUND BRANCH

Type of Sample:

Environmental	Concentrate	Comments
___ Groundwater (1)	___ Solid (5)	T-4c TRAMCO SURFACE SOIL
___ Surface Water (2)	___ Liquid (6)	
✓ Soil (3)	___ Sludge (7)	
___ Other (4)	___ Other (8)	

INORGANIC CHEMISTRY

Extractables		Total			
Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
Arsenic		Arsenic		Silver	
Barium		Barium		Sulfates	
Cadmium		Cadmium		Zinc	
Chromium		Chloride		Ph	
Lead		Chromium		Conductivity	
Mercury		Copper		TDS	
Selenium		Fluoride		TOC	
Silver		Iron			
		Lead			
		Manganese			
		Mercury			
		Nitrate			
		Selenium			

ORGANIC CHEMISTRY

Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
P&T:GC/MS		EDB		Methoxychlor	
✓ Acid:B/N Ext.		✓ PCB's	<1.0 ppm*	Toxaphene	
TOX		Petroleum		2,4-D	
		Endrin		2,4,5-TP (silvex)	
		Lindane			

*INCREASED DETECTION LIMIT-DUE TO LARGE AMOUNT OF HYDROCARBON BACKGROUND.

MICROBIOLOGY

Parameter
(MF) Coliform Colonies/100mls
(MPN) Coliform Colonies/100mls

RADIOCHEMISTRY

Parameter	Results PCi/1
Gross Alpha	
Gross Beta	

Date Received 3-17-89 BD Date Reported

Date Extracted PCB's 3/20/89 VP BNA 3-23-89 Date Analyzed PCB's 3-21-89 VP BNA 4-6-89 BD

Reported By Lab Number 900593

DHS 3191 (Revised 7/85)
Solid and Hazardous Waste (Review 7/87)

N. C. Department of Human Resources
Division of Health Services

SAMPLE ANALYSES REQUEST

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

Site Number NCD 067392175 Field Sample Number 4325

Name of Site TRAMCO, INC. Site Location CONNELLY SPRINGS NC

Collected By E. WALLINGFORD ID# 44 Date Collected 3-16-89 Time

Type of Sample:

Environmental	Concentrate	Comments
___ Groundwater (1)	___ Solid (5)	T-5c TRAMCO SURFACE SOIL
___ Surface Water (2)	___ Liquid (6)	
✓ Soil (3)	___ Sludge (7)	
___ Other (4)	___ Other (8)	

RECEIVED
SUPERFUND BRANCH

INORGANIC CHEMISTRY

Extractables		Total			
Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
___ Arsenic		___ Arsenic		___ Silver	
___ Barium		___ Barium		___ Sulfates	
___ Cadmium		___ Cadmium		___ Zinc	
___ Chromium		___ Chloride		___ Ph	
___ Lead		___ Chromium		___ Conductivity	
___ Mercury		___ Copper		___ TDS	
___ Selenium		___ Fluoride		___ TOC	
___ Silver		___ Iron			
		___ Lead			
		___ Manganese			
		___ Mercury			
		___ Nitrate			
		___ Selenium			

ORGANIC CHEMISTRY

Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
___ P&T:GC/MS		___ EDB		___ Methoxychlor	
✓ Acid:B/N Ext.		✓ PCB's	<1.0 ppm*	___ Toxaphene	
___ TOX		___ Petroleum		___ 2,4-D	
		___ Endrin		___ 2,4,5-TP (silvex)	
		___ Lindane			

*INCREASED DETECTION LIMIT-DUE TO LARGE AMOUNT OF HYDROCARBON BACKGROUND.

MICROBIOLOGY

Parameter
___ (MF) Coliform Colonies/100mls
___ (MPN) Coliform Colonies/100mls

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received 3-17-89 PW Date Reported

Date Extracted PCB's 3/20/89VP BNA 3/23/89PW Date Analyzed PCB's 3-21-89VP BNA 4-6-89BD

Reported By Lab Number 900694

DHS 3191 (Revised 7/85)
Solid and Hazardous Waste (Review 7/87)

N. C. Department of Human Resources
Division of Health Services

SAMPLE ANALYSES REQUEST

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

Number NCD 067392175 Field Sample Number 4326

Name of Site TRAMCO, INC. Site Location CONNELLY SPRINGS NC

Collected By E. WALLINGFORD ID# 44 Date Collected 3-16-89 Time 16:17

Type of Sample:

Environmental	Concentrate	Comments
____ Groundwater (1)	____ Solid (5)	T-6c TRAMCO LOADING DOCK SOIL
____ Surface Water (2)	____ Liquid (6)	
✓ Soil (3)	____ Sludge (7)	
____ Other (4)	____ Other (8)	

RECEIVED
MAY 09 1989
SUPERFUND BRANCH

INORGANIC CHEMISTRY

Extractables		Total			
Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
Arsenic		Arsenic		Silver	
Barium		Barium		Sulfates	
Cadmium		Cadmium		Zinc	
Chromium		Chloride		Ph	
Lead		Chromium		Conductivity	
Mercury		Copper		TDS	
Selenium		Fluoride		TOC	
Silver		Iron			
		Lead			
		Manganese			
		Mercury			
		Nitrate			
		Selenium			

ORGANIC CHEMISTRY

Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
P&T:GC/MS		EDB		Methoxychlor	
✓ Acid:B/N Ext.		✓ PCB's (#1260)	1,604.0 ppm	Toxaphene	
TOX		Petroleum		2,4-D	
		Endrin		2,4,5-TP (silvex)	
		Lindane			

MICROBIOLOGY

Parameter
(MF) Coliform Colonies/100mls
(MPN) Coliform Colonies/100mls

RADIOCHEMISTRY

Parameter	Results PCi/1
Gross Alpha	
Gross Beta	

Date Received 3-17-89 PQ Date Reported

Date Extracted PCBs 3/20/89 VP BNA 3/23/89 PW Date Analyzed PCBs 3-27-89 VP BNA 4-6-89 BQ

Reported By Lab Number 900695

DHS 3191 (Revised 7/85)
Solid and Hazardous Waste (Review 7/87)

N. C. Department of Human Resources
Division of Health Services

SAMPLE ANALYSES REQUEST

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

Number NCD 067392175 Field Sample Number 4327

Name of Site TRAMCO, INC. Site Location CONNELLY SPRINGS NC

Collected By E. WALLINGFORD ID# 44 Date Collected 3-16-89 Time 16:42

Type of Sample:

Environmental	Concentrate	Comments
✓ Groundwater (1)	___ Solid (5)	OS-1 L. Berry Well
___ Surface Water (2)	___ Liquid (6)	
___ Soil (3)	___ Sludge (7)	
___ Other (4)	___ Other (8)	

RECEIVED
MAY 09 1989
SUPERFUND BRANCH

INORGANIC CHEMISTRY

Extractables		Total			
Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
___ Arsenic		___ Arsenic		___ Silver	
___ Barium		___ Barium		___ Sulfates	
___ Cadmium		___ Cadmium		___ Zinc	
___ Chromium		___ Chloride		___ Ph	
___ Lead		___ Chromium		___ Conductivity	
___ Mercury		___ Copper		___ TDS	
___ Selenium		___ Fluoride		___ TOC	
___ Silver		___ Iron		___	
___		___ Lead		___	
___		___ Manganese		___	
___		___ Mercury		___	
___		___ Nitrate		___	
___		___ Selenium		___	

ORGANIC CHEMISTRY

Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
✓ P&T:GC/MS		___ EDB		___ Methoxychlor	
___ Acid:B/N Ext.		___ PCB's		___ Toxaphene	
___ TOX		___ Petroleum		___ 2,4-D	
___		___ Endrin		___ 2,4,5-TP (silvex)	
___		___ Lindane		___	

MICROBIOLOGY

Parameter
___ (MF) Coliform Colonies/100mls
___ (MPN) Coliform Colonies/100mls
___
___

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	
___	
___	

Date Received 3-17-89 RW Date Reported

Date Extracted Date Analyzed

Reported By Lab Number 900696

DHS 3191 (Revised 7/85)
Solid and Hazardous Waste (Review 7/87)

N. C. Department of Human Resources
Division of Health Services

SAMPLE ANALYSES REQUEST

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

Number NCD 067392175 Field Sample Number 4328

Name of Site TRAMCO, INC. Site Location CONNELLY SPRINGS NC

Collected By E. WALLINGFORD ID# 44 Date Collected 3-16-89 Time 16:42

Type of Sample:

Environmental	Concentrate	Comments
✓ Groundwater (1)	___ Solid (5)	OS-1 L. Berry Well
___ Surface Water (2)	___ Liquid (6)	
___ Soil (3)	___ Sludge (7)	
___ Other (4)	___ Other (8)	

RECEIVED
MAY 0 8 1989
SUPERFUND BRANCH

INORGANIC CHEMISTRY

Extractables		Total			
Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
___ Arsenic		___ Arsenic		___ Silver	
___ Barium		___ Barium		___ Sulfates	
___ Cadmium		___ Cadmium		___ Zinc	
___ Chromium		___ Chloride		___ Ph	
___ Lead		___ Chromium		___ Conductivity	
___ Mercury		___ Copper		___ TDS	
___ Selenium		___ Fluoride		___ TOC	
___ Silver		___ Iron			
		___ Lead			
		___ Manganese			
		___ Mercury			
		___ Nitrate			
		___ Selenium			

ORGANIC CHEMISTRY

Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
___ P&T:GC/MS		___ EDB		___ Methoxychlor	
✓ Acid:B/N Ext.		✓ PCB's	<0.0001 ppm	___ Toxaphene	
___ TOX		___ Petroleum		___ 2,4-D	
		___ Endrin		___ 2,4,5-TP (silvex)	
		___ Lindane			

MICROBIOLOGY

Parameter
___ (MF) Coliform Colonies/100mls
___ (MPN) Coliform Colonies/100mls

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received 3-17-89 PW Date Reported

Date Extracted BNA 3-23-89 AA, LB, JM; PCB 3-22-89 VP, AA, JM Date Analyzed PCB's 3-22-89 VP; BNA 3-29-89 BD

Reported By Lab Number 930697

DHS 3191 (Revised 7/85)
Solid and Hazardous Waste (Review 7/87)

N. C. Department of Human Resources
Division of Health Services

SAMPLE ANALYSES REQUEST

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

Number NCD 067392175 Field Sample Number 4329

Name of Site TRAMCO, INC. Site Location CONNELLY SPRINGS NC

Collected By E. WALLINGFORD ID# 44 Date Collected 3-16-89 Time 16:42

Type of Sample:

Environmental	Concentrate	Comments
___ Groundwater (1)	___ Solid (5)	OS-2 Bkgrd Soil
___ Surface Water (2)	___ Liquid (6)	
✓ Soil (3)	___ Sludge (7)	
___ Other (4)	___ Other (8)	

RECEIVED
SUPERFUND BRANCH

INORGANIC CHEMISTRY

Extractables		Total			
Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
___ Arsenic		___ Arsenic		___ Silver	
___ Barium		___ Barium		___ Sulfates	
___ Cadmium		___ Cadmium		___ Zinc	
___ Chromium		___ Chloride		___ Ph	
___ Lead		___ Chromium		___ Conductivity	
___ Mercury		___ Copper		___ TDS	
___ Selenium		___ Fluoride		___ TOC	
___ Silver		___ Iron			
		___ Lead			
		___ Manganese			
		___ Mercury			
		___ Nitrate			
		___ Selenium			

ORGANIC CHEMISTRY

Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
___ P&T:GC/MS		___ EDB		___ Methoxychlor	
✓ Acid:B/N Ext.		✓ PCB's	<0.10 ppm*	___ Toxaphene	
___ TOX		___ Petroleum		___ 2,4-D	
		___ Endrin		___ 2,4,5-TP (silvex)	
		___ Lindane			

*LOWER DETECTION LIMIT DUE TO NO HYDROCARBON BACKGROUND.

MICROBIOLOGY

Parameter
___ (MF) Coliform Colonies/100mls
___ (MPN) Coliform Colonies/100mls

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received 3-17-89 PW BNA Date Reported

Date Extracted PCB's 3/20/89 VP BNA 3/23/89 PW Date Analyzed PCB's 3-22-89 VP BNA 4-5-89 BD

Reported By Lab Number 900698

DHS 3191 (Revised 7/85)
Solid and Hazardous Waste (Review 7/87)

N. C. Department of Human Resources
Division of Health Services

SAMPLE ANALYSES REQUEST

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

Number NCD 067392175 Field Sample Number 4330

Name of Site TRAMCO, INC. Site Location CONNELLY SPRINGS NC

Collected By E. WALLINGFORD ID# 44 Date Collected 3-16-89 Time 17:10

Type of Sample:

Environmental	Concentrate	Comments
✓ Groundwater (1)	___ Solid (5)	OS-3 Brittain Well
___ Surface Water (2)	___ Liquid (6)	RECEIVED
___ Soil (3)	___ Sludge (7)	
___ Other (4)	___ Other (8)	

INORGANIC CHEMISTRY

Extractables		Total			
Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
___ Arsenic		___ Arsenic		___ Silver	
___ Barium		___ Barium		___ Sulfates	
___ Cadmium		___ Cadmium		___ Zinc	
___ Chromium		___ Chloride		___ Ph	
___ Lead		___ Chromium		___ Conductivity	
___ Mercury		___ Copper		___ TDS	
___ Selenium		___ Fluoride		___ TOC	
___ Silver		___ Iron			
		___ Lead			
		___ Manganese			
		___ Mercury			
		___ Nitrate			
		___ Selenium			

ORGANIC CHEMISTRY

Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
✓ P&T:GC/MS		___ EDB		___ Methoxychlor	
___ Acid:B/N Ext.		___ PCB's		___ Toxaphene	
___ TOX		___ Petroleum		___ 2,4-D	
		___ Endrin		___ 2,4,5-TP (silvex)	
		___ Lindane			

MICROBIOLOGY

Parameter
___ (MF) Coliform Colonies/100mls
___ (MPN) Coliform Colonies/100mls

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received 3-17-89 PW Date Reported

Date Extracted Date Analyzed 3-30-89 nw

Reported By Lab Number 900899

DHS 3191 (Revised 7/85)
Solid and Hazardous Waste (Review 7/87)

N. C. Department of Human Resources
Division of Health Services

SAMPLE ANALYSES REQUEST

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

Number NCD 067392175 Field Sample Number 4331

Name of Site TRAMCO, INC. Site Location CONNELLY SPRINGS NC

Collected By E. WALLINGFORD ID# 44 Date Collected 3-16-89 Time 17:10

Type of Sample:

Environmental	Concentrate	Comments
✓ Groundwater (1)	___ Solid (5)	OS-3 Brittain Well
___ Surface Water (2)	___ Liquid (6)	
___ Soil (3)	___ Sludge (7)	
___ Other (4)	___ Other (8)	

RECEIVED
MAY 09 1989
SUPERFUND BRANCH

INORGANIC CHEMISTRY

Extractables		Total			
Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
___ Arsenic		___ Arsenic		___ Silver	
___ Barium		___ Barium		___ Sulfates	
___ Cadmium		___ Cadmium		___ Zinc	
___ Chromium		___ Chloride		___ Ph	
___ Lead		___ Chromium		___ Conductivity	
___ Mercury		___ Copper		___ TDS	
___ Selenium		___ Fluoride		___ TOC	
___ Silver		___ Iron		___	
___		___ Lead		___	
___		___ Manganese		___	
___		___ Mercury		___	
___		___ Nitrate		___	
___		___ Selenium		___	

ORGANIC CHEMISTRY

Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
___ P&T:GC/MS		___ EDB		___ Methoxychlor	
___ Acid:B/N Ext.		✓ PCB's	<0.0001 ppm	___ Toxaphene	
___ TOX		___ Petroleum		___ 2,4-D	
___		___ Endrin		___ 2,4,5-TP (silvex)	
___		___ Lindane		___	

MICROBIOLOGY

Parameter
___ (MF) Coliform Colonies/100mls
___ (MPN) Coliform Colonies/100mls
___
___

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	
___	
___	

Date Received 3-17-89 RD Date Reported

Date Extracted BNA 3-23-89 AA, LB, JM; PCB 3-22-89 AA, VP, JM Date Analyzed PCB's 3-22-89 VP; BNA 3-29-89 BD

Reported By Lab Number 90700

DHS 3191 (Revised 7/85)
Solid and Hazardous Waste (Review 7/87)

ANALYSES

DIVISION OF HEALTH SERVICES
SOLID AND HAZARDOUS WASTE MANAGEMENT BRANCH

Chain of Custody Record

Hazardous Waste Materials

RECEIVED
MAY 04 1989
SUPERFUND BRANCH

ocation of Sampling: ____Generator ____Transporter ____Treatment Facil:
____Storage Facility ____Disposal Facility ____Landfill
____Other: _____

ompany's Name Tramco Inc Telephone(704) 874-4191

ddress Rt 3 Box 409

ollector's Name E. Walkford Telephone(919) 733-2801
signature

ate Sampled 3-16-89 Time Sampled _____

ype of Process Generating Waste Transformer Reconditiong Facility

ield Information

ield Sample No. 4320 4321 4322 4323 4324 4325 4326

hain of Possession:

signature	title	inclusive dates
E. Walkford	Environmental Chemist	3-16-89 3-17-89
William DeMent	Chemist	3-17-89

Results reported

signature	title	date

Instructions: Complete all applicable information including signatures, and submit with analysis request forms.

DIVISION OF HEALTH SERVICES
SOLID AND HAZARDOUS WASTE MANAGEMENT BRANCH

Receipt for Samples

The samples described below were collected in connection with the administration, enforcement, and documentation of the:

( ) North Carolina Hazardous Waste Management Rules, 10 NCAC 10F

( ) North Carolina Solid Waste Management Rules, 10 NCAC 10G

( ) Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)

( ) Toxic Substances Control Act (TSCA). 15 U.S.C. §2601, et seq., specifically Section 11 of TSCA, 15 U.S.C. § 2610.

Inspector's Name _____ Inspector's Address _____

Name of Firm _____ Firm Address _____

Firm Owner, Operator, or Agent _____ Title _____

SAMPLE NUMBER	COLLECTED		SAMPLE TYPE			DUPLICATE SAMPLES			SAMPLE LOCATION	
	DATE	TIME	WATER	SOIL	OTHER	OFFERED	ACCEPTED	REJECTED	ON-SITE	OFF-SITE

Receipt for the sample(s) described above is hereby acknowledged:

_____
Signature of Inspector

_____
Title

Receipt/rejection of duplicate or split samples is hereby acknowledged:

_____
Signature of Firm Owner, Operator, or Agent

_____
Title

COMMENTS _____

DIVISION OF HEALTH SERVICES
SOLID AND HAZARDOUS WASTE MANAGEMENT BRANCH

Chain of Custody Record

Hazardous Waste Materials

RECEIVED
MAY 09 1989
SUPERFUND BRANCH

Location of Sampling: ____ Generator ____ Transporter ____ Treatment Facil
____ Storage Facility ____ Disposal Facility ____ Landfill
✓ Other: Off-site

Company's Name L. Berry Telephone (704) 879-8227

Address Rt 2 Box 347

Collector's Name E. Walenfel Telephone (919) 733-2801
signature

Date Sampled 3-16-89 Time Sampled 16:42

Type of Process Generating Waste

Field Information

Off-site well.

Field Sample No. 4327 4328 4329

Chain of Possession:

	signature	title	inclusive dates
1.	Edward Walenfel	Environmental Chemist	3-16-89 3-17-89
2.	William DeMent	Chemist	3-17-89
3.			

Results reported

signature title date

Instructions: Complete all applicable information including signatures, and submit with analysis request forms.

DIVISION OF HEALTH SERVICES
SOLID AND HAZARDOUS WASTE MANAGEMENT BRANCH

Receipt for Samples

he samples described below were collected in connection with the administration, nforcement, and documentation of the:

) North Carolina Hazardous Waste Management Rules, 10 NCAC 10F

) North Carolina Solid Waste Management Rules, 10 NCAC 10G

) Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)

) Toxic Substances Control Act (TSCA). 15 U.S.C. §2601, et seq., specifically Section 11 of TSCA, 15 U.S.C. § 2610.

E. WALLINGFORD
nspector's Name

NC SUPERFUND BRANCH
Inspector's Address

LENORA BERRY
ame of Firm

RT 2 BOX 347 CONNELLY SPRINGS.
Firm Address

irm Owner, Operator, or Agent

Title

SAMPLE NUMBER	COLLECTED		SAMPLE TYPE			DUPLICATE SAMPLES			SAMPLE LOCATION	
	DATE	TIME	WATER	SOIL	OTHER	OFFERED	ACCEPTED	REJECTED	ON-SITE	OFF-SITE
OS-1	3-16-89	16:42	✓					✓		✓
OS-2	3-16-89	16:42		✓				✓		✓

eceipt for the sample(s) described bove is hereby acknowledged:

Edward E. Wallingford
Signature of Inspector

Environmental Chemist
Title

Receipt/rejection of duplicate or split samples is hereby acknowledged:

Lenora Berry
Signature of Firm Owner, Operator, or Age

Title

COMMENTS

DIVISION OF HEALTH SERVICES
SOLID AND HAZARDOUS WASTE MANAGEMENT BRANCH

Chain of Custody Record

Hazardous Waste Materials

RECEIVED
MAY 04 1989
SUPERFUND BRANCH

Location of Sampling: ____ Generator ____ Transporter ____ Treatment Facil:
____ Storage Facility ____ Disposal Facility ____ Landfill
✓ Other: Off-site

Company's Name W. Brittain Telephone (704) 879-9728

Address Rt. 4 Box 4138

Collector's Name Ed Wallingford Telephone (919) 733-2801
signature

Date Sampled 3-16-89 Time Sampled 17:10

Type of Process Generating Waste

Field Information

Off-site Well.

Field Sample No. 4330 4331

Chain of Possession:

	signature	title	inclusive dates
1.	Edward D Wallingford	Environmental Chemist	3-16-89 to 3-17-89
2.	William Dement	Chemist	3-17-89
3.			

Results reported

signature	title	date

Instructions: Complete all applicable information including signatures, and submit with analysis request forms.

DIVISION OF HEALTH SERVICES
SOLID AND HAZARDOUS WASTE MANAGEMENT BRANCH

Receipt for Samples

The samples described below were collected in connection with the administration, enforcement, and documentation of the:

( ) North Carolina Hazardous Waste Management Rules, 10 NCAC 10F

( ) North Carolina Solid Waste Management Rules, 10 NCAC 10G

( ) Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)

( ) Toxic Substances Control Act (TSCA). 15 U.S.C. §2601, et seq., specifically Section 11 of TSCA, 15 U.S.C. § 2610.

E. Wallingford — Inspector's Name

NC Superfund Branch — Inspector's Address

~~NC S~~ W. Brittain — Name of Firm

Rt 4 Box 4138 Connelly Springs — Firm Address

Firm Owner, Operator, or Agent

Title

SAMPLE NUMBER	COLLECTED		SAMPLE TYPE			DUPLICATE SAMPLES			SAMPLE LOCATION	
	DATE	TIME	WATER	SOIL	OTHER	OFFERED	ACCEPTED	REJECTED	ON-SITE	OFF-SITE
05-3	3-13-89	17:10	✓					✓		✓

Receipt for the sample(s) described above is hereby acknowledged:

Edward R. Wallingford
Signature of Inspector

Environmental Chemist
Title

Receipt/rejection of duplicate or split samples is hereby acknowledged:

Wiley V. Brittain
Signature of Firm Owner, Operator, or Agent

Title

COMMENTS

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

SE/NEUTRAL AND ACID EXTRACTABLES	LAB NO	900690	900691	900692	900693	900694	900695
	FIELD #	4321	4322	4323	4324	4325	4326
COMPOUND	TYPE	(1)	(3)	(3)	(3)	(3)	(3)
	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
N-nitrosodimethylamine	10/330	u	u	u	u	u	u
bis(2-chloroethyl)ether							
2-chlorophenol							
phenol							
1,3-dichlorobenzene							
1,4-dichlorobenzene							
1,2-dichlorobenzene							
bis(2-chloroisopropyl)ether							
hexachloroethane							
N-nitroso-di-n-propylamine							
nitrobenzene							
isophorone							
2-nitrophenol							
2,4-dimethylphenol							
bis(2-chloroethoxy)methane							
2,4-dichlorophenol							
1,2,4-trichlorobenzene							3,900
naphthalene							330K
hexachlorobutadiene							u
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							
azobenzene							
4-bromophenylphenylether	10/330						
hexachlorobenzene	10/330						
pentachlorophenol	50/1650						
phenanthrene	10/330						
anthracene							
dibutyl phthalate							
fluoranthene							

MDL
H_2O/SOIL

RECEIVED
MAY 09 1989
SUPERFUND BRANCH

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.
[illegible] 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	900690	900691	900692	900693	900694	900695
	FIELD #	4321	4322	4323	4324	4325	4326
COMPOUND	TYPE	(1)	(3)	(3)	(3)	(3)	(3)
	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						
di-n-octyl phthalate	10/330						
benzo(b)fluoranthene	50/1650						
benzo(k)fluoranthene							1650K
benzo(a)pyrene							1833
indeno(1,2,3-cd)pyrene							U
dibenzo(a,h)anthracene							U
benzo(g,h,i)perylene							1650K
aniline	50/1650	U	U	U	U	U	U
benzoic acid							
benzyl alcohol							
4-chloroaniline							
dibenzofuran	10/330						
2-methylnaphthalene							330K
2-methylphenol							U
4-methylphenol							
2-nitroaniline	50/1650						
3-nitroaniline							
4-nitroaniline							
2,4,5-trichlorophenol							
HYDROCARBONS	+/-	(-)	(+)	(+)	(+)	(+)	(+)
PCB 1260 (ug/g)		ND	ND	ND	ND	ND	1,227 mg/kg

RECEIVED
MAY 09 1989
SUPERFUND BRANCH

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.

ND - NOT DETECTED BY GC/MS

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	900697	900698	900700			
	FIELD #	4328	4329	4331			
COMPOUND	TYPE	(1)	(3)	(1)	( )	( )	( )
	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
N-nitrosodimethylamine	10/330	U	U	U			
bis(2-chloroethyl)ether							
2-chlorophenol							
phenol							
1,3-dichlorobenzene							
1,4-dichlorobenzene							
1,2-dichlorobenzene							
bis(2-chloroisopropyl)ether							
hexachloroethane							
N-nitroso-di-n-propylamine							
nitrobenzene							
isophorone							
2-nitrophenol							
2,4-dimethylphenol							
bis(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							
azobenzene							
4-bromophenylphenylether	10/330						
hexachlorobenzene	10/330						
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.

RECEIVED
SUPERFUND BRANCH

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	900697	900698	900700			
	FIELD #	4328	4329	4331			
COMPOUND	TYPE	(1)	(3)	(1)	( )	( )	( )
	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						
di-n-octyl phthalate	10/330						
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							
HYDROCARBONS	+/-	(-)	(-)	(-)			
PCB 1260		ND	ND	ND			

RECEIVED
SUPERFUND BRANCH

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.

ND - NOT DETECTED BY GC/MS

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

PURGEABLE COMPOUNDS	LAB NO	900689	900696	900699			
	FIELD #	4320	4327	4330			
COMPOUND	TYPE	(I)	(I)	(I)	( )	( )	( )
	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		5 ug/l	u	u	u		
bromomethane							
dichlorodifluoromethane							
vinyl chloride							
chloroethane							
methylene chloride							
trichlorofluoromethane							
ethene, 1,1-dichloro							
ethane, 1,1-dichloro-							
1,2-trans-dichloroethene							
chloroform					trace		
ethane, 1,2-dichloro-					u		
ethane, 1,1,1-trichloro-							
carbontetrachloride							
bromodichloromethane							
propane, 1,2-dichloro-							
1,3-trans-dichloropropene							
trichloroethylene							
chlorodibromomethane							
benzene							
ethane, 1,1,2-trichloro-							
1,3-cis-dichloropropene							
2-chloroethyl vinyl ether							
bromoform							
ethane, 1,1,2,2-tetrachloro-							
ethene, tetrachloro-							
toluene							
chlorobenzene							
ethylbenzene							
acetone		5 ug/l	u	u	u		
2-butanone							
carbondisulfide							
2-hexanone							
4-methyl-2-pentanone							
styrene							
vinyl acetate							
xylenes (total)							
	MDL						

RECEIVED
SUPERFUND BRANCH

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.

N.C. Division of Health Services

DHS 3068-O (4/86 Laboratory)

REFERENCES

References

Tramco, Inc.
NCD 067392175

1. Butler, Jack, NC DHR/DHS Superfund Branch; Preliminary Assessment Report: Tramco, Inc. NCD 067392175; to Denise Smith, EPA CERCLA Project Officer, 4 September 1987.

2. Butler, Jack, NC Solid and Hazardous Waste Branch, letter to Denise Smith, EPA NC CERCLA Project Officer, 1 June 1987.

3. Wallingford, Ed, NC Superfund Branch, Memorandum to file: "Telecon with Bob Windmiller, Plant Manager for Tramco Inc. (704/874-4191)" 2 April 1989.

4. Wallingford, Ed, NC Superfund Branch; Tramco, Inc.: Summary Trip Report to Denise Smith, EPA NC CERCLA Project Officer, 17 March 1989.

5. Crawford, William H., NC NRCD-DEM Mooresville Regional Office, letter and enclosures to Jack Butler, NC Solid and Hazardous Waste Management Branch, 11 June 1987.

6. Butler, Jack, NC Solid and Hazardous Waste Management Branch, memorandum to file: "Telephone conversation with Bill Crawford, DEM (704-663-1699) about Tramco, Inc. NCD067392175" 10 June 1987.

7. Wallingford, Ed, NC Superfund Branch, Memorandum to file: "Telecon with Bob Windmiller, Plant Manager for Tramco Inc. (704/874-4191)" 5 May 1989.

8. Moore, John, EPA Assistant Administrator for Pesticides and Toxic Substances, letter to Toni K. Allen, Law Offices of Piper and Marbury, 9 September 1989.

9. Wallingford, Ed, NC Superfund Branch, Memorandum to file: "Telecon with Bob Windmiller, Plant Manager for Tramco Inc. (704/874-4191)" 11 May 1989.

10. Parker, W.T.; U.S. Department of the Interior, Fish and Wildlife Service,letter to Pat DeRosa, NC DHR/DHS Superfund Branch, dated June 1985; and DeRosa, Pat, memo to file,"Critical Habitats of Federally Listed Endangered Species in North Carolina", 15 June 1987.

11. Flood Insurance Rate Maps: Burke County, North Carolina, Uninc. Areas, Community-Panel Number 370034 0006 B, National Flood Insurance Program, US Department of Housing and Urban Development, 17 February 1978.

12. USDA Soil Conservation Service- preliminary soil survey for Burke County, NC; received, NC Superfund Branch April 1989.

13. Nicholson, B., NC Superfund Branch letter to file: "Telecon with Robert Glenn, Longview Town Administrator", 5 October 1988.

14. Nicholson, B., NC Superfund Branch letter to file: "Telecon with Kieth Buff, Plant Supervisor, Town of Hickory", 5 October 1988.

15. Heath, R.C., Basic Elements of Ground-Water Hydrology with Reference to Conditions in North Carolina. USGS Water Resources Investigations Open-File Report 80-44, 1980.

16. Freeze, R.A. and J.A. Cherry; Groundwater, Prentice Hall 1979, p. 29.

17. Sumsion C.T. Geology and Ground-Water Resources of the Morganton Area, North Carolina, USGS, US Dept. of the Interior, and NC Dept. of Water Resources, March 1967.

18. State of North Carolina Administrative Code, Section 15 NCAC 2B .0308, Classifications and Water Quality Standards Assigned to the Waters of the Catawba River Basin, 2 February 1989.

19. Rust, David, Burke County Environmental Health Supervisor, letter and enclosures to Ed Wallingford, NC DHR/DHS Superfund Branch, 20 March 1989.

20. Wortman, David, Icard Township Water Corporation, letter and enclosures to Ed Wallingford, NC Superfund Branch, 25 April 1989.

21. Clay, J.W., D.M. Orr, Jr. and A.W. Stuart, North Carolina Atlas: Portrait of a Changing Southern State. The University of North Carolina Press, Chapel Hill, NC 1975.

22. Rainfall Frequency Atlas of the United States, Technical Paper No. 40, U.S. Department of Commerce, U.S. Government Printing Office, Washington, D.C., 1963.

23. North Carolina State Government Statistical Abstract, Fifth Edition 1984, North Carolina Data Center, Research and Planning Office of the Office of State Budget and Management.

24. NC Water Supply Branch, Environmental Health Section, Report WO-415 ALPHA, 25 April 1989.

25. Wallingford, Edward, NC DHR/DHS Superfund Branch; memo to file: "Population served by Groundwater in the vicinity of Tramco, Inc.", 14 May 1989.

26. Wallingford, E.D., NC DHR/DHS Superfund Branch; memo to file "Telecons with Community Water System Operators in the Vicinity of Tramco, Inc., 28 April 1989.

27. Wallingford, E.D., NC DHR/DHS Superfund Branch; memo to file "Telecons with water system operators in the Tramco vicinity" 5 May 1989.

28. The Merck Index, Tenth Edition. Martha Windholz, Editor; Merck and Co., Inc., 1983.

29. Sax, N.I.; Dangerous Properties of Industrial Materials; 5th Edition, New York: Van Nostrand Reinhold Co., 1984.

30. Hammond P.B. and R.P. Beliles Metals Cassarett and Doull's Toxicology: The Basic Science of Poisons, 2nd Edition, J. Doull, C.D. Klassen, M.O. Amdur, editors. MacMillan Publishing Co. NY 1975.

31. Sax, N.I. and R.L. Lewis, Sr., Hawley's Condensed Chemical Dictionary, Eleventh Edition, Van Nostrand Reinhold Co., New York, 1987.

32. NC NRCD, Department of Environmental Management (DEM) Groundwater Field/Lab Form, received by NC Superfund Branch from NC DEM - Mooresville Regional Office, 18 May 1989.

Reference 1

North Carolina Department of Human Resources
Division of Health Services
P.O. Box 2091 • Raleigh, North Carolina 27602-2091

James G. Martin, Governor
David T. Flaherty, Secretary

Ronald H. Levine, M.D., M.P.H.
State Health Director

4 September 1987

Ms. Denise Smith
EPA NC CERCLA Project Officer
EPA Region IV Waste Division
345 Courtland Street, N.E.
Atlanta, GA 30365

Dear Ms. Smith:

RE: Preliminary Assessment Report
Tramco, Inc.
NCD148522055

Enclosed please find the Preliminary Assessment report for the subject site. This priority is based on review of available data.

Tramco, Inc. is a transformer reconditioning operation that has been on this site for about two years. Approximately 500 transformers are reportedly stored in the open on the site. Of these about six were noted by NRCD personnel to have leaked oil onto the ground. This leakage may have resulted in PCB contamination of the surface soil.

Tramco, Inc. is listed by RCRA as a small generator and has been given the EPA I.D. Number NCD067392175. Polychlorinated Biphenyl, the suspected contaminant at this site, is not regulated as a hazardous waste by RCRA however.

On 3 September 1987, this Preliminary Assessment was reviewed by CERCLA Unit personnel; and by the following representatives from the North Carolina Department of Natural Resources and Community Development, Division of Environmental Management: Glenn Ross, Air Quality Section; and Vince Schneider, Water Quality Section.

Because of the potential for contamination and the extensive use of groundwater in this area, a medium priority for inspection is assigned. If you have any questions, please call me at (919) 733-2801.

Sincerely,

Jack Butler

Jack Butler, Environmental Engineer
CERCLA Unit
Solid and Hazardous Waste Management Branch
Environmental Health Section

JB/ta/0420b

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART I - INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 STATE: NC
02 SITE NUMBER: D148522055

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)
Tramco, Inc.

02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Rt. 3, Box 409 (SR 1611)

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Connelly Springs	NC	28617	Burke	12	10

09 COORDINATES:
LATITUDE 35°45'15" | LONGITUDE 81°28'30"

10 DIRECTIONS TO SITE (Starting from nearest public road) From US 64 & 70 Go north on SR1611 about 1.75 mi. Site is approximately 0.2 mi. past intersection with SR 1614.

III RESPONSIBLE PARTIES

01 OWNER (If known)
Tramco, Inc.

02 STREET (Business, mailing, residential)
Rt. 3, Box 409

03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
Connelly Springs	NC	28617	(704) 874-4191

07 OPERATOR (If known and different from owner)
Kenneth G. Zion

08 STREET (Business, mailing, residential)
Rt. 3, Box 409

09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER
Connelly Springs	NC	28617	(704) 874-4191

13 TYPE OF OWNERSHIP (Check one)
[x] A. PRIVATE [ ] B. FEDERAL: _____ (Agency) [ ] C. STATE [ ] D. COUNTY [ ] E. MUNICIPAL
[ ] F. OTHER: _____ (Specify) [ ] G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply) (CERCLA 103c)
[ ] A. RCRA 3001 DATE RECEIVED: [ ] B. UNCONTROLLED WASTE SITE DATE RECEIVED [x] C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION BY (Check all that apply)
[ ] YES DATE [ ] A. EPA [ ] B. EPA CONTRACTOR [ ] C. STATE [ ] D. OTHER CONTRACTOR
[ ] E. LOCAL HEALTH OFFICIAL [ ] F. OTHER: _____
[x] NO CONTRACTOR NAME(s): _____

02 SITE STATUS (Check one)
[x] A. ACTIVE [ ] B. INACTIVE [ ] C. UNKNOWN

03 YEARS OF OPERATION
1985 (BEGINNING YEAR) | present (ENDING YEAR) [ ] UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED Approximately 500 transformers are stored on wooden pallets on the site. Approximately 5 of these were noted to have leaked onto the ground by NRCD personnel on May 29, 1987.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
Tramco has operated on the site for about 2 years. Groundwater used extensively in this area. Possible PCB contamination in soil on site.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)
[ ] A. HIGH (Inspection required promptly) [x] B. MEDIUM (Inspection required) [ ] C. LOW (Inspection on time available basis) [ ] D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NUMBER
Kenneth G. Zion	Tramco, Inc., President	(704) 874-4191

02 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	ORGANIZATION	03 TELEPHONE NUMBER	08 DATE
Jack Butler	NC DHR/DHS	NC CERCLA Unit	(919) 733-2801	7/21/87

EPA FORM 2070-12 (7-81)

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NC	148522055

II. WASTE STATES, QUANTITIES, AND CHARACTERS

01 PHYSICAL STATES (Check all that apply)

[ ] A SOLID
[ ] B. POWDER, FINES
[ ] C. SLUDGE
[ ] D. Other _____
[ ] E. SLURRY
[x] F. LIQUID
[ ] G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS _____
CUBIC YARDS Unknown
NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

[x] A. TOXIC
[ ] B. CORROSIVE
[ ] C. RADIOACTIVE
[x] D. PERSISTENT
[ ] E. SOLUBLE
[ ] F. INFECTIOUS
[ ] G. FLAMMABLE
[ ] H. IGNITABLE
[ ] I. HIGHLY VOLATILE
[ ] J. EXPLOSIVE
[ ] K. REACTIVE
[ ] L. INCOMPATIBLE
[ ] M. NOT APPLICABLE

III. WASTE TYPES

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE	Unknown		Possible PCB contamination from transformer oil.
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

CATEGORY	SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
OLM	Polychlorinated Biphenyls	1336-36-3			

V. FEEDSTOCKS (See Appendix for CAS numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e. g. state files, sample analysis, reports

1. Permanent Files, N.C. CERCLA Unit
2. USGS Topographic Map, Granite Falls Quadrangle, 1970.

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

II. IDENTIFICATION
01 STATE NC | 02 SITE NUMBER 148522055

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [ ] A. GROUNDWATER CONTAMINATION 02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

01 [ ] B. SURFACE WATER CONTAMINATION 02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

01 [ ] C. CONTAMINATION OF AIR 02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

01 [ ] D. FIRE/EXPLOSIVE CONDITIONS 02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

01 [ ] E. DIRECT CONTACT 02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

01 [x] F. CONTAMINATION OF SOIL 02 [x] OBSERVED (DATE: 5/29/87) [ ] POTENTIAL [x] ALLEGED
03 AREA POTENTIALLY AFFECTED Unknown (Acres) 04 NARRATIVE DESCRIPTION

Approximately 500 transformers stored on wood pallets outside. Approximately 6 of these wwere noted by NRCD personnel to be leaking on May 29, 1987. Possible PCB contamination.

01 [x] G. DRINKING WATER CONTAMINATION 02 [ ] OBSERVED (DATE: _____) [x] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

Wells used extensively in this area.

01 [ ] H. WORKER EXPOSURE/INJURY 02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

01 [ ] I. POPULATION EXPOSURE/INJURY 02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

II. IDENTIFICATION

01 STATE	02 SITE NUMBER
NC	148522055

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 [ ] J. DAMAGE TO FLORA 02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

01 [ ] K. DAMAGE TO FAUNA 02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

01 [ ] L. CONTAMINATION OF FOOD CHAIN 02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)

01 [ ] M. UNSTABLE CONTAINMENT OF WASTE (Spills/runoff/standing leaking drums) 02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

01 [ ] N. DAMAGE TO OFFSITE PROPERTY 02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

01 [ ] O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPS 02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

01 [ ] P. ILLEGAL/UNAUTHORIZED DUMPING 02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED:

IV. COMMENTS

V. SOURCES OF INFORMATION (Site specific references, e. g., state files, sample analysis, reports)

As previously cited.

Reference 2

North Carolina Department of Human Resources
Division of Health Services
P.O. Box 2091 • Raleigh, North Carolina 27602-2091

James G. Martin, Governor
David T. Flaherty, Secretary

Ronald H. Levine, M.D., M.P.H.
State Health Director
919/733-3446

1 June 1987

Ms. Denise Smith
EPA NC CERCLA Project Officer
EPA Region IV Waste Division
345 Courtland Street, N.E.
Atlanta, GA 30365

Dear Mrs. Smith:

SUBJECT: Tramco, Inc.
CERCLIS Site Addition

Preliminary data has been gathered on the Tramco, Inc. Site. It is requested that this site be added to the CERCLIS List.

Kenneth G. Zion is the president of Tramco, Inc. The mailing address is Rt. 3, Box 409, Connelly Springs, N.C. 28617. The site is on SR 1611 approximately 0.2 miles northeast of the intersection with SR 1614 This is in the northeast corner of Burke County. The county code is 12 and this is in the tenth Congressional District.

Mr. Charles Berry who is planning to move from Florida to a residence across the road from Tramco, Inc. reported this site to the N.C. Division of Environmental Management. Reportedly there are approximately 200 transformers on the site and there is evidence of leakage near about 6 transformers. Most of the transformers are uncovered and on wooden pallets.

Tramco, Inc. has been in operation on this site for about 2 years and is listed by RCRA as a small generator. Their EPA I.D. Number is NCD 067392175. Polychlorinated Biphenyls, the suspected contaminants at this site, are not a RCRA listed hazardous waste however. If you have any questions please contact me at (919) 733-2801.

Sincerely,

Jack Butler

Jack Butler, Environmental Engineer
CERCLA Unit
Solid and Hazardous Waste Management Branch
Environmental Health Section

JB/pw

cc. Lois Walker

2 March 1989

TO: File

From Ed Wallingford, NC Superfund Branch

RE: Telecon with Bob Windmiller, Plant Manager for Tramco Inc. (704/874-4191)

Mr. Windmiller was contacted for permission to conduct a site sampling visit at the facility on 16 March 1989. I indicated that Jack Butler and I would be sampling soil and groundwater (if possible). I also indicated that we would likely be sampling groundwater at other area residences.

Reference 4

North Carolina Department of Human Resources
Division of Health Services
P.O. Box 2091 • Raleigh, North Carolina 27602-2091

James G. Martin, Governor
David T. Flaherty, Secretary

Ronald H. Levine, M.D., M.P.H.
State Health Director

17 March 1989

Ms. Denise Smith
EPA NC CERCLA Project Officer
EPA Region IV Waste Division
345 Courtland Street, NE
Atlanta, GA 30365

Dear Ms. Smith:

SUBJECT: Summary Trip Report
Screening Site Investigation, 16 March 1989
Tramco, Inc. NCD 067392175
Rt. 3 Box 409
Connelly Springs, NC 28617

Tramco Inc. is a 11,000 square foot active transformer reconditioning facility located on a 7.8 acre, unfenced lot. The current owner, Mr. Kenneth G. Zion, bought the business in 1986 from Mr. Larry Austin (P.O. Box 666 Icard, NC 28612) who ran a similar operation from 1985 to 1986. According to Mr. David Rust (Burke County Environmental Health Supervisor), the lot had been used as farmland prior to 1985.

Mr. Bob Windmiller, the facility manager for Tramco, reported that only non-PCB-containing transformers were stored in the open on the site and that PCB-containing-transformers were formerly stored inside the building. The facility discontinued the reconditioning of transformers with PCB levels in excess of 50 ppm in July/August 1988. According to Mr. Windmiller about "99+%" of the transformers currently recieved by the facility are tested before recipt for PCBs. He also stated that there had been some PCB-containing-oil spills in the past, but were contained within the building.

On 16 March 1988, NC Superfund Branch personnel Ed Wallingford and Grover Nicholson conducted a field investigation of the Tramco, Inc. site. After a brief meeting with Mr. Windmiller and Mr. Rust, the site was toured and photographs were taken. Approximately 120 uncovered transformers and several areas of darkened soil were noted in the field behind the facility. Seven fill pipes for underground storage tanks were also noted in an area adjacent to the Tramco building.

Because of time constraints, samples were taken on-site prior to obtaining background samples. Three surface soil samples were taken from areas of darkened soil, and one surface soil sample was obtained from the end of the facility loading dock. A 6", drilled, PVC well located in front of the facility provided an on-site groundwater sample. Background surface soil and groundwater were sampled at the private residence of Ms. Lenora Berry (Rt. 2, Box 347, Connelly Springs NC 28612). The Berry residence is located across NC 1614 from the site. An additional off-site groundwater sample was obtained at the residence of Mr. Wiley Brittain (Rt. 4, Box 4138, Connelly Springs NC). The Berry and Brittain wells are located approximately 280 ft. and 1600 ft. from the back of the Tramco facility, respectively. The samples were submitted to DHR/DHS State Laboratory of Public Health for analysis.

If you have any questions, please contact me at (919) 733-2801.

Sincerely,

Edward R. Wallingford

Edward Wallingford, Environmental Chemist

Reference 5

State of North Carolina
Department of Natural Resources and Community Development
Mooresville Regional Office

James G. Martin, Governor
S. Thomas Rhodes, Secretary

Albert F. Hilton, Regional Manager

DIVISION OF ENVIRONMENTAL MANAGEMENT

June 11, 1987

Mr. Jack Butler
North Carolina Department of Human Resources
Division of Health Services
Solid and Hazardous Waste Management Branch
CERCLA UNIT
P. O. Box 2091
Raleigh, N. C. 27602

Dear Jack:

As a follow-up to our telephone conversation of June 10, 1987 concerning Tramco at Connelly Springs in Burke County, I am enclosing the following information which you requested:

(1) A copy of complaint received by DEM from Mr. Charles W. Berry.
(2) Well record of the bored well sampled on the Munday property.
(3) Site location on Topographic map.
(4) Site location on highway map.

Eric Klingel and I visited Tramco on May 29, 1987 and talked with Mr. Kenneth G. Zion, President. Mr. Zion reported that he had operated the business for approximately one to two years. He stated the transformers are tested for PCB's when received at the plant and only the transformers which do not contain PCB's are stored outside behind the plant. He said he did not know what had occurred on the property prior to his operation.

We walked the area outside containing the transformers and observed approximately six transformers which had leaked oil onto the ground. I would estimate there were approximately 500 transformers stored behind the plant.

A private water supply well located on the Munday property adjacent to Tramco was sampled on May 29, 1987 for organics. The property is rented by Mr. Jerry Rogers, Rt. 4, Box 410, Connelly Springs, North Carolina 28612. However, the sample bottle was broken by the State Courier Service and the well was resampled June 3, 1987. I will forward you a copy of the sampling results when they are received.

919 North Main Street, P.O. Box 950, Mooresville, N.C. 28115-0950 • Telephone 704-663-1699

An Equal Opportunity Affirmative Action Employer

Should you have questions or desire assistance in your investigation at the site, please call me at 704/663-1699.

Sincerely,

William H. Crawford

William H. Crawford
Hydrogeological Technician

Approved by,

Eric J. Klingel

Eric J. Klingel
Regional Hydrogeological Supervisor

cc: Mr. Ron McMillan
Central Files

WHC:pb

Ron'

RECEIVED
DIVISION OF ENVIRONMENTAL MANAGEMENT
MAY 22 1987
MOORESVILLE
REGIONAL OFFICE

Jacksonville,
Florida,
May 19, 1987

Division of Environmental Management
Mooresville,
North Carolina.

attn. E.P.A. Director

Subject: Carcinogens with Polychlorinated Biphenyls

Ref: High Voltage Transformer Repair and Recycling Facility.

Gentlemen:

Reference facility is located in East Burke County, No. Carolina on State Road 1611.

This plant operation is only 165 linear feet from the total water supply for the entire rural community.

My well, the only source of drinking water for 130 years, is only 100 feet from and 40 feet down from the Carcinogens handling of this highly toxic product.

The surface water run-off from this facility affects hundreds of animals down to Scouting Creek, Warlick's Community and to lower Burke County. The Warlick's Community petitioned had this same facility moved from their rural neighborhood.

The drivers of the trucks, bringing these deadly bomb-shells. have no idea that their Carelessness allows this toxic oil to run off with the rain water.

If you will excuse my adjectives, What in the Hell did you all have in Mind when you allowed them to build such a facility in a rural area - where no treatment plants or sewer systems prevail. and probably never will.

Many senior citizens are scared to death - they have been to the health department in Morganton but no help.

I want to retire to my farm, (across the road) but I have second thoughts, at this Moment. to see if they are allowed to remain. If they are - May God have mercy on their souls, for my water is tested positive for PCB's. Of Course you are held responsible.

I do understand that Duval Water Dept. will lay a water line on state road 1611, however many people, including myself, cannot afford the high cost of connection, PRV's, re-plumbing, water costs etc. and of course the surface water problem will always remain. The topo of the land negates any possibility of improvement & battle drinking water.

I trust you will look into the matter and ask these persons to move their facility to a location where adequate water treatment is available.

Sincerely yours

Charles W. Berry

CHARLES W. BERRY
8343 PRINCETON SQUARE BLVD. EAST - 1211
JACKSONVILLE,
FLORIDA - 32216

NORTH CAROLINA DEPARTMENT OF NATURAL RESOURCES AND COMMUNITY DEVELOPMENT
DIVISION OF ENVIRONMENTAL MANAGEMENT – GROUNDWATER SECTION
P.O. BOX 27687 – RALEIGH, N.C. 27611, PHONE (919) 733-5083

FOR OFFICE USE ONLY
Quad. No. K75 V1 Serial No. EKZ
Lat. 35°45'14" Long. 81°23'20" Pc.
Minor Basin
Basin Code
Header Ent. GW-1 Ent.

WELL CONSTRUCTION RECORD

DRILLING CONTRACTOR UNKNOWN

DRILLER REGISTRATION NUMBER

STATE WELL CONSTRUCTION PERMIT NUMBER: NA

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

Nearest Town: WARLICK COMMUNITY – 0.2 MI. N. OF SR1614 ON W. SIDE OF SR1611 (Road, Community, or Subdivision and Lot No.)

County: BURKE

2. OWNER ~~CHARLES W. BERRY~~ MR. MUNDAY

ADDRESS ~~8343 PRINCETON SQUARE BLVD. EAST #1211~~ (Street or Route No.)

~~JACKSONVILLE, FLORIDA 32216~~ (City or Town, State, Zip Code)

3. DATE DRILLED UNKNOWN USE OF WELL DOMESTIC

4. TOTAL DEPTH UNKNOWN CUTTINGS COLLECTED ☐ Yes ☐ No

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

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

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

8. WATER ZONES (depth): _____

9. CHLORINATION: Type _____ Amount _____

10. CASING:

	Depth From	Depth To	Diameter	Wall Thickness or Weight/Ft.	Material
		Ft.	24"		CEMENT TILE
		Ft.			
		Ft.			

11. GROUT:

	Depth From	Depth To	Material	Method
		Ft.		
		Ft.		

12. SCREEN:

	Depth From	Depth To	Diameter	Slot Size	Material
		Ft.	in.	in.	
		Ft.	in.	in.	
		Ft.	in.	in.	

13. GRAVEL PACK:

	Depth From	Depth To	Size	Material
		Ft.		
		Ft.		

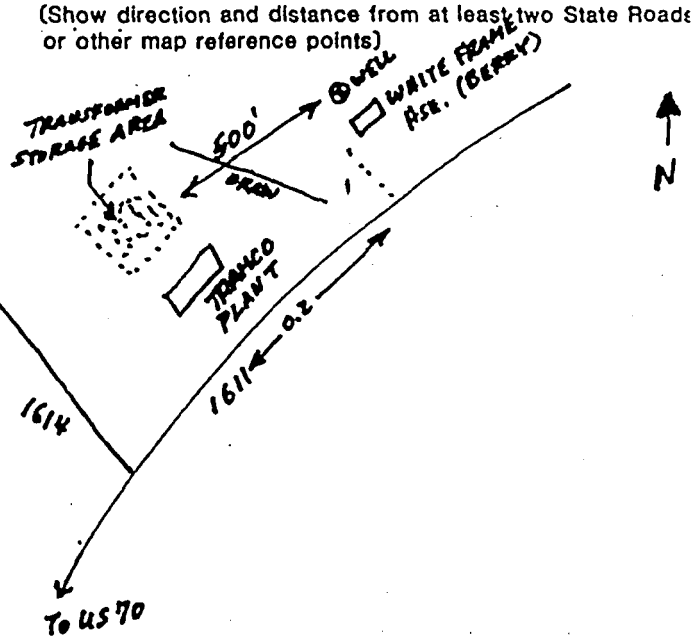
DRILLING LOG

Depth From	Depth To	Formation Description

If additional space is needed use back of form.

LOCATION SKETCH

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



14. REMARKS: RW (OBSERVICE) FROM COMPLAINT INVESTIGATION (TRANSFORMER STORAGE AT TRAMCO PLANT)

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

William H. Crawford 6/1/87
SIGNATURE OF ~~CONTRACTOR OR AGENT~~ HYDROLOGIST

10 June 1987

TO: File

FROM: Jack Butler

RE: Telephone conversation with Bill Crawford, DEM (704-663-1699) about Tramco, Inc. NCD 067392175.

Bill Crawford, DEM, NRCD, was contacted on this date concerning a report of leaking transformers on the Tramco site. Mr. Crawford reported that he and Rick Klingle visited the site recently in response to a letter from Mr. Charles Berry who presently lives in Florida but plans to move to property near the subject site. Mr. Crawford reported that there were approximately 200 transformers on the site and that there was evidence that about 6 had leaked in the past. Tramco has been on this site about 1 or 2 years. Reportedly Tramco performs a Dexel Test on the oil in all transformers received and if PCB'S are shown to be present the oil is drained and shipped off site as a hazardous waste.

Mr. Crawford and Mr. Klingle collected a ground water sample from a private shallow bored well at the residence just east of Tramco. This water will be annalized for PCB'S.

Kenneth G. Zion is the president of Tramco, Inc. The mailing address is Rt. 3, Box 409, Connelly Springs, N.C. 28617, phone (704) 874-4191. This site is on Hwy. 1611 approximately 0.2 miles north east of Hwy. 1614. The site is on the north west side of Hwy. 1611.

JB/pw/0384b

5 May 1989

TO: File

From Ed Wallingford, NC Superfund Branch

RE: Telecon with Bob Windmiller, Plant Manager for Tramco Inc. (704/874-4191)

Mr. Windmiller provided the following additional information for the Tramco, Inc. file:

- the refurbishing procedure involves draining the transformer carcass of oil (if present), rewinding the coil if necessarry, replacing the bushings and gaskets, refilling the carcass with new oil and wiping down the carcass exterior with a mineral spirits soaked rag.

- most of the transformers that are received do not contain oil and those that do have under 50ppm PCBs..

- the facility has four tanks, two of 6000 gallon capacity and two of 10,000 gallon capacity.

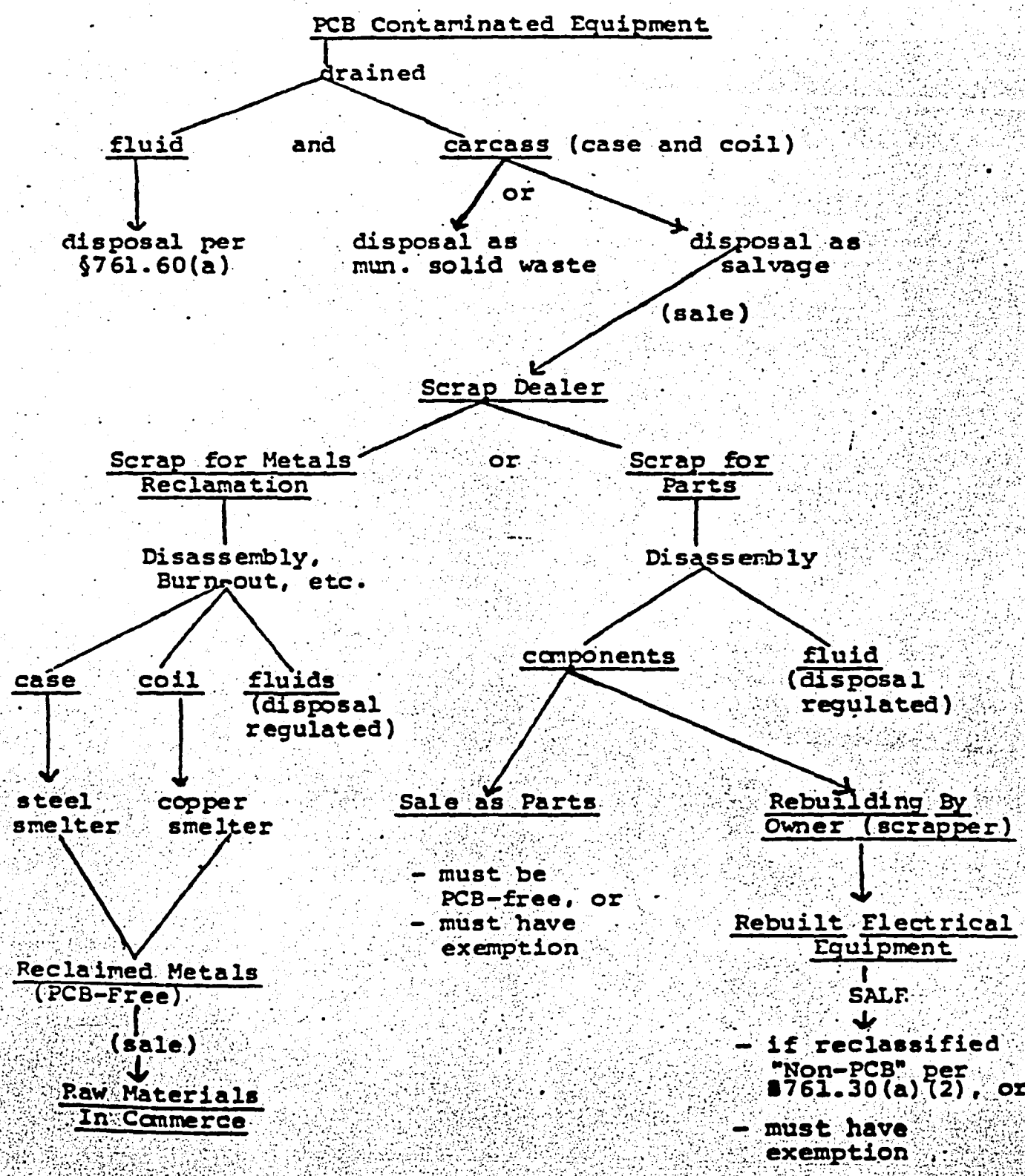
- one of the tanks contains new oil; one contains good used oil that is sometimes used to rinse out carcasses that have heavy carbon deposits; one tank is used for junk oil; and one tank is generally not used.

- mineral spirits is the only solvent used at the facility; it is used at a rate of roughly 2 gallons per week

- Junk PCB oil is taken off site for disposal by PPM (Atlanta); Junk non-PCB oil is taken off-site by Holsten Energy (Waynesville)

- the only leaks that have occured happend when vehicles ran over the piping the leads to the underground tanks; the amount of lost oil would be no more than the piping capacity

SALVAGE OPTIONS FOR DRAINED CARCASSES
(Equipment Under 500 ppm PCBs)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

SEP 9 1986

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

Ms. Toni K. Allen
Law Offices of
Piper & Marbury
888 Sixteenth Street, N.W.
Washington, D.C. 20006

Dear Ms. Allen:

This is in response to your August 12, 1986, letter, which expressed a concern on the part of the Utility Solid Waste Activities Group (USWAG) about recent interpretations under the TSCA rules for polychlorinated biphenyls (PCBs). Specifically, your letter raised the question whether there had been a change in the Agency's position regarding the disposal of drained carcasses from mineral oil transformers which, prior to being drained, contained fluid contaminated with PCBs in concentrations below 500 ppm.

As you point out in your letter, EPA regulations state that the disposal of drained PCB-contaminated equipment (including mineral oil transformers) is not regulated by the PCB disposal regulations at 40 CFR §761.60. This has been the case since the promulgation of the "PCB Ban Rule" on May 31, 1979 (44 Federal Register 31547). In the proposed Ban Rule (43 Federal Register 24802 et seq., June 7, 1978), EPA explained that "unregulated" disposal of this equipment would allow it to be sold for salvage. While EPA did not propose any restrictions on salvage operations, the Agency did solicit comments on salvage practices and the need for specific regulatory controls on salvaging to prevent undue environmental exposure to PCBs. After considering the comments and testimony received on this issue, EPA elected not to alter the proposal. The Agency concluded that because of the low concentration PCBs involved (<500 ppm), and because of the benefits derived from reclaiming valuable metal resources, the unrestricted salvaging of drained carcasses would not present an unreasonable risk. (See March, 1979, Support Document/Voluntary Environmental Impact Statement for this rulemaking). EPA has consistently followed the position that drained mineral oil (<500 ppm PCBs) carcasses can be disposed of

as scrap. (See The PCB Regulations Under TSCA: Over 100 Questions and Answers to Help You Meet These Requirements, August, 1983). Of course, the option to dispose of drained equipment as salvage is available only for drained carcasses which previously contained PCBs below 500 ppm; the salvage option is not available for "PCB Transformers" with PCB concentrations above 500 ppm.

Recently, confusion has arisen as to whether other aspects of the PCB regulations affect the salvaging of PCB Contaminated equipment. We note, for example, that while the PCB regulations do not impose specific controls on salvaging operations, scrapping practices which result in spills and other uncontrolled discharges of PCBs are regulated as improper disposal, and subject the scrapper to clean-up requirements under the PCB disposal regulations. The PCB containing fluids which have not been drained from the carcasses are always regulated as PCB wastes under these regulations.

Moreover, because salvaging involves the sale of the drained equipment to one or more scrap dealers, the question arises as to the applicability of the TSCA §6(e)(3) ban on the distribution in commerce of PCBs and PCB Items. One could construe the sale of drained equipment to a scrap dealer as distribution in commerce (and therefore prohibited without an exemption), but such a construction would not comport with the intent reflected in the Ban Rule record to treat salvaging of such equipment as a method of "disposal." Rather, each of the transactions involved in ultimately scrapping such equipment is exempted from the ban on distribution in commerce because it is either disposal or distribution in commerce for purposes of disposal. (40 CFR §761.20(c)(2), 761.20(c)(4)).

However, the regulatory definition of "disposal" imposes some limitations on the salvaging practices which may be engaged in by scrappers without an exemption from the distribution in commerce ban. To qualify as disposal, the practice must be one which would " ... otherwise complete or terminate the useful life of PCBs or PCB Items." (40 CFR §761.3). Indeed, "unregulated" disposal of drained carcasses means only that disposal in approved incinerators or chemical waste landfills is not required; it does not free the equipment (or its components) from the requirement that disposal terminate the useful life of the PCB equipment. Salvaging aimed at reclamation of the metal resources found in the case and coil generally constitutes disposal, because the PCBs are destroyed by the high temperatures employed in the reclamation process. However, where salvaging consists of disassembling the drained equipment to obtain parts intended for reuse in other equipment, the useful life of the equipment has not been fully terminated. So, the sale of any components containing detectable levels of PCBs, without an exemption, is prohibited for distribution in commerce of PCBs. Likewise, while typical metals reclamation methods can be expected to destroy residual PCBs, the sale of any metals

remaining contaminated after reclamation also is prohibited without an exemption.

In sum, salvaging of <500 ppm drained equipment is unregulated to the extent that: (1) Scrapping practices do not result in spills or uncontrolled discharges of PCBs, and (2) any PCB-contaminated components are not reintroduced into commerce. Contaminated transformer components cannot be resold as parts to anyone without an exemption from the ban on distribution in commerce. Also, equipment that is rebuilt using contaminated parts from a salvaged carcass cannot be sold to another without an exemption unless the rebuilt equipment can be reclassified as "non-PCB."

I have enclosed for your reference a document entitled "Salvage Options for Drained Carcasses." This document summarizes in graphic form the relationship between salvaging and other activities regulated under the PCB regulations. Should you have additional questions, please contact Suzanne Rudzinski on 382-3935.

Sincerely,

John A. Moore
Assistant Administrator
for Pesticides and
Toxic Substances

Enclosure

11 May 1989

TO: File

From Ed Wallingford, NC Superfund Branch

RE: Telecon with Bob Windmiller, Plant Manager for Tramco Inc. (704/874-4191)

Mr. Windmiller provided the following information concerning the ownership of the Tramco, Inc. site:

- Larry Austin still maintains ownership of the site property

- Kenneth Zion bought the company assets in 1986 and leases the property from Larry Austin

- The name of Kenneth Zion's company is Zion, Inc. however, he still uses the name of Larry Austin's former company, Tramco, Inc.

- Larry Austin's company was renamed Tramco, Inc. when it moved to the Connelly Springs location in 1985 from its Icard location; the previous name was Transformer Maintenance & Disposal Co.

United States Department of the Interior
FISH AND WILDLIFE SERVICE
ENDANGERED SPECIES FIELD STATION
100 OTIS STREET, ROOM 224
ASHEVILLE, NORTH CAROLINA 28801

June 21, 1985

Ms. Pat Derosa
Solid and Hazardous Waste Management Branch
Environmental Health Section
North Carolina Department of Human Resources
P. O. Box 2091
Raleigh, North Carolina 27602

Dear Ms. Derosa,

In response to your telephone conversation with John Fridell on May 30, 1985, we are enclosing the following items of information:

A. North Carolina county distribution records of Federally listed, proposed and status review species,

B. map of the critical habitat of the threatened spotfin chub (Hybopsis monacha),

C. map of the critical habitat of mountain golden heather (Hudsonia montana), and

D. copy of the U.S. Fish and Wildlife Service interagency Section 7 consultation process guidelines (included for your information)

The abbreviations following the species names on the North Carolina species distribution records (A. above) indicate Federal status, i.e., E - endangered, T - threatened, PE - proposed endangered, PT - proposed threatened and SR - under status review. Status review species are not legally protected under the Endangered Species Act. However, they are subject to being listed and agencies should be cognizant of their potential presence in a project area.

Since additions and deletions are made to the list of species on a regular basis, questions regarding updates of the list should be made to this office.

We hope this information will be of use to you. If we can be of any further assistance, please call John Fridell or Nora Murdock at (704) 259-0321.

Sincerely yours,

Warren T. Parker

Warren T. Parker
Field Supervisor

$$R = \frac{C_{TRS}}{C_{SO_2}} \times 100 \quad \text{Eq. 15A-A}$$

Bibliography

1. American Society for Testing and Materials. Annual Book of ASTM Standards. Part 31: Water, Atmospheric Analysis. Philadephia, Pennsylvania. 1974. p. 40–42.

2. Blosser, R.O., H.S. Oglesby, and A.K. Jain. A study of Alternate SO_2 Scrubber Designs Used for TRS Monitoring. National Council of the Paper Industry for Air and Stream Improvement, Inc., New York, New York. Special Report 77–05. July 1977.

3. Curtis, F., and G.D. McAlister. Development and Evaluation of an Oxidation/Method 6 TRS Emission Sampling Procedure. Emission Measurement Branch, Emission Standards and Engineering Division, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711. February 1980.

4. Gellman, I. A Laboratory and Field Study of Reduced Sulfur Sampling and Monitoring Systems. National Council of the Paper Industry for Air and Stream Improvement, Inc., New York, New York. Atmospheric Quality Improvement Technical Bulletin No. 81. October 1975.

5. Margeson, J.H., J.E. Knoll, M.R. Midgett, B.B. Ferguson, and P.J. Schworer. A Manual Method for TRS Determination. Journal of Air Pollution Control Association. 35:1280–1286. December 1985.

[FR Doc. 86–15268 Filed 7–10–86; 8:45 am]

BILLING CODE 6560–50–M

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Proposal to List the Cape Fear Shiner as an Endangered Species with Critical Habitat

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: The Service proposes to list the Cape Fear shiner (*Notropis mekistocholas*) as an endangered species with critical habitat under the Endangered Species Act of 1973, as amended. This fish has recently undergone a reduction in range and population. It is currently known from only three small populations in the Cape Fear River drainage in Randolph, Moore, Lee, and Chatham Counties, North Carolina. Due to the species' limited distribution, any factor that degrades habitat or water quality in the short river reaches it inhabits—e.g., land use changes, chemical spills, wastewater discharges, impoundments, changes in stream flow, or increases in agricultural runoff—could threaten the species' survivial. Comments and information pertaining to this proposal are sought from the public.

DATES: Comments from all interested parties must be received by September 9, 1986. Public hearing requests must be received by August 25, 1986.

ADDRESSES: Comments and materials concerning this proposal should be sent to Field Supervisor, Endangered Species Field Office, U.S. Fish and Wildlife Service, 100 Otis Street, Room 224, Asheville, North Carolina 28801. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: Richard G. Biggins, at the above address (704/259–0321 or FTS 672–0321).

SUPPLEMENTARY INFORMATION:

Background

The Cape Fear shiner (*Noropis mekistocholas*), the only endemic fish known from North Carolina's Cape Fear River drainage, was discovered in 1962 and described by Snelson (1971). This fish has been collected from nine stream reaches in North Carolina (Bear Creek, Rocky River, and Robeson Creek, Chatham County; Fork Creek, Randolph County; Deep River, Moore and Randolph Counties; Deep River, Chatham and Lee Counties; and Cape Fear River, Kenneth Creek, and Parkers Creek, Harnett County (Snelson 1971; W. Palmer and A. Braswell, North Carolina State Museum of Natural History, personal communication 1985, Pottern and Huish 1985, 1986). Based on a recently completed Service-funded study (Pottern and Huish 1985, 1986) involving extensive surveys in the Cape Fear River Basin (including all historic sites) and a review of historical fish collection records from the Cape Fear, Neuse, and Yadkin River systems, the fish is now restricted to only three populations. The strongest population (101 individuals collected in 1984 and 1985) is located around the junction of the Rocky River and Deep River in Chatham and Lee Counties where the fish inhabits the Deep River from the upstream limits of the backwaters of Locksville Dam upstream to the Rocky River then upstream from the Rocky River to Bear Creek and upstream from Bear Creek to the Chatham County Road 2156 Bridge. A few individuals were collected just downstream of the Locksville Dam, but because of the limited extent of Cape Fear shiner habitat at this site, it is not believed this is a separate population. Instead, it is thought these fish represent a small number of individuals that periodically drop down from the population above Locksville Dam pool.

The second population, represented by the collection of a specimen near State Highway Bridge 902 in Chatham County, is located above the Rocky River Hydroelectric Dam. This population was historically the best, but the area yielded only the one specimen after extensive surveys by Pottern and Huish (1985). The third population was found in the Deep River system in Randolph and Moore Counties. This population is believed to be small (Pottern and Huish 1985, 1986). Three individuals were found above the Highfalls Hydroelectric Reservoir; one in Fork Creek, Randolph County, and two in the Deep River, Moore County. The species was also found downstream of the highfalls Dam. However, the extent of suitable habitat in this stream reach is limited, and it is thought that these individuals likely result from downstream movement from above the reservoir where Cape Fear shiner habitat is more extensive.

The Caper Fear shiner is small, rarely exceeding 2 inches in length. The fish's body is flushed with a pale silvery yellow, and a black band runs along its sides (Snelson 1971). The fins are yellowish and somewhat pointed. The upper lip is black, and the lower lip bears a thin black bar along its margin. The Cape Fear shiner, unlike most other members of the large genus *Notropis*, feeds extensively in plant material, and its digestive tract is modified for this diet by having an elongated, convoluted intestine. The species is generally associated with gravel, cobble, and boulder substates and has been observed to inhabit slow pools, riffles, and slow runs (Snelson 1971; Pottern and Huish 1985). In these habitats, the species is typically associated with schools of other related species, but it is never the numerically dominant species. Juveniles are often found in slackwater, among large rock outcrops in mid-stream, and in flooded side channels and pools (Pottern and Huish 1985). No information is presently available on breeding behavior, fecundity, or longevity.

The Cape Fear shiner may always have existed in low numbers. However, its recent reduction in range and its small population size (Pottern and Huish 1985, 1986) increases the species' vulnerability to a catastrophic event, such as a toxic chemical spill. Dam construction in the Cape Fear system has probably had the most serious impact on the species by inundating the species' rocky riverine habitat. Dams

presently under study by the U.S. Department of the Army, Corps of Engineers (COE), for the Deep River and changes in flow regulation at existing hydroelectic facilities could further threaten the species. The deterioration of water quality has likely been another factor in the species' decline. The North Carolina Department of Natural Resources and Community Development (1983) classified water quality in the Deep River, Rocky River, and Bear Creek as good to fair, and referred to the Rocky river below Siler City as an area where their sampling indicates. degradation. That report also stated: "Within the Cape Fear Basin, estimated average annual soil losses from cropland ranged from 3 tons per acre in the lower basin to 12 tons in the headwaters." The North Carolina State Division of Soil and Water Conservation considers 5 tons of soil loss per acre as the maximum allowable.

The Cape Fear shiner was one of 29 fish species included in a March 18, 1975, Notice of Review published by the Service in the Federal Register (40 FR 12297). On December 30, 1982, the Service announced in the Federal Register (47 FR 58454) that the Cape Fear shiner, along with 147 other fish species, was being considered for possible addition to the list of Endangered and Threatened Wildlife. On April 4, 1985, the Service notified Federal, State, and local governmental agencies and interested parties that the Asheville Endangered Species Field Station was reviewing the species' status. That notification requested information on the species' status and threats to its continued existence. Twelve responses to the April 4, 1985, notification were received. The COE, Wilmington District; North Carolina Division of Parks and recreation, Natural Heritage Program; and the North Carolina State Museum of Natrual History provided for the species. Concern for the species' welfare was also expressed by private individuals. The other respondents provided no information on threats, and did not take a position on the species' status. The Cape Fear shiner was included in the Services' September 18, 1985, Notice of review of Vertebrate Wildlife (50 FR 37958) as a category 1 species, indicating that the Service had substantial biological data to support a proposal to list the species as endangered or threatened.

Summary of Factors Affecting the Species

Section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and regulations (50 CFR Part 424) promulgated to implement the listing provisions of the Act set forth the procedures for adding species to the Federal Lists. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1): These factors and their application to the Cape Fear shiner (*Notropis mekistocholas*) are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* A review of historic collection records (Snelson 1971, W. Palmer and A. Braswell personal communication 1985), along with recent survey results (Pottern and Huish 1985, 1986), indicates that the Cape Fear shiner is presently restricted to only three populations (see "Background" section). Three historic populations have apparently been extirpated (Pottern and Huish 1985, 1986). Robeson Creek, Chatham County, was believed lost when Jordan Lake flooded part of the creek. The reasons for the loss of populations from Parkers Creek and Kenneth Creek in Harnett County are not known. The shiner has also not been recollected (Pottern and Huish 1985) from the Cape Fear River in Harnett County. However, review of historical and current collection records reveals that only one specimen has ever been collected from this river, and the fish likely was a stray individual from an upstream or tributary population. Since much of the Deep, Haw, and Cape Fear Rivers and their major tributaries has been impounded for hydroelectric power, and much of the rocky shoal habitat inundated, other populations and population segments that were never discovered have likely been lost to these reservoirs.

Of the three remaining populations, only the one located around the confluence of the Deep and Rocky Rivers in Chatham and Lee Counties (inhabiting a total of about 7.3 river miles) appears strong (Pottern and Huish 1985). The second population in the Rocky River, above the Rocky River hydroelectric facility, was the source of the type specimens used to describe the species (Snelson 1971). Historic records (W. Palmer and A. Braswell, personal communication 1985) reveal that collections of 15 to 30 specimens could be expected in this stretch of the Rocky River (State Route 902 or Chatham County Road 1010 Bridge) during a sampling visit in the late 1960s and early 1970s. Pottern and Huish (1985) sampled the Rocky River throughout this reach on numerous occasions and were able to collect only one specimen. The reason for the apparent decline in this population is unknown. The third population, located in the Deep R system in Moore and Randolph Counties, is represented by the collection of six individuals (Pott Huish 1986). Three individuals w taken from below the dam. As th available habitat below the dam limited, it is believed these fish a migrants from the upstream popu

Potential threats to the species habitat could come from such act as road construction, stream cha modification, changes in stream for hydroelectric power, impound land use changes, wastewater discharges, and other projects in watershed if such activities are n planned and implement with the survival of the species and the protection of its habitat in mind. species is also potentially threate two U.S. Army Corps of Engineer projects presently under review f Deep River. The Randleman Dam project would consist of a reserv the Deep River in Randolph Coun above known Cape Fear shiner h The Howards Mill Reservoir wou on the Deep River in Moore and Randolph Counties and would flo presently used Cape Fear shiner

B. *Overutilization for commerc recreational, scientific, or educat purposes.* Most of the present ran the Cape Fear shiner is relatively inaccessible and overutilization o species has not been and is not expected to be a problem.

C. *Disease or predation.* Althou Cape Fear shiner is undoubtedly consumed by predatory animals, no evidence that this predation is threat to the species.

D. *The inadequacy of existing regulatory mechanisms.* North Ca State law (Subsection 113–272.4) prohibits collecting wildlife and fi scientific purposes without a Stat permit. However, this State law d protect the species' habitat from potential impacts of Federal actio Federal listing will provide protec for the species under the Endange Species Act by requiring a Federa permit to take the species and req Federal agencies to consult with t Service when projects they fund, authorize, or carry out may affect species.

E. *Other natural or manmade fa affecting its continued existence.* major portion of the best Cape Fe shiner population is located at the junction of the Deep and Rocky R in Chatham and Lee Counties. A toxic chemical spill at the U.S. Hi 15–105 Bridge upstream of this sit

the Rocky River could jeopardize this population, and as the other populations are extremely small and tenuous, the species' survival could be threatened.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species in determining to propose this rule. Based on this evaluation, the preferred action is to list the Cape Fear shiner (*Notropis mekistocholas*) as an endangered species. Because of the species' restricted range and vulnerability of these isolated populations to a single catastrophic accident, threatened status does not appear to be appropriate for this species (see "Critical Habitat" section for a discussion of why critical habitat is being proposed for the Cape Fear shiner).

Critical Habitat

Critical habitat, as defined by section 3 of the Act means: (i) The specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) that may require special management considerations or protection, and (ii) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Section 4(a)(3) of the Act requires that critical habitat be designated to the maximum extent prudent and determinable concurrently with the determination that a species is endangered or threatened. Critical habitat is being proposed for the Cape Fear shiner to include: (1) Approximately 5 miles of the Rocky River in Chatham County, North Carolina; (2) approximately 8 miles of Bear Creek, Rocky River, and Deep River in Chatham and Lee Counties, North Carolina; (3) approximately 6 miles of Fork Creek and Deep River in Randolph and Moore Counties, North Carolina.

(See "Regulation Promulgation" section for this proposed rule for the precise description of critical habitat.) These stream sections contain gravel, cobble, and boulder substrates with pools, riffles, and shallow runs for adult fish and slackwater areas with large rock outcrops and side channels and pools for juveniles. These areas also provide water of good quality with relatively low silt loads.

Section 4(b)(8) requires, for any proposed or final regulation that designates critical habitat, a brief description and evaluation of those activities (public or private) that may adversely modify such habitat or may be affected by such designation. Activities which presently occur within the designated critical habitat include, in part, fishing, boating, scientific research, and nature study. These activities, at their present use level, do not appear to be adversely impacting the area.

There are also Federal activities that do or could occur within the Deep River Basin and that may be affected by protection of critical habitat. These activities include, construction of impoundments (in particular, U.S. Army Corps of Engineers reservoirs under study for the upper Deep River), stream alterations, bridge and road construction, and discharges of municipal and industrial wastes, and hydroelectric facilities. These activities could, if not carried out with the protection of the species in mind, degrade the water and substrate quality of the Deep River, Rocky River, Bear Creek, and Fork Creek by increasing siltation, water temperatures, organic pollutants, and extremes in water flow. If any of these activities may affect the critical habitat area and are the result of a Federal action, section 7(a)(2) of the Act, as amended, requires the agency to consult with the Service to ensure that actions they authorize, fund, or carry out, are not likely to destroy or adversely modify critical habitat.

Section 4(b)(2) of the Act requires the Service to consider economic and other impacts of designating a particular area as critical habitat. The Service will consider the critical habitat designation in light of all additional relevant information obtained at the time of final rule.

Available to Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed species. Such actions are initiated by the Service following listing. The protection required of Federal agencies and the prohibitions against taking and harm are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to it critical habitat, if any is being proposed or designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR Part 402 (see revision at 51 FR 19926; June 3, 1986). Section 7(a)(4) requires Federal agencies to confer informally with the Service on any action that is likely to jeopardize the continued existence of a proposed species or result in the destruction or adverse modification of proposed critical habitat. If a species is subsequently listed, section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into consultation with the Service. The Service is presently aware of only two Federal actions under consideration (Randleman and Howards Mill Reservoirs) that may affect the species and the proposed critical habitat. The Service has been in contact with the U.S. Army Corps of Engineers concerning the potential impacts of these projects on the species and its habitat. The Act and implementing regulations found at 50 CFR 17.21 set forth a series of general prohibitions and exceptions that apply to all endangered wildlife. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to take, import or export, ship in interstate commerce in the course of commercial activity, or sell or offer for sale in interstate or foreign commerce any listed species. It also is illegal to prossess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. Certain exceptions would apply to agents of the Service and State conservation agencies.

Permits may be issued to carry out otherwise prohibited activities involving endangered wildlife species under certain circumstances. Regulations governing permits are at 50 CFR 17.22 and 17.23. Such permits are available for scientific purposes, to enhance the propagation or survival of the species, and/or for incidental take in connection with otherwise lawful activities. In some instances, permits may be issued during a specified period of time to relieve undue economic hardship that would be suffered if such relief were not available.

Public Comments Solicited

The Service intends that any final action from this proposal will be as accurate and as effective as possible. Therefore, any comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning any aspect of this proposal are hereby solicited. Comments particularly are sought concerning:

(1) Biological, commercial trade, or other relevant data concerning any threat (or lack thereof) to this species;

(2) The location of any additional populations of this species and the reasons why any habitat should or should not be determined to be critical habitat as provided by section 4 of the Act;

(3) Additional information concerning the range and distribution of this species;

(4) current or planned activities in the subject area and their possible impacts on this species; and

(5) Any foreseeable economic and other impacts resulting from the proposed designation of critical habitat.

Final promulgation of the regulations on this species will take into consideration the comments and any additional information received by the Service, and such communications may lead to adoption of a final regulation that differs from this proposal.

The Endangered Species Act provides for a public hearing on this proposal, if requested. Requests must be filed within 45 days of the date of the proposal. Such requests must be made in writing and addressed to the Endangered Species Field Office, 100 Otis Street, Room 224, Asheville, North Carolina 28801.

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the Federal Register on October 25, 1983 (48 FR 49244).

References Cited

North Carolina Department of Natural Resources and Community Development. 1983. Status of Water Resources in the Cape Fear River Basin. 135 pp.

Pottern, G.B., and M.T. Huish. 1985. Status survey of the Cape Fear shiner (*Notropis mekistocholas*). U.S. Fish and Wildlife Service Contract No. 14-16-0009-1522. 44 pp.

Pottern, G.B., and M.T. Huish. 1986. Supplement to the status survey of the Cape Fear shiner (*Notropis mekistocholas*). U.S. Fish and Wildlife Service Contract No. 14-16-0009-1522. 11 pp.

Snelson, F.F. 1971. *Notropis mekistocholos*, a new cyprinid fish endemic to the Cape Fear River basin, North Carolina. Copeia 1971:449-462.

Author

The primary author of this proposed rule is Richard G. Biggins, Endangered Species Field Office, 100 Otis Street, Room 224, Asheville, North Carolina 28801 (704/259-0321 or FTS 672-0321).

List of Subjects in 50 CFR Part 17

Endangered and threatened wildlife, Fish, Marine mammals, Plants (agriculture).

Proposed Regulations Promulgation.

PART 17—[AMENDED]

Accordingly, it is hereby proposed to amend Part 17, Subchapter B of Chapter I, Title 50 of the Code of Federal Regulations, as set forth below:

1. The authority citation for Part 17 continues to read as follows:

Authority: Pub. L. 93-205, 87 Stat. 884; Pub. L. 94-359, 90 Stat. 911; Pub. L. 95-632, 92 Stat. 3751; Pub. L. 96-159, 93 Stat. 1225; Pub. L. 97-304, 96 Stat. 1411 (16 U.S.C. 1531 *et seq.*).

2. It is proposed to amend § 17.11(h) by adding the following, in alphabetical order under "FISHES," to the List of Endangered and Threatened Wildlife:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
FISHES							
Shiner, Cape Fear	*Notropis mekistocholas*	U.S.A. (NC)	Entire	E		17.95(e)	N

3. It is further proposed to amend § 17.95(e) by adding critical habitat of the "Cape Fear shiner," in the same alphabetical order as the species occurs in § 17.11(h).

§ 17.95 Critical habitat—fish and wildlife.

(e) * * *

* * * * *

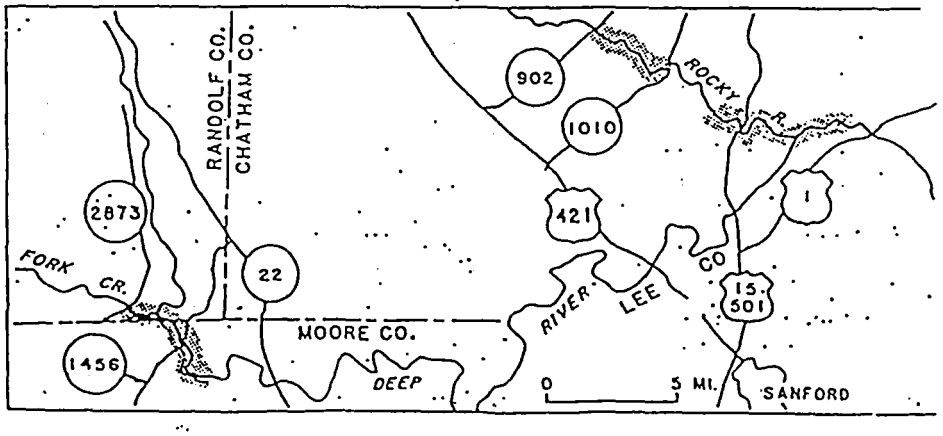
Cape Fear Shiner

(*Notropis mekistocholas*)

(1) *North Carolina.* Chatham County. Approximately 4.1 miles of the Rocky River from North Carolina State Highway 902 Bridge downstream to Chatham County Road 1010 Bridge;

(2) *North Carolina.* Chatham and Lee Counties. Approximately 0.5 miles of Bear Creek, from Chatham County Road 2156 Bridge downstream to the Rocky River, then downstream in the Rocky River (approximately 4.2 miles) to the Deep River, then downstream in the Deep River (approximately 2.6) in Chatham and Lee Counties, to a point 0.3 river miles below the Moncure, North Carolina, U.S. Geological Survey Gaging Station; and

(3) *North Carolina.* Randolph and Moore Counties. Approximately 1.5 miles of Fork Creek, from a point 0.1 creek miles upstream of Randolph County Road 2873 Bridge downstream t the Deep River then downstream appoximately 4.1 miles to the Deep River in Randolph and Moore Counties, North Carolina, to a point 2.5 river mile below Moore County Road 1456 Bridge.



Constituent elements include clean streams with gravel, cobble, and boulder substrates with pools, riffles, shallow runs and slackwater areas with large rock outcrops and side channels and pools with water of good quality with relatively low silt loads.

* * * * *

Dated: May 30, 1986.

P. Daniel Smith,

Acting Assistant Secretary for Fish and Wildlife and Parks.

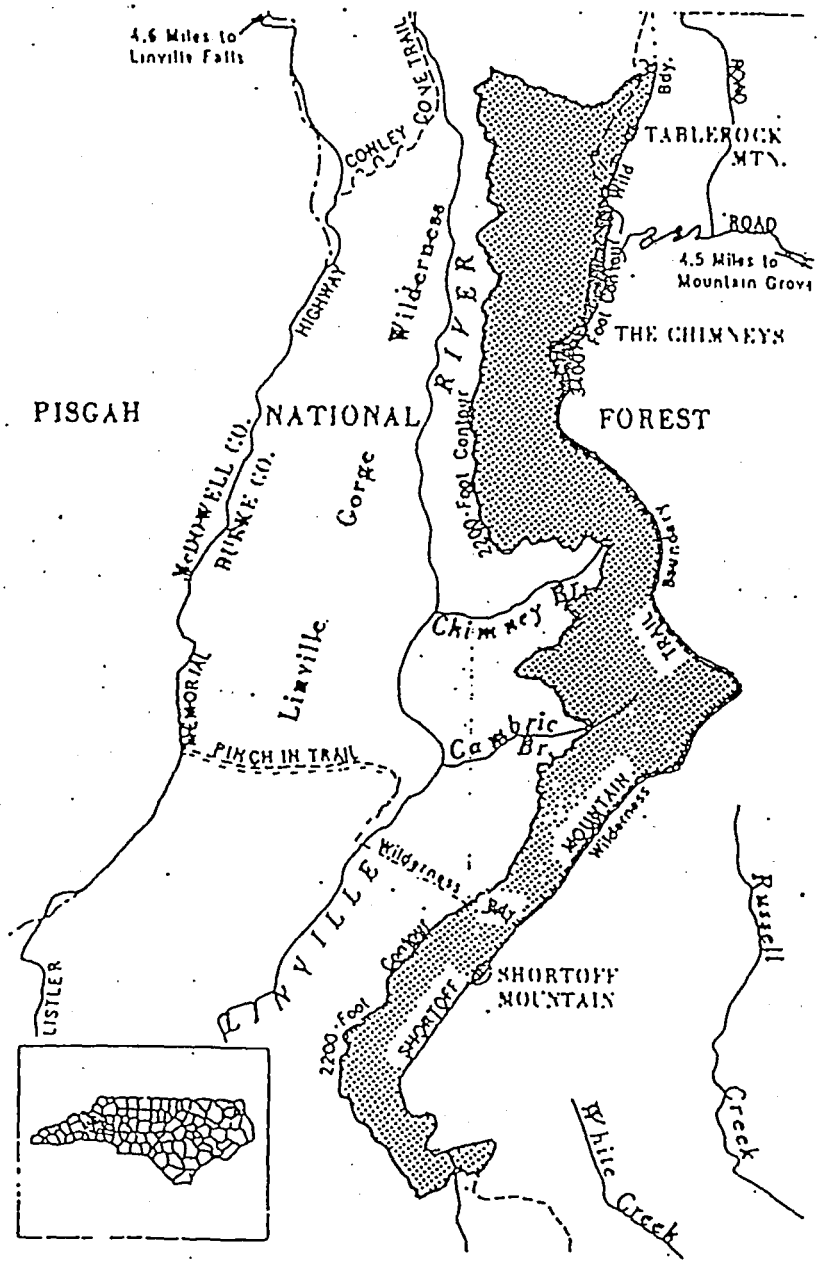
[FR Doc. 86-15643 Filed 7-10-86; 8:45 am]

BILLING CODE 4310-55-M

NORTH CAROLINA - Critical Habitat

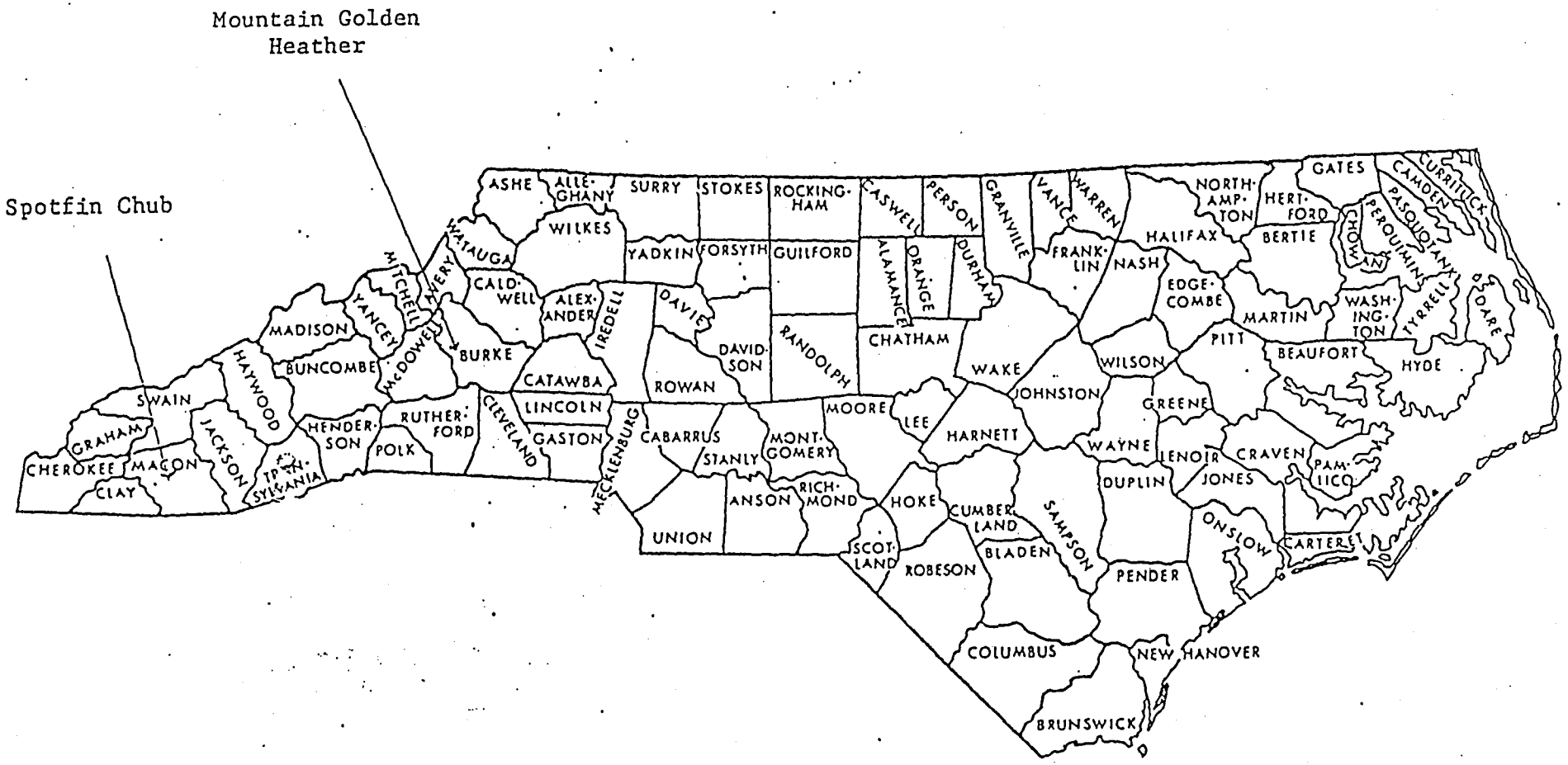
Hudsonia montana, "mountain golden heather"

Burke County. The area bounded by the following: on the west by the 2200' contour; on the east by the Linville Gorge Wilderness Boundary north from the intersection of the 2200' contour and the Shortoff Mountain Trail to where it intersects the 3400' contour at "The Chimneys"--then follow the 3400' contour north until it reintersects the Wilderness Boundary--then follow the Wilderness Boundary again northward until it intersects the 3200' contour extending west from its intersection with the Wilderness Boundary until it begins to turn south--at this point the Boundary extends due east until it intersects the 2200' contour.



CRITICAL HABITATS OF FEDERALLY LISTED

ENDANGERED SPECIES IN NC



1 inch = approx. 53 miles

Reference 11

FLOOD HAZARD BOUNDARY MAP

BURKE COUNTY
NORTH CAROLINA
UNINC. AREAS

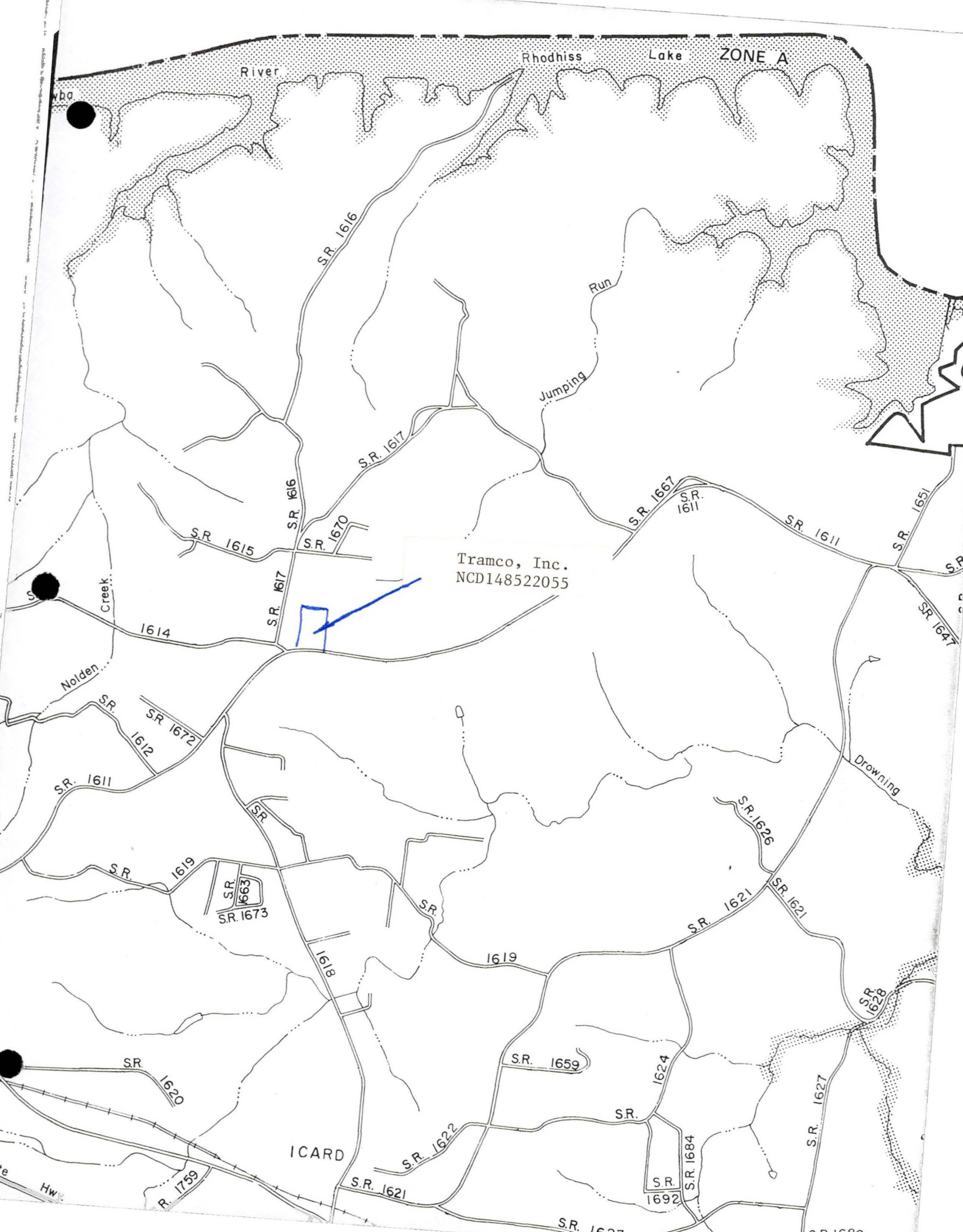
PAGE 6 OF 8

(SEE MAP INDEX FOR PAGES NOT PRINTED)

MAP REVISED:
FEBRUARY 17, 1978

COMMUNITY—PANEL NUMBER
370034 0006 B

U.S. DEPARTMENT OF HOUSING
AND URBAN DEVELOPMENT
FEDERAL INSURANCE ADMINISTRATION


ZONE A
Rhodhiss Lake
River
S.R. 1616
Run
Jumping
S.R. 1617
S.R. 1616
S.R. 1670
S.R. 1615
S.R. 1667
S.R. 1611
S.R. 1611
S.R. 1651
Tramco, Inc.
NCD148522055
S.R. 1617
Creek
1614
S.R. 1647
Nolden
S.R. 1672
S.R. 1612
S.R. 1611
Drowning
S.R.
S.R. 1626
S.R. 1619
S.R. 1663
S.R. 1673
S.R.
S.R. 1621
S.R. 1621
1618
1619
S.R. 1628
S.R. 1620
S.R. 1659
1624
S.R. 1627
S.R.
ICARD
S.R. 1622
S.R. 1684
S.R. 1692
S.R. 1621
S.R. 1759
Hwy

SC0015

SOIL INTERPRETATIONS RECORD

MLRA(S): 136
REV. BNS, 3-88
TYPIC KANHAPLUDULTS, CLAYEY, KAOLINITIC, THERMIC

PACOLET SERIES

THE PACOLET SERIES CONSISTS OF WELL DRAINED, MODERATELY PERMEABLE, SOILS OF THE PIEDMONT UPLANDS. TYPICALLY THESE SOILS HAVE 3 INCHES OF BROWN SANDY LOAM SURFACE LAYER, AND RED CLAYEY SUBSOILS TO 37 INCHES OVERLYING WEATHERED ROCK. THEY ARE ON SHORT TO MEDIUM LENGTH SLOPES ADJACENT TO THE BOTTHLANDS AND DRAINAGEWAYS. THEY DEVELOPED IN RESIDUUM WEATHERED FROM GRANITE, GNEISS AND SCHIST. SLOPES RANGE FROM 2 TO 80 PERCENT.

ESTIMATED SOIL PROPERTIES (A)

DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHTO	FRACT 3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO. 4	10	40	200	LIQUID LIMIT	PLASTICITY INDEX
0-3	SL, FSL, L	SM, SM-SC	A-2, A-1-B, A-4	0-2	85-100	80-100	42-90	16-42	28	NP-7
0-3	CL, SCL	SM-SC, SC	A-4, A-6	0-1	95-100	90-100	65-85	36-50	20-40	4-17
0-3	LS	SM	A-2	0-3	75-90	70-85	55-75	15-30	30	NP-3
3-29	SC, CL, C	ML, MH	A-6, A-7	0-1	80-100	80-100	60-95	51-75	38-65	11-30
29-52	CL, SCL, SL	CL, CL-ML, SM-SC, SC	A-2, A-4, A-6	0-2	80-100	70-100	60-80	30-60	20-35	5-15
52-70	SL, FSL, L	SM, SM-SC	A-4, A-2-4	0-2	80-100	70-100	60-80	30-50	28	NP-6

DEPTH (IN.)	CLAY (PCT)	MOIST BULK DENSITY (G/CM3)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (PH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	EROSION FACTORS K	T	WIND EROD. GROUP	ORGANIC MATTER (PCT)	CORROSIVITY STEEL	CONCRETE
0-3	8-20	1.00-1.50	2.0-6.0	0.08-0.12	4.5-6.5	-	LOW	.20	3	3	.5-2	HIGH	HIGH
0-3	20-35	1.30-1.50	0.6-2.0	0.10-0.14	4.5-6.5	-	LOW	.24	2	5	.5-1		
0-3	5-15	1.00-1.50	2.0-6.0	0.06-0.10	4.5-6.5	-	LOW	.15	3	3	.5-2		
3-29	35-65	1.30-1.50	0.6-2.0	0.12-0.15	4.5-6.0	-	LOW	.28					
29-52	15-30	1.20-1.50	0.6-2.0	0.08-0.15	4.5-6.0	-	LOW	.28					
52-70	10-25	1.20-1.50	0.6-2.0	0.08-0.15	4.5-6.0	-	LOW	.28					

FLOODING FREQUENCY	DURATION	MONTHS	HIGH WATER TABLE DEPTH (FT)	KIND	MONTHS	CEMENTED PAN DEPTH (IN)	HARDNESS	BEDROCK DEPTH (IN)	HARDNESS	SUBSIDENCE INIT. (IN)	TOTAL (IN)	HYDIC GRP	POTENTIAL FROST ACTION
NONE			6.0			-		60		-		B	-

SANITARY FACILITIES (B)

SEPTIC TANK ABSORPTION FIELDS	2-8%: MODERATE-PERCS SLOWLY 8-15%: MODERATE-PERCS SLOWLY,SLOPE 15+%: SEVERE-SLOPE
SEWAGE LAGOON AREAS	2-7%: MODERATE-SEEPAGE,SLOPE 7+%: SEVERE-SLOPE
SANITARY LANDFILL (TRENCH)	2-8%: SLIGHT 8-15%: MODERATE-SLOPE 15+%: SEVERE-SLOPE
SANITARY LANDFILL (AREA)	2-8%: SLIGHT 8-15%: MODERATE-SLOPE 15+%: SEVERE-SLOPE
DAILY COVER FOR LANDFILL	2-8%: FAIR-TOO CLAYEY 8-15%: FAIR-TOO CLAYEY,SLOPE 15+%: POOR-SLOPE

BUILDING SITE DEVELOPMENT (B)

SHALLOW EXCAVATIONS	2-8%: MODERATE-TOO CLAYEY 8-15%: MODERATE-TOO CLAYEY,SLOPE 15+%: SEVERE-SLOPE
DWELLINGS WITHOUT BASEMENTS	2-8%: SLIGHT 8-15%: MODERATE-SLOPE 15+%: SEVERE-SLOPE
DWELLINGS WITH BASEMENTS	2-8%: SLIGHT 8-15%: MODERATE-SLOPE 15+%: SEVERE-SLOPE
SMALL COMMERCIAL BUILDINGS	2-4%: SLIGHT 4-8%: MODERATE-SLOPE 8+%: SEVERE-SLOPE
LOCAL ROADS AND STREETS	2-8%: MODERATE-LOW STRENGTH 8-15%: MODERATE-LOW STRENGTH,SLOPE 15+%: SEVERE-SLOPE
LAWNS, LANDSCAPING AND GOLF FAIRWAYS	2-8%: SLIGHT 8-15%: MODERATE-SLOPE 15+%: SEVERE-SLOPE

CONSTRUCTION MATERIAL (B)

ROADFILL	2-15%: GOOD 15-25%: FAIR-SLOPE 25+%: POOR-SLOPE
SAND	IMPROBABLE-EXCESS FINES
GRAVEL	IMPROBABLE-EXCESS FINES
TOPSOIL	2-15%: POOR-TOO CLAYEY 15+%: POOR-TOO CLAYEY,SLOPE

WATER MANAGEMENT (B)

POND RESERVOIR AREA	2-3%: MODERATE-SEEPAGE 3-8%: MODERATE-SEEPAGE,SLOPE 8+%: SEVERE-SLOPE
EMBANKMENTS DIKES AND LEVEES	SEVERE-PIPING
EXCAVATED PONDS AQUIFER FED	SEVERE-NO WATER
DRAINAGE	DEEP TO WATER
IRRIGATION	2-3% SL,FSL,CL,SCL,L: FAVORABLE 3+% SL,FSL,CL,SCL,L: SLOPE 2-3% LS: FAST INTAKE 3+% LS: FAST INTAKE,SLOPE
TERRACES AND DIVERSIONS	2-8% CL,SCL: FAVORABLE 8+% CL,SCL: SLOPE 2-8% SL,LS,FSL,L: SOIL BLOWING 8+% SL,LS,FSL,L: SOIL BLOWING,SLOPE
GRASSED WATERWAYS	2-8%: FAVORABLE 8+%: SLOPE

REGIONAL INTERPRETATIONS

RECREATIONAL DEVELOPMENT (B)

CAMP AREAS	2-8%: SLIGHT 8-15%: MODERATE-SLOPE 15+%: SEVERE-SLOPE	PLAYGROUNDS	2-6% CL,SCL,L: MODERATE-SLOPE 2-6% SL,LS,FSL: MODERATE-SLOPE,SMALL STONES 6+%: SEVERE-SLOPE
PICNIC AREAS	2-8%: SLIGHT 8-15%: MODERATE-SLOPE 15+%: SEVERE-SLOPE	PATHS AND TRAILS	2-15%: SLIGHT 15-25%: MODERATE-SLOPE 25+%: SEVERE-SLOPE

CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE (HIGH LEVEL MANAGEMENT)

CLASS-DETERMINING PHASE	CAPABILITY IRR.	CAPABILITY IRR.	TALL FESCUE (AUM) IRR.	TALL FESCUE (AUM) IRR.	COMMON BERMUDAGRASS (AUM) IRR.	COMMON BERMUDAGRASS (AUM) IRR.	COTTON LINT (LBS) IRR.	COTTON LINT (LBS) IRR.	CORN (BU) IRR.	CORN (BU) IRR.	TOBACCO (LBS) IRR.	TOBACCO (LBS) IRR.	IRR.	IRR.	IRR.	IRR.
2-6%	2E		7.0		7.0		700		80		2200					
2-6% CL,SCL,ERODED	3E		6.0		6.0		500		75		1900					
6-10%	3E		6.5		6.5		650		75		1800					
6-10% CL,SCL,ERODED	4E		5.0		5.0		-		50		1600					
10-15%	4E		5.5		6.0		550		65		1400					
15-25%	6E		-		-		-		-		-					
25+%	7E		-		-		-		-		-					
10-15% CL,SCL,ERODED	6E		4.5		5.5		-		-		-					
15+% CL,SCL,ERODED	7E		-		-		-		-		-					

WOODLAND SUITABILITY (C)

CLASS-DETERMINING PHASE	ORDI SYMI	EROS'N HAZARD	EQUIP. LIMIT	SEEDL. MORT'Y	WINDTH HAZARD	PLANT COMPET	COMMON TREES	POTENTIAL PRODUCTIVITY SITE INDX	PRODI CLASI	TREES TO PLANT
12-15%	8A	SLIGHT	SLIGHT	SLIGHT			LOBLOLLY PINE	78	8	LOBLOLLY PINE
15+%	8R	MODER.	MODER.	SLIGHT			SHORTLEAF PINE	70	8	SHORTLEAF PINE
							YELLOW POPLAR	90	6	YELLOW POPLAR
							VIRGINIA PINE	-	-	EASTERN WHITE PINE
							NORTHERN RED OAK	-	-	
							HICKORY	-	-	
							WHITE OAK	-	-	
12-15% CL,SCL,ERODED	6C	MODER.	MODER.	MODER.			LOBLOLLY PINE	70	6	LOBLOLLY PINE
15+% CL,SCL,ERODED	6C	SEVERE	SEVERE	SEVERE			SHORTLEAF PINE	60	6	SHORTLEAF PINE
							YELLOW POPLAR	80	5	YELLOW POPLAR
										EASTERN WHITE PINE

WINDBREAKS

CLASS-DETERMIN'G PHASE	SPECIES	HT	SPECIES	HT	SPECIES	HT	SPECIES	HT
	NONE							

WILDLIFE HABITAT SUITABILITY

CLASS-DETERMINING PHASE	POTENTIAL FOR HABITAT ELEMENTS: GRAIN & SEED	GRASS & LEGUME	WILD HERB.	HARDWD TREES	CONIFER PLANTS	SHRUBS	WETLAND PLANTS	SHALLOW WATER	OPENLD WILDLF	WOODLD WILDLF	WETLAND WILDLF	RANGELD WILDLF	POTENTIAL AS HABITAT FOR:
2-10%	FAIR	FAIR	FAIR	GOOD	GOOD	-	V. POOR	V. POOR	FAIR	GOOD	V. POOR	-	
2-10% CL,SCL,ERODED	POOR	POOR	POOR	FAIR	FAIR	-	V. POOR	V. POOR	POOR	FAIR	V. POOR	-	
10-15%	POOR	FAIR	POOR	FAIR	FAIR	-	V. POOR	V. POOR	POOR	FAIR	V. POOR	-	
15+%	V. POOR	POOR	POOR	FAIR	FAIR	-	V. POOR	V. POOR	POOR	FAIR	V. POOR	-	
10-15% CL,SCL,ERODED	V. POOR	POOR	V. POOR	POOR	POOR	-	V. POOR	V. POOR	POOR	POOR	V. POOR	-	
15+% CL,SCL,ERODED	V. POOR	V. POOR	V. POOR	V. POOR	V. POOR	-	V. POOR	V. POOR	V. POOR	V. POOR	V. POOR	-	

POTENTIAL NATIVE PLANT COMMUNITY (RANGELAND OR FOREST UNDERSTORY VEGETATION)

COMMON PLANT NAME	PLANT SYMBOL (NLSPN)	PERCENTAGE COMPOSITION (DRY WEIGHT) BY CLASS DETERMINING PHASE: 12-80%	12-80% CL,SCL			
LITTLE BLUESTEM	SCSC	37	18			
PANICUM	PANIC	8	-			
TALL OATGRASS	AREL3	2	-			
SWITCHCANE	ARTE4*	6	-			
HONEYSUCKLE	LONIC	29	9			
GRAPE	VITIS	4	-			
TICKCLOVER	DESMO	2	6			
LESPEDEZA	LESPE	4	12			
ELLIOTT BLUESTEM	ANEL	-	12			
SPLITBEARD BLUESTEM	ANTE2	-	12			
UNKNOWNS	UUUU	8	31			
POTENTIAL PRODUCTION (LBS./AC. DRY WT):						
FAVORABLE YEARS		2950	1850			
NORMAL YEARS		2450	1650			
UNFAVORABLE YEARS		1950	1450			

FOOTNOTES

A ESTIMATES OF ENGINEERING PROPERTIES BASED ON TEST DATA OF 6 PEDONS.
B RATINGS BASED ON NSH, PART II, SECTION 403.
C WHITE PINE CAN BE GROWN AT HIGHER ELEVATIONS.

AL0046

SOIL INTERPRETATIONS RECORD

MLRA(S): 136
REV. LFR,PGM, 6-87
TYPIC HAPLUDULTS, CLAYEY, KAOLINITIC, THERMIC

WEDOWEE SERIES

THE WEDOWEE SERIES CONSISTS OF DEEP, WELL DRAINED, MODERATELY PERMEABLE SOILS ON PIEDMONT UPLANDS. IN A REPRESENTATIVE PROFILE THE SURFACE LAYER IS DARK GRAYISH BROWN SANDY LOAM 4 INCHES THICK. THE SUBSURFACE LAYER TO A DEPTH OF 10 INCHES IS YELLOW LOAM. THE SUBSOIL TO A DEPTH OF 32 INCHES, IS BROWNISH YELLOW LOAM IN THE UPPER PART; STRONG BROWN SANDY CLAY IN THE MIDDLE PART; AND STRONG BROWN SANDY CLAY LOAM IN THE LOWER PART. THE SUBSTRATUM IS HIGHLY WEATHERED SAPROLITE WITH CRUSHED TEXTURE SANDY CLAY LOAM. SLOPES ARE 0 TO 60 PERCENT.

ESTIMATED SOIL PROPERTIES (A)

DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHTO	FRACT 3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO. 4	10	40	200	LIQUID LIMIT	PLASTICITY INDEX
0-10	SL, FSL, L	SM, SM-SC	A-4, A-2-4	0	95-100	90-100	60-99	23-50	30	NP-6
0-10	GR-SL, GR-FSL, GR-L	SM, SM-SC	A-4, A-2, A-1	0-5	70-95	65-95	45-60	15-40	25	NP-6
0-10	SCL, CL	SC, CL, CL-ML, SM-SC	A-4, A-6	0	90-100	90-100	80-95	45-75	32	5-15
10-14	L, SCL	SM, SC, CL, ML	A-4, A-6	0	90-100	90-100	80-97	40-75	32	NP-15
14-32	SC, CL, C	SC, ML, CL, MH	A-6, A-7	0	95-100	95-100	65-97	45-75	30-58	10-25
32-60	SCL, CL, SL	SC, SM-SC, CL, CL-ML	A-2, A-4, A-6	0	80-100	70-100	60-80	30-60	20-35	5-15

DEPTH (IN.)	CLAY (PCT)	MOIST BULK DENSITY (G/CM3)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (PH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	EROSION FACTORS K	T	WIND EROD. GROUP	ORGANIC MATTER (PCT)	CORROSIVITY STEEL	CONCRETE
0-10	6-20	1.25-1.60	2.0-6.0	0.10-0.18	4.5-5.5	-	LOW	.24	3	3	1	MODERATE	HIGH
0-10	6-20	1.25-1.60	2.0-6.0	0.08-0.12	4.5-5.5	-	LOW	.15	3	3	1		
0-10	20-30	1.30-1.50	0.6-2.0	0.12-0.18	4.5-5.5	-	LOW	.28	2	5	.5		
10-14	14-30	1.30-1.55	0.6-2.0	0.12-0.18	4.5-5.5	-	LOW	.28					
14-32	35-45	1.30-1.50	0.6-2.0	0.12-0.18	4.5-5.5	-	MODERATE	.28					
32-60	15-30	1.20-1.50	0.6-2.0	0.08-0.15	4.5-5.5	-	LOW	.28					

FLOODING FREQUENCY	DURATION	MONTHS	HIGH WATER TABLE DEPTH (FT)	KIND	MONTHS	CEMENTED PAN DEPTH (IN)	HARDNESS	BEDROCK DEPTH (IN)	HARDNESS	SUBSIDENCE INT. (IN)	TOTAL (IN)	HYDRO GRP	POTENTIAL FROST ACTION
NONE			6.0			-		60		-		B	-

SANITARY FACILITIES (B)

SEPTIC TANK ABSORPTION FIELDS	0-8%: MODERATE-PERCS SLOWLY 8-15%: MODERATE-PERCS SLOWLY,SLOPE 15+%: SEVERE-SLOPE
SEWAGE LAGOON AREAS	0-2%: MODERATE-SEEPAGE 2-7%: MODERATE-SLOPE,SEEPAGE 7+%: SEVERE-SLOPE
SANITARY LANDFILL (TRENCH)	0-8%: MODERATE-TOO CLAYEY 8-15%: MODERATE-SLOPE,TOO CLAYEY 15+%: SEVERE-SLOPE
SANITARY LANDFILL (AREA)	0-8%: SLIGHT 8-15%: MODERATE-SLOPE 15+%: SEVERE-SLOPE
DAILY COVER FOR LANDFILL	0-8%: FAIR-TOO CLAYEY 8-15%: FAIR-TOO CLAYEY,SLOPE 15+%: POOR-SLOPE

BUILDING SITE DEVELOPMENT (B)

SHALLOW EXCAVATIONS	0-8%: MODERATE-TOO CLAYEY 8-15%: MODERATE-TOO CLAYEY,SLOPE 15+%: SEVERE-SLOPE
DWELLINGS WITHOUT BASEMENTS	0-8%: MODERATE-SHRINK-SWELL 8-15%: MODERATE-SHRINK-SWELL,SLOPE 15+%: SEVERE-SLOPE
DWELLINGS WITH BASEMENTS	0-8%: SLIGHT 8-15%: MODERATE-SLOPE 15+%: SEVERE-SLOPE
SMALL COMMERCIAL BUILDINGS	0-4%: MODERATE-SHRINK-SWELL 4-8%: MODERATE-SHRINK-SWELL,SLOPE 8+%: SEVERE-SLOPE
LOCAL ROADS AND STREETS	0-8%: MODERATE-LOW STRENGTH,SHRINK-SWELL 8-15%: MODERATE-SHRINK-SWELL,LOW STRENGTH, SLOPE 15+%: SEVERE-SLOPE
LAWNS, LANDSCAPING AND GOLF FAIRWAYS	0-8% SL,FSL,L,CL,SCL: SLIGHT 8-15% SL,FSL,L,CL,SCL: MODERATE-SLOPE 0-8% GR: MODERATE-SMALL STONES 8-15% GR: MODERATE-SMALL STONES,SLOPE 15+%: SEVERE-SLOPE

CONSTRUCTION MATERIAL (B)

ROADFILL	0-15%: GOOD 15-25%: FAIR-SLOPE 25+%: POOR-SLOPE
SAND	IMPROBABLE-EXCESS FINES
GRAVEL	IMPROBABLE-EXCESS FINES
TOPSOIL	0-15%: POOR-TOO CLAYEY 15+%: POOR-TOO CLAYEY,SLOPE

WATER MANAGEMENT (B)

POND RESERVOIR AREA	0-3%: MODERATE-SEEPAGE 3-8%: MODERATE-SLOPE,SEEPAGE 8+%: SEVERE-SLOPE
EMBANKMENTS DIKES AND LEVEES	SEVERE-PIPING
EXCAVATED PONDS AQUIFER FED	SEVERE-NO WATER
DRAINAGE	DEEP TO WATER
IRRIGATION	0-3%: FAVORABLE 3+%: SLOPE
TERRACES AND DIVERSIONS	0-8%: FAVORABLE 8+%: SLOPE
GRASSED WATERWAYS	0-8%: FAVORABLE 8+%: SLOPE

REGIONAL INTERPRETATIONS

RECREATIONAL DEVELOPMENT (B)

CAMP AREAS	0-8% SL,FSL,L,CL,SCL: SLIGHT 8-15% SL,FSL,L,CL,SCL: MODERATE-SLOPE 0-8% GR: MODERATE-SMALL STONES 8-15% GR: MODERATE-SLOPE,SMALL STONES 15+%: SEVERE-SLOPE	PLAYGROUNDS	0-2% SL,FSL,L,CL,SCL: SLIGHT 2-6% SL,FSL,L,CL,SCL: MODERATE-SLOPE 6+% SL,FSL,L,CL,SCL: SEVERE-SLOPE 0-6% GR: SEVERE-SMALL STONES 6+% GR: SEVERE-SLOPE,SMALL STONES
PICNIC AREAS	0-8% SL,FSL,L,CL,SCL: SLIGHT 8-15% SL,FSL,L,CL,SCL: MODERATE-SLOPE 0-8% GR: MODERATE-SMALL STONES 8-15% GR: MODERATE-SLOPE,SMALL STONES 15+%: SEVERE-SLOPE	PATHS AND TRAILS	0-15%: SLIGHT 15-25%: MODERATE-SLOPE 25+%: SEVERE-SLOPE

CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE (HIGH LEVEL MANAGEMENT)

CLASS-DETERMINING PHASE	CAPABILITY	COTTON LINT (LBS)		CORN (BU)		OATS (BU)		GRASS HAY (TONS)		GRASS-CLOVER (AUM)		COMMON BERMUDAGRASS (AUM)			
	N	IRR	RR.	N	IRR	RR.	N	IRR	RR.	N	IRR	RR.	N	IRR	RR.	N	IRR	RR.
0-2%	1			600			90			90			3.5			5.0			4.5			4.5					
2-6%	2E			525			80			80			3.0			4.5			4.0			4.0					
6-10%	3E			450			75			75			2.5			4.0			3.5			3.5					
10-15%	4E			-			60			70			2.5			4.0			3.5			3.5					
15-25%	6E			-			-			-			2.0			3.5			3.0			3.0					
25-60%	7E			-			-			-			-			-			-			-					
0-6% SCL,CL,ERODED	3E			400			70			75			2.5			4.0			3.5								
6-10% SCL,CL,ERODED	4E			-			-			-			2.5			4.0			3.5								
10-15% SCL,CL,ERODED	6E			-			-			-			2.0			3.5			3.0								
15-35% SCL,CL,ERODED	7E			-			-			-			-			-			-								

WOODLAND SUITABILITY (C)

CLASS-DETERMINING PHASE	ORD SYM	MANAGEMENT PROBLEMS: EROS HAZARD	EQUIP. LIMIT	SEEDL. MORT'Y	WIND HAZARD	PLANT COMPET	POTENTIAL PRODUCTIVITY: COMMON TREES	SITE INDX	PROD CLAS	TREES TO PLANT
0-15%	8A	SLIGHT	SLIGHT	SLIGHT	SLIGHT	MODER.	LOBLOLLY PINE	80	8	LOBLOLLY PINE
15-35%	8R	MODER.	MODER.	SLIGHT	SLIGHT	MODER.	VIRGINIA PINE	70	8	VIRGINIA PINE
							SHORTLEAF PINE	69	8	SHORTLEAF PINE
							SOUTHERN RED OAK	70	4	YELLOW-POPLAR
							NORTHERN RED OAK	68	4	
							WHITE OAK	65	3	
35-60%	6R	SEVERE	SEVERE	MODER.	SLIGHT	MODER.	LOBLOLLY PINE	70	6	LOBLOLLY PINE
							VIRGINIA PINE	60	6	SHORTLEAF PINE
							SHORTLEAF PINE	60	6	VIRGINIA PINE
							SOUTHERN RED OAK	60	3	YELLOW-POPLAR
							NORTHERN RED OAK	60	3	
							WHITE OAK	60	3	
2-15% SCL,CL,ERODED	6C	MODER.	MODER.	MODER.	SLIGHT	SLIGHT	LOBLOLLY PINE	70	6	LOBLOLLY PINE
15-35% SCL,CL,ERODED	6C	SEVERE	SEVERE	MODER.	SLIGHT	SLIGHT	SHORTLEAF PINE	60	6	SHORTLEAF PINE
							VIRGINIA PINE	60	6	VIRGINIA PINE

WINDBREAKS

CLASS-DETERMINING PHASE	SPECIES	HT	SPECIES	HT	SPECIES	HT	SPECIES	HT
	NONE							

WILDLIFE HABITAT SUITABILITY (D)

CLASS-DETERMINING PHASE	POTENTIAL FOR HABITAT ELEMENTS: GRAIN & SEED	GRASS & LEGUME	WILD HERB.	HARDWD TREES	CONIFER PLANTS	SHRUBS	WETLAND PLANTS	SHALLOW WATER	POTENTIAL AS HABITAT FOR: OPENLD WILDLF	WOODLD WILDLF	WETLAND WILDLF	RANGELD WILDLF
0-5%	FAIR	GOOD	GOOD	GOOD	GOOD	-	POOR	V. POOR	GOOD	GOOD	V. POOR	-
5-15%	FAIR	GOOD	GOOD	GOOD	GOOD	-	V. POOR	V. POOR	GOOD	GOOD	V. POOR	-
15-25%	POOR	FAIR	GOOD	GOOD	GOOD	-	V. POOR	V. POOR	FAIR	GOOD	V. POOR	-
25-60%	V. POOR	POOR	GOOD	GOOD	GOOD	-	V. POOR	V. POOR	POOR	GOOD	V. POOR	-
2-15% SCL,CL,ERODED	FAIR	GOOD	GOOD	GOOD	GOOD	-	POOR	V. POOR	GOOD	GOOD	V. POOR	-
15-25% SCL,CL,ERODED	POOR	FAIR	GOOD	GOOD	GOOD	-	V. POOR	V. POOR	FAIR	GOOD	V. POOR	-

POTENTIAL NATIVE PLANT COMMUNITY (RANGELAND OR FOREST UNDERSTORY VEGETATION)

COMMON PLANT NAME	PLANT SYMBOL (NLSPN)	PERCENTAGE COMPOSITION (DRY WEIGHT) BY CLASS DETERMINING PHASE				
WITCHHAZEL	HAV14					
FLOWERING DOGWOOD	COFL2					
AMERICAN HOLLY	ILOP					
PAWPAW	ASTR					
FARKLEBERRY	VAAR					
MUSCADINE GRAPE	VIRO3					
SUMAC	RHUS+					
BLACKBERRY	RUBUS					
PERSIMMON	DIVI5					
SOURWOOD	OXAR					
BLACK CHERRY	PRSE2					
EASTERN HOPHORNBEAM	OSVI					
AMERICAN PLUM	PRAM					
COMMON TRUMPETCREEPER	CARA2					
POTENTIAL PRODUCTION (LBS./AC. DRY WT):						
FAVORABLE YEARS						
NORMAL YEARS						
UNFAVORABLE YEARS						

FOOTNOTES

A EST. ENG. PROP. BASED ON 1 PEDON, RANDOLPH CO., AL; 1 PEDON STEPHENS CO., GA.-10-14 LAYER INCLUDES CL-ML,SN-SC.
B RATINGS BASED ON NSH, PART 603, JULY 1983.
C WOODLAND RATINGS BASED ON NFH, PART 537.
D WILDLIFE RATINGS BASED ON SOILS MEMORANDUM-74, JAN. 1972.

NC0055

SOIL INTERPRETATIONS RECORD

MLRA(S): 136, 133A, 153A, 148, 147, 153B, 153C
REV. RAG, 12-87
FLUVAQUENTIC DYSTROCHREPTS, FINE-LOAMY, MIXED, THERMIC

CHEWACLA SERIES

THE CHEWACLA SERIES CONSISTS OF SOMEWHAT POORLY DRAINED SOILS ON NEARLY LEVEL FLOOD PLAINS. TYPICALLY, THEY HAVE BROWN LOAM SURFACE LAYERS, 8 INCHES THICK. THE SUBSOIL IS 50 INCHES THICK. IT IS DARK YELLOWISH BROWN AND YELLOWISH BROWN SILT LOAM IN THE UPPER PART, LIGHT YELLOWISH BROWN LOAM IN THE MIDDLE PART, AND LIGHT BROWNISH GRAY SILTY CLAY LOAM IN THE LOWER PART. THE UNDERLYING MATERIAL IS SAND AND EXTREMELY GRAVELLY SAND. THEY FORMED IN FLUVIAL SEDIMENTS. SLOPES ARE 0 TO 2 PERCENT.

ESTIMATED SOIL PROPERTIES (A)

DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHTO	FRACT 3 INI (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO. 4	10	40	200	LIQUID LIMIT	PLASTICITY INDEX
0-8	SL, SL	SM, SM-SC	A-2, A-4	0	98-100	95-100	60-90	30-50	35	NP-7
0-8	SIL, L	ML, CL, CL-ML	A-4, A-6, A-7	0	98-100	95-100	70-100	55-90	25-49	4-20
8-24	SIL, SICL, CL	ML, CL	A-4, A-6, A-7	0	96-100	95-100	80-100	51-98	30-49	4-22
24-34	SCL, L, SL	SM, SM-SC, ML, CL	A-4, A-7-6, A-6	0	96-100	95-100	60-100	36-70	20-45	NP-15
34-58	SIL, CL, SICL	ML, MH, CL, CH	A-4, A-6, A-7	0	75-100	65-100	60-100	51-98	32-61	4-28
58-70	VAR									

DEPTH (IN.)	CLAY (PCT)	MOIST DENSITY (G/CM3)	BULK	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (PH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	EROSION FACTORS K	T	WIND GROUP	ORGANIC MATTER (PCT)	CORROSIVITY STEEL	CONCRETE
0-8	5-20	1.30-1.60		0.6-2.0	0.10-0.15	4.5-6.5	-	LOW	.24	5	-	1-4	HIGH	MODERATE
0-8	10-27	1.30-1.60		0.6-2.0	0.15-0.24	4.5-6.5	-	LOW	.28	5	-	1-4		
8-24	18-35	1.30-1.50		0.6-2.0	0.15-0.24	4.5-6.5	-	LOW	.32					
24-34	18-35	1.30-1.60		0.6-2.0	0.12-0.20	4.5-6.5	-	LOW	.28					
34-58	18-35	1.30-1.50		0.6-2.0	0.15-0.24	4.5-7.8	-	LOW	.32					
58-70														

FLOODING FREQUENCY	DURATION	MONTHS	HIGH WATER TABLE DEPTH (FT)	KIND	MONTHS	CEMENTED PAN DEPTH (IN)	HARDNESS	BEDROCK DEPTH (IN)	HARDNESS	SUBSIDENCE INIT. (IN)	TOTAL (IN)	HYDIC GRP	POTENTIAL FROST ACTION
RARE-FREQUENT	BRIEF	NOV-APR	0.5-1.5	APPARENT	NOV-APR	-		60		-	-	C	-

SANITARY FACILITIES (B)

SEPTIC TANK ABSORPTION FIELDS	RARE: SEVERE-WETNESS COMMON: SEVERE-FLOODING,WETNESS	ROADFILL: POOR-LOW STRENGTH,WETNESS
SEWAGE LAGOON AREAS	RARE: SEVERE-WETNESS COMMON: SEVERE-FLOODING,WETNESS	SAND: IMPROBABLE-EXCESS FINES
SANITARY LANDFILL (TRENCH)	RARE: SEVERE-WETNESS COMMON: SEVERE-FLOODING,WETNESS	GRAVEL: IMPROBABLE-EXCESS FINES
SANITARY LANDFILL (AREA)	RARE: SEVERE-WETNESS COMMON: SEVERE-FLOODING,WETNESS	TOPSOIL: POOR-WETNESS
DAILY COVER FOR LANDFILL	POOR-HARD TO PACK,WETNESS	

WATER MANAGEMENT (B)

POND RESERVOIR AREA	MODERATE-SEEPAGE
EMBANKMENTS DIKES AND LEVEES	SEVERE-PIPING,HARD TO PACK,WETNESS
EXCAVATED PONDS AQUIFER FED	MODERATE-SLOW REFILL
DRAINAGE	RARE: FAVORABLE COMMON: FLOODING
IRRIGATION	RARE: WETNESS COMMON: WETNESS,FLOODING
TERRACES AND DIVERSIONS	WETNESS
GRASSED WATERWAYS	WETNESS

BUILDING SITE DEVELOPMENT (B)

SHALLOW EXCAVATIONS	SEVERE-WETNESS
DWELLINGS WITHOUT BASEMENTS	SEVERE-FLOODING,WETNESS
DWELLINGS WITH BASEMENTS	SEVERE-FLOODING,WETNESS
SMALL COMMERCIAL BUILDINGS	SEVERE-FLOODING,WETNESS
LOCAL ROADS AND STREETS	RARE: SEVERE-LOW STRENGTH,WETNESS COMMON: SEVERE-LOW STRENGTH,WETNESS,FLOODING
LAWNS, LANDSCAPING AND GOLF FAIRWAYS	RARE,OCCAS: SEVERE-WETNESS FREQ: SEVERE-WETNESS,FLOODING

REGIONAL INTERPRETATIONS

RECREATIONAL DEVELOPMENT (B)

CAMP AREAS	SEVERE-FLOODING,WETNESS	PLAYGROUNDS	RARE,OCCAS: SEVERE-WETNESS FREQ: SEVERE-WETNESS,FLOODING
PICNIC AREAS	SEVERE-WETNESS	PATHS AND TRAILS	SEVERE-WETNESS

CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE (HIGH LEVEL MANAGEMENT)

CLASS-DETERMINING PHASE	CAPABILITY	CORN (BU)		OATS (BU)		SOYBEANS (BU)		PASTURE (AUM)		WHEAT (BU)					
	IRR	IRR.	IRR	IRR.	IRR	IRR.	IRR	IRR.	IRR	IRR.	IRR	IRR.	IRR	IRR.	IRR	IRR.
RARE,OCCAS	3W		100		70		35		11		50					
FREQ	4W		80		40		30		9		30					

WOODLAND SUITABILITY (C)

CLASS-DETERMINING PHASE	ORDI	MANAGEMENT PROBLEMS SYMI	EROS'N HAZARD	EQUIP. LIMIT	SEEDL. MORT'Y	WINDTH HAZARD	PLANT COMPETI	POTENTIAL PRODUCTIVITY COMMON TREES	SITEI INDX	FROD CLASI	TREES TO PLANT
ALL	9W	SLIGHT	MODER.	SLIGHT				SWEETGUM	97 *	9	SWEETGUM
								YELLOW POPLAR	100*	8	AMERICAN SYCAMORE
								AMERICAN SYCAMORE			YELLOW POPLAR
								WATER OAK	86	6	GREEN ASH
								LOBLOLLY PINE	96 *	110	LOBLOLLY PINE 1/1
								EASTERN COTTONWOOD			
								GREEN ASH			
								SOUTHERN RED OAK			
								BLACKGUM			
								RED MAPLE			
								WILLOW OAK			
								AMERICAN BEECH			

WINDBREAKS

CLASS-DETERMIN'G PHASE	SPECIES	HT	SPECIES	HT	SPECIES	HT	SPECIES	HT
	NONE							

WILDLIFE HABITAT SUITABILITY (D)

CLASS-DETERMINING PHASE	POTENTIAL FOR HABITAT ELEMENTS: GRAIN & SEED	GRASS & LEGUME	WILD HERB.	HARDWD TREES	CONIFER PLANTS	SHRUBS	WETLAND PLANTS	SHALLOW WATER	OPEN WILDLF	POTENTIAL AS HABITAT FOR: WOODLD WILDLF	WETLAND WILDLF	RANGELD WILDLF
FREQ	V. POOR	POOR	POOR	GOOD	GOOD	-	FAIR	FAIR	POOR	GOOD	FAIR	-
RARE,OCCAS	POOR	FAIR	FAIR	GOOD	GOOD	-	POOR	V. POOR	FAIR	GOOD	V. POOR	-

POTENTIAL NATIVE PLANT COMMUNITY (RANGELAND OR FOREST UNDERSTORY VEGETATION)

COMMON PLANT NAME	PLANT SYMBOL (NLSPN)	PERCENTAGE COMPOSITION (DRY WEIGHT) BY CLASS DETERMINING PHASE
BLACK WILLOW	SANI	
WINGED ELM	ULAL	
HACKBERRY	CELTI	
EASTERN HOPHORNBEAM	OSVI	
RIVER BIRCH	BENI	
GREENBRIER	SMILA2	
FLOWERING DOGWOOD	COFL2	
SOURWOOD	OXAR	
SASSAFRAS	SAAL5	
AMERICAN HOLLY	ILOP	

POTENTIAL PRODUCTION (LBS./AC. DRY WT):	
FAVORABLE YEARS	
NORMAL YEARS	
UNFAVORABLE YEARS	

FOOTNOTES

A ESTIMATES OF ENGR. PROPERTIES BASED ON 5 PEDONS FROM HARALSON CO, GA, RANDOLPH CO, AL, GUILFORD AND ORANGE CO, N.C.
B RATINGS BASED ON NSH, PART 603, 7-83.
C WOODLAND RATINGS BASED ON NFM, 9/80.
D WILDLIFE RATINGS BASED ON SOILS MEMORANDUM-74, JAN. 1972
1 PLANT ONLY WHERE SURFACE DRAINAGE IS ADEQUATE.
* SITE INDEX IS A SUMMARY OF 5 OR MORE MEASUREMENTS ON THIS SOIL.

DATE: October 5, 1988

FROM: Bruce Nicholson

TO: Southern Desk Files

SUBJECT: Telecon with Robert Glenn, Town Administrator
Longview, NC, (704) 322-5919

Mr. Glenn confirmed that Longview's water supply is Lake Hickory and that the intake is approximately 400 yards above the Highway 321 Bridge. The water system has 1750 connections, and Longview's population is estimated to be 4,030. Mr. Glenn also indicated that the cast majority of residents in the town were connected, but some were still on wells.

BN/ds/ibm.41

DATE: October 5, 1988

FROM: Bruce Nicholson

TO: Southern Desk Files

SUBJECT: Telecon with Keith Buff, Plant Supervisor, Town of Hickory, (704) 322-2605

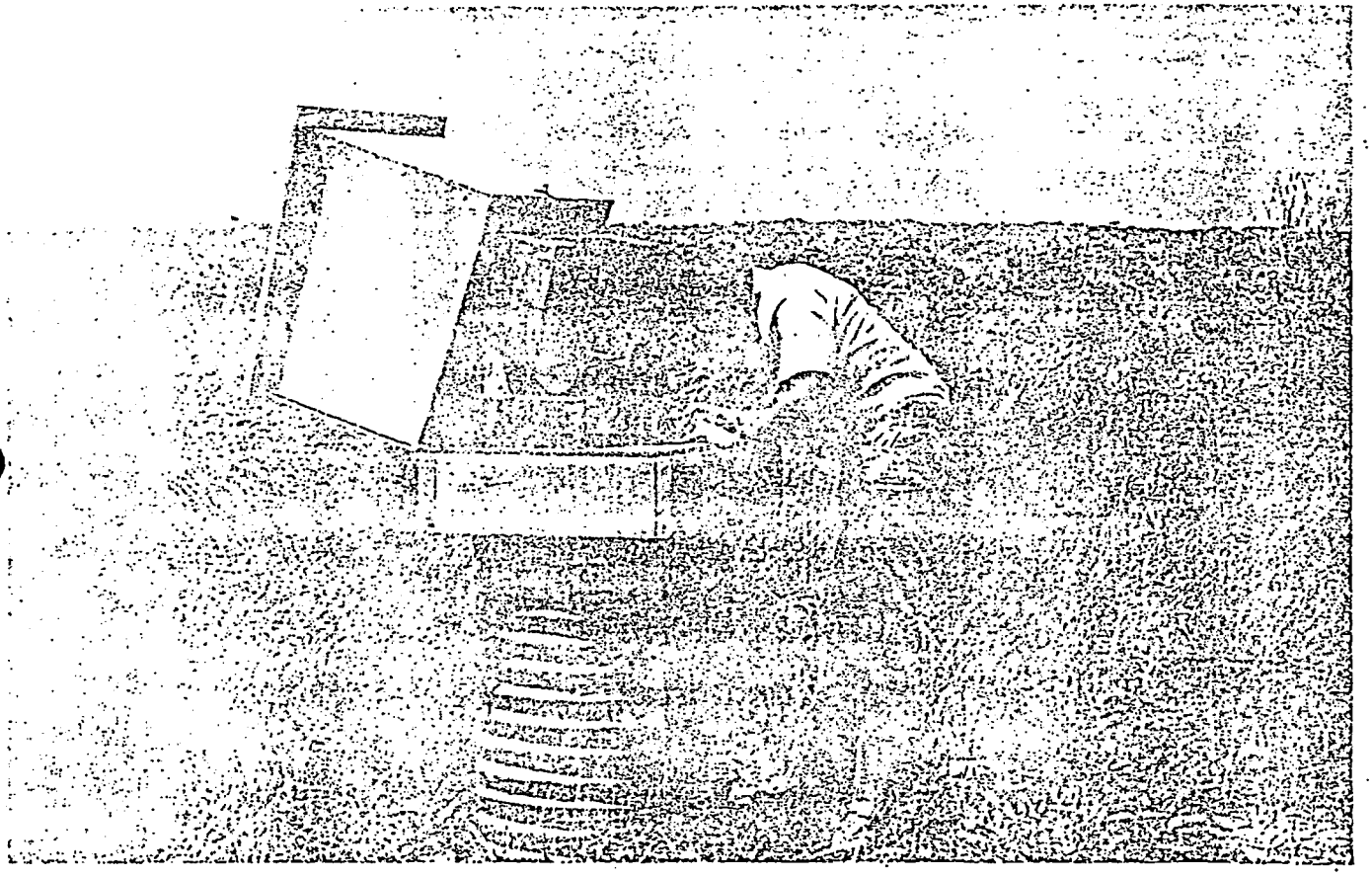
Mr. Buff said all of Hickory's water was drawn from Lake Hickory (the Catawba River above the Oxford Dam). The intake is located 300 to 400 yards below the Highway 321 Bridge. Mr. Buff said there are 11,000 connections on the city water system and the city estimates the city population has risen from 21,000 in 1980 to 26,000 or 27,000 today. I asked Mr. Buff if the water distribution system had any major additions since 1982 (the date of the water map on file). Mr. Buff indicated the only major change he knew of is that a water line was extended along Highway 127 south to the Mountain View area (1 1/2 miles past the Mountain View School).

Concerning the town of Longview which borders Hickory on the West, Mr. Buff said that they also draw their water from Lake Hickory with an intake located approximately 400 yards above the Highway 321 bridge. For more information on the Longview system he referred me to Mr. Robert Glenn, Town Administrator of Longview, (704) 322-5919.

BN/ds/ibm.40

Reference 15

Basic Elements of Ground-Water Hydrology with Reference to Conditions in North Carolina



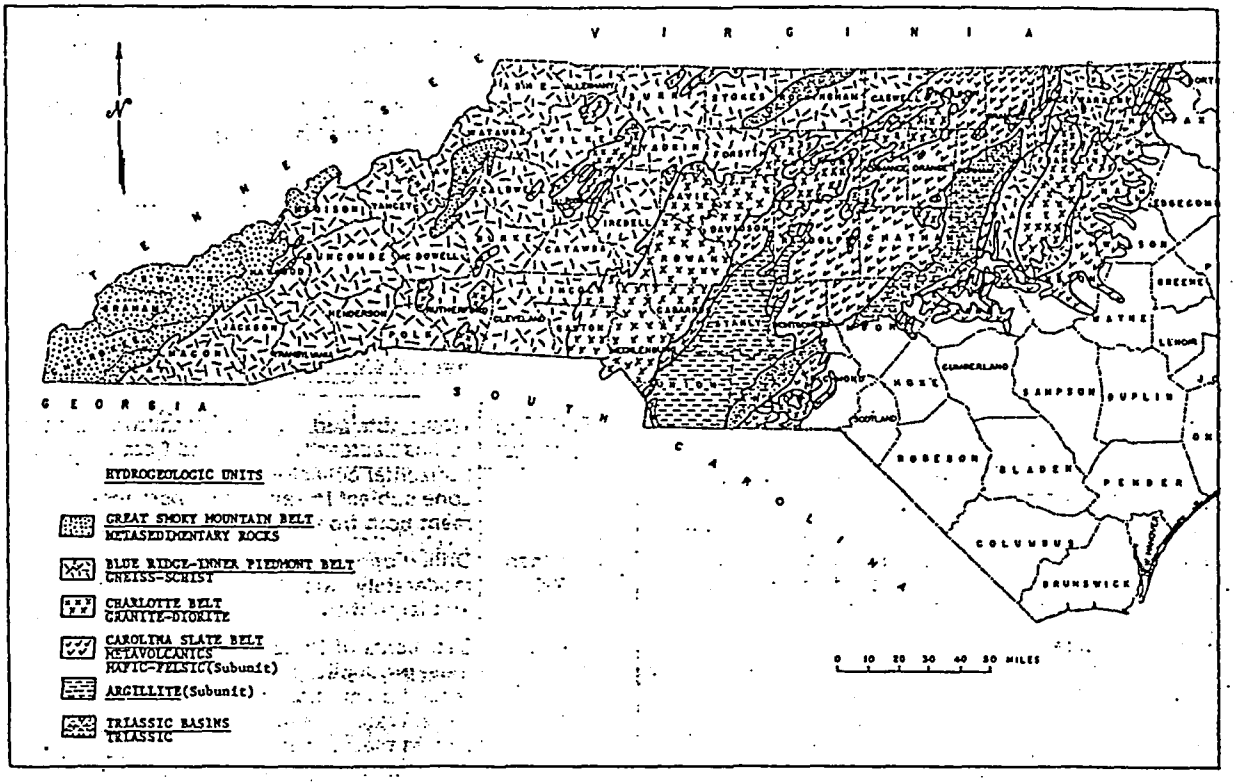
U.S. GEOLOGICAL SURVEY
WATER RESOURCES INVESTIGATIONS
OPEN-FILE REPORT 80-44

By Ralph C. Heath

Prepared in cooperation with the
North Carolina Department of Natural
Resources and Community Development

Raleigh, NC 1980

Rock Units and Aquifers in the Piedmont and Mountains



The rocks underlying the Piedmont and mountains can be divided into two groups: (1) bedrock, and (2) saprolite (or residuum). The saprolite underlies the land surface and ranges in thickness from a foot or two near bedrock outcrops to more than 100 ft. Bedrock underlies the saprolite and is the parent rock from which the saprolite was derived in the process referred to as weathering.

Many stream valleys, especially those of larger streams, are underlain by a layer of material similar in composition to saprolite. This material, which has been deposited by the streams during floods, is correctly referred to as *alluvium*. However, to avoid unnecessary complications, we will lump the alluvium in with the saprolite for the purpose of this discussion.

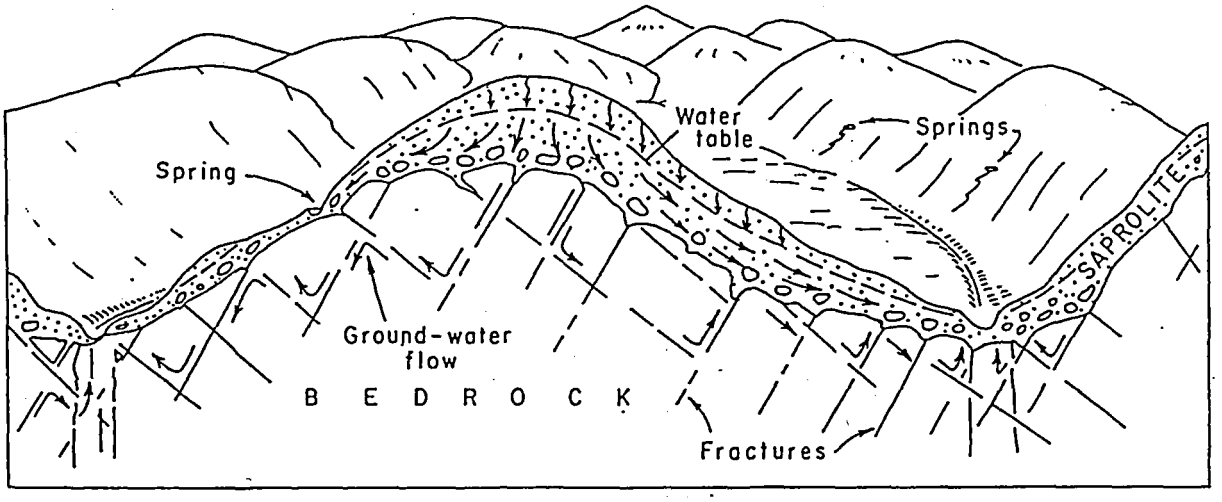
The bedrock underlying the Piedmont and mountains consists of many different types of igneous and metamorphosed igneous and sedimentary rocks. The Generalized Geological Map of North Carolina accompanying the discussion of WATER-BEARING ROCKS divides the bedrock in the Piedmont and mountains into six units. The 1:500,000 scale Geologic Map of North Carolina, published in 1958, divides the bedrock in the same area into 48 different units. But, a much larger number of units have been identified and are shown on large scale geologic maps.

The bedrock units differ from each other in mineral composition and other geologic characteristics. Fortunately, these differences do not result in large differences in hydraulic characteristics so that it is possible to combine the bedrock units into a relatively small number of hydrogeologic units.

The accompanying map shows the hydrogeologic units into which the bedrock in the Piedmont and mountains has been divided by the U.S. Geological Survey and the North Carolina Groundwater Section.

The most productive hydrogeologic units are the Great Smoky Mountain belt and the Blue Ridge-Inner Piedmont belt. The least productive units are the Carolina Slate Belt and the Triassic Basins. The Charlotte Belt is intermediate in productivity.

Ground-Water Situation in the Piedmont and Mountains



The *saprolite* (weathered rock) that forms the land surface in the Piedmont and mountains consists of unconsolidated granular material. It thus contains water in the pore spaces between rock particles.

The *bedrock*, on the other hand, does not have any significant intergranular (primary) porosity. It contains water, instead, in sheet-like openings formed along fractures (that is, breaks in the otherwise "solid" rock). Fractures in bedrock are of two types: (1) *joints*, which are breaks along which there has been no differential movement; and (2) *faults*, which are breaks along which the adjacent rocks have undergone differential movement.

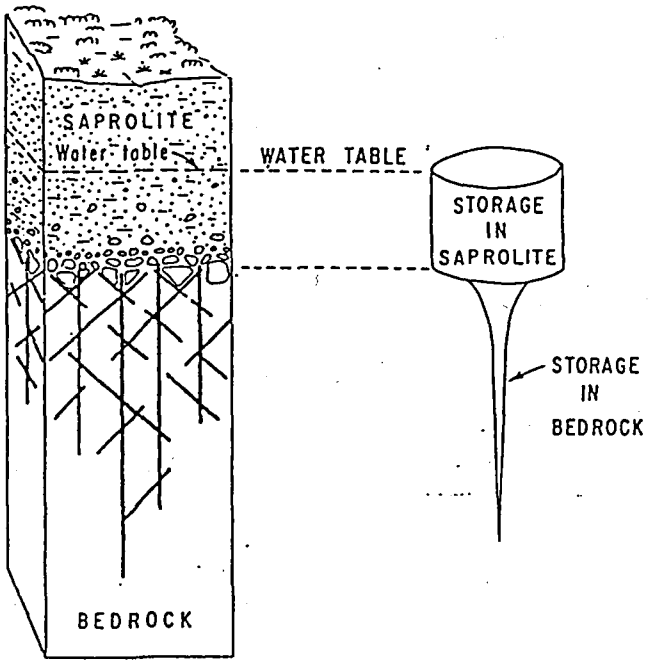
Faults are formed during earthquakes and generally contain larger and more extensive openings than those developed along joints. Joints, however, are far more numerous than faults.

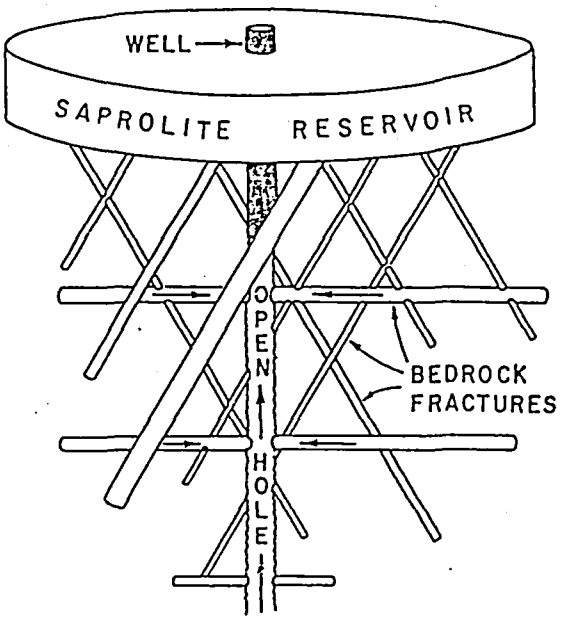
Fractures (joints and faults) are more abundant under valleys, draws, and other surface depressions than under hills. In fact, geologists assume that it is the presence of fractures that determined the position of valleys in the first place. Fractures tend to be more closely-spaced and the openings developed along them tend to be larger near the surface of the bedrock. Most fractures appear to be non water-bearing below a depth of 300 to 400 ft. Large water-bearing openings, penetrated below this depth are probably associated with faults.

The ground-water system in the Piedmont and mountains is recharged by precipitation on the interstream areas. A part of the precipitation infiltrates through the unsaturated zone to the water table, which normally occurs in the saprolite.

Ground water moves laterally and downward through the saprolite to points of ground-water seepage (springs) on the hillsides and to the streams in the adjacent valleys. Some of the water in the saprolite also moves downward into the bedrock and, thereafter, through the fractures to the adjacent valleys.

Hydraulic Characteristics of the Piedmont and Mountain Ground-Water System





One of the most basic concepts of ground-water hydrology is that aquifers function both as reservoirs, in which water is in storage, and as pipelines, which transmit water from one point to another. This is referred to as the *reservoir-pipeline concept.* This concept forms a useful basis on which to discuss the hydraulic characteristics of the Piedmont and mountain ground-water system.

The reservoir (storage) function of aquifers depends on the porosity. The pipeline function depends on the hydraulic conductivity and the thickness of the aquifer. The approximate range in porosity and hydraulic conductivity for the saprolite and bedrock is shown in the following table.

Rock type	Porosity in percent	Hydraulic conductivity in feet per day
Saprolite	20-30	1-20
Bedrock	0.1-1	1-20

The above values suggest that the principal difference between saprolite and bedrock is in water-storage capacity. In other words, the saprolite has the capacity to store a much larger quantity of water than does the bedrock. This is not the entire story, however.

As we noted above, the capacity of an aquifer to transmit water depends both on hydraulic conductivity and on aquifer thickness. The part of the bedrock containing water-bearing fractures is several times thicker than the saprolite.

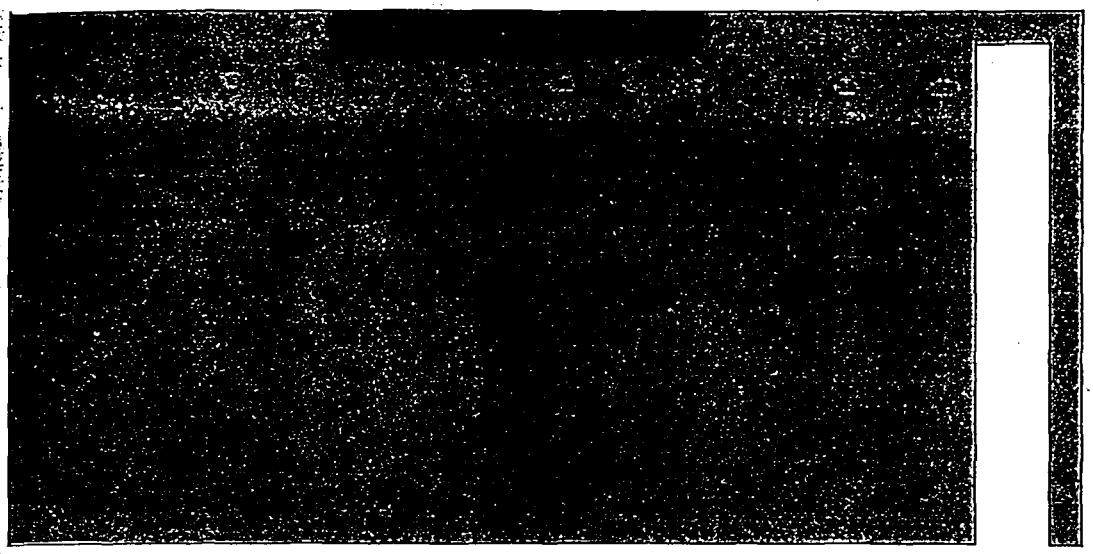
We can then, without great error, view the ground-water system in the Piedmont and mountains as consisting of a saprolite reservoir overlying a bedrock pipeline consisting of numerous small, interconnected pipes. In the vicinity of a pumping well the bedrock fractures ("pipes") convey water from the saprolite reservoir to the well.

The yield of a well drawing from fractured bedrock depends on several factors. The most important of these are believed to be:

1. The number, size, areal extent, and degree of interconnection of the fractures penetrated by the well,
2. The thickness of saturated saprolite in the vicinity of the well and the specific yield of the saprolite, and
3. The hydraulic conductivity of the saprolite and the nature of the hydraulic connection between the saprolite and the bedrock.

The number and the size of the fractures control the rate at which water can enter the well. The areal extent and degree of interconnection of the fractures control the size of the area that supplies water to the well.

The thickness and the specific yield of the saprolite determines the volume of water available from storage in the saprolite. The hydraulic conductivity of the saprolite and the nature of the hydraulic connection between the saprolite and the bedrock determines the rate at which water can drain from the saprolite into the bedrock fractures.



R. Allan Freeze

Department of Geological Sciences
University of British Columbia
Vancouver, British Columbia

John A. Cherry

Department of Earth Sciences
University of Waterloo
Waterloo, Ontario

GROUNDWATER

Prentice-Hall, Inc.
Englewood Cliffs, New Jersey.07632

Table 2.2 Range of Values of Hydraulic Conductivity and Permeability

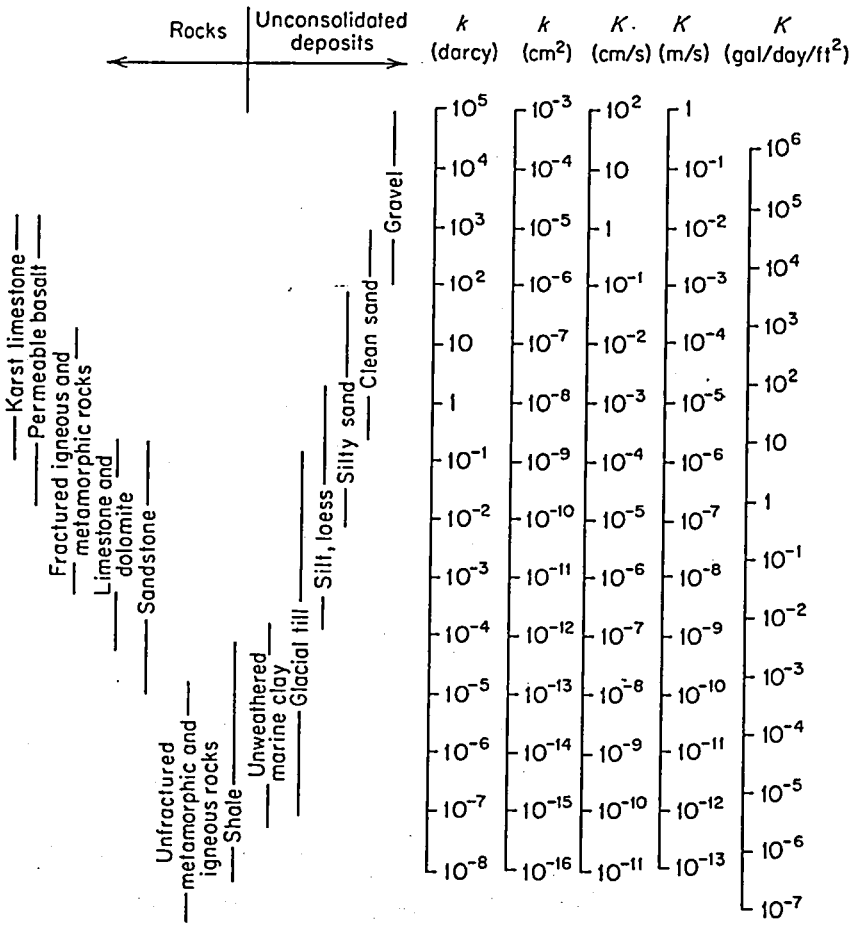


Table 2.3 Conversion Factors for Permeability and Hydraulic Conductivity Units

	Permeability, k*			Hydraulic conductivity, K		
	cm²	ft²	darcy	m/s	ft/s	U.S. gal/day/ft²
cm²	1	1.08×10^{-3}	1.01×10^{8}	9.80×10^{2}	3.22×10^{3}	1.85×10^{9}
ft²	9.29×10^{2}	1	9.42×10^{10}	9.11×10^{5}	2.99×10^{6}	1.71×10^{12}
darcy	9.87×10^{-9}	1.06×10^{-11}	1	9.66×10^{-6}	3.17×10^{-5}	1.82×10^{1}
m/s	1.02×10^{-3}	1.10×10^{-6}	1.04×10^{5}	1	3.28	2.12×10^{6}
ft/s	3.11×10^{-4}	3.35×10^{-7}	3.15×10^{4}	3.05×10^{-1}	1	6.46×10^{5}
U.S. gal/day/ft²	5.42×10^{-10}	5.83×10^{-13}	5.49×10^{-2}	4.72×10^{-7}	1.55×10^{-6}	1

*To obtain k in ft², multiply k in cm² by 1.08×10^{-3}.

Reference 17

GEOLOGY AND GROUND-WATER RESOURCES of the MORGANTON AREA NORTH CAROLINA

By

Carlton T. Sumsion
Geologist, U. S. Geological Survey

Chemical Quality of Water Section
By
R. L. Laney
Chemist, U. S. Geological Survey

GROUND WATER BULLETIN NUMBER 12

NORTH CAROLINA
DEPARTMENT OF WATER RESOURCES
George E. Pickett, *Director*

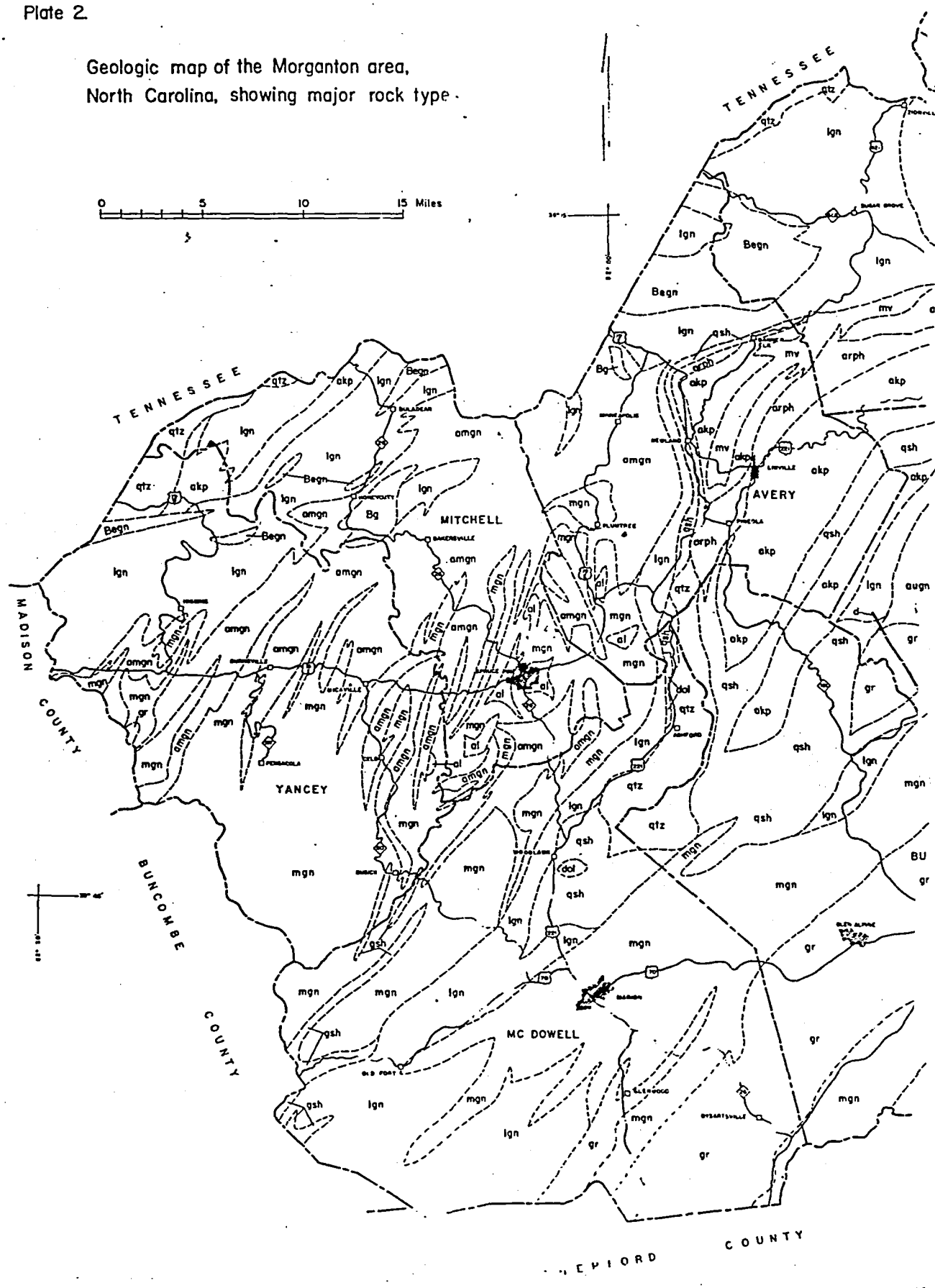
Division of Ground Water
Harry M. Peek, *Chief*

PREPARED COOPERATIVELY BY THE GEOLOGICAL SURVEY
UNITED STATES DEPARTMENT OF THE INTERIOR
AND THE
NORTH CAROLINA DEPARTMENT OF WATER RESOURCES

MARCH 1967

Plate 2.

Geologic map of the Morganton area, North Carolina, showing major rock type.



Burke County

(Area, 506 square miles; 1960 population, 52,701)

Burke County is in the southeastern part of the area of investigation (fig. 1). It is mostly within the inner Piedmont province, but in the northwest it lies in part on the steep eastern slope of the Blue Ridge province. Topography in Burke County is of greatly contrasting relief; from monadnock-like hills separated by broad valleys in the inner Piedmont to high-gradient, deeply dissected slopes on the Blue Ridge front. Altitudes range from less than 1,000 feet above mean sea level at several places on the southeast boundary to 4,350 feet on Long Arm Mountain in northwest Burke County near Linville Falls. Burke County lies within the Catawba River drainage basin. Streams and drainage courses generally appear to be of subsequent development as they are closely related to geologic structural features; joint and shear systems are coincident to most streams.

The largest towns are Morganton, the county seat, Glen Alpine, Drexel, Valdese, and Hildebran. The economy is predominantly agricultural; about 27 percent of the county area is farmland. Forest products supplement agriculture. Manufacturing, mainly of textiles and furniture, is localized in and near the larger towns. The northwest tip of Burke County is crossed by the Blue Ridge Parkway.

Metamorphic rock types in Burke County are heterogeneous, but mica gneiss, mica schist, granitic gneiss, and shistose quartzite predominate. Structural trends of these rocks are generally oriented northeastward (pl. 2). A unique diabase dike strikes nearly normal to the regional structural trend in the eastern part of Burke County. Monadnock-like hills and steep, dissected slopes appear to be errosional remnants rather than structural features. The residual mantle of weathered bedrock or saprolite is well developed over most of the inner Piedmont part of Burke County.

Drilled wells furnish much of the domestic, industrial, and municipal water supplies, but surface-water storage provides the greatest quantities of industrial and municipal water in Burke County. Principal sources of surface water are the impoundments of the Catawba River in Lake Rhodhiss and the Henry Fork of the Catawba River. The Lake James impoundment of the Catawba River is primarily a source of hydroelectric

Granitic gneiss

Outcrops of this heterogeneous complex are generally granite gneiss. Intermixed and interlayered with the granite gneiss are biotite-muscovite schist, amphibolite gneiss and schist, compositionally layered gneiss, micaceous quartzite, dolomitic gneiss, and quartz-biotite-monzonite gneiss. Boundary transitions of this complex rock type are generally wide zones which show only a progressive change in dominant components. The granitic gneiss complex weathers to a reddish-clay residuum. This complex extends from southeastern McDowell County northeastward through central Burke and Caldwell Counties.

Quartz-biotite gneiss

This mica gneiss complex consists predominately of quartz-biotite gneiss and schist, compositionally layered gneiss, schistose quartzite, dolomitic gneiss, quartz-monzonite gneiss, and micaceous crystalline limestone. Its boundary transitions are rarely well defined. The mica gneiss complex weathers to reddish-clay saprolite which contains schistose layers of light-brown decayed mica. As shown on the geologic map, quartz-biotite gneiss is the most extensive rock type in the Morganton area.

Garnet-mica schist

This schist is varied in color from green, to gray, and rust. Dark-gray graphitic layers are not uncommon in this unit. Contacts of this rock are sharply defined where they are exposed. The garnet-mica schist weathers to a reddish clay in which much of the original schistosity is preserved. Several elongate units of this garnetiferous, quartz-muscovite schist extend northeastward from western McDowell County into southern Yancey County. A compositionally similar unit occurs in eastern Caldwell County.

Layered gneiss

As with other metamorphic-rock complexes in the Morganton area, the layered-gneiss complex has a wholly heterogeneous aspect (figs. 6 and 7). It is distinguished by primary compositional layering. In outcrops tens of feet wide it is generally gray, feldspathic, quartzose rock with sharply defined compositional layers which have continuity and

Alaskite

Alaskite is a light-colored, coarsely crystalline or granular rock of granitic composition, but with few or no mafic mineral constituents. Pegmatite veins or dikes are associated with the alaskite which is regarded as having an igneous origin. Alaskite is a relatively massive rock type, more resistant to weathering and erosion than the amphibolite and quartz-biotite gneisses and schists that it intrudes. Hence alaskite stands out from surrounding rocks as steep hills or mounds. It weathers to a light-colored, clay-textured earth, in places iron-stained by ferromagnesian minerals. Groups of alaskite masses of varying sizes occur in the general vicinity of Spruce Pine in Mitchell County.

Quartz-monzonite gneiss

Characteristic or regional metamorphic rock types, the medium-gray, quartz-biotite-monzonite gneiss has wide variations in texture and composition, although it is invariably gneissic. The weathered residuum of this rock type is a reddish clay not readily distinguishable from that of other gneissic rocks of the area. Quartz-monzonite gneiss occurs in bodies of varied sizes in southeastern Burke County and eastern Watauga County. Outcrops too small to define on the geologic map occur at other scattered localities within the Morganton area.

Sillimanite-mica schist

As with other heterogeneous rock types of this area, the sillimanite content and the types of mica in this schist have considerable variation. Layers of light-brown to light-gray quartzite are usually common to this rock type, and small lenticular zones of dark-green; garnetiferous, amphibolite gneiss and schist, and dark-gray, graphitic schist are also present. Where exposed in road cuts the schist is highly contorted and sheared. The weathered residuum varies from yellow to dark-red clay according to the amount of biotite mica in the schist. A northeast-trending belt of sillimanite-mica schist, ranging in width from about 4 miles to about 8 miles occurs in southeastern Burke and Caldwell Counties.

power. Most drilled wells in Burke County are less than 200 feet deep. Of 62 such wells the average depth is 137 feet and average yield 14 gallons per minute. Wells having the highest yields are in: Low, flat areas; narrow, linear valleys; or draws. Dug and bored wells are common in outlying areas. Of 32 dug and bored wells the average depth is 40 feet and the average depth to the water table is 27 feet. Data of yields from the dug and bored wells are insufficient to provide a statistical representation. Springs are not as commonly used in Burke County as in counties wholly within the Blue Ridge province. Glen Alpine and Rhodhiss are the only communities in Burke County which use ground water for municipal supplies. All other municipal water systems use surface run-off which is filtered, chlorinated, and additionally treated before use.

Analyses of ground water from Burke County are shown in table 9. Water from wells 59 and 104 contained iron in excess of 0.3 ppm. High nitrate and chloride concentration occurred in water from wells 3, 16, 62, 72, 88, 112, and 113. Well 62 contains water having nitrate concentrations greater than 45 ppm.

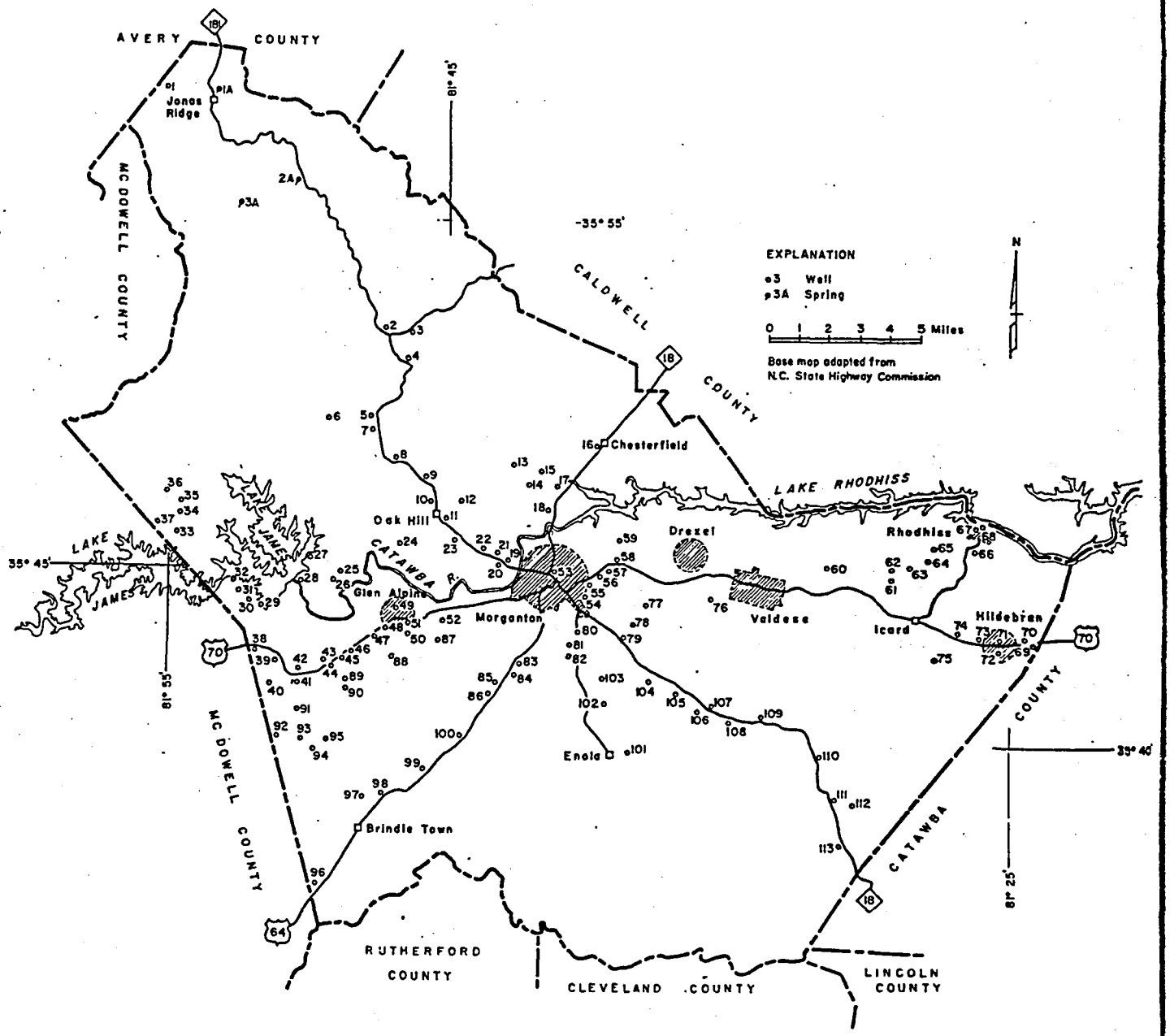


Figure 18. Map of Burke County showing locations of wells and springs.

TABLE 9. RECORDS OF WELLS IN BURKE COUNTY

Well No.	Location	Owner	Type of Well	Depth (ft)	Diameter (in)	Depth of casing (ft)	Water-bearing material	Water level (ft)	Yield (gpm)	Drawdown (ft)	Topography	Remarks
1	2.7 Mi. W of Jonas Ridge	Blue Ridge Parkway	Drilled	200	6	10	Quartzite	24	40.0	105 ft. after 20 min.	Draw	Water came from six different intervals
2	12.5 Mi. NW of Morganton	Optimist Park	do	120	6	40	Layered gneiss	80	35.0		Slope	Bedrock @ 40 feet
3	13.4 Mi. NW of Morganton	E. Sanders	Dug	33	30		Saprolite	16			Flat	Observation well
4	11.0 Mi. NW of Morganton	H. Perry	Bored	32	30	32	do	17			do	
5	1.6 Mi. SE of Table Rock	P. Kinkaid	Drilled	70	6	70	Layered gneiss	20	20.0		do	
6	1.8 Mi. SW of Table Rock	G. W. Crouch	do	105	6	65	Quartzite	70			Slope	
7	8.5 Mi. NW of Morganton	J. A. McGimsey	Bored	56	24	56	Saprolite	48	5.0		do	
8	7.0 Mi. NW of Morganton	W. D. Lowder	Dug	50	30	50	do	35			do	
9	6.0 Mi. NW of Morganton	C. D. Nichols	Bored	70	30	70	do	50			do	Bottom on bedrock
10	5.1 Mi. NW of Morganton	S. Miller	do	80	30	80	do				Draw	
11	4.5 Mi. NW of Morganton	B. Galloway	do	45	30	45	do	35			Slope	
12	1.0 Mi. E of Oak Hill	P. Beek	Drilled	200	6	72	Granitic gneiss	70	3.0		do	
13	5.0 Mi. N of Morganton	E. Weaver	do	127	6	58	do		6.0		do	
14	4.0 Mi. N of Morganton	C. Webb	do	163	6	129	do	25	10.0		Flat	
15	3.8 Mi. NE of Morganton	T. Dooley	do	114	6	42	do	40	4.0		Slope	
16	5.3 Mi. NE of Morganton	G. B. Arney	Dug	45	36		Saprolite	15			Flat	Observation well
17	3.4 Mi. NE of Morganton	P. Jones	Drilled	150	6	80	Granitic gneiss	65	20.0		Flat	
18	2.5 Mi. NE of Morganton	H. M. Speas	do	219	6	45	do	75	20.0		Slope	
19	1.5 Mi. NW of Morganton	J. C. Smith	do	132	6	90	do	90	7.0		do	
20	1.7 Mi. NW of Morganton	L. Shuffler	do	150	6	60	do	60	7.5		do	
21	2.5 Mi. NW of Morganton	C. Suddith	do	152	6	100	do	90	15.0		Flat	Hard water
22	2.9 Mi. NW of Morganton	E. Davis	Bored	92	30	92	Saprolite	74			Slope	
23	4.0 Mi. NW of Morganton	L. Silvers	do	52	30	52	do	44			do	
24	8.7 Mi. NW of Morganton	R. L. LaFevers	Drilled	73	6	44	Granitic gneiss	40	3.5		do	
25	2.5 Mi. NW of Glen Alpine	P. Dale	do	170	6	80	do	62	20.0		Draw	
26	2.5 Mi. NW of Glen Alpine	P. Dale	do	107	6	55	Mica gneiss	50	1.0		Slope	
27	3.5 Mi. NW of Glen Alpine	C. Browning	do	115	6	75	do	35	20.0		Flat	
28	5.0 Mi. NW of Glen Alpine	J. C. Smith	do	165	6	43	do	35	4.0		Slope	
29	1.0 Mi. N of Bridgewater	J. Carswell	do	131	6	90	Granitic gneiss	60	9.5		do	
30	1.3 Mi. N of Bridgewater	J. Carswell	do	135	6	85	Mica gneiss	60	7.0		do	
31	1.8 Mi. NW of Bridgewater	T. Rich	do	115	6	60	do		4.5		do	
32	2.1 Mi. NW of Bridgewater	H. F. Bobbett	do	175	6	55	do	45	6.0		do	
33	0.8 Mi. W of Longtown	J. C. Dellinger	do	75	6	30	do	6	8.0		Flat	
34	0.8 Mi. N of Longtown	W. P. Case	do	165	6	150	do	50	10.0		Draw	
35	1.1 Mi. N of Longtown	B. M. Bristol	do	140	6	116	Schistose quartzite	50	6.0		Slope	
36	1.6 Mi. N of Longtown	H. Edwards	do	184	6	120	Mica gneiss	65	15.0		Draw	
37	1.8 Mi. NW of Longtown	R. Edwards	do	165	6	140	do	80	25.0		do	
38	1.2 Mi. S of Bridgewater	G. Himphill	do	215	6	60	do	40	4.5		Slope	Hard water
39	6.0 Mi. SW of Glen Alpine	C. Carswell	Bored	60	30	60	Saprolite				do	
40	6.5 Mi. SW of Glen Alpine	J. McElarth	Drilled	300 (110)	6	45	Granitic gneiss	35	40.0		Flat	Drilled to 300 ft. and gravel filled to 110 ft.
41	6.0 Mi. SW of Glen Alpine	J. Patton	do	210	6	78	do	45	15.0		do	

TABLE 9. RECORDS OF WELLS IN BURKE COUNTY (Continued)

Well No.	Location	Owner	Type of Well	Depth (ft)	Diameter (in)	Depth of casing (ft)	Water-bearing material	Water level (ft)	Yield (gpm)	Drawdown (ft)	Topography	Remarks
42	4.6 Mi. SW of Glen Alpine	J. Farris	Drilled	140	6	60	Granitic gneiss	—	30.0	—	Draw	
43	3.5 Mi. SW of Glen Alpine	M. A. Taylor	do	141	6	46	do	45	25.0	—	do	
44	2.7 Mi. SW of Glen Alpine	R. McNeilley	do	122	6	60	do	30	30.0	—	Flat	
45	2.2 Mi. SW of Glen Alpine	W. Taylor	do	333	6	65	do	50	4.0	—	Slope	
46	1.9 Mi. SW of Glen Alpine	W. Taylor	do	315	6	85	do	55	4.5	—	do	Hard water
47	1.0 Mi. SW of Glen Alpine	T. Clontz	do	100	6	60	do	35	9.0	—	Flat	
48	0.5 Mi. SW of Glen Alpine	T. Rich	do	150	6	60	do	65	5.5	—	Slope	
49	Glen Alpine	Town of Glen Alpine	do	355	8	—	do	—	255	—	Draw	Yield questionable
50	0.7 Mi. S of Glen Alpine	O. Brach	do	119	6	86	do	60	20.0	—	do	
51	0.5 Mi. SE of Glen Alpine	J. F. Proctor	do	86	6	43	Granitic gneiss	—	10.0	—	Flat	
52	1.5 Mi. E of Glen Alpine	Church	do	300	6	75	do	60	5.0	—	Slope	
53	Morganton	B. Busic	do	124	6	80	do	70	20.0	—	Draw	
54	1.5 Mi. SE of Morganton	N. Epley	do	176	6	70	do	30	4.0	—	Slope	
55	1.8 Mi. SE of Morganton	H. Towery	do	275	6	60	do	60	—	—	do	Hard water
56	2.2 Mi. E of Morganton	C. H. Bumgarner	do	150	6	80	do	65	12.0	—	Flat	
57	2.4 Mi. E of Morganton	J. S. Kinkaid	do	90	6	16	do	25	20.0	—	do	
58	2.2 Mi. E of Morganton	J. Farris	do	71	6	30	do	33	20.0	—	do	
59	4.0 Mi. NE of Morganton	C. Leonhardt	do	235	6	55	do	95	—	—	Slope	
60	Rutherford College	Valdese Gen. Hospital	do	400	8	—	Mica schist	—	—	—	Flat	
61	3.7 Mi. SW of Rhodhiss	C. Tunmire	do	65	5	—	do	25	—	—	do	
62	3.3 Mi. SW of Rhodhiss	Zimmerman	Dug	62	4'x4'	—	Saprolite	52	—	—	do	Observation well
63	3.0 Mi. SW of Rhodhiss	O. Mabry	do	45	5'x5'	45	do	39	—	—	do	
64	2.5 Mi. SW of Rhodhiss	E. M. Aikens	Drilled	51	36	51	do	23	—	—	do	
65	2.1 Mi. SW of Rhodhiss	L. Brown	do	75	6	—	Mica schist	62	3.0	—	Slope	
66	1.1 Mi. S of Rhodhiss	Smith-Moore Co.	Bored	35	24	35	Saprolite	23	—	—	do	
67	Rhodhiss	Rhodhiss Mills	Drilled	151	6	—	Mica gneiss	38	20.0	—	Flat	Water has high iron content
68	Rhodhiss	do	do	846	8	—	do	32	35.0	—	do	
69	1.2 Mi. E of Hildebran	Church	do	134	6	60	do	64	11.0	—	do	
70	0.9 Mi. E of Hildebran	J. S. Hildebran	Dug	42	48	—	Saprolite	30	—	—	Slope	
71	Hildebran	Quaker Meadows Mills	Drilled	370	8	252	Mica gneiss	53	20.0	205 ft. after 3 hrs. @ 20 gpm	Flat	Water treated for iron content
72	Hildebran	Clines Mills	Dug	45	48	—	Saprolite	30	—	—	Slope	Observation well
73	0.9 Mi. W of Hildebran	Southern Desk Co. #2	Drilled	200	8	—	Mica gneiss	30	100.0	—	Draw	Ideal well location
74	1.5 Mi. W of Hildebran	R. Stilwell	Bored	30	18	30	Saprolite	15	—	—	Flat	
75	2.3 Mi. SW of Hildebran	J. B. Sweet	Drilled	180	6	—	Mica gneiss	15	100.0	—	Draw	
76	8.0 Mi. E of Morganton	L. Hiergesull	do	149	6	74	do	55	10.0	—	Slope	
77	5.0 Mi. E of Morganton	M. Selzer	do	120	6	75	Granitic gneiss	35	7.0	—	Flat	
78	4.0 Mi. SE of Morganton	R. Moxley	do	298	6	85	do	28	5.0	—	Hilltop	
79	4.2 Mi. SE of Morganton	P. Smith	Bored	36	6	36	Saprolite	10	—	—	Flat	
80	2.7 Mi. S of Morganton	F. Duckworth	Drilled	120	6	40	Granitic gneiss	30	20.0	—	Flat	
81	3.1 Mi. S of Morganton	F. Mull	do	132	6	70	do	—	—	—	do	
82	3.4 Mi. S of Morganton	J. C. Digh	do	133	6	106	do	45	12.0	—	Slope	
83	3.1 Mi. SW of Morganton	J. Duckworth	do	145	6	110	do	55	6.0	—	do	

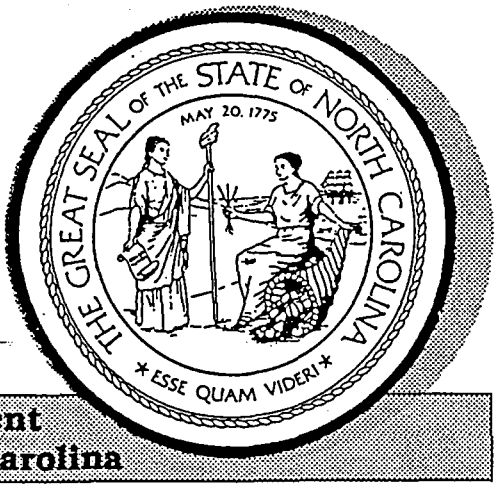
84	3.5 Mi. SW of Morganton	J. C. Propst	do	180	6	160	Granitic gneiss	—	25.0	—	Flat	
85	4.0 Mi. SW of Morganton	P. Propst	do	220	6	65	do	70	20.0	—	do	
86	4.5 Mi. SW of Morganton	M. Propst	do	153	6	85	Mica gneiss	58	6.5	—	Slope	
87	5.0 Mi. SW of Morganton	Hush Puppy Fish Camp	Bored	14	24	14	Saprolite	13	2.0	—	do	
88	1.4 Mi. S of Glen Alpine	B. Self	Dug	33	48	—	do	28	—	—	Slope	Observation well
89	5.5 Mi. SW of Glen Alpine	T. Rich	Drilled	103	6	70	Granitic gneiss	—	15.0	—	Flat	
90	5.8 Mi. SW of Glen Alpine	J. O. Taylor	do	165	6	50	do	38	25.0	—	do	
91	6.1 Mi. SW of Glen Alpine	J. Allen	do	158	6	70	do	65	3.0	—	Slope	Bedrock @ 90 feet
92	7.6 Mi. SW of Glen Alpine	P. Dooley	do	124	6	108	do	—	5.0	—	do	
93	7.4 Mi. SW of Glen Alpine	Church	do	195	6	55	do	62	3.0	—	do	
94	7.9 Mi. SW of Glen Alpine	H. Patton	do	132	6	50	do	48	10.0	—	do	
95	7.5 Mi. SW of Glen Alpine	E. Tallent	do	225	6	20	do	20	20.0	—	Flat	
96	14.0 Mi. SW of Morganton	W. C. Burns	Bored	30	30	30	Saprolite	20	—	—	do	Hard water
97	11.0 Mi. SW of Morganton	B. Morrison	Drilled	100	6	60	Granitic gneiss	—	25.0	—	do	
98	10.3 Mi. SW of Morganton	C. B. Leonhardt	Dug	24	30	—	Saprolite	20	—	—	Slope	Observation well
99	8.2 Mi. SW of Morganton	L. J. Denton	do	18	36	—	do	14	—	—	Flat	
100	6.6 Mi. SW of Morganton	R. Rich	Drilled	105	6	20	Mica gneiss	20	20.0	—	do	
101	6.8 Mi. S of Morganton	W. Chapman	do	210	6	20	Mica gneiss	—	15.0	—	do	Hard water
102	3.7 Mi. S of Morganton	W. Chapman	do	120	6	60	Granitic gneiss	—	10.0	—	do	
103	2.6 Mi. S of Morganton	W. R. Mull	Dug	55	40	—	Saprolite	43	—	—	Slope	
104	4.0 Mi. SE of Morganton	J. E. Muehlhouser	Drilled	185	6	115	Mica gneiss	85	5.0	—	do	
105	5.0 Mi. SE of Morganton	F. C. Port	do	175	30	160	do	15	7.0	—	do	
106	6.0 Mi. SE of Morganton	C. C. Shouppe	Dug	20	30	3	do	16	—	—	do	Dug in bedrock except for soil at surface
107	6.3 Mi. SE of Morganton	M. Willis	do	22	36	22	Saprolite	20	—	—	do	Observation well
108	7.1 Mi. SE of Morganton	W. R. Mull	Bored	9	24	9	do	7	—	—	do	
109	8.2 Mi. SE of Morganton	Z. C. Peeler	Dug	12	30	12	do	6	—	—	do	
110	10.7 Mi. SE of Morganton	R. E. Moses	do	35	36	—	do	20	—	—	do	
111	13.6 Mi. SE of Morganton	R. Tallant	do	26	30	13	do	16	—	—	do	
112	14.9 Mi. SE of Morganton	B. Hildebran	do	27	48	—	do	24	—	—	Flat	Observation well
113	15.1 Mi. SE of Morganton	W. H. Huffman	Bored	60	24	60	do	30	—	—	do	

TABLE 10. RECORDS OF SPRINGS IN BURKE COUNTY

Well No.	Location	Owner	Type of Well	Depth (ft)	Diameter (in)	Depth of casing (ft)	Water-bearing material	Water level (ft)	Yield (gpm)	Drawdown (ft)	Topography	Remarks
1A	0.1 Mi. NE of Jonas Ridge						Arkose		4.4		Slope	49° F. - 4-9-62
2A	3.1 Mi. SE of Jonas Ridge						do		3.5		Draw	48° F. - 12-12-61 Observation spring
3A	8.1 Mi. S of Jonas Ridge						Quartzitic arkose		1.7		do	45° F. - 4-10-62

STATE OF NORTH CAROLINA
DEPARTMENT OF
NATURAL RESOURCES AND
COMMUNITY DEVELOPMENT

Classifications and Water Quality Standards Assigned to The Waters of The Catawba River Basin



Division of Environmental Management
Raleigh, North Carolina

Reprint from North Carolina Administrative Code: 15 NCAC 2B .0308
Current through: June 30, 1989

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, 15 NCAC 2B .0302 to .0317 which are on file in the Office of the Attorney General of North Carolina. 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, 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 uninhabited or predominantly undeveloped (not urbanized) watersheds; no point source discharges are permitted and local land management programs to control nonpoint source pollution are required; suitable for all Class C uses;
Class WS-II:	waters protected as water supplies which are in low to moderately developed (urbanized) watersheds; discharges are restricted to primarily domestic wastewaters or industrial non-process waters specifically approved by the commission; local land management programs to control nonpoint source pollution are required; suitable for all Class C uses;
Class WS-III:	water supply segment with no categorical restrictions on watershed development or discharges; suitable for all Class C uses;
Class B:	primary recreation and any other usage specified by the "C" classification;
Class C:	fish and wildlife propagation, secondary recreation, agriculture, and other uses requiring waters of lower quality.

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:	fish and wildlife propagation, secondary recreation, and other uses requiring waters of lower quality.

Supplemental Classifications

Trout Waters:	Suitable for natural trout propagation and maintenance of stocked trout;
Swamp Waters:	Waters which have low velocities and other natural characteristics which are different from adjacent streams;
NSW:	Nutrient sensitive waters which require limitations on nutrient inputs;
ORW:	outstanding resource waters which are unique and special waters of exceptional state or national recreational or ecological significance which require special protection to maintain existing uses.

(d) Water Quality Standards. The water quality standards applicable to each classification assigned are those established in 15 NCAC 2B .0200, Classifications and Water Quality Standards Applicable to the Surface Waters of North Carolina, as adopted by the North Carolina Environmental Management Commission.

(e) Index Number

.0308 CATAWBA RIVER BASIN

Name of Stream	Description	Class	Classification Date	Classification Index No.
Town Creek	From source to Lower Creek	C	9/1/74	11-39-2
Spainhour Creek	From source to Lower Creek	C	4/1/82	11-39-3
Blair Fork	From source to Spainhour Creek	C	9/1/74	11-39-3-1
Greasy Creek	From source to Lower Creek	C	9/1/74	11-39-4
Millers Creek	From source to Lower Creek	C	9/1/74	11-39-5
Abingdon Creek	From source to Lower Creek	C	9/1/74	11-39-6
Husband Creek	From source to Lower Creek	C	9/1/74	11-39-7
Celia Creek	From source to Husband Creek	C	9/1/74	11-39-7-1
Bristol Creek	From source to Lower Creek	C	9/1/74	11-39-8
White Mill Creek	From source to Bristol Creek	C	9/1/74	11-39-8-1
Jumping Branch	From source to Rhodhiss Lake, Catawba River	C	3/1/62	11-40
Smoky Creek	From source to Rhodhiss Lake, Catawba River	C	3/1/62	11-41
Howard Creek (Propst Creek)	From source to Unnamed Tributary at Drexel Water Plant	WS-III	2/1/86	11-42-(1)
Howard Creek (Propst Creek)	From Unnamed Tributary at Drexel Water Plant to Rhodhiss Lake, Catawba River	C	9/1/74	11-41-(2)
Unnamed Tributary at Drexel Water Plant	From source to Howard Creek (Propst Creek)	C	9/1/74	11-42-3
Secrets Creek	From source to Howard Creek	C	9/1/74	11-42-4
Stafford Creek	From source to Rhodhiss Lake, Catawba River	C	3/1/62	11-43
McGalliard Creek	From source to Rhodhiss Lake, Catawba River	C	9/1/74	11-44
Double Branch	From source to McGalliard Creek	C	9/1/74	11-44-1
Dye Branch	From source to McGalliard Creek	C	9/1/74	11-44-2
Hoyle Creek	From source to Rhodhiss Lake, Catawba River	C	9/1/74	11-45
Micol Creek	From source to Valdese Water Intake	WS-III	2/1/86	11-45-1-(1)
Micol Creek	From Valdese Water Intake to Hoyle Creek	C	9/1/74	11-45-1-(2)
Island Creek (Lail Creek)	From source to Rhodhiss Lake, Catawba River	C	9/1/74	11-46
Smith Branch	From source to Island Creek	C	9/1/74	11-46-1
Freemason Creek	From source to Rhodhiss Lake, Catawba River	C	3/1/62	11-47
Nolden Creek (Island Creek)	From source to Rhodhiss Lake, Catawba River	C	3/1/62	11-48
Hayes Mill Creek	From source to Rhodhiss Lake, Catawba River	WS-III&B	2/1/86	11-49
Jumping Run	From source to Rhodhiss Lake, Catawba River	C	3/1/62	11-50
CATAWBA RIVER (Lake Hickory below elevation 935)	From Rhodhiss Dam to U.S. Hwy. 321 Bridge	WS-III	2/1/86	11-(51)
Drowning Creek	From source to Lake Hickory, Catawba River	C	9/1/74	11-52

.0308 CATAWBA RIVER BASIN

Name of Stream	Description	Class	Classification Date	Classification Index No.
CATAWBA RIVER (Lake Hickory below elevation 935)	From U.S. Highway 321 Bridge to Oxford Dam	WS-III&B	2/1/86	11-(53)
Horseford Creek	From source to Lake Hickory, Catawba River	C	9/1/74	11-54
Frye Creek	From source to Horseford Creek	C	9/1/74	11-54-1
Cripple Creek	From source to Horseford Creek	C	9/1/74	11-54-2
Gunpowder Creek (Old Mill Pond)	From source to Lake Hickory, Catawba River	C	9/1/74	11-55
Angley Creek	From source to Gunpowder Creek	C	9/1/74	11-55-1
Brushy Fork	From source to Angley Creek	C	9/1/74	11-55-1-1
Little Gunpowder Creek	From source to Gunpowder Creek	C	3/1/62	11-55-2
Billy Branch	From source to Old Mill Pond, Gunpowder Creek	C	9/1/74	11-55-3
Silver Creek	From source to Lake Hickory, Catawba River	C	3/1/62	11-56
Mill Creek	From source to Lake Hickory, Catawba River	C	3/1/62	11-57
Upper Little River (Cedar Creek)	From source to Lake Hickory, Catawba River	C	3/1/62	11-58
Millers Creek	From source to Upper Little River	C	3/1/62	11-58-1
McRary Creek	From source to Upper Little River	C	3/1/62	11-58-2
Mountain Run	From source to Upper Little River	C	3/1/62	11-58-3
Pilot Branch	From source to Upper Little River	C	3/1/62	11-58-4
Morris Creek	From source to Upper Little River	C	3/1/62	11-58-5
Hickman Creek	From source to Upper Little River	C	3/1/62	11-58-6
Rock Creek	From source to Upper Little River	C	3/1/62	11-58-7
Isaac Creek	From source to Lake Hickory, Catawba River	WS-III&B	2/1/86	11-59
Falling Creek	From source to Lake Hickory, Catawba River	C	9/1/74	11-60
Snow Creek	From source to Lake Hickory, Catawba River	C	9/1/74	11-61
Middle Little River	From source to Lake Hickory, Catawba River	C	3/1/62	11-62
Ginger Creek	From source to Middle Little River	C	3/1/62	11-62-1
Duck Creek	From source to N.C. Highway 90	C Tr	3/1/62	11-62-2-(1)
Holsclaw Creek	From source to Duck Creek	C	3/1/62	11-62-2-2
North Fork (White Creek)	From source to Duck Creek	C Tr	7/1/73	11-62-2-3
Duck Creek	From N.C. Highway 90 to Middle Little River	C	7/1/73	11-62-2-(4)
Rock Creek	From source to Middle Little River	C	3/1/62	11-62-3
Jumping Run	From source to Rock Creek	C	3/1/62	11-62-3-1
Mountain Creek	From source to Lake Hickory, Catawba River	C	3/1/62	11-63
Long Shoal Creek	From source to Lake Hickory, Catawba River	WS-III&B	2/1/86	11-64
Benfield Creek	From source to Lake Hickory,	WS-III&B	2/1/86	11-65

Reference 19

BURKE COUNTY HEALTH DEPARTMENT
700 EAST PARKER ROAD
P.O. DRAWER 1266
MORGANTON, NORTH CAROLINA 28655

CHARLES W. BUCKNER
DIRECTOR

OFFICE TELEPHONE
(704) 433-4250

March 20, 1989

Edward Wallingford
Environmental Chemist
Division of Health Services
Solid Waste Management Section
Superfund Branch
P.O.Box 2091
Raleigh, N.C. 27602-2091

Dear Mr. Wallingford,

I appreciate the opportunity to meet with you at the Tramco site and witness the investigation. I am very interested in keeping informed on any environmental issues involving Burke County.

Enclosed is a map of the Tramco property, which you requested. The Tramco property is outlined in red. Also enclosed is a computer print-out of the property description. The owner's name and address are in the upper left corner.

The Icard Township Water Corporation provides water to this area of the county. Their phone number is (704) 397-6294. The person to ask for is Mr. David Workman.

I hope this information is helpful, and I look forward to seeing the results of this investigation. If I can be of any assistance, please do not hesitate to call me at (704) 438-5430.

Sincerely,

David L. Rust, R.S.

David L. Rust, R.S.
Environmental Health Supervisor

DLR/lrm

OWNERSHIP [illegible]/20/89 26612 150
AUSTIN LA[illegible] DEAN & DEBORAH

P O BOX 1005
HILDEBRAN NC 28637
DEED: 652 637 4/ 6/84

PROPERTY DESCRIPTION
B/L RD 1611
TRAMCO

TAX SUBDIVISIONS
ICARD

LOVELADY FIRE

MAP NUMBER UNITC
87 42 50
RECORD NUMBER:. 376
ROUTE
LISTER:WD080886
REVIEW:BS100286

TOPO	STREET	UTILITY	ZONING	8.69 ACRES
LEVEL	PAVED	WELL SEPTIC ELECTRIC		NOTES: RF ADJ 108

#	LAND CLASS	SIZE	BASERATE	FRNT	DPTH	ADJ	ADJRATE	UNITS	LND-VAL
1	27GIMPRSITE	1.00AC	5000.			1.08	5400.	1.00	54
2	24GWOODLAND	4.00AC	1235.	1.49ACF		1.08	1987.	4.00	79
3	25GCLEARED	3.69AC	1235.	1.49ACF		1.08	1987.	3.69	73

LAND VALUE: 206

#	OTHER FEAT	SIZE	BASERATE	COND	ADJRATE	UNITS	OFB-VALU
1	-4 SHED	0					4

OTHER VALUE: 4

FNDATION	XTRFNISH	ROOFTYPE	ROOFMTRL	SIZE/QTY	DPRT:2=COMMRCIL
CONCRETE	METAL MASONRY	DP	METAL	1.00STHT	
WALLFNSH	FLOORS	HEAT&AIR	HEATFUEL		
PANEL	CONCRETE CARPET	HTG & AC	ELECTRIC	7 ROOM	

```
                                  ....41....
                                  :OPLTFORM:
                                  2   D-   :
          ..:                     :        :
..........:E:...172..........0...41.18:
:                                 :        :
3                                 :        :
2                                 :        :
:                                 6    6   :
:.....62.....     B-              0 C  0   :
2          2      WAREHOUS        :        :
8     A-   8                      :        :
:   TYPOFFCE:                     :        :
:.....62....:.........110.........:.18:
```

COMMRCIL COMMRCIL D YR=85
DIMENSIONS:A-CU28R62D28L62 B=028C032RI72D60LII0028L62 C=RI72C060RI8D60LI8 D=060RI90C020L4ID20R4I E=060R52CD
12D6L12H

#	STRUCTURE	SKTCH-SF	STHT=	AREA	RATE	GRDF+	HEAT+	EXWL	WLHT=	ADJRAT	AREA=	RPCN	DEPF	CNDF=	STR-VAL
A	22DTYPOFFCE 1.50 BATHS	1736	1.00	1736	26.65		1.50			28.15	1736	48868	0.99		483
B	37DWAREHOUS	8584	1.00	8584	11.15	0.90			1.09	10.93	8584	93823	0.99		928
C	26DSVCGARAG	1080	1.00	1080	13.26	0.90			1.13	13.48	1080	14558	0.99		144
D	91COPLTFORM	820	1.00	820	4.46					4.46	820	3657	0.99		36
E	83 CANOPY	72	1.00	72	3.10					3.10	72	223	0.99		2
E	79 PATIO	72	1.00	72	1.90					1.90	72	137	0.99		1

11400HSF, 12364TSF RPCN- 14.15/HSF 161266 VALU- 14.00/HSF 1596

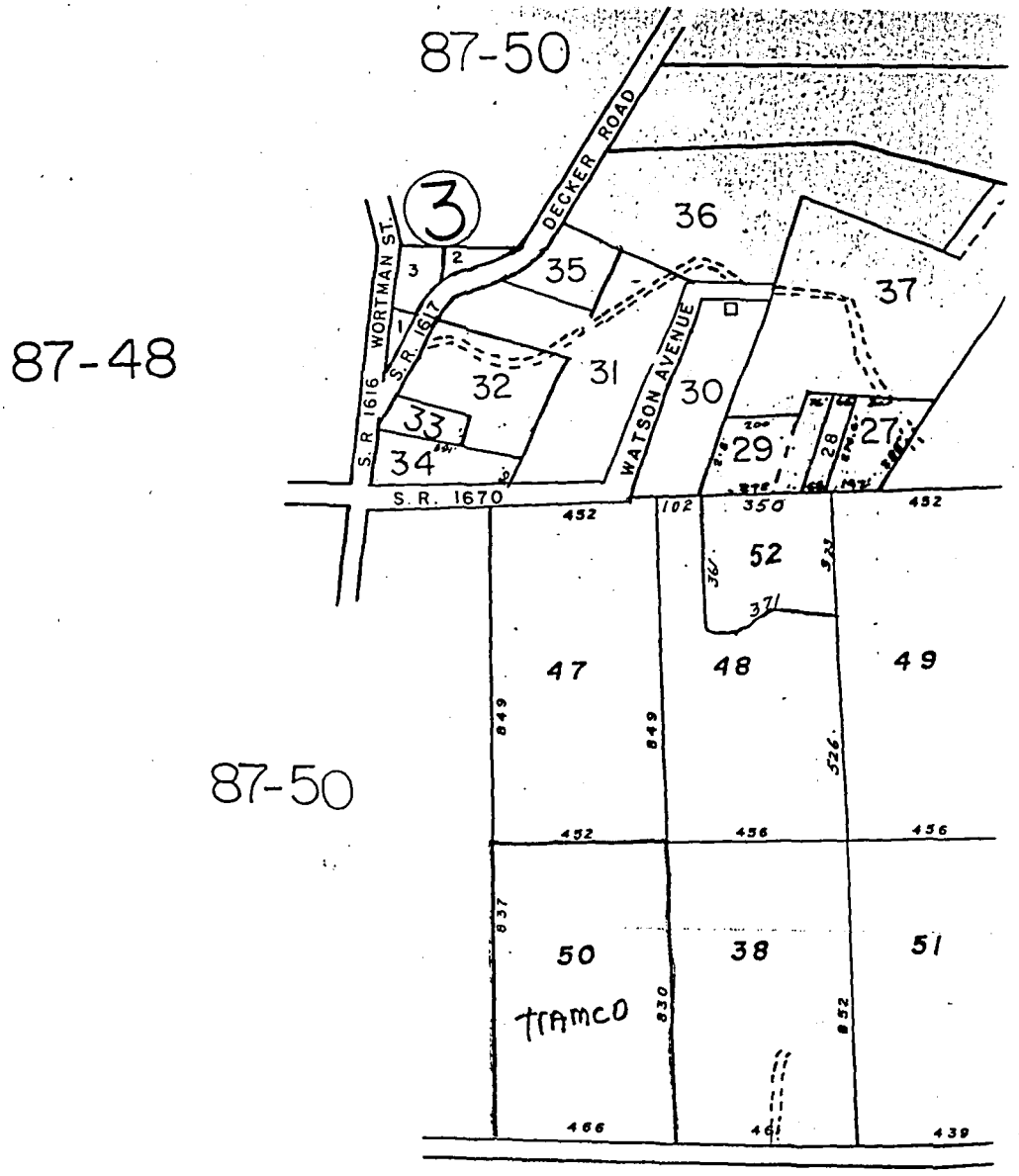
STRUCTURE VALUE: 1596

VALUATION	VALUE	PREV-VAL.	P-N%	SALE	S-N%
LAND	20680	14320	144%		
OTHERFEAT	400			4/ 6/84	
STRUCTURE	159653	115530	138%	652-637	
TOTAL	180733	129850	139%	32000	564%

TOTAL VALUE 1807

2379/AC

APPRAISED-VALUE: 1807



87-50

87-42

Map Number 14

Icard Township
Burke County, North Carolina

Scale 1" = 400'

Photo Number JL-1-18, JL-1-39

7.84

Southern Photo Print & Supply Co., Greensboro, N. C. 215 8-81

ICARD TOWNSHIP WATER CORPORATION

P. O. BOX 436

HILDEBRAN, N. C. 28637

April 25, 1989

ATT: Ed Wallingford
Environmental Chemist
Superfund Branch
North Carolina Department of Human REsources
Division of Health Services
P. O. Box 2091
Raleigh, North Carolina 27602-2091

Mr. Wallingford:

This is the information you requested to the best of my knowledge.

Could you please send me a map like this one for my use? Thank you.

If I can be of any more assistance please call.

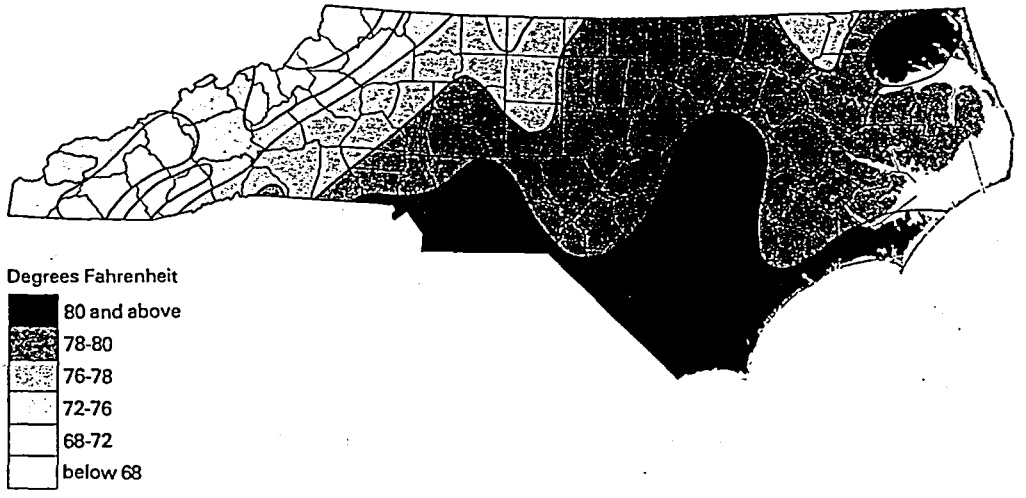
Sincerely,

David Wortman

David Wortman
Manager

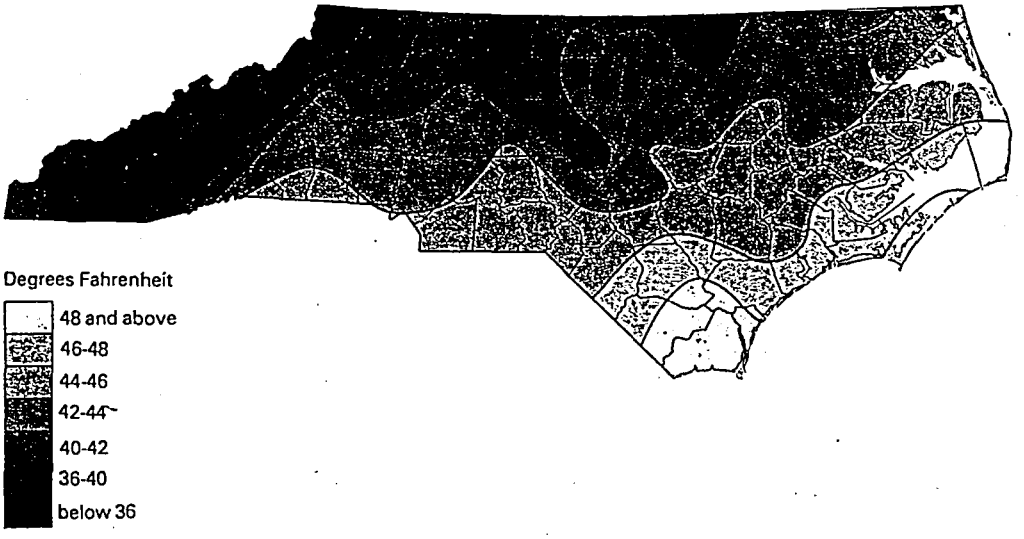
DW:jh

Figure 5.9. Average July Temperature in N.C.



Source: U.S. Department of Commerce, *Weather and Climate in North Carolina,* 1972.

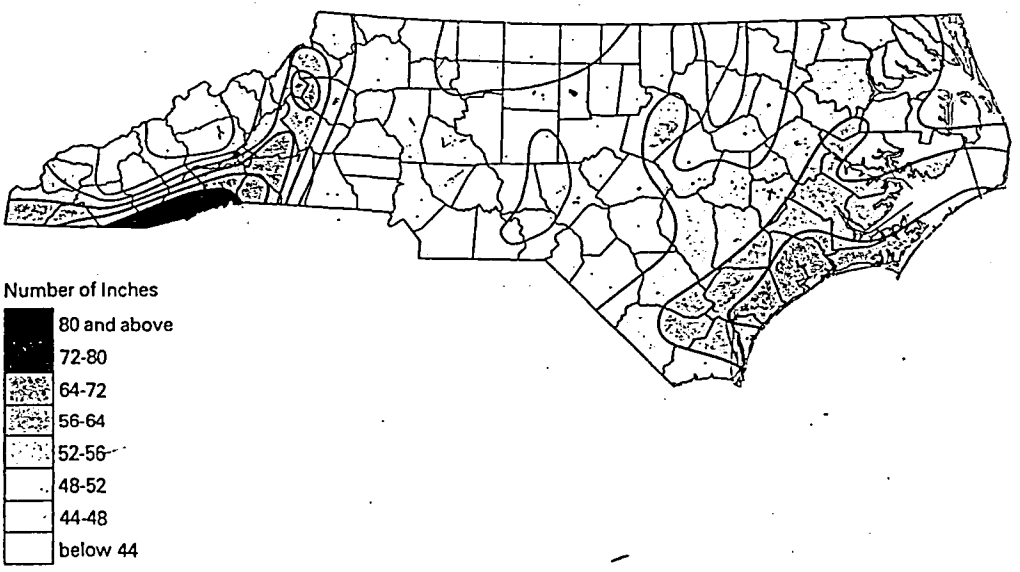
Figure 5.2. Average January Temperatures in N.C.



Source: U.S. Department of Commerce, *Weather and Climate in North Carolina,* 1972.

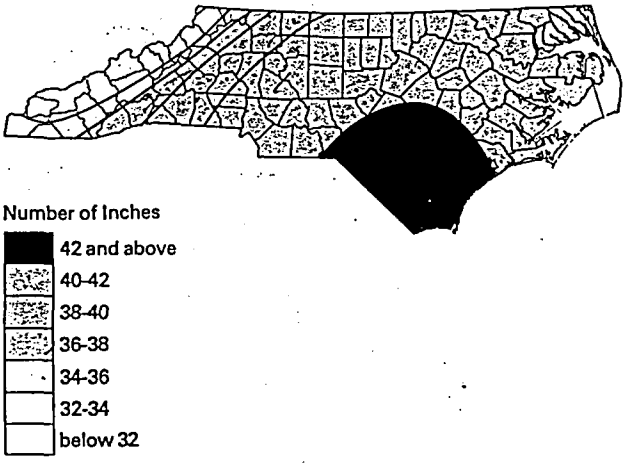
From: North Carolina Atlas, The University of North Carolina Press, Chapel Hill, N.C.

Figure 5.15. Average Annual Precipitation in N.C.



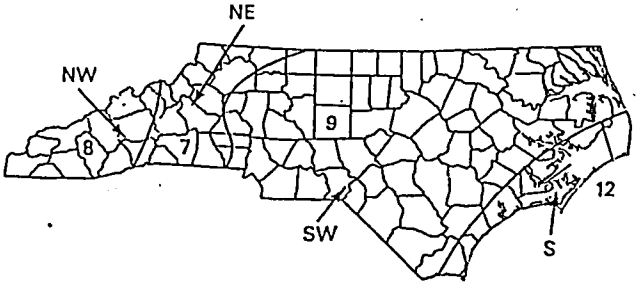
Source: U.S. Department of Commerce, *Weather and Climate in North Carolina,* 1972.

Figure 5.20. Mean Annual Evaporation in N.C.



Source: U.S. Department of Commerce, *Climatic Summary of the U.S.,* 1972.

Figure 5.21. Prevailing Winds and Mean Annual Wind Speed in N.C.



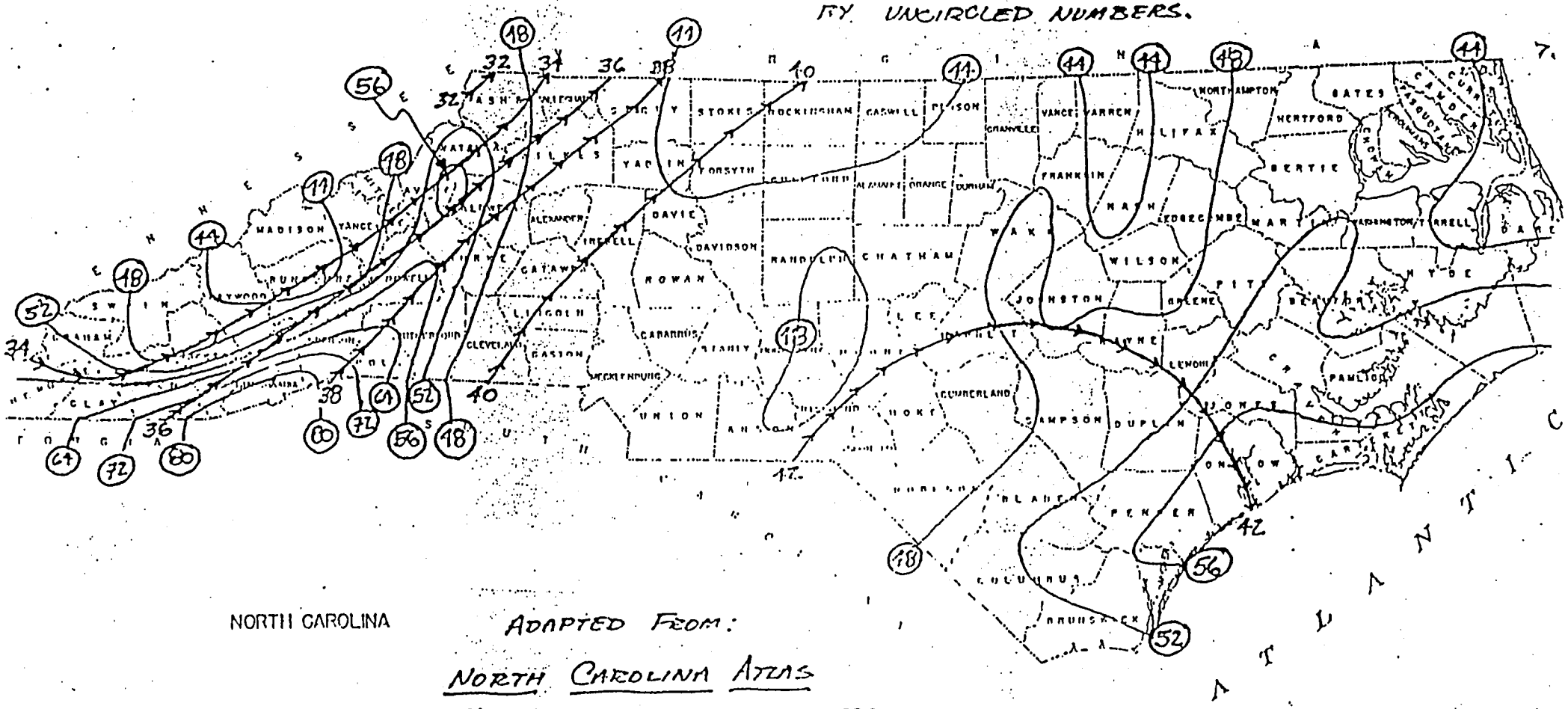
Source: U.S. Department of Commerce, *Climatic Summary of the U.S.,* 1972.

Note: Wind speeds are noted in miles per hour.

From: The North Carolina Atlas, The University of North Carolina Press, Chapel Hill, N.C. 1975

MEAN ANNUAL PRECIPITATION AND MEAN ANNUAL EVAPORATION

NOTE: PRECIPITATION ISOGRAMS ARE SOLID LINES (——) WITH INCHES OF RAINFALL GIVEN BY CIRCLED NUMBERS. EVAPORATION ISOGRAMS ARE NOTCHED LINES (—>—>—) WITH INCHES OF EVAPORATION GIVEN BY UNCIRCLED NUMBERS.



NORTH CAROLINA

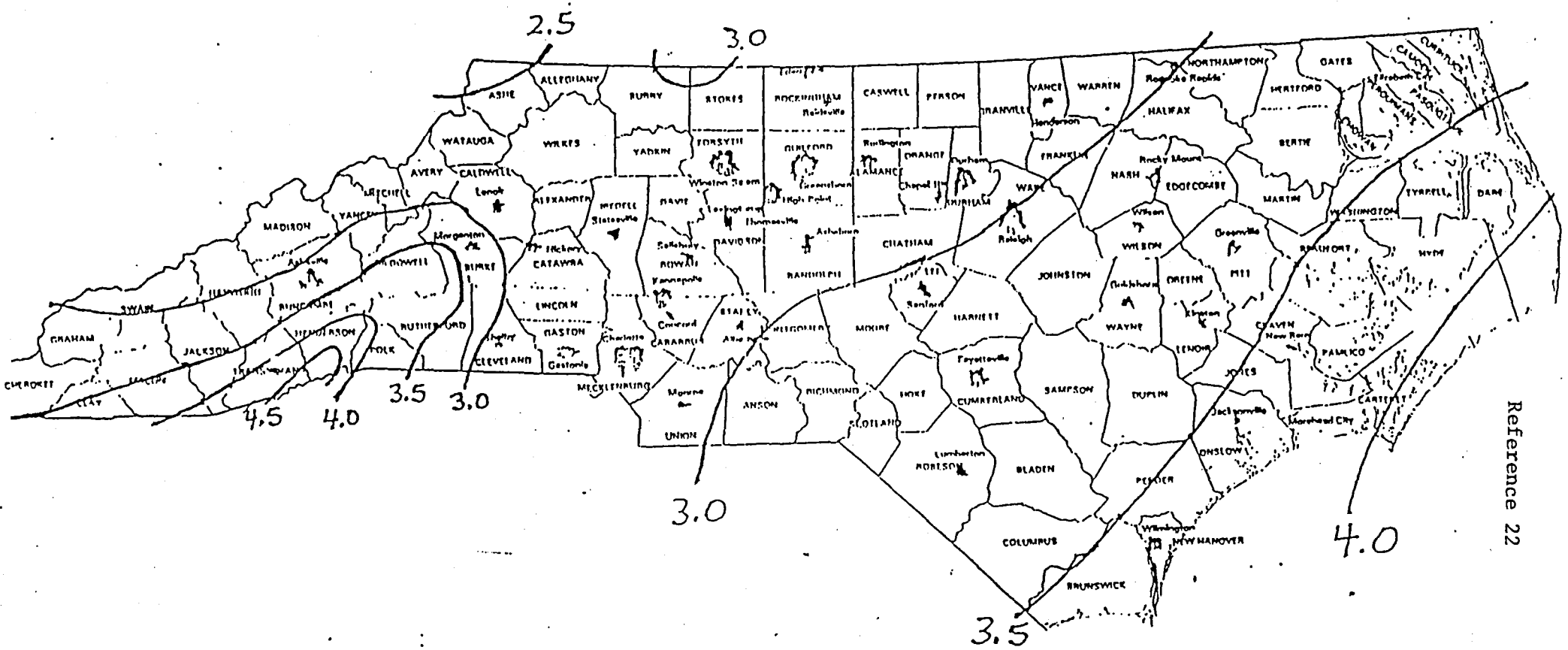
ADAPTED FROM:

NORTH CAROLINA ATLAS
THE UNIVERSITY OF NC PRESS,
CHAPEL HILL, NC, FIGURE
5.15 PAGE 101 AND FIGURE
5.20 PAGE 103.

ONE-YEAR 24-HOUR RAINFALL IN INCHES

SOURCE: RAINFALL FREQUENCY ATLAS OF THE UNITED STATES, TECH. PAPER NO. 40, U.S. DEPT. OF COMMERCE, U.S. GOV'T PRINTING OFFICE, WASHINGTON DC, 1963.

TAKEN FROM: UNCONTROLLED HAZARDOUS WASTE SITE RANKING SYSTEM A USERS MANUAL (HW-10) PAGE 33 FIG. 8



Reference 22

PUBLIC HEALTH
DIVISION OF HEALTH SERVICES
P. O. BOX 2091
RALEIGH, NORTH CAROLINA 27602

Reference 23

Fifth Edition, 1984

North Carolina State Government

Statistical Abstract

6/26/84 Comp Library

c.2 DH
c.3 AHS
unlabeled

North Carolina State Data Center

Research and Planning Services
Office of State Budget and Management

HA
552
N8
B09
1984

Table 16

POPULATION DENSITY AND LAND AREA BY COUNTY
1960, 1970 AND 1980

County	Density[a] 1960	Density[a] 1970	Density[a] 1980	1980 Land Area (Sq. Mi.)
State Total	93	104	120	48,843
Alamance	197	226	229	433
Alexander	61	75	97	259
Alleghany	34	36	41	234
Anson	47	44	48	533
Ashe	46	46	52	426
Avery	49	52	58	247
Beaufort	43	44	49	826
Bertie	35	29	30	701
Bladen	33	30	35	879
Brunswick	23	28	42	861
Buncombe	202	221	244	659
Burke	104	118	144	505
Cabarrus	189	206	236	364
Caldwell	104	121	144	471
Camden	23	23	24	241
Carteret	52	59	78	525
Caswell	46	45	49	427
Catawba	180	231	266	396
Chatham	38	42	47	708
Cherokee	36	36	42	452
Chowan	65	62	69	181
Clay	26	25	31	214
Cleveland	142	155	178	468
Columbus	52	50	54	939
Craven	81	89	101	702
Cumberland	225	324	376	657
Currituck	24	28	43	256
Dare	15	18	34	391
Davidson	146	174	207	548
Davie	63	71	92	267
Duplin	49	47	50	819
Durham	375	450	513	298
Edgecombe	106	103	111	506
Forsyth	447	513	592	412
Franklin	58	55	61	494
Gaston	355	417	455	357
Gates	27	25	26	338
Graham	22	22	25	289
Granville	61	61	64	534
Greene	62	56	61	266
Guilford	379	441	487	651
Halifax	82	73	76	724
Harnett	80	82	99	601
Haywood	73	76	84	555
Henderson	95	113	156	375
Hertford	64	69	66	356
Hoke	50	42	52	391
Hyde	9	9	9	624
Iredell	106	126	144	574
Jackson	36	44	53	490
Johnston	79	77	89	795
Jones	24	21	21	470
Lee	104	119	142	259
Lenoir	141	138	149	402
Lincoln	94	110	142	298
McDowell	61	70	80	437
Macon	29	31	39	517
Madison	38	36	37	451
Martin	56	54	56	461
Mecklenburg	502	669	766	528
Mitchell	63	63	65	222
Montgomery	38	39	46	490
Moore	48	55	72	701
Nash	111	109	124	540
New Hanover	370	449	559	185
Northampton	50	43	42	538
Onslow	114	135	148	763
Orange	108	144	193	400
Pamlico	29	28	31	341
Pasquotank	112	118	125	228
Pender	22	21	25	875
Perquimans	35	34	39	246
Person	66	65	73	398
Pitt	107	113	137	656
Polk	49	49	55	238
Randolph	77	96	116	789
Richmond	82	84	95	477
Robeson	94	89	107	949
Rockingham	122	127	147	569
Rowan	160	172	191	519
Rutherford	80	84	95	568
Sampson	50	48	53	947
Scotland	79	84	101	319
Stanly	102	108	123	396
Stokes	49	52	73	452
Surry	90	96	110	539
Swain	16	17	20	526
Transylvania	43	52	62	378
Tyrrell	11	10	10	407
Union	70	86	110	639
Vance	129	131	148	249
Wake	196	267	353	854
Warren	44	37	38	427
Washington	40	41	45	332
Watauga	55	74	101	314
Wayne	148	153	175	554
Wilkes	59	65	78	752
Wilson	155	153	169	374
Yadkin	68	73	85	336
Yancey	45	40	48	314

(a) Population per square mile of land area. Land area calculations for 1960 and 1970 differ slightly from those for 1980.

SOURCE: U.S. Department of Commerce, Bureau of the Census.
Office of State Budget and Management, Research and Planning Services.

4/25/89 GRID--0354130/0354840--0812330/0813250 PAGE 0001

PWID	PWMANAME	PWMAARCO	PWMAPNUM	PWPLSOC1	PWPLPOPL	PWPLACTV	PWPLTYPE	PWPLLAT1	PWPLLON1	
0112108	CRESTVIEW SUBD		0000000	G	000000100	A	C	0354300	0812630	
0112112	HOLLAR MHP	704	3272854	G	000000130	A	C	0354400	0812500	out of region
0112118	RIVERSIDE MHP		0000000	G	000000120	A	C	0354410	0812600	
0112121	WESTVIEW ACRES	704	4782785	G	000000090	A	C	0354500	0812400	out of region
0112124	BIG "T" COUNTRY PARK	704	3968933	G	000000080	A	C	0354515	0812650	
0112129	B & E MOBILE HOME PARK	704	3973198	G	000000120	A	C	0354515	0812616	
0112130	CLAY'S TRAILER PARK 2		0000000	G	000000140	A	C	0354225	0812625	
0112133	PINE MOUNTAIN LAKES DEV		0000000	G	000000100	A	C	0354418	0813115	
0114010	LENOIR WATER TRTMT PLT	704	3961006	S	000015200	A	C	0354700	0812900	
0114020	HUDSON TOWN OF		0000000	P	000003545	A	C	0354715	0812715	
0114025	BATON WATER CORPORATION	704	2287003	P	000004382	A	C	0354800	0812600	
0114030	GRANITE FALLS WATER TRTMT PLT	704	3963180	S	000002650	A	C	0354711	0812629	
0114035	RHODHISS, TOWN OF		0000000	P	000000800	A	C	0354630	0812545	
0114040	SAWMILLS, TOWN OF	704	3967903	P	000004340	A	C	0354715	0812715	
0114045	CALDWELL CO WATER SYSTEM WEST	704	7588451	P	000005400	A	C	0354711	0812907	
0114046	CALDWELL CO. WATER SYS SOUTH	704	7588451	P	000001500	A	C	0354700	0812900	
0114047	CALDWELL CO. WATER SYS. S.E.	704	7588451	P	000004500	A	C	0354711	0812907	
0114146	ESTES MOBILE HOME PARK	704	3965190	G	000000120	A	C	0354745	0812645	out of region
0114156	GREENBROOK S/D		0000000	G	000000040	A	C	0354735	0812635	out of region

G = ground
S = surface
P = purchased surface
W = purchased ground

Reference 24

4 June 1989

TO: File

FROM: Ed Wallingford, NC Superfund Branch

RE: Population served by ground water in the vicinity of Tramco, Inc. - NCD 067392175

The population served by ground water in the 3-mile and 4-mile regions of the Tramco, Inc. site was summed using a house count from a USGS topographic map and information from the NC Water Supply Branch. A conversion factor of 3.8 people/house was used in the house count; those served by water from a surface water supply were not include in the count. A summary is as follows:

Area	Residents	
- within 1- mile	581	
- within 2- miles	1478	(897 + 581)
- within 3-miles	2759	(1281 + 1478)
B & E MHP	+163	
Riverside MHP	+120	
Pine Mountain Lakes Development	+100	
Total	3142	
- within 4-miles	4616	(1474 + 3142)
Crestview S/D Water System	+100	
Clay's Trailer Park 2 Water System	+114	
Big "T" Country Park Water System	+ 84	
Westview Acres Water System	+ 76	
Total	4990	

28 April 1989

TO: File

From Ed Wallingford, NC Superfund Branch

RE: Telecons with Community Water System Operators in the Vicinity of Tramco, Inc.

The following information was obtained on community groundwater supplies in the vicinity of Tramco, Inc.:

- **Hollar MHP** - located at Rt 7 Box 293 Hickory which is adjacent to the Hickory Airport property on the Longview side; the two wells serves 43 connections; contact: Claude Hollar (704/327-2854) Note: out of 4-mile region

- **Westview Acres** - located on SR 1696 west of the Hickory Airport runway; the one well serves approximately 20 connections; contact: Mary Webber of Mid South Water Systems (704/478-2785)

- **Big "T" Country Park** - located off SR 1653 across from the Community Church (Rt. 7, Box 422 Hickory); the one well serves 22 connections; contact: Leslie Titus (704/396-8933)

- **B & E MHP** - located off Old Hwy 10 in Icard, between East Burke HS and Berea Baptist Church on the South side of US 40; the one well serves 24 connections; contact: Louisa Carver (704/397-3198)

- **Clays Trailer Park 2**- located at 1769 Dowell St. off of Old Hwy 10 exit in Hildebran; the well serves about 30 connections and is approximately 500 ft. deep; contact is Clay Dowell (704/397-3677)

DATE: 5 May 1989

TO: File

FROM: Ed Wallingford, NC Superfund Branch

RE: Telecons with water system operators in the Tramco vicinity.

- Valdese, NC - David Cook (704/879-2120) indicated that Valdese supplies the Triple Community, Rutherford College, Burke County, and Icard/Hildebran water systems. The intake for the town is located 4 or 5 miles above the Rhodhiss Dam. He stated that he would send a set of distribution maps (telecons April 21 and May 4, 1989).

- Rhodiss, NC - the town clerk (704/396-8400) indicated that Rhodhiss buys water from Granite Falls, NC. This system is not in the Tramco region (telecon April 21, 1989)

- Burke County Water System - Chuck Simmons (704/433-4022) stated that Burke County's only water line ran along US 70 from SR 1762 to Island Creek (telecon May 4, 1989).

- Icard Township Water Corporation - David Wortman (704/397-6294)indicated that he would outline the Icard water distribution lines if I would send him a map of the area of concern (telecon April 21, 1989).

Reference 28

PUBLIC HEALTH LIBRARY
DIVISION OF HEALTH SERVICES
P. O. BOX 2091
RALEIGH, NORTH CAROLINA 27602

THE MERCK INDEX

AN ENCYCLOPEDIA OF
CHEMICALS, DRUGS, AND BIOLOGICALS

TENTH EDITION

Martha Windholz, *Editor*
Susan Budavari, *Co-Editor*
Rosemary F. Blumetti, *Associate Editor*
Elizabeth S. Otterbein, *Assistant Editor*

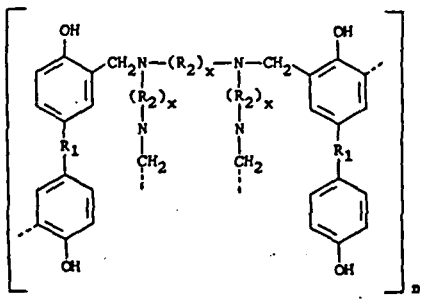
Published by
MERCK & CO., INC.
RAHWAY, N.J., U.S.A.

1983

QV
13
M555
1983
c.2

THERAP CAT: Poloxamer 182LF as pharmaceutic aid; 188 as cathartic.

7433. Polyamine-Methylene Resin. Resinat; Exorbin. Phenol condensation product with polyamines. An ion-exchange resin specially purified for medicinal use.



Light amber, granular, free-flowing powder. Insol in water, alcohol, ether, aq solns of acids and alkalies. Under the conditions of the old N.N.R. assay for acid-consuming capacity, not less than 50 ml 0.1 *N* hydrochloric acid is consumed by 0.2 g of the resin.

THERAP CAT: Antacid.

7434. Polybasite. $8Ag_2S.Sb_2S_3$—silver antimony sulfide.

7435. Polybenzarsol. *(4-Hydroxyphenyl)arsonic acid polymer with formaldehyde;* Benzodol. A polymeric mixture obtained by adding formaldehyde (40%) (0.116 mole) over a 3-hr period to *p*-hydroxybenzenearsonic acid (0.209 mole) in 180 g of 90% H_2SO_4 at 0-5° and keeping it cold for 21 hrs. Dilution of the mixture with H_2O precipitates the product: Faith, *J. Am. Chem. Soc.* **72**, 837 (1950). Description: Jones *et al., Antibiot. & Chemother.* **8**, 400 (1958).

White powder. Somewhat sol in water; sol in alcoholic NaOH. LD_{50} i.p. in mice: 235 mg/kg. No deaths after 4 g/kg i.g. in mice.

THERAP CAT: Antiprotozoal.

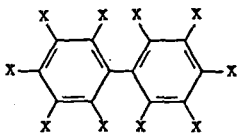
7436. Polybrominated Biphenyls. PBB's; brominated biphenyls; polybromobiphenyls. Mixtures with structures similar to polychlorinated biphenyls, *q.v.*, where each X = H or Br. Once widely used commercially. Prepn: H. Hahn *et al.*, Ger. pat. **1,161,547** (1964 to Chem. Fabrik Kalb); G. A. Burk, U.S. pat. **3,733,366** (1973 to Dow); L. C. Mitchell, D. R. Breckenridge, U.S. pats. **3,763,248** and **3,833,674** (1973, 1974 both to Ethyl Corp.). Persistence in soils: L. W. Jacobs *et al., J. Agr. Food Chem.* **24**, 1198 (1976). Photodegradation: L. O. Ruzo *et al., ibid.* 1062. Review of environmental hazards: K. Kay, *Environ. Res.* **13**, 74-93 (1977); F. J. DiCarlo *et al., Environ. Health Perspect.* **23**, 351-365 (1978).

Firemaster BP-6, major component is *2,2',4,4',5,5'-hexabromobiphenyl.* Softens at 72°, dec above 300°. Low vapor press; degraded by uv light. Very sol in benzene, toluene; insol in water.

Note: The 1973 "Michigan Incident" in which BP-6 was accidentally added to animal feed, and resulted in widespread destruction of contaminated farm animals, led to the removal of BP-6 from the market: L. J. Carter, *Science* **192**, 240 (1976).

USE: Flame retardant.

7437. Polychlorinated Biphenyls. PCBs; chlorinated biphenyls; chlorobiphenyls; Aroclor; Clophen; Fenclor; Kanechlor; Phenoclor; Pyralene; Santotherm. Once widely used industrial chemicals whose high stability contributed to both their commercial usefulness and their long-term deleterious environmental and health effects. Early synthesis: H. Schmidt, G. Schulz, *Ann.* **207**, 338 (1881). Commercially available since 1930: C. Penning, *Ind. Eng. Chem.* **22**, 1180 (1930). Commercial PCBs are mixtures. The Aroclors are characterized by four digit numbers. The first two digits indicate that the mixture contains biphenyls (12), triphenyls (54) or both (25, 44); the last two digits give the weight percent of chlorine in the mixture (e.g. Aroclor 1242 contains biphenyls with approx 42% chlorine). Reviews of environmental impact and toxicity: L. Fishbein, *Ann. Rev. Pharmacol.* **14**, 139-156 (1974); R. D. Kimbrough, *CRC Crit. Rev. Toxicol.* **2**, 445-498 (1974); *National Conference on Polychlorinated Biphenyls,* Nov. 19-21, 1975 (EPA-560/6-75-004, 1976) 487 pp. Accumulation of airborne PCBs in foliage: E. H. Buckley, *Science* **216**, 520 (1982). *Reviews:* H. L. Hubbard in *Kirk-Othmer Encyclopedia of Chemical Technology* vol. **5** (Interscience, New York, 2nd ed., 1964) pp 289-297; O. Hutzinger *et al., The Chemistry of PCB's* (CRC Press, Cleveland, Ohio, 1974) 269 pp; J. W. Lloyd *et al., J. Occup. Med.* **18**, 109-113 (1976). Review of carcinogenicity studies: *IARC Monographs* **18**, 43-103 (1978).



X = H or Cl

Aroclor 1242, clear, mobile liquid; av. number Cl/molecule: 3.10. d_4^{25} 1.381, $d_4^{15.5}$ 1.392. Distillation range 325-366°. Flash point (open cup) 348-356°F. n_D^{20} 1.627-1.629. Dielectric constant (1000 cycles) 5.6 (25°), 4.9 (100°).

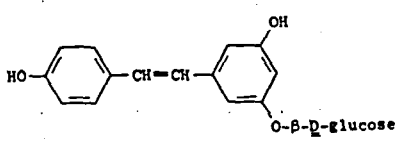
Aroclor 1254, light yellow, viscous liquid; av. number Cl/molecule: 4.96. d_4^{65} 1.495; $d_4^{15.5}$ 1.505. Distillation range 365-390°. No open cup flash point to boiling. n_D^{20} 1.629-1.641. Dielectric constant (1000 cycles) 5.0 (25°), 4.3 (100°). LD_{50} orally in weanling rats: 1295 mg/kg, Kimbrough, *loc. cit.*

Aroclor 1260, light yellow, soft, sticky resin; av. number Cl/molecule: 6.30. d_4^{90} 1.555; $d_4^{15.5}$ 1.566. Distillation range 385-420. No open cup flash point to boiling. n_D^{20} 1.647-1.649. Dielectric constant (1000 cycles) 4.3 (25°); 3.7 (100°). LD_{50} orally in weanling rats: 1315 mg/kg, Kimbrough, *loc. cit.*

Caution: Toxic effects in humans include chloracne, pigmentation of skin and nails, excessive eye discharge, swelling of eyelids, distinctive hair follicles, gastrointestinal disturbances. In Japan, accidental contamination of rice bran oil with Kanneclor 400 led to an outbreak of what became known as "Yusho disease", *see* M. Kuratsune *et al.,* in EPA-560/6-75-004, *loc. cit.,* p 14. Toxic symptoms in animals include hepatocellular carcinoma, hypertrophy of the liver, adenofibrosis, weight and hair loss, mouth and eyelid edema, acneform lesions, decreased hemoglobin + hematocrit, gastric mucosal ulceration and reduced ability to reproduce. These substances have been listed as carcinogens by the EPA: *Second Annual Report on Carcinogens* (NTP 81-43, Dec. 1981) pp 206-209.

USE: In electrical capacitors, electrical transformers, vacuum pumps, gas-transmission turbines. Formerly used in U.S. as hydraulic fluids, plasticizers, adhesives, fire retardants, wax extenders, dedusting agents, pesticide extenders, inks, lubricants, cutting oils, in heat transfer systems, carbonless reproducing paper.

7438. Polydatin. *3-Hydroxy-5-[2-(4-hydroxyphenyl)ethenyl]phenyl-β-D-glucopyranoside; 3-hydroxy-5-(p-hydroxystyryl)phenyl glucoside;* 3,4',5-trihydroxystilbene-3-β-D-glucoside; resveratrol-3-β-mono-D-glucoside; piceid. $C_{20}H_{22}O_8$; mol wt 390.40. C 61.53%, H 5.68%, O 32.79%. Isoln from fresh root of *Polygonum cuspidatum* Sieb. & Zucc., *Polygonaceae,* and structure: Nonomura *et al., Yakugaku Zasshi* **83**, 988 (1963).



Trihydrate, crystals, mp 225-226°. $[\alpha]_D^{27}$ −74.9° (c = 1.709 in ethanol).

Reference 29

Dangerous Properties of Industrial Materials

Sixth Edition

N. IRVING SAX

Assisted by:

Benjamin Feiner/Joseph J. Fitzgerald/Thomas J. Haley/Elizabeth K. Weisburger

4-9-85 $198.00 SIAM (2.C.)

WIT
5329
1984
c.2

VAN NOSTRAND REINHOLD COMPANY
New York

Products of combustion of polyamide-6 in furnace maintained at 800 degrees centigrade (APFRAD 35,461,77)

TOXICITY DATA: 3 CODEN:
ihl-mus LC50:23 mg/m3/10M APFRAD 35,461,77

Reported in EPA TSCA Inventory, 1980.
THR: HIGH ihl.

POLYAMINE D

NIOSH #: TQ 0525000

TOXICITY DATA: 2 CODEN:
skn-rbt 500 mg open MLD UCDS** 4/1/64
eye-rbt 50 mg SEV UCDS** 4/1/64
orl-rat LD50:2590 mg/kg UCDS** 4/1/64
skn-rbt LD50:880 mg/kg UCDS** 4/1/64

THR: MOD orl, skn. Skn and eye irr.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

POLYAMINE T

NIOSH #: TQ 0600000

TOXICITY DATA: 3-1 CODEN:
skn-rbt 500 mg open MLD UCDS** 7/16/65
orl-rat LD50:7460 mg/kg UCDS** 7/16/65
skn-rbt LD50:20 mg/kg UCDS** 7/16/65

THR: HIGH skn; LOW orl. A skn irr.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

beta-POLY(1,3-BUTADIENE)STYRENE, COPOLYMER

CAS RN: 9003558 NIOSH #: WL 6000000

SYN: KOPOLYMER BUTADIEN STYRENOVY (CZECH)

TOXICITY DATA: 2 CODEN:
eye-rbt 500 mg/24H MOD 28ZPAK -,257,72

Reported in EPA TSCA Inventory, 1980.
THR: An eye irr.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

POLYCHLORINATED BIPHENYLS

CAS RN: 1336363 NIOSH #: TQ 1350000

Bp: 340°-375°, flash p: 383°F (COC), d: 1.44 @ 30°. For toxicity information, see individual mixtures below. A series of technical mixtures consisting of many isomers and compounds that vary from mobile oily liquids to white crystalline solids and hard noncrystalline resins. Technical products vary in composition, in the degree of chlorination and possibly according to batch (IARC** 7,262,74).

SYNS:
AROCLOR
CHLOPHEN
CHLORINATED BIPHENYL
CHLORINATED DIPHENYL
CHLORINATED DIPHENYLENE
CHLOREXTOL
CHLORO BIPHENYL
CHLORO-1,1-BIPHENYL
CLOPHEN
KANECHLOR S
NOFLAMOL
PCBS
PHENOCHLOR
POLYCHLORINATED BIPHENYL
POLYCHLOROBIPHENYL
PYRALENE
PYRANOL
SANTOTHERM
THERMINOL FR-1

TOXICITY DATA:
Carcinogenic Determination: Human Suspected IARC** 18,43,78. *Toxicology Review:* EVHPAZ 1,105,72; JOCMA7 18,109,76; FEPRA7 34,1675,75; ARVPAX 14,139,74; ARPAAQ 94,125,72; CHRYAQ 49(4), 14,76; STEVA8 2(4),305,74; BISNAS 20,958,70; 27ZTAP 3,34,69. Occupational Exposure to Polychlorinated Biphenyls recm std: Air: TWA 1.0 ug/m3 NTIS**. "NIOSH Manual of Analytical Methods" VOL 1 244,253, VOL 2 S121, VOL 4 S120*. NIOSH Current Intelligence Bulletin 7, 1975. Reported in EPA TSCA Inventory, 1980. EPA TSCA 8E No: 07780209-Followup Reply Received as of April, 1979.
THR: A susp hmn CARC. HIGH-MOD acute orl, ihl, skn. Also causes a chloracne. Like the chlorinated naphthalenes, the chlorinated diphenyls have two distinct actions on the body, namely, a skn effect and a toxic action on the liver. The lesion produced in the liver is an acute yellow atrophy. This hepato toxic action of the chlorinated diphenyls appears to be increased if there is exposure to carbon tetrachloride at the same time. The higher the chlorine content of the diphenyl compound, the more toxic is it liable to be. Oxides of chlorinated diphenyls are more tox than the unoxidized materials. The skin lesion is known as chloracne, and consists of small pimples and dark pigmentation of the exposed areas, initially. Later, comedones and pustules develop. In persons who have suffered systematic intoxication, the usual signs and symptoms are nausea, vomiting, loss of weight, jaundice, edema and abdominal pain. Where the liver damage has been severe the patient may pass into coma and die.
Fire Hazard: Slight, when exposed to heat or flame.
Disaster Hazard: Dangerous; when heated to decomp, they emit highly tox fumes.
For further information see PCB's, Vol. 3, No. 4 of *DPIM Report.*

POLYCHLORINATED BIPHENYL (AROCLOR 1221)

CAS RN: 11104282 NIOSH #: TQ 1352000

SYNS:
AROCHLOR 1221
CHLORODIPHENYL (21% Cl)

TOXICITY DATA: 2 CODEN:
orl-rbt LD50:3980 mg/kg ARVPAX 14,139,74
skn-rbt LDLo:3169 mg/kg ARVPAX 14,139,74

Carcinogenic Determination: Human Suspected IARC** 18,43,78. *Toxicology Review:* ARVPAX 14,139,74; RREVAH 44,1,73; STEVA8 2(4),305,74; BISNAS 20,958,70. Occupational Exposure to Polychlorinated Biphenyls recm Std: Air: TWA 1.0 ug/m3 NTIS**.
THR: MOD orl, skn. Susp hmn CARC. See also PCB's.
Disaster Hazard: When heated to decomp it emits tox fumes of Cl^-.

Reference 30

NORTH CAROLINA HEALTH DEPARTMENT
DIVISION OF HEALTH SERVICES
P.O. BOX 2091
RALEIGH, NORTH CAROLINA 27602

9-5-85 $48.00 EH.S/HW (M.G.

Casarett and Doull's TOXICOLOGY

The Basic Science of Poisons

SECOND EDITION

Macmillan Publishing Co., Inc.
New York

Collier Macmillan Canada, Inc.
Toronto

Collier Macmillan Publishers
London

QV
600
C33
1980
c.3

As yet, there is no generally accepted substitute for the use of chlorine as a disinfectant in water purification. However, the confirmation that chlorination produces a number of halogenated hydrocarbons has stimulated an extensive investigation of other chemicals that could be used for this purpose, such as chloramines, chlorine dioxide, ozone, bromine, and iodine.

The seriousness of the concern about low-molecular-weight halogenated hydrocarbons in drinking water is illustrated by the situation that developed in mid-1970s with respect to the water supply of the city of New Orleans, Louisiana. In 1975 Dowty *et al.* (1975) reported that the tap water in New Orleans contained more chlorinated hydrocarbons than untreated Mississippi River water. In addition, these workers reported the presence of chlorinated hydrocarbons, including carbon tetrachloride, in blood plasma collected from human volunteers in New Orleans. Following that report Page *et al.* (1976) reported a statistical correlation between the incidence of cancer among the New Orleans population and the source of the water supply. They noted that the cancer mortality rate was 15 percent higher among white males who drank water from the Mississippi River than among those who obtained their water from wells. They compared the percentage of the individual parish populations drinking water from the Mississippi River or its distributaries with total cancer incidence, cancer of the urinary organs, and cancer of the gastrointestinal organs, for four subgroups of the population—white males, nonwhite males, white females, and nonwhite females. The regression coefficients on mortality rates were significantly higher for all groups of the population with respect to cancer of the gastrointestinal organs, with all groups except white females for total cancer, and for white males and nonwhite females for cancer of the urinary organs. The analysis also included consideration of the effects that degree of urbanization, income, and certain occupational exposures could have had on cancer mortality; no relationship could be established for these variables. Other variables such as smoking, diet, alcohol consumption, and air pollution were not considered because the necessary data were unavailable.

While statistical studies cannot by themselves establish causality, the authors concluded that they support the hypothesis that there is a link between chlorinated hydrocarbons in drinking water in New Orleans and cancer mortality. These data coincided with the consideration in the United States Congress of the Safe Drinking Water Act of 1974 and provided a dramatic backdrop to the passage of this legislation.

Aromatic Halogenated Hydrocarbons

In recent years a number of halogenated aromatic compounds have engendered increasing concern about their effects as environmental pollutants. The polychlorinated biphenyls (PCB) have appeared as ubiquitous contaminants of soil and water. Chlorophenols used for a variety of purposes have been detected in surface waters and drinking water. The extremely toxic 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (TCDD) has contaminated large areas of both water and soil through industrial accidents and through wide-scale application of herbicides containing small quantities of the chemical as a contaminant.

Polychlorinated Biphenyls. PCBs are very stable materials of low flammability, which contain from 12 to 68 percent chlorine. They are exceptionally persistent in the environment, even more persistent than the chlorinated hydrocarbon insecticides, with which they often have been confused in analytic studies of environmental samples. They have been used as insulating materials in electrical capacitors and transformers, plasticizers in waxes, in paper manufacturing, and for a variety of other industrial purposes. The diversity of their use patterns, the large quantities used, and their stability have led to widespread occurrence of these compounds in soil and water. Fish from the upper Hudson River and Lake Ontario have been found to contain PCB concentrations from 5 to 20 ppm. Fish from a number of other rivers throughout the United States have also been found to contain comparable quantities of PCBs. Waterfowl have also accumulated high concentrations of PCBs. These examples of PCB pollution have occurred in spite of efforts to restrict and eventually eliminate the release of such compounds into the environment.

The health effects of PCBs are well established. Investigations have shown that PCBs interfere with reproduction in phytoplankters (Mosser *et al.*, 1972). Other observed effects in mammals and birds include microsomal enzyme induction, porphyrogenic action, estrogenic activity, and immunosuppression (Bitman, 1972; Vos, 1972). Other adverse effects are possible since the PCBs are lipophilic, a property, along with their stability, that leads to bioaccumulation and the possibility of long-term effects that have not been completely identified.

Chlorophenols. Pentachlorophenol has been used in significant quantities since 1936 as a wood preservative. As a result of this use surface water and treated drinking water have been found to contain as much as 0.70 and 0.06 ppb, respectively, of pentachlorophenol (Buhler *et al.*, 1973). Hexachlorophene (2,2′-methylene-*bis*-[3,4,6-trichlorophenol]) has been widely used as an antibacterial agent in a number of consumer products, including soaps and deodorants. It has been detected in surface waters as high as 48 ppb and in drinking water at 0.01 ppb (Buhler *et al.*, 1973). Hexachlorophene is resistant to metabolic attack and tends to persist in the environment and

PUBLIC HEALTH LIBRARY
DIVISION OF HEALTH SERVICES
P. O. BOX 2091
RALEIGH, NORTH CAROLINA 27602
Reference-31

12.15.88 52.95 Supplies

Hawley's Condensed Chemical Dictionary

ELEVENTH EDITION

Revised by

N. Irving Sax
and
Richard J. Lewis, Sr.

Reg 18-4744 c.15

VNR VAN NOSTRAND REINHOLD COMPANY
New York

trichloroacetic acid. (TCA). CAS: 76-03-9.
CCl_3COOH.
Properties: Deliquescent, colorless crystals; sharp, pungent odor; d 1.6298; mp 57.5C; bp 197.5C; soluble in water, alcohol, and ether; flash p none. Nonflammable.
Derivation: (a) Treating chloral hydrate with fuming nitric acid, (b) from glacial acetic acid by the action of chlorine in presence of sunlight, UV radiation, or catalysts.
Grade: Technical, CP, USP.
Hazard: Toxic by ingestion and inhalation, strong irritant to skin and tissue. TLV: 7 mg/m³ of air.
Use: Organic synthesis, reagent for detection of albumin, medicine, pharmacy, herbicides.

trichloroacetonitrile. CAS: 545-06-2.
CCl_3CN.
Properties: Colorless liquid, bp 85C, d 1.44, refr index 1.440.
Derivation: Reaction of methylnitrile, hydrochloric acid, and chlorine.
Hazard: Strong irritant to tissue.
Use: Insecticide.

trichloroacetyl chloride. CCl_3COCl.
Properties: Liquid, d 1.654 (0/4C), bp 118C, decomposes in water, soluble in alcohol.
Hazard: Toxic by ingestion and inhalation, strong irritant to skin and tissue.

S-2,3,3-trichloroallyl-N,N-diisopropylthiolcarbamate. CAS: 2303-17-5.
$[(CH_3)_2CH]_2NC(O)SCH_2CCl{:}CCl_2$.
Properties: Oily liquid; bp 148–149C (9 mm); mp 29–30C; practically insoluble in water; soluble in alcohol, acetone, ether, and heptane. Combustible.
Use: Herbicide.

trichloro-o-anisic acid. See tricamba.

2,4,6-trichloroanisole. CAS: 87-40-1.
$C_7H_5Cl_3O$.
Properties: Acicular crystals; mp 60C; bp 240C (238 mm); insoluble in water; soluble in benzene, methanol, and dioxane; gradually sublimes at room temperature.
Use: Dyeing auxiliary for polyester fabrics.

1,2,3-trichlorobenzene. CAS: 87-61-6.
$C_6H_3Cl_3$.
Properties: White crystals, d (solid) 1.69, refr index 1.5776 (19C), bp 221C, mp 52.6C, insoluble in water, slightly soluble in alcohol, soluble in ether, flash p 235F (112.7C) (CC). Combustible.
Hazard: Toxic by ingestion and inhalation.
Use: Organic intermediate.

1,2,4-trichlorobenzene. CAS: 120-82-1.
$C_6H_3Cl_3$.
Properties: Colorless, stable liquid, odor similar to that of o-dichlorobenzene, miscible with most organic solvents and oils, insoluble in water, d 1.4634 (25C), bp 213C, mp 17C, flash p 210F (98.9C). Combustible.
Derivation: Chlorination of monochlorobenzene.
Grade: Technical, 99%, mixture of 1,2,4- and 1,2,3-isomers distilling at 213–219C.
Hazard: Toxic by ingestion and inhalation. TLV: CL of 5 ppm in air.
Use: Solvent in chemical manufacturing, dyes and intermediates, dielectric fluid, synthetic transformer oils, lubricants, heat-transfer medium, insecticides.

2,3,6-trichlorobenzyloxypropanol.
$(Cl)_3C_6H_2CH_2OCH_2CH(CH_3)OH$.
Properties: Liquid, bp 121–124C (0.1 mm), almost insoluble in water, soluble in most organic solvents. Combustible.
Hazard: Toxic by ingestion and inhalation.
Use: Herbicide.

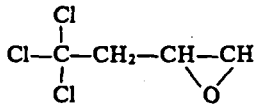
1,1,1-trichloro-2,2-bis(chlorophenyl)ethane. See DDT.

1,1,1-trichloro-2,2-bis(p-methoxyphenyl)ethane. See methoxychlor.

B-trichloroborazole. $\overline{BClNHBClNHBClN}H$.
Properties: White, crystalline solid; mp 84.5–85.5C; bp 96.5–98C/37 mm; soluble in many organic solvents; highly reactive.
Use: Intermediate, gelling agent, catalyst complexing agent.

trichlorobromomethane. See bromotrichloromethane.

trichlorobutylene oxide. (TCBO).



A reactive liquid epoxide used as an organic solvent and surfactant intermediate; its polymers can be used for polyester, polyurethane, and polyacrylic resins, polyether polyols, flame retardants, etc.

trichlorobutyraldehyde hydrate. See butyl chloral hydrate.

3,4,4'-trichlorocarbanilide.
$C_6H_3Cl_2NHCONHC_6H_4Cl$.
Properties: Heat-resistant white powder, mp 250C.

COUNTY Burke

QUAD NO. K73 VI SERIAL NO. BK2387

LAT. 35 45 10 LONG 81 23 20

RECEIVED DIVISION OF ENVIRONMENTAL MANAGEMENT JUN 29 1987 MOORESVILLE REGIONAL OFFICE

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

Shipped by: Bus, Courier, Other

COLLECTOR(S): Kimzey/Wells DATE 6/5/87 TIME 1205 PURPOSE: BASELINE, COMPLAINT, COMPLIANCE, LUST, OTHER (circle one)

N.C. DEPARTMENT OF NATURAL RESOURCES & COMMUNITY DEVELOPMENT

DEM

GROUNDWATER FIELD/LAB FORM

SAMPLE PRIORITY

☐ ROUTINE ☐ EMERGENCY

LAB NUMBER 8 76 071

DATE RECEIVED 6/5/87 Time 9:00

Rec'd by: JD From: Bus Courier

Other

DATA ENTRY BY: CK: PV

DATE REPORTED: 6-19-87

FIELD ANALYSES

pH_{400} ____ Spec. Cond. 94 ____ at 25°C

Temp. 10 ____ °C Odor ____

Appearance Clear Taste ____

Field Analysis By: ____

Owner MR. MUNDAY

Location or site 0.2 mi N of the junc. of SR 1614 & 1611 on SR 1611

Description of sampling point Tap @ well

Sampling Method ____ (pump, bailer, etc.) Sample Interval UNKNOWN

Remarks 24" DOM BORED WELL - PRELIMINARY INVEST (pumping time, air temp, etc.)

LABORATORY ANALYSES

	BOD_5 310	mg/l
	COD High 340	mg/l
	COD Low 335	mg/l
	Coliform:MF Fecal 31616	/100ml
	Coliform:MF Total 31504	/100ml
	TOC 680	mg/l
	Turbidity 76	NTU
	pH 403	units
	Alkalinity to pH 4.5 410	mg/l
	Alkalinity to pH 8.3 415	mg/l
	Carbonate 445	mg/l
	Bicarbonate 440	mg/l
	Arsenic:Total 1002	ug/l
	Carbon dioxide 405	mg/l
	Chloride 940	mg/l
	Chromium:Hex 1032	ug/l
	Color:True 80	Pt-Co
	Cyanide 720	mg/l

	Diss. Solids 70300	mg/l
	Fluoride 951	mg/l
	Hardness:Total 900	mg/l
	Hardness (non-carb) 902	mg/l
	Phenols 32730	ug/l
	Specific Cond. 95	uMhos/cm²
	Sulfate 945	mg/l
	Sulfide 745	mg/l
	NH_3 as N 610	mg/l
	TKN as N 625	mg/l
	$NO_2 + NO_3$ as N 630	mg/l
	P:Total as P 665	mg/l

	Ag - Silver 1077	ug/l
	Al - Aluminum 1105	ug/l
	Ba - Barium 1007	ug/l
	Ca - Calcium 916	mg/l
	Cd - Cadmium 1027	ug/l
	Chromium:Total 1034	ug/l
	Cu - Copper 1042	ug/l
	Fe - Iron 1045	ug/l
	Hg - Mercury 71900	ug/l
	K - Potassium 937	mg/l
	Mg - Magnesium 927	mg/l
	Mn - Manganese 1055	ug/l
	Na - Sodium 929	mg/l
	Ni - Nickel 1067	ug/l
	Pb - Lead 1051	ug/l
	Se - Selenium 1147	ug/l
	Zn - Zinc 1092	ug/l

	Organochlorine Pesticides
	Organophosphorus Pesticides
	Acid Herdicides
	Base / Neutral Extractable Organics
	Acid Extractable Organics
	Purgeable Organics (VOA bottle)
	1,2 - Dibromoethane (EDB)
✓	Please Test for PCB
	Aroclor 1242 <1.2 µg/l

RECEIVED MAY 18 1989 SUPERFUND BRANCH

Lab Comments:

GW-54 Revised 7/85

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

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

Reference 32

SI FORM

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NC	D148522055

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Tramco, Inc.	Route 3, Box 409 (SR1611)

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Connelly Springs	NC	28617	Burke	12	10

09 COORDINATES LATITUDE	LONGITUDE	10 TYPE OF OWNERSHIP (Check one)
35 45 15	81 28 30	☒ A. PRIVATE ☐ B. FEDERAL ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL ☐ F. OTHER ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION (MONTH, DAY, YEAR)	02 SITE STATUS	03 YEARS OF OPERATION (BEGINNING YEAR / ENDING YEAR)
3 / 16 / 89	☒ ACTIVE ☐ INACTIVE	1985 / present ___ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)

☐ A. EPA ☐ B. EPA CONTRACTOR ___ (Name of firm) ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR ___ (Name of firm)
☒ E. STATE ☐ F. STATE CONTRACTOR ___ (Name of firm) ☐ G. OTHER ___ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
Ed Wallingford	Environmental Chemist	NC Superfund	(919) 733-2801

09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
Grover Nicholson	Geologist	NC Superfund	(919) 733-2801
			( )
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
Bob Windmiller	Plant Manager	Rt. 3, Box 409, Connelly Springs	(704) 874-4191
			( )
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☒ PERMISSION ☐ WARRANT	11:00	Sunny, High 60's

INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Kenneth G. Zion	Tramco, Inc., President	(704) 874-4191

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE (MONTH DAY YEAR)
Ed Wallingford	NC DHR/DHS	NC Superfund Br.	919-7330280	4 / 27 / 89

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NC	D148522055

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- ☐ A. SOLID
- ☐ B. POWDER, FINES
- ☐ C. SLUDGE
- ☐ D. OTHER _____ (Specify)
- ☐ E. SLURRY
- ☒ F. LIQUID
- ☐ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS _____
CUBIC YARDS unknown
NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

- ☒ A. TOXIC
- ☐ B. CORROSIVE
- ☐ C. RADIOACTIVE
- ☒ D. PERSISTENT
- ☐ E. SOLUBLE
- ☐ F. INFECTIOUS
- ☐ G. FLAMMABLE
- ☐ H. IGNITABLE
- ☐ I. HIGHLY VOLATILE
- ☐ J. EXPLOSIVE
- ☐ K. REACTIVE
- ☐ L. INCOMPATIBLE
- ☐ M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE	unknown		PCB contaminated oil possibly
SOL	SOLVENTS			leaked from transformers and
PSD	PESTICIDES			possibly in waste rinse water
OCC	OTHER ORGANIC CHEMICALS			from floor cleaning.
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
OLW	PCBs (1260)	1336-36-3	in transformers		
OCC	1,2,4 trichlorobenzene	120-82-1			
OCC	Naphthalene	91-20-3			
OCC	Benzo(k)fluoranthene	--			
OCC	Benzo(a)pyrene	50-32-8			
OCC	Benzo(g,h,i)perylene	--			
OCC	2-methyl napthalene	--			

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

NC Superfund Branch Permanent files
USGS Topographic Map: Drexel, Valdese, Longview, Granite Falls Quadrangles

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NC	D148522055

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 3142 — 04 NARRATIVE DESCRIPTION

within 3 miles

Possible migration through soil column into groundwater.

01 ☐ B. SURFACE WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Possible migration into Drowning Creek, located 0.9 miles from site.

01 ☐ C. CONTAMINATION OF AIR — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Not suspected.

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Not suspected.

01 ☐ E. DIRECT CONTACT — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Minimal

01 ☒ F. CONTAMINATION OF SOIL — 02 ☒ OBSERVED (DATE: 3-16-89) — ☐ POTENTIAL — ☒ ALLEGED
03 AREA POTENTIALLY AFFECTED: unknown (Acres) — 04 NARRATIVE DESCRIPTION

PCBs detected in two soil samples at 45.0 ug/kg and 1604.0 ug/kg.

01 ☐ G. DRINKING WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Not suspected.

01 ☐ H. WORKER EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Not suspected.

01 ☐ I. POPULATION EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Not suspected.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NC	D148522055

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☒ J. DAMAGE TO FLORA — 02 ☒ OBSERVED (DATE: 3-16-89) — ☐ POTENTIAL — ☒ ALLEGED
04 NARRATIVE DESCRIPTION

Some minor grass death at discolored soil areas.

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)

Not suspected.

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Not suspected.

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES (Spills/Runoff/Standing liquids, Leaking drums) — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

Not suspected.

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Not suspected.

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Not suspected.

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Not suspected.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

As previously cited.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NC	D148522055

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☐ A. NPDES				
☐ B. UIC				
☐ C. AIR				
☐ D. RCRA				
☐ E. RCRA INTERIM STATUS				
☐ F. SPCC PLAN				
☐ G. STATE (Specify)				
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
☐ J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☐ A. SURFACE IMPOUNDMENT		
☐ B. PILES		
☐ C. DRUMS, ABOVE GROUND		
☐ D. TANK, ABOVE GROUND		
☐ E. TANK, BELOW GROUND		
☐ F. LANDFILL		
☐ G. LANDFARM		
☐ H. OPEN DUMP		
☒ I. OTHER (Specify) Transformers on pallets		

04 TREATMENT (Check all that apply)

- ☐ A. INCENERATION
- ☐ B. UNDERGROUND INJECTION
- ☐ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- ☐ E. WASTE OIL PROCESSING
- ☐ F. SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☐ H. OTHER _____ (Specify)

05 OTHER

☒ A. BUILDINGS ON SITE

one

06 AREA OF SITE

8.7 (Acres)

07 COMMENTS

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☐ A. ADEQUATE, SECURE ☐ B. MODERATE ☐ C. INADEQUATE, POOR ☒ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

Non-PCB transformers stored uncovered on pallets outside.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☐ YES ☐ NO

02 COMMENTS

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

As previously cited.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NC	D148522055

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

	SURFACE	WELL
COMMUNITY	A. ☐	B. ☒
NON-COMMUNITY	C. ☐	D. ☐

02 STATUS

ENDANGERED	AFFECTED	MONITORED
A. ☒	B. ☐	C. ☐
D. ☐	E. ☐	F. ☐

03 DISTANCE TO SITE

A. 2.7 (mi)
B. _____ (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☒ A. ONLY SOURCE FOR DRINKING
☐ B. DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available)
☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available)
☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER _____

03 DISTANCE TO NEAREST DRINKING WATER WELL _____ (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
23-62 (ft)	unknown	_____ (ft)	unknown (gpd)	☒ YES ☐ NO

09 DESCRIPTION OF WELLS (Including usage, depth, and location relative to population and buildings)

10 RECHARGE AREA
☐ YES
☐ NO
COMMENTS

11 DISCHARGE AREA
☐ YES
☐ NO
COMMENTS

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

☒ A. RESERVOIR, RECREATION DRINKING WATER SOURCE
☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES
☐ C. COMMERCIAL, INDUSTRIAL
☐ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Drowning Creek	☐	0.9 (mi)
Catawba River	☐	6.2 (mi)
	☐	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. 452 NO. OF PERSONS	B. 1810 NO. OF PERSONS	C. 4071 NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION
unknown (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE
unknown

04 DISTANCE TO NEAREST OFF-SITE BUILDING
0.06 (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, suburban, urban site)

The site resides in NE Burke County. The immediate area around the site is mostly rural residential and agricultural. The site is surrounded by single family dwellings.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NC	D148522055

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. $10^{-6} - 10^{-8}$ cm/sec ☒ B. $10^{-4} - 10^{-6}$ cm/sec ☐ C. $10^{-4} - 10^{-3}$ cm/sec ☐ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☒ B. RELATIVELY IMPERMEABLE ($10^{-4} - 10^{-6}$ cm/sec) ☐ C. RELATIVELY PERMEABLE ($10^{-2} - 10^{-4}$ cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
unknown (ft)	surface (ft)	unknown

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
11 (in)	3 (in)	< 3 %	SE	< 3 %

09 FLOOD POTENTIAL

SITE IS IN _____ YEAR FLOODPLAIN

10 ☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE — A. _____ (mi)

OTHER — B. _____ (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

> 15 (mi)

ENDANGERED SPECIES: _____

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AGRICULTURAL LANDS: AG LAND
A. _____ (mi)	B. _____ (mi)	C. _____ (mi)	D. _____ (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

Topography is characterized by residual hills that stand above the peneplain; these hills are separated by broad valleys. The site resides at an elevation of about 1200 feet above MSL. Elevation within 3 miles of the site range from 1000 ft. to 1581 ft.

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

As previously cited.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NC	D148522055

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER	3	NC DHR/DHS Public Health Lab	now
SURFACE WATER			
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL	7	NC DHR/DHS Public Health Lab	
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☐ GROUND ☐ AERIAL X

02 IN CUSTODY OF NC Superfund Branch (Name of organization or individual)

03 MAPS ☒ YES ☐ NO

04 LOCATION OF MAPS NC Superfund Branch

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NC	D148522055

II. CURRENT OWNER(S)			PARENT COMPANY (If applicable)		
01 NAME: Kenneth Zion		02 D+B NUMBER	08 NAME		09 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.): Rt. 3, Box 409		04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #, etc.)		11 SIC CODE
05 CITY: Connelly Springs	06 STATE: NC	07 ZIP CODE: 28617	12 CITY	13 STATE	14 ZIP CODE
01 NAME		02 D+B NUMBER	08 NAME		09 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #, etc.)		11 SIC CODE
05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE
01 NAME		02 D+B NUMBER	08 NAME		09 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #, etc.)		11 SIC CODE
05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE
01 NAME		02 D+B NUMBER	08 NAME		09 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #, etc.)		11 SIC CODE
05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first)			IV. REALTY OWNER(S) (If applicable; list most recent first)		
01 NAME: Larry Dean Austin		02 D+B NUMBER	01 NAME		02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.): P.O. Box 666		04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE
05 CITY: Icard	06 STATE: NC	07 ZIP CODE: 28612	05 CITY	06 STATE	07 ZIP CODE
01 NAME		02 D+B NUMBER	01 NAME		02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
01 NAME		02 D+B NUMBER	01 NAME		02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

As previously cited.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NC	D148522055

II. CURRENT OPERATOR (Provide if different from owner)			OPERATOR'S PARENT COMPANY (If applicable)		
01 NAME Tramco, Inc.	02 D+B NUMBER		10 NAME	11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER				

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)			PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)		
01 NAME	02 D+B NUMBER		10 NAME	11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD				
01 NAME	02 D+B NUMBER		10 NAME	11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD				
01 NAME	02 D+B NUMBER		10 NAME	11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD				

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

As previously cited.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NC	0148522055

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

As previously cited.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NC	D148522055

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ D. SPILLED MATERIAL REMOVED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ E. CONTAMINATED SOIL REMOVED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ F. WASTE REPACKAGED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ G. WASTE DISPOSED ELSEWHERE — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ H. ON SITE BURIAL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ I. IN SITU CHEMICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ J. IN SITU BIOLOGICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ K. IN SITU PHYSICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ L. ENCAPSULATION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ M. EMERGENCY WASTE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ N. CUTOFF WALLS — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ P. CUTOFF TRENCHES/SUMP — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Q. SUBSURFACE CUTOFF WALL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NC	D148522055

II PAST RESPONSE ACTIVITIES *(Continued)*

01 ☐ R. BARRIER WALLS CONSTRUCTED — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ S. CAPPING/COVERING — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ T. BULK TANKAGE REPAIRED — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ U. GROUT CURTAIN CONSTRUCTED — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ V. BOTTOM SEALED — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ W. GAS CONTROL — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ X. FIRE CONTROL — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ Y. LEACHATE TREATMENT — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ Z. AREA EVACUATED — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ 1. ACCESS TO SITE RESTRICTED — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ 2. POPULATION RELOCATED — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ 3. OTHER REMEDIAL ACTIVITIES — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

III. SOURCES OF INFORMATION *(Cite specific references, e.g., state files, sample analysis, reports)*

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NC	D148522055

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☐ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

SAFETY PLAN

SITE HEALTH AND SAFETY PLAN

A. General Information

Site Name Tramco, Inc. ID # NCD067392175

Location SR 1611, Connelly Springs, NC Date 3-6-89

Purpose of Visit ____ PA X SI ____ Other: ____

Proposed Date of Investigation March 16, 1989

Date of Briefing March 15, 1989

Date of Debriefing March 20, 1989

Priority Ranking ____ Low X Medium ____ High

Site Investigation Team

	Personnel	Responsibilities
Team 1	Ed Wallingford	team leader, sampling
Team 1	Pat DeRosa	sampling
Team 2	Mark Durway	alternate
Team 2	Bruce Nicholson	alternate

Plan Preparation:

Prepared By: David Lilley, Industrial Hygienist David Lilley

Reviewed By: Jack Butler, Environmental Engineer Jack Butler

B. SITE/WASTE CHARACTERISTICS

Waste Type(s) X Liquid ____ Solid ____ Sludge ____ Gas

Characteristics ____ Corrosive ____ Ignitable ____ Radioactive

____ Volatile X Toxic ____ Reactive ____ Other

List Known or Suspected Hazards (physical, chemical biological or radioactive) on Site and their toxicological effects. Also, if known, list chemical amounts

HAZARD	WARNING PROPERTIES AND EFFECTS	TLV
Polychlorinated Biphenyls	Odor Threshold (OT) = no data	0.5 mg/m^3 skin

ID # NCD067392175

Facility Description: Size ? Buildings ?

Disposal Methods Being Investigated Leakage of transformers containing PCB oil onto ground

Unusual Features on Site (dike integrity, power lines, terrain, etc.): None known

History of the Site: Tramco, Inc. is a transformer reconditioning operation that has been on this site for about two years. Approximately 500 transformers are reportedly stored in the open on the site. Of these, about six were noted to have leaked oil onto the ground. This leakage may have resulted in PCB contamination of the surface soil.

C. HAZARD EVALUATION

The site can be toured and sampled in level D. While collecting auger samples, the HNU will be used to monitor breathing zone air. If HUN levels exceed 5 ppm, evacuate. Tyvek suits (saranex in wet conditions) will be worn to prevent clothing contamination. PE gloves will be worn while collecting water samples, and PE gloves over nitrile gloves will be worn while collecting soil samples.

D. WORK PLAN INSTRUCTION

Map or Sketch Attached? yes

Perimeter Identified? no

Command Post Identified? no

Zones of Contamination Identified? no

Personal Protective Equipment

Level of Protection ___A ___B ___C X D

Modifications Wear PVC gloves and goggles while preparing acid preserved samples, avoid breathing acid vapors.

ID # NCD067392175

Surveillance Equipment:

X	H Nu		Detector Tubes and Pumps
	Explosimeter		02 Meter
	TLD		Radiation Monitor

Decontamination Procedures

	Level C	Respirator wash, respirator removal, suit wash (if needed,) suit removal, boot wash, boot removal and glove removal.
X	Level D	Boot wash and rinse and boot removal, suit removal, glove and goggle removal.

Modifications Dispose of trash properly, on-site if possible.

Work Schedule/Limitations Sampling is to consist of surface and subsurface soil sampling and drinking water well sampling.

EMERGENCY PRECAUTIONS

Route of Exposure	First Aid
Eye contact	flush with water immeidately
Skin contact	soap and water wash
Inhalation	remove to fresh air, artificial respiration
Ingestion	get medical attention immediately

ID # NCD067392175

Location of Nearest Phone: On-site, this is an operating facility.

Hospital (Address and Phone Number)
Frye Regional Medical Center, 420 North Center Street, Hickory, NC 28601
(704) 322-6070-can handle chemically contaminated patients.

Emergency Transportation Systems (Phone Numbers)

Fire Use 911

Ambulance Use 911

Rescue Squad Use 911

Emergency Route to Hospital Take SR 1611 south, back to 70 and turn left (east) stay on 70 E to Hickory, then turn north on 321. At the 2nd intersection, turn right, travel 1½ to 2 miles, take a left onto Center Street, hospital is on right.

PREVAILING WEATHER CONDITIONS AND FORECAST

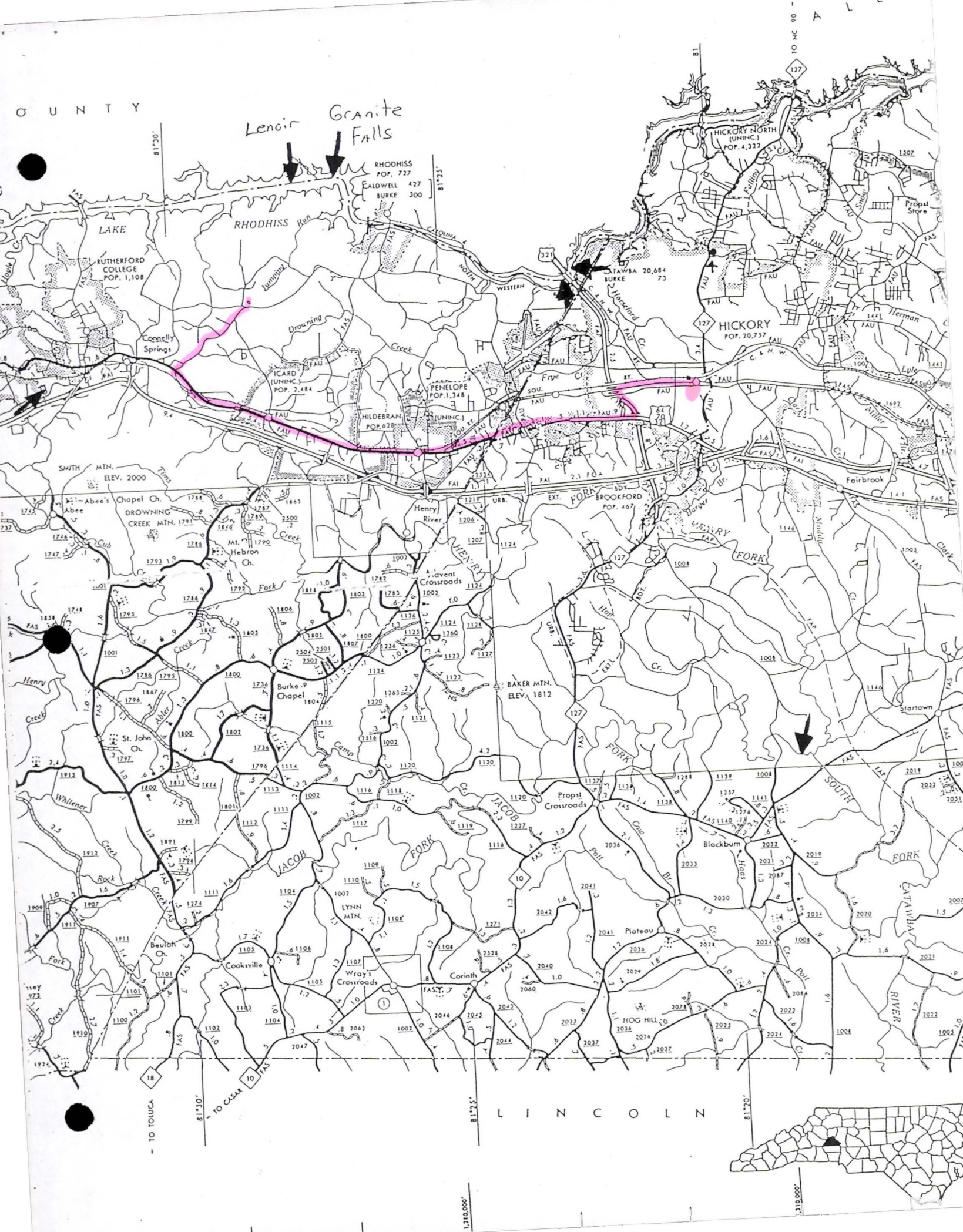
EQUIPMENT CHECKLIST

	Air purifying respirator	x	First Aid Kit
	Cartridges for respirator	x	3 gal. Distilled H20
X	Rainsuit	x	Gloves (poly/nitrile/cloth)
	02 Indicator	x	Boots/Boot Covers
X	Eye Wash Unit	x	Coveralls (tyvek/saranex)
X	H Nu	x	Eye Protection
	pH Meter	x	Hard Hat
	Explosimeter	x	Decontamination Materials.
	Radioactive Monitor		
	Detector Tubes and Pump		

Poison Control Center - State Coordinator
Duke University Medical Center
Telephone: 1-800-672-1697
Box 3024
Durham, NC 27710

ASHEVILLE 704-255-4490	Western NC Poison Control Center Memorial Mission Hosp. 509 Biltmore Ave. 28801	HENDERSONVILLE 704-693-6522 Ext. 555,556	Margaret R. Pardee Memorial Hospital Fleming St., 28739
CHARLOTTE 704-379-5827	Mercy Hospital 2001 Vail Ave, 28207	HICKORY 704-322-6649	Catawba Mem. Hosp. Fairgrove Chur. Rd 28601
DURHAM 1-800-672-1697	Duke Univ. Med. Center Box 3007, 27710	JACKSONVILLE 919-577-2555	Onslow Mem. Hospital Western Blvd. 28540
GREENSBORO 919-379-4105	Moses Cone Hospital 1200 N. Elm St. 27420	WILMINGTON 919-343-7046	New Hanover Mem. Hospital 2131 S. 17th St. 28401

1-800-722-2222


Lenoir
Granite Falls
RHODHISS POP. 727
CALDWELL 427
BURKE 300
LAKE RHODHISS
RUTHERFORD COLLEGE POP. 1,108
Connelly Springs
ICARD (UNINC.) POP. 2,484
PENELOPE POP. 1,348
HILDEBRAN POP. 628
(UNINC.)
CATAWBA 20,684
BURKE 73
HICKORY NORTH (UNINC.) POP. 4,322
HICKORY POP. 20,757
Propst Store
Fairbrook
BROOKFORD POP. 467
SMITH MTN. ELEV. 2000
Abee's Chapel Ch.
DROWNING CREEK MTN.
Mt. Hebron Ch.
Henry River
Advent Crossroads
Burke Chapel
St. John Ch.
BAKER MTN. ELEV. 1812
Startown
Propst Crossroads
Blackburn
LYNN MTN.
Beulah Ch.
Cooksville
Wray's Crossroads
Corinth
Plateau
HOG HILL
HENRY FORK
JACOB FORK
SOUTH FORK
CATAWBA RIVER
TO NC 90
TO TOLUCA
TO CASAR
LINCOLN
COUNTY
81°30'
81°25'
81°20'
1,310,000'

HAZARDOUS SUBSTANCE INFORMATION FORM

Chemical Name: PCB'S (polychlorinated biphenyls) 42% & 54% chlorine

I. PHYSICAL/CHEMICAL PROPERTIES

	Reference
Chemical Formula C12H7C13 (42%) & C12H7C15 (54%)	1-3
Natural Physical State at 25°C liquid	1-3
Vapor Pressure 0.001 mm Hg at 20°C	1-3
Melting Point -19-10 °F/°C Boiling Point 325-390 °F/°C	1-3
Flash Point (open or closed cup) 349-432 °C/°F	1
Solubility - H_2O insoluble	1-3
Other	

Physical Features: (odor, color, etc.) colorless to dark brown liquid with a mild hydrocarbon odor.

II. TOXICOLOGICAL DATA

Standards: 0.5 mg/m^3 TLV .5-1 mg/m^3 PEL 5&10 mg/m^3 IDLH 2

Routes of Exposure: Inhalation, skin and ingestion

Acute/Chronic Symptoms: Irritates the eyes, nose, and skin. Can cause chlorane. Liver injury is also possible.

First Aid: Eyes: irrigate immediately for 15 mins., Skin: wash immed., remove contaminated clothing, get medical attn. if there is skin irritation, Inhalation: fresh air & art. resp., Ingestion: Med. attn. promptly.

Chemical Name: PCB's

III. HAZARDOUS CHARACTERISTICS — Reference

A. Combustibility (Instability w/very high heat) — 1,3

Toxic by-products Hcl & CO gases may be released — 1,3

B. Flammability LEL N/A UEL _____ — _____

C. Reactivity Hazard contact with strong oxidizers may cause fire or explosion. — 1,3

D. Corrosivity Hazard yes/no pH: _____ — _____

Neutralizing agent: _____ — _____

E. Radioactive Hazard

		Exposure Rate	
Background	yes/no	_____	_____
Alpha particles	yes/no	_____	_____
Beta particles	yes/no	_____	_____
Gamma radiation	yes/no	_____	_____

IV. REFERENCES

Chemical Safety Data Guide, BNA - 1985.

Pocket Guide to Chemical Hazards, NIOSH - 1985.

PA Chemical Emergency Preparedness Program - Chemical Profiles - 1985

Tramco Inc Ed

NCD067392175

HNu Calibration reading _____ Signature _____

Date_____

Exposimeter Calibration reading_____ Signature _____ Date _____

TO BE COMPLETED BY PROJECT MANAGER

Materials Used

_____	Air Purifying respirator cartridges	1pr.	Gloves (nitrile)
_____	Detector tubes	_____	Gloves (cloth)
_____	Eye Wash Units	_____	Boot covers
_____	First Aid Kit	_____	Coveralls (tyvek)
7pr.	Gloves (poly)	_____	Coveralls (saranex)
		_____	Auger Brushes

Respirator Worn By

_____

_____

_____

Approximate Time in Respirator

_____

_____

_____

Air Monitoring Data: HNu no reading above background in transformer storage area *

Air Monitoring Data: Explosimter: _____

If the maximum personal protective equipment as outlined in the Hazard Evaluation Section was not used, please justify:

* no auger samples were collected at this site

DL/ds/Revised 11-88