313SERBSF10,617

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Site Name (Subject):	SOUTHERN LATEX CORP.
Site ID (Document ID):	NCD980729651
Document Name (DocType):	Preliminary Assessment/Site Inspection (PA/SI)
Report Segment:	
Description:	FIT Screening Site Inspection, Phase I
Date of Document:	11/14/1990
Date Received:	11/28/1990
Box: *Enter SF and # with no spaces*	SF10,617
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**

State Copy

NUS CORPORATION
1927 LAKESIDE PARKWAY
SUITE 614
TUCKER, GEORGIA 30084
404-938-7710

SISB/SAS RECEIVED NOV 28 1990 EPA - REGION IV ATLANTA, GA.

C-586-11-0-97

November 14, 1990

CERCLA

Mr. A.R. Hanke
Waste Programs Branch
Waste Management Division
Environmental Protection Agency
345 Courtland Street, N. E.
Atlanta, Georgia 30365

Date: 11-28-90
Site Disposition: NFRAP
EPA Project Manager: D. Vaughn-Wright

Subject: Screening Site Inspection, Phase I
Southern Latex Corporation
Concord, Cabarrus County, North Carolina
EPA ID No. NCD980729651
TDD No. F4-9001-101

FIT

Dear Mr. Hanke:

FIT 4 conducted a Phase I Screening Site Inspection of Southern Latex Corporation in Concord, Cabarrus County, North Carolina. The inspection included a review of state and EPA file material, a target survey to determine the population potentially affected, and an offsite reconnaissance of the facility and surrounding area.

Southern Latex Corporation is located at 379 Central Drive next to a trailer park in Concord, North Carolina (Refs. 1, 2). Southern Latex owned and operated the Central Drive facility in the 1950s. It is believed that latex for carpet backing was manufactured during this period of time. In 1960, the building was abandoned and remained vacant until 1964 (Ref. 1). On January 8, 1964, Mayfair Industries purchased the property from Southern Latex Corporation (Ref. 3). Mayfair Industries is the present owner of the property; however, Concord Lace has operated the facility since 1964 (Refs. 3, 4). Concord Lace is a manufacturer of lace trim (Ref. 5).

The Eckhardt Waste Disposal Site Survey reported that the property was used for the disposal of organics, inorganics, and miscellaneous waste materials between 1958 and 1960. The specific type and amount of wastes are unknown, but the wastes probably included many of the various latex processing chemicals (Ref. 1). Onsite disposal of wastewater from drum washings and rinsings was also reported. Concord Lace has filled in much of the property with rubble from demolished buildings and covered the area with soil (Ref. 4).

Southern Latex Corporation operated the Concord facility prior to the promulgation of the Resource Conservation and Recovery Act (RCRA) of November 19, 1980 (Ref. 6). There is no documentation to indicate that the facility owners filed a CERCLA 103(c) Hazardous Waste Site Notification for the final disposition of waste on site from 1958 to 1960.

The Southern Latex Corporation facility is located in the Piedmont and Blue Ridge Physiographic Province which is typified by a thick regolith overlying fractured crystalline and metamorphosed rocks. The fractures and joints found in the granite and gneissic bedrock influence groundwater flow beneath the overlying soil (Ref. 7). Cabarrus County has a moist, temperate climate with a net annual rainfall of 4 inches and a 1-year, 24-hour rainfall of 2.7 inches (Refs. 8, 9).

The aquifer beneath Cabarrus County is the residual soil-crystalline rock aquifer system located up to a depth of over 200 feet below land surface (bls) (Ref. 10). Groundwater resides in the primary pore spaces of the regolith or residual soil, as well as within fractures and joints in the underlying fractured crystalline rock (Ref. 11). Water in the soil is interconnected with water in the fractured bedrock. Groundwater beneath the facility is estimated to occur between 20 and 30 feet bls, based on interpretation of topographic elevation and position (Ref. 12). The flow of groundwater in the surficial soil system is generally downgradient of topographic contours toward the south. However, flow of groundwater in fractured bedrock is highly variable, and it is difficult to predict actual direction of flow in a complex network of fractures (Refs. 11, 12). The regolith which typically develops above granites and gneisses is the layer of lowest hydraulic conductivity between the surface and the aquifer. Sediments of this type have been shown to have hydraulic conductivities that range between 1×10^{-5} and 1×10^{-7} cm/sec (Ref. 13).

Most areas within 4 miles of the facility are served by municipal water systems. The Concord, Kannapolis, and Cabarrus County water systems use surface water from Lake Fisher, Lake Concord, Lake Kannapolis, Coddle Creek, and Second Creek (Ref. 14). All of these bodies of water are north of Concord and are not affected by runoff from the Southern Latex property (Ref. 12).

Residents not served by municipal systems obtain water from private or community wells. Counts based on topographic maps of the area show that there are approximately 65 private wells and two community wells within a 3-mile radius of the facility serving a total of 177 dwellings (Refs. 12, 14). The nearest private well is 1,200 feet to the south of the facility and has a depth of 400 feet (Refs. 2, 12). Counts based on topographic maps show that another 262 private wells and four community wells serving a total of 433 dwellings lie between the 3- and 4-mile radius of the facility (Ref. 12).

The property is sloped approximately 5 percent causing surface runoff to drain to the south into the Irish Buffalo Creek, which is adjacent to the property. This creek flows south southeast 9.5 miles before joining Cold Water Creek. Combined, they flow south 3,000 feet before entering the Rocky River, which flows east for the remainder of the surface water pathway (Ref. 12). There are no surface water intakes located within 15 stream miles of the facility (Ref. 15). Recreational fishing and some boating do occur on Irish Buffalo Creek and the Rocky River; however, there are no commercial fisheries (Ref. 16).

A reconnaissance of the facility area was conducted by FIT 4 in February 1990. Access to the building is not restricted, since the property is only partially fenced. The surrounding area is used for both residential and industrial purposes. The nearest residence to the facility is located approximately 50 feet north of the property in a trailer park (Ref. 2). Two schools are located within a 1-mile radius of the facility (Ref. 12). The population within a 1-mile radius of the facility is 3,950. There are 35,244 residents who live within a 4-mile radius of the facility (Ref. 17).

No critical habitats are identified in the area of the facility (Ref. 18). However, a few state-designated endangered/threatened species are found in Cabarrus County. These species are, respectively, Schweinitz's sunflower (Helianthus schweinitzii), nestronia (Nestronia umbellula), and Small's portulaca (Portulaca smallii) (Refs. 18, 19).

The Phase I Screening Site Inspection for Southern Latex Corporation facility in Concord, North Carolina, is submitted to your review. FIT 4 awaits your comments concerning this assessment prior to initiating further action. If you have any questions, please contact me at NUS Corporation.

Very truly yours,

Brooke Bittinger

Brooke Bittinger
Project Manager

Approved:

Bob Donague

BB/jec

Enclosures

cc: Kelly Cain

REFERENCES

1. Stan T. Atwood, Toxicologist, Soils and Hazardous Waste Management Branch, Environmental Health Section, Raleigh, North Carolina, letter to Ms. Denise Bland, EPA NC CERCLA Project Officer, Air and Hazardous Material Division, June 4, 1986. Subject: Preliminary Assessment Report for Southern Latex Corporation.

2. NUS Corporation Field Logbook No. F4-2017 for Southern Latex Corporation, TDD No. F4-9001-101. Documentation of facility reconnaissance, February 12, 1990.

3. Mark Kitric, Cabarrus County Tax Assessor's Office, telephone conversation with Brooke Bittinger, NUS Corporation, February 22, 1990. Subject: Property ownership at 379 Central Drive.

4. Stan Atwood, Toxicologist, Solid and Hazardous Waste Management Branch, Environmental Health Section, Raleigh, North Carolina, telephone conversation with Mark Schroeder, Office Manager and Marvin Wilder, Plant Manager of Concord Lace Corporation, May 14, 1986. Subject: History of facility at 379 Central Drive.

5. Barbara Bost, Concord Chamber of Commerce, telephone conversation with Brooke Bittinger, NUS Corporation, February 23, 1990. Subject: Products manufactured by Concord Lace Corporation.

6. Jim Edwards, Compliance Officer, North Carolina Hazardous Waste Compliance Program, Raleigh, North Carolina, telephone conversation with Joan Dupont, NUS Corporation, March 14, 1990. Subject: RCRA status of Southern Latex Corporation.

7. Linda Aller, et al, DRASTIC: A Standardized System for Evaluating Ground Water Pollution Potential Using Hydrogeologic Settings, EPA 600/2-87-035 (Ada, Oklahoma: EPA, April 1987), pp. 251, 252.

8. U.S. Department of Commerce, Climatic Atlas of the United States (Washington, D.C.: GPO, June 1968) Reprint: 1983, National Oceanic and Atmospheric Administration, pp. 43, 63.

9. U.S. Department of Commerce, Rainfall Frequency Atlas of the United States, Technical Paper No. 40 (Washington, D.C.: GPO, 1961), p. 93.

10. U.S. Geological Survey, National Water Summary 1984: Hydrologic Events, Selected Water-Quality Trends, and Ground Water Resources, Water Supply Paper 2275 (1984), pp. 329-334.

11. H. E. LeGrand and M.J. Mundorff, Geology and Ground Water Resources in the Charlotte Area, North Carolina (Raleigh, North Carolina Department of Water Resources, 1967), pp. 5-11.

12. U. S. Geological Survey, 7.5 minute series Topographic Quadrangle Maps of North Carolina: Concord SE 1969 (Photorevised 1987), Concord 1969 (PR 1987), Kannapolis 1969 (PR 1988), Harrisburg 1969 (PR 1988), scale 1:24,000.

13. R. Allan Freeze and John A. Cherry, Groundwater (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1979), p. 29.

14. NUS Corporation Field Logbook No. F4-2016 for Reichhold Chemical, Inc., TDD No. F4-9001-96. Documentation of facility reconnaissance, February 12-13, 1990.

15. John Sutherland, Division of Water Resources, Raleigh, North Carolina, telephone conversation with Brooke Bittinger, NUS Corporation, February 20, 1990. Subject: Water intakes in Concord area.

16. Don Baker, Wildlife Commission, Fisheries Division, Raleigh, North Carolina, telephone conversation with Brooke Bittinger, NUS Corporation, February 20, 1990. Subject: Commercial fisheries and recreational activities on waterways in Concord area.

17. U.S. Environmental Protection Agency, Graphical Exposure Modeling System (GEMS) Data Base, compiled from U.S. Bureau of the Census data (1980).

18. U.S. Fish and Wildlife Service, Endangered and Threatened Species of the Southeastern United States (Atlanta, Georgia, 1988).

19. North Carolina Natural Heritage Program Element List for Cabarrus County, June 21, 1989, p. 1.

Site Inspection Report

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NC	D980729651

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Southern Latex Corporation	379 Central Drive

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Concord	NC	28025	Cabarrus	13	8

09 COORDINATES LATITUDE	LONGITUDE	10 TYPE OF OWNERSHIP (Check one)
35 24 32.0	80 36 20.0	☒ A. PRIVATE ☐ B. FEDERAL ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL ☐ F. OTHER ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION	02 SITE STATUS	03 YEARS OF OPERATION
2 12 90 (MONTH DAY YEAR)	* ☐ ACTIVE ☒ INACTIVE	1950's (BEGINNING YEAR) approx 1960 (ENDING YEAR) ☐ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)

☐ A. EPA ☒ B. EPA CONTRACTOR NUS Corporation (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
Brooke Bittinger	Physicist	NUS Corporation	(404) 938-7710

09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
			( )
			( )
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
			( )
			( )
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☐ PERMISSION ☐ WARRANT	2:40 pm	Clear + Warm 60°F

offsite recon

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Debbie Vaughn-Wright	EPA	(404) 347-5065

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
Brooke Bittinger	NUS Corporation	NUS Corporation	404-938-7710	10 15 90 (MONTH DAY YEAR)

EPA FORM 2070-13 (7-81)

* Mayfair Industries now owns the facility and Concord Lace operates out of the facility.

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NC	D980729651

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

A SOLID
B POWDER, FINES
C SLUDGE
D OTHER See Below (Specify)
E SLURRY
X F LIQUID
G GAS

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

TONS Unknown
CUBIC YARDS
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
X M NOT APPLICABLE

See Below

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			In addition to the organics
OLW	OILY WASTE			and inorganics, the liquid
SOL	SOLVENTS			that was disposed consisted
PSD	PESTICIDES			of wastewater from drum
OCC	OTHER ORGANIC CHEMICALS	Unknown		washings and rinsings. The specific
IOC	INORGANIC CHEMICALS	Unknown		types and amount of wastes are
ACD	ACIDS			unknown, but probably included
BAS	BASES			many of the various latex
MES	HEAVY METALS			processing chemicals.

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
OCC	Unknown	—	Onsite Burial	Unknown	Unknown
IOC	Unknown	—	Onsite Burial	Unknown	Unknown

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS	N/A		FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

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

EPA & State file material

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NC	D980729651

II. HAZARDOUS CONDITIONS AND INCIDENTS (continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None observed on recon
Unlikely due to nature of contaminants

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

None observed on recon
Unlikely due to nature of contaminants

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

Unlikely due to nature of contaminants

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES (Spills/Runoff/Standing liquids/Leaking drums) — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

Unknown

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

None observed on recon or listed in file material
Unlikely due to nature of contaminants

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None mentioned in file material
Unlikely due to nature of contaminants

01 ☒ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☒ ALLEGED
04 NARRATIVE DESCRIPTION

Report by Eckhardt Waste Disposal Site Survey that the property was used to dispose organics and inorganics.

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

None Known

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

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

EPA + state file material

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NC	0980729651

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 2318 w/4 mi
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Organics and inorganics were disposed on the property from 1958 until 1960. Onsite disposal of wastewater from drum washings and rinsings was also reported. It is possible that some of these contaminants migrated to groundwater

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

Explanation - Same as above

Slight risk - no intakes within 15 miles downstream - some boating

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

Unlikely

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

Unlikely

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

Slight risk since materials are buried

01 ☒ F. CONTAMINATION OF SOIL
03 AREA POTENTIALLY AFFECTED: ≈ 4 (Acres)
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

The site has covered the area where dumping of wastewater occurred with construction rubble and soil. Some contamination of soil is possible.

01 ☐ G. DRINKING WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 2318 w/4 miles
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

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

Workers may come in contact with exposed soil, however potential is low since so much soil + rubble was used to cover the area.

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

Minimal for same reason as above

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NC	D980729651

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)				There is no documentation to
H. LOCAL (Specify)				indicate that the facility
I. OTHER (Specify)				owners filed a CERCLA 103 (c)
X J NONE	N/A	N/A	N/A	Hazardous Waste Site notification

for the final disposition of waste on site from 1958 to 1960.

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		
X I. OTHER See below (Specify)		

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
- X H. OTHER Buried - See below (Specify)

05 OTHER

X A. BUILDINGS ON SITE
1 on site

06 AREA OF SITE

x 4 Acres

07 COMMENTS

Between 1958 + 1960 organics, inorganics and miscellaneous waste materials were deposited in unknown amounts and buried at a later date by topsoil and construction rubble.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one) Unknown

A. ADEQUATE, SECURE | B. MODERATE | C. INADEQUATE, POOR | D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

None Known

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: X YES ☐ NO

02 COMMENTS

Property is accessible, however the wastes are buried, so it is unknown how easy it is to come in contact w/ the actual wastes.

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

EPA and state files

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NC	D980729651

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)	SURFACE	WELL	02 STATUS	ENDANGERED	AFFECTED	MONITORED	03 DISTANCE TO SITE
COMMUNITY	A. X	B. ☐		A. ☐	B. ☐	C. ☐	A. .5 (mi)
NON-COMMUNITY	C. ☐	D. X		D. ☐	E. ☐	F. ☐	B. .23 (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

X A. ONLY SOURCE FOR DRINKING (For Private Wells)
☐ 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 2318 w/4 miles

03 DISTANCE TO NEAREST DRINKING WATER WELL .23 (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
25 (ft)	Unknown	25 (ft)	Unknown (gpd)	☐ YES X NO

09 DESCRIPTION OF WELLS (Including usage, depth, and location relative to population and buildings)

Widely scattered over 4 mile area, depth of nearest well is 400 ft.

10 RECHARGE AREA		11 DISCHARGE AREA	
☐ YES X NO	COMMENTS	X YES ☐ NO	COMMENTS

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

X 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
	☐	(mi)
	☐	(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. 3950 NO. OF PERSONS	B. 19268 NO. OF PERSONS	C. 29215 NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION .01 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE: Unknown

04 DISTANCE TO NEAREST OFF-SITE BUILDING .19 (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

A few subdivisions within a 1/4 mile, the nearest being a trailer park approx. 500 feet from the site. There are also 3 large buildings within 1/4 mile.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NC	0980729651

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
40 (ft)	Unknown (ft)	Unknown

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
4 (in)	2.7 (in)	5 %	South	6 %

09 FLOOD POTENTIAL

SITE IS IN Unknown YEAR FLOODPLAIN

10 ☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE: A. >4 (mi)

OTHER: B. _____ (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

Unknown (mi)

Schweinitz's sunflower, nestronia, & Small's portulaca are found in Cabarrus County on rare occasions

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. .19 (mi)	B. .01 (mi)	C. 3.4 (mi)	D. 3.0 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

Site is bordered to the south by a stream. Area is partially wooded with a few large open areas. Located near a topographic low in an area with low hills.

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

Offsite Recon (Log)

Drastic by Linda Aller - April 1987

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NC	D980729651

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER	N/A	N/A	
SURFACE WATER			
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL			
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS

IV. PHOTOGRAPHS AND MAPS

01 TYPE X GROUND ☐ AERIAL

02 IN CUSTODY OF NUS Corporation (Name of organization or individual)

03 MAPS X YES ☐ NO

04 LOCATION OF MAPS NUS Corporation (Maps are of Concord Area)

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

General layout of the facility was described in detail in log.

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

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NC	0980729651

II. CURRENT OWNER(S)			PARENT COMPANY (If applicable)		
01 NAME: Mayfair Industries	02 D+B NUMBER		08 NAME	09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.): P.O. Box 844	04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE	
05 CITY: Concord	06 STATE: NC	07 ZIP CODE: 28025	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: Southern Latex Corporation	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
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)

EPA and State files

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NC	D980729651

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME	02 D+B NUMBER
Concord Lace	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
379 Central Drive	

05 CITY	06 STATE	07 ZIP CODE
Concord	NC	28025

08 YEARS OF OPERATION	09 NAME OF OWNER

OPERATOR'S PARENT COMPANY (If applicable)

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

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

EPA & State files

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NC	098072965

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)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NC	0980729651

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
Inorganics, organics, wastewater treatment was covered with soil and building rubble

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	098072965 1

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 & state files

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NC	098072965 1

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY ENFORCEMENT ACTION YES . NO Unknown

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY ENFORCEMENT ACTION

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

EPA FORM 2070-13 (7-81)

APPENDIX

I. FEEDSTOCKS

CAS Number	Chemical Name
1. 7664-41-7	Ammonia
2. 7440-36-0	Antimony
3. 1309-64-4	Antimony Trioxide
4. 7440-38-2	Arsenic
5. 1327-53-3	Arsenic Trioxide
6. 21109-95-5	Barium Sulfide
7. 7726-95-6	Bromine
8. 106-99-0	Butadiene
9. 7440-43-9	Cadmium
10. 7782-50-5	Chlorine
11. 12737-27-8	Chromite
12. 7440-47-3	Chromium
13. 7440-48-4	Cobalt
14. 1317-38-0	Cupric Oxide
15. 7758-98-7	Cupric Sulfate
16. 1317-39-1	Cuprous Oxide
17. 74-85-1	Ethylene
18. 7647-01-0	Hydrochloric Acid
19. 7664-39-3	Hydrogen Fluoride
20. 1335-25-7	Lead Oxide
21. 7439-97-6	Mercury
22. 74-82-8	Methane
23. 91-20-3	Napthalene
24. 7440-02-0	Nickel
25. 7697-37-2	Nitric Acid
26. 7723-14-0	Phosphorus
27. 7778-50-9	Potassium Dichromate
28. 1310-58-3	Potassium Hydroxide
29. 115-07-1	Propylene
30. 10588-01-9	Sodium Dichromate
31. 1310-73-2	Sodium Hydroxide
32. 7646-78-8	Stannic Chloride
33. 7772-99-8	Stannous Chloride
34. 7664-93-9	Sulfuric Acid
35. 108-88-3	Toluene
36. 1330-20-7	Xylene
37. 7646-85-7	Zinc Chloride
38. 7733-02-0	Zinc Sulfate

II. HAZARDOUS SUBSTANCES

CAS Number	Chemical Name
1. 75-07-0	Acetaldehyde
2. 64-19-7	Acetic Acid
3. 108-24-7	Acetic Anhydride
4. 75-86-5	Acetone Cyanohydrin
5. 506-96-7	Acetyl Bromide
6. 75-36-5	Acetyl Chloride
7. 107-02-8	Acrolein
8. 107-13-1	Acrylonitrile
9. 124-04-9	Adipic Acid
10. 309-00-2	Aldrin
11. 10043-01-3	Aluminum Sulfate
12. 107-18-6	Allyl Alcohol
13. 107-05-1	Allyl Chloride
14. 7664-41-7	Ammonia
15. 631-61-8	Ammonium Acetate
16. 1863-63-4	Ammonium Benzoate
17. 1066-33-7	Ammonium Bicarbonate
18. 7789-09-5	Ammonium Bichromate
19. 1341-49-7	Ammonium Bifluoride
20. 10192-30-0	Ammonium Bisulfite
21. 1111-78-0	Ammonium Carbamate
22. 12125-02-9	Ammonium Chloride
23. 7788-98-9	Ammonium Chromate
24. 3012-65-5	Ammonium Citrate, Dibasic
25. 13826-83-0	Ammonium Fluoborate
26. 12125-01-8	Ammonium Fluoride
27. 1336-21-6	Ammonium Hydroxide
28. 6009-70-7	Ammonium Oxalate
29. 16919-19-0	Ammonium Silicofluoride
30. 7773-06-0	Ammonium Sulfamate
31. 12135-76-1	Ammonium Sulfide
32. 10196-04-0	Ammonium Sulfite
33. 14307-43-8	Ammonium Tartrate
34. 1762-95-4	Ammonium Thiocyanate
35. 7783-18-8	Ammonium Thiosulfate
36. 628-63-7	Amyl Acetate
37. 62-53-3	Aniline
38. 7647-18-9	Antimony Pentachloride
39. 7789-61-9	Antimony Tribromide
40. 10025-91-9	Antimony Trichloride
41. 7783-56-4	Antimony Trifluoride
42. 1309-64-4	Antimony Trioxide
43. 1303-32-8	Arsenic Disulfide
44. 1303-28-2	Arsenic Pentoxide
45. 7784-34-1	Arsenic Trichloride
46. 1327-53-3	Arsenic Trioxide
47. 1303-33-9	Arsenic Trisulfide
48. 542-62-1	Barium Cyanide
49. 71-43-2	Benzene
50. 65-85-0	Benzoic Acid
51. 100-47-0	Benzonitrile
52. 98-88-4	Benzoyl Chloride
53. 100-44-7	Benzyl Chloride
54. 7440-41-7	Beryllium
55. 7787-47-5	Beryllium Chloride
56. 7787-49-7	Beryllium Fluoride
57. 13597-99-4	Beryllium Nitrate
58. 123-86-4	Butyl Acetate
59. 84-74-2	n-Butyl Phthalate
60. 109-73-9	Butylamine
61. 107-92-6	Butyric Acid
62. 543-90-8	Cadimium Acetate
63. 7789-42-6	Cadmium Bromide
64. 10108-64-2	Cadmium Chloride
65. 7778-44-1	Calcium Arsenate
66. 52740-16-6	Calcium Arsenite
67. 75-20-7	Calcium Carbide
68. 13765-19-0	Calcium Chromate
69. 592-01-8	Calcium Cyanide
70. 26264-06-2	Calcium Dodecylbenzene Sulfonate
71. 7778-54-3	Calcium Hypochlorite
72. 133-06-2	Captan
73. 63-25-2	Carbaryl
74. 1563-66-2	Carbofuran
75. 75-15-0	Carbon Disulfide
76. 56-23-5	Carbon Tetrachloride
77. 57-74-9	Chlordane
78. 7782-50-5	Chlorine
79. 108-90-7	Chlorobenzene
80. 67-66-3	Chloroform
81. 7790-94-5	Chlorosulfonic Acid
82. 2921-88-2	Chlorpyrifos
83. 1066-30-4	Chromic Acetate
84. 7738-94-5	Chromic Acid
85. 10101-53-8	Chromic Sulfate
86. 10049-05-5	Chromous Chloride
87. 544-18-3	Cobaltous Formate
88. 14017-41-5	Cobaltous Sulfamate
89. 56-72-4	Coumaphos
90. 1319-77-3	Cresol
91. 4170-30-3	Crotonaldehyde
92. 142-71-2	Cupric Acetate
93. 12002-03-8	Cupric Acetoarsenite
94. 7447-39-4	Cupric Chloride
95. 3251-23-8	Cupric Nitrate
96. 5893-66-3	Cupric Oxalate
97. 7758-98-7	Cupric Sulfate
98. 10380-29-7	Cupric Sulfate Ammoniated
99. 815-82-7	Cupric Tartrate
100. 506-77-4	Cyanogen Chloride
101. 110-82-7	Cyclohexane
102. 94-75-7	2,4-D Acid
103. 94-11-1	2,4-D Esters
104. 50-29-3	DDT
105. 333-41-5	Diazinon
106. 1918-00-9	Dicamba
107. 1194-65-6	Dichlobenil
108. 117-80-6	Dichlone
109. 25321-22-6	Dichlorobenzene (all isomers)
110. 266-38-19-7	Dichloropropane (all isomers)
111. 26952-23-8	Dichloropropene (all isomers)
112. 8003-19-8	Dichloropropene-Dichloropropane Mixture
113. 75-99-0	2-2-Dichloropropionic Acid
114. 62-73-7	Dichlorvos
115. 60-57-1	Dieldrin
116. 109-89-7	Diethylamine
117. 124-40-3	Dimethylamine
118. 25154-54-5	Dinitrobenzene (all isomers)
119. 51-28-5	Dinitrophenol
120. 25321-14-6	Dinitrotoluene (all isomers)
121. 85-00-7	Diquat
122. 298-04-4	Disulfoton
123. 330-54-1	Diuron
124. 27176-87-0	Dodecylbenzenesulfonic Acid
125. 115-29-7	Endosulfan (all isomers)
126. 72-20-8	Endrin and Metabolites
127. 106-89-8	Epichlorohydrin
128. 563-12-2	Ethion
129. 100-41-4	Ethyl Benzene
130. 107-15-3	Ethylenediamine
131. 106-93-4	Ethylene Dibromide
132. 107-06-2	Ethylene Dichloride
133. 60-00-4	EDTA
134. 1185-57-5	Ferric Ammonium Citrate
135. 2944-67-4	Ferric Ammonium Oxalate
136. 7705-08-0	Ferric Chloride

II. HAZARDOUS SUBSTANCES

CAS Number	Chemical Name
137. 7783-50-8	Ferric Fluoride
138. 10421-48-4	Ferric Nitrate
139. 10028-22-5	Ferric Sulfate
140. 10045-89-3	Ferrous Ammonium Sulfate
141. 7758-94-3	Ferrous Chloride
142. 7720-78-7	Ferrous Sulfate
143. 206-44-0	Fluoranthene
144. 50-00-0	Formaldehyde
145. 64-18-6	Formic Acid
146. 110-17-8	Fumaric Acid
147. 98-01-1	Furfural
148. 86-50-0	Guthion
149. 76-44-8	Heptachlor
150. 118-74-1	Hexachlorobenzene
151. 87-68-3	Hexachlorobutadiene
152. 67-72-1	Hexachloroethane
153. 70-30-4	Hexachlorophene
154. 77-47-4	Hexachlorocyclopentadiene
155. 7647-01-0	Hydrochloric Acid (Hydrogen Chloride)
156. 7664-39-3	Hydrofluoric Acid (Hydrogen Fluoride)
157. 74-90-8	Hydrogen Cyanide
158. 7783-06-4	Hydrogen Sulfide
159. 78-79-5	Isoprene
160. 42504-46-1	Isopropanolamine Dodecylbenzenesulfonate
161. 115-32-2	Kelthane
162. 143-50-0	Kepone
163. 301-04-2	Lead Acetate
164. 3687-31-8	Lead Arsenate
165. 7758-95-4	Lead Chloride
166. 13814-96-5	Lead Fluoborate
167. 7783-46-2	Lead Fluoride
168. 10101-63-0	Lead Iodide
169. 18256-98-9	Lead Nitrate
170. 7428-48-0	Lead Stearate
171. 15739-80-7	Lead Sulfate
172. 1314-87-0	Lead Sulfide
173. 592-87-0	Lead Thiocyanate
174. 58-89-9	Lindane
175. 14307-35-8	Lithium Chromate
176. 121-75-5	Malthion
177. 110-16-7	Maleic Acid
178. 108-31-6	Maleic Anhydride
179. 2032-65-7	Mercaptodimethur
180. 592-04-1	Mercuric Cyanide
181. 10045-94-0	Mercuric Nitrate
182. 7783-35-9	Mercuric Sulfate
183. 592-85-8	Mercuric Thiocyanate
184. 10415-75-5	Mercurous Nitrate
185. 72-43-5	Methoxychlor
186. 74-93-1	Methyl Mercaptan
187. 80-62-6	Methyl Methacrylate
188. 298-00-0	Methyl Parathion
189. 7786-34-7	Mevinphos
190. 315-18-4	Mexacarbate
191. 75-04-7	Monoethylamine
192. 74-89-5	Monomethylamine
193. 300-76-5	Naled
194. 91-20-3	Naphthalene
195. 1338-24-5	Naphthenic Acid
196. 7440-02-0	Nickel
197. 15699-18-0	Nickel Ammonium Sulfate
198. 37211-05-5	Nickel Chloride
199. 12054-48-7	Nickel Hydroxide
200. 14216-75-2	Nickel Nitrate
201. 7786-81-4	Nickel Sulfate
202. 7697-37-2	Nitric Acid
203. 98-95-3	Nitrobenzene
204. 10102-44-0	Nitrogen Dioxide
205. 25154-55-6	Nitrophenol (all isomers)
206. 1321-12-6	Nitrotoluene
207. 30525-89-4	Paraformaldehyde
208. 56-38-2	Parathion
209. 608-93-5	Pentachlorobenzene
210. 87-86-5	Pentachlorophenol
211. 85-01-8	Phenanthrene
212. 108-95-2	Phenol
213. 75-44-5	Phosgene
214. 7664-38-2	Phosphoric Acid
215. 7723-14-0	Phosphorus
216. 10025-87-3	Phosphorus Oxychloride
217. 1314-80-3	Phosphorus Pentasulfide
218. 7719-12-2	Phosphorus Trichloride
219. 7784-41-0	Potassium Arsenate
220. 10124-50-2	Potassium Arsenite
221. 7778-50-9	Potassium Bichromate
222. 7789-00-6	Potassium Chromate
223. 7722-64-7	Potassium Permanganate
224. 2312-35-8	Propargite
225. 79-09-4	Propionic Acid
226. 123-62-6	Propionic Anhydride
227. 1336-36-3	Polychlorinated Biphenyls
228. 151-50-8	Potassium Cyanide
229. 1310-58-3	Potassium Hydroxide
230. 75-56-9	Propylene Oxide
231. 121-29-9	Pyrethrins
232. 91-22-5	Quinoline
233. 108-46-3	Resorcinol
234. 7446-08-4	Selenium Oxide
235. 7761-88-8	Silver Nitrate
236. 7631-89-2	Sodium Arsenate
237. 7784-46-5	Sodium Arsenite
238. 10588-01-9	Sodium Bichromate
239. 1333-83-1	Sodium Bifluoride
240. 7631-90-5	Sodium Bisulfite
241. 7775-11-3	Sodium Chromate
242. 143-33-9	Sodium Cyanide
243. 25155-30-0	Sodium Dodecylbenzene Sulfonate
244. 7681-49-4	Sodium Fluoride
245. 16721-80-5	Sodium Hydrosulfide
246. 1310-73-2	Sodium Hydroxide
247. 7681-52-9	Sodium Hypochlorite
248. 124-41-4	Sodium Methylate
249. 7632-00-0	Sodium Nitrate
250. 7558-79-4	Sodium Phosphate, Dibasic
251. 7601-54-9	Sodium Phosphate, Tribasic
252. 10102-18-8	Sodium Selenite
253. 7789-06-2	Strontium Chromate
254. 57-24-9	Strychnine and Salts
255. 100-420-5	Styrene
256. 12771-08-3	Sulfur Monochloride
257. 7664-93-9	Sulfuric Acid
258. 93-76-5	2,4,5-T Acid
259. 2008-46-0	2,4,5-T Amines
260. 93-79-8	2,4,5-T Esters
261. 13560-99-1	2,4,5-T Salts
262. 93-72-1	2,4,5-TP Acid
263. 32534-95-5	2,4,5-TP Acid Esters
264. 72-54-8	TDE
265. 95-94-3	Tetrachlorobenzene
266. 127-18-4	Tetrachloroethane
267. 78-00-2	Tetraethyl Lead
268. 107-49-3	Tetraethyl Pyrophosphate
269. 7446-18-6	Thallium (I) Sulfate
270. 108-88-3	Toluene
271. 8001-35-2	Toxaphene
272. 12002-48-1	Trichlorobenzene (all isomers)
273. 52-68-6	Trichlorfon
274. 25323-89-1	Trichloroethane (all isomers)
275. 79-01-6	Trichloroethylene
276. 25167-82-2	Trichlorophenol (all isomers)
277. 27323-41-7	Triethanolamine Dodecylbenzenesulfonate
278. 121-44-8	Triethylamine
279. 75-50-3	Trimethylamine
280. 541-09-3	Uranyl Acetate
281. 10102-06-4	Uranyl Nitrate
282. 1314-62-1	Vanadium Pentoxide
283. 27774-13-6	Vanadyl Sulfate
284. 108-05-4	Vinyl Acetate
285. 75-35-4	Vinylidene Chloride
286. 1300-71-6	Xylenol
287. 557-34-6	Zinc Acetate
288. 52628-25-8	Zinc Ammonium Chloride
289. 1332-07-6	Zinc Borate
290. 7699-45-8	Zinc Bromide
291. 3486-35-9	Zinc Carbonate
292. 7646-85-7	Zinc Chloride
293. 557-21-1	Zinc Cyanide
294. 7783-49-3	Zinc Fluoride
295. 557-41-5	Zinc Formate
296. 7779-86-4	Zinc Hydrosulfite
297. 7779-88-6	Zinc Nitrate
298. 127-82-2	Zinc Phenolsulfonate
299. 1314-84-7	Zinc Phosphide
300. 16871-71-9	Zinc Silicofluoride
301. 7733-02-0	Zinc Sulfate
302. 13746-89-9	Zirconium Nitrate
303. 16923-95-8	Zirconium Potassium Fluoride
304. 14644-61-2	Zirconium Sulfate
305. 10026-11-6	Zirconium Tetrachloride

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
Phillip J. Kirk, Jr., Secretary

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

4 June 1986

Ms. Denise Bland
EPA NC CERCLA Project Officer
Air and Hazardous Material Division
345 Courtland Street, N.E.
Atlanta, GA 30365

Dear Ms. Bland:

SUBJECT: Preliminary Assessment Report
Southern Latex Corp. NC D980729651
379 Central Drive
Concord, Cabarrus County, NC 28025

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

Southern Latex owned and operated this site in the 1950's. They also leased a facility at 161 Buffalo Avenue (about 0.75 miles east-northeast of the Central Dr. facility) during the early 50's which was later taken over by Reichhold Chemical. It is known that the Buffalo Ave. site was used to produce foam rubber for carpet backing and it is assumed that the Central Dr. facility was used for the same purpose. The Central Dr. facility was abandoned about 1960 and remained vacant until 1964. Concord Lace Corp. has operated on site since then.

It was reported that Southern Latex had a drum wash area and the waste water was disposed of on site. The Eckhardt Waste Disposal Site Directory reports that the site was used between 1958 and 1960 for disposal of organics, inorganics, and miscellaneous waste material. The amount of wastes disposed is not known. Specific wastes are unknown but could include many of the various latex processing chemicals, most of which are not hazardous.

Irish Buffalo Creek (a class C stream) borders the six acre site on the south and west. There was a well on site; however, it was capped about five years ago. The site is now served by city water and sewer.

The site is not believed to pose a threat to the environment or to people working on site or living nearby. The amount of hazardous substances, if any, disposed of would likely be small and it has been twenty-six years since any on-site disposal occurred. Furthermore, much of the original site has been filled in with tons of construction rubble and soil. A Low priority for inspection is recommended.

On 2 June 1986, 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; Vince Schneider and Howard Bryant, Water Quality Section.

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

Sincerely,

Stan T. Atwood

Stan T. Atwood, Toxicologist
Solid and Hazardous Waste Management Branch
Environmental Health Section

SA/tb/0181b

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

II. IDENTIFICATION

01 STATE	02 SITE NUMBER
NC	D980729651

I. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Southern Latex Corp.	379 Central Drive

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Concord	NC	28025	Cabarrus	13	08

09 COORDINATES: LATITUDE 35° 24' 37" | LONGITUDE 80° 36' 20"

10 DIRECTIONS TO SITE (Starting from nearest public road) Follow NC 49 West to Concord exit onto 601 Bypass N and follow to McGill Ave. Turn right on McGill and follow to Central Dr. (1st street on right). Follow Central Dr. to end of street. Concord Lace Corp. is now located at 379 Central Drive.

II. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)
Mayfair Industries (Present Owner)	P.O. Box 844

03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
Concord	NC	28025	

07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)
Concord Lace Corp. (Present operator)	379 Central Drive

09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER
Concord	NC	28025	(704) 786-2216

13 TYPE OF OWNERSHIP (Check one)
[ ] 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: _____
[ ] NO CONTRACTOR NAME(s): _____

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

03 YEARS OF OPERATION
mid 50's (BEGINNING YEAR) | approx. 1960 (ENDING YEAR) [ ] UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED Southern Latex Corp. reportedly disposed of waste water on site during the 50's from drum washing and rinsing. Site has since been filled with construction rubble and covered with soil. Concord Lace Corp. now on site and has been there for 22 years.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION Irish Buffalo Creek borders the site; there was one well on site but it was capped about 5 years ago. The site is not believed to pose a significant hazard to the environment or the population.

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) [ ] B. MEDIUM (Inspection required) [X] 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
Marvin Wilder, Manager	Concord Lace Corp.	(704) 786-2216

04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	ORGANIZATION	03 TELEPHONE NUMBER	08 DATE
Stan Atwood/Jack Butler	NC DHR/DHS	SHW Mgmt. Br.	(919) 733-2801	05/14/86

EPA FORM 2070-12 (7-81)

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

II. IDENTIFICATION

01 STATE	02 SITE NUMBER
NC	D980729651

I. WASTE STATES, QUANTITIES, AND CHARACTERS

01 PHYSICAL STATES (Check all that apply)

[ ] A SOLID
[ ] B. POWDER, FINES
[ ] C. SLUDGE
[X] D. Other Unknown
[ ] 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)

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

II. WASTE TYPES

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS	Unknown		Various rubber processing
IOC	INORGANIC CHEMICALS	Unknown		chemicals probably disposed of
ACD	ADICS			in small amts. from drum washing
BAS	BASES			on-site.
MES	HEAVY METALS			

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

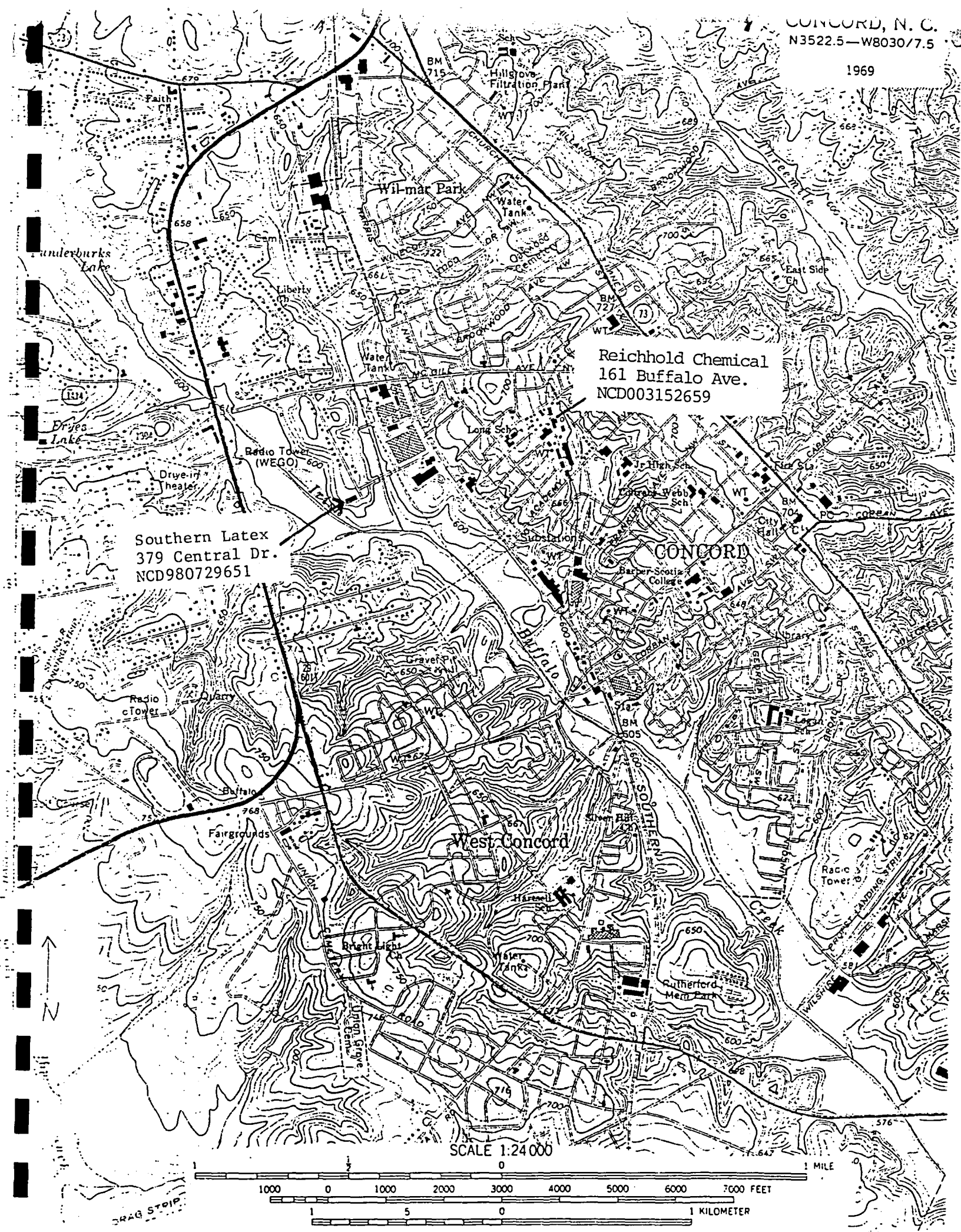
CATEGORY	SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION

IV. 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. USGS 7.5' Topographic map - Concord Quad., 1969.
2. Telephone conversation with Marvin Wilder, Concord Lace Corp. on 14 May 1986.
3. Eckhardt Report - Waste Disposal Site Directory, NC.


CONCORD, N. C.
N3522.5—W8030/7.5
1969
Reichhold Chemical
161 Buffalo Ave.
NCD003152659
Southern Latex
379 Central Dr.
NCD980729651
Wil-mar Park
Hillgrove Filtration Plant
Water Tank
Oakwood Cemetery
Liberty Ch
Faith Ch
Underburks Lake
Drye's Lake
Drive-in Theater
Radio Tower (WEGO)
Long Sch
Jr High Sch
Webb Sch
City Hall
Substation
CONCORD
Barber-Scotia College
Gravel Pit
Quarry
Radio Tower
Buffalo
Fairgrounds
West Concord
Green Hill Ch
Harrell Sch
Bright Light Ch
Union Grove Cem
Rutherford Mem Park
Logan Sch
Radio Tower
Buffalo Creek
SOUTHERN
UNION
ROLO
WILSHIRE
CABARRUS
CORBAN
BROOKWOOD
CHURCH
HILLANDALE
SPRING
DRAG STRIP
N
SCALE 1:24 000
1 MILE
7000 FEET
1 KILOMETER

REFERENCE # 2

101

"Rite in the Rain"®

ALL-WEATHER

LEVEL

Notebook No. 311

F4-2017

Southern Latex Corporation
Concord, Cabarrus County, N.C.
TOD: F4-9001-101
P.M. Brooke Bittinger

LOGBOOK REQUIREMENTS
REVISED - NOVEMBER 29, 1988

NOTE: ALL LANGUAGE SHOULD BE FACTUAL AND OBJECTIVE

1. Record on front cover of the Logbook: TDO No., Site Name, Site Location, Project Manager.
2. All entries are made using ink. Draw a single line through errors. Initial and date corrections.
3. Statement of Work Plan, Study Plan, and Safety Plan discussion and distribution to field team with team members' signatures.
4. Record weather conditions and general site information.
5. Sign and date each page. Project Manager is to review and sign off on each logbook daily.
6. Document all calibration and pre-operational checks of equipment. Provide serial numbers of equipment used onsite.
7. Provide reference to Sampling Field Sheets for detailed sampling information.
8. Describe sampling locations in detail and document all changes from project planning documents.
9. Provide a site sketch with sample locations and photo locations.
10. Maintain photo log by completing the stamped information at the end of the logbook.
11. If no site representative is on hand to accept the receipt for samples, an entry to that effect must be placed in the logbook.
12. Record I.D. numbers of COC and receipt for sample forms used. Also record numbers of destroyed documents.
13. Complete SMO information in the space provided.

I have read and understand the work plan for this facility.

Brooke Bittinger
Brooke Bittinger
2-12-90

Matthew S. McCoy
MATTHEW S. McCoy
2-12-90

1440. Arrived at site at 1440. Clear and warm →60°F Ground wet

Bldg is occupied, approximately 30 cars in parking lot. Concord Lace is on bldg.
Picture #1 is of the bldg & picture #2 is of the grassy area behind the bldg. Easily accessible

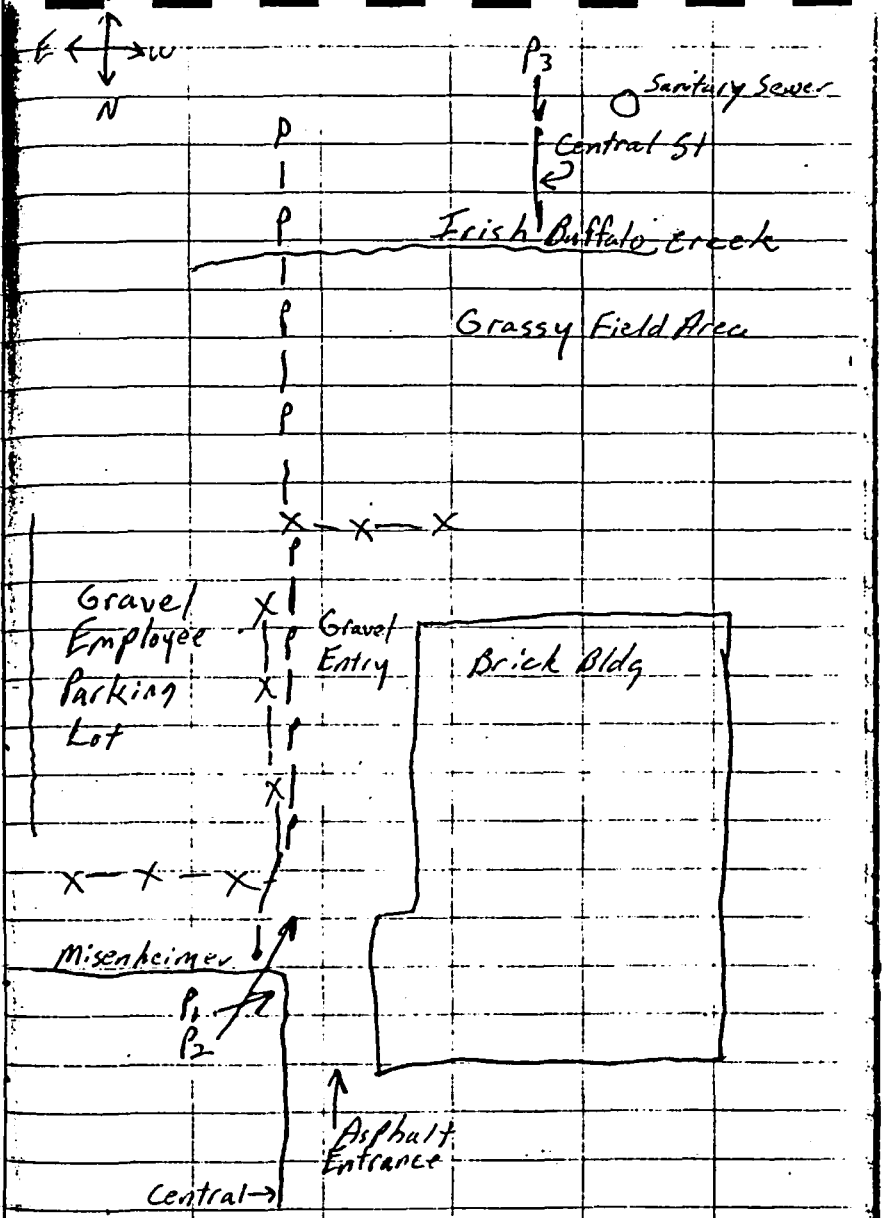
Vegetation is fine, Area is neat & clean.

Municipal water along Central road. Nearest residence (50 feet) is on Tower Dr. and Central Ave. - adjoins northern property line of facility

Land use in area is residential and industrial

1500 Leaving site to get a look at south side of property

Brooke Bittinger 2-12-90



Brooke Bittinger 2-12-90

1510 Talked to Marilyn Barnetts about her well (nearest private well) She lives at 284 Central Extension She said the well was drilled to 400 feet and is about five years old.

1520 Took picture of rear of facility including grassy area looking north

City water does run next to the street (Central St) however some of these homes are on private wells. Approximately 20 homes along Central are on BB 2-12-90 either municipal water or private well

1530 Leaving facility area.

1545 Picked up one aerial photo at tax assessor's office and deeds to the property

Brooke Bittinger 2-12-90

REFERENCE # 3

NUS CORPORATION AND SUBSIDIARIES

CONTROL NO:	DATE:	TIME:
F4-9001-101	2-22-90	4:00 PM

DISTRIBUTION:

Southern Latex Corporation

BETWEEN:	OF:	PHONE:
Mark Kitris	Cabarrus County Tax Assessor's office	(704) 788-8166

AND: B.B. Brooke Bittinger / NUS

DISCUSSION:

Mr. Kitris stated that Mayfair Industries is the present owner of the property (land and building) at 379 Central Drive. According to deed book 333, page 527, the grantor, Southern Latex, deeded the property to the grantee, Mayflower Industries, on January 8, 1964. The current property was formed by combining three adjoining plots.

ACTION ITEMS: -

NUS 067 REVISED 0685

14 May 1986

TO: File

FROM: Stan Atwood SA

RE: Southern Latex, 379 Central Drive, Concord, NC
NC D980729651

I called Concord Lace Corp., the present occupants at the above address and spoke with Mark Schroeder, Office Manager, and Marvin Wilder, Plant Manager about their knowledge of the site history. Mr. Wilder said that Concord Lace had been operating at this site for 22 years. He said that the facility was operated by a latex company (believed to be Southern Latex) in the 1950's and that the building had been vacant for several years before Concord Lace acquired the property. Mr. Wilder also reported that the latex company disposed of waste water from drum washings and rinsings on site and said he knew the location of the disposal areas. Concord Lace has since filled in much of the property with rubble from demolished buildings and covered the area with several hundred truck loads of soil. They did have a well on site in the past, but it was capped about 5 years ago and the well house was removed.

SA/tb/0181b

REFERENCE # 5

NUS CORPORATION AND SUBSIDIARIES

CONTROL NO:	DATE:	TIME:
F4-9001-101	2-23-90	2:00 PM

DISTRIBUTION:

Southern Latex Corporation

BETWEEN:	OF:	PHONE:
Barbara Bost	Chamber of Commerce (Concord)	(704) 782-4111

AND: B.B. Brooke Bittinger / N.U.S.

DISCUSSION:

Ms. Bost stated that Concord Lace Corp. manufactures lace trim.

ACTION ITEMS:

NUS 067 REVISED 0685

NUS CORPORATION AND SUBSIDIARIES

REFERENCE # 6

CONTROL NO.	DATE: March 14, 1990	TIME: 9:45 a.m.

DISTRIBUTION:

North Carolina Sites

BETWEEN: Jim Edwards, Compliance Officer	OF: NC Hazardous Waste Compliance Program, Raleigh, NC	PHONE: (919) 733-2178

AND: Joan Dupont, NUS Corporation

Joan Dupont

DISCUSSION:

Mr. Edwards checked on the current RCRA status of the following sites:

Sayles-Biltmore Bleacheries Asheville, Buncombe Co. NCD062552153	- Not a RCRA facility.
Reichhold Chemical, Inc. Concord, Cabarrus Co. NCD003152659	- Not an active RCRA facility. Submitted Part A, but date not found. Deleted as a RCRA facility on 9/13/89.
Southern Latex Corp. Concord, Cabarrus Co. NCD980729651	- Not a RCRA facility.
Sultzer-Ruti, Inc. Grover, Cleveland Co. NCD980558803	- Not an active RCRA facility. Withdrew from interim status (terminated 10/19/82) and was deleted as a RCRA facility on 3/19/86.
Lackey Ind. Whse. Whiteville, Columbus Co. NCD080891039	- Not a RCRA facility. No Part A application or Notification of Hazardous Waste Activity filed.
Southern Resins (U.S. Industries, Inc.) Thomasville, Davidson Co. NCD077821296	- Not an active RCRA facility. Withdrew from interim status on 10/18/82.
R.J. Reynolds Tobacco Co. Winston-Salem, Forsyth Co. NCD000616474	- Not an active RCRA facility. Deleted as a RCRA facility on 3/11/86.
Zapata Inds., Inc. Butner, Granville Co. NCD091576033	- Not an active RCRA facility. Part A filed in 1980. Withdrew from interim status (terminated 5/29/85).

NUS CORPORATION AND SUBSIDIARIES **TELECON NOTE**

CONTROL NO.	DATE: March 14, 1990	TIME: 9:45 a.m.

DISTRIBUTION:

North Carolina Sites, Page Two

BETWEEN: Jim Edwards, Compliance Officer	OF: NC Hazardous Waste Compliance Program, Raleigh, NC	PHONE: (919) 733-2178

AND: Joan Dupont, NUS Corporation

Joan Dupont

DISCUSSION:

Madison County Cyanide Site Leicester, Madison Co. NCD980848782	- Not a RCRA facility. No Part A application filed.
Singer Co. Furniture Div., Bryson City Bryson City, Swain Co. NCD098765506	- Not an active RCRA facility. Withdrew from interim status (terminated 3/18/82).
Waxhaw Storage Tanks Waxhaw, Union Co. NCD981030836	- Not a RCRA facility.

REFERENCE # 7

EPA-600/2-87-035
April 1987

DRASTIC: A Standardized System for Evaluating Ground Water Pollution Potential Using Hydrogeologic Settings

by

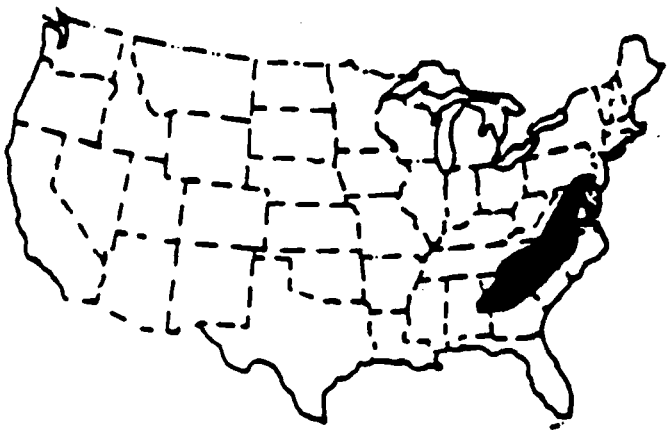
Linda Aller
Truman Bennett
Jay H. Lehr
Rebecca J. Petty
and
Glen Hackett
National Water Well Association
Dublin, Ohio 43017

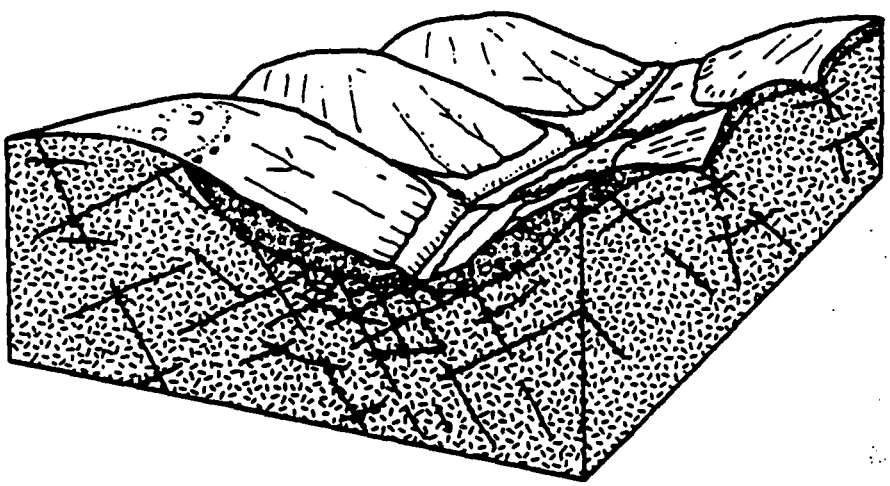
Cooperative Agreement CX-810715-01

Project Officer
Jerry Thornhill
Applications and Assistance Branch
Robert S. Kerr Environmental Research Laboratory
Ada, Oklahoma 74820

ROBERT S. KERR ENVIRONMENTAL RESEARCH LABORATORY
OFFICE OF RESEARCH AND DEVELOPMENT
U.S. ENVIRONMENTAL PROTECTION AGENCY
ADA, OKLAHOMA 74820

8. PIEDMONT BLUE RIDGE GROUND-WATER REGION





8A	Mountain Slopes
8B	Alluvial Mountain Valleys
8C	Mountain Flanks
8D	Regolith
8E	River Alluvium
8F	Mountain Crests
8G	Swamp/Marsh

8. PIEDMONT BLUE RIDGE REGION

(Thick regolith over fractured crystalline and metamorphosed sedimentary rocks)

The Piedmont and Blue Ridge region is an area of about 247,000 km2 extending from Alabama on the south to Pennsylvania on the north. The Piedmont part of the region consists of low, rounded hills and long, rolling, northeast-southwest trending ridges whose summits range from about a hundred meters above sea level along its eastern boundary with the Coastal Plain to 500 to 600 m along its boundary with the Blue Ridge area to the west. The Blue Ridge is mountainous and includes the highest peaks east of the Mississippi. The mountains, some of which reach altitudes of more than 2,000 m, have smooth-rounded outlines and are bordered by well-graded streams flowing in relatively narrow valleys.

The Piedmont and Blue Ridge region is underlain by bedrock of Precambrian and Paleozoic age consisting of igneous and metamorphosed igneous and sedimentary rocks. These include granite, gneiss, schist, quartzite, slate, marble, and phyllite. The land surface in the Piedmont and Blue Ridge is underlain by clay-rich, unconsolidated material derived from in situ weathering of the underlying bedrock. This material, which averages about 10 to 20 m in thickness and may be as much as 100 m thick on some ridges, is referred to as saprolite. In many valleys, especially those of larger streams, flood plains are underlain by thin, moderately well-sorted alluvium deposited by the streams. When the distinction between saprolite and alluvium is not important, the term regolith is used to refer to the layer of unconsolidated deposits.

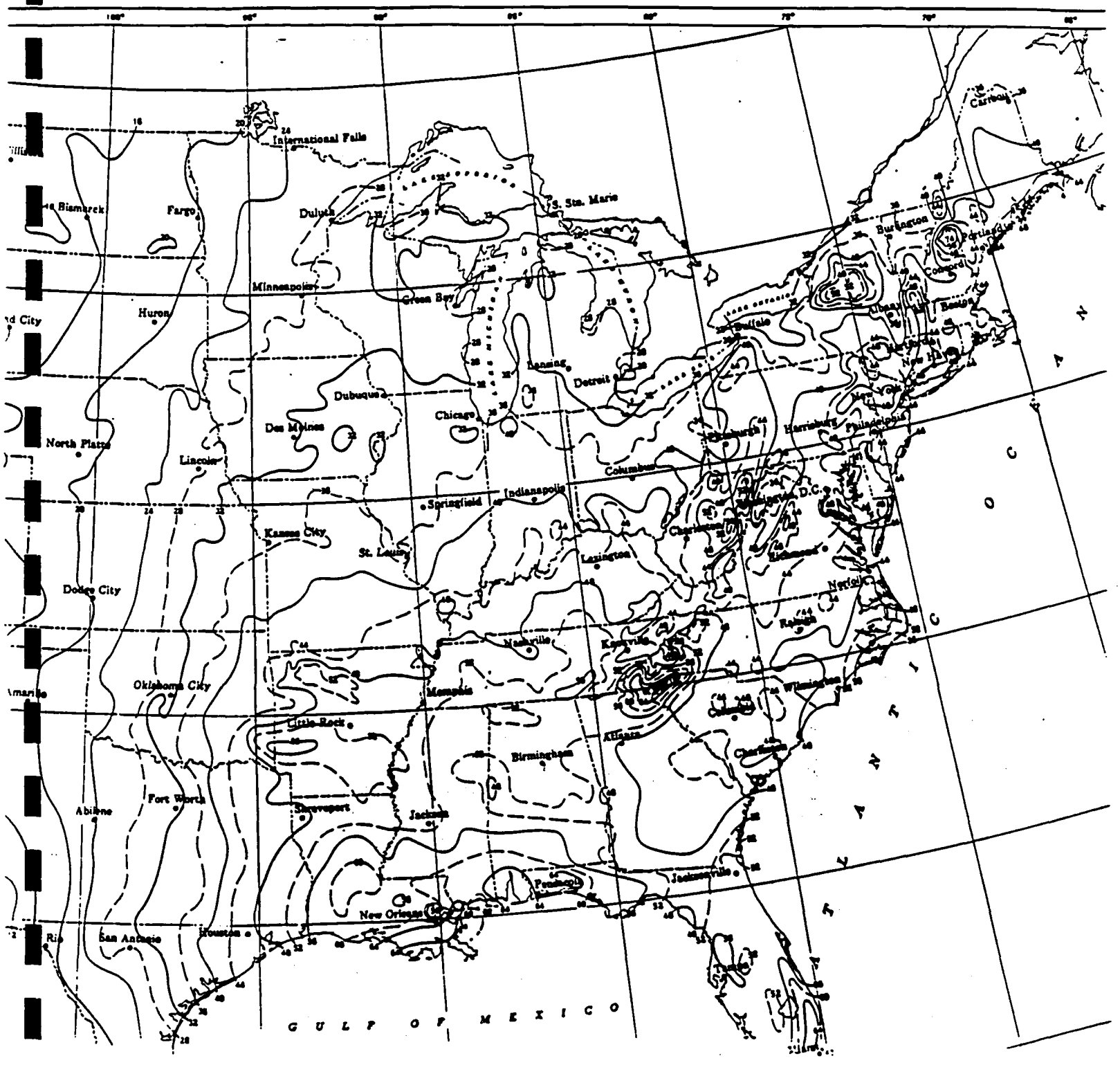
The regolith contains water in pore spaces between rock particles. The bedrock, on the other hand, does not have any significant intergranular porosity. It contains water, instead, in sheetlike openings formed along fractures (that is, breaks in the otherwise "solid" rock). The hydraulic conductivities of the regolith and the bedrock are similar and range from about 0.001 to 1 m day^{-1}. The major difference in their water-bearing characteristics is their porosities, that of regolith being about 20 to 30 percent and that of the bedrock about 0.01 to 2 percent. Small supplies of water adequate for domestic needs can be obtained from the regolith through large-diameter bored or dug wells. However, most wells, especially those where moderate supplies of water are needed, are relatively small in diameter and are cased through the regolith and finished with open holes in the bedrock. Although, as noted, the hydraulic conductivity of the bedrock is similar to that of the regolith, bedrock wells generally have much larger yields than regolith wells because, being deeper, they have a much larger availble drawdown.

REFERENCE # 8

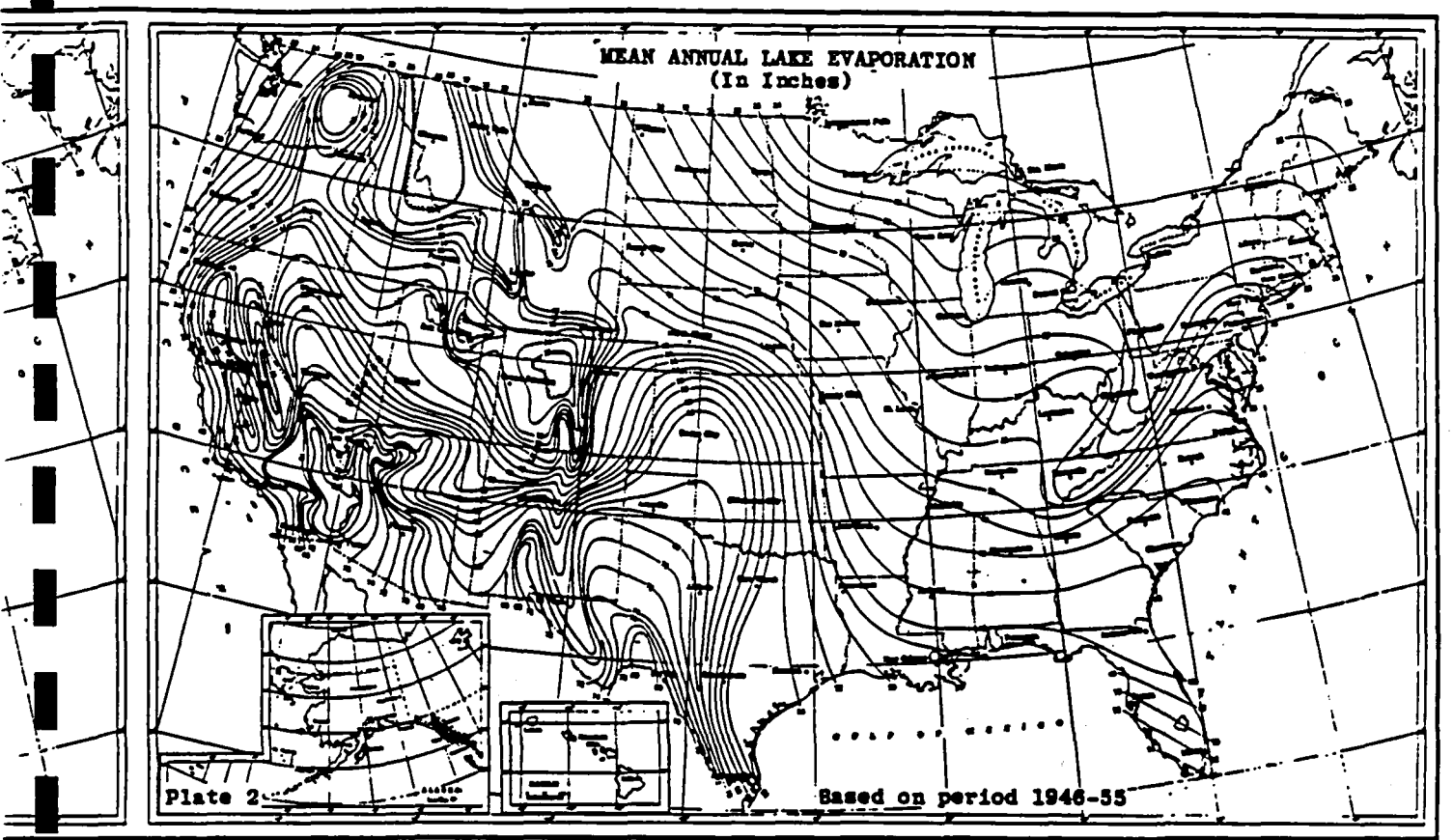
CLIMATIC ATLAS OF THE UNITED STATES

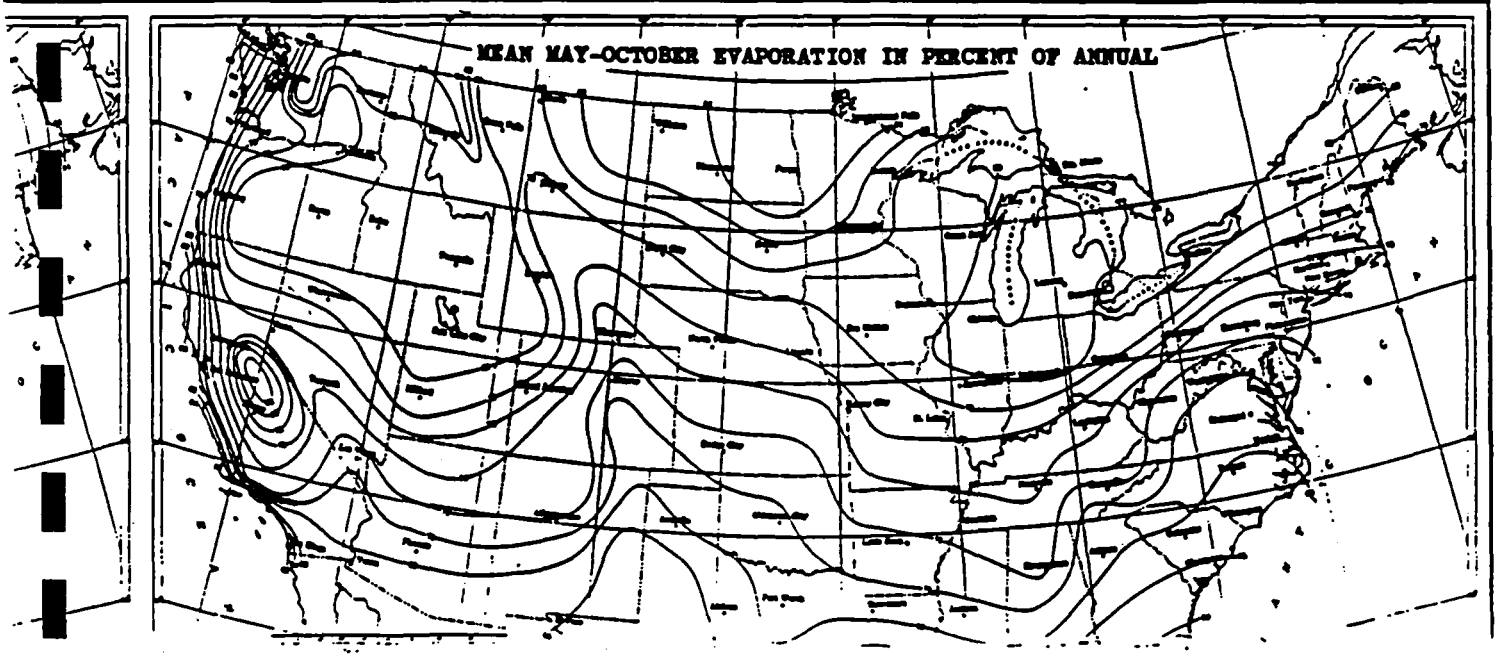
ronmental Science Services Administration . Environmental

L ANNUAL TOTAL PRECIPITATION (Inches)



N AND LAKE EVAPORATION





DEPARTMENT OF COMMERCE
[illegible] H. HODGES, Secretary

REFERENCE # 9

WEATHER BUREAU
F. W. REICHELDERFER, Chief

TECHNICAL PAPER NO. 40

RAINFALL FREQUENCY ATLAS OF THE UNITED STATES

for Durations from 30 Minutes to 24 Hours and Return Periods from 1 to 100 Years

Prepared by
DAVID M. HERSHFIELD
Cooperative Studies Section, Hydrologic Services Division
for
Engineering Division, Soil Conservation Service
U.S. Department of Agriculture

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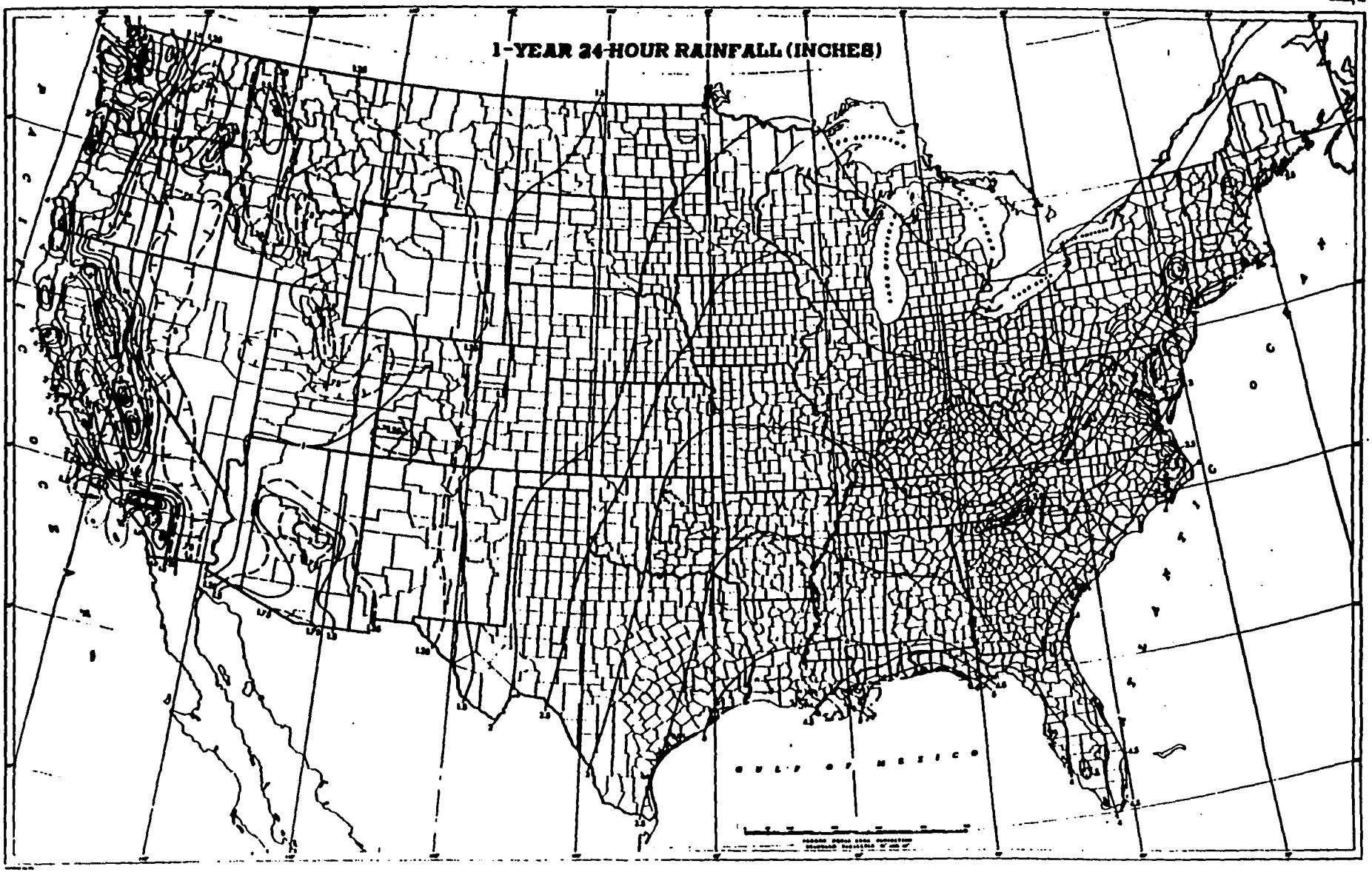
1-YEAR 24-HOUR RAINFALL (INCHES)

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Dooling

National Water Summary 1984

Hydrologic Events, Selected Water-Quality Trends, and Ground-Water Resources

By United States Geological Survey

United States Geological Survey
Water-Supply Paper 2275

NORTH CAROLINA
Ground-Water Resources

Ground water is a vital natural resource in North Carolina. Ground water supplies more than 3.2 million people, or about 55 percent of the State's total population. Its economic significance is substantial, particularly in the Coastal Plain province (fig. 1), where high-yielding aquifers supply most municipalities, industries, rural areas, and livestock. In the Piedmont and Blue Ridge provinces, ground water serves slightly more than one-half of the 4 million residents (Mann, 1978). Besides withdrawals for public supply, the largest ground-water withdrawals in the State are for mining and quarrying operations and process water for a number of textile and chemical industries. Withdrawals for irrigation represent a small, but increasing, percentage of total ground-water use, particularly in the Coastal Plain. Ground-water withdrawals for various uses and other related statistics are given in table 1.

GENERAL SETTING

North Carolina is located in three physiographic provinces—the Coastal Plain, Piedmont, and Blue Ridge (fig. 1). The Coastal Plain aquifers generally are unconsolidated and consist of beds of sand, gravel, and limestone separated by clay or clayey layers and lenses. These strata dip and thicken southeastward and together comprise a wedge lying on crystalline bedrock (fig. 1). The Piedmont and Blue Ridge provinces are, for the most part, underlain by massive crystalline and metamorphic rocks that are covered nearly everywhere by a clayey or sandy regolith consisting of weathered parent rock material and alluvium.

Recharge to the ground-water system in North Carolina is derived from precipitation that ranges from about 44 to 54 inches (in.) in the Piedmont and Coastal Plain provinces and from about 40 to 80 in. in the Blue Ridge province (Eder and others, 1983). The amount of precipitation that recharges the ground-water system averages about 20 percent of annual precipitation (Winner and Simmons, 1977; Daniel and Sharpless, 1983). Most ground-water recharge moves through shallow aquifers and discharges to streams; only a small part (less than 1 in. in the Coastal Plain) recharges deeper aquifers.

PRINCIPAL AQUIFERS

The principal aquifers in North Carolina are the surficial, the Yorktown, the Castle Hayne, and the Cretaceous located in the Coastal Plain and the crystalline rock aquifer located in the Piedmont and Blue Ridge provinces. These aquifers are described below and in table 2; their areal distribution is shown in figure 1.

SURFICIAL AQUIFER

The surficial aquifer is a near-surface deposit of either marine-terrace sand and clay, or sand dunes. It is a principal aquifer in three areas where it is commonly more than 50 feet (ft) thick—the Sand Hills in the southwestern Coastal Plain, the narrow coastal strip of barrier islands called the Outer Banks, and the eastern one-half of the mainland north of Pamlico Sound (fig. 1). In the Sand Hills, where the aquifer may be more than 250 ft thick, it serves as a source for public supplies and irrigation for numerous golf courses (North Carolina Department of Natural Resources and Community Development, 1979). Water from this aquifer in the Sand Hills area has dissolved-solids concentrations less than 25 milligrams per liter (mg/L) and hardness less than 10 mg/L as calcium carbonate; the pH commonly is below 6, making it corrosive. Sands that form the Outer Banks are the only source of freshwater along much of the northeastern coast. The freshwater in these sands often has a dissolved-solids concentration of 500 mg/L and hardness of about 200 mg/L as calcium carbonate. On the mainland north of Pamlico Sound, the surficial aquifer ranges from 50 to 200 ft thick and may yield as much as 1 million gallons per day (Mgal/d) to single wells or small well fields. Here, water from the aquifer usually has dissolved-solids concentrations of less than 200 mg/L and hardness of less than 100 mg/L as calcium carbonate; the pH, however, may be as low as 5, which renders the

Table 1. Ground-water facts for North Carolina

[Withdrawal data rounded to two significant figures and may not add to totals because of independent rounding. Mgal/d = million gallons per day; gal/d = gallons per day. Source: Solley, Chase, and Mann, 1983]

Population served by ground water, 1980	
Number (thousands)	3,234
Percentage of total population	55
From public water-supply systems:	
Number (thousands)	474
Percentage of total population	8
From rural self-supplied systems:	
Number (thousands)	2,760
Percentage of total population	47
Freshwater withdrawals, 1980	
Surface water and ground water, total (Mgal/d)	8,100
Ground water only (Mgal/d)	770
Percentage of total	10
Percentage of total excluding withdrawals for thermoelectric power	20
Category of use	
Public-supply withdrawals:	
Ground water (Mgal/d)	70
Percentage of total ground water	9
Percentage of total public supply	12
Per capita (gal/d)	148
Rural-supply withdrawals:	
Domestic:	
Ground water (Mgal/d)	140
Percentage of total ground water	18
Percentage of total rural domestic	100
Per capita (gal/d)	51
Livestock:	
Ground water (Mgal/d)	33
Percentage of total ground water	4
Percentage of total livestock	85
Industrial self-supplied withdrawals:	
Ground water (Mgal/d)	490
Percentage of total ground water	64
Percentage of total industrial self-supplied:	
Including withdrawals for thermoelectric power	6
Excluding withdrawals for thermoelectric power	17
Irrigation withdrawals:	
Ground water (Mgal/d)	39
Percentage of total ground water	5
Percentage of total irrigation	30

Table 2. Aquifer and well characteristics in North Carolina

[Ft = feet; gal/min = gallons per minute; mg/L = milligrams per liter. Sources: Reports of the U. S. Geological Survey and the North Carolina Department of Natural Resources and Community Development]

Aquifer name and description	Well characteristics				Remarks
	Depth (ft)		Yield (gal/min)		
	Common range	May exceed	Common range	May exceed	
Surficial aquifer: Sand, silt, clay, and gravel. Generally unconfined or partially confined.	40 - 65	175	25 - 200	500	Important aquifer in Sand Hills, northeast North Carolina, and Outer Banks. Water only slightly mineralized, except at depth in coastal areas where it is salty. Iron problems common. Equivalent to Columbia aquifer in Virginia.
Yorktown aquifer: Sands and clay. Partially confined or confined.	50 - 150	190	15 - 90	500	Includes Yorktown Formation and minor sands in Pungo River Formation. Important aquifer in northern Coastal Plain. Water is salty in coastal areas. Iron problems common. Equivalent to Yorktown-Eastover aquifer in Virginia.
Castle Hayne aquifer: Limestone, sandy limestone, and sand. Generally confined.	70 - 200	400	200 - 500	2,000	Includes Belgrade and River Bend Formations, Castle Hayne Limestone and Beaufort Formation. Castle Hayne Limestone is major aquifer in eastern Coastal Plain. Iron and hydrogen sulfide are problems near aquifer's western limit. Water is salty at depth near coast.
Cretaceous aquifer: Sand, clayey sand, and clay. Confined.	100 - 600	800	200 - 400	1,400	Includes Peedee, Black Creek, and Cape Fear Formations. Most widely used aquifer in Coastal Plain. Water has low mineral content. Iron problems common. Water is salty at depth in eastern Coastal Plain. Equivalent to Potomac aquifer in Virginia and Black Creek and Middendorf aquifers in South Carolina.
Crystalline rock aquifer: Crystalline igneous, metasedimentary and metavolcanic rock. Semiconfined to confined.	75 - 200	300	5 - 35	200	Large well yields dependent on interception of fractures; sustained yields dependent on thickness of saturated regolith overlying fractured-rock aquifer. Dissolved solids average about 170 mg/L. Water slightly acidic and may be corrosive. Locally high in iron and silica.

water corrosive. The aquifer generally is unconfined to partially confined throughout most of the Coastal Plain, but where it is more than 50 ft thick, water usually is confined in the deeper parts due to differences in lithology.

Yorktown Aquifer

The Yorktown aquifer is present at shallow depths in the northern Coastal Plain. A few high-producing wells tap the Yorktown. Elizabeth City in Pasquotank County draws 1.3 Mgal/d from a well field that taps the aquifer. Water in the Yorktown aquifer generally has dissolved-solids concentrations of less than 500 mg/L and hardness of less than 300 mg/L as calcium carbonate.

Castle Hayne Aquifer

The Castle Hayne aquifer is the most productive aquifer in North Carolina. Wells that yield more than 1,000 gallons per minute (gal/min) can be readily developed in this aquifer and yields may exceed 2,000 gal/min. The Castle Hayne is the major source of freshwater in the southeastern coastal area where nearly all other aquifers contain some saltwater. Water from the Castle Hayne aquifer usually has a hardness ranging from 80 to 300 mg/L as calcium carbonate (Wilder and others, 1978) and requires treatment for some uses. It commonly contains concentrations of silica higher than 50 mg/L. The aquifer generally is confined, except near its western limit where it is unconfined or partially confined.

Cretaceous Aquifer

The Cretaceous aquifer is the principal aquifer in much of the central and southern Coastal Plain. The aquifer has only moderate hydraulic conductivity but is very thick. For this reason, a number of well fields in the Cretaceous aquifer are able to produce more than 1 Mgal/d. Water from the Cretaceous aquifer typically is soft with hardness commonly less than 20 mg/L as calcium carbonate. The water occasionally contains concentrations of fluoride higher than 1.5 mg/L, the maximum limit for public supplies in this area. The aquifer is confined throughout its areal extent.

Crystalline Rock Aquifer

The crystalline rock aquifers of the Piedmont and Blue Ridge provinces consist generally of fractured crystalline igneous and metamorphic rock that has low porosity and, therefore, little storage capacity. Well yields are sustained by water stored in the saturated regolith that overlies the frac-

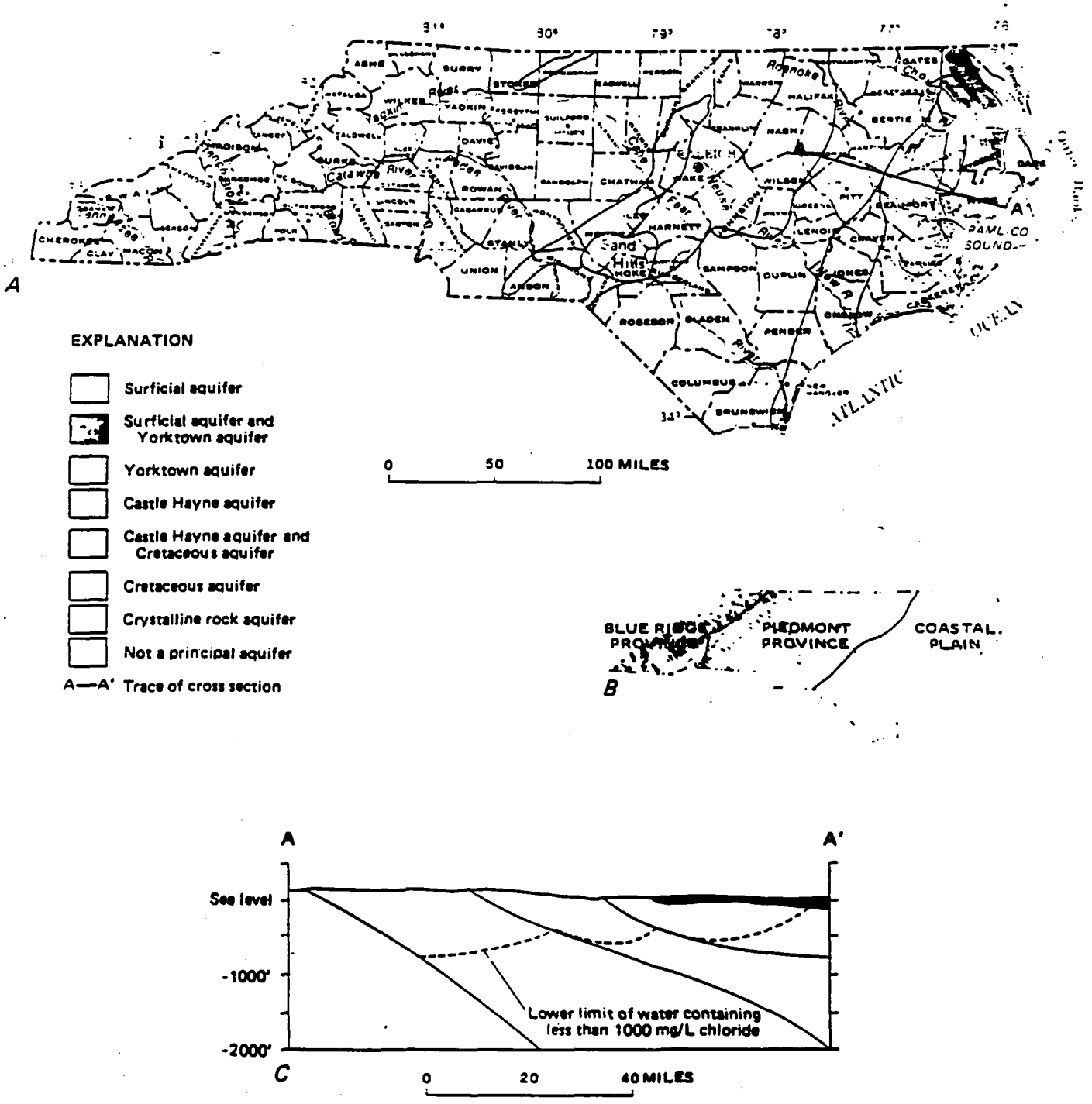


Figure 1. Principal aquifers of North Carolina. *A*, Geographic distribution. *B*, Physiographic diagram and divisions. *C*, Generalized cross section (A-A'), Coastal Plain. (See table 2 for more detailed description of aquifers. Sources: *A*, *C*, compiled by R. W. Coble from U.S. Geological Survey and North Carolina Department of Natural Resources and Community Development files. *B*. Fenneman, 1938; Raisz, 1954.)

tured bedrock. Success in constructing high-yield wells in this terrane depends on interception of water-bearing fracture systems that are overlain by saturated regolith. The chance of intercepting interconnected fractures is greatest in valleys and draws and least on ridges and hilltops. The average yield of wells in the crystalline rock is low—about 10 to 25 gal/min; however, yields of 200 gal/min or more are common. Water from the crystalline rock has a dissolved-solids concentration that is commonly about 170 mg/L and rarely exceeds 250 mg/L. Hardness generally is less than 100 mg/L as calcium carbonate. Because of the low buffering capacity of the water, corrosion can be a problem where the dissolved-solids concentration is less than 100 mg/L, even though pH values range from 6.3 to 6.7.

OTHER AQUIFERS

Triassic basins within the crystalline rock terrane of the Piedmont are areas from which the principal aquifers are absent (fig. 1); these basins consist of downfaulted blocks of crystalline rock. The basins are filled with clay, silt, fine-grained sandstone, and conglomerate, into which, in some places, basalt dikes have intruded. In this terrane, chances of constructing wells that yield more than a few gallons per minute are slight.

GROUND-WATER WITHDRAWALS AND WATER-LEVEL TRENDS

Major areas of ground-water withdrawals and water levels for selected observation wells near pumping centers are shown in figure 2. Generally, water levels decline in response to increases in pumping and recover when pumping is reduced. The hydrographs in figure 2 are representative of response of water levels to pumping in the Coastal Plain.

Water-level declines are not widespread in the surficial aquifer. Pumping 1 Mgal/d from a battery of shallow wells near Elizabeth City (near location 1, fig. 2) resulted in no measurable decline in water level in an observation well only 0.5 mile (mi) from the well field.

Only minor withdrawals are made from the Yorktown aquifer, which is readily recharged; thus, major areal water-level declines have not occurred in this aquifer. In the Belhaven area, withdrawals of 1.2 Mgal/d have resulted in less than 10 ft of decline in 16 years as shown by the hydrograph (location 5, fig. 2).

The largest ground-water withdrawals in North Carolina are from the Castle Hayne aquifer to dewater one mine and three quarries. About 65 Mgal/d are withdrawn from the confined Castle Hayne aquifer to reduce the artesian pressure, thereby facilitating dewatering of the overlying phosphate ore beds. Water levels in the Castle Hayne have declined 5 ft or more over an area of 1,300 square miles in response to this pumping (North Carolina Groundwater Section, 1974). The hydrograph for the Castle Hayne observation well, which is adjacent to the mining area (location 6, fig. 2), shows the rapid decline in water level when pumping began in 1965; stabilization of the water level was achieved in 1966 when the amount of induced leakage into the aquifer and a reduction in the amount of natural discharge from the aquifer compensated for the amounts of withdrawal. Changes in water level since the late 1960's are the result of fluctuating pumping rates and movement of the center of pumping as different parts of the ore body are mined. Other withdrawals from the Castle Hayne aquifer range from 11 to 18 Mgal/d at three quarries (locations 8, 11, 16, fig. 2). Because the Castle Hayne generally is unconfined in the area of the quarries, the geographic extent of the cones of depression is limited.

Widespread withdrawals from the Cretaceous aquifer have resulted in continuing declines in water levels in this aquifer throughout much of the Coastal Plain. The Cretaceous aquifer observation well (location 7, fig. 2) reveals that, after a well field was established near the observation well in 1968, water levels have declined more than 80 ft. Periods of water-level recovery and apparent stability are the result of short periods of decreased withdrawal rates. Water levels in the Cretaceous aquifer in the northern Coastal Plain have declined over an area of several thousand square miles in North Carolina because of withdrawals of 35 Mgal/d or more near Franklin, Va., 10 mi north of the State line. Declines near the line (location 26, fig. 2) have been as much as 45 ft since 1966 and are estimated to be as much as 100 ft since the early 1940's when extensive withdrawals began.

Water-level declines because of withdrawals from the crystalline rock aquifer are not widespread. Water pumped from the aquifer is supplied from the saturated portion of the overlying regolith. Recent research shows that withdrawals from the crystalline rock aquifer are reflected in local cones of depression in the overlying regolith (Daniel and Sharpless, 1983).

GROUND-WATER MANAGEMENT

The North Carolina Department of Natural Resources and Community Development (NRCD) implements most of the regulatory and planning procedures related to ground-water resources in the State. The Division of Environmental Management (DEM) within NRCD, has the major responsibility for ground-water management and regulatory programs. The Environmental Management Commission has authority over the permitting process and has made the Groundwater Section of DEM directly responsible for issuing permits for well construction and ground-water withdrawals. The Commission may designate an area as a Capacity-Use Area whenever the renewal and replenishment of the ground-water supplies are believed to be threatened. To date, the Commission has established only one such area in east-central North Carolina. However, additional areas are being considered for Capacity-Use Area designation.

A permit must be obtained from the Groundwater Section of DEM for (1) the construction of public-supply, industrial, and irrigation wells, (2) wells with a designed capacity of 100,000 gallons per day (gal/d) or greater, (3) wells to be used for injection, recharge, or disposal purposes, and (4) a well, other than a domestic well, located in a designated Capacity-Use Area (North Carolina Well Construction Act of 1967, Article 7-87-88). Injection wells for waste-disposal purposes currently are prohibited by State statute. All well drillers must register annually with NRCD and are required to report all well completion and abandonments.

In addition to a water-use permit in Capacity-Use Areas for users withdrawing more than 100,000 gal/d, NRCD also may require these users to adhere to established maximum withdrawal rates; the agency also can establish the minimum water levels resulting from pumping in certain areas.

The NRCD Division of Water Resources (DWR) collects data on the use of ground water statewide through its water-use data program. The DWR includes ground water in special regional or river basin water-resources studies with primary emphasis on the availability of ground water to meet water-supply needs for municipal and industrial use and for agricultural irrigation. The DWR also provides technical assistance to local goverment water utilities in considering ground water as a source of supply for public-water systems. Technical information on ground water is also available through the

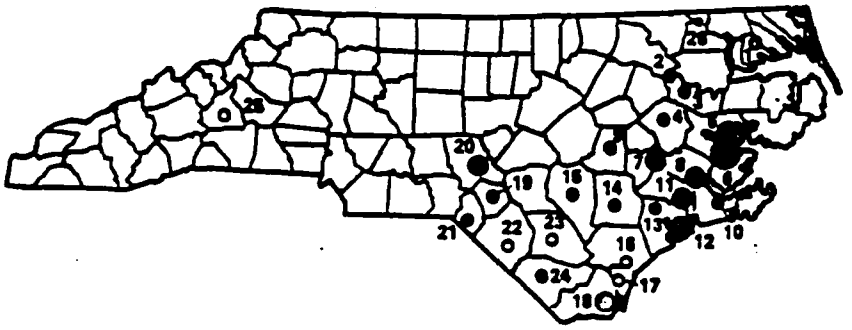
EXPLANATION

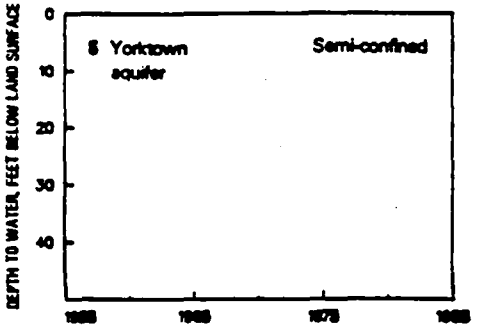
Ground-water withdrawals, 1980 (million gallons per day)

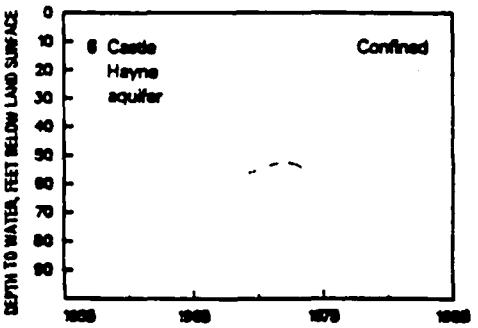
- 1 – 5
- 6 – 10
- Greater than 60

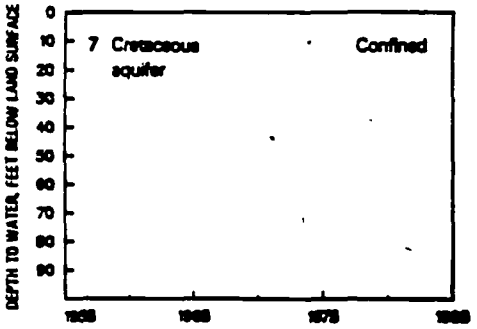
Location number

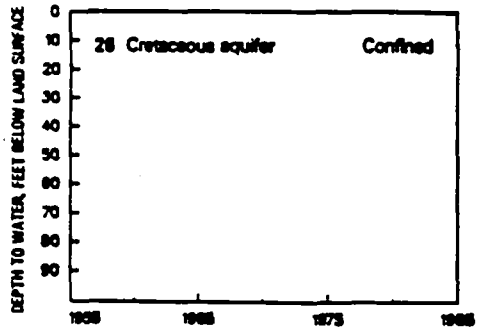
- 2 Withdrawal site
- 28 Hydrograph only











WITHDRAWAL SITES

No. on map	Geographic area	Aquifer	Principal uses
1	Elizabeth City area . . .	Yorktown	Public supply.
2	Hobgood area	Cretaceous.	Industrial.
3	Robersonville-Williamston area.	. . . .do	Public supply.
4	Greenville-Farmville area.	. . . .do	Do.
5	Belhaven area	Yorktown	Public supply, industrial.
6	Aurora area	Castle Hayne. . . .	Mining.
7	Kinston-Graingers-Cove City area.	Cretaceous.	Public supply, industrial.
8	New Bern area.	Castle Hayne. . . .	Quarrying.
9	Seymour Johnson AFB.	Cretaceous.	Other.
10	Havelock-Cherry Point area.	Castle Hayne. . . .	Public supply and other.
11	Belgrade area	. . . .do	Quarrying.
12	Camp Lejeune.	. . . .do	Other.
13	Jacksonville area	Cretaceous.	Public supply.
14	Rose Hill-Wallace area.	. . . .do	Public supply, industrial.
15	Clinton area	. . . .do	Public supply.
16	Castle Hayne area. . . .	Castle Hayne. . . .	Quarrying.
17	Wilmington area.	. . . .do	Industrial.
18	New Hanover-Brunswick beaches.	. . . .do	Public supply.
19	Raeford area.	Cretaceous.	Do.
20	Sand Hills area.	Surficial	Public supply, irrigation.
21	Laurinburg area	Cretaceous.	Public supply.
22	Lumberton area.	. . . .do	Industrial.
23	Elizabethtown area. . .	. . . .do	Public supply, industrial.
24	Whiteville area.	. . . .do	Do.
25	Marion area	Crystalline rock . .	Industrial.

Figure 2. Areal distribution of ground-water withdrawals and graphs of annual greatest depth to water in selected wells in North Carolina. (Sources: Withdrawal and water- level data from U.S Geological Survey and North Carolina Department of Natural Resources and Community Development files.)

seven regional offices of the DEM.

The Department of Human resources (DHR), through its Division of Health Services, has responsibility for monitoring solid and hazardous waste disposal sites to prevent contamination of ground-water supplies. The DHR oversees the human-health aspects of public water-supply systems, including review of plans and specifications for water treatment and distribution facilities, approval of sources of raw water, establishment of drinking-water standards, and requirements for monitoring the quality of drinking water delivered by public systems.

Individual and cooperative ground-water research, data collection, and project investigations are conducted individually and cooperatively among the NRCD, the DHR, and the U.S. Geological Survey.

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REFERENCE # 11

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GEORGE R. ROSS, *Director*

CABARRUS

DIVISION OF MINERAL RESOURCES
JASPER L. STUCKEY, *State Geologist*

BULLETIN NUMBER 63

GEOLOGY AND GROUND WATER
IN THE
Charlotte Area, North Carolina

By
H. E. LEGRAND and M. J. MUNDORFF
Geologists, U. S. Geological Survey

PREPARED COOPERATIVELY BY THE GEOLOGICAL SURVEY,
UNITED STATES DEPARTMENT OF THE INTERIOR

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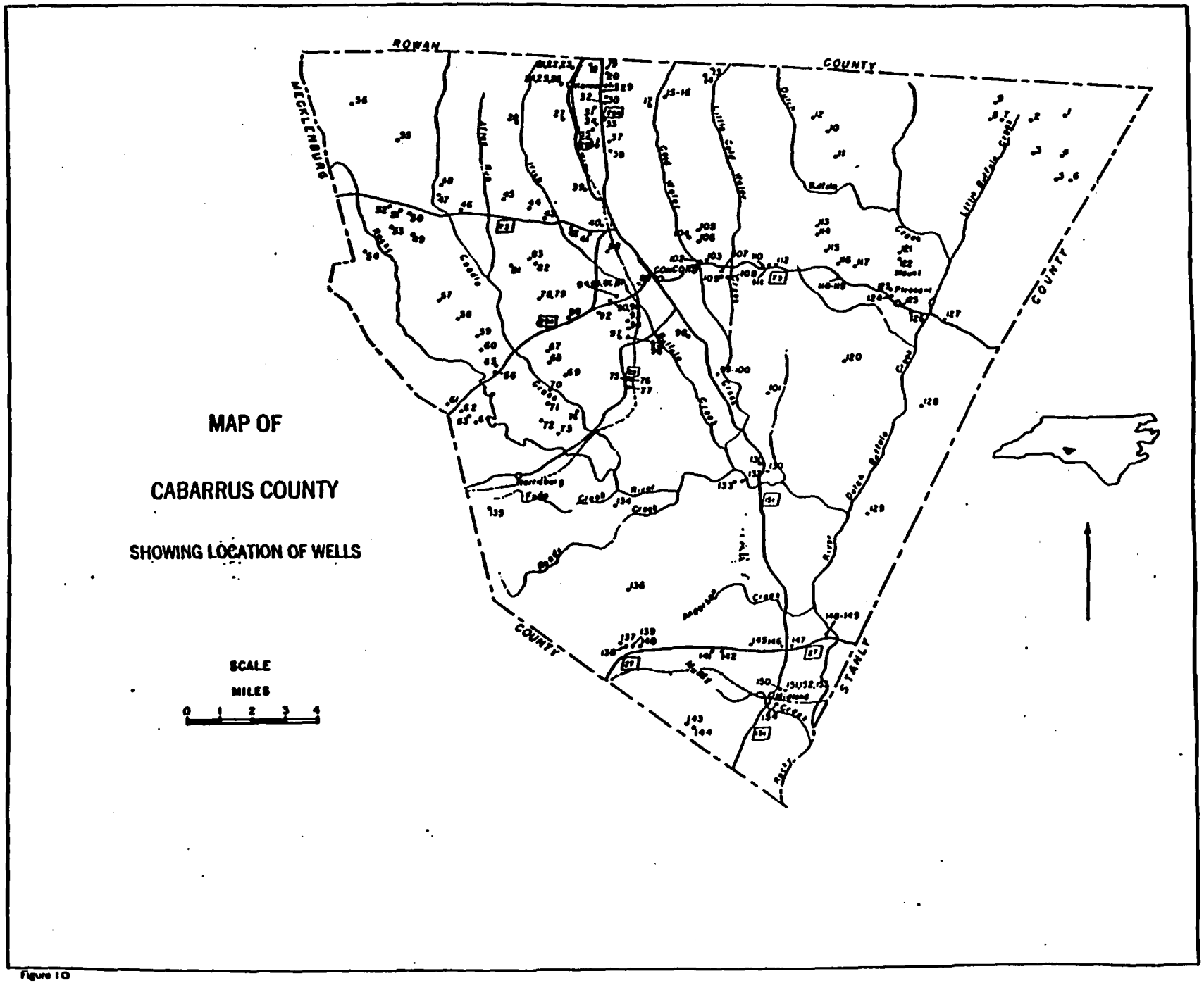
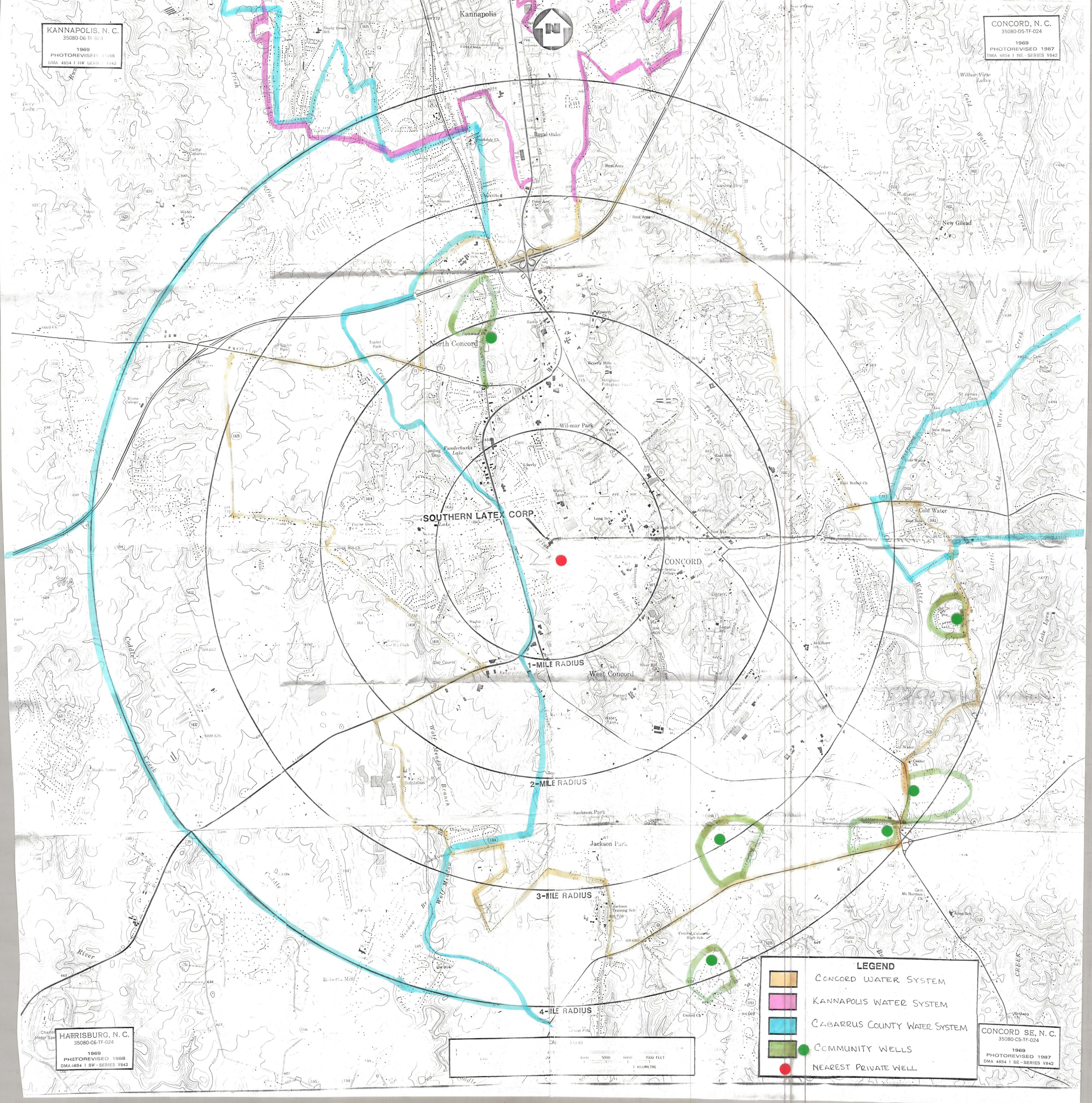


FIGURE 10.—*Map of Cabarrus County showing location of wells.*

RECORDS OF WELLS IN CABARRUS COUNTY—*Continued*

Well no.	Location	Owner	Driller	Type of well	Depth of well (feet)	Depth of casing (feet)	Diameter of well (inches)	Character of material	Water level (feet below surface)	Yield (g.p.m.)	Remarks
58	6½ miles W. of Concord	S. W. Cline	Will Fortner	Cr-Dr	100	20	2	Syenite	16		Adequate supply; soft water. Flat.
59	6 miles W. of Concord	R. C. Fisher		Cr-Dr	50-60		2	do	20	3	Water rather hard. Hill.
60	do	J. C. Penniger	Will Fortner	Cr-Dr	102	20	2	do		3	Soft water.
61	2½ miles NW. of Harrisburg	E. G. Little	Barre	Cr-Dr	37	15	2	do	12	10	Soft water. Slope.
62	2 miles NW. of Harrisburg	W. P. Harry, J. M. Motley (tenant)		Cr-Dr	59		2	do		12	Draw.
63	do	W. P. Harry	Will Fortner	Cr-Dr	225	40	2	do		5	Hill.
64	do	W. A. Yates	do	Cr-Dr	90	40	2	do	25 to 30	9	Soft water. Slope.
65	5½ miles SW. of Concord	N. M. Starnes	do	Cr-Dr	49		2	Gabbro-diorite		9-10	Soft Water. Valley
66	do	do	Byers	Cr-Dr	196½		2	do	9		do
67	4¼ miles SW of Concord	J. H. Simpson	Ben Aycock	Cr-Dr	99	40	2½	do		6	Rock reported at 6 feet below surface. Hard water. Slope.
68	do	A. G. McLaughlin	Mess	Dr	22	18	6	do		2	Rock is very close to surface. Hard water. Flat.
69	4 miles SW. of Concord	P. L. Easley	Will Fortner	Cr-Dr	123	22	2	do	12	3½	Moderately hard water. Slope.
70	5 miles SW. of Concord	Roberta Mfg. Co.	Ben Aycock	Dr	276		6	do		15	Rock is near surface. Hard water. Valley.
71	do	do	Will Fortner	Cr-Dr	125		2	do		5	Hill.
72	6 miles SW. of Concord	Zeb Cochran	Ben Aycock	Dr	83		5	do		15	Hard water. Hill.
73	5½ miles SW. of Concord	J. W. Blackwelder	Ben Aycock	Dr.	135		6	Gabbro-diorite		20	Moderately hard water. Hill.
74	4½ miles SW. of Concord	J. J. Bernhardt	do	Dr	125	40	4	do		0	Not used. Hill.
75	3 miles SW. of Concord	Jackson Training School	Sydner Well Co.	Dr	500		8	Syenite		15	Not in use. Slope.
76	do	do	do	Dr	300	175	8	do		35	Yielded 75 g.p.m. when drilled. Moderately hard water. Valley.
77	do	do		Dr	940		8	do		10	Rock at 40 feet. Well abandoned. Hill.
78	3¼ miles W. of Concord	Z. A. Morris, N. E. Queen (tenant)		Dug	38	0	34	Gabbro-diorite	23		Hard water. Hill.
79	3 miles W. of Concord	Clear Springs Farm		Dr	157	40	4	do	10 to 12	22	Wells 140, 170 and 180 feet deep. Yield 0 to 4 gallons a minute each Slope.
80	do	do	Ben Aycock	Dr	140	30	4	do	Above surface	3	
81	4¼ miles W. of Concord	L. E. Polk	Will Fortner	Cr-Dr	47	42	2½	Syenite	20	6	Soft water well 130 feet deep on hill. Yielded 1 gallon a minute. Valley.
82	3 miles W. of Concord	J. D. Deal		Dug	40	40	38	do	28.48		Soft water. Hill.
83	do	J. E. Meiner	Ben Aycock	Cr-Dr	45	40	2½	do		3	Rock at 3 feet, moderately soft water.
84	Concord	Brown Mfg. Co.		Cr-Dr	180		2	Granite		8-10	Slope.
85	do	do	Ben Aycock	Dr	280	80	6	do		37	Water slightly hard. Slope
86	do	do		Cr-Dr	175		2½	do		12	do Slope.
87	do	do		Cr-Dr	200		2	do		15	Valley.
88	do	Cannon Mills Co. Plant 6		Dr	612		8	do	50	25	62° F. Hard water. Used for making ice. Valley.
89	do	Cannon Mills Co. Plant 2		Dr	300	100	6	do	25	20-25	Abandoned. Valley.
90	do	Cannon Mills Co. Plant 10	Va. Mach. Co.	Dr	740		8	do		0	Had 1 to 2 gallons a minute before blasting, 0 after.
91	do	do	Ben Aycock	Dr	170	40	4	do		22	Use several other wells 2" to 4" diameter. Depths and yields not known. Slope.
92	do	County Home		Cr-Dr	300		2	Syenite			63°F. Hard water. Hill.
93	do	The Stead & Miller Co.		Dr	88		4	Granite	50	20-25	do Hill.
94	do	Cannon Mills Co. Plant 9		Cr-Dr	170		2	do		3½	Well at welding room. Slope.
95	do	do		Dr	173		4	do		3	Well on Rebecca street. Slope.
96	do	do		Cr-Dr	112		2	do		5	
97	do	do		Cr-Dr	150		2	do		4½	Used in mill village.
98	2 miles S. of Concord	Cook Packing Co.	Ben Aycock	Dr	185	84	6	do		20	Draw.
99	3½ miles SE. of Concord	A. T. Allen School		Dr	90		4	do		1½	Hill.
100	do	do		Dr	180		4	do		6½	do.
101	5 miles SE. of Concord	M. E. Cline	Bowers	Cr-Dr	107	30	2½	Schistose diorite	30	3	Rock at 3 feet. Hard water. Valley.


KANNAPOLIS, N. C.
35080-D6-TF-024
1969
PHOTOREVISED 1988
DMA 4854 I NW SERIES V842
CONCORD, N. C.
35080-D5-TF-024
1969
PHOTOREVISED 1987
DMA 4854 I NE SERIES V842
HARRISBURG, N. C.
35080-C6-TF-024
1969
PHOTOREVISED 1988
DMA 4854 I SW SERIES V842
CONCORD SE, N. C.
35080-C5-TF-024
1969
PHOTOREVISED 1987
DMA 4854 I SE SERIES V842
Kannapolis
Royal Oaks
North Concord
Wil-mar Park
SOUTHERN LATEX CORP.
CONCORD
West Concord
New Gilead
Cold Water
Jackson Park
1-MILE RADIUS
2-MILE RADIUS
3-MILE RADIUS
4-MILE RADIUS
LEGEND
CONCORD WATER SYSTEM
KANNAPOLIS WATER SYSTEM
CABARRUS COUNTY WATER SYSTEM
COMMUNITY WELLS
NEAREST PRIVATE WELL
1 KILOMETRE

REFERENCE # 13

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

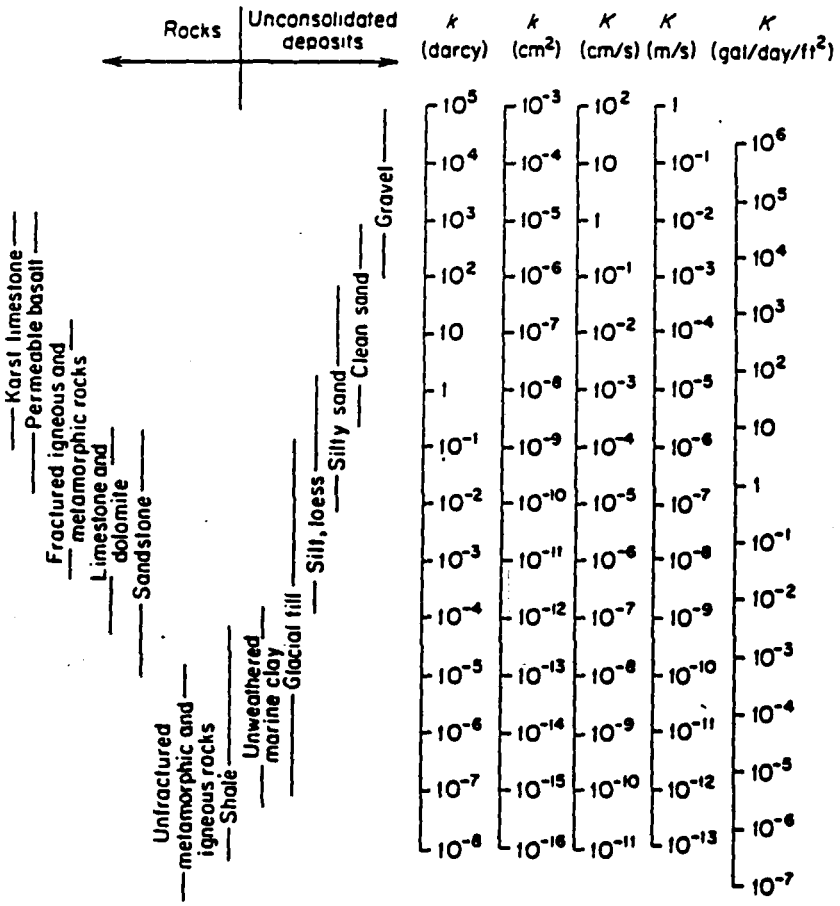


Table 2.3 Conversion Factors for Permeability and Hydraulic Conductivity Units

	Permeability, k*			Hydraulic conductivity, K		
	cm^2	ft^2	darcy	m/s	ft/s	U.S. gal/day/ft^2
cm^2	1	1.08×10^{-3}	1.01×10^{8}	9.80×10^{2}	3.22×10^{3}	1.85×10^{9}
ft^2	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/ft^2	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 ft^2, multiply k in cm^2 by 1.08×10^{-3}.

REFERENCE # 14

96

"Rite in the Rain"®

ALL-WEATHER

LEVEL

Notebook No. 311

FY-2016

Reichhold Chemical, Inc.
Concord, Cabarrus County, N.C.
TDD: FY-9001-96
P.M. Brooke Bittinger

LOGBOOK REQUIREMENTS
REVISED - NOVEMBER 29, 1988

NOTE: ALL LANGUAGE SHOULD BE FACTUAL AND OBJECTIVE

1. Record on front cover of the Logbook: TDD No., Site Name, Site Location, Project Manager.
2. All entries are made using ink. Draw a single line through errors. Initial and date corrections.
3. Statement of Work Plan, Study Plan, and Safety Plan discussion and distribution to field team with team members' signatures.
4. Record weather conditions and general site information.
5. Sign and date each page. Project Manager is to review and sign off on each logbook daily.
6. Document all calibration and pre-operational checks of equipment. Provide serial numbers of equipment used onsite.
7. Provide reference to Sampling Field Sheets for detailed sampling information.
8. Describe sampling locations in detail and document all changes from project planning documents.
9. Provide a site sketch with sample locations and photo locations.
10. Maintain photo log by completing the stamped information at the end of the logbook.
11. If no site representative is on hand to accept the receipt for samples, an entry to that effect must be placed in the logbook.
12. Record I.D. numbers of COC and receipt for sample forms used. Also record numbers of destroyed documents.
13. Complete SMO information in the space provided.

I have read and understand the workplan for this facility.

Brooke Bittinger
Brooke Bittinger
2-12-90

Matthew S. McCoy
MATTHEW S McCoy
2-12-90

Arrived at City Hall Annex Building at 915 and talked to Ray Blackmelder. He outlined the area covered by city water on my topo. He told us that there were approximately 18,000 connections. Source for the water is Lake Fisher. Alternate sources are Lake Concord and the surface water intake on Coddle Creek and highway 73. Also pointed out spots served by private or community wells.

1005 Talked to Bob Farris at the Cabarrus Health Dept. He gave us the phone number of Rex Gleason with Environmental Management who can supply private well info.

Brooke Bittinger 2-12-90

1015 Arrived at Utilities Dept. (County Water) and talked to Phillip Kingsland. He did not have a county map so told us to get one at the Court House.

1100 Matt & I picked up a copy of the county map. He stayed at the tax assessor's office to get info on land ownership for both sites. I left to talk with Mr. Kingsland.

1115 Arrived at the Utilities Dept. and talked to Mr. Kingsland. He drew in the area covered by county water on both the county map & my topo. He said their system ~~covered~~ BB 2-12-90 served 3500 customers (connections).

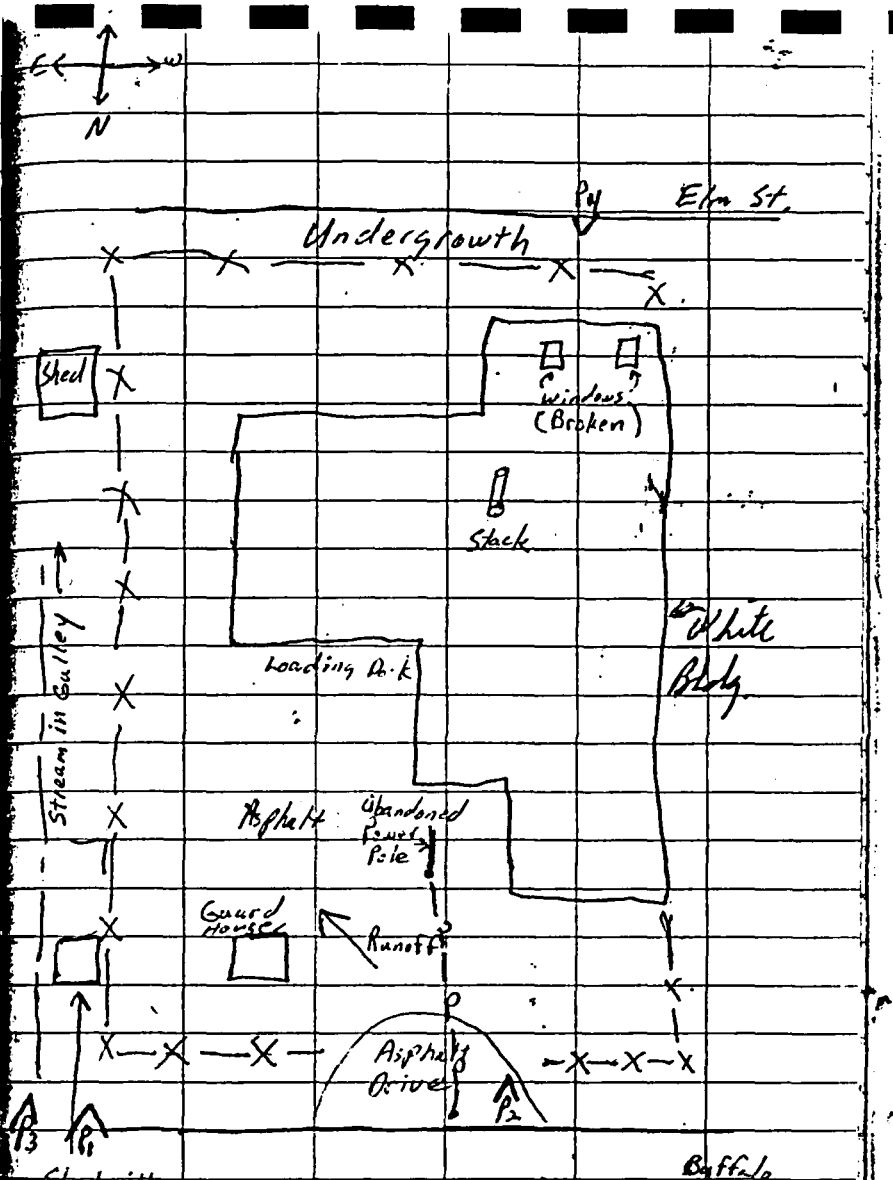
Brooke Bittinger 2-12-90

1345 Arrived at 161 Buffalo where Reichhold Chemical is located
Clear and cool - 55°F
Ground wet
Building has boarded Windows on front. Area is completely abandoned. Site has deteriorated. Building is easily accessible. Facility is fenced, but the gate is open. Drainage is to the southeast. A lot of underbrush on property

Shed is crumbling and run down. The floor is oily & there are a few drums inside

1410 Left to drive around facility
Took picture of gulley

There is a water hydrant across the street from the site - evidence of water on Buffalo
Brooke Bittinger 2-12-90



Brooke Bittinger 2-12-90

Took picture of rear of bldg
a lot of undergrowth between
Elm St. and the facility. Windows
broken out

Nearest house about 250 feet
southeast of facility; on municipal
water

1435 Leaving site area

Brooke Bittinger 2-12-90

1000 Arrived at City of Kannapolis
Public Works Dept. Talked
to Leroy Edison. He drew
the water boundaries on
the map. Said there were
11,000 connections & pull
from Lake Kannapolis &
two pumping stations at
Beard Creek and Coddle
Creek that pump to the lake.

1015 Leaving Water Dept.

Brooke Bittinger 2-13-90

NUS CORPORATION AND SUBSIDIARIES

REFERENCE # 15

CONTROL NO. F4-9001-96	**DATE:** 2-20-90	**TIME:** 2:40 p.m.

DISTRIBUTION: Reichhold Chemical, Inc.

BETWEEN: John Sutherland	**OF:** Division of Water Resources - N C.	**PHONE:** (919) 733-4064

AND: Brooke Bittinger, NUS Corporation

Brooke Bittinger

DISCUSSION:

Mr. Sutherland said that there were no water intakes on the Irish Buffalo Creek, Cold Water Creek, or Rocky River in the Concord area. He noted that sewage disposal plants were located south of the city.

NUS CORPORATION AND SUBSIDIARIES

REFERENCE # 16

CONTROL NO. F4-9001-96	**DATE:** 2-20-90	**TIME:** 2:30 p.m.

DISTRIBUTION: Reichhold Chemical, Inc.

BETWEEN: Don Baker	**OF:** Wildlife Commission-Fisheries Division Raleigh, N.C.	**PHONE:** (919) 733-3633

AND: Brooke Bittinger, NUS Corporation

Brooke Bittinger

DISCUSSION:

Mr. Baker said that there were no commercial fisheries in the Irish Buffalo Creek, Cold Water Creek, or Rocky River in the Concord area. He did say that boating and fishing (recreational) do occur on these waterways.

COVERAGE

STATE	COUNTY	STATE NAME	COUNTY NAME
37	25	North Carolina	Cabarrus Co
37	119	North Carolina	Mecklenburg Co

CENTER POINT AT STATE : 37 North Carolina
COUNTY : 25 Cabarrus Co

Press RETURN key to continue...

REGION OF THE COUNTRY

Zipcode found: 28025 at a distance of 2.1 Km

STATE	CITY NAME	COMMUNITY	FIPSCODE	LATITUDE	LONGITUDE
NC	CONCORD	WIL-MAR PARK	37025	35.4150	80.5833
				35°24'37"	80° 36'20"

Press RETURN key to continue ...

CENSUS DATA

southern latex corporation
LATITUDE 35:24:37 LONGITUDE 80:36:20 1980 POPULATION

KM	0 - 1/4 0.00-.400	1/4 - 1/2 .400-.810	1/2 - 1 .810-1.60	1 - 2 1.60-3.20	2 - 3 3.20-4.80	3 - 4 4.80-6.40	SECTOR TOTALS
S 1	0	0	1807	0	0	6029	7836
S 2	0	0	0	3441	940	0	4381
S 3	0	0	2143	0	3156	0	5299
S 4	0	0	0	4604	1559	0	6163
S 5	0	0	0	2034	2409	0	4443
S 6	0	0	0	0	1004	0	1004
S 7	0	0	0	2871	0	0	2871
S 8	0	0	0	2368	879	0	3247
RING TOTALS	0	0	3950	15318	9947	6029	35244

Press RETURN key to continue ...

STAR STATION

ENDANGERED AND THREATENED SPECIES

U.S. FISH AND WILDLIFE SERVICE

REGION 4 - ATLANTA

PREFACE

The materials in this notebook are provided as an aid to anyone having a continuing need for current information on Federally listed endangered and threatened species found within Region 4 of the U.S. Fish and Wildlife Service. This area includes the Carolinas, Georgia, Florida, Alabama, Tennessee, Kentucky, Mississippi, Arkansas, Louisiana, Puerto Rico, and the Virgin Islands.

Recipients of the notebook are placed on a permanent mailing list and will automatically receive updated information whenever listing or other changes occur. Questions or comments pertaining to the notebook should be directed to the Endangered Species Office, U.S. Fish and Wildlife Service, Richard B. Russell Federal Building, 75 Spring St., S.W., Atlanta, Georgia 30303; telephone 404/221-3583 or FTS 242-3583. Other questions pertaining to endangered species matters should be addressed to one of the Service field stations listed at the end of this Preface.

The notebook is divided into two primary sections. Materials in the first section provide quick reference as to what species are listed, proposed, or under review, the states where they occur, the location of critical habitat areas, and other related information. The second part of the notebook contains species accounts which briefly discuss such things as the status, range, life history, and management needs of listed species. Please note that the range maps for these species generally reflect current distribution, but in many cases they reflect distribution rather broadly and should only be interpreted in relation to other information included in the species account.

The Endangered Species Act - General

Passage of the Endangered Species Act of 1973 gave the United States one of the most far-reaching laws ever enacted by any country to prevent the extinction of imperiled animals and plants. Under the law, the Secretary of the Interior (acting through the U.S. Fish and Wildlife Service) has broad powers to protect and conserve all forms of wildlife and plants he finds in serious jeopardy. The Secretary of Commerce, acting through the National Marine Fisheries Service, has similar authority for protecting and conserving most marine life.

Congress addressed the question of why we should save endangered species in the preamble to the Endangered Species Act, holding that endangered and threatened species of fish, wildlife and plants "are of esthetic, ecological, educational, historical, recreational, and scientific value to the Nation and its people." In making this statement, Congress was summarizing a number of convincing arguments advanced by thoughtful scientists, conservationists, and others who are greatly concerned by the disappearance of wildlife.

Protecting endangered species and restoring them to the point where their existence is no longer jeopardized is the primary objective of the U.S. Fish and Wildlife Service's Endangered Species Program.

It should be emphasized, however, that not all Federal actions will necessarily be detrimental to critical habitat. There may be many kinds of actions which can be carried out within a critical habitat area without reducing the species' numbers or distribution, or otherwise posing jeopardy to it.

In summary, the designation of critical habitat does not create a nature preserve or refuge. It does not affect private, local, or state projects unless Federal funds or permits are involved. It does provide a means by which listed species can be protected from adverse impacts resulting from Federal action.

Consultation

Section 7 of the Act requires all Federal agencies to review their actions, and if they determine that their actions may affect a listed species or its habitat, they must enter into consultation with the Fish and Wildlife Service. During the course of such consultation the involved agency and the Fish and Wildlife Service will try to determine a course of action which will allow for completion of the agency's project and at the same time not jeopardize the species. Most consultations accomplish this goal.

In the case of a conflict, the Act provides a means whereby under certain conditions the affected Federal agency may be exempted from the requirements of Section 7. Exemption applications must be submitted to the Secretary of the Interior for consideration. If the Secretary decides the application meets exemption criteria, it is then passed on to a seven-member cabinet-level Endangered Species Committee for a final decision.

Conservation and Recovery

A main aim of the Service's Endangered Species Program is to restore populations of listed species to a point where they are no longer in danger of extinction and are again self-sustaining members of their ecosystem. Recovery plans for a number of these species are already being carried out. The plans may recommend the acquisition of land, new research, captive breeding, or may call for special wildlife and habitat management techniques.

In addition to overseeing the development and implementation of recovery plans, the Fish and Wildlife Service utilizes the authorities and funding provided under the Act to provide for technical assistance, management, law enforcement, land acquisition, research, status surveys, and financial assistance to state agencies which have entered into a cooperative agreement with the Service.

Permits

The Service's Wildlife Permit Office can issue permits for certain activities involving endangered or threatened species. Permits for

CRITICAL HABITAT INDEX

Alabama	- *Etheostoma boschungi*, "slackwater darter"
	Peromyscus polionotus ammobates, "Alabama beach mouse"
	Peromyscus polionotus trissyllepsis, "Perdido Key beach mouse"
	Speoplatyrhinus poulsoni, "Alabama cavefish"
Arkansas	- *Percina pantherina*, "leopard darter"
Florida	- *Ammospiza maritima mirabilis*, "Cape Sable sparrow"
	Ammospiza maritima nigrescens, "dusky seaside sparrow"
	Crocodylus acutus, "American crocodile"
	Peromyscus polionotus allophrys, "Choctawhatchee beach mouse"
	Peromyscus polionotus trissyllepsis, "Perdido Key beach mouse"
	Rostrhamus sociabilis plumbeus, "Everglade kite"
	Trichechus manatus, "Florida manatee"
Georgia	- *Percina antesella*, "amber darter"
	Percina jenkinsi, "Conasauga logperch"
Kentucky	- *Myotis sodalis*, "Indiana bat"
	Palaemonias ganteri, "Kentucky cave shrimp"
Louisiana	- No designations
Mississippi	- *Grus canadensis pulla*, "Mississippi sandhill crane"
North Carolina	- *Hudsonia montana*, "mountain golden heather"
	Hybopsis monacha, "spotfin chub"
	Menidia extensa, "Waccamaw silverside"
	Notropis mekistocholas, "Cape Fear shiner"

Federally Listed Species by State

NORTH CAROLINA

(E=Endangered; T=Threatened; CH=Critical Habitat determined)

Mammals	General Distribution
Bat, gray (*Myotis grisescens*) - E	Extreme Southwest
Bat, Indiana (*Myotis sodalis*) - E	West
Bat, Virginia big-eared (*Plecotus townsendii virginianus*) - E	Avery County
Cougar, eastern (*Felis concolor cougar*) - E	Entire state
Manatee, West Indian (*Trichechus manatus*) - E	Coastal waters
Shrew, Dismal Swamp southeastern (*Sorex longirostris fisheri*) - T	Dismal Swamp; Camden, Gates Pasquotank and Perquimans Counties
Squirrel, Carolina northern flying (*Glaucomys sabrinus coloratus*) - E	Western mountains (Yancy County)
Whale, finback (*Balaenoptera physalus*) - E	Coastal waters
Whale, humpback (*Megaptera novaeangliae*) - E	Coastal waters
Whale, right (*Balaena glacialis*) - E	Coastal waters
Whale, sei (*Balaenoptera borealis*) - E	Coastal waters
Whale, sperm (*Physeter catodon*) - E	Coastal waters

Birds	
Eagle, bald (*Haliaeetus leucocephalus*) - E	Entire state
Falcon, American peregrine (*Falco peregrinus anatum*) - E	Western mountains
Falcon, Arctic peregrine (*Falco peregrinus tundrius*) - T	Entire State
Plover, piping (*Charadrius melodus*) - T	Coast
Stork, wood (*Mycteria americana*) - E	Coast
Warbler, Bachman's (*Vermivora bachmanii*) - E	East
Warbler, Kirtland's (*Dendroica kirtlandii*) - E	Northwest, Central, Southeast
Woodpecker, ivory-billed (*Campephilus principalis*) - E	Southeast
Woodpecker, red-cockaded (*Picoides* (=*Dendrocopos*) *borealis*) - E	East

Reptiles

Alligator, American (*Alligator mississippiensis*) - T (S/A)*	Coastal plain
Turtle, Kemp's (Atlantic) ridley (*Lepidochelys kempii*) - E	Coastal waters
Turtle, green (*Chelonia mydas*) - T	Coastal waters
Turtle, hawksbill (*Eretmochelys imbricata*) - E	Coastal waters
Turtle, leatherback (*Dermochelys coriacea*) - E	Coastal waters
Turtle, loggerhead (*Caretta caretta*) - T	Coastal waters

Fishes

Chub, spotfin (*Hybopsis monacha*) - T,CH	Little Tennessee River, Swain and Macon Counties
Shiner, Cape Fear (*Notropis mekistocholas* - E,CH	Randolph, Moore, Lee, and Chatham Counties
Silverside, Waccamaw (*Menidia extensa*) - T	Lake Waccamaw and Upper Waccamaw R., Columbus County
Sturgeon, shortnose (*Acipenser brevirostrum*) - E	Coastal rivers

Mollusks

Mussel, Tar River spiny (*Elliptio* (*Canthyria*) *steinstansana*) - E	Tar River, Edgecombe County; Sandy Creek, Franklin County; Swift Creek, Nash County
Snail, noonday (*Mesodon clarki nantahala*) - T	Swain County

Plants

Hudsonia montana (mountain golden heather) - T,CH	Burke and McDowell Counties
Isotria medeoloides (small whorled pogonia) - E	Macon and Henderson Counties

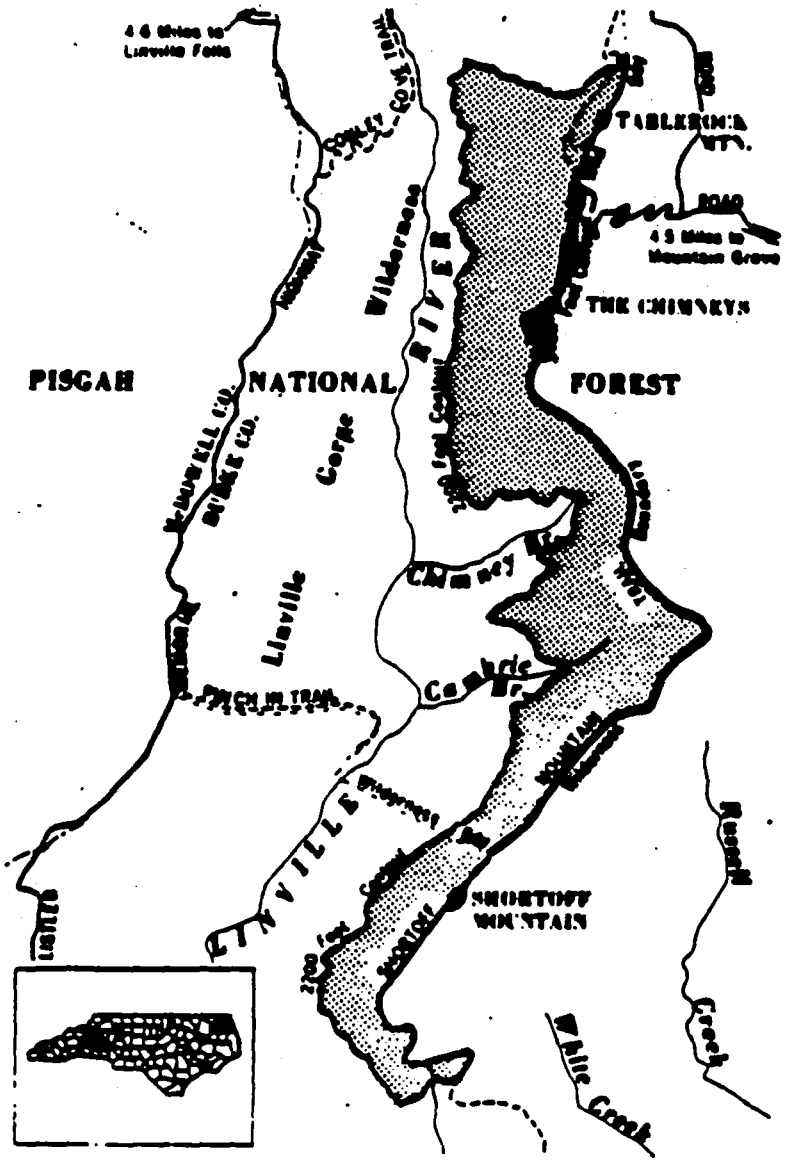
*Alligators are biologically neither endangered nor threatened. For law enforcement purposes they are classified as "Threatened due to Similarity of Appearance." Alligator hunting is regulated in accordance with State law.

Liatris helleri (Heller's blazing star) - T	Ashe, Avery, Caldwell, Burke Counties
Lindera melissifolia (pondberry) - E	Bladen County
Lysimachia asperulaefolia (rough-leaved loosestrife) - E	Carteret, Scotland, Cumberland/Bladen, Brunswick, Pender, and Hoke Counties
Oxypolis canbyi (Canby's dropwort) - E	Scotland County
Sagittaria fasciculata (bunched arrowhead) - E	Henderson County
Sarracenia oreophila (green pitcher plant) - E	Clay County
Solidago spithamaea (Blue Ridge goldenrod) - T	Avery and Mitchell Counties

NORTH CAROLINA - Critical Habitat

Hudsonia montana, "mountain golden heather"

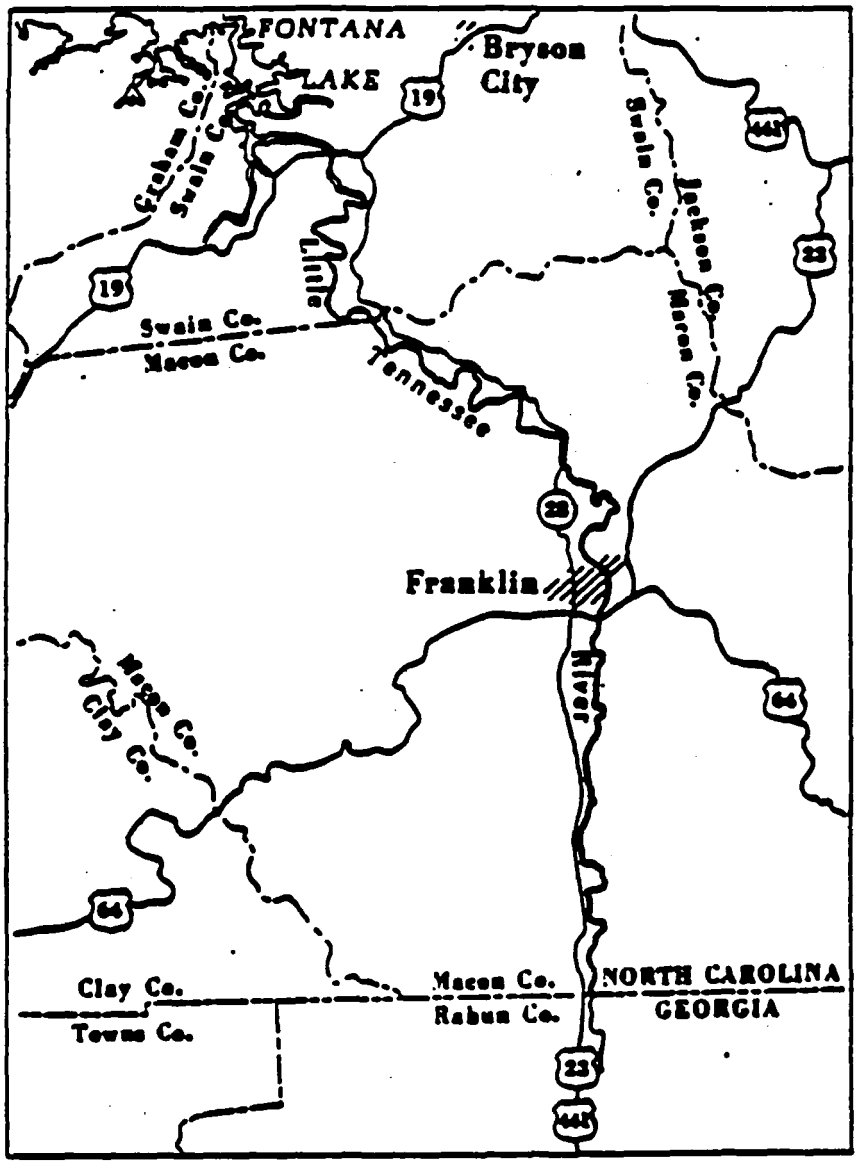
Burke County. The area bounded by the following: on the west by the 2200' contour; on the east by the Linville Gorge Wilderness Boundary north from the intersection of the 2200' contour and the Shortoff Mountain Trail to where it intersects the 3400' contour at "The Chimneys"--then follow the 3400' contour 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.



NORTH CAROLINA - Critical Habitat

Hybopsis monacha, "spotfin chub"

Macon and Swain Counties. Little Tennessee River, main channel from the backwaters of Fontana Lake upstream to the North Carolina-Georgia state line.

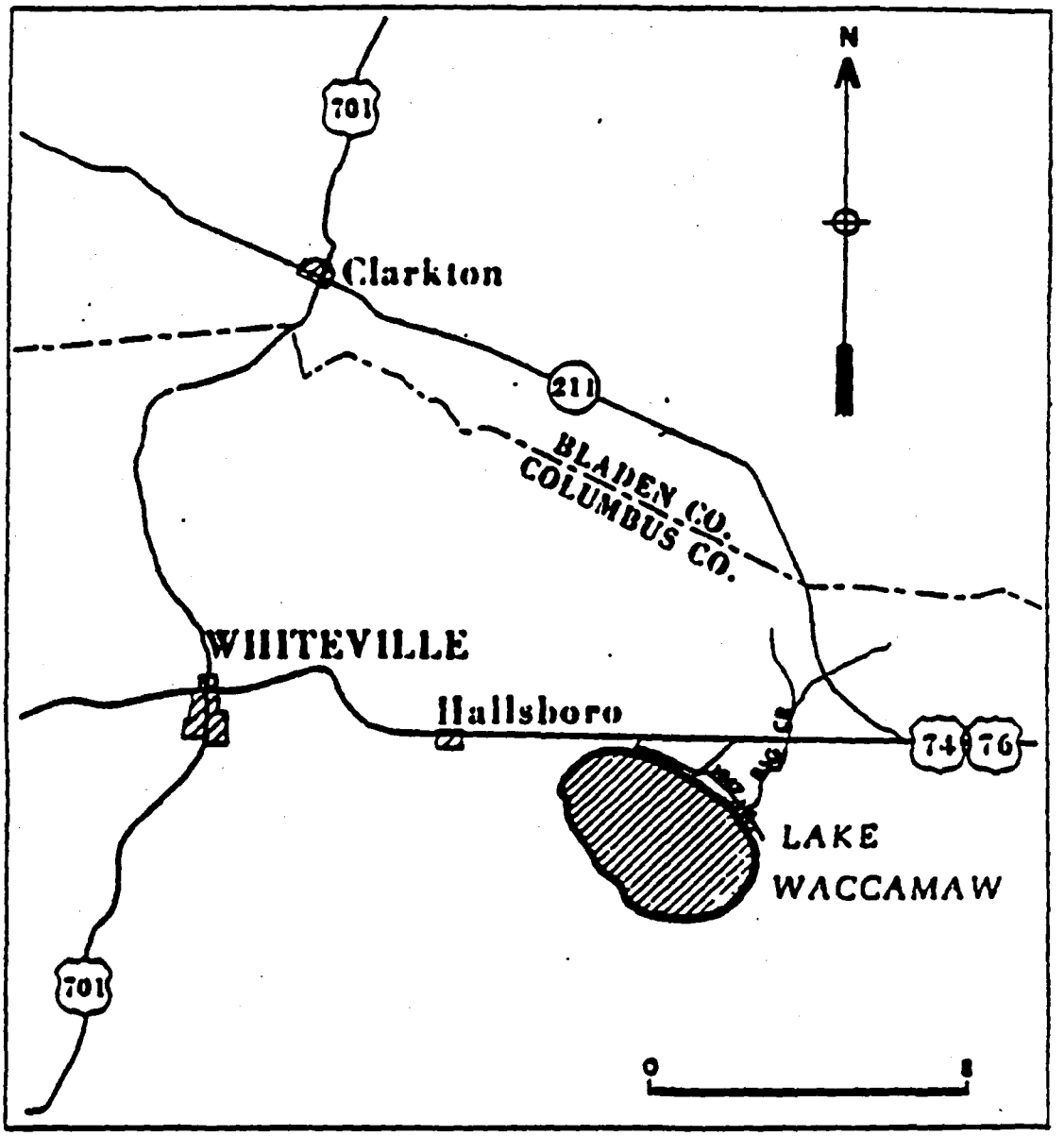


NORTH CAROLINA - Critical Habitat

Menidia extensa, "Waccamaw silverside"

Columbus County. Lake Waccamaw in its entirety to mean high water level, and Big Creek from its mouth at Lake Waccamaw upstream approximately 0.6 kilometer (0.4 mile) to where the creek is crossed by County Road 1947.

Constituent elements include high quality clear open water, with a neutral pH and clean sand substrate.

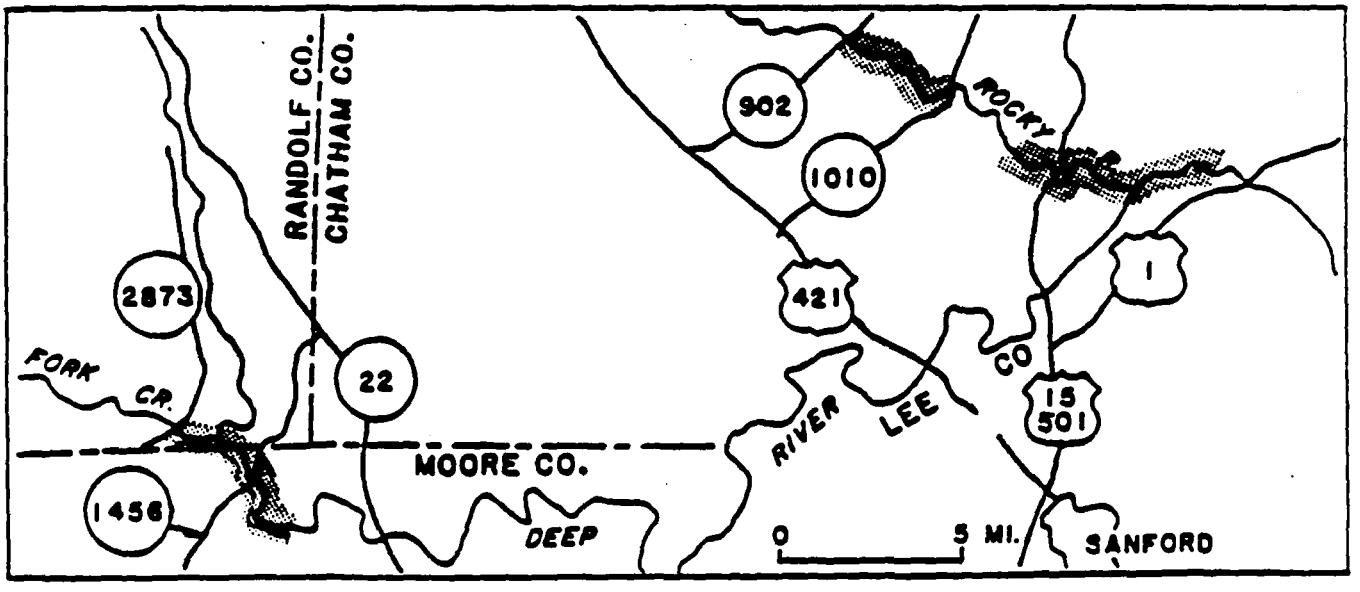


NORTH CAROLINA - Critical Habitat

Notropis mekistocholas, "Cape Fear shiner"

(1) 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) Chatham and Lee Counties. Approximately 0.5 river mile of Bear Creek, from Chatham County Road 2156 Bridge downstream to the Rocky River, then downstream in the Rocky River (approximately 4.2 river miles) to the Deep River, then downstream in the Deep River (approximately 2.6 river miles) to a point 0.3 river mile below the Moncure, North Carolina, U.S. Geological Survey Gaging Station; and
(3) Randolph and Moore Counties. Approximately 1.5 miles of Fork Creek, from a point 0.1 river mile upstream of Randolph County Road 2873 Bridge downstream to the Deep River then downstream approximately 4.1 river miles of the Deep River in Randolph and Moore Counties, North Carolina, to a point 2.5 river miles 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.



GLOBAL RANK (STATE RANK)

The Nature Conservancy's system of measuri
threat status. "Global" refers to worldwide, "S
statewide.

G1 = Critically imperiled globally because of extreme rarity or otherwise very vulnerable to exinction throughout its range.

G2 = Imperiled globally because of rarity or otherwise vulnerable to extinction throughout its range.

G3 = Either very rare and local throughout its range, or found locally in a restricted area.

G4 = Apparently secure globally, though it may be quite rare in parts of its range (especially at the periphery).

G5 = Demonstrably secure globally, though it may be quite rare in parts of its range (especially at the periphery).

GU = Possibly in peril but status uncertain; need more information.

GX = Believed to be extinct throughout range.

Q = a suffix attached to the Global Rank indicating questionable taxonomic status.

T_ = an additional status for the subspecies or variety; the G rank then refers only to the species as a whole.

State rank codes follow the same definitions, except substitute the words, "in the state," for "globally" or "throughout its range."

EXPLANATION OF SPECIES STATUS CODES

The attached output from the N.C. Natural Heritage Program database is a listing of the elements (rare species, geologic features, natural communities, special animal habitats) known to occur in your geographic area of interest. Following is an explanation of the four columns of status codes on the righthand side of the printout.

STATE STATUS

Plants:

From Sutter, R.D., L. Mansberg, and J.H. Moore. 1983. Endangered, threatened, and rare plant species of North Carolina: a revised list. ASB Bulletin 30:153-163, and updated lists of the Natural Heritage and Plant Conservation Programs.

E = Endangered
T = Threatened
SC = Special Concern
PP = Primary Proposed
SR = Significantly Rare

E,T,and SC species are protected by state law (the Plant Protection and Conservation Act, 1979); the other two categories indicate rarity and the need for population monitoring, as determined by the Plant Conservation and Natural Heritage Programs.

Animals:

From Cooper, J.E., S.S. Robinson, and J.B. Funderburg (Eds.). 1977. Endangered and Threatened Plants and Animals of North Carolina. N.C. Museum of Natural History, Raleigh, NC. 444 pages + i-xvi, and updated lists of the Natural Heritage Program.

E = Endangered
T = Threatened
SR = Significantly Rare
SC = Special Concern
UNK= Undetermined
EX = Extirpated

FEDERAL STATUS

From Endangered & Threatened Wildlife and Plants, April 10, 1987. 50 CFR 17.11 & 17.12. Department of Interior. Established by the Endangered Species Act of 1973, as amended.

E = Taxa currently listed as Endangered
T = Taxa currently listed as Threatened
PE = Taxa currently proposed for listing as Endangered
PT = Taxa currently proposed for listing as Threatened

Taxa under review for possible listing ("candidate species"):

C1 = Taxa with sufficient information to support listing
C2 = Taxa without sufficient information to support listing

CARAPPUS

NORTH CAROLINA NATURAL HERITAGE PROGRAM ELEMENT LIST

Scientific and common name	state stat	fed stat	state rank	glob rank
ETHEOSTOMA COLLIS CAROLINA DARTER	SC		S3	G3
BASIC OAK--HICKORY FOREST			S2S3?	G3G4?
DRY OAK--HICKORY FOREST			S5	G5
UPLAND DEPRESSION SWAMP FOREST			S2	G3
DIKE RIDGE				
HOO DOO				
AMBLYOPONE TRIGONIGNATHA ANT	UNK			G?
BAPTISIA AUSTRALIS VAR AUSTRALIS BLUE WILD INDIGO	SR		S2	G5?T3
CIRSIUM CAROLINIANUM CAROLINA THISTLE	SR		S1	G5
HELIANTHUS SCHWEINITZII SCHWEINITZ'S SUNFLOWER	E	C1	S1	G1
LOTUS PURSHIANUS VAR HELLERI HELLER'S TREFOIL	SR		S2	G4G5T
NESTRONIA UMBELLULA NESTRONIA	T	C2	S3	G3G4
PORTERANTHUS STIPULATUS INDIAN PHYSIC	SR		S2	G5
PORTULACA SMALLII SMALL'S PORTULACA	E	3C	S2	G3
SILPHIUM TEREBINTHINACEUM PRAIRIE DOCK	PP		S2	G4G5