578SERBSF10,633

578SERBSF10,633

Site Name (Subject): TRI-COUNTY AIRPORT

Site ID (Document ID): NCN000407205

Document Name (DocType): Preliminary Assessment/Site Inspection (PA/SI)

Report Segment:

Description: Combined PA/SI: References

Date of Document: 3/15/2002

Date Received:

Box: *Enter SF and # with no spaces* SF10,633

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 OF NORTH CAROLINA

Department of Environment
and Natural Resources
Division of Waste Management
Superfund Section

COMBINED PRELIMINARY ASSESSMENT/SITE INSPECTION (cPA/SI) REFERENCES

March 15, 2002

Tri-County Airport Site
NCN 000 407 205
Aulander, Hertford County, North Carolina

Melanie Bryson, E.I.T.
Environmental Engineer
Division of Waste Management
Superfund Section

Tri-County Airport Site
NCN 000 407 205
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4. United States Department of Commerce, Technical Paper No. 40, Rainfall Frequency Atlas of the United States, 1961.

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8. Bryson, Melanie, NC Superfund Section. Memo to file, November 14, 2001, and SI sampling event field notes. Tri-County Airport Site, Aulander, Hertford County, North Carolina. EPA ID: NCN 000 407 205. November 7, 2001.

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30. United States Department of Commerce Bureau of the Census, County and City Data Book. 2000.

31. NC Department of Natural and Economic Resources, Office of Water and Air Resources. Well Record for Tri-County Airport. April 20, 1973.

32. United States Federal Emergency Management Agency. Flood Insurance Rate Map, Community Panel, #3701300004A, Hertford County, North Carolina. Effective Date: June 2, 1978.

33. Bryson, Melanie, NC Superfund Section. Memo to file: Flow Calculations for Cutawhiskie and Potecasi Creeks. Tri-County Airport Site, Aulander, Hertford County, North Carolina. EPA ID: NCN 000 407 205. December 10, 2001.

34. Hill, Fred, NC Public Water Supply Section. Email, Subject: Surface Water Intakes. September 18, 2001.

35. Bryson, Melanie, NC Superfund Section. Memo to file: Fisheries along the 15-mile Surface Water Pathway. Tri-County Airport Site, Aulander, Hertford County, North Carolina. EPA ID: NCN 000 407 205. December 13, 2001.

36. Bryson, Melanie, NC Superfund Section. Memo to file: Natural Heritage Program Trip Report. Tri-County Airport Site, Aulander, Hertford County, North Carolina. EPA ID: NCN 000 407 205. October 18, 2001.

37. North Carolina Center for Geographic Information and Analyses. Population Estimates within a 4.0-mile radius. Tri-County Airport Site, Aulander, Hertford County, North Carolina. EPA ID: NCN 000 407 205. October 01, 2001.

38. Division of Mineral Resources. *Ground Water in the Halifax, Area, North Carolina.* North Carolina Department of Conservation and Development, Bulletin Number 51. 1946.

REFERENCE 1

federal register

Friday
December 14, 1990

Part II

Environmental Protection Agency

40 CFR Part 300
Hazard Ranking System; Final Rule

REFERENCE 2

United States
Environmental Protection
Agency

Office of Emergency and
Remedial Response
Washington, DC 20460

Publication 9345.1-21
EPA/540/R-96/028
PB96-963509
June 1996

Superfund

EPA

Superfund Chemical Data Matrix

REFERENCE 3

LATITUDE AND LONGITUDE CALCULATION WORKSHEET #2

LI USING ENGINEER'S SCALE (1/60)

SITE NAME: Tri-County Airport CERCLIS #: NCN 000 407 205

AKA: n.a. SSID: N/A

ADDRESS: Hwy 561, 6 miles east of Rich Square

CITY: Aulander STATE: NC ZIP CODE: 27805

SITE REFERENCE POINT: Center of site

USGS QUAD MAP NAME: Woodland, nC TOWNSHIP: - N/S RANGE: - E/W

SCALE: 1 : 24,000 MAP DATE: 1977 SECTION: - 1/4 - 1/4 - 1/4

MAP DATUM [1927] 1983 (CIRCLE ONE) MERIDIAN: -

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

LONGITUDE: 77 ° 7 ' 30.00 " LATITUDE: 36 ° 15 ' 0.00 "

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

LONGITUDE: 77 ° 10 ' 0.00 " LATITUDE: 36 ° 17 ' 30.00 "

CALCULATIONS: LATITUDE (7.5' QUADRANGLE MAP)

A) NUMBER OF RULER GRADUATIONS FROM LATITUDE GRID LINE TO SITE REF POINT: 68

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

A X 0.3304 = 22.47 "

C) EXPRESS IN MINUTES AND SECONDS (1' = 60") : 0 ' 22.47 "

D) ADD TO STARTING LATITUDE: 36 ° 17 ' 30.00 " + 0 ' 22.47 "

SITE LATITUDE: 36 ° 17 ' 52.47 "

CALCULATIONS: LONGITUDE (7.5' QUADRANGLE MAP)

A) NUMBER OF RULER GRADUATIONS FROM RIGHT LONGITUDE LINE TO SITE REF POINT: 63

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

A X 0.3304 = 20.82 "

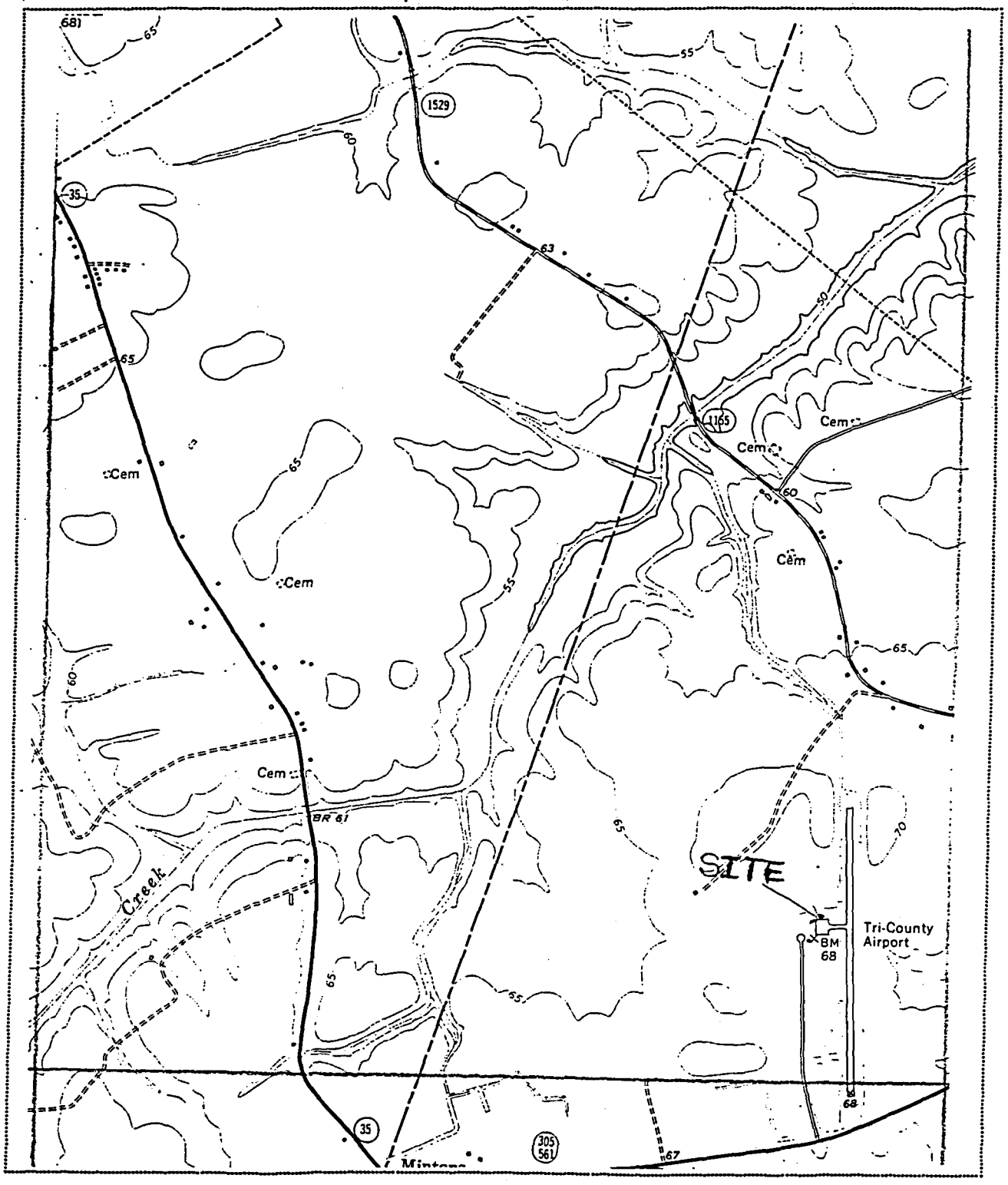
C) EXPRESS IN MINUTES AND SECONDS (1' = 60") : 0 ' 20.82 "

D) ADD TO STARTING LATITUDE: 77 ° 10 ' 0.00 " + 0 ' 20.82 "

SITE LONGITUDE: 77 ° 10 ' 20.82 "

INVESTIGATOR: Melanie Bupp DATE: 12/05/2001

SITE NAME: Tri-County Airport NUMBER: NCN000407205



TOPOGRAPHIC MAP QUADRANGLE NAME: Woodland, NC SCALE: 1:24,000

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

LATITUDE: 36 ° 17 ' 30 " LONGITUDE: 77 ° 10 ' 00 "

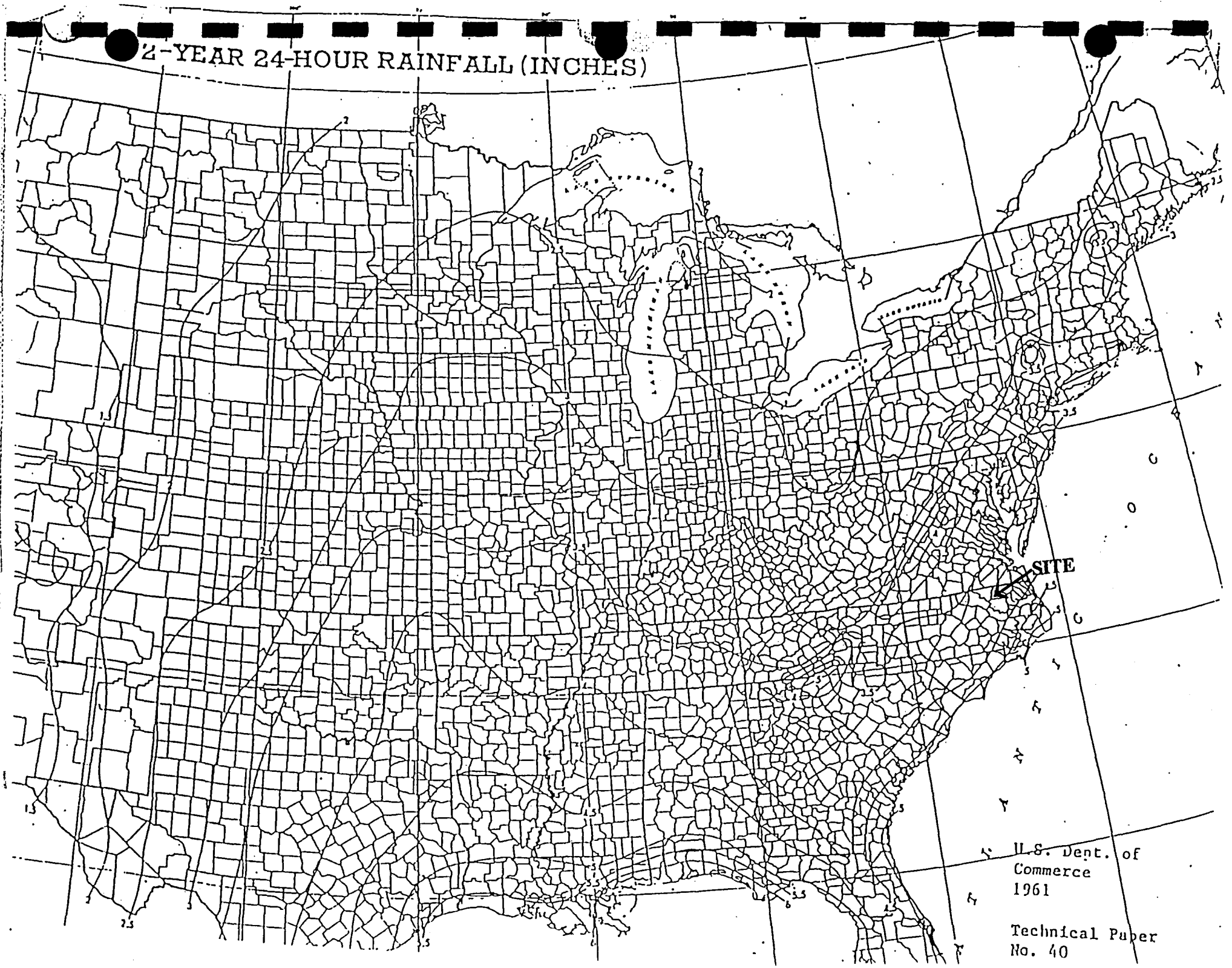
REFERENCE 4

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


2-YEAR 24-HOUR RAINFALL (INCHES)
SITE
U.S. Dept. of Commerce
1961
Technical Paper No. 40

REFERENCE 5

December 18, 2001

MEMORANDUM

To: Superfund Section Staff

From: Melanie Bryson

Re: Updated Annual Precipitation Map

Information concerning annual precipitation totals for North Carolina has been updated. Maps for all states were developed through a partnership between the United States Department of Agriculture-Natural Resources Conservation Service's (USDA-NRCS) National Water and Climate Center (NWCC) and the Spatial Climate Analysis Service (SCAS) at Oregon State University (OSU), developers of PRISM (the Parameter-elevation Regressions on Independent Slopes Model). A copy of the map for North Carolina's annual precipitation can be found at the following address:

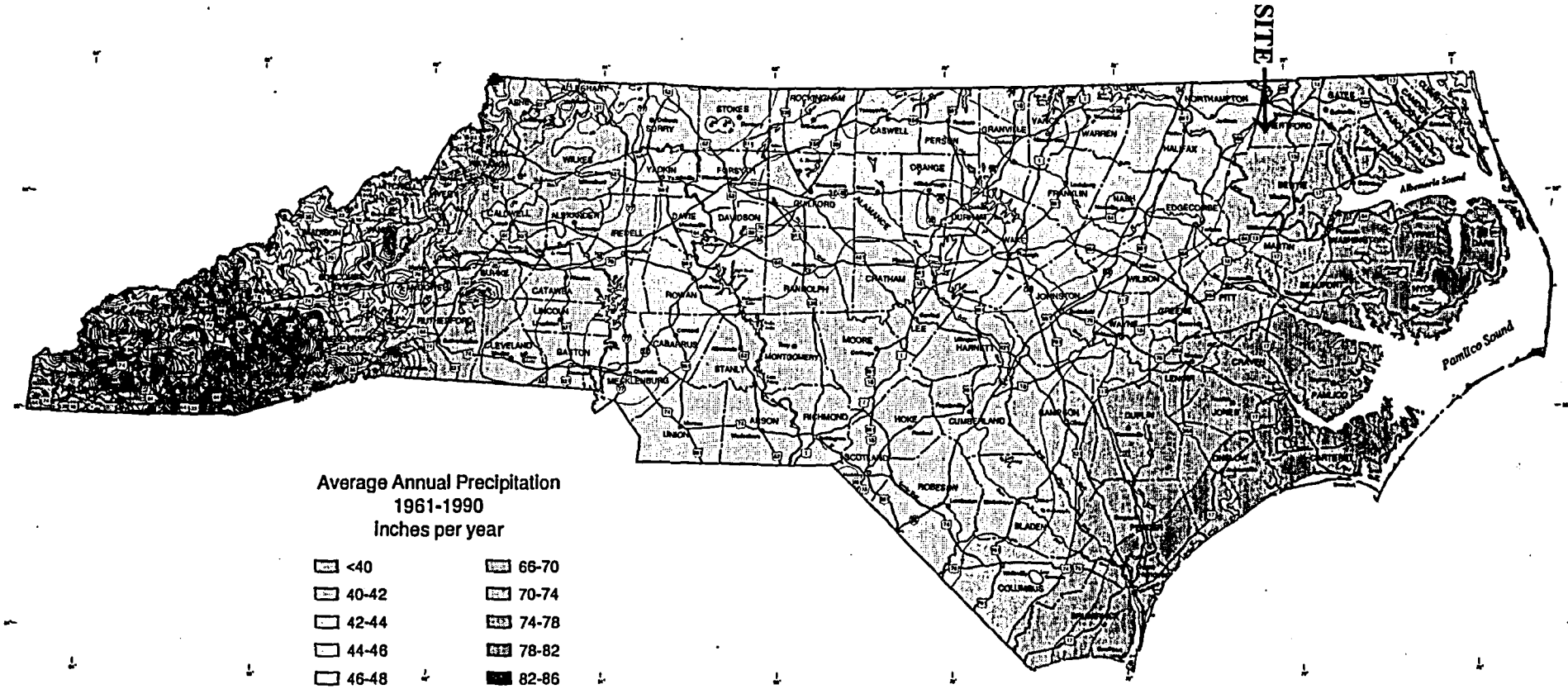
http://www.ftw.nrcs.usda.gov/prism/prismmaps_3.html#North Carolina

In addition, a black and white copy has been attached to this memo for your files. A larger version of the map in color has been printed out and included with the other reference materials.

U.S. DEPARTMENT OF AGRICULTURE

NATURAL RESOURCES CONSERVATION SERVICE

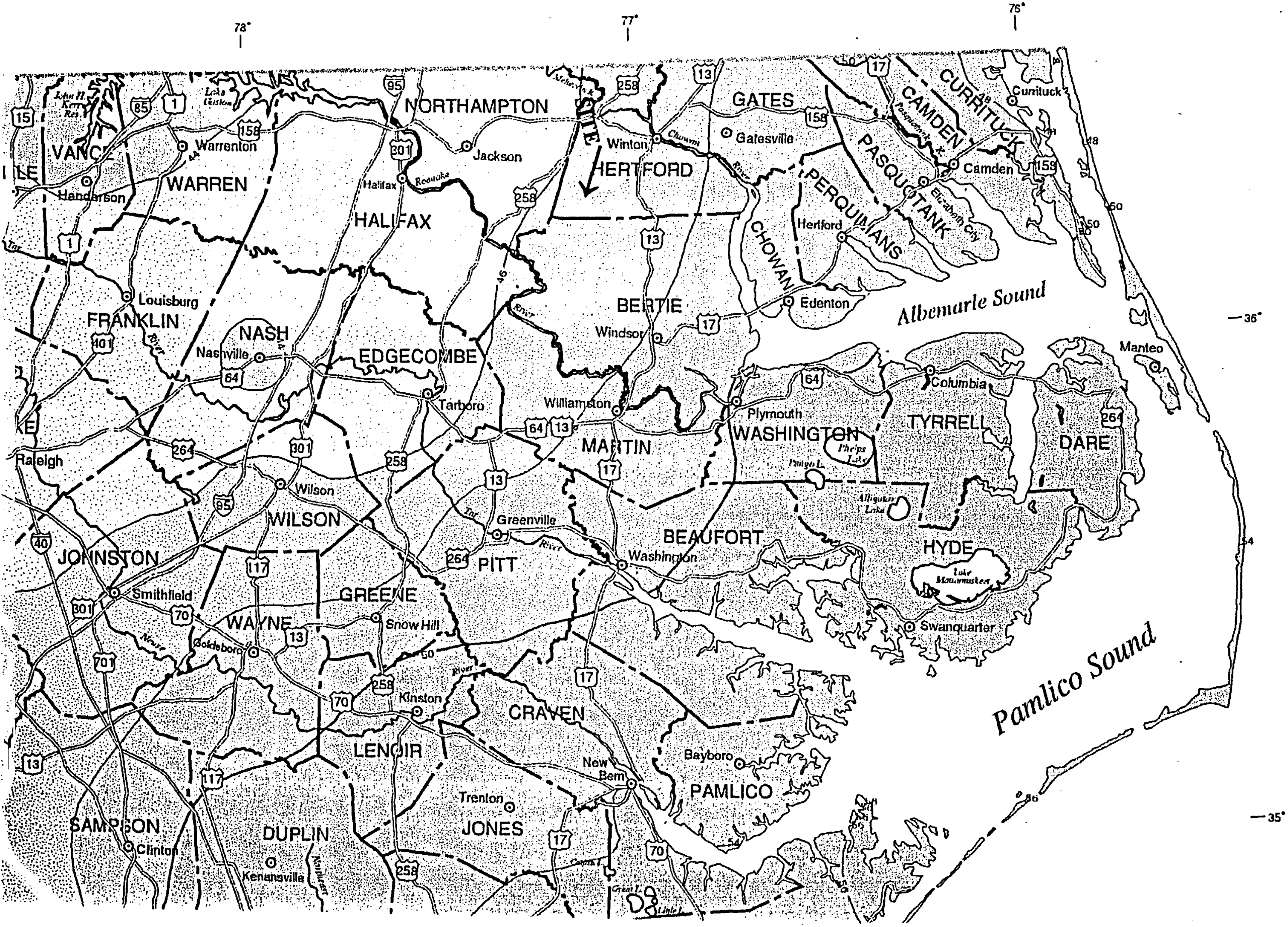
NORTH CAROLINA
ANNUAL PRECIPITATION



Average Annual Precipitation
1961-1990
Inches per year

<40	66-70
40-42	70-74
42-44	74-78
44-46	78-82
46-48	82-86
48-50	86-90
50-54	90-100
54-58	100-110
58-62	110-120
62-66	

SCALE 1 : 1,180,000


78°
77°
76°
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35°
SITE
NORTHAMPTON
GATES
CURRITUCK
CAMDEN
PASQUOTANK
PERQUIMANS
CHOWAN
HERTFORD
BERTIE
HALIFAX
WARREN
VANCE
FRANKLIN
NASH
EDGECOMBE
MARTIN
WASHINGTON
TYRRELL
DARE
HYDE
BEAUFORT
PITT
WILSON
JOHNSTON
GREENE
WAYNE
LENOIR
CRAVEN
PAMLICO
JONES
DUPLIN
SAMPSON
Albemarle Sound
Pamlico Sound
Currituck
Gatesville
Winton
Jackson
Warrenton
Henderson
Halifax
Camden
Elizabeth City
Hertford
Edenton
Windsor
Manteo
Louisburg
Nashville
Tarboro
Williamston
Plymouth
Columbia
Raleigh
Wilson
Greenville
Washington
Smithfield
Snow Hill
Goldsboro
Kinston
Swanquarter
Bayboro
New Bern
Trenton
Clinton
Kenansville
Phelps Lake
Alligator Lake
Lake Mattamuskeet
Chowan River
Roanoke
Tar River
Neuse River
95
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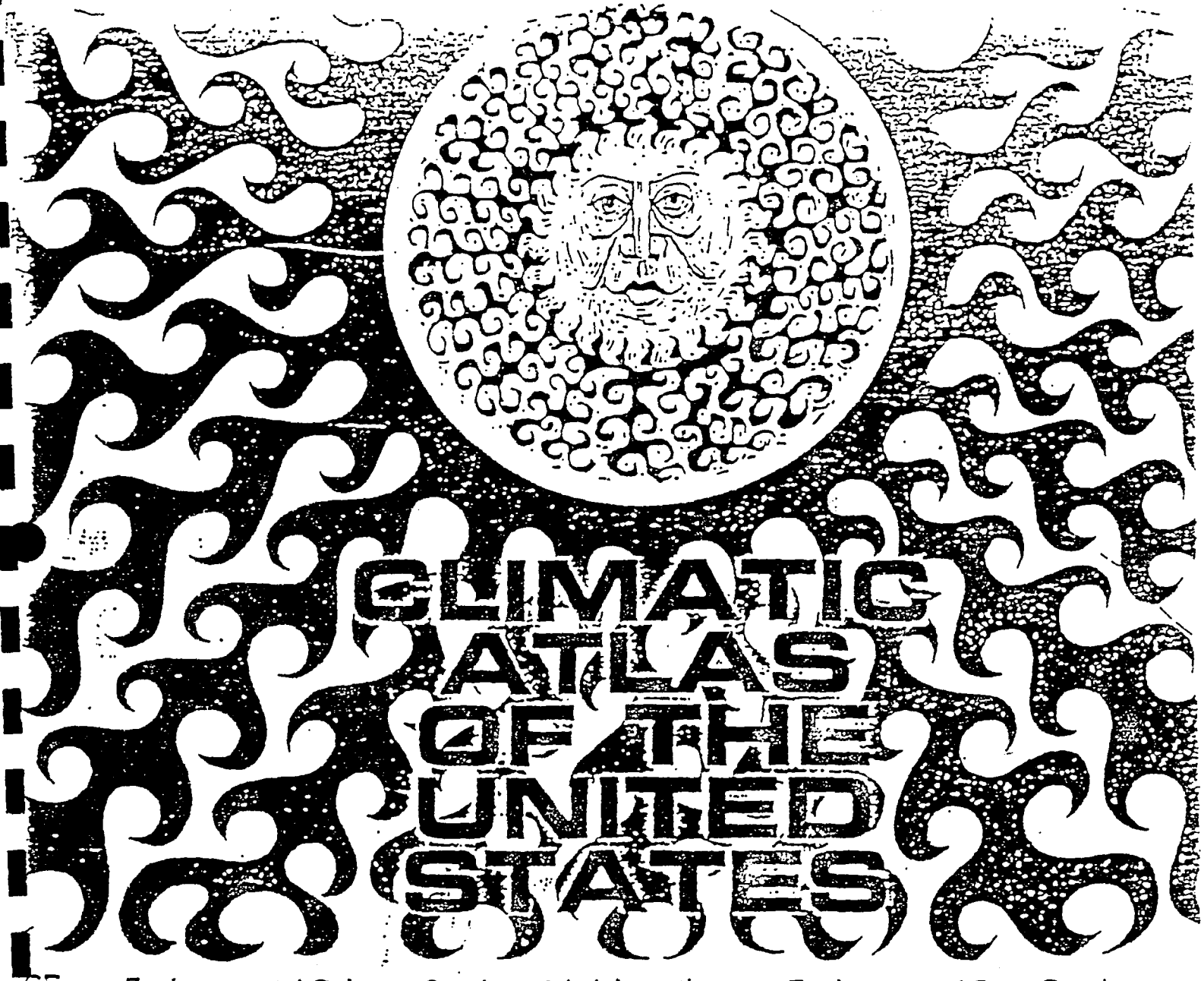
40
70
117
701
264
50

REFERENCE 6

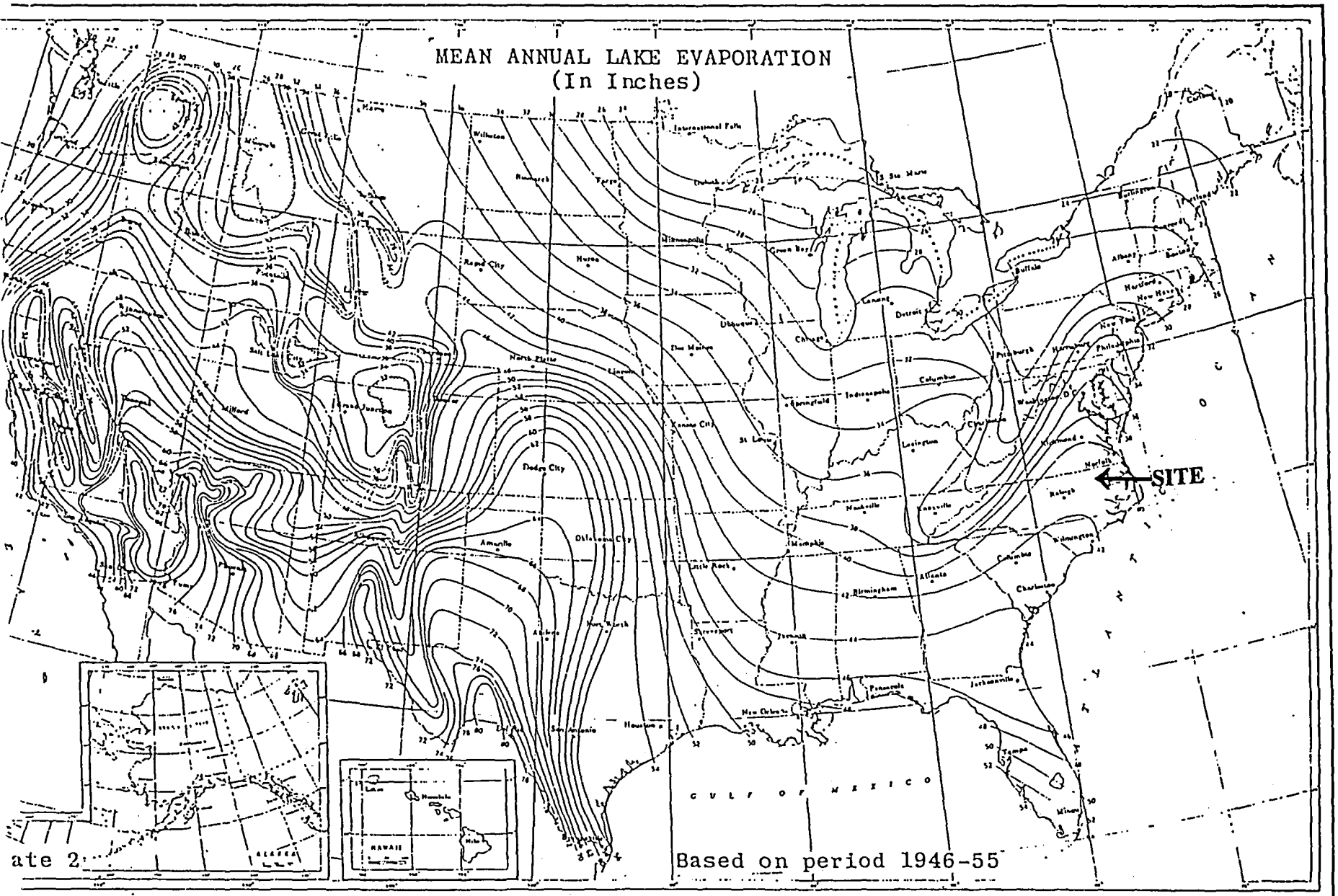
Reference 15



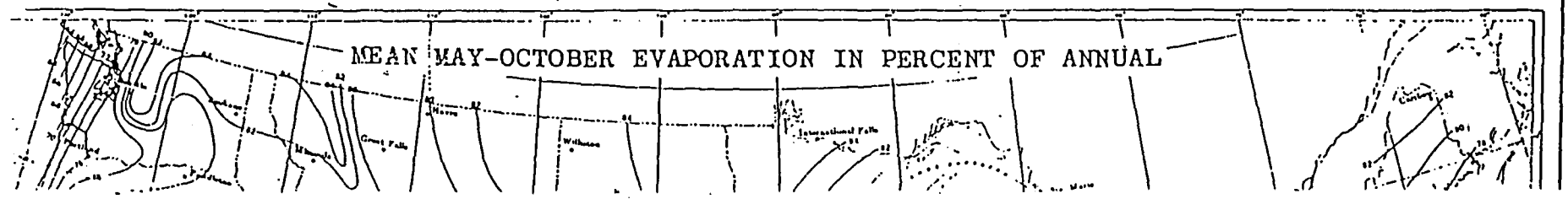
CLIMATIC ATLAS OF THE UNITED STATES

CE . Environmental Science Services Administration . Environmental Data Service

E EVAPORATION



ate 2



SITE
VIRGINIA
NORTH CAROLINA
SOUTH CAROLINA
ALBEMARLE SOUND
PAMLICO SOUND
PAMLICO R.
NEUSE R.
ONSLOW BAY
LONG BAY
80°
35°

1 C

REFERENCE 7

Memorandum

Date: October 18, 2001

To: File

From: Melanie Bryson
Environmental Engineer
NC Superfund Section

Subject: Site Reconnaissance Trip Report

Tri-County Airport
Aulander, Hertford County, NC
EPA ID: NCN 000 407 205

On Tuesday, October 9, 2001, Melanie Bryson and Jeanette Stanley of the NC Superfund Section conducted an on-site and off-site reconnaissance at the Tri-County Airport located in rural Hertford County, north of Aulander, NC.

The reconnaissance began with an interview with Henry Joyner, manager of the Tri-County Airport. Mr. Joyner has been employed at the airport since 1973. Betty Joyner, wife of Henry Joyner, was also present during the interview.

Mr. Joyner indicated that the airport office had been housed in its current building since 1978. It was previously located in another building farther north on the property. He stated that there are only two full-time employees of the airport—himself and his wife. He also said the airport is serviced by an on-site well that is approximately 175 feet deep and has no treatment. According to Mr. Joyner, the water has a bad taste, so they drink bottled water. However, they do still use the well water for making coffee and all other uses at the airport. Mr. Joyner indicated that there is a county-wide water system though the airport is not currently on this system.

When asked about the airport history, Mr. Joyner said during the late 1960's, three spray groups were formed and operated out of the airport. The groups consisted of farmers from the Rich Square, Murfreesboro, and Woodland areas. All three groups had storage tanks on site, with each tank providing enough storage for 10 applications of pesticides for the farmers. All three groups disbanded around 1972-1973, and two of three groups have removed their tank from the airport property. The remaining storage tank has now rusted and is leaking pesticides mixed with rainwater onto the ground. This tank is currently about ¼ full. Mr. Joyner said that the area had previously been sampled and that arsenic, DDT, malathion, methyl parathion, and others were present in the first three or six inches of soil.

In more recent years, Robert Whitfiled and his sons have run a spray operation up until this year out at the airport. Forestry service is the only agricultural activity at the airport, fertilizer is currently the only product/activity going on at the airport. There have been several spills of fertilizer in the area of the site.

Mr. Joyner also spoke of problems that occurred when an irradication program for boll weevils was implemented during the 1970's. The Department of Agriculture brought in

many, many barrels of pesticides to help control the boll weevils. He said that no one monitored this program though it was understood that that would be happening with all of the barrels of pesticides. He also said there were spills on a quite frequent basis. Currently, seven rusted out barrels still remain on site.

Mr. Joyner then proceeded to take Ms. Bryson and Ms. Stanley to the site. The site was not fenced, and there were no restrictions to accessing the site. Mr. Joyner first located the presence of the on-site well and showed where an available tap for sampling was located. He then took us to the site, where upon immediately arriving, a strong odor was detected coming from the remaining tank. A drip leak was also noted towards the bottom of the tank. The tank was estimated to be a 5 ½' by 18' cylinder. Seven rusted barrels were also noted just northwest of the rusted tank. The area was measured by pacing off, and dimensions were determined to be approximately 100' by 25'.

A ditch was found to border the northeast corner of the site. It was noted that where water entered the ditch was approximately 25 feet from where the ditch entered a shrub-scrub wetland.

Also present on the site was an area where burning of something had been conducted on the ground. Beside the site was a cart with empty containers that had previously held liquids which contained ethephon, cyclanilide, and tributylphosphothionate.

Following the on-site reconnaissance, Ms. Bryson and Ms. Stanley received permission from Mr. Joyner to return on November 7, 2001 to conduct sampling. Mr. Joyner declined the offer to split samples. Ms. Bryson and Ms. Stanley then proceeded offsite to investigate Cutawhiskie Creek. The creek was observed from bridges on Fennel Road and Jim Hardy Road. There was no sign of fish or fishing present at either of the two bridges. Wetlands were present on both sides of the creek; however, they were not contiguous with the creek itself as steep backs (~3' high) separated the creek from the wetlands.

In the process of the checking out Cutawhiskie Creek, Ms. Stanley conducted a house count in the 1-mile radius around the site. Based on the house count, the results are as follows:

Distance Ring	# of Houses
0 – ¼ mile	0
¼ - ½ mile	1
½ - 1 mile	34

Following the housecount, Ms. Bryson and Ms. Stanley stopped by the home of Everett Bryant, 2301 NC Highway 561 W. Mr. Bryant granted permission to sample his well for background purposes. He stated that there was no treatment on the well and that is was 35-40' deep. He also stated that he would tie on to county lines within the month; however, he would still continue to use his well for irrigation and other outside purposes.

Tri-County Airport 10/9/01

CONTENTS

PAGE NO.	REFERENCE	DATE
	Photo Log	
1	tank-leaking	
2	tank-label	
3		
4	} general area	
5	9 drums under shed - Si Roofing - 6 Hy. Oil - 3	
6	barrels	
7	drainage ditch	
8	wetland-like area adjacent to mixing area	
9	PEMIC wetland	
	Hydrosoil (cont.)	

Tri-County Airport 10/9/01
NCN000407207

9:45 arrived on-site
sunny 50°F

On-Site Recon Team:
Melanie Bryson
Jeanette Stanley
Henry Joyner - two airports since 1978 (wife - Betty Joyner)
- in current building since 1978
on-well
175' deep - no treatment
2 workers on-site (Henry + Betty)
- water has bad taste
- drink bottled water, use well water for everything else (including making coffee)
- there is county-wide water system through airport not currently on it
- Winton is county seat
- late 1940s - three spray groups
→ each had 1000 gall drums to store (10 applications)
↳ Rich Square, Murfreesboro, Woodland
- all three groups disbanded 1972-73
- two of three groups have removed barrels

Melanie Bryson

Melanie Burpo 10/9/01

Tri-County Airport 10/9/01

- spray groups - 10 farmers banded together to spray - spray every 2 wks weather
- barrel left - top rusted out
  - 280 gallons rainwater + chemicals
- double wall container - rusted through almost - slow drip leak
- area has been previously sampled
  - arsenic, DDT, malathion, methyl parathion present
    - ↳ located in first 3 or 6 inches of soil
- Robert Whitfield & sons run spray operation until this year (medical problems)
  - 2 sons - Timmy & Bobby
- forestry - only agricultural activity at airport
- fertilizer is currently only thing going on
  - ↳ current spillage - great grass growth
- problems occurred when implement irradiation program - NCDA
  - USDA brought in pesticides to control boll weevil (many containers)
    - ↳ no one monitored, though were supposed to
      - ↳ very frequent spillages
- barrels (rusted out) still down there

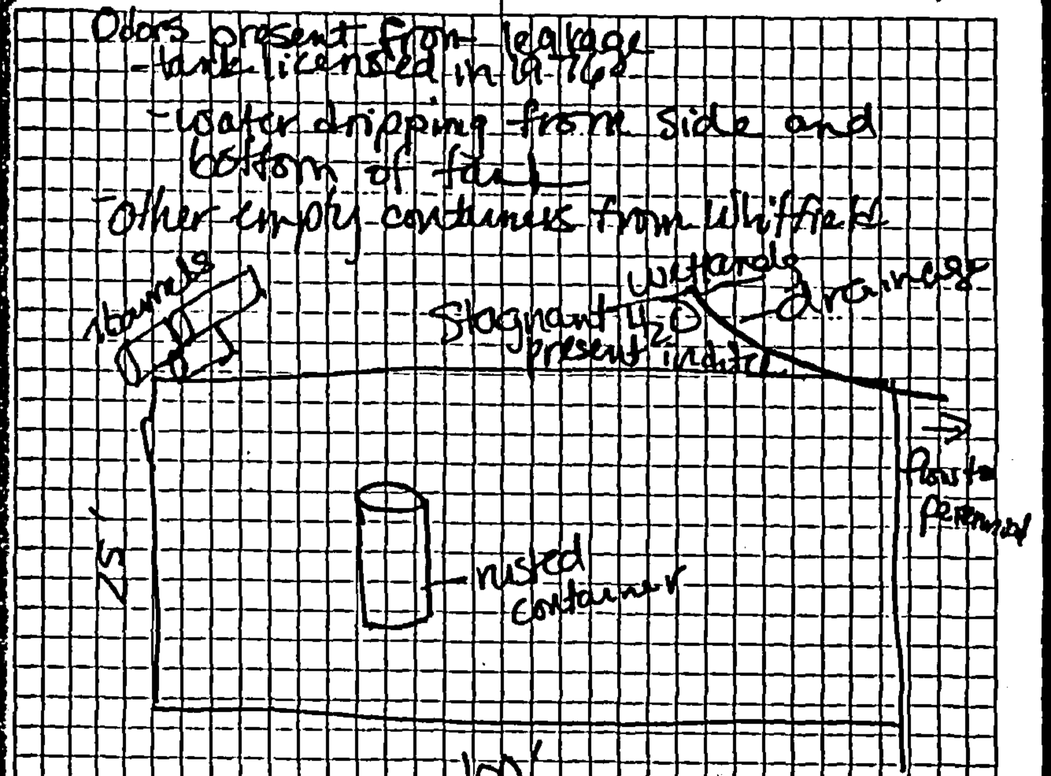
Melanie Burpo

(3)

Tri-County Airport

10/9/01

Odors present from leakage
- tank licensed in 19-1[illegible]
- water dripping from side and bottom of tank
- other empty containers from Whiffield



poison ivy very dominant in woods beside site

Distance from pit into ditch to PSSIC approximately 25 feet

Cont'd oil containers + others
Contained: Ethephon, cyclanilide, tributyl phosphorothioate

Burning present on ground (Ash?)

wetland plants present in PSSIC
- wetland
- ditch through PSSIC wetland, not PEM wetland

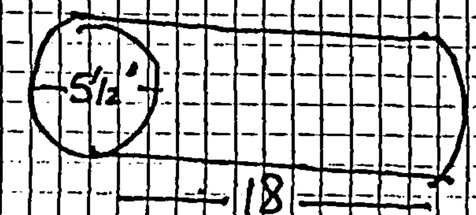
Melanie Burpo ©

Melanie Burpo

©

Tri-County Airport

10/9/01



tank

1 barrels present (55 gallon

Waste quantity

Perennial Streams:

@ bridge JUST downstream of entry into perennial

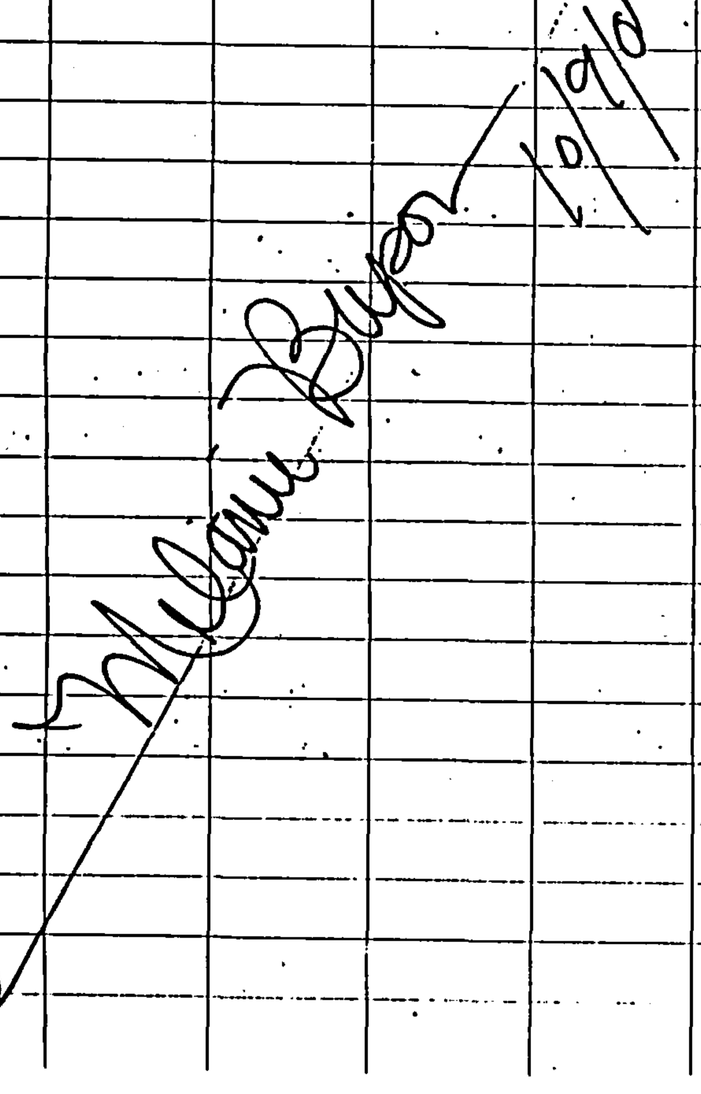
- 2 dead animals (chicken on one side of bridge and dog on downstream side)

Proceeded to Cuta Whis Kie / Jim Hardy Rd. Bridge. No sign / fishing. Trash, tires, TV in creek.

Melanie Burpo

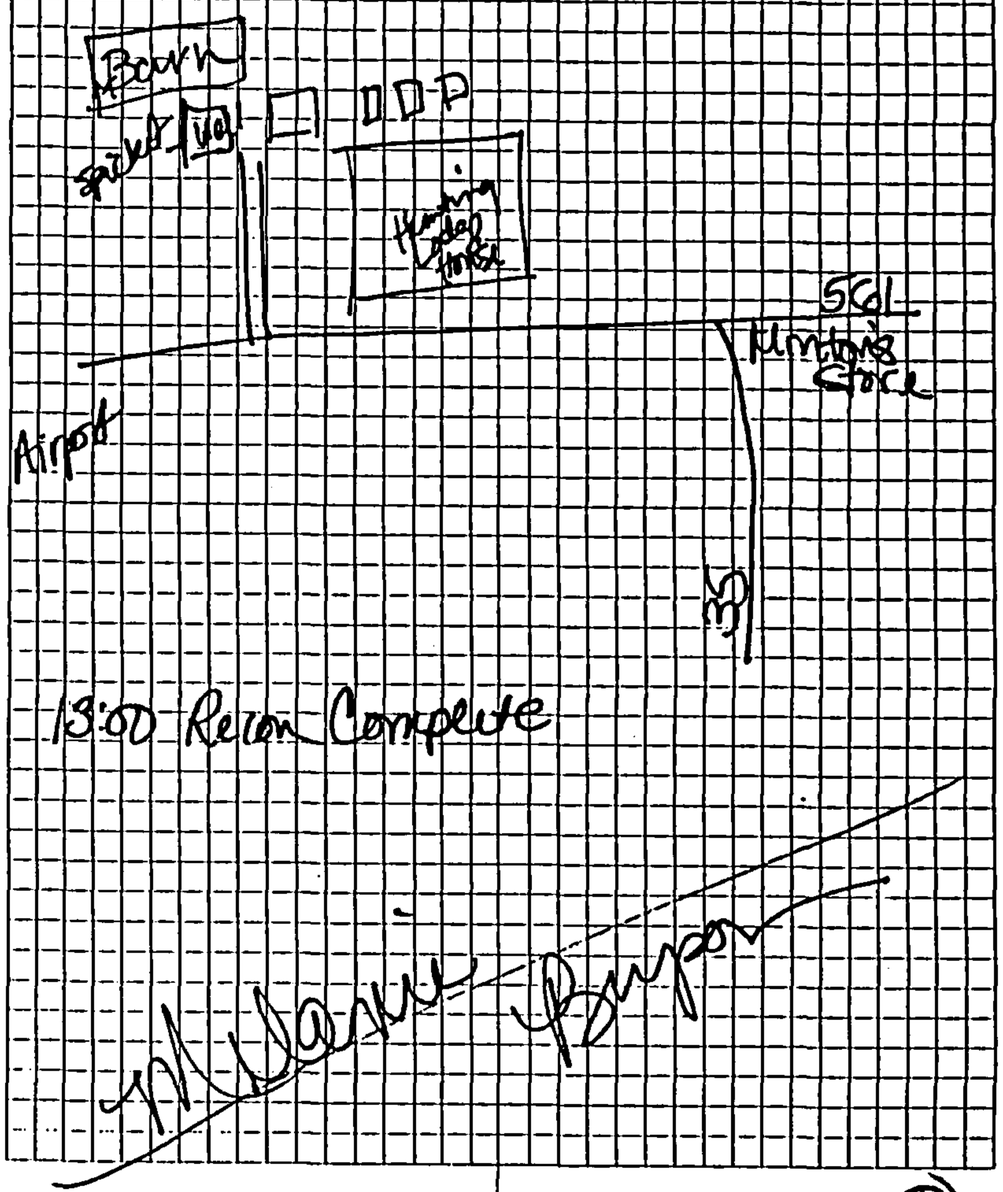
10/9/01

Melanie Burpo



Tri-County Airport 10/9/01

Everett Bryant
2301 NC Highway 561 W
Woodland, NC 27897-9745
well no treatment 35-40'



Melanie Burpo 10/9/01

(11)

Tri-County Airport

10/9/01

House Count

0-1/4 mile — 0 homes

1/4-1/2 mile — 1 homes

1/2-1 mile — 34 homes

Nearest house approximately 0.35 miles from site

Melanie Burpo

END

(12)

REFERENCE 8

Memorandum

Date: November 14, 2001

To: File

From: Melanie Bryson
Environmental Engineer
NC Superfund Section

Subject: Sampling Trip Report

Tri-County Airport
Aulander, Hertford County, NC
EPA ID: NCN 000 407 205

On Wednesday, November 7, 2001, members of the NC Superfund Section conducted a SI sampling event at the Tri-County Airport. Team 1, which sampled Cutawhiskie Creek, the on-site tank, and background wetland and soil samples, consisted of Melanie Bryson (Project Manager) and Mike Deaton. Team 2, which sampled the isolated wetland, on-site soils and both potable wells, consisted of Jeanette Stanley and Stephanie Grubbs.

Waste Samples

Two waste samples were collected from the site: a liquid sample from an on-site tank and a sludge sample from the drip pan under the south end of the tank. The tank produced a very strong odor the entire time before, during, and after sampling. A peristaltic pump was used to collect the liquid sample from the tank. The liquid in the tank was a transparent brown/rusty/amber color with a slick texture to it, oily in nature. The tank's exact measurements were taken: 18" length and 5'4" diameter. The level of liquid in the tank was estimated to be approximately 6-8" deep. A sample was also collected from the drip pan beneath the tank. The material was a black, oily material with pure product and lots of pine needles. Drip pan had collected liquid from the tank and rusted through in parts of bottom.

Surface Water Pathway #1 (Isolated Wetland)

A set of duplicate water/sediment samples were collected from the isolated wetland bordering the site to the north. The distance from where runoff entered the ditch until the point it entered the wetland was measured to be 27'. Much less water was present in the wetland than was during the reconnaissance, specifically caused by lack of rain in the area. Sediments collected from the wetland were grey/tan fine clay (no sand) and some organic matter. Background wetland samples were completely dry (once again from lack of rain). These soil were tannish-brown/black sandy silts covered with organic matter, roots.

Surface Water Pathway #2 (Cutawhiskie Creek)

A total of two surface water and three sediment samples were collected from Cutawhiskie Creek. Water was shallow and not flowing in the creek due to lack of rain in the area. The PPE sediment sample was very sticky. The sample was collected from a bluish-gray sandy clay found below 1" of dark organic matter on the bottom of the creek. Both background sediments samples were a light tan sand. The water in the creek

appeared black due to the shallowness of the creek and the large amount of organic matter present in the creek.

Soil Pathway

Two composite soil samples were collected on site: one near the rusted barrels and one near the location of the previous two tanks. There were also two grab samples taken from the ditches beside and along the runway. Two background samples were collected for spatial variation. The sample collected from the drainage ditch adjacent to the site had a very strong organic, smoky, ashy odor. The soil had a green layer on top of some grey/tan clay. Some of the material on top of the clay was tarry and black. The second ditch sample collected near the runway was a mottled grey, predominantly tan with some red clay and some sand mixed in. The sample collected near the barrels was brown at the surface while the whole area was littered with asphalt-looking material, though it was a clumped, powdery substance similar to a filter cake on dried sludge. There was also a strong and disagreeable odor in the area. The sample collected in the area of the previous tanks consisted of a tan, fine-grained sand. The background sampled were dry, brown sandy silt collected below a layer of grass and other organic matter.

Groundwater Pathway

A total of two wells were sampled: an on-site well and a background well. No problems were encountered in collected samples from the wells. The on-site well was slightly more basic in pH than the background well, with the on-site well averaging a pH of 7.5 while the background well had an average pH of 5.27.

Tri-Co. Airport
NCN-000-40726S
Photo Log

11/7/01

1- TCA-015-SW/SD
2- TCA-016-SW/SD
3- TCA-003-SS (Containment Basin near Tank)
4- Photo of "Pesticide Storage" sign
5- REDIA Wetland
TCA-013-SD
6- TCA-007/008-SS
7- Tri-County Airport
8- From terminal looking north
9- " to site
10- airport terrain
11- " "
12- " "
13 plane

Melanie Bryson

Tri-County Airport
NCN 000 40 726S

11/7/01

60°F Sunny Clear
9:50 arrived @ airport - checked in w/ Betty Bynum
9:55 arrived @ site

Team 1
Melanie Bryson
Mike Deaton

Team 2
Stephanie Gumbs
Jeanette Stanley

1000 TCA-019-SB prepared by SG
TCA-018-TB prepared by Mike Deaton
10:05 VOA bottles prepped by Mike Deaton
Min. Rae
Serial # 100252
10:10 calibrated to 49.1 by SG
10:15 pH calibrated w/ 7, 4
10:20 Conductivity calibrated w/ 1413
10:55 arrived @ TCA-015-SW/SD
10:57 TCA-015-SW collected by MD
Sediments 0-1" Dark organic matter
Below 1" bluish-gray Sandy clay
11:03 TCA-015-SD collected by MD
Very sticky sediment

Melanie Bryson

TCA-016-SW/SD 11/7/01

TW - County Airport NCN000407205

Sheen (oily) observed in drainage ditch entering Cusawbatchee Creek

TCA-016-SW/SD - approximately 50' upstream of TCA-015-SW/SD

11:13 TCA-016-SW collected (MD) water appears very dark/black from organic matter

11:17 TCA-016-SD collected (MD) sediment very sandy - light tan sand

TCA-017-SD/SD

- located approximately 20' upstream of TCA-016

- Same in color & texture as TCA016SD

11:26 TCA-017-SD collected (MD)

(3)

TW County Airport 11/7/01

NCN000407205

12:40 pm Melanie Bryson and Mike Death began pumping liquid from the tank. The liquid is transparent brown / rust colored.

12:45 Sample TCA-001-SR was collected (MB) 2 BNA bottles were collected 1st. Mr. Joyner stated malathion and toxaphene were probably the main pesticides. He stated that toxaphene was gummy, probably was making the liquid thick. Very odorous.

mini rae peak within breathing zone up to 3.1 units.

length of tank 18', diameter is 5'4". Tank is double walled.

Melanie Bryson (4)

TriCo Airport 11/7/01

NCN000407205

15:19 TCA-013-SD collected (MD)
- brown (tan) / black sandy silt - covered w/ organic matter, roots
Due to lack of rain, no water currently in wetland
- ground/soil very dry
- 2-4" deep (below organic)

TCA-014-SD
- upgradient ~40 feet from TCA-013-SD
- same as TCA-013-SD

15:30 TCA-14-SD collected (MD)
- 2-4" deep (below organic)

16:10 TCA-007-SS collected (MD)
- brown sandy silt
- dry
- in-situ mixing

TCA-008-SS
- collected ~20 feet east of TCA-007-SS

16:15 TCA-008-SS collected
- same as TCA-007 (MD)

Melanie Burger

TRI-County Airport 11/7/01

NCN000407205

Lot #	Sample Containers
0279010	500 mL VOA vial w/o septum
8019010	500 mL VOA vial w/ septum
0279012	40mL VOA vial
9091010	2.5L BVA amber jug
9274010	Plastic metals 1L

Melanie Burger

CURVE FORMULAS

$T = R \tan \frac{1}{2} I$	$R = T \cot. \frac{1}{2} I$	Chord def. $= \frac{\text{chord}^2}{R}$
$T = \frac{50 \tan \frac{1}{2} I}{\text{Sin. } \frac{1}{2} D}$	$R = \frac{50}{\text{Sin. } \frac{1}{2} D}$	No. chords $= \frac{I}{D}$
$\text{Sin. } \frac{1}{2} D = \frac{50}{R}$	$E = R \text{ ex. sec } \frac{1}{2} I$	
$\text{Sin. } \frac{1}{2} D = \frac{50 \tan \frac{1}{2} I}{T}$	$E = T \tan \frac{1}{4} I$	Tan. def. $= \frac{1}{2}$ chord def.

The square of any distance, divided by twice the radius, will equal the distance from tangent to curve, very nearly.

To find angle for a given distance and deflection.

Rule 1. Multiply the given distance by .01745 (def. for 1° for 1 ft.) and divide given deflection by the product.

Rule 2. Multiply given deflection by 57.3, and divide the product by the given distance.

To find deflection for a given angle and distance. Multiply the angle by .01745, and the product by the distance.

GENERAL DATA

RIGHT ANGLE TRIANGLES. Square the altitude, divide by twice the base. Add quotient to base for hypotenuse.

Given Base 100, Alt. $10.10^2 \div 200 = .5$. $100 + .5 = 100.5$ hyp.

Given Hyp. 100, Alt. $25.25^2 \div 200 = 3.125$; $100 - 3.125 = 96.875 =$ Base.

Error in first example, .002; in last, .045.

To find Tons of Rail in one mile of track: multiply weight per yard by 11, and divide by 7.

LEVELING. The correction for curvature and refraction, in feet and decimals of feet is equal to $0.574 d^2$, where d is the distance in miles. The correction for curvature alone is closely, $\frac{2}{3} d^2$. The combined correction is negative.

PROBABLE ERROR. If d_1, d_2, d_3, etc. are the discrepancies of various results from the mean, and if Σd^2 = the sum of the squares of these differences and n = the number of observations, then the probable error of the mean $= \pm 0.6745 \sqrt{\frac{\Sigma d^2}{n(n-1)}}$

MINUTES IN DECIMALS OF A DEGREE

1′	.0167	11′	.1833	21′	.3500	31′	.5167	41′	.6833	51′	.8500
2	.0333	12	.2000	22	.3667	32	.5333	42	.7000	52	.8667
3	.0500	13	.2167	23	.3833	33	.5500	43	.7167	53	.8833
4	.0667	14	.2333	24	.4000	34	.5667	44	.7333	54	.9000
5	.0833	15	.2500	25	.4167	35	.5833	45	.7500	55	.9167
6	.1000	16	.2667	26	.4333	36	.6000	46	.7667	56	.9333
7	.1167	17	.2833	27	.4500	37	.6167	47	.7833	57	.9500
8	.1333	18	.3000	28	.4667	38	.6333	48	.8000	58	.9667
9	.1500	19	.3167	29	.4833	39	.6500	49	.8167	59	.9833
10	.1667	20	.3333	30	.5000	40	.6667	50	.8333	60	1.0000

INCHES IN DECIMALS OF A FOOT

1-16	3-32	1/8	3-16	1/4	5-16	3/8	1/2	5/8	3/4	7/8
.0052	.0078	.0104	.0156	.0208	.0260	.0313	.0417	.0521	.0625	.0729

1	2	3	4	5	6	7	8	9	10	11
.0833	.1667	.2500	.3333	.4167	.5000	.5833	.6667	.7500	.8333	.9167

11/07/01

Tri-County Airport NCN000 407205

Sunny, Clear ~60°F

team—

Stephanie Grubbs (SG)

Jeanette Stanley (JS)

arrived site 10am

Stephanie & Mike Deaton

prepared trip blanks &

calibrated meters

Selected sample location,

SW/SD - 11+12 @ 185'

from beginning of PSSIC

wetland. Drawing on next page

Water in ditch ended @ ~190'

into wetland. Area generally

much drier than when we

were onsite in Oct.

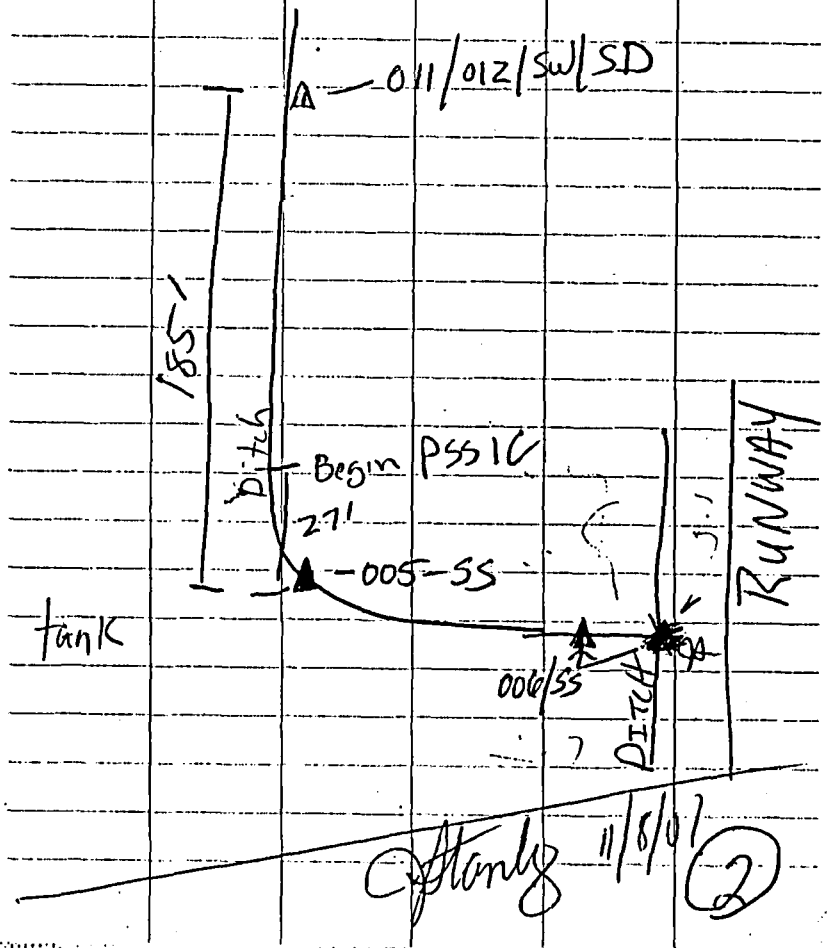
1040 TCA-011SW, collected by SG

-1050 & TCA-012SW

Stanley 11/8/01 (1)

11/07/01 Tri County Airport

1255-1105 TCA-011/012-SD collected by SG
Sediment was a grey/tannish fine (no sand) clay w/ some organic matter (grass)
Sediment mixed in pan



Stanley 11/6/01 (2)

Stanley 11/6/01

Photo 1, 2, 3 TCA-011-SW/SD location

1125 AM Jeanette Stanley began collecting TCA-005-SS from the drainage ditch. Very strong organic, smokey, ashy odor. Green layer on top of same grey/tan clay. Some material on top of clay is tarry & black. Sample collected from 0-3". Sveg + metal mixed in situ

Photo 4 TCA-005-SS location.

Photo 5 TCA-006-SS

1145 arrived at TCA-006-SS location ditch between source area & ditch alongside Runway not well defined last 45' before runway ditch; Collected 006-ss in ditch 45' gradient from Runway ditch.

1150 TCA-006-SS collected dig SS Sveg + metal sample mixed in situ

Stanley 11/08/01

Tri County Airport 11/8/01

TCA-006-SS
mottled grey (predom) tan w/some red clay w/ some sand

12 noon Jeanette Stanley collected sample TCA-003-SS.
Black, oily material, pure product, not soil, lots of pine needles. highly concentrated
Grab sample collected from surface.
photo 6, 7, 8 taken ~~of~~ of sample TCA-003-SS

Bottom of collection pan at 003-SS location was rusted through

Mini rae reading in breathing zone reached 3.4 units.

Photo 9 - From 002-SS area toward lot.
Steph collected 3-pt composite near drums.
soil brown at surface, darkens > 2"
Soil area littered with asphalt-looking

Stanley 11/08/0

(3)

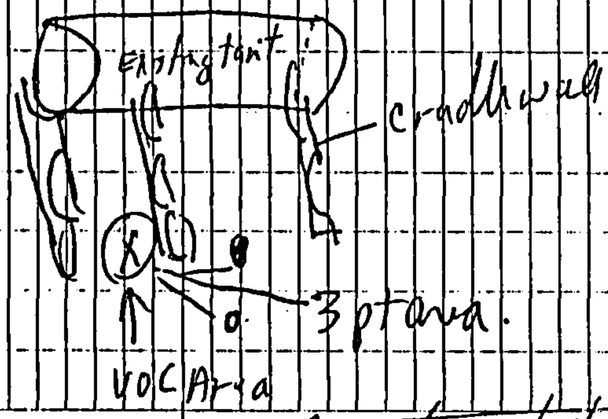
material, but it was a clumped, powdery substance similar to a filter cake or dried sludge.

Photo 10 - 002-SS area

1230 TCA-002-SS collected by SG
general odor in area strong & disagreeable, but not able to identify

Photo 11 - Melanie taking tank sample

3-point composite collected under from tank location VOC point shown below



Stanley 11/08/01

Tri-county Airport 11/8/01

1250-RSS TCA-004-SS collected by JS
soil tan, fine-grained sand

1345 - Melanie & Mike completed their sampling. left for lunch

1510 JS began samp. purging well TCA-009-PW

1520 1st parameters
16.9°C temp
7.3 pH
432 µS cond.

photo 12 taken of well 009-PW

1523 2nd parameter
16.5°C temp
7.5 pH
428 µS cond.

1525 3rd parameters
16.2°C temp
7.7 pH
428 µS cond.

1530 JS collected TCA-009-PW

Stanley 11/08/01

Tri-County Airport 11/08/01

1610 arrived at background well location TCA-010-PW, Bryant residence

1612 started purging well

1615 1st parameter
5.65 pH
18.5°c temp
86.7 µS

1620 2nd parameters
5.11 pH
17.7°c temp
84.3 µS cond

1623 3rd parameters
5.04 pH
17.5°c temp
83.8 µS cond.

1627 SG Collected Sample TCA-010-PW from spigot

1645 Left Site

11/08/01

END

REFERENCE 9

Memorandum

Date: December 11, 2001

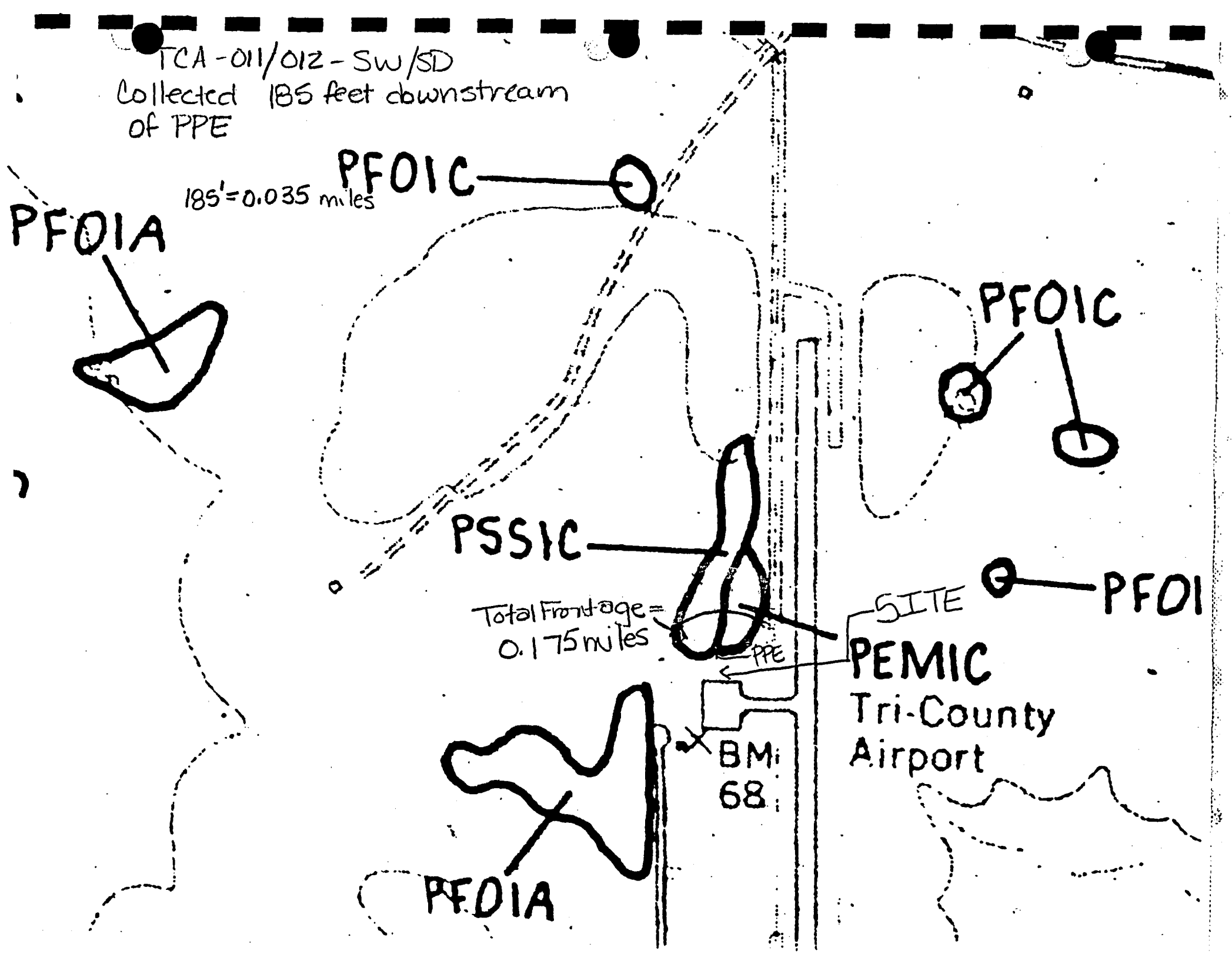
To: File

From: Melanie Bryson
Environmental Engineer
NC Superfund Section

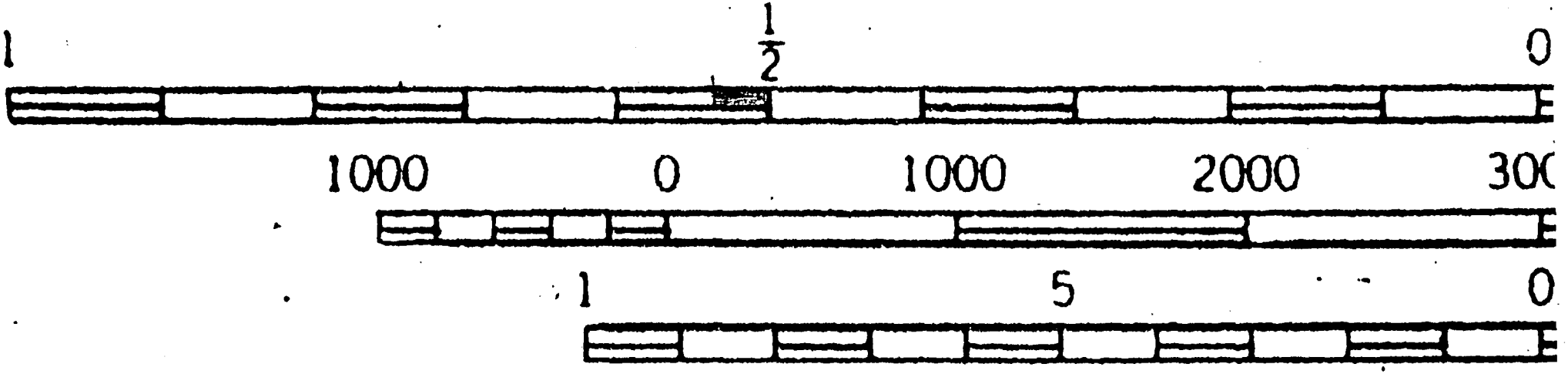
Subject: Wetlands along the Surface Water Pathways

Tri-County Airport
Aulander, Hertford County, NC
EPA ID: NCN 000 407 205

Using an American Map Corp. Map Measurer and the 1:24,000 scale USGS National Wetland Inventory maps (Woodland, NC; Union, NC; and Murfreesboro, NC), the two surface water pathways for the site were identified. The first surface water pathway (isolated wetlands) consists of palustrine scrub-shrub (PSS) and palustrine emergent (PEM) wetlands. Based on the sampling location, the total wetland frontage is 0.175 miles. The second surface water pathway is 15 miles along the Cutawhiskie and Potecasi Creeks. The pathway enters a drainage ditch which flows north before entering Cutawhiskie Creek. Based on field observations and topographic maps, the first hydrologically-connected wetland to Cutawhiskie is a Hazard Ranking System (HRS) identifiable wetland (palustrine forested (PFO)) located approximately 4.0 miles downstream of the PPE. The total wetland frontage for this section of wetlands is 9.45 miles. The next series of hydrologically-connected wetlands begin just upstream of the interconnection of the two creeks. There is a total of 4.9 miles of wetland frontage in this section, making a total of 14.35 miles of wetland frontage along the 15-mile surface water pathway. There are no other additional hydrologically-connected wetlands along the 15-mile surface water pathway.


TCA-011/012-SW/SD
Collected 185 feet downstream
of PPE
PFO1C
185'=0.035 miles
PFO1A
PFO1C
PSS1C
PFO1
Total Frontage=
0.175 miles
SITE
PPE
PEMIC
Tri-County
Airport
BM
68
PFO1A

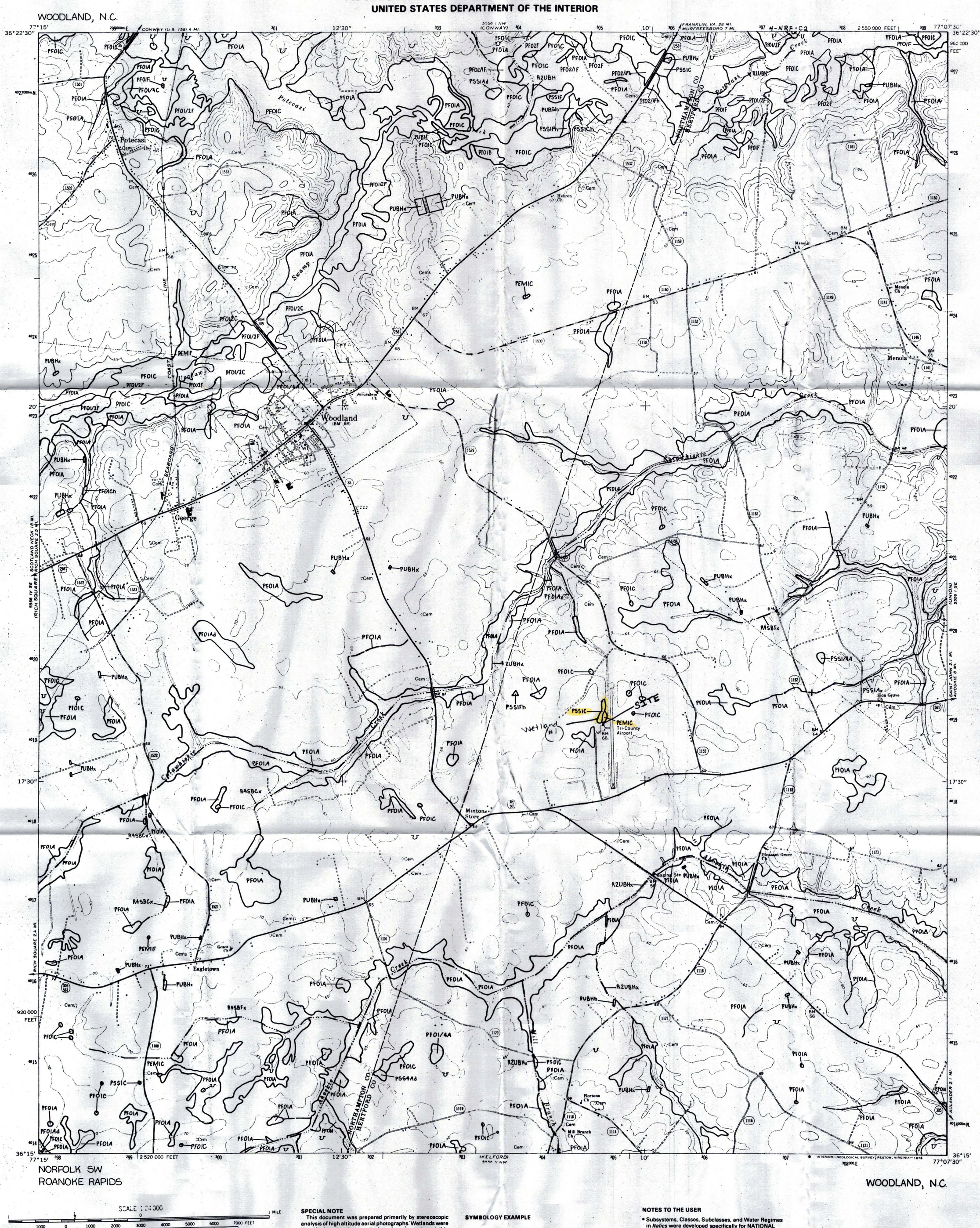
SCALE



NATIONAL WETLANDS INVENTORY

UNITED STATES DEPARTMENT OF THE INTERIOR

WOODLAND, N.C.



NORFOLK SW
ROANOKE RAPIDS

WOODLAND, N.C.

SCALE 1:24 000

1 acre | 5 acres | 10 acres | 20 acres | 40 acres

ACREAGE GUIDE

For information on availability of NWI maps, call 1-800-USA-MAPS.

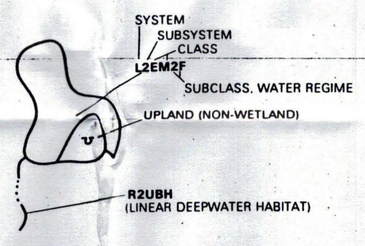
Regional Director (ARDE) Region III
U.S. Fish and Wildlife Service
Federal Bldg., Ft. Snelling (AD/BSP)
Twin Cities, Minnesota 55111

SPECIAL NOTE

This document was prepared primarily by stereoscopic analysis of high altitude aerial photographs. Wetlands were identified on the photographs based on vegetation, visible hydrology, and geography in accordance with **Classification of Wetlands and Deepwater Habitats of the United States** (FWS/OBS - 79/31 December 1979). The aerial photographs typically reflect conditions during the specific year and season when they were taken. In addition, there is a margin of error inherent in the use of the aerial photographs. Thus, a detailed on the ground and historical analysis of a single site may result in a revision of the wetland boundaries established through photographic interpretation. In addition, some small wetlands and those obscured by dense forest cover may not be included on this document.

Federal, State and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, State or local government or to establish the geographical scope of the regulatory programs of government agencies. **Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, State or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.**

SYMBOLOGY EXAMPLE



U Primarily represents upland areas, but may include unclassified wetlands such as man-modified areas, non photo-identifiable areas and/or unintentional omissions.

NOTES TO THE USER

- Subsystems, Classes, Subclasses, and Water Regimes in *Italics* were developed specifically for NATIONAL WETLANDS INVENTORY mapping.
- Some areas designated as R4SB, R4SBW, OR R4SBJ (INTERMITTENT STREAMS) may not meet the definition of wetland.
- This map uses the class Unconsolidated Shore (US). On earlier NWI maps that class was designated Beach/Bar (BB), or Flat (FL). Subclasses remain the same in both versions.

AERIAL PHOTOGRAPHY

DATE: 4 / / 82	DATE: / /
SCALE: 1:58 000	SCALE:
TYPE: CIR	TYPE:

U.S. DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

Prepared by National Wetlands Inventory

Base map provided by the United States Geological Survey.

1994

SYSTEM: M — MARINE

SUBSYSTEM	1 — SUBTIDAL					2 — INTERTIDAL				
CLASS	RB — ROCK BOTTOM	UB — UNCONSOLIDATED BOTTOM	AB — AQUATIC BED	RF — REEF	OW — *OPEN WATER/ Unknown Bottom*	AB — AQUATIC BED	RF — REEF	RS — ROCKY SHORE	US — UNCONSOLIDATED SHORE	
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 3 Rooted Vascular 5 *Unknown Submergent*	1 Coral 3 Worm		1 Algal 3 Rooted Vascular 5 *Unknown Submergent*	1 Coral 3 Worm	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	

SYSTEM: E — ESTUARINE

SUBSYSTEM	1 — SUBTIDAL					2 — INTERTIDAL								
CLASS	RB — ROCK BOTTOM	UB — UNCONSOLIDATED BOTTOM	AB — AQUATIC BED	RF — REEF	OW — *OPEN WATER/ Unknown Bottom*	AB — AQUATIC BED	RF — REEF	SB — STREAMBED	RS — ROCKY SHORE	US — UNCONSOLIDATED SHORE	EM — EMERGENT	SS — SCRUB-SHRUB	FO — FORESTED	
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 3 Rooted Vascular 4 Floating Vascular 5 *Unknown Submergent* 6 *Unknown Surface*	2 Mollusc 3 Worm		1 Algal 3 Rooted Vascular 4 Floating Vascular 5 *Unknown Submergent* 6 *Unknown Surface*	2 Mollusc 3 Worm	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Persistent 2 Nonpersistent	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 *Deciduous* 7 *Evergreen*	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 *Deciduous* 7 *Evergreen*	

SYSTEM: R — RIVERINE

SUBSYSTEM	1 — TIDAL	2 — LOWER PERENNIAL			3 — UPPER PERENNIAL		4 — INTERMITTENT	5 — *UNKNOWN PERENNIAL*
CLASS	RB — ROCK BOTTOM	UB — UNCONSOLIDATED BOTTOM	*SB — STREAMBED	AB — AQUATIC BED	RS — ROCKY SHORE	US — UNCONSOLIDATED SHORE	**EM — EMERGENT	OW — *OPEN WATER/ Unknown Bottom*
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Bedrock 2 Rubble 3 Cobble-Gravel 4 Sand 5 Mud 6 Organic 7 Vegetated	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 *Unknown Submergent* 6 *Unknown Surface*	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	2 Nonpersistent	

*STREAMBED is limited to TIDAL and INTERMITTENT SUBSYSTEMS, and comprises the only CLASS in the INTERMITTENT SUBSYSTEM.
**EMERGENT is limited to TIDAL and LOWER PERENNIAL SUBSYSTEMS.

SYSTEM: P — PALUSTRINE

CLASS	RB — ROCK BOTTOM	UB — UNCONSOLIDATED BOTTOM	AB — AQUATIC BED	US — UNCONSOLIDATED SHORE	ML — MOSS-LICHEN	EM — EMERGENT	SS — SCRUB-SHRUB	FO — FORESTED	OW — *OPEN WATER/ Unknown Bottom*
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 *Unknown Submergent* 6 *Unknown Surface*	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	1 Moss 2 Lichen	1 Persistent 2 Nonpersistent	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 *Deciduous* 7 *Evergreen*	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 *Deciduous* 7 *Evergreen*	

SYSTEM: L — LACUSTRINE

SUBSYSTEM	1 — LIMNETIC				2 — LITTORAL						
CLASS	RB — ROCK BOTTOM	UB — UNCONSOLIDATED BOTTOM	AB — AQUATIC BED	OW — *OPEN WATER/ Unknown Bottom*	RB — ROCK BOTTOM	UB — UNCONSOLIDATED BOTTOM	AB — AQUATIC BED	RS — ROCKY SHORE	US — UNCONSOLIDATED SHORE	EM — EMERGENT	OW — *OPEN WATER/ Unknown Bottom*
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 *Unknown Submergent* 6 *Unknown Surface*		1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 *Unknown Submergent* 6 *Unknown Surface*	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	2 Nonpersistent	

MODIFIERS

In order to more adequately describe wetland and deepwater habitats one or more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy. The farmed modifier may also be applied to the ecological system.

WATER REGIME

Non-Tidal:
- A Temporarily Flooded
- B Saturated
- C Seasonally Flooded
- D *Seasonally Flooded/ Well Drained*
- E *Seasonally Flooded/ Saturated*
- F Semipermanently Flooded
- G Intermittently Exposed
- H Permanently Flooded
- J Intermittently Flooded
- K Artificially Flooded
- W Intermittently Flooded/Temporary
- Y Saturated/Semipermanent/ Seasonal
- Z Intermittently Exposed/Permanent
- U *Unknown*

Tidal:
- K *Artificially Flooded*
- L Subtidal
- M Irregularly Exposed
- N Regularly Flooded
- P Irregularly Flooded
- *S Temporary-Tidal*
- *R Seasonal-Tidal
- *T Semipermanent-Tidal
- *V Permanent-Tidal
- U *Unknown*

*These water regimes are only used in tidally influenced freshwater systems.

WATER CHEMISTRY

Coastal Halinity:
- 1 Hyperhaline
- 2 Euhaline
- 3 Mixohaline *(Brackish)*
- 4 Polyhaline
- 5 Mesohaline
- 6 Oligohaline
- 0 Fresh

Inland Salinity:
- 7 Hypersaline
- 8 Eusaline
- 9 Mixosaline
- 0 Fresh

pH Modifiers for all Fresh Water:
- a Acid
- t Circumneutral
- i Alkaline

SOIL
- g Organic
- n Mineral

SPECIAL MODIFIERS
- b *Beaver*
- d *Partially Drained/Ditched*
- f Farmed
- h *Diked/Impounded*
- r Artificial Substrate
- s *Spoil*
- x Excavated

NATIONAL WETLANDS INVENTORY

UNITED STATES DEPARTMENT OF THE INTERIOR

UNION, N.C.

NORFOLK SW
ROANOKE RAPIDS

UNION, N.C.

SCALE 1:24 000

1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 KILOMETER

1 acre | 5 acres | 10 acres | 20 acres | 40 acres

ACREAGE GUIDE

For information on availability of NWI maps, call 1-800-USA-MAPS.

Regional Director (ARDE) Region IV
U.S. Fish and Wildlife Service
75 Spring Street S.W.
Atlanta, Georgia 30303

SPECIAL NOTE

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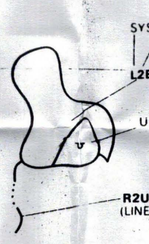
SYMBOLOGY EXAMPLE



NOTES TO THE USER

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- Some areas designated as R4SB, R4SBW, OR R4SBJ (INTERMITTENT STREAMS) may not meet the definition of wetland.
- This map uses the class Unconsolidated Shore (US). On earlier NWI maps that class was designated Beach/Bar (BB), or Flat (FL). Subclasses remain the same in both versions.

AERIAL PHOTOGRAPHY

DATE: 3 / / 82	DATE: / /
SCALE: 1:58 000	SCALE:
TYPE: CIR	TYPE:

U Primarily represents **upland** areas, but may include unclassified wetlands such as man-modified areas, non photo-identifiable areas and/or unintentional omissions

U.S. DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
Prepared by National Wetlands Inventory
Base map provided by the United States Geological Survey.

1994

M — MARINE

SUBSYSTEM	1 — SUBTIDAL					2 — INTERTIDAL				
CLASS	RB — ROCK BOTTOM	UB — UNCONSOLIDATED BOTTOM	AB — AQUATIC BED	RF — REEF	OW — *OPEN WATER/ Unknown Bottom*	AB — AQUATIC BED	RF — REEF	RS — ROCKY SHORE	US — UNCONSOLIDATED SHORE	
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 3 Rooted Vascular 5 *Unknown Submergent*	1 Coral 3 Worm		1 Algal 3 Rooted Vascular 5 *Unknown Submergent*	1 Coral 3 Worm	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	

E — ESTUARINE

SUBSYSTEM	1 — SUBTIDAL					2 — INTERTIDAL							
CLASS	RB — ROCK BOTTOM	UB — UNCONSOLIDATED BOTTOM	AB — AQUATIC BED	RF — REEF	OW — *OPEN WATER/ Unknown Bottom*	AB — AQUATIC BED	RF — REEF	SB — STREAMBED	RS — ROCKY SHORE	US — UNCONSOLIDATED SHORE	EM — EMERGENT	SS — SCRUB-SHRUB	FO — FORESTED
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 3 Rooted Vascular 4 Floating Vascular 5 *Unknown Submergent* 6 *Unknown Surface*	2 Mollusc 3 Worm		1 Algal 3 Rooted Vascular 4 Floating Vascular 5 *Unknown Submergent* 6 *Unknown Surface*	2 Mollusc 3 Worm	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Persistent 2 Nonpersistent	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 *Deciduous* 7 *Evergreen*	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 *Deciduous* 7 *Evergreen*

R — RIVERINE

SUBSYSTEM	1 — TIDAL	2 — LOWER PERENNIAL	3 — UPPER PERENNIAL	4 — INTERMITTENT	5 — *UNKNOWN PERENNIAL*
CLASS	RB — ROCK BOTTOM UB — UNCONSOLIDATED BOTTOM *SB — STREAMBED AB — AQUATIC BED RS — ROCKY SHORE US — UNCONSOLIDATED SHORE **EM — EMERGENT OW — *OPEN WATER/ Unknown Bottom*				
Subclass	1 Bedrock 2 Rubble 1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 1 Bedrock 2 Rubble 3 Cobble-Gravel 4 Sand 5 Mud 6 Organic 7 Vegetated 1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 *Unknown Submergent* 6 *Unknown Surface* 1 Bedrock 2 Rubble 1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated 2 Nonpersistent				

*STREAMBED is limited to TIDAL and INTERMITTENT SUBSYSTEMS, and comprises the only CLASS in the INTERMITTENT SUBSYSTEM
**EMERGENT is limited to TIDAL and LOWER PERENNIAL SUBSYSTEMS

P — PALUSTRINE

CLASS	RB — ROCK BOTTOM	UB — UNCONSOLIDATED BOTTOM	AB — AQUATIC BED	US — UNCONSOLIDATED SHORE	ML — MOSS-LICHEN	EM — EMERGENT	SS — SCRUB-SHRUB	FO — FORESTED	OW — *OPEN WATER/ Unknown Bottom*
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 *Unknown Submergent* 6 *Unknown Surface*	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	1 Moss 2 Lichen	1 Persistent 2 Nonpersistent	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 *Deciduous* 7 *Evergreen*	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 *Deciduous* 7 *Evergreen*	

L — LACUSTRINE

SUBSYSTEM	1 — LIMNETIC				2 — LITTORAL						
CLASS	RB — ROCK BOTTOM	UB — UNCONSOLIDATED BOTTOM	AB — AQUATIC BED	OW — *OPEN WATER/ Unknown Bottom*	RB — ROCK BOTTOM	UB — UNCONSOLIDATED BOTTOM	AB — AQUATIC BED	RS — ROCKY SHORE	US — UNCONSOLIDATED SHORE	EM — EMERGENT	OW — *OPEN WATER/ Unknown Bottom*
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 *Unknown Submergent* 6 *Unknown Surface*		1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 *Unknown Submergent* 6 *Unknown Surface*	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	2 Nonpersistent	

MODIFIERS

In order to more adequately describe wetland and deepwater habitats one or more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy. The farmed modifier may also be applied to the ecological system

WATER REGIME

Non-Tidal

- A Temporarily Flooded
- B Saturated
- C Seasonally Flooded
- D *Seasonally Flooded/ Well Drained*
- E *Seasonally Flooded/ Saturated*
- F Semipermanently Flooded
- G Intermittently Exposed
- H Permanently Flooded
- J Intermittently Flooded
- K *Artificially Flooded*
- W Intermittently Flooded/Temporary
- Y Saturated/Semipermanent/ Seasonal
- Z Intermittently Exposed/Permanent
- U *Unknown*

Tidal

- K *Artificially Flooded*
- L Subtidal
- M Irregularly Exposed
- N Regularly Flooded
- P Irregularly Flooded
- *S Temporary-Tidal
- *R Seasonal-Tidal
- *T Semipermanent-Tidal
- *V Permanent-Tidal
- U *Unknown*

*These water regimes are only used in tidally influenced, freshwater systems.

WATER CHEMISTRY

Coastal Halinity

- 1 Hyperhaline
- 2 Euhaline
- 3 Mixohaline *(Brackish)*
- 4 Polyhaline
- 5 Mesohaline
- 6 Oligohaline
- 0 Fresh

Inland Salinity

- 7 Hypersaline
- 8 Eusaline
- 9 Mixosaline
- 0 Fresh

pH Modifiers for all Fresh Water

- a Acid
- t Circumneutral
- i Alkaline

SOIL

- g Organic
- n Mineral

SPECIAL MODIFIERS

- b *Beaver*
- d *Partially Drained/Ditched*
- f Farmed
- h *Diked/Impounded*
- r Artificial Substrate
- s *Spoil*
- x Excavated

NATIONAL WETLANDS INVENTORY

UNITED STATES DEPARTMENT OF THE INTERIOR

MURFREESBORO, N.C.

NORFOLK SW
ROANOKE RAPIDS

MURFREESBORO, N.C.

SCALE 1:24 000

1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 KILOMETER

1 acre · 5 acres · 10 acres · 20 acres · 40 acres

ACREAGE GUIDE

For information on availability of NWI maps, call 1-800-USA-MAPS.

Regional Director (ARDE) Region IV
U.S. Fish and Wildlife Service
75 Spring Street S.W.
Atlanta, Georgia 30303

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AERIAL PHOTOGRAPHY

DATE	3 / / 82
SCALE	1:58 000
TYPE	CIR

DATE ___ / ___ / ___
SCALE ___
TYPE ___

U.S. DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

Prepared by National Wetlands Inventory
Base map provided by the United States Geological Survey.

1994

M — MARINE

SYSTEM	SUBSYSTEM	CLASS	Subclass
M — MARINE	1 — SUBTIDAL	RB — ROCK BOTTOM	1 Bedrock 2 Rubble
		UB — UNCONSOLIDATED BOTTOM	1 Cobble Gravel 2 Sand 3 Mud 4 Organic
		AB — AQUATIC BED	1 Algal 3 Rooted Vascular 5 *Unknown Submergent*
		RF — REEF	1 Coral 3 Worm
		OW — *OPEN WATER/ Unknown Bottom*	
	2 — INTERTIDAL	AB — AQUATIC BED	1 Algal 3 Rooted Vascular 5 *Unknown Submergent*
		RF — REEF	1 Coral 3 Worm
		RS — ROCKY SHORE	1 Bedrock 2 Rubble
		US — UNCONSOLIDATED SHORE	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic

R — RIVERINE

SYSTEM	SUBSYSTEM	CLASS	Subclass
R — RIVERINE	1 — TIDAL	RB — ROCK BOTTOM	1 Bedrock 2 Rubble
		UB — UNCONSOLIDATED BOTTOM	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic
	2 — LOWER PERENNIAL	*SB — STREAMBED	1 Bedrock 2 Rubble 3 Cobble-Gravel 4 Sand 5 Mud 6 Organic 7 Vegetated
		AB — AQUATIC BED	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 *Unknown Submergent* 6 *Unknown Surface*
		RS — ROCKY SHORE	1 Bedrock 2 Rubble
		US — UNCONSOLIDATED SHORE	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated
	3 — UPPER PERENNIAL	**EM — EMERGENT	2 Nonpersistent
	4 — INTERMITTENT		
	5 — *UNKNOWN PERENNIAL*	OW — *OPEN WATER/ Unknown Bottom*	

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**EMERGENT is limited to TIDAL and LOWER PERENNIAL SUBSYSTEMS

P — PALUSTRINE

SYSTEM	CLASS	Subclass
P — PALUSTRINE	RB — ROCK BOTTOM	1 Bedrock 2 Rubble
	UB — UNCONSOLIDATED BOTTOM	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic
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	US — UNCONSOLIDATED SHORE	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated
	ML — MOSS/LICHEN	1 Moss 2 Lichen
	EM — EMERGENT	1 Persistent 2 Nonpersistent
	SS — SCRUB-SHRUB	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 *Deciduous* 7 *Evergreen*
	FO — FORESTED	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 *Deciduous* 7 *Evergreen*
	OW — *OPEN WATER/ Unknown Bottom*	

E — ESTUARINE

SYSTEM	SUBSYSTEM	CLASS	Subclass
E — ESTUARINE	1 — SUBTIDAL	RB — ROCK BOTTOM	1 Bedrock 2 Rubble
		UB — UNCONSOLIDATED BOTTOM	1 Cobble Gravel 2 Sand 3 Mud 4 Organic
		AB — AQUATIC BED	1 Algal 3 Rooted Vascular 4 Floating Vascular 5 *Unknown Submergent* 6 *Unknown Surface*
		RF — REEF	2 Mollusc 3 Worm
		OW — *OPEN WATER/ Unknown Bottom*	
	2 — INTERTIDAL	AB — AQUATIC BED	1 Algal 3 Rooted Vascular 4 Floating Vascular 5 *Unknown Submergent* 6 *Unknown Surface*
		RF — REEF	2 Mollusc 3 Worm
		SB — STREAMBED	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic
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L — LACUSTRINE

SYSTEM	SUBSYSTEM	CLASS	Subclass
L — LACUSTRINE	1 — LIMNETIC	RB — ROCK BOTTOM	1 Bedrock 2 Rubble
		UB — UNCONSOLIDATED BOTTOM	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic
		AB — AQUATIC BED	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 *Unknown Submergent* 6 *Unknown Surface*
		OW — *OPEN WATER/ Unknown Bottom*	
	2 — LITTORAL	RB — ROCK BOTTOM	1 Bedrock 2 Rubble
		UB — UNCONSOLIDATED BOTTOM	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic
		AB — AQUATIC BED	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 *Unknown Submergent* 6 *Unknown Surface*
		RS — ROCKY SHORE	1 Bedrock 2 Rubble
		US — UNCONSOLIDATED SHORE	1 Cobble Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated
		EM — EMERGENT	2 Nonpersistent
		OW — *OPEN WATER/ Unknown Bottom*	

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- K Artificially Flooded
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- 8 Eusaline
- 9 Mixosaline
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- i Alkaline

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- n Organic
- n Mineral

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- b *Beaver*
- d *Partially Drained/Ditched*
- f Farmed
- h *Diked/Impounded*
- r Artificial Substrate
- s *Spoil*
- x Excavated

REFERENCE 10

IR 88-134

FOR LEIGH OFFICE USE ONLY

Investigative No. IR88-134

Date of Origin September 19, 1988

Initial Source Benny Griffin

Method of Contact

File Name Tri County Airport

Completion Date

1. Inspector(s) Benny C Griffin

2. Date 09-19-88 09-21-88

Complainant:

Street or Rt. & Box:

City: ZIP Code:

Telephone: Home Business

4. Initial Source of Information:

5. Brief Description of Incident:

Cotton spray group area.

6. Date of Incident:

7. Location of Incident:
Tri County Airport

8. Number of Samples: 8

9. Inspector Sample No(s).. 270, 271, 272
BG-260, 261, 262, 263, 269

0. Description of Materials (Other than Samples) submitted with this report:

1. Other Individuals Involved:
(Explain Involvement Below under No. 14)

. Person(s) who have requested final report:

3. Attach Sample Transcripts.

4. Attach Detailed Report of Investigation.

Benny C Griffin
Pest Control Inspector or Specialist

TRI COUNTY AIRPORT INVESTIGATION IR88-134

On September 19, 1988, I went to the Tri County Airport to collect soil samples from an area that was bare and would not support vegetation life. I pulled a total of four (4) samples, which were randomly taken from an area 35 feet X 83 feet. The samples were taken with a soil probe and at a depth from 0 to 6 inches deep. The samples were identified BG-260, BG-262, BG-263 and were polybagged and sealed with N. C. Department of Agriculture tape for shipment by courier to Constable Lab.

This area was once part of an old cotton spray group and there are still two (2) tanks present on the property. I did observe some rusty and rusted out containers (drums) near the storage site also. There is a small ditch next to the sample area but there is not a creek and or stream nearby the site. The area is a low swampy area.

Soil in the sample area had a pungent odor which was very discernable. Vegetation growth in this area was very sparse. Photos taken of area.:
#1 thru #12 show area where samples BG-260 thru BG-263 were taken and general area. Photos dated 9-19-88.

I talked with Steve Newsome an aerial applicator to determine who had operated off the strip and he stated he knew only of Bob Whitfield, Ronnie Beal and someone nicknamed "Boll Weevil". I went by the airport office and talked with the wife of manager Henry Joyner. Mr. Joyner was out flying charter, and I will try to contact him later.

On September 21, 1988, I returned to the Tri County Airport to collect additional soil samples in several questionable areas. Upon arrival at the airport, I met and talked with Mr. Bob Whitfield (aerial applicator) and Mr. Joyner (airport manager). I explained to both of them my purpose being there, which was to collect soil samples to determine if any pesticide problem existed in the soil. I explained I was at the airport on September 19, 1988, and had collected some soil samples on that date. Mr. Joyner stated the airport began operation in 1967 and that he became manager in 1973. Mr. Joyner stated that Ronnie Beal, [illegible]ter Holmes, and Bob Kenan operated out of the airport when the

cotton spray program was going good. Mr. Whitfield also operated off the airport and still does to this date. Mr. Joyner stated that Ronnie Beal was the big operator for a number of years. Holmes and Kenan operated only 2 to 3 years. A Cartwright man also operated off the area.

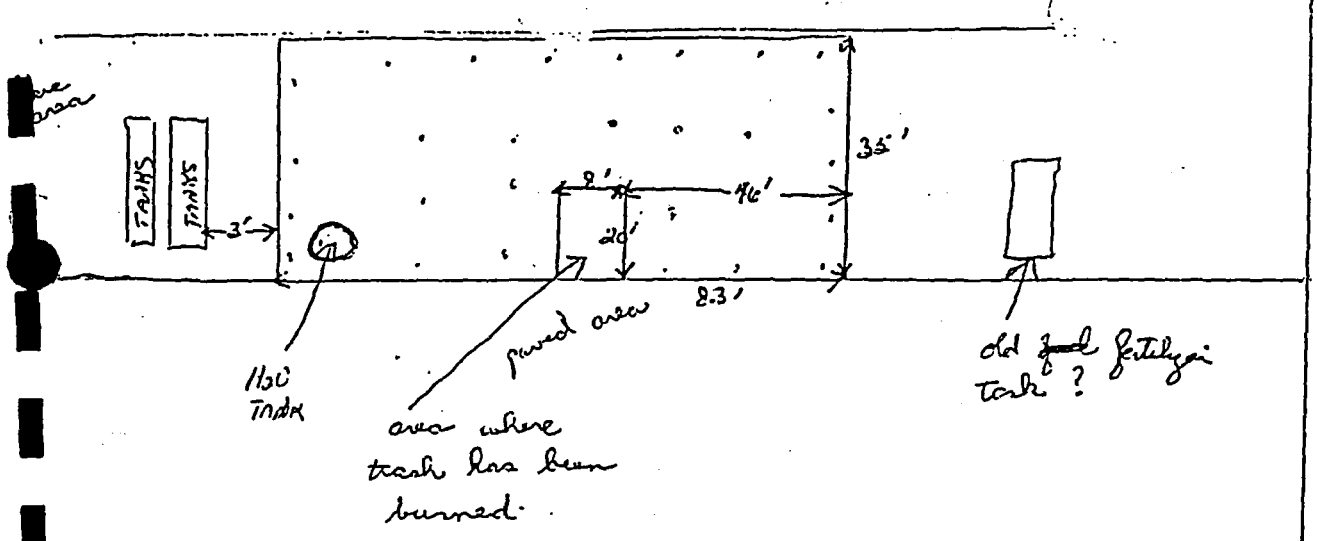
Mr. Bob Whitfield stated that the rusted out barrel in question belonged to the spray group and that he had told the people in charge several years ago to pick up the material, but they never came to get the material. Whitfield stated he thought the material to be either Guthion or Malathion. Whitfield also showed me another area where he stated 2 barrels had rusted out earlier. I sampled both areas in question.

I collected four (4) samples on this date. BG-269, BG-270, BG-271 and BG-272. Diagrams of the area are attached. Photos were also taken of the area. Samples polybagged and sealed N. C. Department of Agriculture tape and put in courier for shipment to Constable Lab in Raleigh.

Photos:

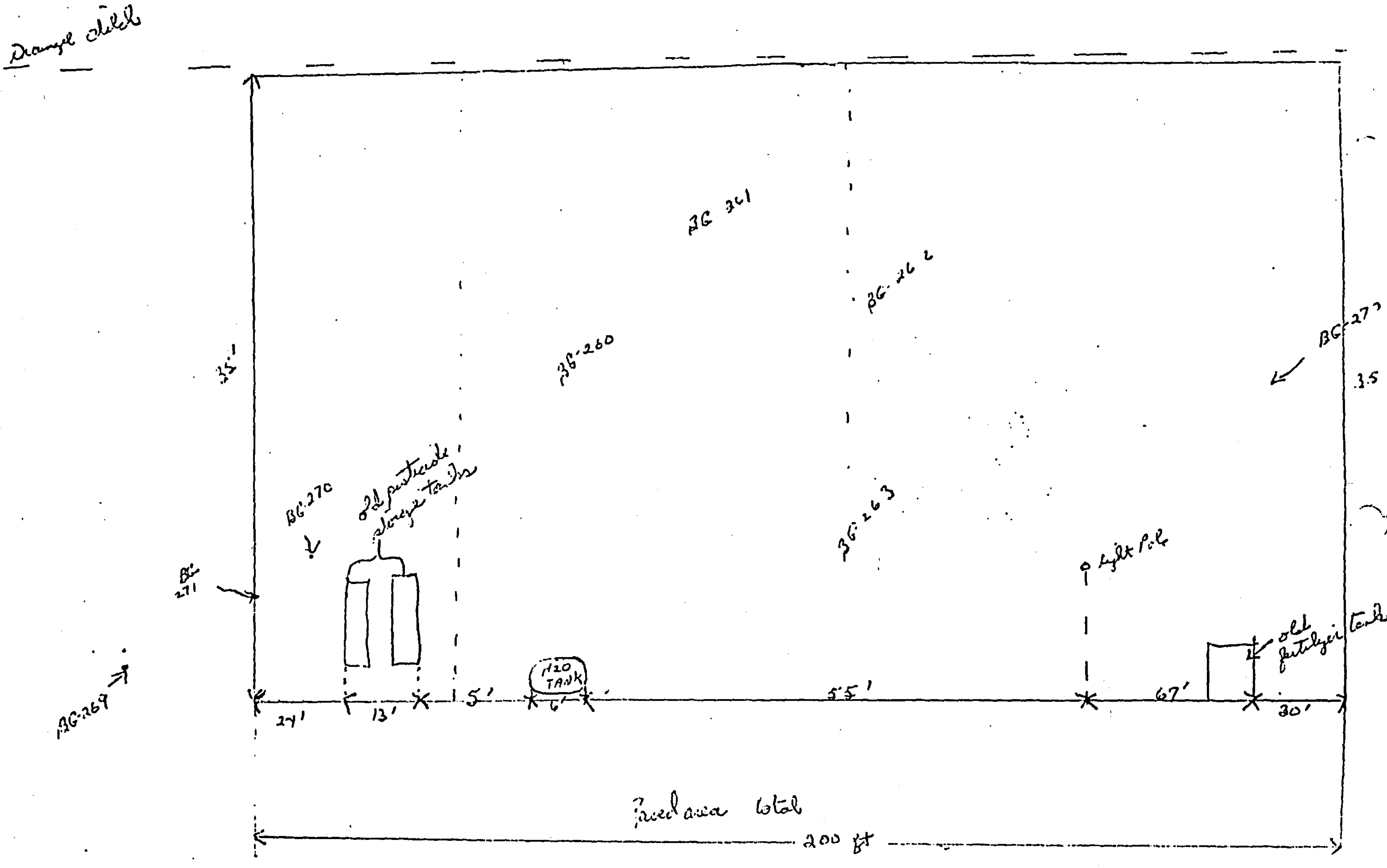
Photo #13 - site where BG-269 was taken
Photo #14 thru #17 - site where BG-217 was taken
Photo #18 and #19 - site where BG-270 was taken
Photo #20 and #21 - site where BG-272 was taken
Photos #22 thru #25 shows old drums and cans in area and in woods nearby.

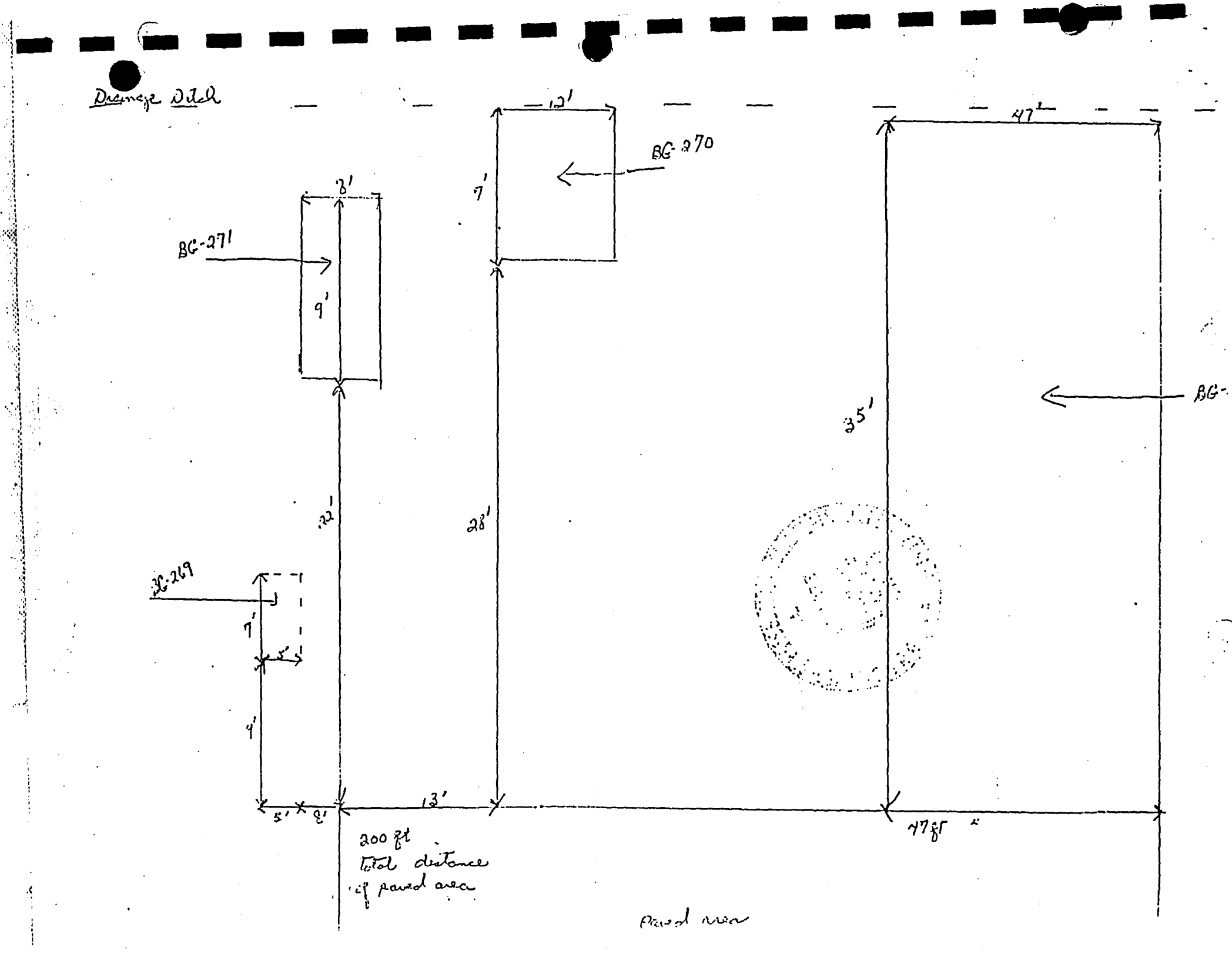
Benny C. Griffin



AIRPORT OFFICE

runway


Drainage ditch
BG 261
BG-262
BG-260
BG-273
35'
35
BG-270
old pesticide storage tanks
BG 271
BG-269
BG-263
Light Pole
old fertilizer tank
H2O TANK
24'
13'
5'
6'
55'
67'
30'
Paved area total
200 ft


Drainage Ditch
13'
BG-270
7'
47'
3'
BG-271
9'
BG-
35'
22'
28'
BG-269
7'
5'
4'
5'
8'
13'
47ft
200 ft
total distance
of paved area
Paved area

N. C. DEPARTMENT OF AGRICULTURE

JAMES A. GRAHAM, COMMISSIONER

OFFICIAL REPORT, PESTICIDES

Laboratory No. _____

Check Registration Only ☐ *Inspector's No.* BC-260

Microbiology ☐ Investigation ☑ Stop-Sale, Stop-Use Removal Order Issued ☐ Cross Contamination Sample ☐

BRAND NAME TRI COUNTY PIARGAT IR 28-134

MANUFACTURER ☐
DISTRIBUTED BY ☐ _____

ADDRESS _____

WHOLESALER _____

ADDRESS _____

MERCHANT ☐
CONSUMER ☐ TRI County Airport

ADDRESS Rt 1 Box 36 Asheboro ZIP 27205 TELEPHONE (919) 345-0111

SAMPLING METHOD: Funnel ☐ Tubing ☐ Polyprobe ☐ S. S. Dipper ☐
Poured Direct ☐ Entire Sample ☐ Brass Trier ☑ Other _____

Agitation Method _____ Length of Agitation Time _____

EPA REG. No. _____ EPA EST. No. _____

BATCH No. _____ RETAIL VALUE PER CONTAINER _____

Lot	*No. Pkgs. in Lot*	*No. Pkgs. Sampled*	*Net Contents*
09-19-28			

INGREDIENTS AS LISTED ON PACKAGE	GUARANTEE ON PACKAGES %	(DO NOT USE SPACE BELOW) NO. OF ANALYSES AND METHODS	FOUND %
Soil sample taken randomly from			
25 ft x 25 ft area at depth of	DDT	856 ppm	
0 to 6"	Toxaphene	633 ppm	
Info. of cotton spray program			
DDT ?			
Methyl + Ethyl parathion ?			
Toxaphene ?			
Aldrin ?			
EPN ?			
Dieldrin ?			

I certify that I took a fair and lawful sample of the above product as indicated.

B. [illegible]

N. C. DEPARTMENT OF AGRICULTURE

JAMES A. GRAHAM, COMMISSIONER

OFFICIAL REPORT, PESTICIDES

Laboratory No. _____

: Registration Only ☐

Inspector's No. BG-261

Stop-Sale, Stop-Use

Biology ☐ Investigation ☒ Removal Order Issued ☐ Cross Contamination Sample ☐

BRAND NAME Tri County Airport IR 88-134

MANUFACTURER ☐

DISTRIBUTED BY ☐ _____

ADDRESS _____

WHOLESALER _____

ADDRESS _____

RETAILER ☐

CONSUMER ☐ Tri County Airport

ADDRESS Rt 1 Box 36 Rulander ZIP 27804 TELEPHONE (919) 345-0111

SAMPLING METHOD: Funnel ☐ Tubing ☐ Polyprobe ☐ S. S. Dipper ☐
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LOT NO. _____ RETAIL VALUE PER CONTAINER _____

	No. Pkgs. in Lot	No. Pkgs. Sampled	Net Contents
[redacted] 8-19-88			

INGREDIENTS AS LISTED ON PACKAGE	GUARANTEE ON PACKAGES %	(DO NOT USE SPACE BELOW) NO. OF ANALYSES AND METHODS	FOUND %
[redacted] sample taken randomly from			
35 ft x 93 ft area at depth	DDT	19.1 ppm	
[redacted] 0 to 6"	Toxaphene	1,507 ppm	
	Methyl Parathion	241 ppm	
[redacted] of cotton spray program			
DDT ?			
Methyl + Ethyl Parathion ?			
Toxaphene ?			
Aldrin ?			
EPN ?			
[redacted] ?			

I certify that I took a fair and lawful sample of the above product as indicated.

R. [illegible] Inspector

N. C. DEPARTMENT OF AGRICULTURE

JAMES A. GRAHAM, COMMISSIONER

OFFICIAL REPORT, PESTICIDES

Laboratory No. _____

Check Registration Only ☐

Inspector's No. BG-262

Microbiology ☐ Investigation ☑ Stop-Sale, Stop-Use Removal Order Issued ☐ Cross Contamination Sample ☐

BRAND NAME Tri County Report EA 88-134

MANUFACTURER ☐
DISTRIBUTED BY ☐ _____

ADDRESS _____

WHOLESALER _____

ADDRESS _____

MERCHANT ☐
CONSUMER ☐ Tri County Airport

ADDRESS Rt 1 Box 36 Asheboro ZIP 27205 TELEPHONE (919) 625-0111

SAMPLING METHOD: Funnel ☐ Tubing ☐ Polyprobe ☐ S. S. Dipper ☐
Poured Direct ☐ Entire Sample ☐ Brass Trier ☑ Other _____

Agitation Method _____ Length of Agitation Time _____

EPA REG. No. _____ EPA EST. No. _____

BATCH No. _____ RETAIL VALUE PER CONTAINER _____

Date 9-19-88	*No. Pkgs. in Lot*	*No. Pkgs. Sampled*	*Net Contents*

INGREDIENTS AS LISTED ON PACKAGE	GUARANTEE ON PACKAGES %	(DO NOT USE SPACE BELOW) NO. OF ANALYSES AND METHODS	FOUND %
a sample taken randomly from			
25 ft x 33 ft area at depth of	DDT	290 ppm	
0 to 6"	Toxaphene	3,676 ppm	
Site of action spray program			
DDT ?			
Methyl & Ethyl Parathion			
Toxaphene ?			
EPN ?			
Aldrin ?			
Endrin ?			

I certify that I took a fair and lawful sample of the above product as indicated.

_____

N. C. DEPARTMENT OF AGRICULTURE

JAMES A. GRAHAM, COMMISSIONER

OFFICIAL REPORT, PESTICIDES

Laboratory No. _____

Registration Only ☐ Inspector's No. AG-263

Stop-Sale, Stop-Use

[illegible]ology ☐ Investigation ☒ Removal Order Issued ☐ Cross Contamination Sample ☐

[illegible]ND NAME Tri County Airport ZR 88-134

[illegible]NUFACTURER ☐

[illegible]RIBUTED BY ☐ _____

[illegible]DRESS _____

[illegible]LESALER _____

[illegible]DRESS _____

[illegible]HANT ☐

[illegible]MER ☐ Tri County Airport

[illegible]SS Rt 1 Box 36 Asland[illegible] ZIP 27205 TELEPHONE (919) 345-0111

[illegible]ING METHOD: Funnel ☐ Tubing ☐ Polyprobe ☐ S. S. Dipper ☐

Poured Direct ☐ Entire Sample ☐ Brass Trier ☒ Other _____

Agitation Method _____ Length of Agitation Time _____

[illegible]A REG. No. _____ EPA EST. No. _____

[illegible] No. _____ RETAIL VALUE PER CONTAINER _____

[illegible]t 09-19-88	No. Pkgs. in Lot	No. Pkgs. Sampled	Net Contents

INGREDIENTS AS LISTED ON PACKAGE	GUARANTEE ON PACKAGES %	(DO NOT USE SPACE BELOW) NO. OF ANALYSES AND METHODS	FOUND %
1 sample taken randomly from			
35 ft x 33 ft area at depth of			
[illegible] 6"	DDT	269 ppm	
	Toxaphene	3,471 ppm	
[illegible] of cotton spray program			
[illegible]?			
Thyl + Ethyl Parathion ?			
[illegible]ophene ?			
[illegible]dr[illegible] ?			
[illegible]rin ?			
[illegible]dri[illegible] ?			

I certify that I took a fair and lawful sample of the above product as indicated.

[illegible]

N. C. DEPARTMENT OF AGRICULTURE

JAMES A. GRAHAM, COMMISSIONER

OFFICIAL REPORT, PESTICIDES

Laboratory No. _____

[redacted] Registration Only ☐ Inspector's No. BC-269

Microbiology ☐ Investigation ☑ Stop-Sale, Stop-Use Removal Order Issued ☐ Cross Contamination Sample ☐

BRAND NAME Tri County Airport FR 82-134

MANUFACTURER ☐
DISTRIBUTED BY ☐ _____

ADDRESS _____ (May be Hot)

WHOLESALER _____

ADDRESS _____

RETAILER ☐
CONSUMER ☐ Tri County Airport

ADDRESS Rt 1 Box 36 Asheboro ZIP 27205 TELEPHONE (919) 345-0111

SAMPLING METHOD: Funnel ☐ Tubing ☐ Polyprobe ☐ S. S. Dipper ☐
Poured Direct ☐ Entire Sample ☐ Brass Trier ☑ Other _____
Agitation Method _____ Length of Agitation Time _____

EPA REG. No. _____ EPA EST. No. _____

LOT No. _____ RETAIL VALUE PER CONTAINER _____

[redacted] 09-21-88	No. Pkgs. in Lot	No. Pkgs. Sampled	Net Contents

INGREDIENTS AS LISTED ON PACKAGE	GUARANTEE ON PACKAGES %	(DO NOT USE SPACE BELOW) NO. OF ANALYSES AND METHODS	FOUND %
[redacted] sample taken randomly from			
7 ft X 5 ft area at depth of 0 to	Methyl Parathion	1,536 ppm	
[redacted] inches deep where I was told	EPN	1,939 ppm	
[redacted] pile used to sit + rusted away			
old barrels had Guthion on			
[redacted] thion			
[redacted] tton spray program site			
[redacted] T ?			
[redacted] yl + Ethyl Parathion ?			
Toxaphene ?			
[redacted] N ? Aldrin ?			
[redacted] ?			

I certify that I took a fair and lawful sample of the above product as indicated.

B. C. [redacted] Inspector

N. C. DEPARTMENT OF AGRICULTURE

JAMES A. GRAHAM, COMMISSIONER

OFFICIAL REPORT, PESTICIDES

Laboratory No. _____

[illegible] Registration Only ☐ Inspector's No. BG-270

[illegible]biology ☐ Investigation ☑ Stop-Sale, Stop-Use Removal Order Issued ☐ Cross Contamination Sample ☐

BRAND NAME Tri County Airpat IR 88-134

MANUFACTURER ☐
DISTRIBUTED BY ☐ _____

ADDRESS _____

WHOLESALER _____

ADDRESS _____

MERCHANT ☐
CONSUMER ☐ Tri County Airport

ADDRESS Rt 1 Box 36 Asheboro ZIP 27205 TELEPHONE (919) 345-0111

SAMPLING METHOD: Funnel ☐ Tubing ☐ Polyprobe ☐ S. S. Dipper ☐
Poured Direct ☐ Entire Sample ☐ Brass Trier ☑ Other _____

Agitation Method _____ Length of Agitation Time _____

EPA REG. No. _____ EPA EST. No. _____

BATCH No. _____ RETAIL VALUE PER CONTAINER _____

09-21-88	No. Pkgs. in Lot	No. Pkgs. Sampled	Net Contents

INGREDIENTS AS LISTED ON PACKAGE	GUARANTEE ON PACKAGES %	(DO NOT USE SPACE BELOW) NO. OF ANALYSES AND METHODS	FOUND %
1 sample taken randomly from			
1 foot x 12 foot area left	DDT	19.5 ppm	
[illegible] of tanks at depth of 0 to	Toxaphene	13.2 ppm	
6 inches.			
Cotton spray program ate			
DDT ?			
Methyl & Ethyl Parathion ?			
Toxaphene ?			
EPN ? Aldrin ?			
Endrin ?			

I certify that I took a fair and lawful sample of the above product as indicated.

B. C. Hall

Inspector

N. C. DEPARTMENT OF AGRICULTURE

JAMES A. GRAHAM, COMMISSIONER

OFFICIAL REPORT, PESTICIDES

Laboratory No. _____

Registration Only ☐ Inspector's No BG-271

Biology ☐ Investigation ☑ Stop-Sale, Stop-Use Removal Order Issued ☐ Cross Contamination Sample ☐

BRAND NAME Tri County Airport IR 88-134

MANUFACTURER ☐
DISTRIBUTED BY ☐ _____

ADDRESS _____ (May be Very Hot)

WHOLESALER _____

ADDRESS _____

DEALER ☐
CONSUMER ☐ Tri County Airport

ADDRESS Rt 1 Box 36 Asheboro ZIP 27205 TELEPHONE (919) 345-0111

SAMPLING METHOD: Funnel ☐ Tubing ☐ Polyprobe ☐ S. S. Dipper ☐
Poured Direct ☐ Entire Sample ☐ Brass Trier ☑ Other _____
Agitation Method _____ Length of Agitation Time _____

EPA REG. No. _____ EPA EST. No. _____

LOT No. _____ RETAIL VALUE PER CONTAINER _____

Date 9-21-88	No. Pkgs. in Lot	No. Pkgs. Sampled	Net Contents

INGREDIENTS AS LISTED ON PACKAGE	GUARANTEE ON PACKAGES %	(DO NOT USE SPACE BELOW) NO. OF ANALYSES AND METHODS	FOUND %
A sample taken randomly from			
a 3 ft x 9 ft area at depth of	Toxaphene	15,835 ppm	
0 to 6 inches where barrel	methyl Parathion	5,774 ppm	
emptied out and visible signs of			
pesticide residue. Was Told may			
have been Guthion or Malathion			
Cotton spray program site			
of ?			
Methyl + Ethyl Parathion ?			
Toxaphene ?			
Aldrin ? Aldrin ? Endrin ?			

I certify that I took a fair and lawful sample of the above product as indicated.

_____ Inspector

N. C. DEPARTMENT OF AGRICULTURE

JAMES A. GRAHAM, COMMISSIONER

OFFICIAL REPORT, PESTICIDES

Laboratory No. _____

Check Registration Only ☐ Inspector's No. BG-272

Microbiology ☐ Investigation ☑ Stop-Sale, Stop-Use Removal Order Issued ☐ Cross Contamination Sample ☐

BRAND NAME Tri County Airport IR 88-134

MANUFACTURER ☐
DISTRIBUTED BY ☐ _____

ADDRESS _____

WHOLESALER _____

ADDRESS _____

MERCHANT ☐
CONSUMER ☐ Tri County Airport

ADDRESS Rt 1 Box 36 Aulander ZIP 27805 TELEPHONE (919) 345-0111

SAMPLING METHOD: Funnel ☐ Tubing ☐ Polyprobe ☐ S. S. Dipper ☐
Poured Direct ☐ Entire Sample ☐ Brass Trier ☑ Other _____

Agitation Method _____ Length of Agitation Time _____

EPA REG. No. _____ EPA EST. No. _____

BATCH No. _____ RETAIL VALUE PER CONTAINER _____

L	No. Pkgs. in Lot	No. Pkgs. Sampled	Net Contents
09-21-88			

INGREDIENTS AS LISTED ON PACKAGE	GUARANTEE ON PACKAGES %	(DO NOT USE SPACE BELOW) NO. OF ANALYSES AND METHODS	FOUND %
Soil sample taken randomly from			
2 ft X 47 ft area at depth of			
0 to 6 inches	Toxaphene	3,917 ppm	
	Methyl Parathion	109 ppm	
Cotton spray program site			
DDT ?			
Methyl + Ethyl Parathion ?			
Toxaphene ?			
EPN ? Aldrin ? Endrin ?			

I certify that I took a fair and lawful sample of the above product as indicated.

A. [illegible] of

DDT = 1[illegible] M 9/29/88
TOXAPHENE = 13 PPM

IR88-134G SOIL 9/22/88
BG-271 TRI-COUNTY AIRPORT
AULANDER, NC

ASSIGNMENT:
DDT
PARATHION (METHYL & ETHYL)
TOXAPHENE
ALDRIN
EPN
ENDRIN
GUTHION
MALATHION

RESULTS:
METHYL PARATHION = 5774 PPM 9/29/88
TOXAPHENE = 15835 PPM

IR88-134H SOIL 9/22/88
BG-272 TRI-COUNTY AIRPORT
AULANDER, NC

ASSIGNMENT:
DDT
PARATHION (METHYL & ETHYL)
TOXAPHENE
ALDRIN
EPN
ENDRIN
GUTHION
MALATHION

RESULTS:
METHYL PARATHION = 109 PPM 9/29/88
TOXAPHENE = 3917 PPM

METHOD: ACETONE EXTRACTION GC

CHEMIST: ALLIE WILLIAMS

DISPOSAL DATE: DEC 5, 88

DDT = 290 PPM
TOXAPHENE = 3676 PPM

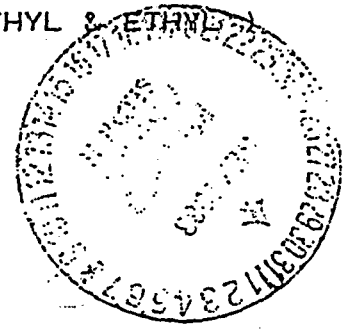
9/29/88

IR88-134D
G-263

SOIL
TRI-COUNTY AIRPORT
AULANDER, NC

9/20/88

ASSIGNMENT:
DDT
PARATHION (METHYL & ETHYL)
TOXAPHENE
ALDRIN
EPN
ENDRIN
GUTHION
MALATHION



RESULTS:
DDT = 269 PPM
TOXAPHENE = 3471 PPM

9/29/88

IR88-134E
G-269

SOIL
TRI-COUNTY AIRPORT
AULANDER, NC

9/22/88

ASSIGNMENT:
DDT
PARATHION (METHYL & ETHYL)
TOXAPHENE
ALDRIN
EPN
ENDRIN
GUTHION
MALATHION

RESULTS:
METHYL PARATHION = 1536 PPM
EPN = 1939 PPM

9/29/88

IR88-134F
G-270

SOIL
TRI-COUNTY AIRPORT
AULANDER, NC

9/22/88

ASSIGNMENT:
DDT
PARATHION (METHYL & ETHYL)
TOXAPHENE
ALDRIN
EPN
ENDRIN
GUTHION
MALATHION

IR88-134A
2G-260

SOIL
TRI-COUNTY AIRPORT
AULANDER, NC

9/20/88

***** CAUTION SAMPLES MAY BE HOT **********

ASSIGNMENT:
DDT
PARATHION (METHYL & ETHYL)
TOXAPHENE
ALDRIN
EPN
ENDRIN
GUTHION
MALATHION

RESULTS:
DDT = 856 PPM
TOXAPHENE = 633 PPM

9/29/88

IR88-134B
G-261

SOIL
TRI-COUNTY AIRPORT
AULANDER, NC

9/20/88

ASSIGNMENT:
DDT
PARATHION (METHYL & ETHYL)
TOXAPHENE
ALDRIN
EPN
ENDRIN
GUTHION
MALATHION

RESULTS:
DDT = 19 PPM
TOXAPHENE = 1507 PPM
METHYL PARATHION = 241 PPM

9/29/88

IR88-134C
G-262

SOIL
TRI-COUNTY AIRPORT
AULANDER, NC

9/20/88

ASSIGNMENT:
DDT
PARATHION (METHYL & ETHYL)
TOXAPHENE
ALDRIN
EPN
ENDRIN
GUTHION
MALATHION

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3

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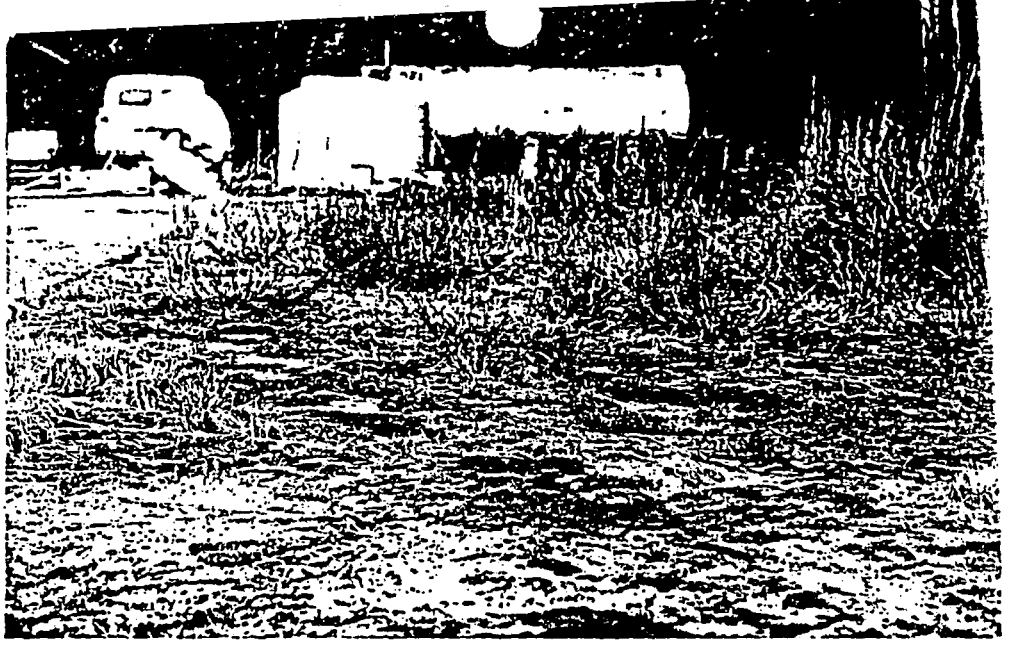

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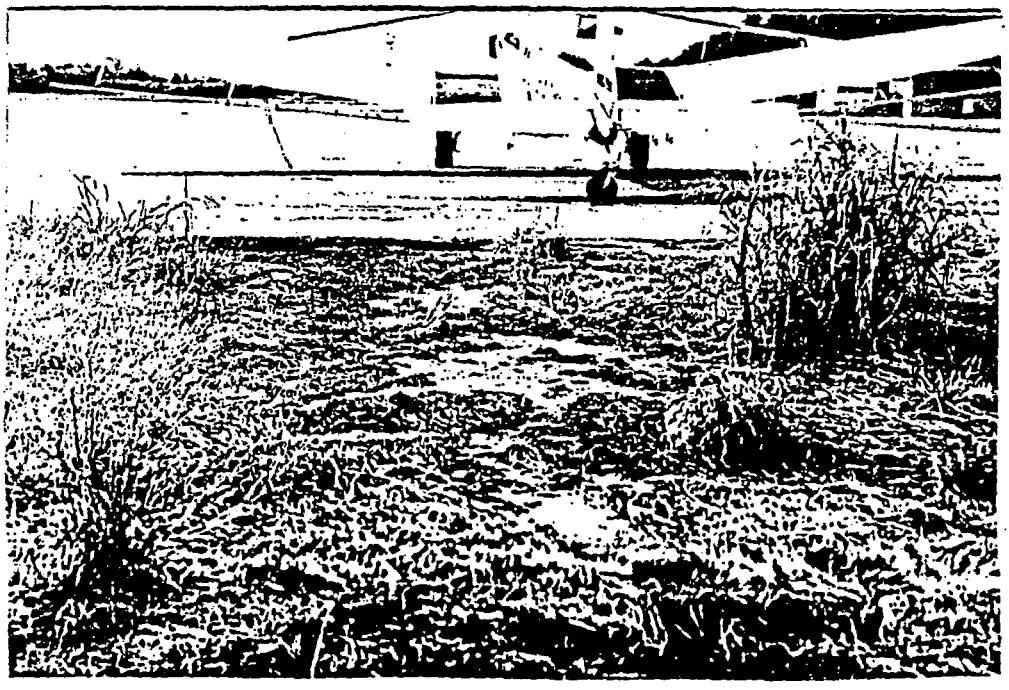

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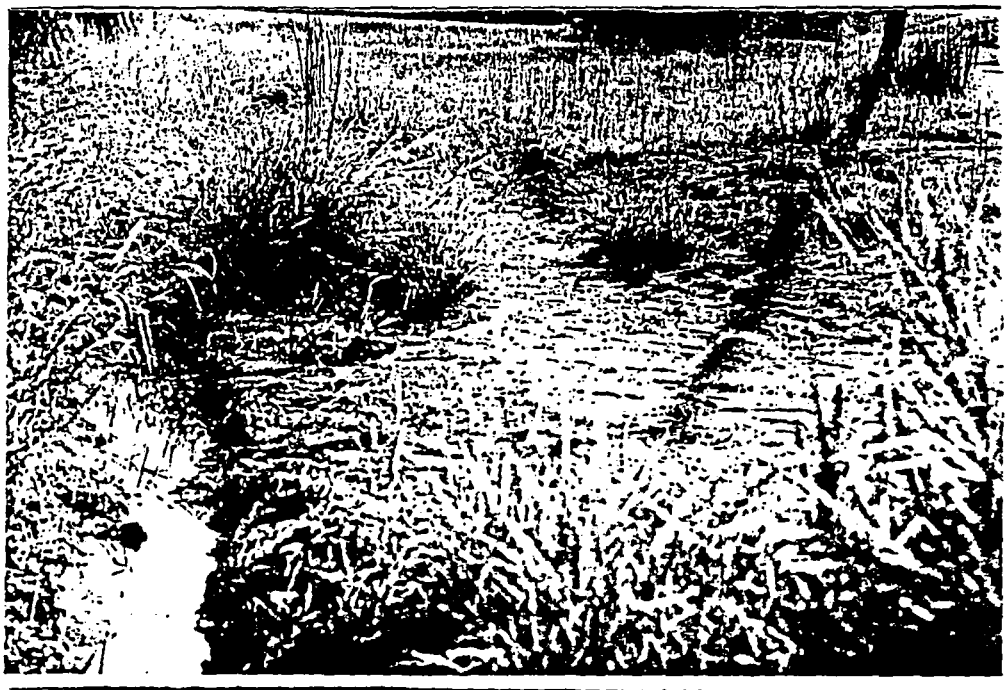

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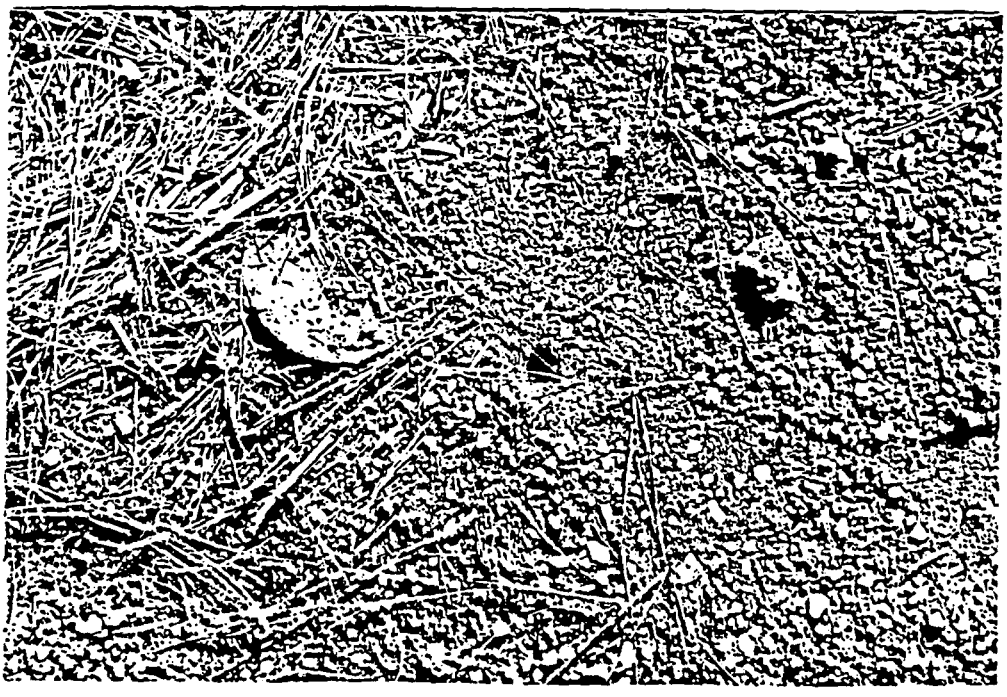

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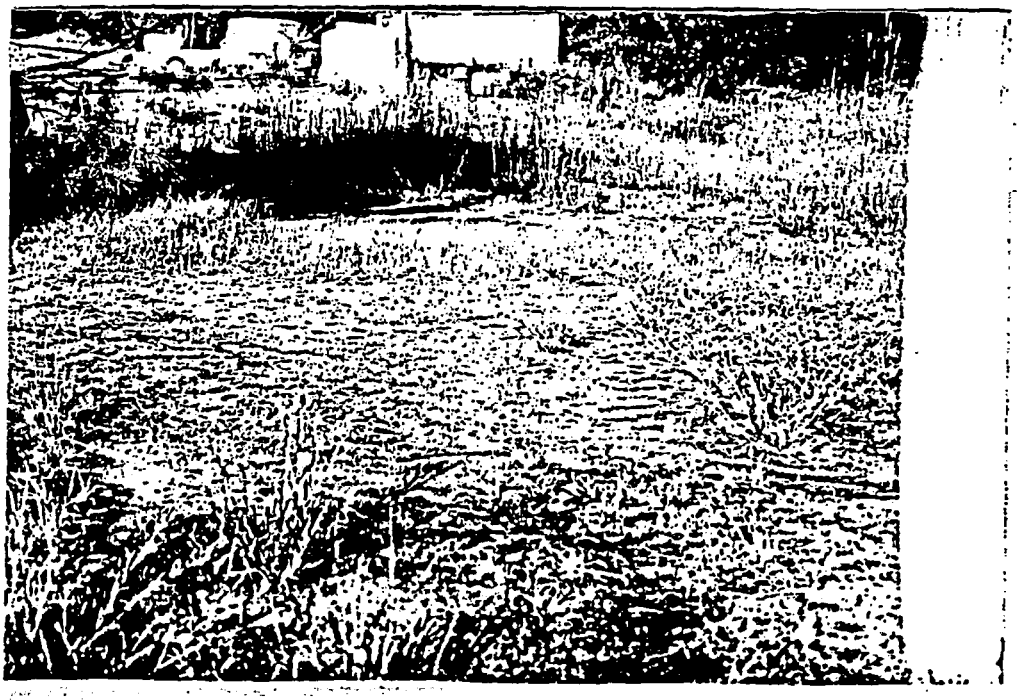

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REFERENCE 11

North Carolina Department of Agriculture

Robert L. Gordon, Director
Food and Drug Protection Division

James A. Graham • Commissioner
William G. Parham, Jr. • Deputy Commissioner

October 31, 1988

Mr. Henry Joyner, Manager
Tri County Airport
Route 1, Box 36
Aulander, North Carolina 27805

345-9862

Re: IR88-134

Dear Mr. Joyner:

On September 19, 1988, Mr. Benny C. Griffin, pesticide inspector with this department, visited Tri County Airport located in Hertford County. Mr. Griffin observed some areas at the airport that the vegetation was very sparse and the soil had a pungent odor. These areas have been used in the past as aerial applicator pesticide loading sites.

Mr. Griffin collected eight environmental soil samples on September 19 and 21, 1988, from the above areas. These samples were analyzed by our laboratory and found to contain the pesticides at the concentrations indicated on the attached analysis reports. The continued presence of these pesticides in soil at such concentrations represents potential threat to the environment including nontarget organisms, surface water, and groundwater. In addition, certain of these pesticides may be classified as Hazardous Wastes under the Federal Resource Conservation and Recovery Act, and as such would come under regulatory jurisidction of the Solid Waste Management Section of the N. C. Department of Human Resources.

It is therefore our recommendation that you conduct an appropriate evaluation of the site to determine the extent and degree of environmental contamination, and that you immediately pursue appropriate remedial cleanup and disposal action through contact and coordination with the Department of Human Resources - Solid Waste Management Section, (919) 733-2178, Mr. William L. Meyer, Chief, 306 N. Wilmington Street, Raleigh, N. C., 27602. Please note that the North Carolina Department of Agriculture strongly recommends that you not attempt clean-up action at the site without having first contacted the Solid Waste Management Section of the Department of Human Resources. The Solid Waste

Management Section will be able to provide specific guidance on your responsibilities under current hazardous waste regulations.

We request that you notify this office within 30 days of your plans to address this situation. If you have questions regarding this recommendation, please contact John Hunter at (919) 733-3556.

Sincerely,

John L. Smith

John L. Smith
Pesticide Administrator

JLS:JWB:ljj

Enclosures

cc: Mr. William L. Meyer, Chief
Solid Waste Management Section
Mr. John R. McGlamery, NCDA
Mr. Robert K. Hudson, NCDA
Mr. Benny C. Griffin

DEPARTMENT OF HUMAN RESOURCES
INTER OFFICE MEMORANDUM

DATE _____

TO Dept. of Ag Lab Results from 10/24/89
BG 272 Met P. 109

FROM Tox. 3917

BG-260 DDT 856
Tox 633

BG 261 DDT 19.1
Met Para 241
Tox 1507

BG262 DDT 290
Tox 3,676

BG263 DDT 269
Tox 3471

BC269 Met Para. 1536
EPN 1939

BG270 DDT 19.5
Tox 13.2

BG 271 Met P. 5774
Tox 15835

DHR Form 2 (8/75)

NORTH CAROLINA DEPARTMENT OF AGRICULTURE

FOOD AND DRUG PROTECTION DIVISION

PESTICIDE SECTION
P. O. BOX 27647
RALEIGH, N. C. 27611
(919) 733-3556

JAMES A. GRAHAM
COMMISSIONER OF AGRICULTURE

DATE: October 24, 1988

LAB. NO: IR88-134A (BG-260)

OFFICIAL SAMPLE: Soil

EPA NO: - - -

BATCH NO: - - -

INSPECTOR: Benny C. Griffin

DATE SAMPLED: September 19, 1988

SAMPLE LOCATION: Tri County Airport

RETAIL DEALER: - - -

RESULTS OF ANALYSIS:	Guaranteed %	Found %
DDT		856 ppm
Toxaphene		633 ppm

John L. Smith
PESTICIDE ADMINISTRATOR

NORTH CAROLINA DEPARTMENT OF AGRICULTURE

FOOD AND DRUG PROTECTION DIVISION

PESTICIDE SECTION
P. O. BOX 27647
RALEIGH, N. C. 27611
(919) 733-3556

JAMES A. GRAHAM
COMMISSIONER OF AGRICULTURE

DATE: October 24, 1988

LAB. NO: IR88-134B (BG-261)

OFFICIAL SAMPLE: Soil

EPA NO: - - -

BATCH NO: - - -

INSPECTOR: Benny C. Griffin

DATE SAMPLED: September 19, 1988

SAMPLE LOCATION: Tri County Airport

RETAIL DEALER: - - -

RESULTS OF ANALYSIS:	Guaranteed %	Found %
DDT		19.1 ppm
Methyl Parathion		241 ppm
Toxaphene		1,507 ppm

John L. Smith
PESTICIDE ADMINISTRATOR

NORTH CAROLINA DEPARTMENT OF AGRICULTURE

FOOD AND DRUG PROTECTION DIVISION

PESTICIDE SECTION
P. O. BOX 27647
RALEIGH, N. C. 27611
(919) 733-3556

JAMES A. GRAHAM
COMMISSIONER OF AGRICULTURE

DATE: October 24, 1988

LAB. NO: IR88-134C (BG-262)

OFFICIAL SAMPLE: Soil

EPA NO: - - -

BATCH NO: - - -

INSPECTOR: Benny C. Griffin

DATE SAMPLED: September 19, 1988

SAMPLE LOCATION: Tri County Airport

RETAIL DEALER: - - -

RESULTS OF ANALYSIS:	Guaranteed %	Found %
DDT		290 ppm
Toxaphene		3,676 ppm

John L. Smith
PESTICIDE ADMINISTRATOR

NORTH CAROLINA DEPARTMENT OF AGRICULTURE

FOOD AND DRUG PROTECTION DIVISION

PESTICIDE SECTION
P. O. BOX 27647
RALEIGH, N. C. 27611
(919) 733-3556

JAMES A. GRAHAM
COMMISSIONER OF AGRICULTURE

DATE: October 24, 1988

LAB. NO: IR88-134D (BG-263)

OFFICIAL SAMPLE: Soil

EPA NO: - - -

BATCH NO: - - -

INSPECTOR: Benny C. Griffin

DATE SAMPLED: September 19, 1988

SAMPLE LOCATION: Tri County Airport

RETAIL DEALER: - - -

RESULTS OF ANALYSIS:	Guaranteed %	Found %
DDT		269 ppm
Toxaphene		3,471 ppm

John L. Smith
PESTICIDE ADMINISTRATOR

NORTH CAROLINA DEPARTMENT OF AGRICULTURE

FOOD AND DRUG PROTECTION DIVISION

PESTICIDE SECTION
P. O. BOX 27647
RALEIGH, N. C. 27611
(919) 733-3556

JAMES A. GRAHAM
COMMISSIONER OF AGRICULTURE

DATE: October 24, 1988

LAB. NO: IR88-134E (BG-269)

OFFICIAL SAMPLE: Soil

EPA NO: - - -

BATCH NO: - - -

INSPECTOR: Benny C. Griffin

DATE SAMPLED: September 21, 1988

SAMPLE LOCATION: Tri County Airport

RETAIL DEALER: - - -

RESULTS OF ANALYSIS:	Guaranteed %	Found %
Methyl Parathion		1,536 ppm
EPN		1,939 ppm

John L. Smith
PESTICIDE ADMINISTRATOR

NORTH CAROLINA DEPARTMENT OF AGRICULTURE

FOOD AND DRUG PROTECTION DIVISION

PESTICIDE SECTION
P. O. BOX 27647
RALEIGH, N. C. 27611
(919) 733-3556

JAMES A. GRAHAM
COMMISSIONER OF AGRICULTURE

DATE: October 24, 1988

LAB. NO: IR88-134F (BG-270)

OFFICIAL SAMPLE: Soil

EPA NO: - - -

BATCH NO: - - -

INSPECTOR: Benny C. Griffin

DATE SAMPLED: September 21, 1988

SAMPLE LOCATION: Tri County Airport

RETAIL DEALER: - - -

RESULTS OF ANALYSIS:

	Guaranteed %	Found %
DDT		19.5 ppm
Toxaphene		13.2 ppm

John L. Smith
PESTICIDE ADMINISTRATOR

NORTH CAROLINA DEPARTMENT OF AGRICULTURE

FOOD AND DRUG PROTECTION DIVISION

PESTICIDE SECTION
P. O. BOX 27647
RALEIGH, N. C. 27611
(919) 733-3556

JAMES A. GRAHAM
COMMISSIONER OF AGRICULTURE

DATE: October 24, 1988

LAB. NO: IR88-134H (BG-272)

OFFICIAL SAMPLE: Soil

EPA NO: - - -

BATCH NO: - - -

INSPECTOR: Benny C. Griffin

DATE SAMPLED: September 21, 1988

SAMPLE LOCATION: Tri County Airport

RETAIL DEALER: - - -

RESULTS OF ANALYSIS:	Guaranteed %	Found %
Methyl Parathion		109 ppm
Toxaphene		3,917 ppm

John L. Smith
PESTICIDE ADMINISTRATOR

REFERENCE 12

TRI-COUNTY AIRPORT AUTHORITY
ROUTE 1, BOX 36
AULANDER, NORTH CAROLINA 27805

November 14, 1988

Department of Human Resources
Solid Waste Management Section
306 N. Wilmington Street
Raleigh, NC 27602

Dear Mr. Meyer:

I believe you received a letter from John Smith with the NCDA in regards to soil samples taken at the Tri-County Airport, Ahoskie, NC. These samples, as the letter implies, showed traces of chemicals which are classified as hazardous waste are present at a site on the airport.

It is our intention to co-operate with the NCDA and your office in a remedial cleanup and disposal. We of course have no expertise in these matters and ask that you or one of your representatives meet with us to decide the type of action required, the extent of the damage, the specific area or areas effected, and recommended clean-up procedures. We can be reached during normal business hours at 919-345-0111.

Sincerely,

Henry L. Joyner, Jr.
Airport Manager

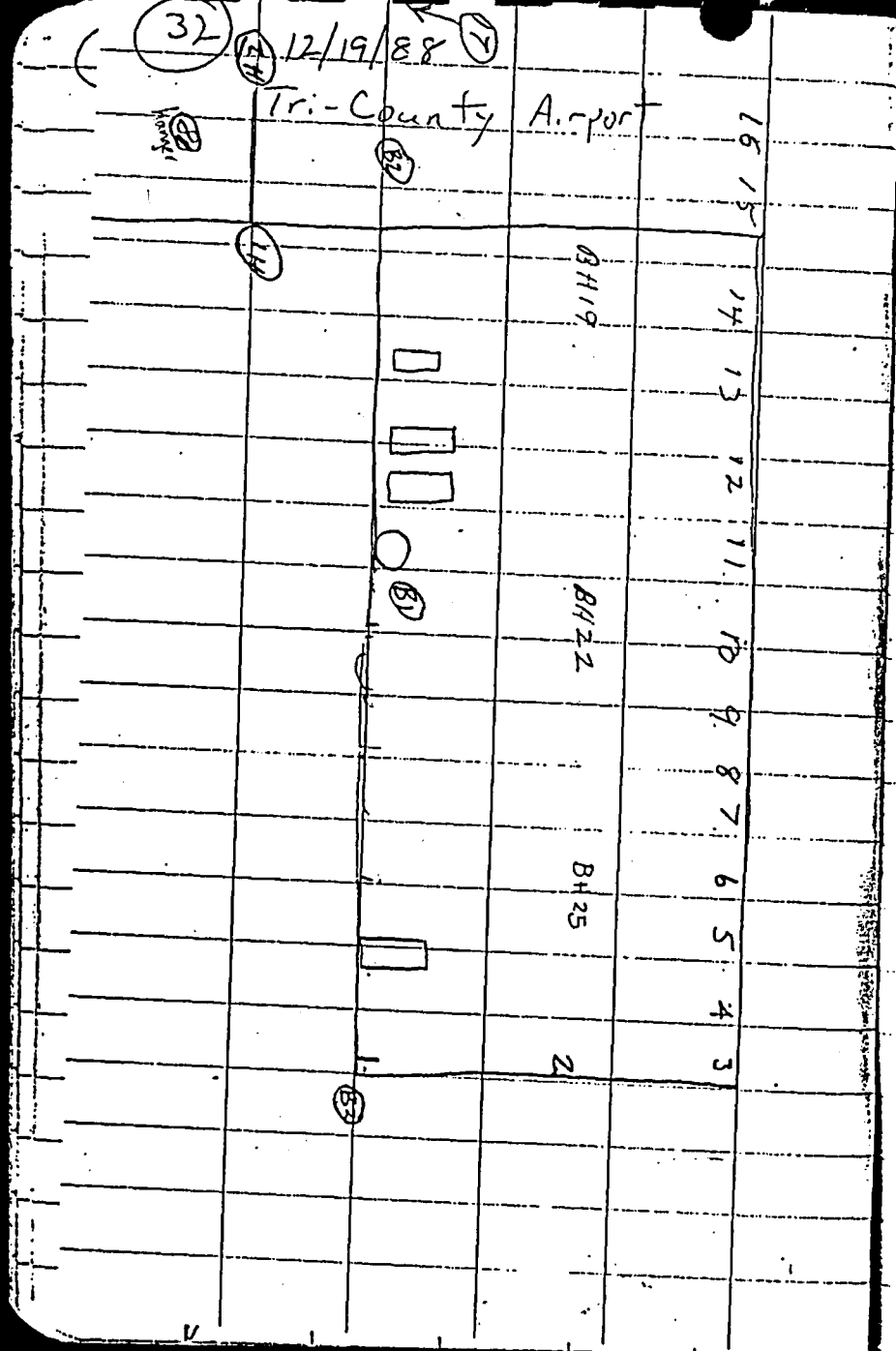
cc: John L. Smith, Pesticide Administrator
William Pritchett, Airport Authority Chairman
Kevin Leahy, Airport Attorney

(12)

REFERENCE 13

(32) 12/19/88 (1)

Tri-County Airport



(33)

TT	BS	FS	DIST	∠
B1	B2		99.71	
		B3	139.07	181°06'20"
		1	136.80	180°02'50"
		2	140.10	171°54'00"
		3	145.60	164°24'05"
		4	122.34	161°32'40"
		5	107.89	159°00'35"
		6	87.28	154°45'00"
		7	70.36	147°44'10"
		8	53.92	135°05'45"
		9	41.25	113°12'00"
		10	28.39	83°14'55"
		11	42.02	54°59'55"
B2	B1	12	67.24	326°41'00"
		13	51.08	312°58'50"
		14	32.86	290°23'00"
		15	24.12	257°55'00"
		H1	27.82	120°40'55"
		H2	42.04	33°57'15"

(34)

ST	BS	FS	Dist.	∠	(35)
B2	B1	16	31.35	221°27'05"	
		17	23.30	176°51'30"	
		18	41.25	80°45'50"	
		BH19	42.24	321°42'05"	
B1	B2	BH22	29.55	108°45'55"	
		BH25	97.37	164°17'20"	

SOLID AND HAZARDOUS WASTE MANAGEMENT BRANCH

Chain of Custody Record

Hazardous Waste Materials

Location of Sampling: ___Generator ___Transporter ___Treatment Facility
___Storage Facility ___Disposal Facility ___Landfill
___Other:

Company's Name Tri-County Airport Telephone 111

Address Rt 1 Box 36. Aulander, NC 27805

Collector's Name Stan Atwood signature Telephone (919) 233-2801

Date Sampled 19 December 1988 Time Sampled 1100-1500

Type of Process Generating Waste Pesticide spillage from crop dusting operations beginning in 1965

Field Information

Pesticide Storage tanks located on N. side of Airport. Evidence of spills. One corroded drum found.

Field Sample No. 3192 3193 ~~3194~~ ~~3195~~ 3196 ~~3197~~ ~~3198~~
3199 ~~3200~~ ~~3201~~ 3202

Chain of Possession:

1.	signature	Airport Manager (title)	12/19/88 inclusive dates
2.	Stan Atwood signature	Toxicologist (title)	12/19/88 - 12/20/88 inclusive dates
3.	Annette J. Gay Mike King (Soils) signature	Chemist (title)	12/20/88 inclusive dates

Results reported

signature	Chemist (title)	20 Dec 88 (date)
signature	Chemist (title)	21 Feb 89 (date)

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

OUS TE MANAC NT BRANCH

Receipt for Samples

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

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

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

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

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

Inspector's Name | Inspector's Address

Name of Firm | Firm Address

Firm Owner, Operator, or Agent | Title

SAMPLE NUMBER	COLLECTED DATE	COLLECTED TIME	SAMPLE TYPE WATER	SOIL	OTHER	DUPLICATE SAMPLES OFFERED	ACCEPTED	REJECTED	SAMPLE LOCATION ON-SITE	OFF-SITE
S 2	12/19/88	1100	✓						✓	
3193-320	12/19/88	1345-1500		✓					✓	
2 2	12/19/88	1500	✓						✓	

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

Signature of Inspector

Toxicologist

Title

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

Signature of Firm Owner, Operator, or Age:

Title

COMMENTS

Inactive Sites
State Superfund

C. Department of Human Resources
vision of Health Services

SAMPLE ANALYSES REQUEST

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

Site Number SIS460000810 Field Sample Number 3193

Name of Site Tri-County Aicport Site Location Hertford Co.

Collected By S. Atwood ID# 45 Date Collected 12/[illegible]/88 Time 1100-1500

Type of Sample:

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

Comments: Pesticide concentrate + BHI

RECEIVED
FEB 23 1989
SUPERFUND BRANCH
SOLID WASTE MANAGEMENT SECTION

INORGANIC CHEMISTRY

Extractables		Total			
Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
✓ Arsenic	<0.01	✓ Arsenic	<10	✓ Silver	<39
✓ Barium	<0.04	✓ Barium	<7.8	___ Sulfates	
✓ Cadmium	<0.08	✓ Cadmium	3.5	___ Zinc	
___ Chromium	<0.20	___ Chloride		___ Ph	
✓ Lead	<1.0	✓ Chromium	<39	___ Conductivity	
✓ Mercury	<0.02	___ Copper		___ TDS	
✓ Selenium	<0.025	___ Fluoride		___ TOC	
✓ Silver	<0.20	___ Iron			
		✓ Lead	29		
		___ Manganese			
		✓ Mercury	<0.1		
		___ Nitrate			
		✓ Selenium	<5		

ORGANIC CHEMISTRY

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

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received ___ Date Reported ___

Date Extracted ___ Date Analyzed ___

Reported By ___ Lab Number 24564 DEC 2088

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

Inactive Sites
State Superfund

. C. Department of Human Resources
ivision of Health Services

SAMPLE ANALYSES REQUEST

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

ite mber SIS460000810 Field Sample Number 3196

a of Site Tri-County Airport Site Location Hertford Co.

ollected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-1500

y of Sample:

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

Comments: Pesticide Concentrate BHC

RECEIVED
FEB 23 1989
SUPERFUND BRANCH
SOLID WASTE MANAGEMENT SECTION

INORGANIC CHEMISTRY

Extractables		Total			
Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
✓ Arsenic	<0.01	✓ Arsenic	<10	✓ Silver	<40
✓ Barium	<0.04	✓ Barium	22	___ Sulfates	
✓ Cadmium	<0.08	✓ Cadmium	<16	___ Zinc	
✓ Chromium	<0.20	___ Chloride		___ Ph	
✓ Lead	<1.0	✓ Chromium	<40	___ Conductivity	
✓ Mercury	<0.02	___ Copper		___ TDS	
✓ Selenium	<0.005	___ Fluoride		___ TOC	
___ Silver	<0.20	___ Iron		___	
		✓ Lead	162	___	
		___ Manganese		___	
		✓ Mercury	<0.1	___	
		___ Nitrate		___	
		✓ Selenium	<1	___	

ORGANIC CHEMISTRY

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

MICROBIOLOGY

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

RADIOCHEMISTRY

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

Date Received _____ Date Reported _____

Date Extracted _____ Date Analyzed _____

Reported By _____ Lab Number 24565 DEC 20 88

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

State Superfund

. C. Department of Human Resources
ivision of Health Services

SAMPLE ANALYSES REQUEST

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

i umber SIS460000810 Field Sample Number 3199

an of Site Tri-County Airport Site Location Hertford Co.

llected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-1500

yp of Sample:

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

Comments: BH3 - 0-2 in

RECEIVED
FEB 23 1989
SUPERFUND BRANCH
SOLID WASTE MANAGEMENT SECTION

INORGANIC CHEMISTRY

Extractables		Total			
Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
✓ Arsenic	<0.01	✓ Arsenic	<3.3	✓ Silver	<34
✓ Barium	<0.04	✓ Barium	12	___ Sulfates	
✓ Cadmium	<0.08	✓ Cadmium	<14	___ Zinc	
___ Chromium	<0.20	___ Chloride		___ Ph	
___ Lead	<1.0	✓ Chromium	<34	___ Conductivity	
✓ Mercury	<0.02	___ Copper		___ TDS	
✓ Selenium	<0.005	___ Fluoride		___ TOC	
___ Silver	<0.20	___ Iron			
		✓ Lead	17		
		___ Manganese			
		✓ Mercury	<0.1		
		___ Nitrate			
		✓ Selenium	<0.8		

ORGANIC CHEMISTRY

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

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received ___ Date Reported ___

Date Extracted ___ Date Analyzed ___

Reported By ___ Lab Number 2456 DEC 2088

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

C. Department of Human Resources
Division of Health Services

State Superfund 401 OBERLIN ROAD

SAMPLE ANALYSES REQUEST

State Laboratory of Public Heal
P. O. Box 280
306 N. Wilmington Str
Raleigh, 276

Site Number SIS460000810 Field Sample Number 4221

Name of Site Tri-County Airport Site Location Hertf

Collected By S. Atwood ID# 45 Date Collected 12/9/88 Time 1100-1500

RECEIVED MAR 13 1989 SUPERFUND BRANCH SOLID WASTE MANAGEMENT SECTION

Type of Sample:

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

Comments: On-site drinking well

INORGANIC CHEMISTRY

Extractables

Parameter	Results mg/1
___ Arsenic	
___ Barium	
___ Cadmium	
___ Chromium	
___ Lead	
___ Mercury	
___ Selenium	
___ Silver	

Total

Parameter	Results mg/1
___ Arsenic	
___ Barium	
___ Cadmium	
___ Chloride	
___ Chromium	
___ Copper	
___ Fluoride	
___ Iron	
___ Lead	
___ Manganese	
___ Mercury	
___ Nitrate	
___ Selenium	

Parameter	Results mg/1
___ Silver	
___ Sulfates	
___ Zinc	
___ Ph	
___ Conductivity	
___ TDS	
___ TOC	

ORGANIC CHEMISTRY

Parameter	Results mg/1
___ P&T:GC/MS	
✓ Acid:B/N Ext.	SEE ATTACHED SHEET(S)
___ TOX	

Parameter	Results mg/1
___ EDB	
___ PCB's	
___ Petroleum	
___ Endrin	
___ Lindane	

Parameter	Results mg/1
___ Methoxychlor	
✓ Toxaphene	SEE ATTACHED SHEET
___ 2,4-D	
___ 2,4,5-TP (silvex)	
✓ Pesticide	SEE ATTACHED SHEET
✓ PDT	SEE ATTACHED SHEET

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received 12-20-88 MW
BNA = 12-28-88 LB, AA, PW

Date Reported 3-10-89

Date Extracted Pest 1-3-89 AA.LB.VP

Date Analyzed BNA 1-3-89 BD, PEST-EC 2-16-89 VP, PEST-MS 2-20-89

Reported By John L. Neal

Lab Number 803328

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

#803328-803359

1

State Superfund

. C. Department of Human Resources
ivision of Health Services

SAMPLE ANALYSES REQUEST

State Laboratory of Public Hea.
P. O. Box 280
306 N. Wilmington Str
Raleigh, 276

[redacted] Number SIS460000810 Field Sample Number 4222

[redacted] of Site Tri-County Airport Site Location Hertford Co

Collected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-150

[redacted] of Sample:

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

Comments

RECEIVED
MAR 13 1989
SUPERFUND BRANCH
SOLID WASTE MANAGEMENT SECTION

INORGANIC CHEMISTRY

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

ORGANIC CHEMISTRY

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

MICROBIOLOGY

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

RADIOCHEMISTRY

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

[redacted] Received 12-20-88 MW Date Reported ____

[redacted]ate Extracted ____ Date Analyzed PT 1-23-89 mw

Reported By ____ Lab Number 893329

[redacted]HS 3191 (Revised 7/85)

State Superfund

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

SAMPLE ANALYSES REQUEST

State Laboratory of Public Hea
P. O. Box 28C
306 N. Wilmington Str
Raleigh, 27€

Number SIS460000810 Field Sample Number 4223

Name of Site Tri-County Airport Site Location Hertford Co

Collected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-150

Type of Sample:

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

Comments: Sample 1

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SUPERFUND BRANCH
SOLID WASTE MANAGEMENT SECTION

INORGANIC CHEMISTRY

Extractables

Parameter	Results mg/1
___ Arsenic	
___ Barium	
___ Cadmium	
___ Chromium	
___ Lead	
___ Mercury	
___ Selenium	
___ Silver	

Total

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

ORGANIC CHEMISTRY

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

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Received 12-20-88 MW Date Reported

Date Extracted PEST. 12-21-88 VP, JM Date Analyzed PEST-EC 12-30-88 VP PEST-MS 1-13-89 BQ

Reported By Lab Number 803330

DHS 3101 (Revised 7/85)

State Superfund

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

SAMPLE ANALYSES REQUEST

State Laboratory of Public He
P. O. Box 28
306 N. Wilmington St
Raleigh, 27

Number SIS460000810 Field Sample Number 4224

Name of Site Tri-County Airport Site Location Hertford Co

Collected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-15c

RECEIVED
MAR 13 1989
SOLID WASTE MANAGEMENT SECTION
SUPERFUND BRANCH

Type of Sample:

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

Comments: Sample 2

INORGANIC CHEMISTRY

Extractables

Parameter	Results mg/1
___ Arsenic	
___ Barium	
___ Cadmium	
___ Chromium	
___ Lead	
___ Mercury	
___ Selenium	
___ Silver	

Total

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

ORGANIC CHEMISTRY

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

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received 12-20-88 MW Date Reported

Date Extracted PEST. 12-21-88 VP, JM Date Analyzed PEST-EC 12-30-88 VP PEST-MS 1-13-89 BB

Reported By Lab Number 803331

DHS 3191 (Revised 7/85)

State Superfund

N[illegible]. Department of Human Resources
Division of Health Services

SAMPLE ANALYSES REQUEST

State Laboratory of Public Heal
P. O. Box 280-
306 N. Wilmington Str
Raleigh, 276

[illegible] Number SIS460000810 Field Sample Number 4225

N[illegible]e of Site Tri-County Airport Site Location Hertford Co

Collected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-150

RECEIVED
MAR 13 1989
SOLID WASTE MANAGEMENT SECTION
SUPERFUND BRANCH

Type of Sample:

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

Comments: Sample 3

INORGANIC CHEMISTRY

Extractables

Parameter	Results mg/1
___ Arsenic	
___ Barium	
___ Cadmium	
___ Chromium	
___ Lead	
___ Mercury	
___ Selenium	
___ Silver	

Total

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

ORGANIC CHEMISTRY

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

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received 12-20-88 MW PEST. Date Reported

Date Extracted 12-21-88 VP, JM Date Analyzed PEST-EC 12-30-88 VP PEST-MS 1-18-89 BD

Reported By Lab Number 803332

HS 3191 (Revised 7/85)

State Superfund

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

SAMPLE ANALYSES REQUEST

State Laboratory of Public He
P. O. Box 28
306 N. Wilmington St
Raleigh, 27

Number SIS460000810 Field Sample Number 4226

Name of Site Tri-County Airport Site Location Hertford Co

Collected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-15c

Type of Sample:

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

Comments: Sample 4
roots/grass/soil mix

RECEIVED
MAR 13 1989
SOLID WASTE MANAGEMENT SECTION
SUPERFUND BRANCH

INORGANIC CHEMISTRY

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

ORGANIC CHEMISTRY

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

MICROBIOLOGY

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

RADIOCHEMISTRY

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

Date Received 12-20-88 MW Date Reported

Date Extracted PEST. 12-21-88 VP, JM Date Analyzed PEST-EC 12-30-88 VP PEST-MS 1-19-89 AD

Reported By Lab Number 803333

HS 3101 (Revised 7/85)

State Superfund

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

SAMPLE ANALYSES REQUEST

State Laboratory of Public Heal
P. O. Box 280-
306 N. Wilmington Str
Raleigh, 276

Site Number SIS460000810 Field Sample Number 4227

Name of Site Tri-County Airport Site Location Hertford Co

Collected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-150

Type of Sample:

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

Comments: Sample 5
soil/grass mix

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MAR 13 1989
SUPERFUND BRANCH
WASTE MANAGEMENT SECTION

INORGANIC CHEMISTRY

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

ORGANIC CHEMISTRY

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

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received 12-20-88 MW

Date Extracted PEST 12-21-88 VP, JM

Date Reported

Date Analyzed PEST-EC 12-30-88 VP PEST-MS 1-18-89 BD

Reported By

Lab Number 893334

DHS 3191 (Revised 7/85)

State Superfund

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

SAMPLE ANALYSES REQUEST

State Laboratory of Public Hea
P. O. Box 28(
306 N. Wilmington St
Raleigh, 27(

Number SIS460000810 Field Sample Number 4228

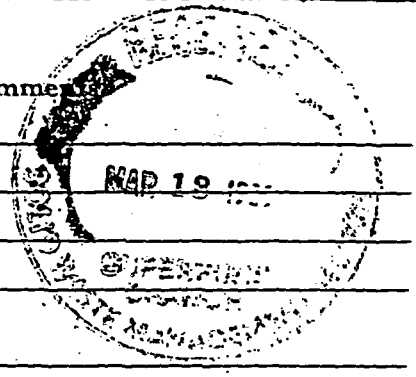
Name of Site Tri-County Airport Site Location Hertford Co

Collected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-150

Type of Sample:

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

Comments: Sample 6
soil/grass mix



INORGANIC CHEMISTRY

Extractables

Parameter	Results mg/1
___ Arsenic	
___ Barium	
___ Cadmium	
___ Chromium	
___ Lead	
___ Mercury	
___ Selenium	
___ Silver	

Total

Parameter	Results mg/1
___ Arsenic	
___ Barium	
___ Cadmium	
___ Chloride	
___ Chromium	
___ Copper	
___ Fluoride	
___ Iron	
___ Lead	
___ Manganese	
___ Mercury	
___ Nitrate	
___ Selenium	

Parameter	Results mg/1
___ Silver	
___ Sulfates	
___ Zinc	
___ Ph	
___ Conductivity	
___ TDS	
___ TOC	

ORGANIC CHEMISTRY

Parameter	Results mg/1
___ P&T:GC/MS	
___ Acid:B/N Ext.	
___ TOX	

Parameter	Results mg/1
___ EDB	
___ PCB's	
___ Petroleum	
___ Endrin	
___ Lindane	

Parameter	Results mg/
___ Methoxychlor	
✓ Toxaphene	SEE ATTACHED SHEET
___ 2,4-D	
___ 2,4,5-TP (silvex)	
✓ DDT	SEE ATTACHED SHEET
✓ OPs	SEE ATTACHED SHEET

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received 12-20-88 MW Date Reported

Date Extracted PEST. 12-21-88 VP, JM Date Analyzed PEST-EC 12-30-88 VP PEST-MS 1-19-89 BQ

Reported By Lab Number 803335

DHS 3191 (Revised 7/85)

State Superfund

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

SAMPLE ANALYSES REQUEST

State Laboratory of Public He:
P. O. Box 28(
306 N. Wilmington St:
Raleigh, 27(

Number SIS460000810 Field Sample Number 4229

Name of Site Tri-County Airport Site Location Hertford Co

Collected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-150

Type of Sample:

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

Comments: Sample 7

INORGANIC CHEMISTRY

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

ORGANIC CHEMISTRY

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

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received 12-20-88 MW Date Reported

Date Extracted PEST. 12-21-88 VP,JM Date Analyzed PEST. 1-5-89 VP PEST.-MS 1-19-89 BD

Reported By Lab Number 893336

DHS 3101 (Revised 7/85)

State Superfund

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

SAMPLE ANALYSES REQUEST

State Laboratory of Public Hea
P. O. Box 28C
306 N. Wilmington Str
Raleigh, 27(

Number S1S460000810 Field Sample Number 4230

Name of Site Tri-County Airport Site Location Hertford Co

Collected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-150

Type of Sample:

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

Comments: Sample B
Soil/grass mix

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SUPERFUND BRANCH
SOLID WASTE MANAGEMENT SECTION

INORGANIC CHEMISTRY

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

ORGANIC CHEMISTRY

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

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received 12-20-88 MW Date Reported

Date Extracted PEST. 12-21-88 VP, OM Date Analyzed PEST. EC 1-5-89 VP PEST-MS 1-19-89 BA

Reported By Lab Number 893337

GSC 3101 (Revised 7/85)

State Superfund

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

SAMPLE ANALYSES REQUEST

State Laboratory of Public Hea
P. O. Box 28(
306 N. Wilmington Str
Raleigh, 27(

Number SIS460000810 Field Sample Number 4231

Name of Site Tri-County Airport Site Location Hertford Co

Collected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-150

Type of Sample:

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

Comments: Sample 9
Soil/grass mix

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SOLID WASTE MANAGEMENT SECTION
SUPERFUND BRANCH

INORGANIC CHEMISTRY

Extractables

Parameter	Results mg/1
Arsenic	
Barium	
Cadmium	
Chromium	
Lead	
Mercury	
Selenium	
Silver	

Total

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

ORGANIC CHEMISTRY

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

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
Gross Alpha	
Gross Beta	

Date Received 12-20-88 MW Date Reported

Date Extracted Ext 12-27-88 AA,LB Date Analyzed PEST/EC 1-5-89 VP PEST-MS 1-19-89 BQ

Reported By Lab Number 893338

DHS 3101 (Revised 7/85)

State Superfund

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

SAMPLE ANALYSES REQUEST

State Laboratory of Public He:
P. O. Box 28(
306 N. Wilmington St:
Raleigh, 27(

Number SIS460000810 Field Sample Number 4232

Name of Site Tri-County Airport Site Location Hertford Co

Collected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-150

Type of Sample:

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

Comments: Sample 10

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SUPERFUND BRANCH
SOLID WASTE MANAGEMENT SECTION

INORGANIC CHEMISTRY

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

ORGANIC CHEMISTRY

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

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received 12-20-88 MW Date Reported

Date Extracted Pest 12-27-88 AA, LB Date Analyzed PEST-EC 1-11-89 VP PEST-MS 1-20-89 BD

Reported By Lab Number 893339

DHS 3191 (Revised 7/85)

State Superfund

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

SAMPLE ANALYSES REQUEST

State Laboratory of Public He:
P. O. Box 28(
306 N. Wilmington St:
Raleigh, 27(

e Number SIS460000810 Field Sample Number 4233

me of Site Tri-County Airport Site Location Hertford Co

Collected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-150

Type of Sample:

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

Comments: Sample 11

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SUPERFUND BRANCH
SOLID WASTE MANAGEMENT SECTION

INORGANIC CHEMISTRY

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

ORGANIC CHEMISTRY

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

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
____ Gross Alpha	
____ Gross Beta	

Date Received 12-20-88 MW Date Reported

Date Extracted Pest 12-27-88 AA,LB Date Analyzed PEST-EC 1-11-89 VP PEST-MS 1-20-89 BD

Reported By Lab Number 893340

DHS 3191 (Revised 7/85)

State Superfund

SAMPLE ANALYSES REQUEST

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

State Laboratory of Public He
P. O. Box 28
306 N. Wilmington S
Raleigh, 27

e Number SIS460000810 Field Sample Number 4234

ame of Site Tri-County Airport Site Location Hertford Co

ollected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-150

Type of Sample:

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

Comments: Sample 12

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SUPERFUND BRANCH
SOLID WASTE MANAGEMENT SECTION

INORGANIC CHEMISTRY

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

ORGANIC CHEMISTRY

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

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
____ Gross Alpha	
____ Gross Beta	

Date Received 12-20-88 MW Date Reported

Date Extracted Pest 12-27-88 AA, LL Date Analyzed PEST-EC 1-5-89 VP PEST-MS 1-31-89 BQ

Reported By Lab Number 803341

DHS 3191 (Revised 7/85)

State Superfund

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

SAMPLE ANALYSES REQUEST

State Laboratory of Public He
P. O. Box 28
306 N. Wilmington St
Raleigh, 27

Number SIS460000810 Field Sample Number 4235

Name of Site Tri-County Airport Site Location Hertford Co

Collected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-150

Type of Sample:

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

Comments: Sample 13

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SOLID WASTE MANAGEMENT SECTION
SUPERFUND BRANCH

INORGANIC CHEMISTRY

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

ORGANIC CHEMISTRY

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

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received 12-20-88 MW Date Reported

Date Extracted Pest 12-27-88 AA,LB Date Analyzed PEST-EC 1-11-89 VP PEST-MS 1-31-89 BD

Reported By Lab Number 893342

DHS 3101 (Revised 7/85)

State Superfund

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

SAMPLE ANALYSES REQUEST

State Laboratory of Public Heal
P. O. Box 280
306 N. Wilmington Str
Raleigh, 276

S Number SIS460000810 Field Sample Number 4236

Name of Site Tri-County Aicport Site Location Hertford Co

Collected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-150

Type of Sample:

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

Comm Sample 14

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SOLID WASTE MANAGEMENT SECTION
SUPERFUND BRANCH

INORGANIC CHEMISTRY

Extractables

Parameter	Results mg/1
___ Arsenic	
___ Barium	
___ Cadmium	
___ Chromium	
___ Lead	
___ Mercury	
___ Selenium	
___ Silver	

Total

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

ORGANIC CHEMISTRY

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

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Received 12-20-88 MW Date Reported

Date Extracted Pest 12-27-88 AA,LA Date Analyzed PEST-EC 1-11-89 VP PEST-MS 2-1-89 BQ

Reported By Lab Number 893343

DHS 3101 (Revised 7/85)

State Superfund

C. Department of Human Resources
Division of Health Services

SAMPLE ANALYSES REQUEST

State Laboratory of Public He
P. O. Box 28
306 N. Wilmington S
Raleigh, 27

te Number SIS460000810 Field Sample Number 4237

ame of Site Tri-County Airport Site Location Hertford Co

Collected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-150

Type of Sample:

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

Comments: Sample 15

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SUPERFUND BRANCH
SOLID WASTE MANAGEMENT SECTION

INORGANIC CHEMISTRY

Extractables

Parameter	Results mg/1
____ Arsenic	
____ Barium	
____ Cadmium	
____ Chromium	
____ Lead	
____ Mercury	
____ Selenium	
____ Silver	

Total

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

ORGANIC CHEMISTRY

Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg.
____ P&T:GC/MS		____ EDB		____ Methoxychlor	
____ Acid:B/N Ext.		____ PCB's		✓ Toxaphene	SEE ATTACHED SHEET(
____ TOX		____ Petroleum		____ 2,4-D	
		____ Endrin		____ 2,4,5-TP (silvex)	
		____ Lindane		✓ DDT	SEE ATTACHED SHEE
		✓ DDD	SEE ATTACHED SHEET(S)	✓ OP's	SEE ATTACHED SHEE

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
____ Gross Alpha	
____ Gross Beta	

Date Received 12-20-88 MW Date Reported

Date Extracted Pest 12-27-88 AA,LB Date Analyzed PEST-EC 1-3-89 VP PEST-MS 2-1-89 BD

Reported By Lab Number 803344

DHS 3101 (Revised 7/85)

State Superfund

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

SAMPLE ANALYSES REQUEST

State Laboratory of Public He
P. O. Box 28
306 N. Wilmington S
Raleigh, 27

Number SIS460000810 Field Sample Number 4238

Name of Site Tri-County Airport Site Location Hertford Co

Collected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-150

Type of Sample:

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

Comments: Sample 16

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MAR 13 1989
SUPERFUND BRANCH
SOLID WASTE MANAGEMENT SECTION

INORGANIC CHEMISTRY

Extractables

Parameter	Results mg/1
___ Arsenic	
___ Barium	
___ Cadmium	
___ Chromium	
___ Lead	
___ Mercury	
___ Selenium	
___ Silver	

Total

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

ORGANIC CHEMISTRY

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

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received 12-20-88 MW Date Reported

Date Extracted Pest 12-27-88 AA, LB Date Analyzed PEST-EC 1-6-89 VP PEST-MS 2-2-89 BQ

Reported By Lab Number 803345

DHS 3191 (Revised 7/85)

State Superfund

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

SAMPLE ANALYSES REQUEST

State Laboratory of Public He
P. O. Box 28
306 N. Wilmington St
Raleigh, 27

e Number SIS460000810 Field Sample Number 4239

me of Site Tri-County Airport Site Location Hertford Co

Collected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-150

Type of Sample:

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

Comments: Sample 17

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MAR 13 1989
SUPERFUND BRANCH
SOLID WASTE MANAGEMENT SECTION

INORGANIC CHEMISTRY

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

ORGANIC CHEMISTRY

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

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received 12-20-88 MW Date Reported

Date Extracted Pest 12-22-88 AA,LB Date Analyzed PEST-EC 1-6-89 VP PEST-EC 2-2-89 BQ

Reported By Lab Number 803346

DHS 3191 (Revised 7/85)

State Superfund

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

SAMPLE ANALYSES REQUEST

State Laboratory of Public H
P. O. Box 28
306 N. Wilmington S
Raleigh, 27

Site Number SIS460000810 Field Sample Number 4240

Name of Site Tri-County Airport Site Location Hertford Co

Collected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-150

Type of Sample:

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

Comments: Sample 18

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SUPERFUND BRANCH
SOLID WASTE MANAGEMENT SECTION

INORGANIC CHEMISTRY

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

ORGANIC CHEMISTRY

Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/
____ P&T:GC/MS		____ EDB		____ Methoxychlor	
____ Acid:B/N Ext.		____ PCB's		✓ Toxaphen	SEE ATTACHED SHEET(S
____ TOX		____ Petroleum		____ 2,4-D	
		____ Endrin		____ 2,4,5-TP (silvex)	
		____ Lindane		✓ DDT	SEE ATTACHED SHEET(S
				✓ OPs	SEE ATTACHED SHEET(S

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
____ Gross Alpha	
____ Gross Beta	

Date Received 12-20-88 MLJ Date Reported

Date Extracted Pest 12-27-88 AA,LB Date Analyzed PEST-EC 2-22-89 VP PEST-MS 2-2-89 BQ

Reported By Lab Number 893347

DHS 3191 (Revised 7/85)

State Superfund

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

SAMPLE ANALYSES REQUEST

State Laboratory of Public He
P. O. Box 28
306 N. Wilmington S
Raleigh, 27

Number SIS460000810 Field Sample Number 4241

Name of Site Tri-County Airport Site Location Hertford

Collected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-15C

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MAR 13 1989
SUPERFUND BRANCH
REMEDIAL ACTION SECTION
MANAGER

Type of Sample:

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

Comments: Sample 19
Toxaphene & Met. Parathion Suspected
in high concentrations

INORGANIC CHEMISTRY

Extractables

Parameter	Results mg/1
___ Arsenic	
___ Barium	
___ Cadmium	
___ Chromium	
___ Lead	
___ Mercury	
___ Selenium	
___ Silver	

Total

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

ORGANIC CHEMISTRY

Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/
✓ P&T:GC/M	SEE ATTACHED SHEET(S)	___ EDB		___ Methoxychlor	
✓ Acid:B/N Ex	SEE ATTACHED SHEET(S)	___ PCB's		✓ Toxaphene	SEE ATTACHED SHEET(
___ TOX		___ Petroleum		___ 2,4-D	
		___ Endrin		___ 2,4,5-TP (silvex)	
		___ Lindane		✓ DDT	SEE ATTACHED SHEE
				✓ OPs	SEE ATTACHED SHEET(

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received 12-20-88 mw Date Reported

Date Extracted ~~BNA 12-29-88~~ BNA 1-3-89 BD AA, B (attempted) Date Analyzed BNA 1-5-89 BD PT 1-24-89 mw PEST-M 2-3-89

Reported By Lab Number 893348

DHS 3191 (Revised 7/85)

State Superfund

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

SAMPLE ANALYSES REQUEST

State Laboratory of Public H
P. O. Box 28
306 N. Wilmington S
Raleigh, 27

e Number SIS460000810 Field Sample Number 4242

ame of Site Tri-County Airport Site Location Hertford Co

Collected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-150

Type of Sample:

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

Comments: Sample 20 - BH1 - 2in

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MAR 13 1989
SUPERFUND BRANCH
SOLID WASTE MANAGEMENT SECTION

INORGANIC CHEMISTRY

Extractables

Parameter	Results mg/1
___ Arsenic	
___ Barium	
___ Cadmium	
___ Chromium	
___ Lead	
___ Mercury	
___ Selenium	
___ Silver	

Total

Parameter	Results mg/1
___ Arsenic	
___ Barium	
___ Cadmium	
___ Chloride	
___ Chromium	
___ Copper	
___ Fluoride	
___ Iron	
___ Lead	
___ Manganese	
___ Mercury	
___ Nitrate	
___ Selenium	

Parameter	Results mg/1
___ Silver	
___ Sulfates	
___ Zinc	
___ Ph	
___ Conductivity	
___ TDS	
___ TOC	

ORGANIC CHEMISTRY

Parameter	Results mg/1
✓ P&T:GC/MS	SEE ATTACHED SHEET(S)
✓ Acid:B/N Ext.	SEE ATTACHED SHEET(S)
___ TOX	

Parameter	Results mg/1
___ EDB	
___ PCB's	
___ Petroleum	
___ Endrin	
___ Lindane	

Parameter	Results mg/
___ Methoxychlor	
✓ Toxaphene	SEE ATTACHED SHEET
___ 2,4-D	
___ 2,4,5-TP (silvex)	
✓ DDT	SEE ATTACHED SHEET
✓ OPs	SEE ATTACHED SHEET(S

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

D Received 12-20-88 mw Date Reported

Date Extracted PEST 12-30-88 AA,LB BNA 12-29-88 AA,LB Date Analyzed BNA 1-3-89BD PT 1-25-89 mw PEST-MS 2-3-89BS

Reported By Lab Number 893349

DHS 3191 (Revised 7/85)

State Superfund

C. Department of Human Resources
Division of Health Services

SAMPLE ANALYSES REQUEST

State Laboratory of Public Hea
P. O. Box 28(
306 N. Wilmington Str
Raleigh, 27(

Number SIS460000810 Field Sample Number 4243

Name of Site Tri-County Airport Site Location Hertford Co

Collected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-150

Type of Sample:

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

Comments: Sample 21-BH1-24

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SUPERFUND BRANCH
SOLID WASTE MANAGEMENT SECTION

INORGANIC CHEMISTRY

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

ORGANIC CHEMISTRY

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

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received 12-20-88 MW

Date Reported

Date Extracted Pest 12-30-88 AA,LB
BNA 12-29-88 AA,LB

Date Analyzed BNA 1-3-89BD PT 1-26-89 MW PEST-M 2-6-89B

Reported By

Lab Number 893350

DHS 3191 (Revised 7/85)

State Superfund

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

SAMPLE ANALYSES REQUEST

State Laboratory of Public He
P. O. Box 28
306 N. Wilmington S
Raleigh, 27

Number SIS460000810 Field Sample Number 4244

Name of Site Tri-County Airport Site Location Hertford Co

Collected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-150

Type of Sample:

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

Comments: Sample 22 - BH2
Toxaphene / DDT / Mrt. Pack 1989 likely

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SUPERFUND BRANCH
SOLID WASTE MANAGEMENT SECTION

INORGANIC CHEMISTRY

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

ORGANIC CHEMISTRY

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

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received 12-20-88 MW Date Reported

Date Extracted Pest 12-30-88 AA LB / BNA 12-29-88 AA, LB Date Analyzed BNA 1-3-89 BD, PEST-EC 1-10-89 VP, PT 1-27-89, PEST-MS 2-7-89 BD

Reported By Lab Number 893351

HS 3101 (Revised 7/85)

State Superfund

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

SAMPLE ANALYSES REQUEST

State Laboratory of Public Hea
P. O. Box 28(
306 N. Wilmington St:
Raleigh, 27(

Number SIS460000810 Field Sample Number 4245

Name of Site Tri-County Airport Site Location Hertford Co

Collected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-150

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Type of Sample:

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

Comments: Sample 23 - BH2-[illegible]

INORGANIC CHEMISTRY

Extractables

Parameter	Results mg/1
___ Arsenic	
___ Barium	
___ Cadmium	
___ Chromium	
___ Lead	
___ Mercury	
___ Selenium	
___ Silver	

Total

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

ORGANIC CHEMISTRY

Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/
✓ P&T:GC/M	SEE ATTACHED SHEET(S)	___ EDB		___ Methoxychlor	
✓ Acid:B/N Ext.	SEE ATTACHED SHEET(S)	___ PCB's		✓ Toxaphene	SEE ATTACHED SHEET
___ TOX		___ Petroleum		___ 2,4-D	
		___ Endrin		___ 2,4,5-TP (silvex)	
		___ Lindane		✓ DDT	SEE ATTACHED SHEE
		✓ DDD	SEE ATTACHED SHEET(S)	✓ OPs	SEE ATTACHED SHEET

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received 12-20-88 MW Date Reported

Date Extracted Pest 12-30-88 AA,LB BWA 12-29-88 AA,LB Date Analyzed BWA 1-4-89 BD PEST-EC 1-10-89 VP PT 1-27-89 mw

Reported By Lab Number 893352 PEST-MS 2-7-89 BD

DHS 3191 (Revised 7/85)

State Superfund

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

SAMPLE ANALYSES REQUEST

State Laboratory of Public He
P. O. Box 28
306 N. Wilmington St
Raleigh, 27

Number SIS460000810 Field Sample Number 4246

Name of Site Tri-County Airport Site Location Hertford Co

Collected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-15c

Type of Sample:

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

Comments: Sample 24- BH2 [illegible]4 in

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SUPERFUND BRANCH
SOLID WASTE MANAGEMENT SECTION

INORGANIC CHEMISTRY

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

ORGANIC CHEMISTRY

Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
✓ P&T:GC/MS	SEE ATTACHED SHEET(S)	___ EDB		___ Methoxychlor	
✓ Acid:B/N Ex	SEE ATTACHED SHEET(S)	___ PCB's		✓ Toxaphene	SEE ATTACHED SHEET
___ TOX		___ Petroleum		___ 2,4-D	
		___ Endrin		___ 2,4,5-TP (silvex)	
		___ Lindane		✓ DDT	SEE ATTACHED SHEET(S
		✓ DDD	SEE ATTACHED SHEET(S)	✓ OPs	SEE ATTACHED SHEET(

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received 12-20-88 MW

Date Extracted Pest 12-30-88 LB, AA
BNA 12-29-88 LB, AA

Date Reported

Date Analyzed BNA 1-4-89 BD, PEST-EC 1-10-89 VP PT 1-30-89 m
PEST-MS 2-7-89 BD

Reported By

Lab Number 803353

HS 3191 (Revised 7/85)

State Superfund

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

SAMPLE ANALYSES REQUEST

State Laboratory of Public Heal
P. O. Box 280
306 N. Wilmington Str
Raleigh, 276

Number SIS460000810 Field Sample Number 4247

Name of Site Tri-County Airport Site Location Hertford Co

Collected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-150

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MAR 13 1989
SOLID WASTE MANAGEMENT SECTION
SUPERFUND BRANCH

Type of Sample:

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

Comments: Sample 25-BH3

INORGANIC CHEMISTRY

Extractables

Parameter	Results mg/1
___ Arsenic	
___ Barium	
___ Cadmium	
___ Chromium	
___ Lead	
___ Mercury	
___ Selenium	
___ Silver	

Total

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

ORGANIC CHEMISTRY

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

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received 12-20-88 MW Date Reported

Date Extracted P&T 12-30-88 AA, LB; B/NA 12-29-88 AA, LB Date Analyzed B/NA 1-4-89 BD, PEST-EC 1-10-89 VP, PT 2-3-89

Reported By Lab Number 893354 PEST-MS 2-7-89 BD

DHS 3191 (Revised 7/85)

State Superfund

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

SAMPLE ANALYSES REQUEST

State Laboratory of Public H
P. O. Box 2
306 N. Wilmington S
Raleigh, 2

Site Number SIS460000810 Field Sample Number 4248

Name of Site Tri-County Airport Site Location Hertford Co

Collected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-15

RECEIVED MAR 18 1989 SOLID WASTE MANAGEMENT SECTION SUPERFUND BRANCH

Type of Sample:

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

Comments: Sample 26-BH3 - [illegible]

INORGANIC CHEMISTRY

Extractables

Parameter	Results mg/1
___ Arsenic	
___ Barium	
___ Cadmium	
___ Chromium	
___ Lead	
___ Mercury	
___ Selenium	
___ Silver	

Total

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

ORGANIC CHEMISTRY

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

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Received 12-20-88 MW Date Reported

Date Extracted Pest 12-30-88 AA, LB; BNA 12-29-88 AA, LB Date Analyzed ANA 1-4-89 BD; PEST-EC 1-10-89 VP; PT 2-3-89 n

Reported By Lab Number 803355 PEST-NS 2-8-89 BD

DHS 3191 (Revised 7/85)

State Superfund

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

SAMPLE ANALYSES REQUEST

State Laboratory of Public H
P. O. Box 2
306 N. Wilmington S
Raleigh, 2

ite Number SIS460000810 Field Sample Number 4249

ne of Site Tri-County Airport Site Location Hertford Co

Collected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-15

RECEIVED
MAR 13 1989
SUPERFUND BRANCH
SOLID WASTE MANAGEMENT SECTION

Type of Sample:

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

Comments: Sample 27-BHB-2 (Mar 13 1989)

INORGANIC CHEMISTRY

Extractables

Parameter	Results mg/1
___ Arsenic	
___ Barium	
___ Cadmium	
___ Chromium	
___ Lead	
___ Mercury	
___ Selenium	
___ Silver	

Total

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

ORGANIC CHEMISTRY

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

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received 12-20-88 MW

Date Extracted Pest 12-30-88 AA,LB
BNA 12-29-88 AA,LB

Reported By

Date Reported

Date Analyzed BNA 1-4-89BD, PEST.-EC 1-11-89VP, PT 2-3-89n

Lab Number 803356 PEST-MS 2-8-89 BD

DHS 3191 (Revised 7/85)

State Superfund

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

SAMPLE ANALYSES REQUEST

State Laboratory of Public Hea
P. O. Box 28(
306 N. Wilmington Str
Raleigh, 27(

e Number SIS460000810 Field Sample Number 4250

Name of Site Tri-County Airport Site Location Hertford

Collected By S. Atwood ID# 45 Date Collected 12/19/8 Time 1100-150

RECEIVED
MAR 13 1989
SUPERFUND BRANCH
SOLID WASTE MANAGEMENT SECTION

Type of Sample:

Environmental	Concentrate	
___ Groundwater (1)	___ Solid (5)	Intermittent Creek bordering site
✓ Surface Water (2)	___ Liquid (6)	
___ Soil (3)	___ Sludge (7)	
___ Other (4)	___ Other (8)	

INORGANIC CHEMISTRY

Extractables

Parameter	Results mg/1
___ Arsenic	
___ Barium	
___ Cadmium	
___ Chromium	
___ Lead	
___ Mercury	
___ Selenium	
___ Silver	

Total

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

ORGANIC CHEMISTRY

Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
___ P&T:GC/MS		___ EDB		___ Methoxychlor	SEE ATTACHED SHEE
✓ Acid:B/N Ex	SEE ATTACHED SHEET(S)	___ PCB's		✓ Toxaphene	SEE ATTACHED SHEET
___ TOX		___ Petroleum		___ 2,4-D	
		___ Endrin		___ 2,4,5-TP (silvex)	
		___ Lindane		✓ DDT	SEE ATTACHED SHEET(
		✓ DDD	SEE ATTACHED SHEET(S)	✓ OPs	SEE ATTACHED SHEET(S

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received 12-20-88 MW
BNA = 12-28-88 LB, AA, PW

Date Reported

Date Extracted Pest 1-3-89 AA, LB, VA

Date Analyzed BNA 1-3-89 BD PEST-EC 2-16-89 VP PEST-m 2-20-89

Reported By

Lab Number 893357

DHS 3191 (Revised 7/85)

State Superfund

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

SAMPLE ANALYSES REQUEST

State Laboratory of Public Hea
P. O. Box 280
306 N. Wilmington Str
Raleigh, 276

Site Number SIS460000810 Field Sample Number 4251

Name of Site Tri-County Airport Site Location Hertford Co

Collected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-150

Type of Sample:

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

Comments: Intermittent Creek

RECEIVED
MAR 13 1989
SUPERFUND BRANCH
SOLID WASTE MANAGEMENT SECTION

INORGANIC CHEMISTRY

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

ORGANIC CHEMISTRY

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

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
____ Gross Alpha	
____ Gross Beta	

Date Received 12-20-88 MW Date Reported

Date Extracted Date Analyzed PT 1-23-89 MW

Reported By Lab Number 803358

DHS 3191 (Revised 7/85)

State Superfund

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

SAMPLE ANALYSES REQUEST

State Laboratory of Public He
P. O. Box 28
306 N. Wilmington St
Raleigh, 27

Site Number SIS460000810 Field Sample Number 4252

Name of Site Tri-County Airport Site Location Hertford Co

Collected By S. Atwood ID# 45 Date Collected 12/19/88 Time 1100-150

RECEIVED MAR 13 1989 SOLID WASTE MANAGEMENT SECTION SUPERFUND BRANCH

Type of Sample:

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

Comments: Sample 28 - Ha[illegible] Side of Airport

INORGANIC CHEMISTRY

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

ORGANIC CHEMISTRY

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

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received 12-20-88 MM/ Date Reported

Date Extracted Pest 12-30-88 AA, LB Date Analyzed PEST/EC 1-11-89 VP PEST-MS 2-8-89 BD

Reported By Lab Number 803359

SFC 3101 (Revised 7/85)

Chain of Custody Record

Hazardous Waste Materials

oca[illegible]n of Sampling: ___Generator ___Transporter ___Treatment Facil:
___Storage Facility ___Disposal Facility ___Landfill
___Other:

ompany's Name Tri-County Airport Telephone (919) 345-0111

ddress Rt 1 Box 36 Aulander, NC 27805

ollector's Name Stan Atwood Telephone (919) 733-2801
signature

at Sampled 12/19/88 Time Sampled 1100-1500

ype of Process Generating Waste Pesticide spillage from crop dusting operations since 1965

ield Information

Site still in operations - evidence that past operators spilled pesticides.
One corroded drum found by A Spill Area.

ld Sample No. 4221 — 4252

a[illegible] of Possession:

signature	Airport Manager (title)	12/19/88 (inclusive dates)
Stan Atwood signature	Toxicologist (title)	12/19/88 - 12/20/88 (inclusive dates)
Michelle Wills signature	Org. Lab Tech. (title)	12/20/88 (inclusive dates)

es[illegible]ts reported

signature	title	date

ns[illegible]ructions: Complete all applicable information including signatures, and submit with analysis request forms.

(1)

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

ORGANIC CHEMICAL ANALYSIS

BASE/NEUTRAL AND ACID EXTRACTABLES COMPOUND	LAB NO	803328	803349	803350	803351	803352	803353
	FIELD #	4221	4242	4243	4244	4245	4246
	TYPE	(1)	(3)	(3)	(3)	(3)	(3)
	UNITS	~~µg/l~~ µg/kg	~~µg/l~~ µg/kg	~~µg/l~~ µg/kg	~~µg/l~~ µg/kg	~~µg/l~~ µg/kg	~~µg/l~~ µg/kg
N[illegible]itrosodimethylamine	10/330	U	U	U	U	U	U
b[illegible](2-chloroethyl)ether							
2-chlorophenol							
p[illegible]nol							
1[illegible]-dichlorobenzene							
1,4-dichlorobenzene			330K U				
1,2-dichlorobenzene							
b[illegible](2-chloroisopropyl)ether							
hexachloroethane							
N-nitroso-di-n-propylamine							
n[illegible]robenzene							
i[illegible]phorone							
2-nitrophenol							
2,[illegible]-dimethylphenol							
bi[illegible](2-chloroethoxy)methane							
2,4-dichlorophenol							
1,2,4-trichlorobenzene							
na[illegible]thalene				330K U			
he[illegible]achlorobutadiene							
4-chloro-m-cresol							
he[illegible]achlorocyclopentadiene							
2,[illegible]6-trichlorophenol							
2-[illegible]hloronaphthalene							
[illegible]aphthylene							
di[illegible] phthalate							
2,6-dinitrotoluene							
acenaphthene							
2,[illegible]-dinitrophenol	50/1650						
2,[illegible]-dinitrotoluene	10/330						
4-nitrophenol	50/1650						
fl[illegible]rene	10/330						
4-[illegible]lorophenylphenylether							
diethyl phthalate							
4,6-dinitro-o-cresol	50/1650						
di[illegible]enylamine							
azobenzene							
4-bromophenylphenylether	10/330						
he[illegible]chlorobenzene	10/330						
pe[illegible]achlorophenol	50/1650						
phenanthrene	10/330						
ant[illegible]racene							
dib[illegible]yl phthalate							
fluoranthene							

MDL
H_2O/SOIL

J - [illegible] Estimated value.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - [illegible] Material was analyzed for but not detected. The number is the Minimum Detection Limit. MDL
N - [illegible] Not analyzed.
I - [illegible] Tentative identification.
/ - O[illegible]DC List of Priority Pollutants.

.C[illegible] Division of Health Services
HS 3068-O (4/86 Laboratory)

RECEIVED
MAR 13 1989
SUPERFUND BRANCH
SOLID WASTE MANAGEMENT SECTION

(2)

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

ORGANIC CHEMICAL ANALYSIS

BASE/NEUTRAL AND ACID EXTRACTABLES COMPOUND	LAB NO	803328	803349	803350	803351	803352	803353
	FIELD #	4221	4242	4243	4244	4245	4246
	TYPE	(1)	(3)	(3)	(3)	(3)	(3)
	UNITS	µg/l ~~µg/kg~~	~~µg/l~~ µg/kg	~~µg/l~~ µg/kg	~~µg/l~~ µg/kg	~~µg/l~~ µg/kg	~~µg/l~~ µg/kg
pyrene	10/330	U	U	U	U	U	U
benzidine	50/1650						
butyl benzyl phthalate	10/330						
benz(a)anthracene	↓						
chrysene							
3,3-dichlorobenzidine	50/1650						
bis(2-ethylhexyl)phthalate	10/330						
di-n-octyl phthalate	10/330						
benzo(b)fluoranthene	50/1650						
benzo(k)fluoranthene	↓						
benzo(a)pyrene							
indeno(1,2,3-cd)pyrene							
dibenzo(a,h)anthracene							
benzo(g,h,i)perylene	↓	↓	↓	↓	↓	↓	↓
aniline	50/1650	U	U	U	U	U	U
benzoic acid	↓						
benzyl alcohol	↓						
4-chloroaniline	10/330						
dibenzofuran	↓			↓			
2-methylnaphthalene				33J K			
2-methylphenol				U			
4-methylphenol	↓			↓			
2-nitroaniline	50/1650						
3-nitroaniline	↓						
4-nitroaniline							
2,4,5-trichlorophenol	↓	↓	↓	↓	↓	↓	↓
Confirmation of Pesticides							
Toxaphene			+		+		
Methyl Parathion			+	+			
Ethyl Parathion							
DDT		+	+	+	+		
EPN					+		

MDL

J - Estimated value. H2O/SOIL
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected. The number is the Minimum Detection Limit. MDL
N - Not analyzed.
T - Tentative identification.
2/ - On NRDC List of Priority Pollutants.

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

(3)

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

ORGANIC CHEMICAL ANALYSIS

[redacted]SE/NEUTRAL AND ACID EXTRACTABLES	LAB NO	803354	803355	803356	803357		803348
	FIELD #	4247	4248	4249	4250		4241
[redacted]MPOUND	TYPE	(3)	(3)	(3)	(2)	( )	(7)
	UNITS	~~µg/l~~ µg/kg	~~µg/l~~ µg/kg	~~µg/l~~ µg/kg	µg/l ~~µg/kg~~	µg/l µg/kg	~~µg/l~~ µg/g
N-[redacted]trosodimethylamine	10/330	u	u	u	u		u
bis[redacted]2-chloroethyl)ether	↓	↓	↓	↓	↓		↓
2-chlorophenol							
phe[redacted]ol							
1,3[redacted]dichlorobenzene							
1,4-dichlorobenzene							
1,2[redacted]dichlorobenzene							
bis[redacted]2-chloroisopropyl)ether							
hexachloroethane							
N-nitroso-di-n-propylamine							
nit[redacted]benzene							
iso[redacted]orone							
-nitrophenol							
4[redacted]imethylphenol							
bis[redacted]-chloroethoxy)methane							
4-dichlorophenol							
2[redacted]4-trichlorobenzene			↓				
p[redacted]thalene			330K				
exachlorobutadiene			u				
-chloro-m-cresol			↓				
ex[redacted]hlorocyclopentadiene							
4[redacted]-trichlorophenol							
'oronaphthalene							
ce[redacted]ylene							
im[redacted]phthalate							
6-dinitrotoluene							
cenaphthene	↓						
4[redacted]initrophenol	50/1650						
4-[redacted]initrotoluene	10/330						
-nitrophenol	50/1650						
lu[redacted]ene	10/330						
[redacted]rophenylphenylether	↓						
iethyl phthalate							
6-[redacted]initro-o-cresol	50/1650						
[redacted]ylamine	↓						
obenzene							
romophenylphenylether	10/330						
xa[redacted]lorobenzene	10/330						
nt[redacted]hlorophenol	50/1650						
nanthrene	10/330						
th[redacted]cene	↓						
bu[redacted]l phthalate							
uoranthene	↓	↓	↓	↓	↓		↓

Sample 803345 diluted in methylene

RECEIVED MAR 13 SUPERFUND BRANCH SOLID AND HAZARDOUS WASTE MANAGEMENT SECTION

MDL
H_2O/SOIL

[redacted]stimated value.
- Actual value is known to be less than value given.
- Actual value is known to be greater than value given.

[redacted]aterial was analyzed for but not detected. The number is the Minimum Detection Limit. MDL
[redacted]ot analyzed.
- Tentative identification.
- On [redacted] List of Priority Pollutants.

[redacted]ivision of Health Services
3068-0 (4/86 Laboratory)

(4)

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

ORGANIC CHEMICAL ANALYSIS

BASE/NEUTRAL AND ACID EXTRACTABLES	LAB NO	803354	803355	803356	803357		80334
	FIELD #	4247	4248	4249	4250		4271
COMPOUND	TYPE	(3)	(3)	(3)	(2)	( )	(7)
	UNITS	~~µg/l~~ µg/kg	~~µg/l~~ µg/kg	~~µg/l~~ µg/kg	µg/l ~~µg/kg~~	µg/l µg/kg	~~µg/l~~ µg/...
pyrene	10/330	U	U	U			U
benzidine	50/1650	↓	↓	↓	↓		↓
butyl benzyl phthalate	10/330	↓	↓	↓	↓		↓
benz(a)anthracene	↓	↓	↓	↓	↓		↓
chrysene	↓	↓	↓	↓	↓		↓
3,3-dichlorobenzidine	50/1650	↓	↓	↓	↓		↓
bis(2-ethylhexyl)phthalate	10/330	↓	↓	↓	↓		↓
di-n-octyl phthalate	10/330	↓	↓	↓	↓		↓
benzo(b)fluoranthene	50/1650	↓	↓	↓	↓		↓
benzo(k)fluoranthene	↓	↓	↓	↓	↓		↓
benzo(a)pyrene	↓	↓	↓	↓	↓		↓
indeno(1,2,3-cd)pyrene	↓	↓	↓	↓	↓		↓
dibenzo(a,h)anthracene	↓	↓	↓	↓	↓		↓
benzo(g,h,i)perylene	↓	↓	↓	↓	↓		↓
aniline	50/1650	U	U	U	U		U
benzoic acid	↓	↓	↓	↓	↓		↓
benzyl alcohol	↓	↓	↓	↓	↓		↓
4-chloroaniline	10/330	↓	↓	↓	↓		↓
dibenzofuran	↓	↓	↓	↓	↓		↓
2-methylnaphthalene	↓	↓	633 J	↓	↓		↓
2-methylphenol	↓	↓	U	↓	↓		↓
4-methylphenol	↓	↓	↓	↓	↓		↓
2-nitroaniline	50/1650	↓	↓	↓	↓		↓
3-nitroaniline	↓	↓	↓	↓	↓		↓
4-nitroaniline	↓	↓	↓	↓	↓		↓
2,4,5-trichlorophenol	↓	↓	↓	↓	↓		↓
Confirmation of Pesticides							
TOXAPHENE		+	+		+		+
METHYL PARATHION			+				+
ETHL PARATHION							
DDT		+			+		+
EPN							

Sample 5/23/88 diluted in methylene chloride

RECEIVED MAR 13 1989 SUPERFUND BRANCH SOLID WASTE MANAGEMENT SECTION

MDL H2O/SOIL

J - Estimated value.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected. The number is the Minimum Detection Limit. MDL
NA - Not analyzed.
1/ - Tentative identification.
2/ - On NRDC List of Priority Pollutants.

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

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

ORGANIC CHEMICAL ANALYSIS
water samples

PURGEABLE COMPOUNDS	LAB NO	803329	803358				
	FIELD #	4222	4251				
COMPOUND	TYPE	(1)	(2)	( )	( )	( )	( )
	UNITS	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg
chloromethane		5 ug/l	u	u			
bromomethane							
dichlorodifluoromethane							
vinyl chloride							
chloroethane							
methylene chloride							
trichlorofluoromethane							
ethene, 1,1-dichloro							
ethane, 1,1-dichloro-							
1,2-trans-dichloroethene			↓				
chloroform			trace				
ethane, 1,2-dichloro-			u				
ethane, 1,1,1-trichloro-							
carbontetrachloride							
bromodichloromethane							
propane, 1,2-dichloro-							
1,3-trans-dichloropropene							
trichloroethylene							
chlorodibromomethane							
benzene							
thane, 1,1,2-trichloro-							
is-dichloropropene							
loroethyl vinyl ether							
bromoform							
ethane, 1,1,2,2-tetrachloro-							
thene, tetrachloro-				↓			
toluene				trace			
chlorobenzene				u			
thylbenzene		↓	↓	↓			
acetone		5 ug/l	u	u			
-butanone							
arbondisulfide							
2-hexanone							
4-methyl-2-pentanone							
tyrene							
vinyl acetate				↓			
xylenes (total)		↓	↓	trace			

RECEIVED
MAR 13 1989
SUPERFUND BRANCH
SOLID WASTE MANAGEMENT SECTION

J - Estimated value.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected. The number is the Minimum Detection Limit.
- - Not analyzed.
1/ - tative identification.
2/ - NRDC List of Priority Pollutants.

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

03350-3356 → diluted 5.0g soil or 10.0g soil in lab distilled H_2O; purged 5 ml of the H_2O (soil sparging device broke)

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

ORGANIC CHEMICAL ANALYSIS

PURGEABLE COMPOUNDS	LAB NO	803348	803349	803350	803351	803352	803353
	FIELD #	4241	4242	4243	4244	4245	4246
COMPOUND	TYPE	(3)	(3)	(3)	(3)	(3)	(3)
	UNITS	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg
chloromethane		5 ug/g	688 J	U	U	U	U
bromomethane			U				
dichlorodifluoromethane							
vinyl chloride							
chloroethane							
methylene chloride							
trichlorofluoromethane							
ethene, 1,1-dichloro							
thane, 1,1-dichloro-							
2-trans-dichloroethene							
chloroform							3J
thane, 1,2-dichloro-							U
thane, 1,1,1-trichloro-							
carbontetrachloride							
bromodichloromethane							
propane, 1,2-dichloro-							
3-trans-dichloropropene							
trichloroethylene							
dibromomethane							
benzene							
thane, 1,1,2-trichloro-							
3-cis-dichloropropene							
2-chloroethyl vinyl ether							
bromoform							
ethane, 1,1,2,2-tetrachloro-							
thene, tetrachloro-		↓	↓		↓	↓	↓
toluene		3J	1J		2J	trace	U
chlorobenzene		U	4J	↓	U	U	trace
ethylbenzene	↓	32	92	4J	↓	5	U
acetone	5 ug/g	U	U	U	U	U	U
2-butanone (MEK)				200	189	234	
carbondisulfide				U	U	U	
2-hexanone					16	17	
4-methyl-2-pentanone					U	U	
styrene							
vinyl acetate		↓	↓	↓		↓	↓
xylenes (total)	↓	298	3812	271	↓	243	trace
tetrahydrofuran	5 ug/g	U	U	30	36	38	8

RECEIVED
SOLID WASTE MANAGEMENT SECTION
SUPERFUND BRANCH

J - Estimated value.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
" - Material was analyzed for but not detected. The number is the Minimum Detection Limit.
- - Not analyzed.
T - Tentative identification.
2/ - EPA/RDC List of Priority Pollutants.

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

* THF has been identified in some trip blanks; possible contamination from lab distilled H_2O

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

ORGANIC CHEMICAL ANALYSIS

PURGEABLE COMPOUNDS---	LAB NO	803354	803355	803356			
	FIELD #	4247	4248	4249			
COMPOUND	TYPE	(3)	(3)	(3)	( )	( )	( )
	UNITS	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg
chloromethane		5 µg/g	u	u	u		
bromomethane							
dichlorodifluoromethane							
vinyl chloride							
chloroethane							
methylene chloride							
trichlorofluoromethane							
ethene, 1,1-dichloro							
thane, 1,1-dichloro-							
,2-trans-dichloroethene							
chloroform							
thane, 1,2-dichloro-							
thane, 1,1,1-trichloro-							
carbontetrachloride							
bromodichloromethane							
ropane, 1,2-dichloro-							
,3-trans-dichloropropene							
trichloroethylene							
chlorodibromomethane							
enzene							
hane, 1,1,2-trichloro-							
is-dichloropropene							
roethyl vinyl ether							
bromoform							
ethane, 1,1,2,2-tetrachloro-							
hene, tetrachloro-		↓		↓			
luene		9		25			
chlorobenzene		u		u			
nylbenzene	↓	↓	↓	21			
acetone	5 µg/g	u	u	u			
butanone (MEK)		66	100	77			
bondisulfide		u	u	u			
2-hexanone		20	16	25			
4-methyl-2-pentanone		u	u	u			
styrene		↓	↓	↓			
vinyl acetate		↓	↓	↓			
xylenes (total)		trace	54	493			
tetrahydrofuran	↓	41	43	44			
(see note on 1st page)							

RECEIVED
MAR 13 1989
GROUND WATER BRANCH

J - Estimated value.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected. The number is the Minimum Detection Limit.
- - Not analyzed.
I/ - Tentative identification.
2/ - EPA/CLP List of Priority Pollutants.

N.C. Division of Health Services

DHS 3068-O (4/86 Laboratory)

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

G C REPORT SHEET

COMPANY: TRI-COUNTY AIRPORT

DATE OF ANALYSIS:

ppm

Sample #	Toxaphene	DDD	DDT	Methyl Parathion	Ethyl Parthion	EPN
803330	(255)	153	213	<	<	<
803331	15,403	379	2,461	<	<	<
803332	6,201	309	2,663	<	<	<
803333	(5,791)	23	4	<	<	<
803334	543	3	25	<	<	<
803335	(295)	11	4	<	<	<
803336	883	176	383	<	<	<
803337	<	5	2	<	<	<
803338	<	13	16	<	<	<
803339	651	146	243	<	<	<
803340	9,324	2,478	2,105	<	<	<
803341	14,289	191	665	<	<	<
803342	(2,594)	194	357	<	<	<
803343	22,950	1,683	11,364	<	<	<
803344	<	2	14	<	<	<
803345	(10)	(3)	(4)	<	<	<
803346	(2)	(<)	(<)	<	<	<
803347	<	1	<	<	<	<
803348	356,136	785	3,278	86,400	<	<
803349	1,124	45	620	77	<	<
803350	<	<	<	<	<	<
803351	29,309	783	4,974	<	<	921
803352	(89)	(49)	<	<	<	<
803353	(34)	11	<	<	<	<
803354	40,257	57	456	<	<	<
803355	(231)	<	<	<	<	<
803356	(12)	<	<	<	<	<
803359	<	<	<	<	<	<

( ) = Identified and quantitated by GC/ECD, NOT confirmed by mass spectrometer.

. Division of Health Services
DHS 3068-O (3/89 Laboratory)

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

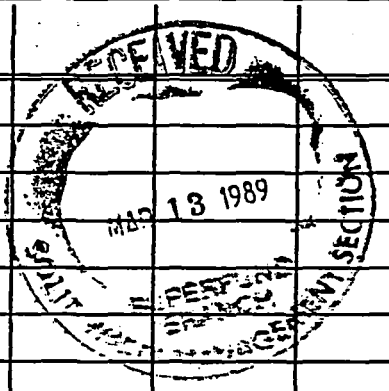
G C REPORT SHEET

COMPANY: TRI-COUNTY AIRPORT

DATE OF ANALYSIS:

ug/l

Sample #	Toxaphene	DDD	DDT	Methyl Parathion	Ethyl Parthion	EPN
803328	(1)	<	2	<	<	<
803357	1,228	185	229	<	<	<



( ) = Identified and quantitated by GC/ECD, NOT confirmed by mass spectrometer.

N.C. Division of Health Services
DHS 3068-O (3/89 Laboratory)

REFERENCE 14

22 February 1989

MEMORANDUM

TO: Lee Crosby, Head
Superfund Branch

FROM: Stan Atwood, Toxicologist SA
Superfund Branch

RE: Tri-County Airport
Hertford County

John Neal called today and reported that 3 ppb of DDT was detected in the well at the subject site. Higher concentrations of DDT, DDD, and toxaphene were detected in a water sample from a small stream draining the site. Soil samples were heavily contaminated. Assuming consumption of two liters of water per day for 70 years, the excess lifetime cancer risk would be about 3×10^{-5} or 1 in 35,000. It is unlikely that anyone would drink as much water as is assumed in the above calculations; however, pending further investigation, it would be prudent public health policy to recommend that the water not be used for drinking. The well should be resampled as soon as possible. Chuck Boyette, Hertford-Gates Health Department, was contacted and he agreed to resample the well next week.

SA/acr

DEPARTMENT OF HUMAN RESOURCES
INTER OFFICE MEMORANDUM

DATE 22 Feb 89

FROM

John Neal Tri-Cty Airport

2 ~~s~~ samples 1 gw + 1 sw

Sample 4221 - on site drinking well

[3 ppb DDT] resample

Surface water.

77 ppb DDT
58 ppb DDD
495 ppb Tox

DHR Form 2 (8/75)

REFERENCE 15

22 February 1989

MEMORANDUM

TO: File

FROM: Stan Atwood SA

RE: Tri-County Airport
Sampling Results

I called Henry Joyner, Airport Manager, to report that 3 ppb DDT was identified in the airport's well. I also told him that I would contact Mr. Chuck Boyette, Hertford-Gates Health Department, and arrange for resampling. Although the level of DDT detected does not pose an immediate threat (due to intermittent use by the public and low use by the airport staff), I told Mr. Joyner that it would be prudent to discontinue use as a drinking water source. Bottled water could be used pending further investigation.

SA/acr

REFERENCE 16

1 March 1989

MEMORANDUM

TO: File

FROM: Stan Atwood

RE: Tri-County Airport
Well Resampling

John Neal called to report that he had received a sample collected from the subject site well by Chuck Boyette, Hertford-Gates Health Department. The sample was negative for pesticides. John suggested that the well should be monitored for awhile to ensure that it is free of contaminants.

SA/acr

STAN ATWOOD

SUPERFUND BRANCH
401 OBERLIN ROAD

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

ORGANIC CHEMICAL ANALYSES – PUBLIC WATER SYSTEM

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

PESTICIDES

Name of System: Tri Co Airport

Address: _____

ZIP _____

County: Hertford

Report To: Chuck Boyette, RS

Address: Hertford-Gates Dist. Health Dept
Winton, N.C. ZIP 27986

Telephone Number: (919) 358-7833

Collected By: CGB

Date Collected: 2-27-89 Time: 10:30 ✓AM PM

Location of Sampling Point: _____
(Address where sample was collected)

Remarks: Send CC to Superfund Branch

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

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

Type of Sample:
(✓) Raw ( ) Treated

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

Type of Sample:
( ) Regular ( ) Private
(✓) Check ( ) Special

WATER SYSTEM I.D. NUMBER (COPY FROM MAILING LA
□□-□□-□□□

State Drinking Water Parameters (Required)	Results			Optional Parameters (List as needed)	Results
(CHLORINATED HYDROCARBONS:)				No common chlorinated	
Endrin	<0.0001	mg/l	5	pesticides identified.	
Lindane	<0.0004	mg/l	4		
Methoxychlor	<0.001	mg/l	3	DDT	<0.0001 ppm
Toxaphene	<0.002	mg/l	4	DDE	<0.0001 ppm
(CHLOROPHENOXYS:)				DDD	<0.0001 ppm
2,4-D		mg/l	3		
2,4,5-TP		mg/l	4		

Date Received 2-28-89 AA Date Reported 3-1-89 Reported By [signature]

Date Extracted 2-28-89 VP, AA Date Analyzed 2-28-89 VP Laboratory Number 90047
~~90047~~

Comments: cc. Ted Taylor
Stan Atwood

DHS Form 2886 7/79
Laboratory

~~FILE~~

Mildred A. Kert
Director

REFERENCE 17

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

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

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

24 April 1989

Mr. Henry Joyner, Manager
Tri-County Airport
Route 1, Box 36
Aulander, NC 27805

Dear Mr. Joyner:

On 6 March 1989, samples were collected at the Tri-County Airport from (1) a faucet near the wellhead and (2) a faucet within the airport terminal. Samples were analyzed for pesticides. No pesticides were detected in these samples.

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

Sincerely,

Lee Crosby

Lee Crosby, Head
Superfund Branch

LC/acr

cc: F. James Boehm, Health Director
Hertford County Health Department

SOLID AN. AZARDOUS WASTE MANAGEMENT B.

Chain of Custody Record

Hazardous Waste Materials

Location of Sampling: ___Generator ___Transport ___Treatment Fac
___Storage Facility ___Disposal Fac ___Landfill
✓ Other: _____

Company's Name Tri County Airport Telephone (919) 345-0111

Address Aulander, Hertford County, NC

Collector's Name Jack Butler (signature) Telephone (919) 733-2801

Date Sampled 3/6/89 Time Sampled _____

Type of Process Generating Waste Crop Dusting Wash off

Field Information

_____

_____

Field Sample No. 4299 4300 _____ _____ _____ _____ _____

_____ _____ _____ _____ _____ _____ _____

Chain of Possession:

	signature	title	inclusive dates
1.	Jack Butler	Env. Eng.	3-6→3-7-89
2.	Bruce Nichols	Env. Engr.	3/7/89
3.	Angela Arnette	Lab Tech.	3-7-89

Results reported

signature	title	date
_____	_____	_____

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

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

SAMPLE ANALYSES REQUEST

State Laboratory of Public H
P. O. Box 2
306 N. Wilmington S
Raleigh, 2

Site Number S1S460000810 Field Sample Number 4299

Name of Site TRI COUNTY AIRPORT Site Location Highway 561 Aulander, NC

Collected By JACK BUTLER ID# 59 Date Collected 3/6/89 Time

RECEIVED
APR 5 1989
SUPERFUND BRANCH
SOLID WASTE MANAGEMENT SECTION

Type of Sample:

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

Comments: Sample No. 1 Airport Terminal Well

INORGANIC CHEMISTRY

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

ORGANIC CHEMISTRY

Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/
___ P&T:GC/MS		___ EDB		✓ Methoxychlor	<0.001
___ Acid:B/N Ext.		___ PCB's		✓ Toxaphene	<0.002
___ TOX		___ Petroleum		✓ 2,4-D	<0.001
		✓ Endrin	<0.0001	✓ 2,4,5-TP (silvex)	<0.001
		✓ Lindane	<0.0004	✓ Pesticides DDT	<0.0001
				(DDT, DDE) DDE	<0.0001

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received 3-7-89 AA Date Reported 3/31/89

Date Extracted Pest 3-10-89 AA,VH,LB Herb 3-13-89 RW Date Analyzed Herb 3-15-89 RW, PEST 3/13/89 VP

Reported By John L. Nall Lab Number 900542

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

#900542-900543

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

SAMPLE ANALYSES REQUEST

State Laboratory of Public He
P. O. Box 28
306 N. Wilmington St
Raleigh, 27

Site Number SIS46D000810 Field Sample Number 4300

Name of Site TRI COUNTY AIRPORT Site Location

Collected By JACK BUTLER ID# 44 Date Collected 3/6/89 Time

RECEIVED
APR 5 1989
SUPERFUND BRANCH
SOLID WASTE MANAGEMENT SECTION

Type of Sample:

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

Comments: Sample No. 2 Wash off Well

INORGANIC CHEMISTRY

Extractables

Parameter	Results mg/1
___ Arsenic	
___ Barium	
___ Cadmium	
___ Chromium	
___ Lead	
___ Mercury	
___ Selenium	
___ Silver	

Total

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

ORGANIC CHEMISTRY

Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/
___ P&T:GC/MS		___ EDB		✓ Methoxychlor	<0.001
___ Acid:B/N Ext.		___ PCB's		✓ Toxaphene	<0.002
___ TOX		___ Petroleum		✓ 2,4-D	<0.001
		✓ Endrin	<0.0001	✓ 2,4,5-TP (silvex)	<0.001
		✓ Lindane	<0.0004	✓ Pesticides DDT (DDT, DDE) DDE	<0.00 <0.000

MICROBIOLOGY

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

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received 3-7-89 AA Date Reported

Date Extracted Pest 3-10-89 AA, VB, LB Herb 3-15-89 BDPW Date Analyzed Herb 3-16-89 PES 3/13/89 VP

Reported By Lab Number

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

REFERENCE 18

DATE: October 20, 1999
MEMO TO: FILE
FROM: Jeanette Stanley

Site Name	Tri-County Airport
Site Address	NC 561
Site City	Aulander
County	Hertford
NCD#	NON CD0 000 021
Contact Name	Mr. Joyner
Contact Number	(252) 345-9962

After the flooding caused by Hurricane Floyd (September 15 - 16, 1999), I reviewed this site file to determine the current site status, to determine flooding status, and to determine if there was any remaining threat posed by this site. I also called the above contact. Following is a summary of the current site status.

Site has not been flooded.

The end of an airstrip was apparently used for agricultural spraying. When investigated in 1989, rusted containers and areas of dead vegetation were observed. Numerous soil samples showed that the soil contains DDT, DDD, toxaphene, and methylparathion. A drinking water well showed DDT, and surface water showed site contaminants. No removal has been conducted. Annual mailings from Inactive Hazardous Sites Branch have gone unanswered. Site has never been screened under CERCLA. Recommend screening for CERCLA.

REFERENCE 19

NCDENR

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES

DIVISION OF WASTE MANAGEMENT

JAMES B. HUNT JR.
GOVERNOR

BILL HOLMAN
SECRETARY

WILLIAM L. MEYER
DIRECTOR

August 29, 2000

Ms. Jennifer Wendel
NC Site Management Section
US EPA Region IV Waste Division
61 Forsyth Street, 11th Floor
Atlanta, GA 30303

Subject: CERCLIS Site Addition (Pre-CERCLIS Site Screening)
Tri-County Airport
NC Highway 561
Aulander, Hertford County, NC
NCD: NON CDO 000 021

Dear Ms. Wendel,

Please add Tri-County Airport ("the Site") to the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS). Situated along rural Hwy 561, it is approximately eight miles northwest of Aulander, NC. Corresponding geographic coordinates are latitude 36° 18'07" and longitude 77° 10'46" (Reference 1).

Site Description.

The Site, which serves as the municipal airport for Hertford, Northampton, and Gates counties, resides on an estimated 85 acres. The region surrounding is primarily farming-based with interspersed marsh and woodlands. A discussion with the operations manager confirms the on-site water well as the only source of potable water.

Of specific concern to NCDENR is an isolated area -- approximately 80ft x 200ft -- northwest of the terminal and immediately adjacent to the end of the runway. Here, according to file documents (Reference 2), the mixing and loading of pesticides for aerial spraying took place unchecked for almost 20 years.

Preliminary Findings.

On September 21, 1988, responding to requests by local officials, representatives from the NC Department of Agriculture conducted a detailed assessment of the pesticide staging area. In addition to observing multiple abandoned tanks (above-ground) and a variety of rusted metal containers

1646 MAIL SERVICE CENTER, RALEIGH, NORTH CAROLINA 27699-1646
401 OBERLIN ROAD, SUITE 150, RALEIGH, NC 27605
PHONE 919-733-4996 FAX 919-715-3605

(Reference 2), particular consideration was given to the parcel's inability to support any vegetative cover. Corresponding analytical results (Reference 3) subsequently confirmed the presence of multiple compounds (DDT; 856 mg/kg, EPN; 1,939 mg/kg, methyl parathion; 5,774 mg/kg, and toxaphene; 15,835mg/kg) in the surface soil.

Water samples collected at this time by the Hertford-Gates County Health Dept. also identified DDT (3µg/kg) in the on-site supply well (Reference 4). It should be noted, the facility currently employs 15 to 20 fulltime personnel who potentially consume this water on a daily basis.

Conclusion.

Based on analytical data confirming the presence multiple pesticides in both the surface soil and water supply, the NCDENR Superfund Section is confident the Site would compile an HRS score greater than 28.5. As such, we recommend that it be added to CERCLIS as Tri-County Airport to initiate a Combined Preliminary Assessment/Site Inspection (PA/SI).

Should you have any questions or comments regarding the enclosed, please feel free to contact me at (919) 733-2801, EXT. 297 or by e-mail at joe.g.grant@ncmail.net.

Sincerely,

Joe Grant, Environmental Engineer
Site Evaluation and Removal Branch
Superfund Section

Dan LaMontagne, Head
Site Evaluation and Removal Branch
Superfund Section

Attachments: Lat/Long Calculation Sheet (Reference 1)
Preliminary Site Description (Reference 2)
Analytical Results (Reference 3)
Memo to File (Reference 4)

cc: Scott Ross
File

cc: (letter only)
Charlotte Jesneck

REFERENCE 20

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WASTE MANAGEMENT

MICHAEL F. EASLEY, GOVERNOR
WILLIAM G. ROSS, JR., SECRETARY
DEXTER R. MATTHEWS, INTERIM DIRECTOR

October 11, 2001

Ms. Jennifer Wendel
NC Site Management Section
US EPA Region IV Waste Division
61 Forsyth Street, 11th Floor
Atlanta, Georgia 30303

Subject: Sampling and Analysis Plan/Quality Assurance Project Plan
Tri-County Airport, NCN 000 407 205
Site Inspection (SI)
Aulander, Hertford County, North Carolina

Dear Ms. Wendel:

This letter contains the proposed Sampling and Analysis/Quality Assurance Project Plan (SAP/QAPP) for the Site Inspection (SI) on the Tri-County Airport site, tentatively scheduled for the week of November 5, 2001. The proposed samples include groundwater, surface water and sediments, background soils, and on-site soil samples.

The Tri-County Airport is located approximately eight miles northwest of Aulander, NC along Highway 561. The site is an isolated area – approximately 100ft x 25ft – north of the old terminal. The geographic coordinates for the site are 34° 10' 16.52" north latitude and 78° 49' 10.11" west longitude.

The Tri-County Airport, which serves as the municipal airport for Hertford, Northampton, and Gates counties, resides on an estimated 85 acres. The region surrounding the airport is primarily farming-based with interspersed marsh and woodlands. The site served as an area for mixing and loading of pesticides for aerial spraying, a practice that went unchecked for almost 20 years.

In September, 1988, responding to requests by local officials, representatives from the NC Department of Agriculture conducted a detailed assessment of the pesticide staging area. In addition to observing multiple abandoned above-ground tanks and a variety of rusted metal containers, particular consideration was given to the parcel's inability to support any vegetative cover. Corresponding analytical results confirmed the presence of DDT (856 mg/kg), ethyl parathion (1,939 mg/kg), methyl parathion (5,774 mg/kg), and toxaphene (15,835 mg/kg) in the surface soil. During this same period of time, the Hertford-Gates County Health Department also identified DDT (3 ug/kg) in an on-site supply well.

The Tri-County Airport, with two full-time employees, is currently supplied by the on-site well. The site is not fenced and is accessible to the public.

1646 MAIL SERVICE CENTER, RALEIGH, NORTH CAROLINA 27699-1646
401 OBERLIN ROAD, SUITE 150, RALEIGH, NC 27605
PHONE: 919-733-4996 \ FAX: 919-715-3605

Runoff from the site is expected to flow into a drainage ditch bordering the site. The National Wetland Inventory Maps have identified a palustrine scrub-shrub wetland bordering the site to the north and a palustrine emergent wetland northeast of the site. During dry weather conditions, the drainage ditch flows north approximately 25 feet into the wetland. During storm events, flow from the drainage ditch also flows east approximately 300 feet into a second drainage ditch which borders the runway. The second drainage ditch flows north for approximately 1.3 miles, whereupon it enters Cutawhiskie Creek. Cutawhiskie Creek is bracketted by palustrine forested wetlands and becomes contiguous with a wetland 3.75 miles downstream of the probable point of entry (PPE).

On-site Sampling

A source sample will be collected from the remaining tank on site (TCA-001-SR). The tank has an opening on the top surface from which the sample can be collected. The opening and holes caused by rusting and degradation over the years has allowed rainwater to mix with any remaining contents in the tank. Three soil samples (TCA-002-SS through TCA-004-SS) will be collected from the site: one from around the rusted barrels, one from underneath the end of the tank where leakage is evident, and one from the area where other tanks were previously located. Two soil samples (TCA-005-SS and TCA-006-SS) will be collected from the drainage ditch that borders the site to the northwest and the drainage ditch that borders the runway east of the site.

Off-site Sampling

The off-site sampling will include surface water, sediment, groundwater, and background soil samples. There are two surface water pathways for the site. Duplicate surface water and sediment samples will be collected in the isolated palustrine shrub-scrub wetland bordering the site (TCA-011-SW/SD and TCA-012-SW/SD). Background surface water and sediment samples (TCA-013-SW/SD and TCA-014-SD) will be collected from a palustrine forested wetland located approximately 1000 feet west of the site. A probable point of entry (PPE) sample (TCA-015-SW/SD) will be collected from Cutawhiskie Creek at the intersection of the drainage ditch from the site. The PPE is upstream of a potential fishery and a qualifying wetland. Background surface water and sediment samples (TCA-016-SW/SD and TCA-017-SD) will be collected upstream along Cutawhiskie Creek. An on-site well (TCA-009-PW) will be sampled due to the immediate public health threat to the drinking water. A background sample (TCA-010-PW) will be collected from a private well upgradient of the site. In addition, two background surface soil samples (TCA-007-SS and TCA-008-SS) will be collected from an area of similar soil and cover not believed to be impacted by the site.

This SAP/QAPP has been developed and sampling will be conducted in accordance with the NC Superfund Section Quality Assurance Program Plan (QAPP) and Quality Assurance Standard Operating Procedures (QASOP). The QASOP adopts by reference the Environmental Investigations Standard Operating Procedures and Quality Assurance Manual, May 1996, U. S. Environmental Protection Agency, Region 4. The Program Plan is derived directly from the EPA-Approved NC Department of Environmental and Natural Resources QA Plan for Data, 1999.

If you have any questions regarding this SAP/QAPP, please contact me at melanie.bryson@ncmail.net or (919) 733-2801 ext. 316.

Sincerely,

Melanie Bryson
Environmental Engineer
NC Superfund Section

Jack Butler, P.E.
Chief
NC Superfund Section

Approved: Irene Williams, Date: 10-11-01
Irene Williams
Quality Assurance Officer
NC Superfund Section

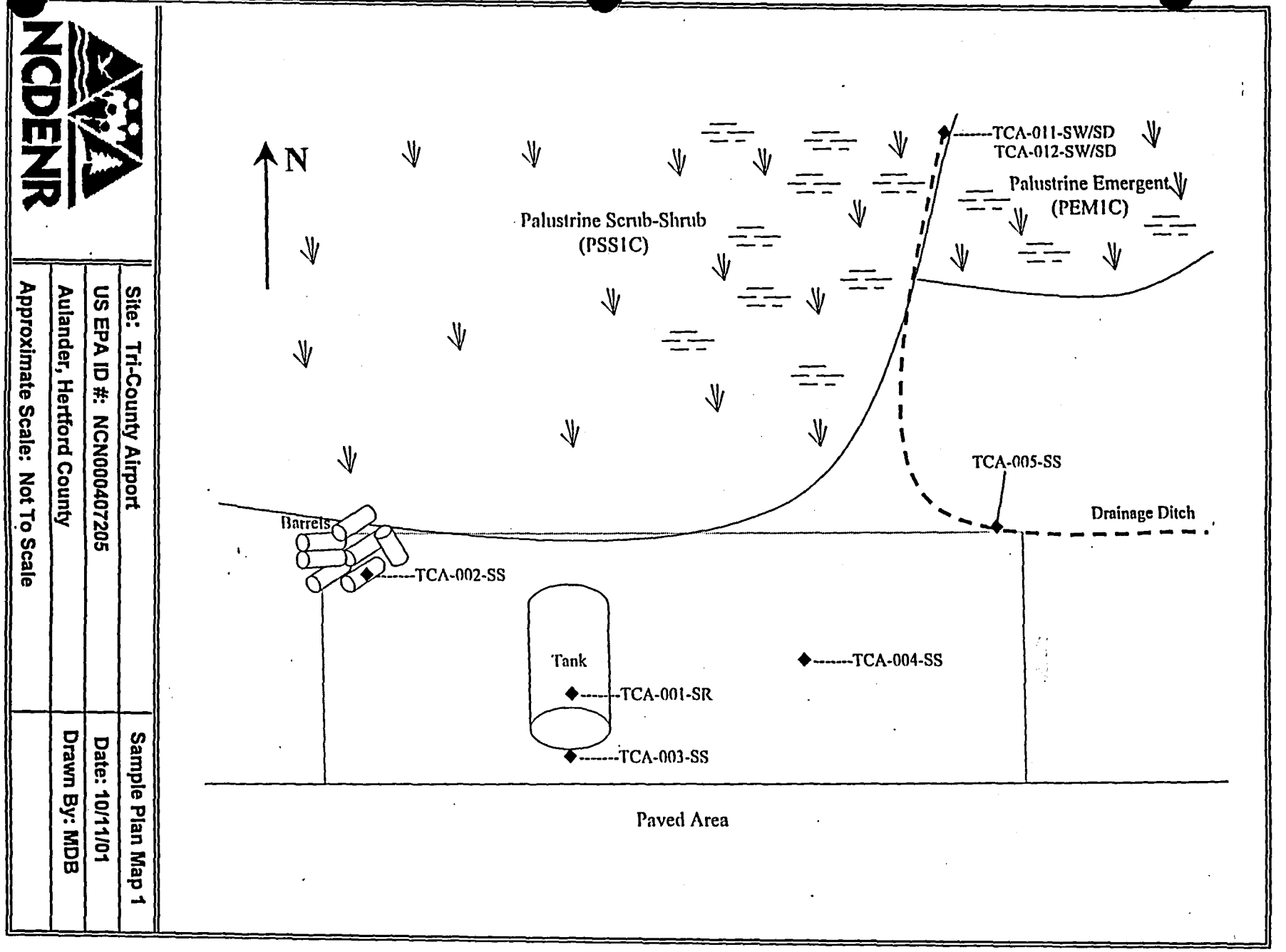
Approved: _____, Date: _____
Jennifer Wendel
NC Site Management Section
Region IV EPA

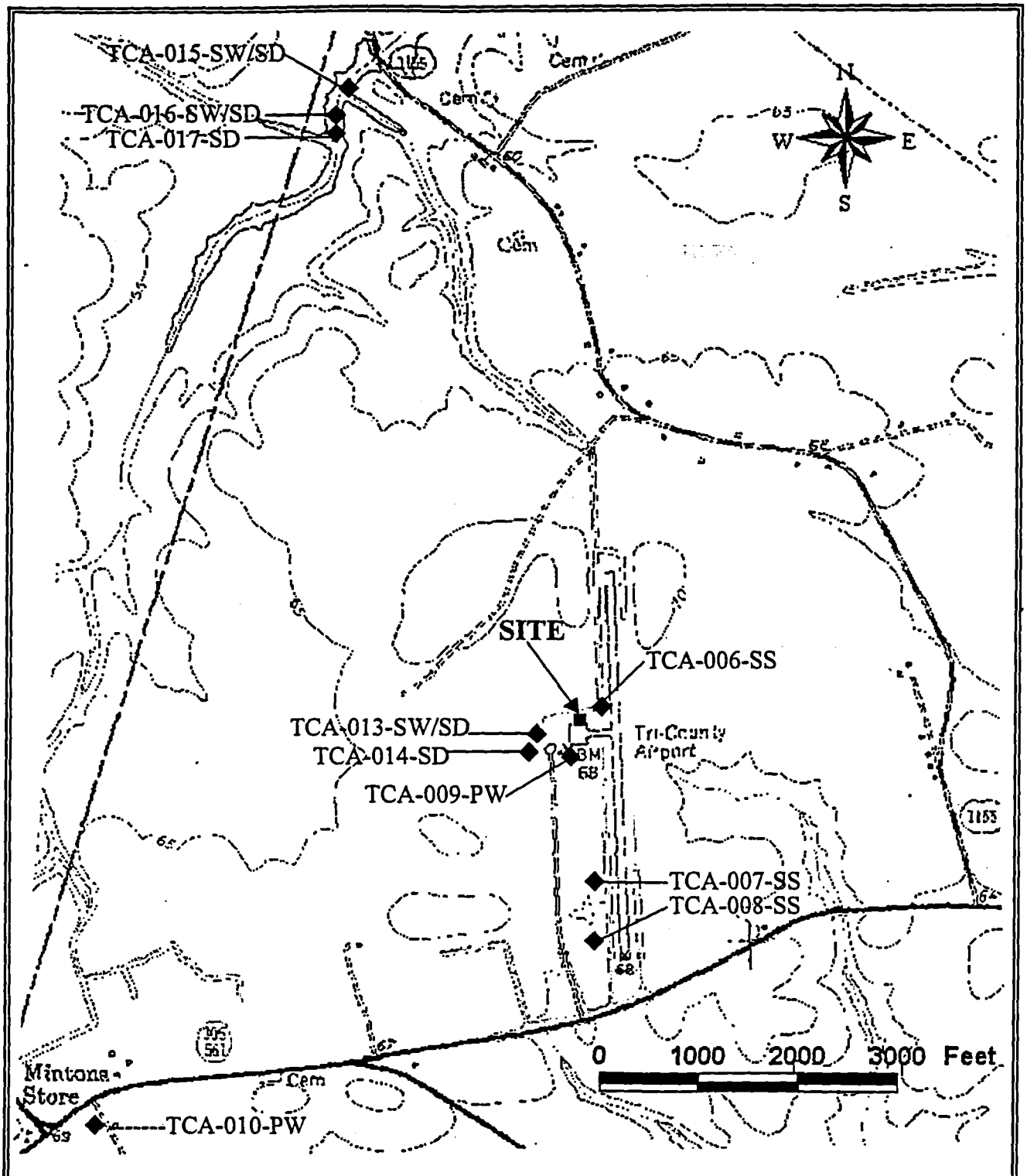
cc: File

Table of Samples
Tri-County Airport PA/SI
NCN 000 407 205
Aulander, Hertford County, NC
October 11, 2001

Sample ID	Location and Rational	Analyses
TCA-001-SR	Source sample from tank. Document source contaminants.	V,S,I,Pest
TCA-002-SS	Composite surface soil sample near rusted barrels in northwest corner of site. Document source area of on-site soil, 0"-6" depth.	V,S,I,Pest
TCA-003-SS	Grab surface soil sample near rusted tank on site. Document source area of on-site soil, 0"-6" depth.	V,S,I,Pest
TCA-004-SS	Composite surface soil sample near location of previous tanks. Document source area of on-site soil, 0"-6" depth.	V,S,I,Pest
TCA-005-SS	Grab surface soil sample from drainage ditch adjacent to site. Document overland flow pathway.	V,S,I,Pest
TCA-006-SS	Grab surface soil sample from drainage ditch adjacent to runway. Document overland flow pathway.	V,S,I,Pest
TCA-007-SS	Background surface soil sample; grab sample 0"-6".	V,S,I,Pest
TCA-008-SS	Background surface soil sample; grab sample 0"-6".	V,S,I,Pest
TCA-009-PW	On-site well; public health concern.	V,S,I,Pest
TCA-010-PW	Background private well.	V,S,I,Pest
TCA-011-SW	Surface water and sediment sample in isolated wetland adjacent to site. Document observed release to a qualifying wetland.	V,S,I,Pest
TCA-011-SD		V,S,I,Pest
TCA-012-SW	Duplicate of TCA-011-SW/SD.	V,S,I,Pest
TCA-012-SD		V,S,I,Pest
TCA-013-SW	Background surface water and sediment sample, qualifying wetland.	V,S,I,Pest
TCA-013-SD		V,S,I,Pest
TCA-014-SD	Background sediment sample, qualifying wetland.	V,S,I,Pest
TCA-015-SW	Surface water and sediment sample in Cutawhiskie Creek at intersection with drainage ditch from airport. Document release to surface water pathway.	V,S,I,Pest
TCA-015-SD		V,S,I,Pest
TCA-016-SW	Background surface water and sediment sample, upstream in Cutawhiskie Creek.	V,S,I,Pest
TCA-016-SD		V,S,I,Pest
TCA-017-SD	Background sediment sample, upstream in Cutawhiskie Creek.	V,S,I,Pest
TCA-018-TB	Trip blank; QA/QC sample	V(water)
TCA-019-SB	Soil blank; QA/QC sample	V(soil)
TCA-020-PB	Post-preservative blank; QA/QC sample	I

V=Volatile organics; S=Semi-volatile organics; I=Inorganics; Pest=Pesticides


NCDENR
Site: Tri-County Airport
US EPA ID #: NCN000407205
Aulander, Hertford County
Approximate Scale: Not To Scale
Sample Plan Map 1
Date: 10/11/01
Drawn By: MDB
N
Palustrine Scrub-Shrub
(PSS1C)
TCA-011-SW/SD
TCA-012-SW/SD
Palustrine Emergent
(PEM1C)
TCA-005-SS
Drainage Ditch
Barrels
TCA-002-SS
Tank
TCA-004-SS
TCA-001-SR
TCA-003-SS
Paved Area



NCDENR	Site: Tri-County Airport	Sample Plan Map 2
	US EPA ID #: NCN000407205	Date: 10/11/01
	Aulander, Hertford County	Drawn By: MDB
	Approximate Scale: See Above	

United States Environmental Protection Agency
Region IV
61 Forsyth Street
Atlanta, GA 30303

Facsimile Cover Sheet

TO: Melanie Bryson-NCDENR

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From: Jennifer Wendel-U.S. EPA

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FAX: (404)-562-8788

Office code: 11th fl

Date: October 18, 2001

Number of pages, including cover:

2

MESSAGE: approval page for SAP-Tri county

This SAP/QAPP has been developed and sampling will be conducted in accordance with the NC Superfund Section Quality Assurance Program Plan (QAPP) and Quality Assurance Standard Operating Procedures (QASOP). The QASOP adopts by reference the Environmental Investigations Standard Operating Procedures and Quality Assurance Manual, May 1996, U. S. Environmental Protection Agency, Region 4. The Program Plan is derived directly from the EPA-Approved NC Department of Environmental and Natural Resources QA Plan for Data, 1999.

If you have any questions regarding this SAP/QAPP, please contact me at melanie.bryson@ncmail.net or (919) 733-2801 ext. 316.

Sincerely,

Melanie Bryson
Environmental Engineer
NC Superfund Section

Jack Butler, P.E.
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Irene Williams
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REFERENCE 21

$69.00

FARM CHEMICALS HANDBOOK '93

PESTICIDE DICTIONARY

FERTILIZER DICTIONARY

REGULATORY FILE

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THE SINE INDEX

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Vol. 79
1993

FOREWORD

No other reference on fertilizers and crop protection chemicals matches the breadth and scope of the information included in this, the 79th Edition of the FARM CHEMICALS HANDBOOK.

Within the 836 pages of this HANDBOOK, you'll find a fertilizer dictionary, a pesticide dictionary, and a biocontrols dictionary, each with product-specific descriptions and environmental information. You'll also find a listing and brief summary of the federal laws impacting the manufacture, transport, and use of farm chemicals. Plus a 40-page section of environmental and safety guidelines. Plus a user-friendly buyers' guide to manufacturers and suppliers of fertilizers, crop protection chemicals, application equipment, and related supplies. Plus a listing of all companies included in the HANDBOOK, with complete addresses, phone and fax numbers, and contact names. Plus a 49-page index of every product, term, and regulation mentioned in the HANDBOOK.

I recommend you start your review of this edition with the Table of Contents on page A 4. Whether you're a regular user of the HANDBOOK or a new reader, the overviews of each section, together with the Sine Index, will prove invaluable in locating just the information you are seeking.

Compiling the FARM CHEMICALS HANDBOOK would be an impossible task without the cooperation of the companies included in the listings. To all of you who have assisted us by filling out forms and providing complete information on your products, our heartfelt thanks.

Charlotte Sine

Editorial Director

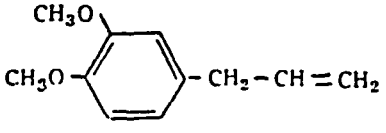
Safety Guidelines
SIGNAL WORD: DANGER.
TOXICITY CLASS: I.
TOXICITY: (Rat): Oral LD_{50} 214 mg/kg. Inhalation LC_{50} 3120 ppm (15 min.); 302 ppm (8 hrs.). (Human): Inhalation LC_{50} 60,000 ppm (2 hrs.). Methyl bromide is a poison and can cause respiratory distress, cardiac arrest and central nervous system effects. Overexposure may cause neurotoxic effects from which recovery may be slow. Methyl bromide demonstrates genotoxicity in several test systems at levels above the TLV. In 2 year inhalation cancer bioassay with rats at 3, 30 and 90 ppm, no tumors were observed. In two generation inhalation reproduction study with rats at 3, 30, 90 ppm, the no observed effect level was 3 ppm. At higher doses organ weight variation was observed in some off-spring.
PROTECTIVE CLOTHING: Avoid tight clothing, jewelry, gloves, and boots when handling methyl bromide. Methyl bromide may be trapped inside and cause skin irritation or injury. If full-face respiratory protection is not required, wear goggles or full-face shield for eye protection when handling liquid. Do not reuse contaminated clothing and shoes until thoroughly cleaned and aerated. Respiratory protection for enclosed spaces: If the concentration of methyl bromide in the worker area, as measured by a pump and appropriate detector tubes (for example, Draeger, Kitagawa, MSA, and Sensidyne), does not exceed 5 ppm (20 mg/M³), no respiratory protection is required. If this concentration is exceeded at any time, all persons in the fumigation area must wear a NIOSH/MSHA approved self-contained breathing apparatus (SCBA) or combination air-supplied/SCBA respirator.
HANDLING AND STORAGE CAUTIONS: Store in a locked, dry, cool, well ventilated area. Post as a pesticide storage area. Do not contaminate water, food, or feed by storage. Store cylinders upright, secured to a rack or wall to prevent tipping. Cylinders should not be subjected to rough handling or mechanical shock such as dropping, bumping, dragging, or sliding. Do not use rope slings, hooks, tongs or similar devices to unload cylinders. Transport cylinders using hand truck, fork truck or other device to which the cylinder can be firmly secured. Do not remove valve protection bonnet and safety cap until immediately before use. Replace safety cap and valve protection bonnet when cylinder is not in use. When cylinder is empty, close valve, screw safety cap on to valve outlet, and replace protection bonnet before returning to shipper. Only the registrant is authorized to refill cylinders. Do not use cylinders for any other purpose.
Emergency Guidelines
FIRST AID: Skin, wash thoroughly with soap, water for at least 15 minutes. Remove contaminated clothes, shoes immediately; thoroughly aerate before reuse. Destroy contaminated leather goods. Inhalation, remove to fresh air. Keep warm. Give artificial respiration if breathing has stopped. Get immediate medical aid.
EMERGENCY TELEPHONE: 501-862-5141 (Great Lakes).
BP: Great Lakes Chemical Corp.[1] (Brom-O-Gas*, Brom-O-Sol*, Meth-O-Gas*, Terr-O-Cide* II, Terr-O-Gas*)
Mebrom N.V. (Mebrom 50*, Mebrom 67*, Mebrom 75, Mebrom 98*, Mebrom 100)

Methyl Chloroform — see Trichloroethane.

Methyl Decanoate
Action/Use
ACTION: Plant growth regulator.
USE: An emulsion of this ester will debud chrysanthemums chemically.
Registration Notes
U.S.: Not available commercially.

Methyl Demeton — see Metasystox*.

Methyl Eugenol
Chemistry
COMPOSITION: (4-Allyl-1,2-Dimethoxybenzene).



Methyl Eugenol

Action/Use
ACTION: Oriental fruit fly attractant.
BP: Agri-Pharm Industries Inc.

Methyl Formate
Identification
CODE NUMBERS: CAS 107-31-3; SHA 053701.
Action/Use
ACTION: Fumigant.
USE: Formulated with carbon dioxide for use as a commodity fumigant.

Methyl Fosferno* — see Methyl Parathion.

Methyl Guthion* — see Azinphos-methyl.

Methyl Isoamyl Ketone
Identification
CODE NUMBER: CAS 110123.
Action/Use
ACTION: Solvent.

Methyl Isothiocyanate — see Vorlex*.

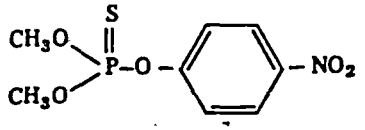
Methyl-Mercaptofos — see Demeton-O-Methyl.

Methyl-Mercaptofos Teolery — see Demeton-S; Metasystox (i).

Methyl Mercaptophos — see Metasystox (i)*.

Methyl Nonyl Ketone
Identification
CODE NUMBERS: CAS 112-12-9; SHA 044102.
Chemistry
PROPERTIES: Clear oily liquid at room temperature. Freezes at approximately 50°F. Specific gravity 0.826 ± .015 at 20°C. Stable under usual conditions of storage and use.
Action/Use
ACTION: Repellent.
USE: To prevent damage by stray animals to ornamental plantings. Anticribbing agent for horses; training aid for pets.
FORMULATIONS: Granules, pressurized sprays, regular sprays.
Environmental Guidelines
SOLUBILITY: Miscible in petroleum hydrocarbons and aromatics, alcohol, ether, and most common organic solvents. Insoluble in water.
Safety Guidelines
SIGNAL WORD: CAUTION.
TOXICITY CLASS: IV.
TOXICITY: 50 C (Rat): Oral LD_{50} 5000-10,000 mg/kg.
HANDLING AND STORAGE CAUTIONS: Ordinary good manufacturing practices and sanitation. Ventilate well. Store in closed drum in cool, dry place.
PROTECTIVE CLOTHING: None.
BP: McLaughlin Gormley King Co.[1] (MGK Dog and Cat Repellent*)

Methyl Parathion
Identification
COMMON NAMES: Parathion-methyl (BSI, ISO, ISI), methyl parathion (ESA, JMAF), metafos (USSR).
OTHER NAMES: Cekumethion* (Cequisa), Dimethyl Parathion, E 601, Gearphos*, Kilex Parathion*, Metaphos*, Partron M*, Penncap-M* (Atochem), Vegfru Klofos* (Pesticides India Ltd.), Tekwaisa*.
CODE NUMBERS: CAS 298-00-0; SHA 053501.
DISCONTINUED NAMES: Devithion* (Devidayal), Fosferno M50* (ICI Agrochemicals), Metron*, Nitrox* 80.
Chemistry
COMPOSITION: O,O-dimethyl-O-(4-nitrophenyl) phosphorothioate.
FAMILY: Organophosphate.
PROPERTIES: White crystals. Melting point 35-36°C. Specific gravity d 20°/4°C = 1.36. Vapor pressure 2.0×10^{-4} mbar at 20°C. Compatible with most other pesticides except alkaline materials.



Methyl Parathion

Action/Use
ACTION: Insecticide.
USE: Boll weevils; many biting, sucking insects in many crops.
COMBINATIONS: EPN; Galecron*; Lannate*; Parathion; Toxaphene.
FORMULATIONS: Dusts, emulsifible concentrates, ULV liquid, wettable powders.
Registration Notes
U.S.: Some or all applications may be classified as RUP.
Outside U.S.: For green leafhopper, stem borers, armyworm, cutworms, rice caseworms, leaffolders and rice bugs on rice (A-Gro*, Dygun*, Dypar*, Ekatox*, Folidol* M, Mepaton*, Meptox*, Methyl Fosferno*, Niletar*, Parapest M-50* (Planters Products), Toll*, Thylpar M-50*, Unidol*).
Environmental Guidelines
SOIL PARTICLE ADSORPTION: Believed to have little or no potential to contaminate ground water.
SOLUBILITY: In water (20°C) 55-60 mg/L. Readily soluble in dichloromethane, 2-propanol, toluene. Hardly soluble in n-hexane.
Safety Guidelines
SIGNAL WORD: DANGER.

Chemicals are cross-referenced by common and trade name.
* — Trade Name/R/TM BP — Basic Producer F — Formulator
[1]Information not updated by company for 1993.

TOXICITY CLASS: I.
TOXICITY: (Rat): Oral LD_{50} aprox. 50 mg/kg (male); 20 mg/kg (female). Dermal 491 mg/kg. Inhalation LC_{50} 135 mg/l (4 hr.).
HANDLING AND STORAGE CAUTIONS: See label. Store in original container, preferably in a locked area, away from children, feed, food. Do not heat above 55°C. Decomposes rapidly above 100°C, explosion may be induced.
Emergency Guidelines
FLASHPOINT: (80% in Xylene): 42°C (Pensky-Martens closed tester).
COMBUSION PRODUCTS: Thermal decomposition (e.g. fire) may produce dimethyl sulfide, sulfur dioxide, carbon monoxide, sulfur dioxide, carbon dioxide, phosphorus pentoxide, nitrogen oxides.
FIRE EXTINGUISHING MEDIA: Dry chemicals, carbon dioxide for small fires. Water spray or foam for large fires.
ANTIDOTE: Atropine, PAM, 2-PAMCI, 2-PAMM, Toxogonin® (Merck).
EMERGENCY TELEPHONE: 800-424-9300 (CHEMTREC).
BP: All India Medical Corp. (Paratox®)
Bayer India (Folidol® M, Metacide®)
CHEMIE AG Bitterfeld-Wolfen[1] (Wofatox®)
Cheminova Agro
Rallis India Ltd. (Parataf®)

Methyl Phencapton
Identification
OTHER NAME: G-30494.
CODE NUMBERS: CAS 3735-23-7; SHA 362200.
Chemistry
COMPOSITION: O,O-Dimethyl S-(2,5-dichlorophenylthio) methyl phosphorodithioate.
PROPERTIES: Methyl homolog of phencapton.
Action/Use
ACTION: Acaricide, insecticide.

Methyl Potasan®
Chemistry
COMPOSITION: O,O-Dimethyl O-(4-methylumbelliferone) phosphorothioate.
Action/Use
ACTION: Insecticide.

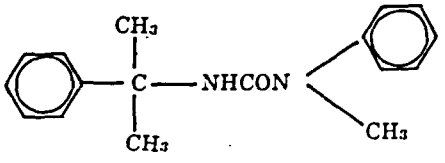
Methyl Sulfoxide — see Dimethyl Sulfoxide.

Methyl Thiophanate — see Thiophanate-Methyl.

Methyl Trithion®
(Discontinued 1971 by Stauffer Chemical Co.)
Chemistry
COMPOSITION: S-(((p-Chlorophenyl)thio)methyl) O,O-dimethyl phosphorodithioate.
Action/Use
ACTION: Insecticide-acaricide.

Methylated Fatty Acid
Used as pinching agents for woody ornamental plants. This group of chemicals works by killing the actively growing apical meristem, thus releasing the lateral buds along the stem from the dominant effect of the apex. The lateral buds grow and develop normally to produce a more dense, compact plant.

Methyldymron
Identification
OTHER NAMES: K-1441, Stacker®.
Chemistry
COMPOSITION: 1-(α,α-Dimethylbenzyl)-3-methyl-3-phenyl urea.
PROPERTIES: Odorless, colorless needle crystals, melting point 76°C.



Methyldymron

Action/Use
ACTION: Herbicide.
USE: Selective preemergence herbicide in turf, for control of cyperacious weeds and grasses such as barnyard grass and annual bluegrass. Good selectivity with methyldymron is obtained on turf, rice, corn, cotton, beans, sunflower, sugarcane, peanut, potato, and strawberry.
FORMULATIONS: Granules, wettable powder.
COMBINATIONS: Stacker-D WP® (methyldymron 50% + 2,4 - PA 12.5%).

Registration Notes
Outside U.S.: Registered only in Japan.
Environmental Guidelines
SOLUBILITY: 120 ppm in water (20°C). Soluble in organic solvents.
Safety Guidelines
TOXICITY CLASS: IV.
TOXICITY: (Rat): Oral LD_{50} 9000 mg/kg. (Mouse): 7700 mg/kg.
HANDLING AND STORAGE CAUTIONS: Stable against heat and light.
BP: SDS Biotech K.K.

Methylene Chloride
Identification
CODE NUMBER: CAS 75-09-2.
Action/Use
ACTION: Fumigant.
USE: Postharvest fumigation of strawberries, commodity fumigation of grains, with ethylene for degreening citrus fruits.

Methylmercury Acetate/Methylmercury-2,3-dihydroxypropyl Mercaptide
(Discontinued 1973 by Du Pont Agricultural Products.)
Identification
DISCONTINUED NAMES: Ceresan® L, Granosan® (Outside U.S. and Canada).
CODE NUMBERS: CAS 108-07-6, 2597-95-7.
Action/Use
ACTION: Mercurial seed disinfectant.

Methylmercury Benzoate
(Discontinued 1971 by Stauffer Chemical Co.)
Identification
CODE NUMBERS: CAS 3626-13-9; SHA 051904.
Action/Use
ACTION: Liquid seed treatment.

Methylmercury Dicyanodiamide — see Cyano(methylmercuri)-guanidine.

Methylmercury 2,3-Dihydroxypropylmercaptide/Methyl Mercury Acetate
Identification
CODE NUMBERS: CAS 108-07-6, 2597-95-7; SHA 051905.
Action/Use
ACTION: Seed treatment.
USE: For cotton, flax, small grains, safflower.

Methylmercury Hydroxide
Identification
CODE NUMBERS: CAS 1184-57-2; SHA 051906.
Action/Use
ACTION: Seed treatment.
USE: For cotton, flax, small grains.

Methylmercury Nitrile
(Discontinued 1970 by Chipman Chemicals Corp)
Identification
CODE NUMBERS: CAS 2597-97-9; SHA 051907.
DISCONTINUED NAMES: Chipcote®.
Action/Use
ACTION: Organic mercury seed treatment.

Methylmercury Pentachlorophenate
Action/Use
ACTION: Fungicide, seed treatment.

Methylmercury Propionate
Identification
CODE NUMBERS: CAS 5903-10-6; SHA 051908.
Action/Use
ACTION: Slurry seed treatment.
USE: For flax and small grains.

Methylmercury Quinolinolate
(Discontinued by Metasol Products)
Identification
DISCONTINUED NAMES: Ortho LM Apple Spray®, Ortho LM Concentrate®, Ortho LM Seed Protectant® (Chevron).
CODE NUMBERS: CAS 86-85-1; SHA 051902.
Action/Use
ACTION: Fungicide.

Methyl-metiram — Discontinued by BASF AG.

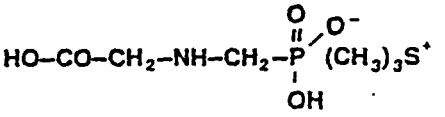
Metildiene K® — see Metam-Sodium.

Metilmerkaptofosoksid — see Metasystox-R®.

Metiltriazotion — see Azinphos-Methyl.

Metiram
Identification
COMMON NAME: Metiram (BSI).
OTHER NAMES: Carbatene® (Procida), NIA 9102, Polyram® DF, Zinc Metiram.

Torbidan*
Chemistry
COMPOSITION: Toxaphene (38.2%) + *methyl* parathion (19%).
Action/Use
ACTION: Insecticide.
USE: Provides effective control of most insect pests of rice (Philippines).
FORMULATIONS: Emulsifiable concentrate.
Torch* (bromoxynil) — Discontinued.
Tordon* — see Picloram.
Tormona* (2,4,5-T) — Discontinued 1984 by Celamerck.
Tornado* — see Fluazifop-butyl; Fomesafen.
Torpedo* — see Permethrin.
Torque* — see Fenbutatin-oxide.
Torus* — see Fenoxycarb.
Tota-col* — see Paraquat.
Totalene* — see Trichlorfon.
Totazina* — see Simazine.
Toterbane 50F* — see Diuron.
Totril* — see Ioxynil.
Touchdown*
Identification
COMMON NAME: Sulfosate.
OTHER NAME: ICIA-0224.
CODE NUMBERS: CAS 81591-83-3; SHA 128501.
DISCONTINUED NAME: SC-0224.
Chemistry
COMPOSITION: N-phosphonomethylglycine trimethylsulfonium salt.
PROPERTIES: Vapor pressure 3 × 10 Torr (25°C). Specific gravity 1.23 (20°C/20°C). Clear, straw to brown color. Density (20°C) 1.23 - 1.25 g/ml. Viscosity 26.6 centistokes (5°C).



Sulfosate

Action/Use
ACTION: Nonselective postemergence systemic herbicide.
USE: Controls broad range of annual and perennial grass and broadleaf weeds, and certain woody perennials. Foliar-applied and translocated, may be applied as a broadcast, band, wiper/wick treatment or a spot treatment when weeds are actively growing. A nonionic surfactant must be used.
FORMULATIONS: Water soluble liquid.
Environmental Guidelines
HAZARDS: Bird: Slightly toxic. Fish: Practically non-toxic. Bee: Slightly toxic.
SOIL PARTICLE ADSORPTION: Rapidly degraded in soil within days of application, depending on the soil type and the environmental conditions.
SOLUBILITY: In water, 430 g/100 ml (25° C).
Safety Guidelines
SIGNAL WORD: CAUTION.
TOXICITY CLASS: III.
TOXICITY: (Rat) Oral LD_{50} 750 mg/kg. (Rabbit) Dermal LD_{50} >200 mg/kg. (Rat) Inhalation LC_{50} >5.18 mg/l. Mild skin and eye irritation.
PROTECTIVE CLOTHING: Avoid contact with skin, eyes or clothing. When handling the concentrate, wear rubber gloves. Avoid breathing spray mist.
HANDLING AND STORAGE CAUTIONS: Do not store in galvanized steel or unlined steel containers. Do not contaminate water, food, feed, containers. Do not contaminate water, food, feed, fertilizer, or seeds by storage or disposal.
Emergency Guidelines
FLASHPOINT: >105°C.
FIRE EXTINGUISHING MEDIA: Water fog, alcohol foam, CO_2, dry chemical halogenated agents.
FIRST AID: Get medical aid. Eyes, flush immediately with plenty of water. Skin, wash thoroughly with soap and water. Remove contaminated clothing and shoes. Inhalation, remove to fresh air. Ingestion, drink several glasses of water and induce vomiting.
EMERGENCY TELEPHONE: 0622-812511 (ICI Agrochemicals).
BP: ICI Agrochemicals Inc.
Tough* — see Pyridate.
Tournois* — see Prochloraz.
Toxakil* — see Toxaphene.

Toxaphene
Identification
COMMON NAMES: Toxaphene (U.S.), polychlorocamthene (USSR), camphechlor (So. Africa, FAO).
CODE NUMBERS: CAS 8001-35-2; SHA 080501.
DISCONTINUED NAMES: Camphoclor*, Camphofene Huileux*, Motox*, Phenacide* Phenatox*, Strobane T-90* (Agro-Quimicas de Guatemala), Toxakil* (FMC), Toxon* 63 (Riverside).
Chemistry
COMPOSITION: Chlorinated camphene (content of combined chlorine, 67-69%).
Action/Use
ACTION: Insecticide.
Safety Guidelines
SIGNAL WORD: DANGER (methyl parathion combinations). WARNING.
TOXICITY CLASS: I (methyl parathion combinations). II.
TOXICITY: (Rat): Oral LD_{50} 69 mg/kg.
Strobane T-90 (Rat): Oral LD_{50} 90-120 mg/kg (male); 45-60 mg/kg (female).
Tox-Hid* — see Cov-R-Tox*; Warfarin.
Toxicant
A poisonous substance such as the active ingredient in pesticide formulations that can injure or kill plants, animals, or microorganisms.
Toxicity
Defined as the "quality, state, or degree of being ... poisonous." Acute toxicity results from a severe case of poisoning due to a single dose or exposure to a chemical (LD_{50}). Chronic toxicity is caused by repeated small doses over a considerable period, resulting in accumulation of the chemical in the body, or its effects are additive, bringing on illness or sometimes death. Dermal toxicity is a measure of the amount of a poison that can be absorbed through the skin of an animal to produce toxic symptoms.
Measurements of toxicity are usually compared at the fifty (50) percent level.
See LD_{50}; Hazard.
Toxicity (Human)
The AAPCO has adopted these regulatory principles relating to the determination of highly toxic materials:
"Highly Toxic: An economic poison which, when it falls within any of the following categories when tested on laboratory animals (mice, rats and rabbits), is highly toxic to man within the meaning of these principles:

A. "Oral toxicity: Those which produce death in half or more than half the animals of any species at a dosage of 50 milligrams at a single dose, or less, per kilogram of body weight when administered orally to 10 or more such animals of each species.
B. "Toxicity on inhalation: Those which produce death in half or more than half of the animals of any species at a dosage of 200 parts or less by volume of the gas or vapor per million parts by volume of air when administered by continuous inhalation for one hour or less to ten or more animals of each species, provided such concentration is likely to be encountered by man when the economic poison is used in any reasonably foreseeable manner.
C. "Toxicity by skin absorption: Those which produce death in half or more than half of the animals (rabbits only) tested at a dosage of 200 milligrams or less per kilogram of body weight when administered by continuous contact with the bare skin for 24 hours or less to 10 or more animals. Provided, however, that an enforcement official may exempt any economic poison which meets the above standard but which is not in fact highly toxic to man, from these principles with respect to economic poisons highly toxic to man, and may after hearing designate as highly toxic to man any economic poison which experience has shown to be so in fact."

TOXICITY CATEGORIES

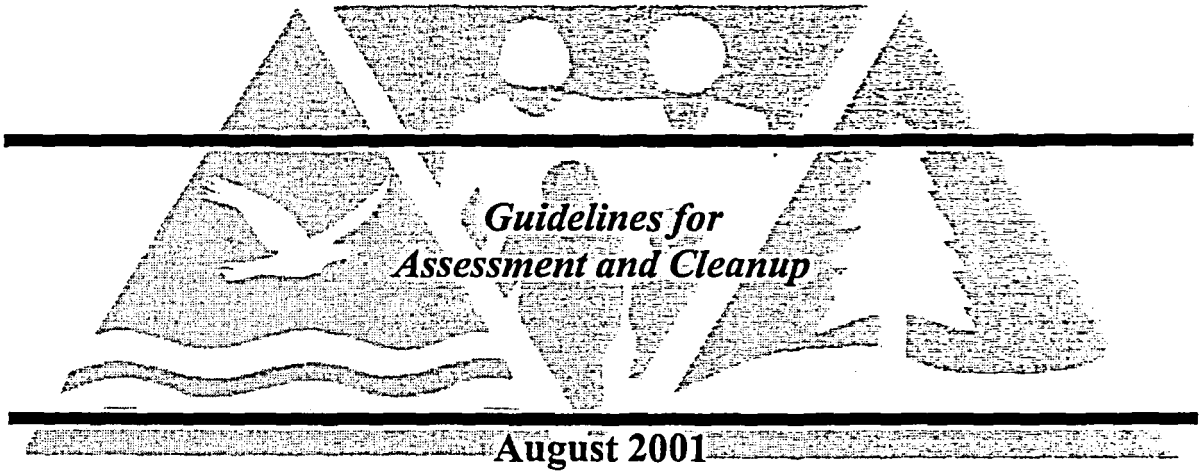
EPA has published regulations for use of human hazard signal words on pesticide labels:

Signal words assigned by levels of toxicity

A. Toxicity Category I
All pesticide products meeting the criteria of Toxicity Category I shall bear on the front panel the signal word "Danger." In addition, if the product was assigned to Toxicity Category I on the basis of its oral, inhalation, or dermal toxicity (as distinct from skin and eye local effects), the word "Poison" shall appear in red on a background of distinctly contrasting color and the skull and crossbones shall appear in immediate proximity to the word "Poison."
B. Toxicity Category II
All pesticide products meeting the criteria of Toxicity Category II shall bear on the front panel the signal word "Warning."

REFERENCE 22

Inactive Hazardous Sites Program



August 2001

NCDENR

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES

North Carolina Department of Environment and Natural Resources
Division of Waste Management
Superfund Section
Inactive Hazardous Sites Branch

401 Oberlin Road - Suite 150
Raleigh, North Carolina 27605
Telephone: (919) 733-2801

Table 4-1: Soil Remediation Goals[1]

** Hazardous substances identified with an asterisk exhibit both carcinogenic and non-carcinogenic effects. The carcinogenic remediation goal is listed because it is more stringent at the 1 x 10^{-6} risk concentration than the remediation goal for non-carcinogenic effects. Cleanup below method detection limits, using analytical methods prescribed in the guidelines, is not required.*

Chemical	CASRN	RG (ppm)	
Acetone	67641	320	N
Acetone cyanohydrin	75865	9.8	N
Acetophenone	98862	0.098	N
Acrolein	107028	0.02	N
Acrylamide *	79061	0.11	C
Acrylic acid	79107	5800	N
Acrylonitrile *	107131	0.21	C
Aldicarb	116063	12.2	N
Aldrin *	309002	0.029	C
Allyl alcohol	107186	62	N
Allyl chloride	107051	600	N
4-Aminopyridine	504245	0.24	N
Ammonium sulfamate	7773060	2400	N
Aniline*	62533	85	C
Antimony and compounds (not listed below)	7440360	6.2	N
Antimony pentoxide	1314609	7.8	N
Antimony potassium tartrate	304610	14	N
Antimony tetroxide	1332316	6.2	N
Antimony trioxide	1309644	6.2	N
Arsenic	7440382	4.4	N
Benzene*	71432	0.65	C
Benzidine *	92875	0.021	C
Benzoic acid	65850	48000	N
Benzotrichloride	98077	0.037	C
Benzyl chloride	100447	0.89	C
Beryllium and compounds	7440417	30	N
alpha BHC	319846	0.092	C
beta BHC	319857	0.32	C
gamma BHC (Lindane)*	58899	0.44	C
technical BHC (hexachlorocyclohexane, all isomers)	608731	0.32	C
Bis(2-chloroethyl)ether	111444	0.21	C
Bis(2-ethylhexyl)phthalate (DEHP)*	117817	35	C
Bis(chloromethyl)ether	542881	0.00019	C
Bromodichloromethane *	75274	1	C
Bromoform (tribromomethane)*	75252	62	C
Bromomethane	74839	0.78	N

See Footnotes page 4-13.

Table 4-1: Soil Remediation Goals[1] - (Cont.)

** Hazardous substances identified with an asterisk exhibit both carcinogenic and non-carcinogenic effects. The carcinogenic remediation goal is listed because it is more stringent at the 1 x 10^{-6} risk concentration than the remediation goal for non-carcinogenic effects. Cleanup below method detection limits, using analytical methods prescribed in the guidelines, is not required.*

Chemical	CASRN	RG (ppm)	
1-Butanol	71363	1220	N
Butyl benzyl phthalate	85687	2400	N
Cacodylic acid	75605	36	N
Cadmium and compounds	7440439	7.4	N
Captan*	133062	140	C
Carbaryl	63252	1220	N
Carbon disulfide	75150	72	N
Carbon tetrachloride *	56235	0.24	C
Chlordane *	57749	1.6	C
2-Chloro-1,3-butadiene	126998	0.72	N
4-Chloro-2,2-methylaniline hydrochloride	3165933	1.1	C
4-Chloro-2-methylaniline	95692	0.84	C
4-Chloroaniline	106478	48	N
Chlorobenzene	108907	30	N
Chlorobenzilate *	510156	1.8	C
4-Chlorobenzotrifluoride	98566	240	N
1-Chlorobutane	109693	142	N
Chloroethane*	75003	3	C
Chloroform *	67663	0.24	C
Chloromethane	74873	1.2	C
beta-Chloronaphthalene	91587	780	N
o-Chloronitrobenzene	88733	81	C
p-Chloronitrobenzene	100005	11	C
2-Chlorophenol	95578	12.6	N
o-Chlorotoluene	95498	32	N
Chlorpyrifos	2921882	36	N
Chromium III and compounds	16065831	24000	N
Chromium VI and compounds*	18540299	30	C
Copper and compounds	7440508	580	N
Crotonaldehyde *	123739	0.0053	C
Cumene	98828	32	N
Cyanide	57125	2.2	N
Cyclohexanone	108941	62000	N
Dalapon	75990	360	N
DDD	72548	2.4	C
DDE	72559	1.7	C

See Footnotes page 4-13.

Table 4-1: Soil Remediation Goals[1] - (Cont.)

** Hazardous substances identified with an asterisk exhibit both carcinogenic and non-carcinogenic effects. The carcinogenic remediation goal is listed because it is more stringent at the 1×10^{-6} risk concentration than the remediation goal for non-carcinogenic effects. Cleanup below method detection limits, using analytical methods prescribed in the guidelines, is not required.*

Chemical	CASRN	RG (ppm)	
DDT*	50293	1.7	C
Diallate	2303164	8	C
Diazinon	333415	11	N
Dibenzofuran	132649	58	N
1,2-Dibromo-3-chloropropane*	96128	0.45	C
1,2-Dibromoethane	106934	0069	C
Di-n-butyl phthalate	84742	1220	N
1,2-Dichlorobenzene	95501	1400	N
1,3-Dichlorobenzene	541731	2.6	N
1,4-Dichlorobenzene*	106467	3.4	C
3,3'-Dichlorobenzidine	91941	1.1	C
Dichlorodifluoromethane	75718	18.8	N
1,1-Dichloroethane	75343	118	N
1,2-Dichloroethane (EDC)*	107062	0.35	C
1,1-Dichloroethylene*	75354	0.054	C
1,2-Dichloroethylene (cis)	156592	8.6	N
1,2-Dichloroethylene (mixture)	540590	8.6	N
1,2-Dichloroethylene (trans)	156605	12.6	N
2,4-Dichlorophenol	120832	36	N
2,4-Dichlorophenoxyacetic acid (2,4-D)	94757	138	N
1,2-Dichloropropane*	78875	0.35	C
2,3-Dichloropropanol	616239	36	N
1,3-Dichloropropene *	542756	0.7	C
Dichlorvos *	62737	1.7	C
Dicofol	115322	1.1	C
Dieldrin *	60571	0.03	C
Diethyl phthalate	84662	9800	N
Diethylstilbestrol	56531	0.00014	C
Dimethoate	60515	2.4	N
3,3'-Dimethoxybenzidine	119904	35	C
3,3'-Dimethylbenzidine	119937	0.053	C
1,1-Dimethylhydrazine	57147	0.19	C
1,2-Dimethylhydrazine	540738	0.013	C
2,4-Dimethylphenol	105679	2400	N
Dimethyl phthalate	131113	122000	N

See Footnotes page 4-13.

Table 4-1: Soil Remediation Goals[1] - (Cont.)

** Hazardous substances identified with an asterisk exhibit both carcinogenic and non-carcinogenic effects. The carcinogenic remediation goal is listed because it is more stringent at the 1 x 10^{-4} risk concentration than the remediation goal for non-carcinogenic effects. Cleanup below method detection limits, using analytical methods prescribed in the guidelines, is not required.*

Chemical	CASRN	RG (ppm)	
1,2-Dinitrobenzene (o-Dinitrobenzene)	528290	4.8	N
1,3-Dinitrobenzene (m-Dinitrobenzene)	99650	12.2	N
1,4-Dinitrobenzene (p-Dinitrobenzene)	100254	4.8	N
2,4-Dinitrophenol	51285	24	N
2,4-Dinitrotoluene	121142	24	N
2,6-Dinitrotoluene	606202	12.2	N
Dinitrotoluene mixture	NA	0.72	C
Dinoseb	88857	12.2	N
Dioxins and Furans			
2,3,7,8-Heptachlorodibenzo-p-dioxin (2,3,7,8-HPeCDD)	NA	0.0004	C
2,3,7,8-Hexachlorodibenzo-p-dioxin (2,3,7,8-HxCDD)	NA	0.00004	C
Octachlorodibenzo-p-dioxin (OCDD)	NA	0.004	C
2,3,7,8-Pentachlorodibenzo-p-dioxin (2,3,7,8-PeCDD)	NA	0.000008	C
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	1746016	0.000004	C
2,3,7,8-Heptachlorodibenzofuran (2,3,7,8-HPCDF)	NA	0.0004	C
2,3,7,8-Hexachlorodibenzofuran (2,3,7,8-HxCDF)	NA	0.00004	C
Octochlorodibenzofuran (OCDF)	NA	0.004	C
1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-PeCDF)	NA	0.00008	C
2,3,7,8-Pentachlorodibenzofuran (2,3,7,8-PeCDF)	NA	0.000008	C
2,3,7,8-Tetrachlorodibenzofuran (2,3,7,8-TCDF)	NA	0.00004	C
Diphenylamine	122394	300	N
1,2-Diphenylhydrazine	122667	0.61	C
Diquat	85007	26	N
Disulfoton	298044	0.48	N
Diuron	330541	24	N
Endosulfan	115297	74	N
Endothall	145733	240	N
Endrin	72208	3.6	N
Epichlorohydrin	106898	1.52	N
Ethion	563122	6.2	N
2-Ethoxyethanol	110805	4800	N
Ethyl acetate	141786	3800	N
Ethyl acrylate	140885	0.21	C
Ethyl ether	60297	3200	N
Ethyl methacrylate	97632	42	N

See Footnotes page 4-13.

Table 4-1: Soil Remediation Goals[1] - (Cont.)

** Hazardous substances identified with an asterisk exhibit both carcinogenic and non-carcinogenic effects. The carcinogenic remediation goal is listed because it is more stringent at the 1 x 10^{-6} risk concentration than the remediation goal for non-carcinogenic effects. Cleanup below method detection limits, using analytical methods prescribed in the guidelines, is not required.*

Chemical	CASRN	RG (ppm)	
Ethylbenzene	100414	300	N
Ethylene diamine	107153	240	N
Ethylene oxide	75218	0.14	C
Ethylenethiourea (ETU)*	96457	4.4	C
Formaldehyde	50000	1856	N
Formic acid	64186	24000	N
Furfural	98011	36	N
Glycidaldehyde	765344	4.8	N
Heptachlor *	76448	0.11	C
Heptachlor epoxide *	1024573	0.053	C
Hexachlorobenzene*	118741	0.3	C
Hexachlorobutadiene *	87683	6.2	C
Hexachlorocyclopentadiene	77474	84	N
Hexachloroethane *	67721	35	C
Hexachlorophene	70304	3.6	N
Hydrazine	302012	0.16	C
Isophorone *	78591	510	C
Kepone	143500	0.027	C
Lead	7439921	400	2
Malathion	121755	240	N
Maleic anhydride	108316	1220	N
Maleic hydrazide	123331	340	N
Malononitrile	109773	0.24	N
Mercury (inorganic)	7439976	4.6	N
Methacrylonitrile	126987	0.42	N
Methanol	67561	6200	N
Methomyl	16752775	8.8	N
Methoxychlor	72435	62	N
2-Methyl benzenamine (2-methylaniline)	95534	2	C
2-Methyl benzenamine hydrochloride (2-methylaniline hydrochloride)	636215	2.7	C
Methyl chlorocarbonate	79221	12200	N
4,4'-Methylene bis(2 chloroaniline)*	101144	3.7	C
Methylene bromide	74953	13.4	N
Methylene chloride *	75092	8.9	C
Methyl ethyl ketone (MEK)	78933	1460	N

See Footnotes page 4-13.

Table 4-1: Soil Remediation Goals[1] - (Cont.)

** Hazardous substances identified with an asterisk exhibit both carcinogenic and non-carcinogenic effects. The carcinogenic remediation goal is listed because it is more stringent at the 1 x 10^{-4} risk concentration than the remediation goal for non-carcinogenic effects. Cleanup below method detection limits, using analytical methods prescribed in the guidelines, is not required.*

Chemical	CASRN	RG (ppm)	
Methyl hydrazine	60344	0.44	C
Methyl isobutyl ketone (4-methyl-2-pentanone)	108101	158	N
Methyl methacrylate	80626	440	N
Methyl parathion	298000	3	N
2-Methylphenol (o-cresol)	95487	620	N
3-Methylphenol (m-cresol)	108394	620	N
4-Methylphenol (p-cresol)	106445	62	N
Naled	300765	24	N
Nickel and compounds	7440020	320	N
Nitric oxide	10102439	1560	N
2-Nitroaniline	88744	0.7	N
Nitrobenzene	98953	4	N
4-Nitrophenol	100027	98	N
N-Nitrosodiethanolamine	1116547	0.17	C
N-Nitrosodiethylamine	55185	0.0095	C
N-Nitrosodimethylamine	62759	0.013	C
N-Nitrosodi-n-butylamine	924163	0.024	C
N-Nitroso di-n-propylamine	621647	0.0069	C
N-Nitrosodiphenylamine	86306	99	C
N-Nitrosopyrrolidine	930552	0.23	C
m-Nitrotoluene	99081	74	N
o-Nitrotoluene	88722	74	N
p-Nitrotoluene	99990	74	N
Octamethylpyrophosphoramide	152169	24	N
Paraquat	1910425	54	N
Parathion	56382	74	N
Pentachlorobenzene	608935	9.8	N
Pentachloronitrobenzene *	82688	1.9	C
Pentachlorophenol *	87865	3	C
Phenol	108952	7400	N
p-Phenylenediamine	106503	74	N
Phenylmercuric acetate	62384	0.98	N
Phorate	298022	2.4	N
Phosphine	7803512	3.6	N
Phosphorus (white)	7723140	0.32	N

See Footnotes page 4-13.

Table 4-1: Soil Remediation Goals[1] - (Cont.)

** Hazardous substances identified with an asterisk exhibit both carcinogenic and non-carcinogenic effects. The carcinogenic remediation goal is listed because it is more stringent at the 1 x 10^{-4} risk concentration than the remediation goal for non-carcinogenic effects. Cleanup below method detection limits, using analytical methods prescribed in the guidelines, is not required.*

Chemical	CASRN	RG (ppm)	
Phthalic anhydride	85449	24000	N
Polychlorinated biphenyls (PCBs)[3]	1336363	1	3
Polynuclear aromatic hydrocarbons			
Acenaphthene	83329	740	N
Anthracene	120127	4400	N
Benzo[a]pyrene	50328	0.062	C
Benzo[b]fluoranthene	205992	0.62	C
Benzo[k]fluoranthene	207089	6.2	C
Benz[a]anthracene	56553	0.62	C
Carbofuran	1563662	62	N
Chrysene	218019	62	C
Dibenz[a,h]anthracene	53703	0.062	C
Fluoranthene	206440	460	N
Fluorene	86737	520	N
Indeno(1,2,3-cd)pyrene	193395	0.62	C
Naphthalene	91203	11.2	N
2-methyl Naphthalene	91576	11.2	N
Pyrene	129000	460	N
Pronamide	23950585	920	N
Propargite	2312358	240	N
Propargyl alcohol	107197	24	N
Propazine	139402	240	N
Propylene oxide	75569	1.9	C
Pyridine	110861	12.2	N
Quinoline	91225	0.041	C
Selenious acid	7783008	62	N
Selenium	7782492	78	N
Selenourea	630104	62	N
Silver and compounds	7440224	78	N
Sodium fluoroacetate	62748	0.24	N
Strychnine	57249	3.6	N
Styrene	100425	3200	N
1,2,4,5-Tetrachlorobenzene	95943	3.6	N
1,1,1,2-Tetrachloroethane *	630206	3	C
1,1,2,2-Tetrachloroethane*	79345	0.38	C

See Footnotes page 4-13.

Table 4-1: Soil Remediation Goals[1] - (Cont.)

** Hazardous substances identified with an asterisk exhibit both carcinogenic and non-carcinogenic effects. The carcinogenic remediation goal is listed because it is more stringent at the 1 x 10^{-6} risk concentration than the remediation goal for non-carcinogenic effects. Cleanup below method detection limits, using analytical methods prescribed in the guidelines, is not required.*

Chemical	CASRN	RG (ppm)	
Tetrachloroethylene (PCE)*	127184	5.7	C
2,3,4,6-Tetrachlorophenol	58902	360	N
p,a,a,a-Tetrachlorotoluene	5216251	0.024	C
Tetraethyldithiopyrophosphate	3689245	6.2	N
Thallium and compounds	N/A	1.04	N
Thiofanox	39196184	3.6	N
Thiram	137268	62	N
Toluene	108883	3200	N
Toluene-2,4-diamine	95807	0.15	C
Toluene-2,6-diamine	823405	2400	N
p-Toluidine	106490	2.6	C
Toxaphene	8001352	0.44	C
1,1,2-Trichloro-1,2,2-trifluoroethane	76131	460000	N
1,2,4-Trichlorobenzene	120821	130	N
1,1,1-Trichloroethane	71556	126	N
1,1,2-Trichloroethane *	79005	0.84	C
Trichloroethylene (TCE)*	79016	2.8	C
Trichlorofluoromethane	75694	78	N
2,4,5-Trichlorophenol	95954	1220	N
2,4,6-Trichlorophenol	88062	44	C
2-(2,4,5-Trichlorophenoxy)propionic acid	93721	98	N
2,4,5-Trichlorophenoxyacetic acid	93765	122	N
1,1,2-Trichloropropane	598776	3	N
1,2,3-Trichloropropane *	96184	0.0014	C
1,3,5-Trinitrobenzene	99354	4.2	N
Vanadium	7440622	110	N
Vinyl acetate	108054	86	N
Vinyl chloride	75014	0.15	C
Xylene (mixed)	1330207	280	N
Zinc	7440666	4600	N
Zinc phosphide	1314847	4.6	N

1 - Adapted from USEPA Region IX, 2000 Preliminary Remediation Goal Table, except as noted.
2 - The RG is based on USEPA guidance on lead cleanup levels.
3 - The RG is based on USEPA policy for cleanup of PCBs at Superfund Sites. The Branch is currently reviewing the PCB remediation goal policy and may issue further guidance at a later date.
C - The RG is based on the carcinogenic endpoint and corresponds to an excess lifetime cancer risk of 1 in 1,000,000.
N - The RG is based on the non-carcinogenic endpoint and corresponds to a hazard quotient of 0.2.
NA - Not Available.

Table 4-2: Groundwater Remediation Goals

For each contaminant the lower of the 15A NCAC 2L standard or interim standard, the USEPA non-zero MCLG, or the USEPA MCL was retained as the remediation goal. All RG's unless otherwise specified by footnotes are the 15A NCAC 2L standard or interim standard. Cleanup below method detection limits, using analytical methods prescribed in these guidelines, is not required.

Chemical	CASRN	RG (ppb)
Acenaphthene	83329	80
Acenaphthylene	208968	210
Acetone	67641	700
Acrylamide	79061	0.01
Anthracene	120127	2100
Antimony[1]	7440360	6
Arsenic	7440382	50
Barium	7440393	2000
Benzene	71432	1
Benzoic acid	65850	28000
Benzo(a)anthracene	56553	0.05
Benzo(b)fluoranthene	205992	0.047
Benzo(k)fluoranthene	207089	0.47
Benzo(g,h,i)perylene	191242	210
Benzo(a)pyrene	50328	0.0047
Beryllium[1]	7440417	4
Bis(2-chloroethyl)ether	111444	0.031
Bis(2-ethylhexyl)phthalate	117817	3
Bromodichloromethane	75274	0.6
Bromoform	75252	0.19
n-Butylbenzene	104518	70
sec-Butylbenzene	135988	70
tert-Butylbenzene	980606	70
Butyl benzyl phthalate	85687	100
Cadmium	7440439	5
Caprolactam	105602	3500
Carbon disulfide	75150	700
Carbofuran	1563662	36
Carbon tetrachloride	56235	0.3
Chlordane	57749	0.027
Chlorobenzene	108907	50
Chloroethane	75003	2800
Chloroform	67663	0.19

Table 4-2: Groundwater Remediation Goals - (Cont.)

For each contaminant the lower of the 15A NCAC 2L standard or interim standard, the USEPA non -zero MCLG, or the USEPA MCL was retained as the remediation goal. All RG's unless otherwise specified by footnotes are the 15A NCAC 2L standard or interim standard. Cleanup below method detection limits, using analytical methods prescribed in these guidelines, is not required.

Chemical	*CASRN*	*RG (ppb)*
Chloromethane	74873	2.6
2-Chlorophenol	95578	0.1
2-Chlorotoluene	95498	140
Chromium	744073	50
Chrysene	218019	5
Copper	7440508	1000
Cyanide	57125	154
Dibenz(a,h)anthracene	537030	0.0047
Dibenzofuran	132649	28
1,2-Dibromo-3-chloropropane	96128	0.025
Dibromochloromethane	124481	0.41
ortho-Dichlorobenzene (1,2-Dichlorobenzene)[1]	95501	620
meta-Dichlorobenzene (1,3-Dichlorobenzene)	541731	620
para-Dichlorobenzene (1,4-Dichlorobenzene)	106467	75
p,p'-Dichlorodiphenyl Dichloroethane (DDD)	73548	0.14
p,p"-Dichlorodiphenyltrchloroethane (DDT)	500293	0.1
Dichlorodifluoromethane (Freon-12)	75718	1400
1,1-Dichloroethane	75343	700
1,2-Dichloroethane	107062	0.38
1,1-Dichloroethylene	75354	7
cis-1,2-Dichloroethylene	156902	70
trans-1,2-Dichloroethylene	156605	70
2,4-Dichlorophenoxy-acetic-acid (2,4-D)	94757	70
1,2-Dichloropropane	78875	0.56
1,3-Dichloropropene	542756	0.2
Dieldrin	60571	0.0022
2,4-Dimethylphenol	105679	140
Disulfoton	298044	0.28
Diethyl phthalate	84662	5000
Di-n-butyl phthalate	84742	700
Diquat[1]	85007	20
para-Dioxane	123911	7
2,3,7,8-tetrachlorodibenzo-p-Dioxin (2,3,7,8-TCDD)	1746016	2.2×10^{-7}

Table 4-2: Groundwater Remediation Goals - (Cont.)

For each contaminant the lower of the 15A NCAC 2L standard or interim standard, the USEPA non-zero MCLG, or the USEPA MCL was retained as the remediation goal. All RG's unless otherwise specified by footnotes are the 15A NCAC 2L standard or interim standard. Cleanup below method detection limits, using analytical methods prescribed in these guidelines, is not required.

Chemical	CASRN	RG (ppb)
Diphenyl	92524	350
Endosulfan II (beta-endosulfan)	115297	42
Endrin	72208	2
Ethyl acetate	141786	2600
Ethlylbenzene	100414	29
Ethylene dibromide	106934	0.0004
Ethylene glycol	N/A	7000
Fluoranthene	206440	280
Fluorene	86737	280
Heptachlor	76448	0.008
Heptachlor epoxide	1024573	0.004
Hexachlorobenzene	118741	0.02
Hexachlorobutadiene	87683	0.44
Hexachlorocyclohexane Isomers (total Hexachlorohexane: includes alpha, beta, delta, gamma, and epsilon isomer)	608731	0.019
Hexachlorocyclopentadiene[1]	608731	50
2-Hexanone	591786	280
Indeno(1,2,3-cd)pyrene	193395	0.047
Isophorone	78591	36.8
Isopropyl benzene	98828	70
Isopropyl ether	108203	70
Lead	7439921	15
Lindane	58899	0.2
Mercury	7439976	1.1
Methanol	67561	3500
Methoxychlor	72435	35
Methyl ethyl ketone	78933	170
Methylene chloride	75092	5
2-Methylnaphthalene	91576	28
3-Methylphenol (m-cresol)	108394	35
4-Methylphenol (p-cresol)	106445	3.5
Napthalene	91203	21
Nickel	7440020	100

Table 4-2: Groundwater Remediation Goals - (Cont.)

For each contaminant the lower of the 15A NCAC 2L standard or interim standard, the USEPA non-zero MCLG, or the USEPA MCL was retained as the remediation goal. All RG's unless otherwise specified by footnotes are the 15A NCAC 2L standard or interim standard. Cleanup below method detection limits, using analytical methods prescribed in these guidelines, is not required.

Chemical	CASRN	RG (ppb)
N-Nitrosodimethylamine	62759	0.0007
Pentachlorophenol	87865	0.3
Phenanthrene	85018	210
Phenol	108952	300
Phorate	298022	1.4
PCBs[1]	1336363	0.5
N-Propylbenzene	103651	70
Pyrene	129000	210
Selenium	7782492	50
Silver	7440224	18
Simazine[1]	122349	3.5
Styrene	100425	100
2,4,5-TP[1]	93765	50
1,1,2,2-Tetrachloroethane	79345	0.17
Tetrachloroethylene	127184	0.7
2,3,4,6-Tetrachlorophenol	58902	210
Thallium	7440280	2
Toluene	108883	1000
Toxaphene	8001352	0.031
1,2,4-Trichlorobenzene	120821	70
1,1,1-Trichloroethane	71556	200
1,1,2-Trichloroethane[1]	79005	5
Trichloroethylene	79016	2.8
1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	76131	210
Trichlorofluoromethane	75694	2100
1,2,3-Trichloropropane	96184	0.005
1,2,4-Trimethylbenzene	95636	350
1,3,5-Trimethylbenzene	108678	350
Vinyl chloride	75014	0.015
Xylenes	1320000	530
Zinc	1310000	2100

1 - USEPA MCL

REFERENCE 23

CERCLA

NORTH CAROLINA
DEPARTMENT OF CONSERVATION AND DEVELOPMENT
WILLIAM P. SAUNDERS, *Director*

Division of Mineral Resources
JASPER L. STUCKEY, *State Geologist*

Bulletin Number 73

GEOLOGY AND GROUND-WATER RESOURCES IN THE GREENVILLE AREA, NORTH CAROLINA

By

PHILIP M. BROWN
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PREPARED COOPERATIVELY BY THE GEOLOGICAL SURVEY
UNITED STATES DEPARTMENT OF THE INTERIOR

1959

INTRODUCTION

The purpose of the investigation on which this report is based was to determine the lithic character, areal extent, thickness, and water-bearing properties of the stratified rocks underlying the eight counties in the Greenville area, the potentiality for the development of additional water supplies from those rocks, and the chemical quality of the water they contain. This information was obtained by reviewing the available geologic and hydrologic literature on the area, by examining wells and recording pertinent data, by making chemical analyses of water samples from representative wells, and by conferring with well owners, well drillers, and town officials in regard to ground-water conditions in the area. The information was synthesized and arranged by counties in a report describing the entire area.

Location of Area

The Greenville area is in the northeastern section of the State (see fig. 1), a section that is predominantly rural. The report takes its name from the city of Greenville in Pitt County, the largest city in the area of investigation. It includes the following counties: Beaufort, Bertie, Chowan, Gates, Greene, Hertford, Martin, and Pitt.

Cooperation and Direction

The investigation was made by the Ground Water Branch, U. S. Geological Survey, in cooperation with the Division of Mineral Resources, North Carolina Department of Conservation and Development. The report was prepared under the general supervision of A. N. Sayre and P. E. LaMoreaux, former and present Chiefs, Ground Water Branch, U. S. Geological Survey, and J. L. Stuckey, State Geologist. Field investigations and preparation of the report were under the supervision of H. E. LeGrand, former District Geologist, Ground Water Branch, U. S. Geological Survey.

Previous Work

This report is the fifth in a series of areal reports (fig. 1) that are designed to give a preliminary or reconnaissance appraisal of ground-water conditions in the entire State. Emphasis has been placed on ground-water appraisals in areas of immediate economic interest. Previous information concerning the ground-water resources of the Greenville area is included in volume III of the North Carolina Geological and Economic Survey, entitled, "The Coastal Plain of North Carolina" (Clark, Miller, Stephenson, Johnson, and Parker, 1912).

[1]Information relative to the subsurface geology of the Greenville area is taken largely from Bulletin 71 of the North Carolina Division of Mineral Resources, entitled "Well Logs from the Coastal Plain of North Carolina", which was prepared by the writer in 1954-55 and published in 1958.

Acknowledgments

Many well drillers and town officials cooperated in making well data available during the course of the investigation. Officials and employees of the Heater Well Drilling Co., the Carolina Drilling and Equipment Co., the Layne Atlantic Co., and the Magette Well Drilling Co. were especially cooperative.

GEOGRAPHY

Area and Population

The area described in this report totals 3,589 square miles. Roughly classified, this total area consists of 1,319 square miles of cleared land and 2,270 square miles that is forested.

Total population in the eight counties of the area, according to the 1950 census, was 216,872, an average of 60.4 people per square mile. Urban population is centered in seven cities or towns that have a population in excess of 2,500. Total urban population is 44,914, or about 20 percent of the total population for the area. The remaining 80 percent of the total population is rural and is centered in and around some 40 incorporated and unincorporated towns and villages in the area. Population in the area has remained relatively static during the past decade. Six of the counties have gained slightly in population and two have lost.

Physiography

The Greenville area lies entirely within the Atlntic Coastal Plain province, which in North Carolina is characterized by a broad, flat surface that slopes gently toward the southeast. This surface represents an emerged ocean floor, a landward extension of the present ocean floor which forms the surface of the continental shelf. Marked topographic variations are lacking on the emerged surface; broad, flat interstream areas are the dominant topographic features; moderately dissected portions of the surface are confined to narrow belts bordering the major streams. Elevations in the area of investigation range from about 135 feet along the western border to sea level along Albemarle and Pamlico Sounds.

[1]References are on p. 197-200.

Hertford County
(Area 356 square miles, population 21,453)

Hertford County lies in the northern part of the Greenville area. The county abuts Virginia to the north and is bordered by the Chowan River to the east, Bertie County to the south, and Northampton County and the Meherrin River to the west. Ahoskie is the largest town in the county; other population centers include Winton (the county seat), Cofield, Harrellsville, Mapleton, Menola, and Murfreesboro.

The county is drained by the Meherrin River, the Wiccacon River, and Potecasi Creek, all of which drain into the Chowan River.

The sale of agricultural products provides the chief source of income in the county; tobacco and peanuts are the chief marketable crops. Small local industries are centered, for the most part, in and around Ahoskie and Murfreesboro.

Geology.—The county is covered by clays, sands, and gravels of Quaternary age which occur at elevations of from 80 to less than 15 feet above sea level. This material ranges in thickness from a few feet to more than 60 feet, the thickness generally being greatest in and adjacent to the Meherrin River and Chowan River valleys.

Underlying the surficial deposits are blue-gray clays, sands, marls, and shell beds of late Miocene age, the Yorktown formation. This formation is exposed intermittently along the major streams and occasionally in marl pits of the interstream areas. Individual beds in the Yorktown formation are lenticular and cannot be traced for long distances either at the surface or in the subsurface. Massive clay beds are predominant in the formation. Lenticular sand and shell beds, less common than the clays, are more prominent in the lower third of the formation. The thickness of the formation is variable and increases progressively from west to east across the county. In a well at Murfreesboro total thickness of the formation was 58 feet, a well at Ahoskie had a total thickness of 25 feet, and a well at Cofield had a total thickness of 70 feet. Data from adjoining counties indicates that the formation attains a thickness of 125 to 150 feet in eastern Hertford County. Underlying the Yorktown formation in eastern and central Hertford County are deposits of Paleocene age, the Beaufort formation. This formation typically is composed of beds of glauconitic sand and calcareous clay containing thin zones of indurated shells. The total thickness of this stratigraphic unit increases progressively from west to east. The Beaufort formation is 40 feet thick at Ahoskie and 200 feet thick at Colerain. West of a line through Ahoskie and Winton there is apparently an abrupt facies change in the Beaufort formation. Well cuttings in the western part of the county, from beneath the Yorktown formation and from bove the Tuscaloosa formation, are composed typically of coarse clastics containing a large percentage of relatively fresh feldspar grains and variable amounts of light-colored clays, silts, and lignitized wood fragments. This material is of deltaic origin and contemporaneous with downdip marine facies of the Beaufort, Peedee, and Black Creek formations. The manner or extent by which the downdip marine facies interfinger with the updip deltaic facies cannot be determined from available subsurface data. In a recently drilled well at Murfreesboro, 230 feet of nonfossiliferous material of deltaic origin was penetrated beneath the Yorktown and above the Tuscaloosa formations. At Winton, 10 miles downdip from Murfreesboro, a well penetrated more than 350 feet of fossiliferous marine strata, representing the Beaufort and Peedee formations.

Underlying the Beaufort formation in central and eastern Hertford County are sediments of Late Cretaceous age, the Peedee formation. According to LeGrand and Brown (1955, fig. 2) the Peedee formation lies at an elevation of about 150 feet below sea level in the central part of the county and at an elevation of about 400 feet below sea level in the extreme eastern part of the county.

The Black Creek formation or the Tuscaloosa formation underlies the Peedee formation in all parts of the county. The only available well samples from the county that indicate the presence of the Tuscaloosa formation are from a well at Murfreesboro. In this well 110 feet of the Tuscaloosa formation was penetrated, and the top of the formation is 255 feet below sea level. Deeper wells in the county will probably penetrate Lower Cretaceous sediments beneath the Tuscaloosa formation.

Ground water.—All public and private water supplies in the county are obtained from wells. Surficial sands and gravels of Quaternary age and near-surface sand and shell beds of late Miocene age yield 2 to 10 gpm to dug wells and driven wells that range in depth from 10 to 40 feet in all sections of the county.

In central and eastern Hertford County open-end and single-screen wells obtain water from sand and shell beds of the Yorktown formation and similar material in the Beaufort and Peedee formations at depths of from 60 to 300 feet. Inasmuch as no single

water-bearing horizons is recognized in the lenticular strata comprising these formations, the depth of individual wells, even in small localized areas, is quite variable. The jetted wells, generally 2 to 4 inches in diameter and rarely as much as 6 inches in diameter, yield 5 to 25 gpm in most localities. In the western part of the county jetted wells are common and generally average less than 200 feet in depth. The yield from wells in this area ranges between 10 and 25 gpm.

Several municipalities obtain water from drilled gravel-wall wells, 8 to 12 inches in diameter, that tap multiple aquifers of Paleocene and Cretaceous age. Wells of this type yield 200 to more than 1,000 gpm and have specific capacities ranging from 6 to 15 gpm per foot of drawdown.

The water level in the surficial material generally is within 10 to 20 feet of the land surface. Water in the deeper aquifers is under artesian pressure and rises in wells to within 30 to 40 feet of the land surface. However, flowing wells are common in the vicinity of Murfreesboro, north of Murfreesboro to the Virginia State line, and in topographically low areas bordering the major rivers and streams. Several wells in the vicinity of Como and Barretts Crossroads, which had previously flowed, are reported to have stopped flowing when large-capacity wells at Franklin, Virginia were placed in production.

The chemical quality of ground water in the county is adequate for most domestic purposes. However, water in some of the shallow aquifers may be corrosive and may contain objectionable amounts of iron. Water from shell beds of the Yorktown and Beaufort formations may be objectionably hard. The deeper "greensand" aquifers contain soft sodium bicarbonate waters. Several analyses of ground waters from aquifers below a depth of 300 feet show a fluoride concentration in excess of 2.0 ppm. However, the fluoride concentration, in most waters analyzed to date, is less than 1.0 ppm through the county. The depth to brackish waters ranges from more than 500 feet below the surface in the western part of the county to as little as 400 feet in the extreme eastern part of the county.

The following well logs describe the physical characteristics of the principal aquifers in Hertford County (see figure 10 for well location).

Hertford County

Well Number 13

Location: City well at Murfreesboro, North Carolina, located at the high school athletic field.
Owner: City of Murfreesboro
Date drilled: 1954
Driller: Heater Well Co.
Elevation of well: 64 feet above sea level

Hydrologic Information

Diameter of well: 12 inches
Depth of well: 432 feet
Cased to: 432 feet
Finish: Gravel wall and screens
Static (nonpumping) water level: 62 feet below land surface (1954)
Yield: 1,000 gallons a minute

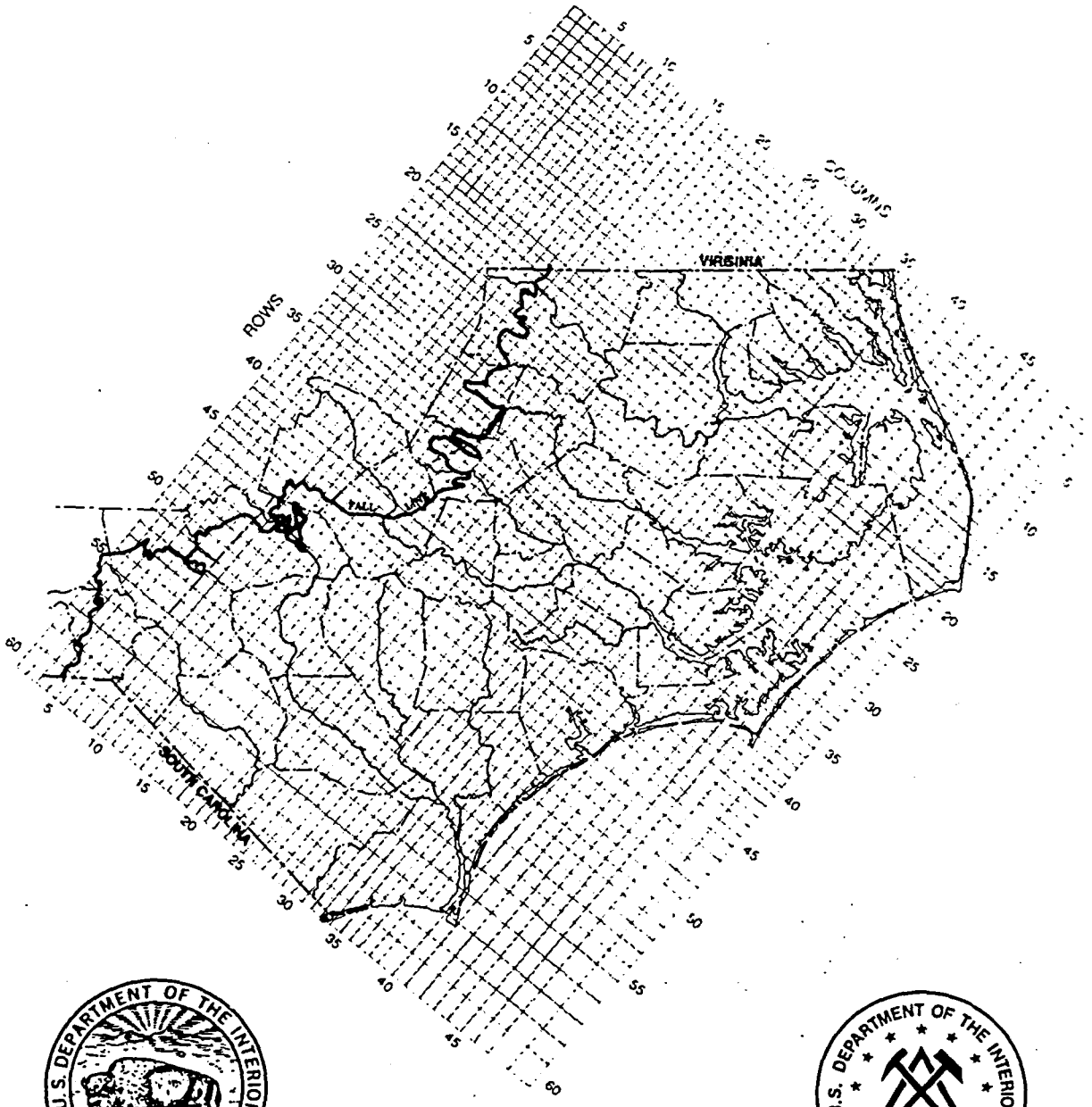
Log of Well

Depth (feet)	
	Quaternary—surficial sands and clays
0-6	Sand and clay, tan; 70 percent fine to very fine-grained angular quartz sand. 30 percent tan clay matrix, unconsolidated but compact.
6-30	Sand and clay, gray; 55 percent fine to medium-grained angular to subangular quartz sand. 45 percent gray clay matrix, unconsolidated but compact.
	Upper Miocene—Yorktown formation
30-40	Clay and sand, gray; 25 percent fine to medium-grained angular quartz sand. 65 percent blue-gray clay matrix, unconsolidated but very compact. 10 percent fine broken shell fragments. Trace of fine mica flakes. Ostracoda and Foraminifera common.
40-50	Clay and sand, gray; Same as 30-40-foot interval. Ostracoda and Foraminifera common.
50-58	Clay and sand, gray; Same as 30-40-foot interval. Ostracoda and Foraminifera common.
58-62	Marl, gray; 30 percent fine to medium-grained angular quartz sand. 35 percent fresh shell and shell fragments. 35 percent blue-gray clay matrix, unconsolidated. Ostracoda and Foraminifera common.
62-88	Marl, gray; Same as 58-62-foot interval. Ostracoda and Foraminifera common. Ostracoda from the 30-62-foot intervals include: *Cytherura elongata* Edwards *Puriana rugipunctata* (Ulrich and Bassler) *Actinocythereis exanthemata* (Ulrich and Bassler) *Actinocythereis mundorffi* (Swain) *Orionina vaughani* (Ulrich and Bassler) *Hemicythere confragosa* Edwards *Hemicythere schmidtae* Malkin *Cushmanidea ashermani* (Ulrich and Bassler)
	Paleocene (?) and *Upper Cretaceous(?)*—undifferentiated
88-105	Sand and clay, gray; 65 percent medium to fine-grained subrounded to angular quartz sand. 35 percent gray clay matrix, unconsolidated but tight. Trace of black lignitized wood fragments.
105-118	Sand and clay, gray; Same as 88-105-foot interval.
118-149	Sand and clay, brown; 60 percent medium to fine-grained subangular to angular quartz sand. 30 percent reddish-brown clay matrix, unconsolidated but very compact. 10 percent red hematite aggregates. Coarse mica flakes prominent.

REFERENCE 24

SIMULATION OF GROUND-WATER FLOW IN THE COASTAL PLAIN AQUIFER SYSTEM OF NORTH CAROLINA

U.S. GEOLOGICAL SURVEY
Open-File Report 90-372



SIMULATION OF GROUND-WATER FLOW IN THE COASTAL PLAIN AQUIFER SYSTEM OF NORTH CAROLINA

By G.L. Giese, J.L. Eimers, and R.W. Coble

U.S. GEOLOGICAL SURVEY

Open-File Report 90-372

Raleigh, North Carolina

1991

INTRODUCTION

The North Carolina Coastal Plain (fig. 1) covers an area of 25,000 mi² (square miles) in the eastern part of the State. This area includes about 47 percent of the State and encompasses all or parts of 47 counties.

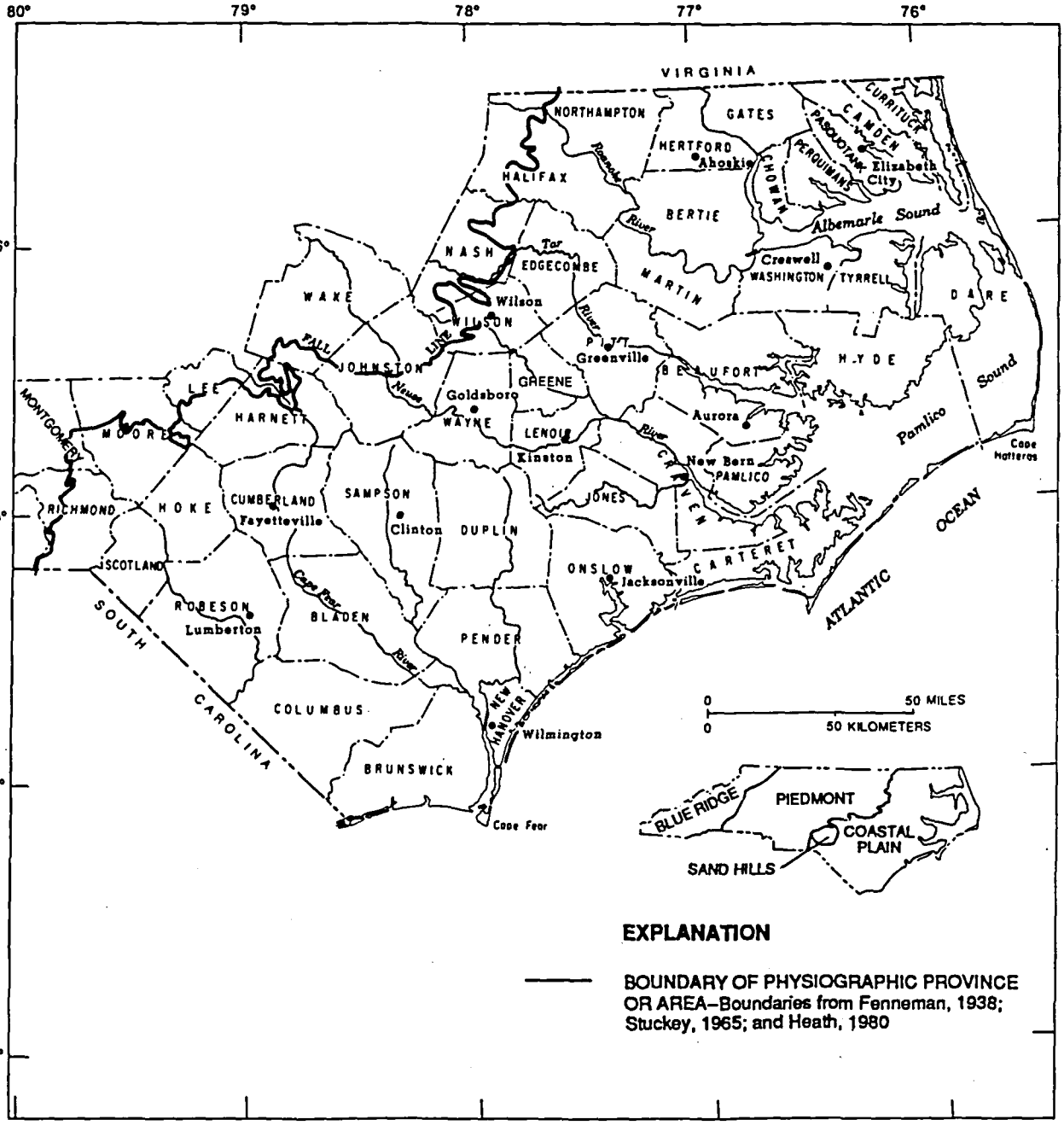


Figure 1.--Study area of the North Carolina Coastal Plain aquifer system.

aquifers they overlie. Thus, aquifer A1 is the lowermost aquifer and the confining unit overlying it is CU1. These designations are referred to frequently in this report.

Selected hydrogeologic sections were adopted from Winner and Coble (1989) to show the distribution of aquifers and confining units throughout the North Carolina Coastal Plain (figs. 5 through 9). The idealized sections show the thickening, thinning, and pinch-outs typical of these hydrogeologic units in the study area. Confining units are considered to terminate at the limit of the underlying aquifer. These relations are built into the modeling process, and the reader is referred to Winner and Coble (1989) for detailed geologic and hydrologic descriptions. Brief descriptions of each hydrogeologic unit are presented in this section.

Surficial Aquifer (A10)

The surficial aquifer (A10) overlies all of the North Carolina Coastal Plain (fig. 1) and consists of fine sand, silt, clay, shell, and peat beds. Scattered deposits of coarser-grained sediments in the unit occur in relict beach ridges or in alluvium. Throughout the western and central parts of the Coastal Plain, the thickness of the surficial aquifer ranges from a few feet to about 30 ft (feet); however, the aquifer thickens eastward and is more than 200 ft thick in the vicinity of the Outer Banks. The sediments of the surficial aquifer are primarily of post-Yorktown age, but are not restricted to a single geologic unit in terms of age or lithology (Winner and Coble, 1989).

The surficial aquifer (A10) directly overlies most of the confined aquifers at one place or another and exchanges water with them either directly or through an intervening confining bed. The surficial aquifer receives direct recharge from precipitation and is the source of water for the deeper confined aquifers and base flow to streams. The amount of recharge from precipitation varies areally from about 12 to 20 in/yr, depending on the clay content of the soils. Winner and Coble (1989) estimated the average horizontal hydraulic conductivity of the surficial aquifer to be 29 ft/d (feet per day). A more detailed description of movement of water within the surficial aquifer is given in the section entitled "Model Input."

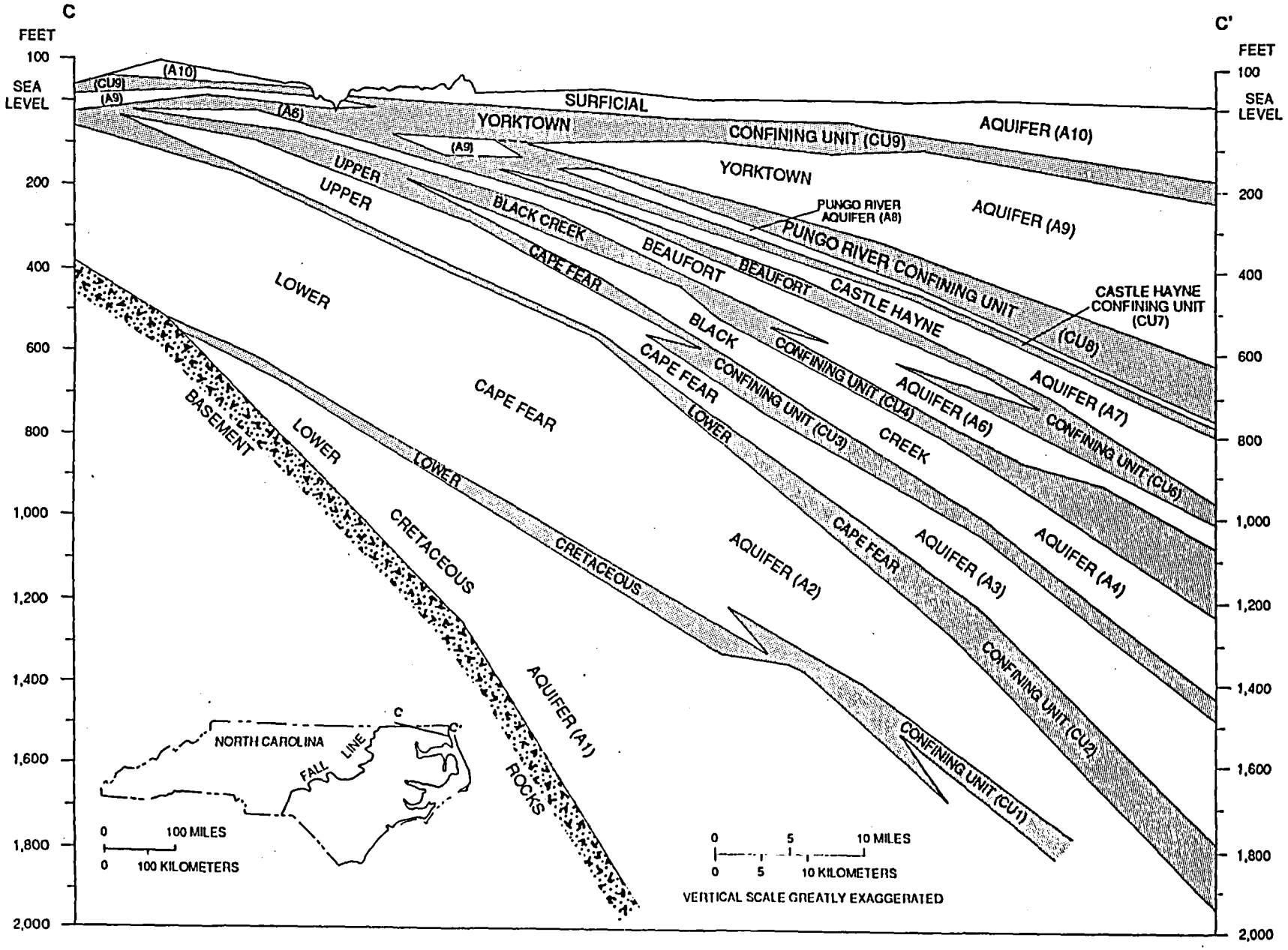


Figure 7.--Hydrogeologic section C-C′ from Southampton County, Virginia, to Currituck County, North Carolina (modified from Winner and Coble, 1989).

Yorktown Aquifer (A9) and Overlying Confining Unit (CU9)

The Yorktown aquifer (A9), is equated with the older beds of the Pliocene Yorktown Formation of Clark and others (1912) and extends throughout the northern half of the Coastal Plain (fig. 10) from the Fall Line, where it overlies crystalline rocks similar to those in the Piedmont, eastward to beyond the coast. The Yorktown aquifer is largely composed of fine sand, silty and clayey sand, and sand with shells and shell beds, with some limestone and coarse sand beds also present. In the western Coastal Plain, the aquifer is relatively thin, less than 20 ft thick in many places, and has been cut into or eroded away by the larger streams flowing across the area. In Dare County, the Yorktown aquifer attains its maximum thickness of over 300 ft.

The Yorktown aquifer (A9) does not extend into the southern half of the Coastal Plain, except for a small area in Robeson County (fig. 10) which is the largest of a number of outliers shown by Brown and others (1972, pl. 21). Figure 10 also shows the areal extent of aquifers that underlie the Yorktown aquifer. The surficial aquifer (A10) overlies the Yorktown aquifer everywhere.

The estimated horizontal hydraulic conductivity of the Yorktown aquifer (A9) ranges from 19 to 33 ft/d and averages about 21 ft/d, based on aquifer tests and lithologic- and geophysical-log data from 52 wells and test holes (Winner and Coble, 1989).

The Yorktown confining unit (CU9) overlying the Yorktown aquifer is comprised of the youngest clay beds of the Yorktown Formation in most places, but locally may include clay beds of Pleistocene or Holocene age. Its thickness averages about 25 ft, ranging from less than 10 up to 50 ft thick. It is composed largely of clay and sandy clay that locally includes beds of fine sand or shell. The Yorktown confining unit generally is considered to extend only as far as the Yorktown aquifer, even though stratigraphically equivalent beds may continue beyond the aquifer limits.

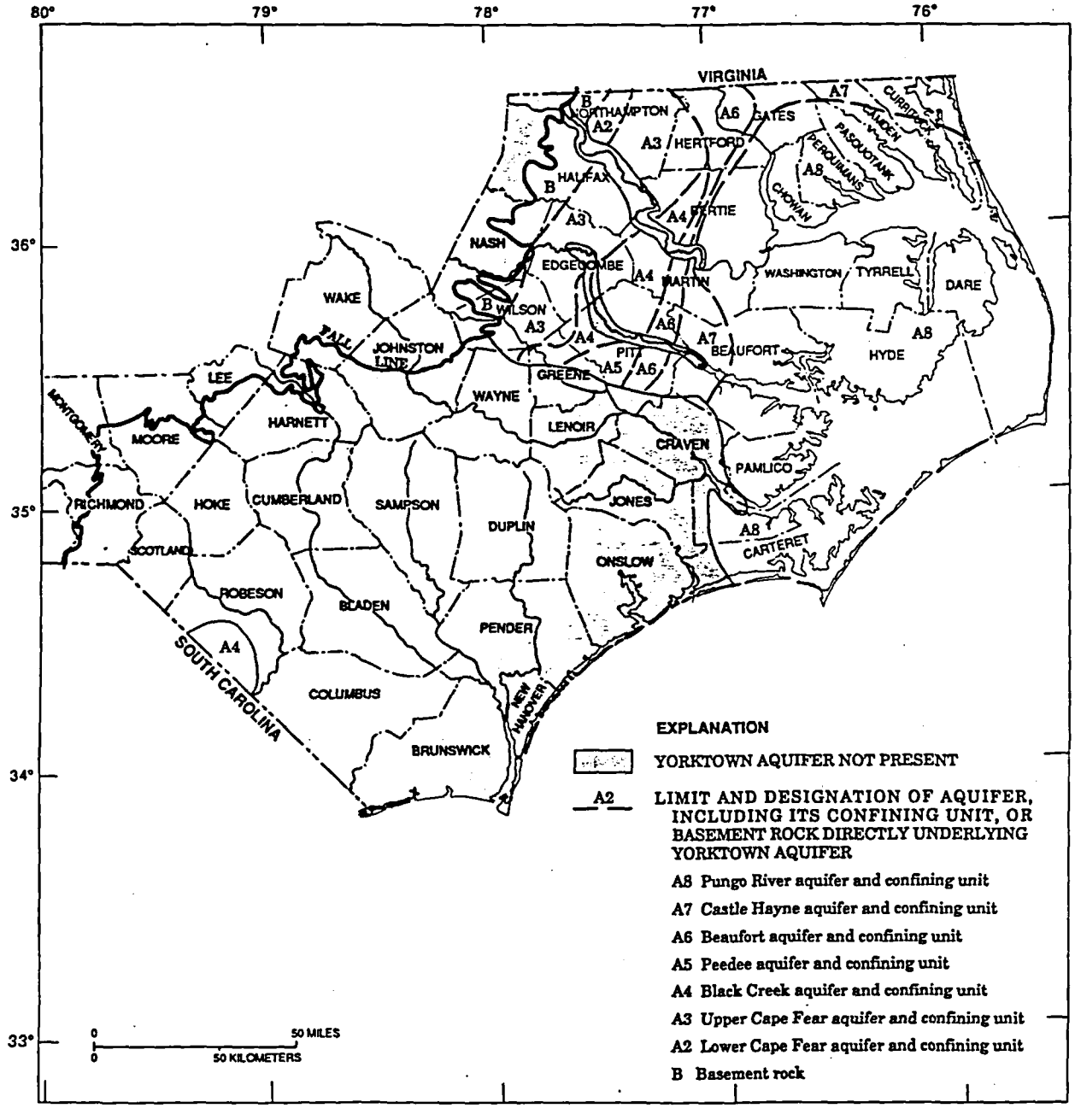


Figure 10.--Areal extent of the Yorktown aquifer (A9) and underlying aquifers or basement rock (modified from Winner and Coble, 1989).

consists mainly of a fine to medium sand, interbedded with silty clay, coarser channel sand, and thinly laminated sand and clay. The horizontal hydraulic conductivity of the Black Creek aquifer as estimated by Winner and Coble (1989) ranges from about 15 to 50 ft/d, based on geophysical logs and aquifer tests.

The Black Creek aquifer and confining unit (A4 and CU4) are overlain by the Peedee (A5 and CU5), Beaufort (A6 and CU6), and Yorktown (A9 and CU9), aquifers and confining units and by the surficial aquifer (A10) (fig. 17). The Peedee aquifer overlies the eastern two-thirds of the Black Creek aquifer and confining unit, and the surficial aquifer overlies the Black Creek from the Fall Line to the updip limit of the Peedee in the southern Coastal Plain, except for a small area in Robeson County where it is overlain by the Yorktown aquifer. The Yorktown and Beaufort aquifers overlie the Black Creek aquifer and confining unit along its western limit in the northern Coastal Plain.

The Black Creek confining unit (CU4) is primarily composed of the uppermost beds of the Black Creek Formation and consists of clay, silty clay, and sandy clay. In the northern part of the Coastal Plain, it may also include clay of the lower parts of the Beaufort or Yorktown Formations. In the deeper subsurface, clay in the lower part of the Peedee Formation may also be included as a part of this confining unit. In the Sand Hills area (see inset, fig. 1), where the Black Creek aquifer (A4) is composed of the Middendorf Formation, confining unit CU4 is composed of the uppermost clay of the Middendorf Formation. In the highly dissected Sand Hills, the Middendorf clay is cut through in many places by streams; thus the Black Creek confining unit does not exist at these locations. Farther east, the channels of larger streams, such as the Cape Fear and Neuse Rivers, also have cut through the confining unit to allow direct hydraulic connection between the streams and the Black Creek aquifer. The thickness of the confining unit averages about 45 ft but it may be more than 168 ft thick in places in the eastern part of the Coastal Plain.

Upper Cape Fear Aquifer (A3) and Overlying Confining Unit (CU3)

Winner and Coble (1989) recognized that the Upper Cretaceous Cape Fear Formation could be separated into two distinct hydrogeologic units, largely

on the basis of effective confining beds between the upper and lower parts in Brunswick and adjacent counties near the South Carolina border. The sediments of the upper Cape Fear aquifer (A3), (fig. 18) are alternating beds of sand and clay. The individual beds are commonly 3 to 5 ft thick, but range up to 15 ft thick.

The upper Cape Fear aquifer (A3) varies in thickness from about 10 ft along its western edge to nearly 500 ft in central Tyrrell County. The average thickness of the aquifer is slightly more than 100 ft. The aquifer is thickest beneath the Albemarle-Pamlico Peninsula east of Beaufort and Washington Counties. The horizontal hydraulic conductivity of the aquifer was estimated from geophysical logs to average about 30 ft/d, with values ranging from 20 to 70 ft/d (Winner and Coble 1989).

As described by Winner and Coble (1989), the upper Cape Fear confining unit (CU3) consists of nearly continuous clay, silty clay, and sandy clay beds belonging either to the Middendorf Formation in the Sand Hills area or to the Black Creek Formation. The thickness of the confining unit averages about 48 ft (Winner and Coble, 1989), but may exceed 100 ft in places near the South Carolina border, near the southeastern corner of Duplin County and in Dare County. Along the western limit of the upper Cape Fear aquifer (A3), the Cape Fear and Neuse Rivers have cut through the confining unit; the same is true along the Tar and Roanoke Rivers.

The upper Cape Fear aquifer and confining unit (A3 and CU3) are overlain by the Black Creek aquifer (A4) in about 90 percent of its area (fig. 18). The Yorktown aquifer (A9) overlies the upper Cape Fear in the northwest, and the Beaufort aquifer (A6) overlies it in parts of Gates and Hertford Counties. The lower Cape Fear aquifer and confining unit (A2 and CU2) underlie the upper Cape Fear aquifer (A3) in about three-fourths of its area (fig. 19). Elsewhere, the upper Cape Fear is in contact with basement rocks.

Lower Cape Fear Aquifer (A2) and Overlying Confining Unit (CU2)

The lower Cape Fear aquifer (A2) in figure 20 consists mostly of older sand beds of the Cape Fear Formation similar to those beds described for the

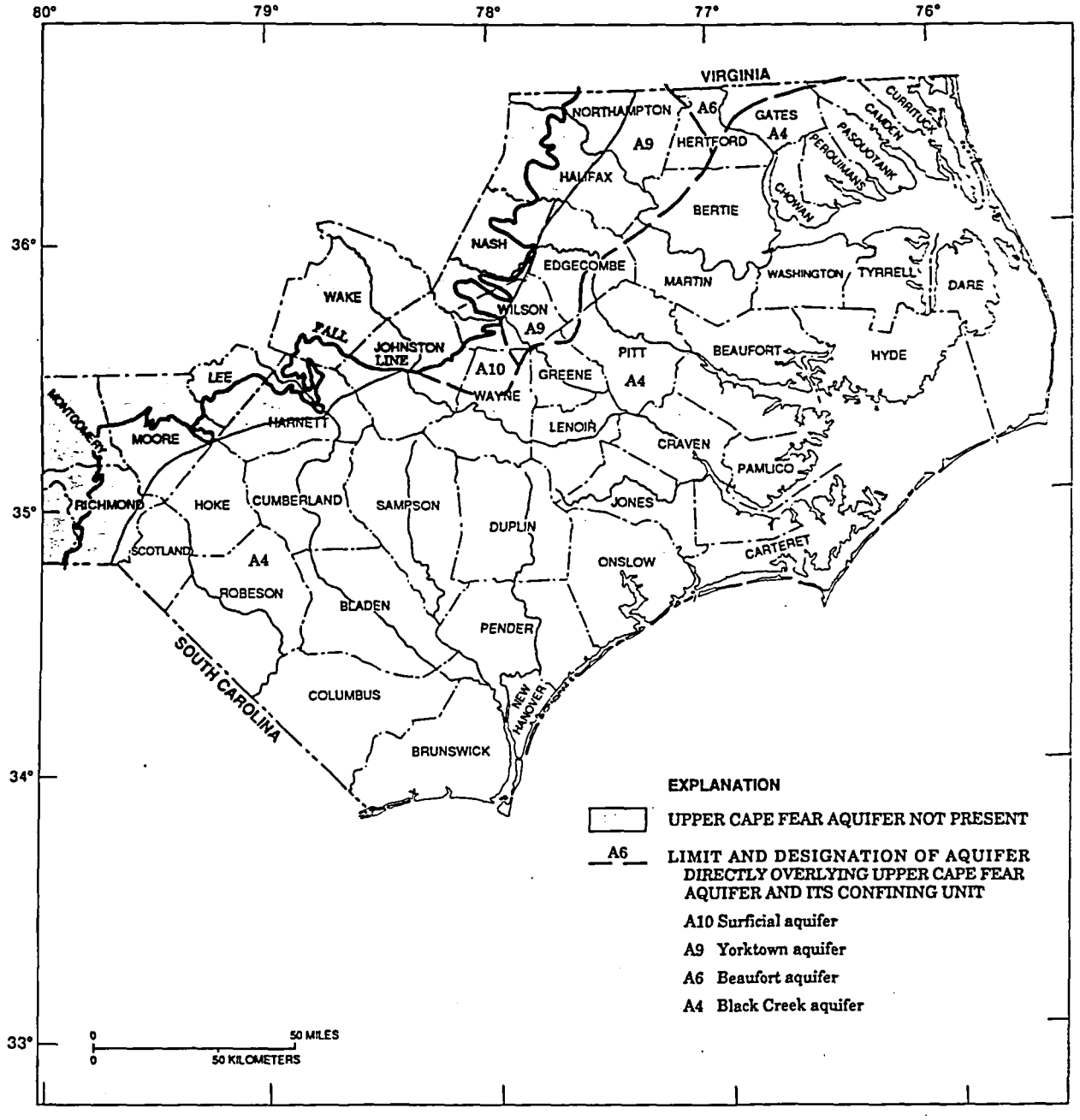


Figure 18.--Areal extent of the upper Cape Fear aquifer (A3) and overlying aquifers (modified from Winner and Coble, 1989).

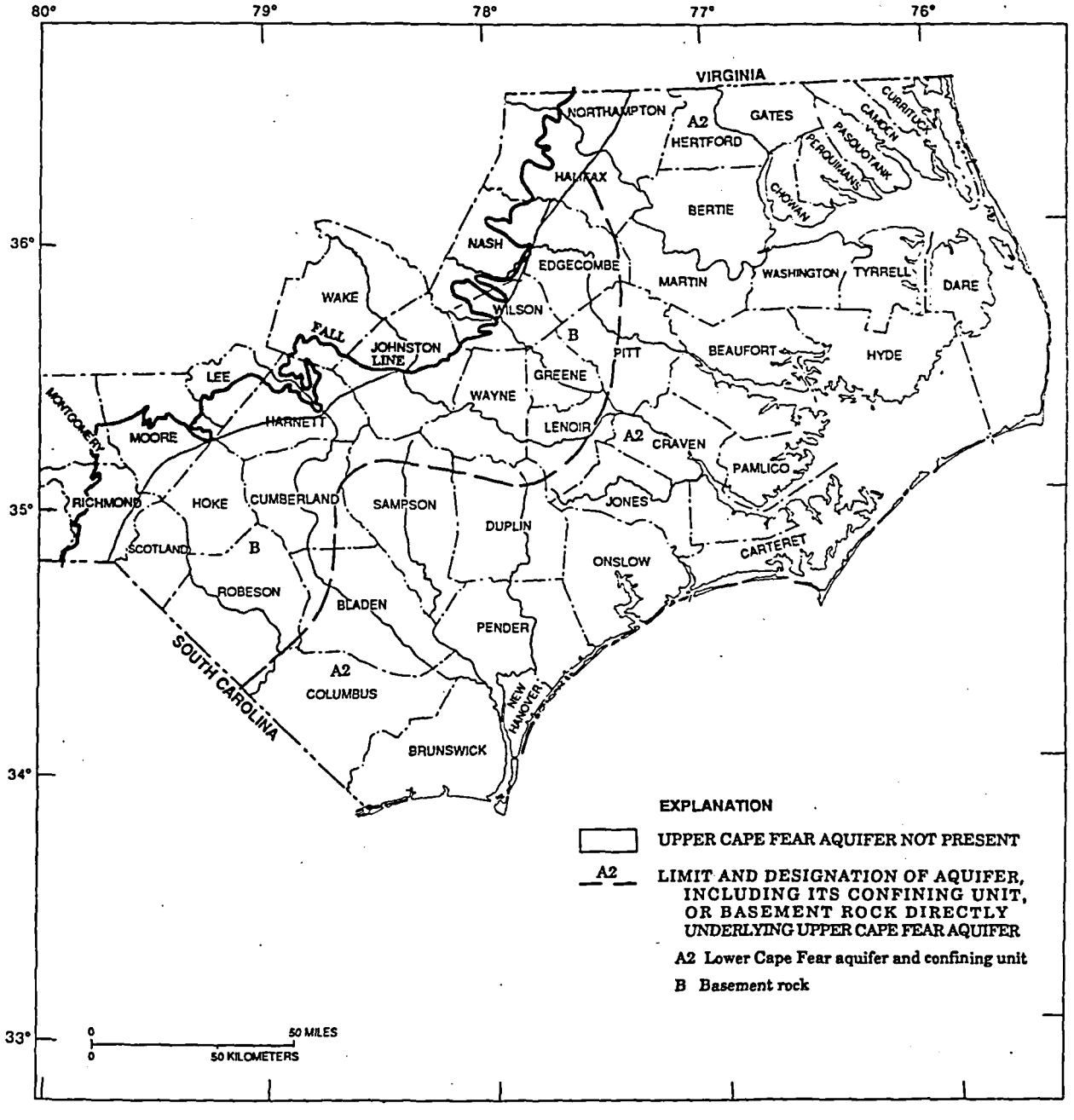


Figure 19.--Areal extent of the upper Cape Fear aquifer (A3) and underlying aquifers or basement rock (modified from Winner and Coble, 1989).

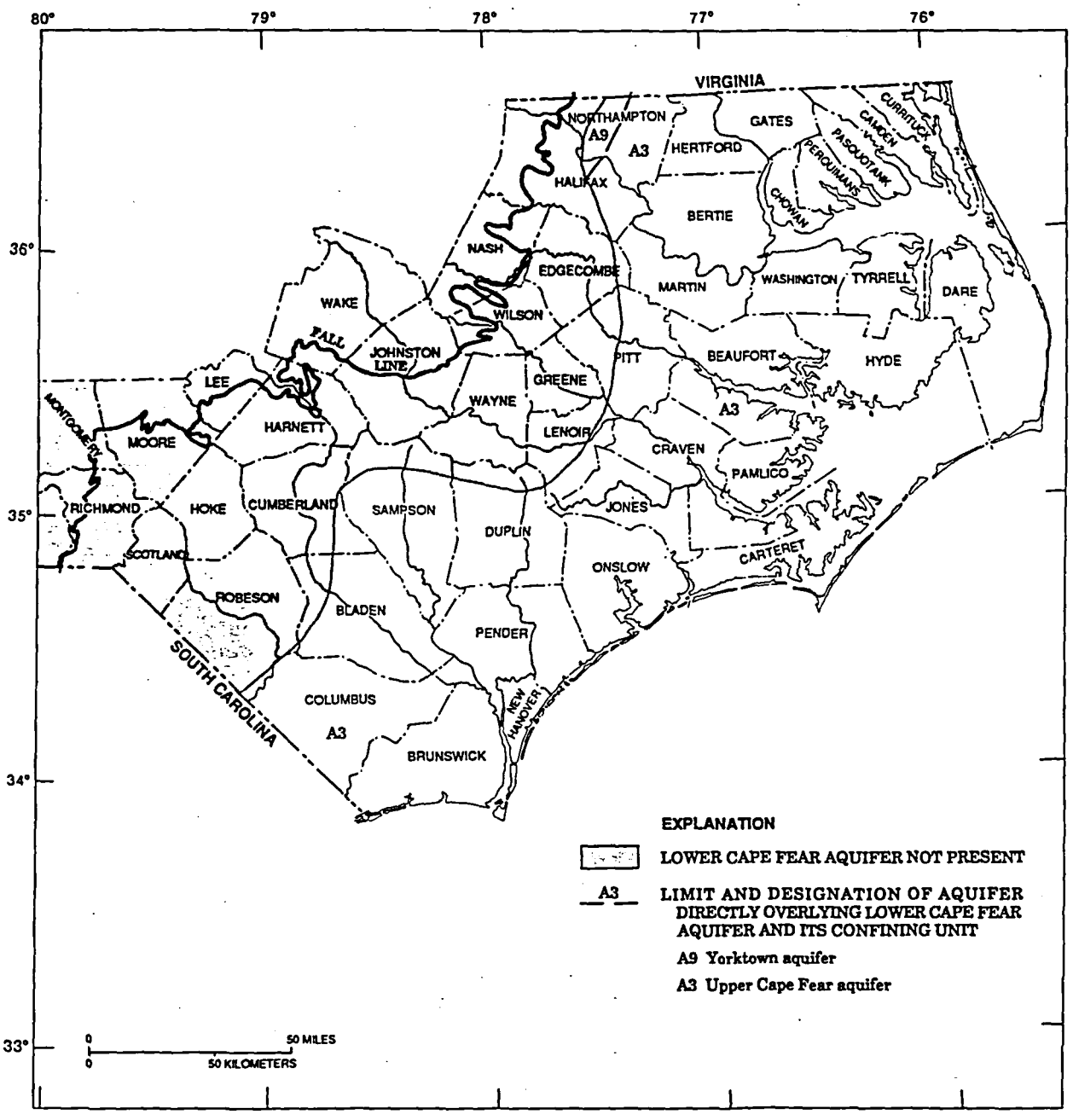


Figure 20.--Areal extent of the lower Cape Fear aquifer (A2) and overlying aquifers
(modified from Winner and Coble, 1989).

upper Cape Fear aquifer (A3). In the southern Coastal Plain, Winner and Coble (1989) viewed these sediments largely as a regressive phase of the Cape Fear Formation having a separate hydrologic identity from overlying and younger Cape Fear sand units.

The lower Cape Fear aquifer (A2) strikes northeast and dips southwest at a rate of 15 to 35 ft/mi. Its thickness ranges from a few feet along its western margin to more than 400 ft in the northeastern Coastal Plain. The average hydraulic conductivity of the aquifer was estimated by Winner and Coble (1989) from geophysical logs to be about 34 ft/d. Individual values ranged from 20 to 75 ft/d.

The lower Cape Fear confining unit (CU2) is composed of clay and sandy-clay beds that belong largely to the Cape Fear Formation. The average thickness of the confining unit is about 50 ft. The confining unit exceeds 75 ft in thickness throughout the eastern quarter of the Coastal Plain and in parts of Bertie and Halifax Counties and is more than 100 ft thick in parts or all of Pasquotank, Camden, Currituck, Columbus, and Brunswick Counties.

The lower Cape Fear aquifer and confining unit (A2 and CU2) are overlain by the upper Cape Fear aquifer (A3) everywhere except for a small area near the Fall Line in Northampton County where the Yorktown aquifer (A9) overlies them (fig. 20). The Lower Cretaceous aquifer and confining unit (A1 and CU1) underlie the lower Cape Fear aquifer in the eastern half of the Coastal Plain (fig. 21). Elsewhere, the lower Cape Fear aquifer lies on basement rocks.

Lower Cretaceous Aquifer (A1) and Overlying Confining Unit (CU1)

Sediments below the Cape Fear Formation are regarded by most investigators as belonging to the Lower Cretaceous Series and, possibly, to older rocks (Winner and Coble, 1989). Thus, the name Lower Cretaceous aquifer (A1) was chosen to designate this hydrogeologic unit which is the lowermost aquifer defined in this study. The extent of aquifer A1 is shown in figure 21. Various investigators have established that the updip beds of the Lower Cretaceous aquifer are largely nonmarine in origin, but the

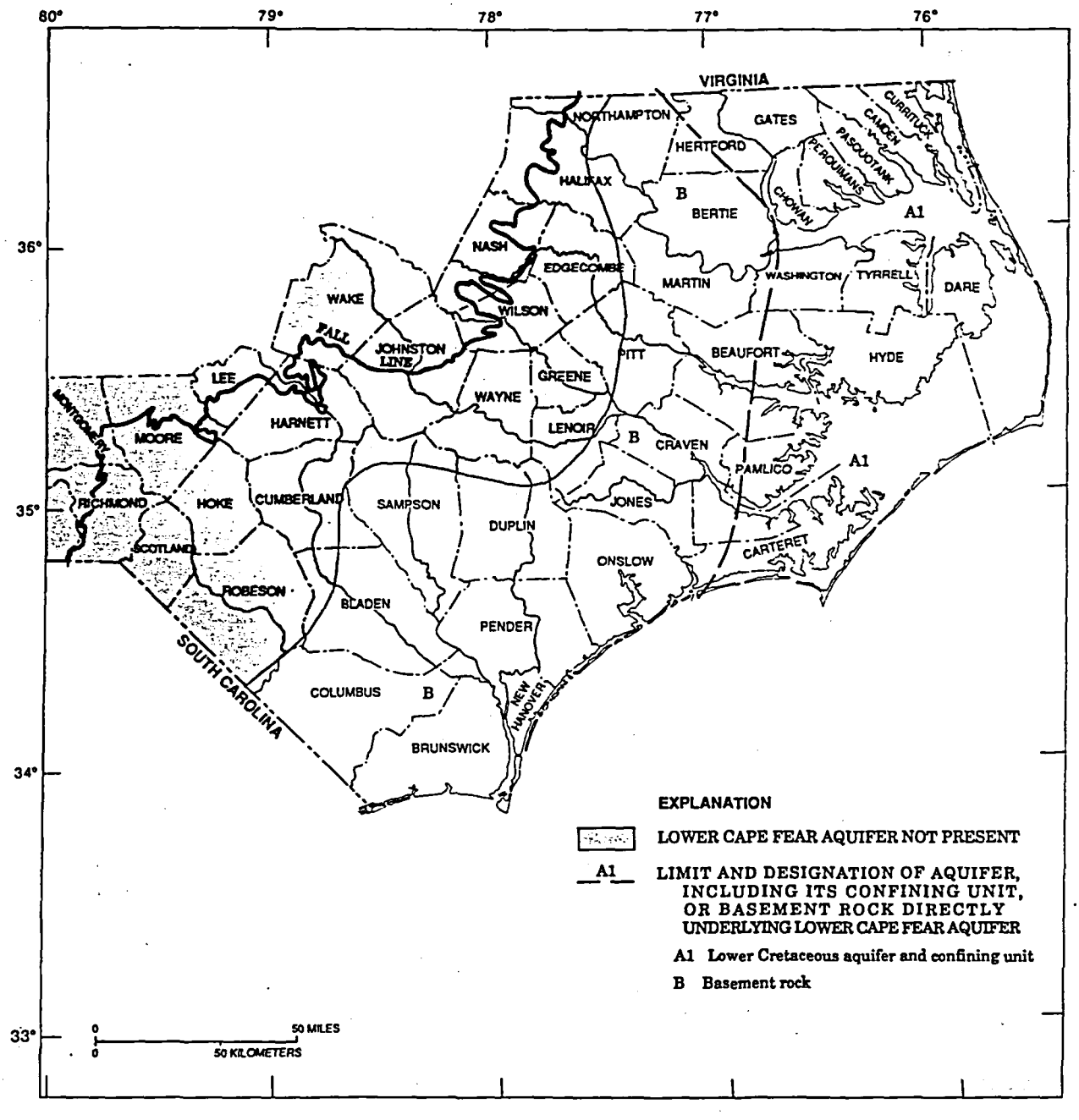


Figure 21.--Areal extent of the lower Cape Fear aquifer (A2) and underlying aquifers or basement rock (modified from Winner and Coble, 1989).

REFERENCE 25

United States
Department of
Agriculture

Soil
Conservation
Service

In cooperation with
North Carolina Department of
Natural Resources and
Community Development,
North Carolina Agricultural
Research Service,
North Carolina Agricultural
Extension Service, and
Hertford County
Board of Commissioners

Soil Survey of Hertford County North Carolina

Contents

Soil Series

Issued July 1984

Exum soils have a loamy and silty Bt horizon that ranges from 40 to more than 60 inches thick. These soils are very strongly acid or strongly acid, except where lime has been added.

The Ap or A horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 1 to 3.

The BA horizon, where present, has hue of 10YR or 2.5Y, value of 5 to 6, and chroma of 3 to 8. The Bt horizon has hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 3 to 8. Gray mottles are in the lower part of the Bt horizon, within 30 inches of the surface. In some pedons, the Bt horizon is mottled in shades of brown, yellow, and gray. The Bt horizon is loam, clay loam, silty clay, or silty clay loam. The BC horizon, where present, is similar in color and texture to the Bt horizon.

Goldsboro Series

The Goldsboro series consists of moderately well drained soils on Coastal Plain uplands. Permeability is moderate. The slope ranges from 0 to 2 percent.

Typical pedon of Goldsboro fine sandy loam, 0 to 2 percent slopes, 2.9 miles west of Britts Store on State Road 1310, 200 feet south of State Road 1314, and 150 feet east of State Road 1310:

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; very friable; many fine and medium roots; medium acid; abrupt smooth boundary.

A—7 to 10 inches; light yellowish brown (2.5Y 6/4) sandy loam; weak fine subangular blocky structure; friable; few fine roots; very strongly acid; clear wavy boundary.

Bt1—10 to 26 inches; yellowish brown (10YR 5/6) sandy clay loam; weak fine and medium subangular blocky structure; friable, slightly sticky and slightly plastic; few fine roots; very strongly acid; clear smooth boundary.

Bt2—26 to 45 inches; brownish yellow (10YR 6/6) sandy clay loam; common medium distinct light gray (10YR 7/2) and strong brown (7.5YR 5/8) mottles; weak medium subangular blocky structure; friable, slightly sticky and slightly plastic; very strongly acid; gradual smooth boundary.

Btg—45 to 62 inches; mottled gray (10YR 6/1), pale brown (10YR 6/3), strong brown (7.5YR 5/8), and red (2.5YR 4/8) sandy clay loam; weak medium subangular blocky structure; friable, slightly sticky and slightly plastic; very strongly acid.

Goldsboro soils have a loamy Bt horizon that ranges from 40 to more than 60 inches in thickness. These soils are very strongly acid, except where lime has been added.

The A or Ap horizon has hue of 10YR, value of 3 to 6, chroma of 1 or 2.

The BA horizon, where present, has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 4 to 6. It is sandy loam or fine sandy loam. The upper part of the Bt horizon has hue of 7.5YR to 2.5Y, value of 5 or 6, and chroma of 4 to 8. The lower part of the Bt horizon has hue similar to the upper part, value of 3 to 8, and chroma of 1 to 8. Gray mottles are within 30 inches of the surface. The BC horizon, where present, has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2. It is sandy loam or loam.

Leaf Series

The Leaf series consists of poorly drained soils on Coastal Plain uplands. Permeability is very slow. The slope is less than 1 percent.

Typical pedon of Leaf loam, 0.3 mile south of Earleys on State Road 1106, 1.3 miles southwest on private road, 0.15 mile south, and 100 feet east:

A—0 to 4 inches; very dark grayish brown (10YR 3/2) loam; weak fine granular structure; friable; many fine roots; strongly acid; abrupt smooth boundary.

Btg1—4 to 10 inches; grayish brown (2.5Y 5/2) clay; common medium distinct brownish yellow (10YR 6/8) mottles; weak fine subangular blocky structure; firm, sticky and plastic; many fine roots; strongly acid; abrupt smooth boundary.

Btg2—10 to 36 inches; gray (10YR 5/1) clay; common medium distinct brownish yellow (10YR 6/8) mottles; moderate medium subangular blocky structure; very firm, sticky and plastic; few fine roots; continuous clay films on faces of peds; very strongly acid; gradual smooth boundary.

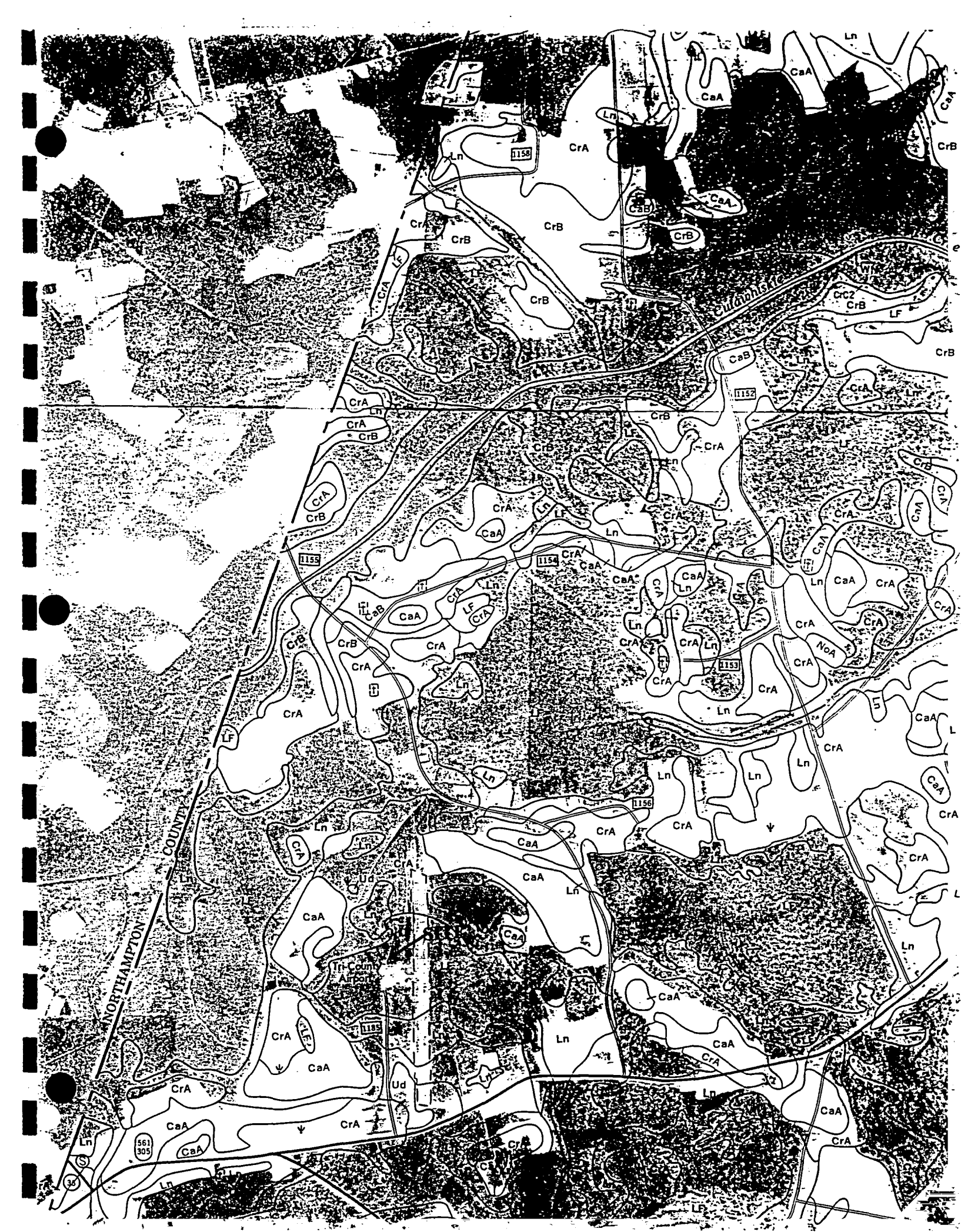
Btg3—36 to 62 inches; gray (10YR 5/1) clay; common medium distinct strong brown (7.5YR 5/8) mottles; moderate medium subangular blocky structure; very firm, sticky and plastic; patchy clay films on faces of some peds; few flakes of mica; few sand grains; very strongly acid.

Leaf soils have a clayey Bt horizon 30 to more than 60 inches thick. These soils are very strongly acid or strongly acid, except where lime has been added.

The A, or Ap, horizon has hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 1 or 2.

The E horizon, where present, has hue of 10YR, value of 5 or 6, and chroma of 1 or 2.

The Bt horizon has hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2. It is mottled in shades of red, yellow, or brown. The Bt horizon is silty clay loam, clay, or silty clay.


CrA
CrB
CaA
CaB
Ln
LF
Ud
NoA
CrC2
1158
1152
1155
1154
1153
1156
1189
561
305
NORTHAMPTON COUNTY
Tri-County Airport

REFERENCE 26

Tri-County Airport
Aulander, Hertford County, NC
EPA ID: NCN 000 407 205
Public Water Supply Database
36 12'30" to 36 22'30" Latitude
77 05'00" to 77 15'00" Longitude

PWSID	SYSTEM	TYPE	POP.	PHONE	LOCATION	SOURCE TYPE	SOURCE AVAIL.	LATITUDE	LONGITUDE
466040	WOODLAND, TOWN OF	C	1043	2525877161	WELL #1	G	P	361910.474	771353.009
466040	WOODLAND, TOWN OF	C	1043	2525877161	WELL #2	G	P	361910.671	771352.313

PWSID=Public Water Supply System Identification Number
Type: C=Community
Pop.=Population Served by Water System
Source Type: G=Groundwater
Source Avail.: P=Permanent

September 18, 2001

REFERENCE 27

Memorandum

Date: October 18, 2001

To: File

From: Melanie Bryson
Environmental Engineer
NC Superfund Section

Subject: Town of Woodland Water System

Tri-County Airport
Aulander, Hertford County, NC
EPA ID: NCN 000 407 205

On Monday, October 8, 2001, Melanie Bryson of the NC Superfund Section spoke with Ms. Edna Burkett (252-587-7161), Town Clerk for the Town of Woodland. Ms. Burkett indicated that water lines for the Town's system extend throughout and up to the town limits. She also said that the town extends lines southwest of its limits to a residential community called George. No other areas outside the town limits are served by the Town of Woodland water system.

REFERENCE 28

Memorandum

Date: October 22, 2001

To: File

From: Melanie Bryson
Environmental Engineer
NC Superfund Section

Subject: Hertford County Water System

Tri-County Airport
Aulander, Hertford County, NC
EPA ID: NCN 000 407 205

On Monday, October 22, 2001, Melanie Bryson of the NC Superfund Section spoke with Mr. Steven Lassiter (252-358-7867), an engineer with the Hertford County Rural Public Works, concerning the location of water lines near the Tri-County Airport. Mr. Lassiter indicated that water lines were present on the following roads:

- Highway 561 from Mintons Store Road to St. Johns Community, where they have one of three water pumps
- Highway 305 south to Pleasant Grove Church Road
- Full length of Pleasant Grove Church Road to Bertie County line
- Approximately 5 miles along Horton Church Road
- Finnell Road beside airport to Northampton County line
- All side roads off Highway 561 except Baker Store Road

REFERENCE 29

MEMO

TO: *Superfund Section Staff*

FROM: Melanie Bryson
Environmental Engineer
NC Superfund Section

DATE: October 1, 2001

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

I received an email from Mr. Gale Johnson, Public Water Supply (919) 715-2853, with an updated list of Approved Wellhead Protection Programs in N.C. Only one, Williamston, has been added since May 1, 2001.

Copies of some wellhead protection area maps are located on the PWS website at:

http://www.deh.enr.state.nc.us/pws/wellhead/update/wellhead_protection_program.htm

Through the above-mentioned website, you may also view a list of the approved wellhead protection plans as well as guidance as to what the plans require. Please note, however, that the list located on the PWS website has not been updated.

PWS has copies of all the sites in their files maintained on topo maps, which they are in the process of slowly transferring to GIS format.

APPROVED WELLHEAD PROTECTION PLANS

System Name	PWSID	Wells	Pop Served	County	Approved	Comments
Black Mountain	111020	15	6450	Buncombe	11/10/1999	
Farmville	474020	11	6400	Pitt	11/10/1999	
Ayden	474025	4	4892	Pitt	11/15/1999	
Bladenboro	309015	2	2142	Bladen	11/22/1999	
West Jefferson	105010	9	1133	Ashe	12/01/1999	
Morehead City	416015	4	7500	Carteret	12/08/1999	
Red Springs	378015	3	4016	Robeson	12/09/1999	
Warsaw	431015	3	3500	Duplin	12/16/1999	
Maxton	378035	1	3761	Robeson	12/17/1999	
Pink Hill	454020	2	890	Lenoir	12/17/1999	
Burgaw	471010	4	3643	Pender	12/17/1999	
Parkton	378045	2	437	Robeson	12/17/1999	
Carolina Beach	465015	13	6736	New Hanover	12/21/1999	
Greene County	440106	6	8128	Greene	12/21/1999	
Gibson	383015	2	659	Scotland	12/21/1999	
Faison	431040	3	850	Duplin	12/21/1999	
Yaupon Beach/Oak Island	410020	2	891	Brunswick	12/21/1999	
Richlands	467015	2	1300	Onslow	12/29/1999	
Bailey	464035	2	850	Nash	12/30/1999	
Stedman	326030	4	720	Cumberland	12/30/1999	
North River Water System/Carteret Co.	416197	2	600	Carteret	12/30/1999	
Pinetops	433015	4	2420	Edgecombe	12/30/1999	
Ronda	197050	2	406	Wilkes	12/30/1999	
Washington	407010	8	10011	Beaufort	12/30/1999	
St. Pauls	378030	3	2331	Robeson	12/30/1999	
Topsail Beach	471020	4	1200	Pender	12/30/1999	
Hertford	472010	2	2375	Perquimans	12/30/1999	
LaGrange	454015	3	3114	Lenoir	12/30/1999	
Magnolia	431035	2	800	Duplin	12/30/1999	
Chadbourn	424020	4	2300	Columbus	06/23/2000	
Wayne Water Districts	496065	16	26774	Wayne	08/15/2000	
Mount Olive	496015	3	5700	Wayne	08/15/2000	
Cofield	446030	2	417	Hertford	08/15/2000	
Scotland Neck	442015	2	0	Halifax	08/15/2000	Scotland Neck receives water from Halifax Co. Water System, Scotland Neck's two wells are used for emergency supply.
Oakboro	184020	1	1598	Stanly	08/15/2000	
Robersonville	459015	7	2568	Martin	11/13/2000	
Chimney Rock	181107	1	200	Rutherford	03/05/2001	
Hyde County Water System	448010	4	4250	Hyde	03/20/2001	
Rolesville	392070	3	800	Wake	03/30/2001	
South Camden WSD	415015	4	0	Camden	04/19/2001	system under construction
Rowland	378040	2	1341	Robeson	04/27/2001	
Jefferson	105015	3		Ashe	04/27/2001	Wells used as contingency source and on limited basis to augment surface water supply.
Rich Square	466020	2	1039	Northampton	04/27/2001	
Stantonsburg	498025	2	914	Wilson	04/30/2001	
Clarkton	309020	3	752	Bladen	04/30/2001	
Williamston	459010	6	6178	Martin	05/18/2001	

REFERENCE 30

Profiles of General Demographic Characteristics 2000

Issued May 2001

2000 Census of Population and Housing

North Carolina

U.S. Department of Commerce
Donald L. Evans,
Secretary

Economics and Statistics Administration
J. Lee Price,
Acting Under Secretary for Economic Affairs

U.S. CENSUS BUREAU
William G. Barron, Jr.,
Acting Director

Table DP-1. Profile of General Demographic Characteristics: 2000

Geographic Area: Hertford County, North Carolina

[For information on confidentiality protection, nonsampling error, and definitions, see text]

Subject	Number	Percent
Total population	22,601	100.0
SEX AND AGE		
Male	10,384	45.9
Female	12,217	54.1
Under 5 years	1,236	5.5
5 to 9 years	1,615	7.1
10 to 14 years	1,764	7.8
15 to 19 years	1,723	7.6
20 to 24 years	1,153	5.1
25 to 34 years	2,481	11.0
35 to 44 years	3,465	15.3
45 to 54 years	3,269	14.5
55 to 59 years	1,254	5.5
60 to 64 years	1,074	4.8
65 to 74 years	1,927	8.5
75 to 84 years	1,232	5.5
85 years and over	408	1.8
Median age (years)	39.2	(X)
18 years and over	16,878	74.7
Male	7,473	33.1
Female	9,405	41.6
21 years and over	16,008	70.8
62 years and over	4,188	18.5
65 years and over	3,567	15.8
Male	1,347	6.0
Female	2,220	9.8
RACE		
One race	22,415	99.2
White	8,464	37.4
Black or African American	13,459	59.6
American Indian and Alaska Native	269	1.2
Asian	71	0.3
Asian Indian	14	0.1
Chinese	18	0.1
Filipino	11	-
Japanese	7	-
Korean	7	-
Vietnamese	-	-
Other Asian [1]	14	0.1
Native Hawaiian and Other Pacific Islander	5	-
Native Hawaiian	-	-
Guamanian or Chamorro	4	-
Samoan	1	-
Other Pacific Islander [2]	-	-
Some other race	147	0.7
Two or more races	186	0.8
Race alone or in combination with one or more other races: [3]		
White	8,578	38.0
Black or African American	13,582	60.1
American Indian and Alaska Native	346	1.5
Asian	108	0.5
Native Hawaiian and Other Pacific Islander	15	0.1
Some other race	202	0.9

Subject	Number	Percent
HISPANIC OR LATINO AND RACE		
Total population	22,601	100.0
Hispanic or Latino (of any race)	354	1.6
Mexican	202	0.9
Puerto Rican	27	0.1
Cuban	7	-
Other Hispanic or Latino	118	0.5
Not Hispanic or Latino	22,247	98.4
White alone	8,374	37.1
RELATIONSHIP		
Total population	22,601	100.0
In households	22,181	98.1
Householder	8,953	39.6
Spouse	4,103	18.2
Child	6,554	29.0
Own child under 18 years	4,728	20.9
Other relatives	1,731	7.7
Under 18 years	899	4.0
Nonrelatives	840	3.7
Unmarried partner	390	1.7
In group quarters	420	1.9
Institutionalized population	300	1.3
Noninstitutionalized population	120	0.5
HOUSEHOLD BY TYPE		
Total households	8,953	100.0
Family households (families)	6,237	69.7
With own children under 18 years	2,684	30.0
Married-couple family	4,103	45.8
With own children under 18 years	1,559	17.4
Female householder, no husband present	1,748	19.5
With own children under 18 years	948	10.6
Nonfamily households	2,716	30.3
Householder living alone	2,408	26.9
Householder 65 years and over	1,084	12.1
Households with individuals under 18 years	3,211	35.9
Households with individuals 65 years and over	2,553	28.5
Average household size	2.48	(X)
Average family size	2.99	(X)
HOUSING OCCUPANCY		
Total housing units	9,724	100.0
Occupied housing units	8,953	92.1
Vacant housing units	771	7.9
For seasonal, recreational, or occasional use	82	0.8
Homeowner vacancy rate (percent)	1.4	(X)
Rental vacancy rate (percent)	5.7	(X)
HOUSING TENURE		
Occupied housing units	8,953	100.0
Owner-occupied housing units	6,267	70.0
Renter-occupied housing units	2,686	30.0
Average household size of owner-occupied units	2.50	(X)
Average household size of renter-occupied units	2.43	(X)

- Represents zero or rounds to zero. (X) Not applicable.

[1] Other Asian alone, or two or more Asian categories.

[2] Other Pacific Islander alone, or two or more Native Hawaiian and Other Pacific Islander categories.

[3] In combination with one or more of the other races listed. The six numbers may add to more than the total population and the six percentages may add to more than 100 percent because individuals may report more than one race.

Source: U.S. Census Bureau, Census 2000.

REFERENCE 31

NORTH CAROLINA DEPARTMENT OF NATURAL AND ECONOMIC RESOURCES
OFFICE OF WATER AND AIR RESOURCES
GROUND WATER DIVISION
P. O. BOX 27687 – RALEIGH, N. C. 27611

WELL RECORD

DRILLING CONTRACTOR Woodrow L. Mizelle REG. NO. 254 WELL CONSTRUCTION PERMIT NO.

1. WELL LOCATION: (Show a sketch of the location on back of form)
   Nearest Town: Ahoskie County: Hertford
   Winton & Tar[illegible] Quadrangle No. E22
   (Road, Community or Subdivision and Lot No.)
2. OWNER: Tri-County Airport
3. ADDRESS: Ahoskie, N.C.
4. TOPOGRAPHY: draw, valley, slope, hilltop, flat (circled)
5. USE OF WELL: Domestic DATE: 4-19-73
6. DOES THIS WELL REPLACE AN EXISTING WELL? YES
7. TOTAL DEPTH: 148 RIG TYPE OR METHOD: ROTARY
8. FORMATION SAMPLES COLLECTED: [ ] YES No. of Bags
9. CASING:

Depth From	to	Inside Diam.	Wall thick. or weight/ft.	Type
+1	72	4	STD	GALV
72	148	2	✓	✓

10. GROUT:

Depth From	to	Material	Method
0	20	Cement	Poured
20	148	Natural	✓

11. SCREEN:

Depth From	to	Diam.	Type and Opening
136	146	2	Johnson Slot 15

12. GRAVEL: Depth From ___ to ___ ft. Size ___ Material ___
13. WATER ZONES (depth):
14. STATIC WATER LEVEL: 18 ft. ~~above~~ below top of casing.
    Casing is 1 ft. above land surface. ELEV.
    DATE MEASURED: 4-20-73
15. YIELD (gpm): 25 METHOD OF TESTING: Air
16. PUMPING WATER LEVEL: ___ ft. after ___ hours at ___ gpm.
17. CHLORINATION: Type BK Amount 3/4 lbs
18. WATER QUALITY: ___ TEMPERATURE (°F) ___
19. PERMANENT PUMP: (Show a sketch of well head on back of form)
    Date Installed ___ Type ___ Make ___
    Capacity ___ (gpm) HP ___
    Intake Depth ___ Airline Depth ___
20. HAVE YOU INFORMED THE WELL OWNER OF THE DEPARTMENTS REQUIREMENTS AND RECOMMENDATIONS? YES
21. REMARKS:

DRILLING LOG

Depth From	To	Formation Description
0	22	Topsoil
22	58	Sand tan
58	70	✓ gray
70	81	Clay ✓
81	99	Sand ✓
99	130	Sand & Red clay
130	148	Sand gray

I do hereby certify that this well record is true and exact.

Woodrow L. Mizelle 4-20-73

WELL HEAD COMPLETION: Draw a sketch of the well head showing casing, pump piping, seals, vents, access port, grout, and enclosure.

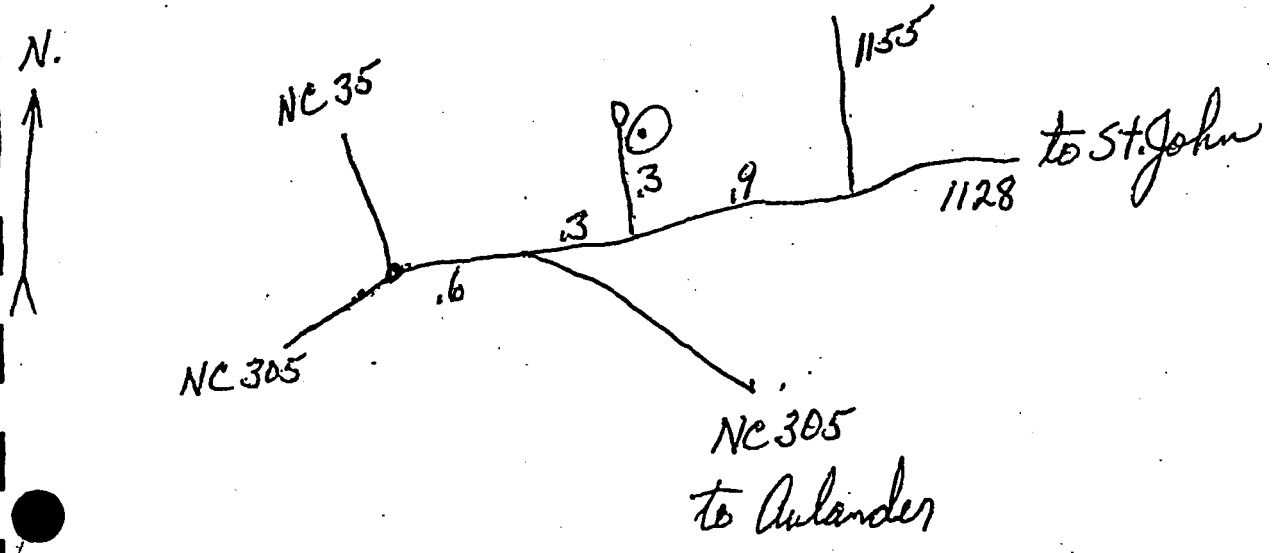
Pump	GAL per min
1/2 HP	6
3/4 HP	8
1 HP	12

Pump off good before drinks

Deepwell

63 ft. Drop pipe

WELL LOCATION: Draw a location sketch showing the direction and distance of the well to at least two (2) nearby reference points such as roads, intersections and streams. Identify roads with State Highway road identification numbers.



R. W. MAGETTE

TELEPHONE 332-2265

MAGETTE WELL COMPANY

DEEP WELL DRILLING ● WATER GUARANTEED

WE COVER EASTERN NORTH CAROLINA

AHOSKIE, NORTH CAROLINA 27910

March 16, 1973

Mr. Cecil McCoy
Marsh Chevrolet
Aulander, N. C.

Dear Sir:

We would like to offer a quote on a deep well and pump at the request of Hiriam Hill.

1 4" x 2" deep well approximately 320'	
@ $4.50 per ft.	$1440.00
10' well screen	150.00
Cement pad and grout	45.00
1 ½ hp. submersible pump with control box	286.00
100' submersible wire	33.00
100' drop pipe	45.00
42 gal. float tank	61.50
Total	$2060.50

We will do this for $2,000.00

Thank you for this opportunity.

Very truly yours

R. W. Magette

R. W. Magette
RWM:pm

National water well Association

REFERENCE 32

FLOOD HAZARD BOUNDARY MAP

HERTFORD COUNTY
NORTH CAROLINA
UNINC. AREAS

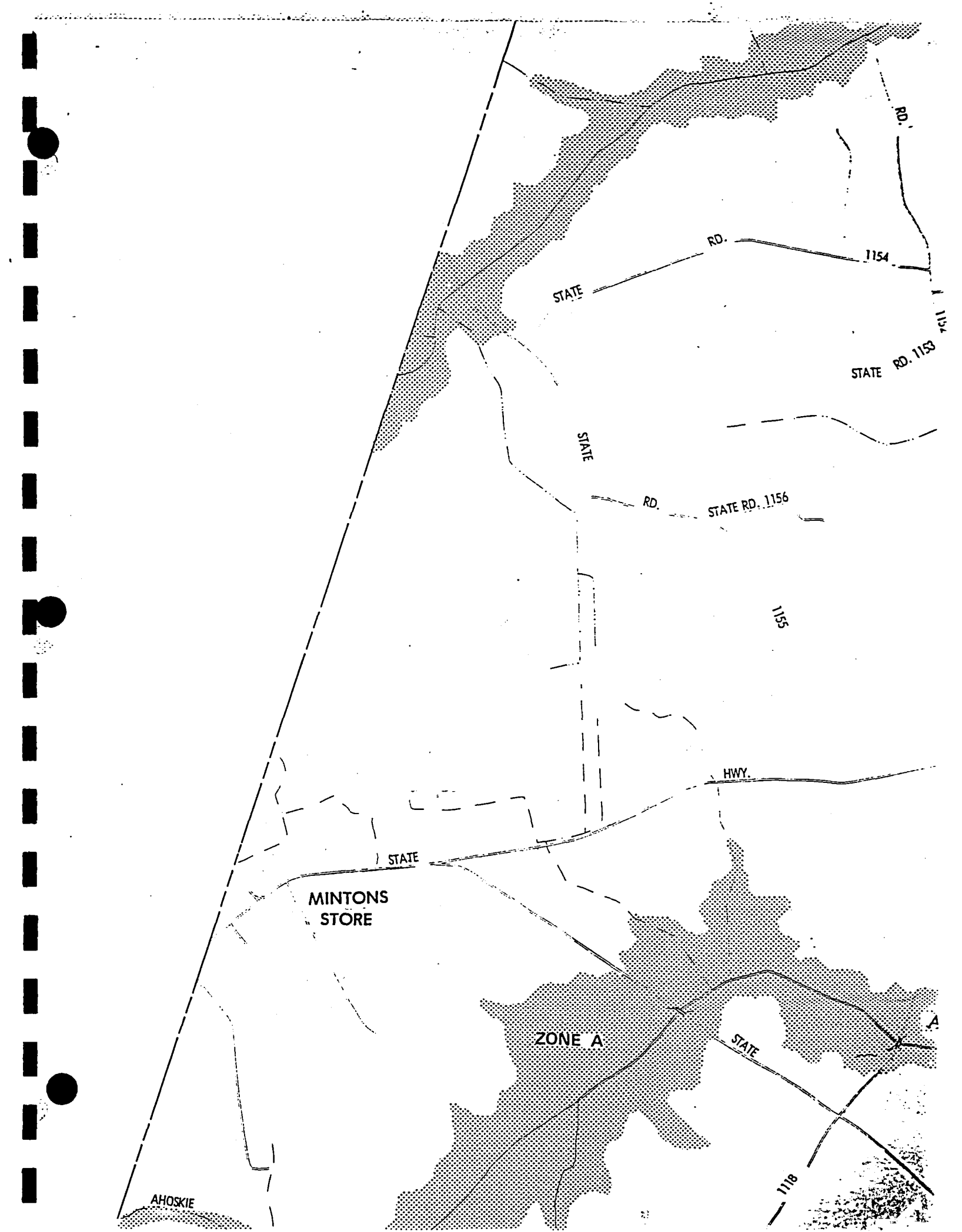
PAGE 4 OF 6

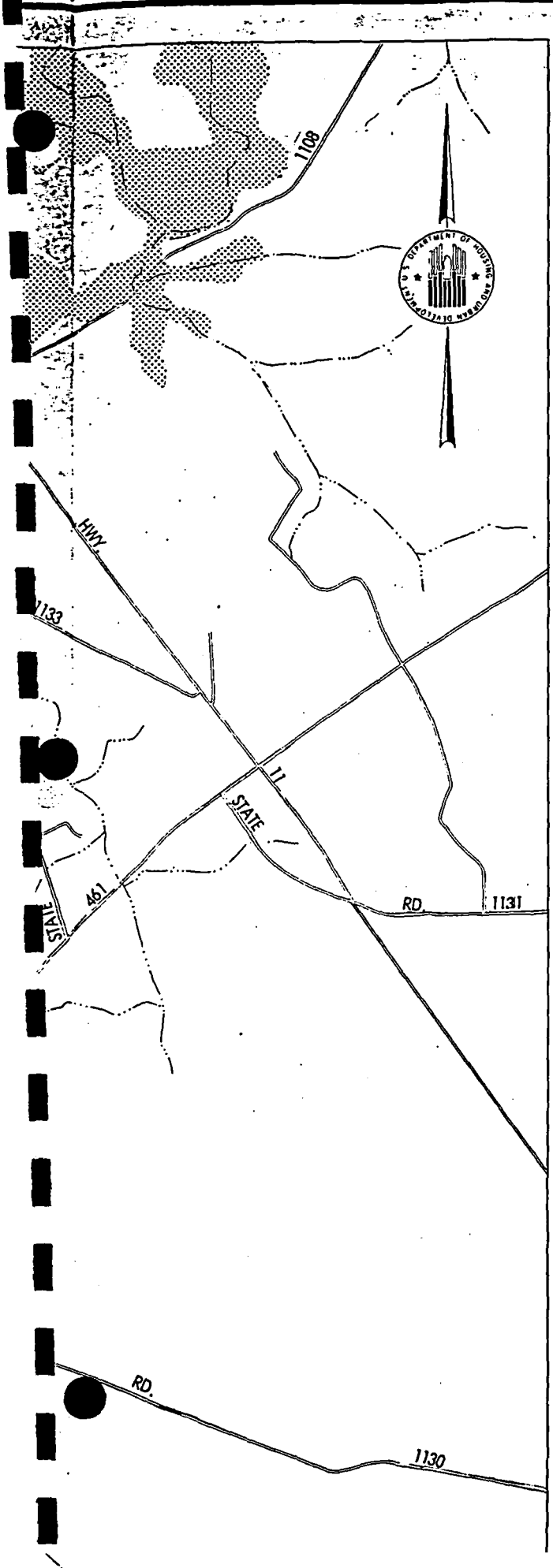
(SEE MAP INDEX FOR PAGES NOT PRINTED)

EFFECTIVE DATE:
JUNE 2, 1978

COMMUNITY–PANEL NUMBER
370130 0004 A

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


RD.
RD.
1154
STATE
STATE RD. 1153
STATE
RD.
STATE RD. 1156
1155
HWY.
STATE
MINTONS
STORE
ZONE A
STATE
1118
AHOSKIE



KEY TO SYMBOLS

SPECIAL FLOOD HAZARD AREA

ZONE A

Note: These maps may not include all Special Flood Hazard Areas in the community. After a more detailed study, the Special Flood Hazard Areas shown on these maps may be modified, and other areas added.

"TO DETERMINE IF FLOOD INSURANCE IS AVAILABLE IN THIS COMMUNITY, CONTACT YOUR INSURANCE AGENT, OR CALL THE NATIONAL FLOOD INSURANCE PROGRAM, AT (800) 638-6620, OR (800) 424-8872."

REFERENCE 33

Memorandum

Date: December 10, 2001

To: File

From: Melanie Bryson
Environmental Engineer
NC Superfund Section

Subject: Flow Calculations for Cutawhiskie and Potecasi Creeks

Tri-County Airport
Aulander, Hertford County, NC
EPA ID: NCN 000 407 205

The average flow rates for Cutawhiskie Creek and Potecasi Creek were calculated using values taken from two reports: (1) USGS Open File Report 83-211 titled "Drainage Areas of Selected Sites on Streams in North Carolina" and (2) USGS Water Supply Paper 2403 titled "Low-Flow Characteristics of Streams in North Carolina". The drainage area values from report (1) were multiplied by the mean annual runoff values from report (2) to estimate the mean annual flow in cubic feet per second.

(a) The average flow rate for Cutawhiskie Creek is based on five gaging stations along the creek from the probable point of entry (PPE) to the intersection with Potecasi Creek:

Station Number 0205317050-Cutawhiskie C at SR 1155 NR Woodland

16.2 square miles times 1.1 cubic feet per second/square mile = **17.82 cubic feet per second (cfs)**

Station Number 0205317150-Cutawhiskie C at SR 1152 NR Woodland

21.5 square miles times 1.1 cubic feet per second/square mile = **23.65 cubic feet per second (cfs)**

Station Number 0205317160-Cutawhiskie C NR Menola

24.4 square miles times 1.1 cubic feet per second/square mile = **26.84 cubic feet per second (cfs)**

Station Number 0205317300-Cutawhiskie C at SR 1141 at St. John

36.8 square miles times 1.1 cubic feet per second/square mile = **40.48 cubic feet per second (cfs)**

Station Number 0205317400-Cutawhiskie C at Mouth NR Union

48.3 square miles times 1.1 cubic feet per second/square mile = **53.13 cubic feet per second (cfs)**

The average flow rate in Cutawhiskie Creek is:

(17.82+23.65+26.84+40.48+53.13)/5 = **32.38 cubic feet per second (cfs)**

(b) The average flow rate for Potecasi Creek is based on two gaging stations along the creek and one along Cutawhiskie Creek:

Station Number 0205317400-Cutawhiskie C at Mouth NR Union

48.3 square miles times 1.1 cubic feet per second/square mile = **53.13 cubic feet per second (cfs)**

Station Number 0205316410-Potecasi C at SR 1160 NR Union

159 square miles times 1.1 cubic feet per second/square mile = **174.9 cubic feet per second (cfs)**

Station Number 0205320000-Potecasi C NR Union

225 square miles times 1.1 cubic feet per second/square mile = **247.5 cubic feet per second (cfs)**

The average flow rate at the intersection of Potecasi Creek and Cutawhiskie Creek is:

53.13 cfs + 174.9 cfs = **228.03 cubic feet per second (cfs)**

The average flow rate in Potecasi Creek is:

(228.03+247.5)/2 = **237.77 cubic feet per second (cfs)**

U.S. GEOLOGICAL SURVEY

OPEN-FILE REPORT 83-211

DRAINAGE AREAS OF SELECTED SITES ON STREAMS IN NORTH CAROLINA

Prepared in cooperation with the

North Carolina Department of Natural

Resources and Community Development

MEHERRIN RIVER – CONTINUED

STATION NUMBER	STATION NAME	DRAINAGE AREA (SQ MI)	SITE TYPE	LAT	LONG	QUAD NAME	COUNTY CODE
0205308490	CORDUROY SWP AT SR 1341 NR GALATIA	22.8	20	362821	771530	GALATIA	131
0205308500	CORDUROY SWP AT MTH NR PENDLETON	25.7	20	362903	771415	CONWAY	131
0205308520	KIRBYS C AB TRIB AT PENDLETON	46.7	20	362759	771256	CONWAY	131
0205308550	KIRBYS C TRIB AT MTH AT PENDLETON	1.82	20	362749	771305	CONWAY	131
0205308590	KIRBYS C AT NC 35 AT CONWAY	50.7	20	362717	771225	CONWAY	131
0205308600	KIRBYS C TRIB AT MTH NR CONWAY	1.11	20	362656	771226	CONWAY	131
0205308810	KIRBYS C AB REEDY B NR PENDLETON	55.2	20	362720	771004	CONWAY	131
0205308850	REEDY B AT MTH NR PENDLETON	2.67	20	362719	771003	CONWAY	131
0205308900	KIRBYS C NR MURFREESBORO	61.6	02	362805	770836	CONWAY	131
0205309080	TURKEY C AT US 258 NR MURFREESBORO	3.34	20	362616	770755	CONWAY	091
0205309130	KIRBYS C TRIB HEADWATERS NR PENDLETON	6.42	20	362937	771002	CONWAY	131
0205309140	KIRBYS C TRIB AT MTH NR PENDLETON	7.95	20	362840	770828	CONWAY	131
0205309150	TURKEY C AT MTH NR MURFREESBORO	6.16	20	362824	770711	MURFRESBORO	091
0205309160	BANKS C AT MTH NR MURFREESBORO	2.79	20	362825	770462	MURFRESBORO	091
0205309170	KIRBYS C AT MTH NR MURFREESBORO	82.0	20	362821	770539	MURFRESBORO	091
0205309200	MEHERRIN R AT MURFREESBORO	1302.	20	362650	770508	MURFRESBORO	091
0205309402	COLLEGE B AT MTH AT MURFREESBORO	1.05	20	362559	770519	MURFRESBORO	091
0205309405	HARES B AT DAM AT MURFREESBORO	3.70	20	362625	770500	MURFRESBORO	091
0205309410	WORRELL MILL SWP AT MTH AT MURFREESBORO	4.31	20	362647	770430	MURFRESBORO	091
0205309450	MEHERRIN R TRIB NR BARRETTS X RDS	3.02	20	362720	770202	MURFRESBORO	091
0205309460	MEHERRIN R NR BARRETTS X RDS	1313.	20	362727	770156	MURFRESBORO	091
0205309470	MEHERRIN R TRIB NR MAPLETON	1.15	20	362720	770133	MURFRESBORO	091
0205309550	LIVERMAN C NR COMO	5.10	20	362815	770030	MURFRESBORO	091
0205309560	LIVERMAN C TRIB AT MTH NR COMO	3.60	20	362815	770031	MURFRESBORO	091
0205310501	RAMSEY C AT SR 1316 AT SEABOARD	1.30	20	362800	772650	JACKSON	131
0205310601	RAMSEY C AT SR 1311 AT PLEASANT GROVE	4.09	20	362646	772602	JACKSON	131
0205310701	RAMSEY C AB SWP NR PLEASANT GROVE	6.23	20	362533	772513	JACKSON	131
0205310800	RAMSEY C NR JACKSON	10.4	02	362329	772408	JACKSON	131
0205310810	RAMSEY C NR MTH NR CREEKSVILLE	14.3	20	362320	772209	GALATIA	131
0205310815	RAMSEY C TRIB AT MTH NR CREEKSVILLE	1.96	20	362307	772144	GALATIA	131
0205310850	WICCACANEE SWP AT SR 1311 NR PLEASANT GROVE	1.35	20	362616	772401	JACKSON	131
0205310860	WICCACANEE SWP AT US 158 NR JACKSON	2.99	20	362502	772326	JACKSON	131
0205310870	WICCACANEE SWP AT SR 1500 NR CREEKSVILLE	4.88	20	362415	772224	GALATIA	131
0205310875	WICCACANEE SWP AT MTH NR CREEKSVILLE	7.54	20	362331	772055	GALATIA	131
0205310880	POTECASI C TRIB AT MTH NR LASKERS	2.09	20	362319	772025	GALATIA	131
0205310885	POTECASI C TRIB AT MTH NR CREEKSVILLE	1.06	20	362351	771952	GALATIA	131
0205310890	POTECASI C TRIB AT MTH AT EDWARDS X RDS	2.90	20	362357	771908	GALATIA	131
0205310895	POTECASI C BL SR 1504 AT CREEKSVILLE	33.1	20	362325	771822	GALATIA	131
0205310310	POTECASI C TRIB AT MTH AT CREEKSVILLE	1.40	20	362251	771725	GALATIA	131
0205311000	WILDCAT SWP NR JACKSON	1.10	02	362601	772222	GALATIA	131
0205311120	WILDCAT SWP AT SR 1505 AT FAISONS	3.94	20	362612	771927	GALATIA	131
0205311140	WILDCAT SWP BL TRIB NR FAISONS	6.90	20	362545	771740	GALATIA	131
0205311150	WILDCAT SWP AT SR 1500 AT EDWARDS X RDS	9.46	20	362428	771722	GALATIA	131
0205311610	WILDCAT SWP AT MTH NR CREEKSVILLE	11.8	20	362255	771634	GALATIA	131
0205311620	POTECASI C BL WILDCAT SWP NR CREEKSVILLE	49.1	20	362255	771634	GALATIA	131
0205311640	POTECASI C TRIB AT MTH NR MILWAUKEE	1.26	20	362239	771602	GALATIA	131
0205311650	POTECASI C TRIB AT MTH NR LASKER	1.04	20	362234	771524	GALATIA	131
0205312730	PADDYS DELIGHT C TRIB HEADWATERS AT MILWAUKEE	3.49	20	362437	771436	CONWAY	131
0205312800	PADDYS DELIGHT C NR MILWAUKEE	6.86	02	362416	771515	GALATIA	131
0205312890	PADDYS DELIGHT C AT MTH NR MILWAUKEE	10.4	20	362235	771414	CONWAY	131
0205313000	POTECASI C AT POTECASI	63.8	02	362232	771411	CONWAY	131
0205313020	POTECASI C TRIB AT SR 1536 NR MILWAUKEE	3.91	20	362232	771237	CONWAY	131
0205313601	URAHAW SWP AT SR 1108 NR BRYANTOWN	1.87	20	361800	772318	BOONES CROSSROADS	131
0205313651	URAHAW SWP TRIB AT SR 1121 NR REHOBOTH	2.53	20	361830	772258	BOONES CROSSROADS	131
0205313801	URAHAW SWP TRIB 1 AT MTH NR RICH SQUARE	1.09	20	361720	772128	RICH SQUARE	131
0205313951	QUARTER SWP AT SR 1121 AT REHOBOTH	4.90	20	362022	772231	BOONES CROSSROADS	131
0205314001	QUARTER SWP AT SR 1119 NR BRYANTOWN	10.4	20	361820	772057	RICH SQUARE	131
0205314051	QUARTER SWP AT MTH NR RICH SQUARE	11.4	20	361721	772033	RICH SQUARE	131
0205314101	URAHAW SWP NR BRYANTOWN	20.1	20	361722	772031	RICH SQUARE	131
0205314200	URAHAW SWP NR RICH SQUARE	23.5	20	361812	771827	RICH SQUARE	131
0205314251	URAHAW SWP TRIB 2 AT SR 1115 AT RICH SQUARE	2.50	20	361713	771829	RICH SQUARE	131
0205314301	URAHAW SWP TRIB 2 NR RICH SQUARE	3.65	20	361819	771812	RICH SQUARE	131
0205314351	URAHAW SWP TRIB 3 AT MTH NR RICH SQUARE	1.65	20	361821	771708	RICH SQUARE	131
0205314401	BEAR SWP AT SR 1516 NR LASKER	2.56	20	362048	772000	RICH SQUARE	131
0205314451	BEAR SWP AT SR 1503 NR LASKER	5.60	20	362011	771853	RICH SQUARE	131
0205314501	BEAR SWP TRIB AT MTH NR LASKER	0.90	20	361939	771734	RICH SQUARE	131
0205314525	BEAR SWP AT MTH NR LASKER	11.0	20	361910	771636	RICH SQUARE	131
0205314551	URAHAW SWP TRIB 4 AT MTH NR RICH SQUARE	0.82	20	361915	771625	RICH SQUARE	131
0205314601	URAHAW SWP TRIB 5 AT MTH NR RICH SQUARE	1.63	20	361928	771522	RICH SQUARE	131
0205314651	URAHAW SWP TRIB AT SR 1515 NR LASKER	2.31	20	362055	771647	RICH SQUARE	131
0205314660	URAHAW SWP TRIB AT MTH NR GEORGE	4.80	02	361958	771457	WOODLAND	131
0205314670	URAHAW SWP NR GEORGE	55.1	20	362009	771352	WOODLAND	131
0205314820	URAHAW SWP NR POTECASI	59.0	20	362143	771214	WOODLAND	131
0205314900	POTECASI C TRIB AT SR 1541 NR MILWAUKEE	1.61	20	362246	771038	CONWAY	131
0205316200	POTECASI C NR WOODLAND	135.	20	362215	770955	WOODLAND	131
0205316210	PANTHER SWP AT SR 1543 NR CONWAY	1.96	20	362456	771156	CONWAY	131
0205316250	PANTHER SWP AT US 258 NR MILWAUKEE	6.63	20	362416	770907	CONWAY	131
0205316300	PANTHER SWP AT SR 1164 NR MURFREESBORO	11.4	20	362321	770757	CONWAY	091
0205316400	PANTHER SWP AT MTH NR MURFREESBORO	13.6	20	362237	770800	CONWAY	091
0205316410	POTECASI C AT SR 1160 NR UNION	159	20	362207	770519	UNION	091
0205316420	POTECASI C TRIB NR ST JOHN	1.64	20	362156	770442	UNION	091
0205316430	OLD TREE SWP HEADWATERS NR MURFREESBORO	2.36	20	362348	770431	MURFRESBORO	091
0205316450	OLD TREE SWP AT MTH NR ST JOHN	4.62	20	362143	770406	UNION	091
0205316500	CUTAWHISKIE C AT SR 1522 NR WOODLAND	6.46	20	361725	771406	WOODLAND	131
0205317000	CUTAWHISKIE C NR WOODLAND	12.6	03	361806	771145	WOODLAND	131

MEHERRIN RIVER - CONTINUED

STATION NUMBER	STATION NAME	DRAINAGE AREA (SQ MI)	SITE TYPE	LAT	LONG	QUAD NAME	COUNTY CODE
0205317050	CUTAWHISKIE C AT SR 1155 NR WOODLAND	16.2	20	361900	771044	WOODLAND	091
0205317150	CUTAWHISKIE C AT SR 1152 NR WOODLAND	21.5	20	361946	770917	WOODLAND	091
0205317160	CUTAWHISKIE C NR MENOLA	24.4	20	361942	770756	WOODLAND	091
0205317200	CUTAWHISKIE C TRIB NR MENOLA	1.12	01	361848	770834	WOODLAND	091
0205317270	CUTAWHISKIE C TRIB NR MENOLA	2.02	20	361849	770746	WOODLAND	091
0205317280	CUTAWHISKIE C TRIB AT MTH NR ST JOHN	5.68	20	361925	770657	UNION	091
0205317290	CHAPEL B AT MTH NR ST JOHN	3.83	20	361911	770555	UNION	091
0205317300	CUTAWHISKIE C AT SR 1141 AT ST JOHN	36.8	20	361933	770518	UNION	091
0205317350	INDIAN C AT MTH NR UNION	3.48	20	362048	770424	UNION	091
0205317360	BLUEWATER B AT SR 1139 NR UNION	5.17	20	362042	770400	UNION	091
0205317400	CUTAWHISKIE C AT MTH NR UNION	48.3	20	362145	770347	UNION	091
0205317500	HOT HOUSE B AT MTH NR UNION	4.99	20	362157	770224	UNION	091
0205320000	POTECASI C NR UNION	225.	01	362214	770136	UNION	091
0205320600	BELLS B AT MTH NR MAPLETON	3.80	20	362333	770014	MURFRESBORO	091
0205320700	POTECASI C NR MAPLETON	231.	20	362336	770012	MURFRESBORO	091
0205320800	POTECASI C AT US 158 NR MAPLETON	238.	20	362428	770009	MURFRESBORO	091
0205321200	POTECASI C TRIB 2 NR MAPLETON	3.58	02	362510	770144	MURFRESBORO	091
0205321210	POTECASI C TRIB 2 AT MTH NR MAPLETON	6.42	20	362531	770030	MURFRESBORO	091

207.3

CHOWAN RIVER

0205340000	AHOSKIE C NR RICH SQUARE	3.86	01	361444	771405	KELFORD	131
0205343850	AHOSKIE C TRIB NR EAGLETON	1.90	20	361521	771232	WOODLAND	131
0205343900	AHOSKIE C TRIB AT EAGLETON	1.78	20	361551	771231	WOODLAND	131
0205344000	AHOSKIE C NR EAGLETON	11.8	03	361612	771206	WOODLAND	131
0205344001	AHOSKIE C TRIB HEADWATERS NR AULANDER	2.46	20	361316	770937	KELFORD	015
0205344030	MILL B AT MTH NR MINTONS STORE	3.27	20	361652	770957	WOODLAND	091
0205344051	AHOSKIE C TRIB AT SR 1114 NR MINTONS STORE	4.80	20	361440	770932	KELFORD	091
0205344160	AHOSKIE C TRIB NR MINTONS STORE	7.12	20	361636	771018	WOODLAND	091
0205345000	AHOSKIE C NR MINTONS STORE	25.4	01	361652	770956	WOODLAND	131
0205346010	FORT B TRIB AT MTH NR AULANDER	1.78	20	361451	770628	AULANDER	015
0205346030	FORT B TRIB AT MTH NR MILLENNIUM	1.62	20	361513	770712	UNION	091
0205346100	FORT B AT MTH NR MILLENNIUM	8.74	20	361617	770705	UNION	091
0205347000	AHOSKIE C NR AULANDER	41.6	03	361635	770621	UNION	091
0205347200	TURKEY C AT NC 11-42 NR MILLENNIUM	5.41	20	361538	770420	UNION	091
0205347300	TURKEY C AT MTH NR ST JOHN	7.59	20	361650	770422	UNION	091
0205348000	AHOSKIE C NR ST JOHN	52.4	03	361656	770406	UNION	091
0205348200	KNEE B AT MTH NR POOR TOWN	1.97	20	361737	770236	UNION	091
0205349000	AHOSKIE C NR POOR TOWN	60.6	03	361718	770132	UNION	091
0205350000	AHOSKIE C AT AHOSKIE	63.3	01	361648	770000	UNION	091
0205351000	AHOSKIE C TRIB AT POOR TOWN	1.73	01	361630	770039	UNION	091
0205352101	EASON SWP HEADWATERS NR BURDEN	2.90	20	361015	770147	AULANDER	015
0205352400	BEAVERDAM SWP AT SR 1228 NR CONNARITSA	6.45	02	361156	770143	AULANDER	015
0205352600	BEAVERDAM SWP TRIB AT SR 1235 NR CONNARITSA	4.07	02	361224	770127	AULANDER	015

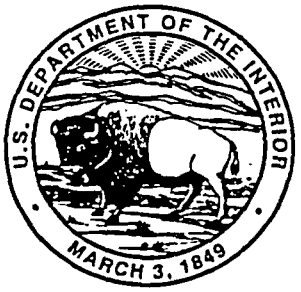
UPPER DAN RIVER

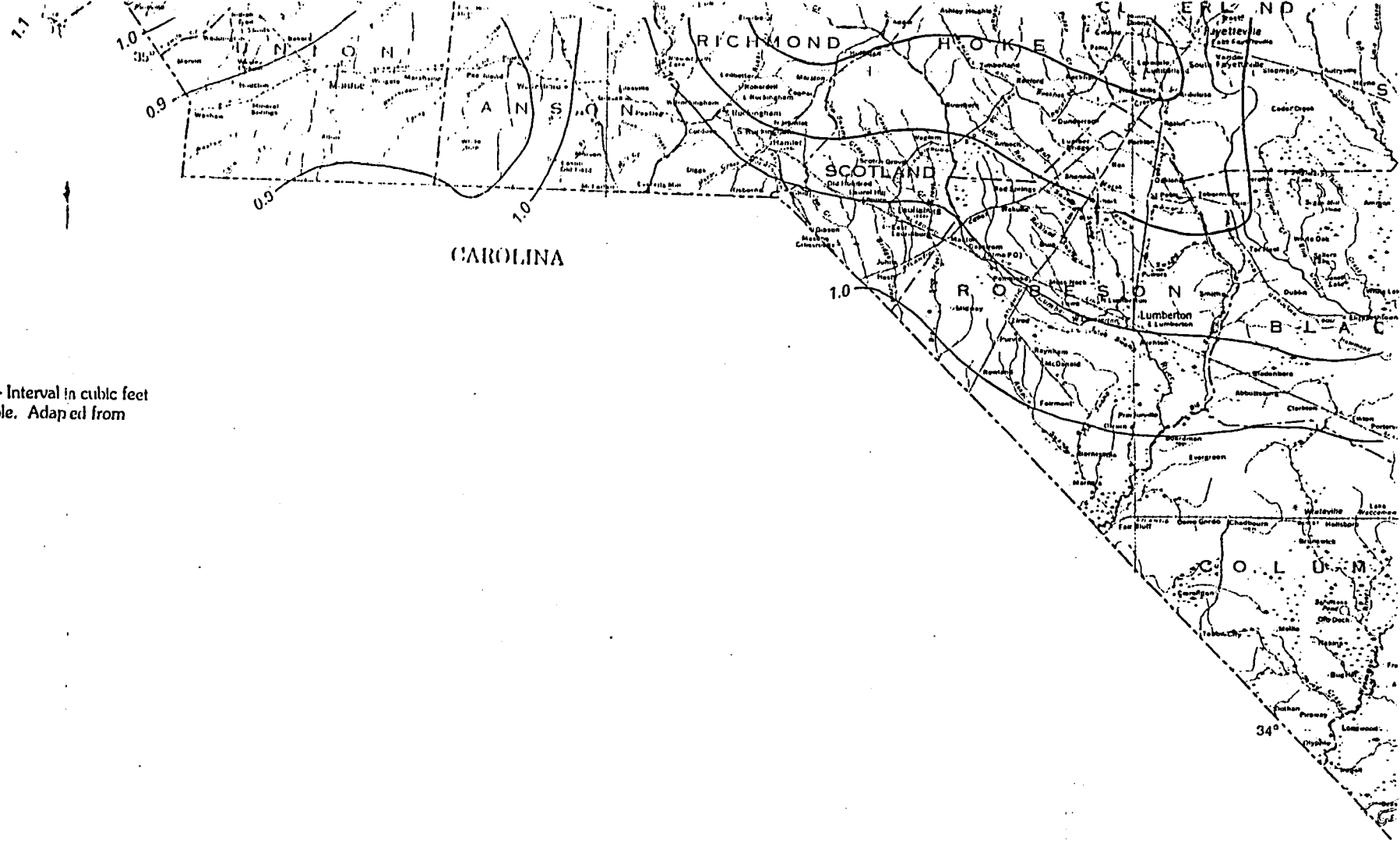
0206709810	SILVERLEAF C TRIB NR WOODVILLE	2.89	20	363306	802847	CLAUDVILLE (VA)	171
0206709910	SILVERLEAF C AT MTH NR WOODVILLE	3.97	20	363247	802758	CLAUDVILLE (VA)	171
0206709915	ARCHIES C AT SILVERLEAF C NR WOODVILLE	2.11	20	363247	802757	CLAUDVILLE (VA)	171
0206709985	ARCHIES C AT NC VA STATELINE NR WOODVILLE	9.00	20	363302	802627	CLAUDVILLE (VA)	171
0206800000	DAN R NR ASBURY	71.4	01	363235	802442	CLAUDVILLE (VA)	169
0206801235	L DAN R AT NC VA STATE LINE NR COLLINSTOWN	31.3	20	363252	802259	CLAUDVILLE (VA)	169
0206801250	L DAN R TRIB AT MTH NR COLLINSTOWN	3.79	20	363247	802307	CLAUDVILLE (VA)	169
0206835650	L DAN R AT MTH NR COLLINSTOWN	35.9	20	363217	802245	CLAUDVILLE (VA)	169
0206835750	DAN R AT SR 1432 AT JESSUP MILL	111.	20	363133	802215	STUART SE (VA)	169
0206835795	DAN R TRIB HEADWATERS NR COLLINSTOWN	2.17	20	363211	802104	STUART SE (VA)	169
0206835810	DAN R TRIB AT MTH NR COLLINSTOWN	3.64	20	363139	801949	STUART SE (VA)	169
0206849910	ELK C AT NC VA STATELINE NR AARONS CORNER	6.90	20	363240	801840	STUART SE (VA)	169
0206849950	ELK C AT MTH NR GEORGES MILL	8.98	20	363102	801822	STUART SE (VA)	169
0206850000	DAN R NR FRANCISCO	129.	01	363053	801811	STUART SE (VA)	169
0206850120	PETERS C AT NC VA STATELINE NR AARONS CORNER	14.9	20	363238	801743	STUART SE (VA)	169
0206850176	L PETERS C TRIB #1 AT MTH NR HARTS STORE	1.44	20	363207	801548	STUART SE (VA)	169
0206850252	L PETERS C TRIB #2 AT MTH NR HARTS STORE	1.84	20	363141	801613	STUART SE (VA)	169
0206850277	L PETERS C AT MTH NR HARTS STORE	5.86	20	363059	801619	STUART SE (VA)	169
0206850305	PETERS C NR HARTS STORE	26.3	20	363040	801557	STUART SE (VA)	169
0206850351	LITTLE C AT MTH NR LAWSONVILLE	3.05	20	362925	801619	HANGING ROCK	169
0206850400	PETERS C NR LAWSONVILLE	32.0	02	362912	801628	HANGING ROCK	169
0206850427	PETERS C AT MTH NR LAWSONVILLE	32.4	20	362902	801713	HANGING ROCK	169
0206850440	DAN R AT PETERS C NR GEORGES MILL	166.	20	362901	801701	HANGING ROCK	169
0206850501	BONDS B AT MTH NR LAWSONVILLE	1.35	20	362850	801639	HANGING ROCK	169
0206850800	BIG C HEADWATER NR WOODVILLE	2.88	20	363028	802915	CLAUDVILLE (VA)	171
0206850908	BIG C AT SR 1798 NR WOODVILLE	5.56	20	363009	802702	CLAUDVILLE (VA)	171
0206850999	BIG C TRIB AT MTH NR WOODVILLE	3.80	20	363012	802551	CLAUDVILLE (VA)	169
0206851010	BIG C TRIB AT MTH NR VADE MECUM	3.39	20	362949	802341	PILOT MOUNTAIN	169
0206851025	BIG C AT NC 89 NR VADE MECUM	16.2	20	362933	802336	PILOT MOUNTAIN	169
0206851200	BIG C NR FRANCISCO	18.9	02	362817	802213	HANGING ROCK	169
0206851275	PINCH GUT C TRIB AT MTH NR VADE MECUM	1.88	20	362742	802514	PILOT MOUNTAIN	169
0206851310	PINCH GUT C AT SR 1214 NR VADE MECUM	4.22	20	362743	802421	PILOT MOUNTAIN	169
0206851350	MEADOW B AT NC 89 NR VADE MECUM	2.37	20	362801	802448	PILOT MOUNTAIN	169
0206851410	MEADOW B AT MTH NR VADE MECUM	3.99	20	362806	802333	PILOT MOUNTAIN	169
0206852200	PINCH GUT C NR FRANCISCO	11.2	02	362803	802218	HANGING ROCK	169
0206852501	BIG C AT SR 1471 NR FRANCISCO	32.7	20	362820	802057	HANGING ROCK	169
0206852802	BEAVERDAM C AT MTH NR FRANCISCO	3.45	20	362825	802045	HANGING ROCK	169
0206853304	MARSHALL C AT MTH NR FRANCISCO	3.25	20	362830	801940	HANGING ROCK	169
0206853310	LONG B AT MTH NR FRANCISCO	0.74	20	362751	801909	HANGING ROCK	169
0206853600	DAN R AT NC 89 NR MOORES SPRINGS	172.	20	362653	801707	HANGING ROCK	169

Low-Flow Characteristics of Streams in North Carolina

United States Geological Survey Water-Supply Paper 2403

Prepared in cooperation with the North Carolina Department of Environment, Health, and Natural Resources





TION

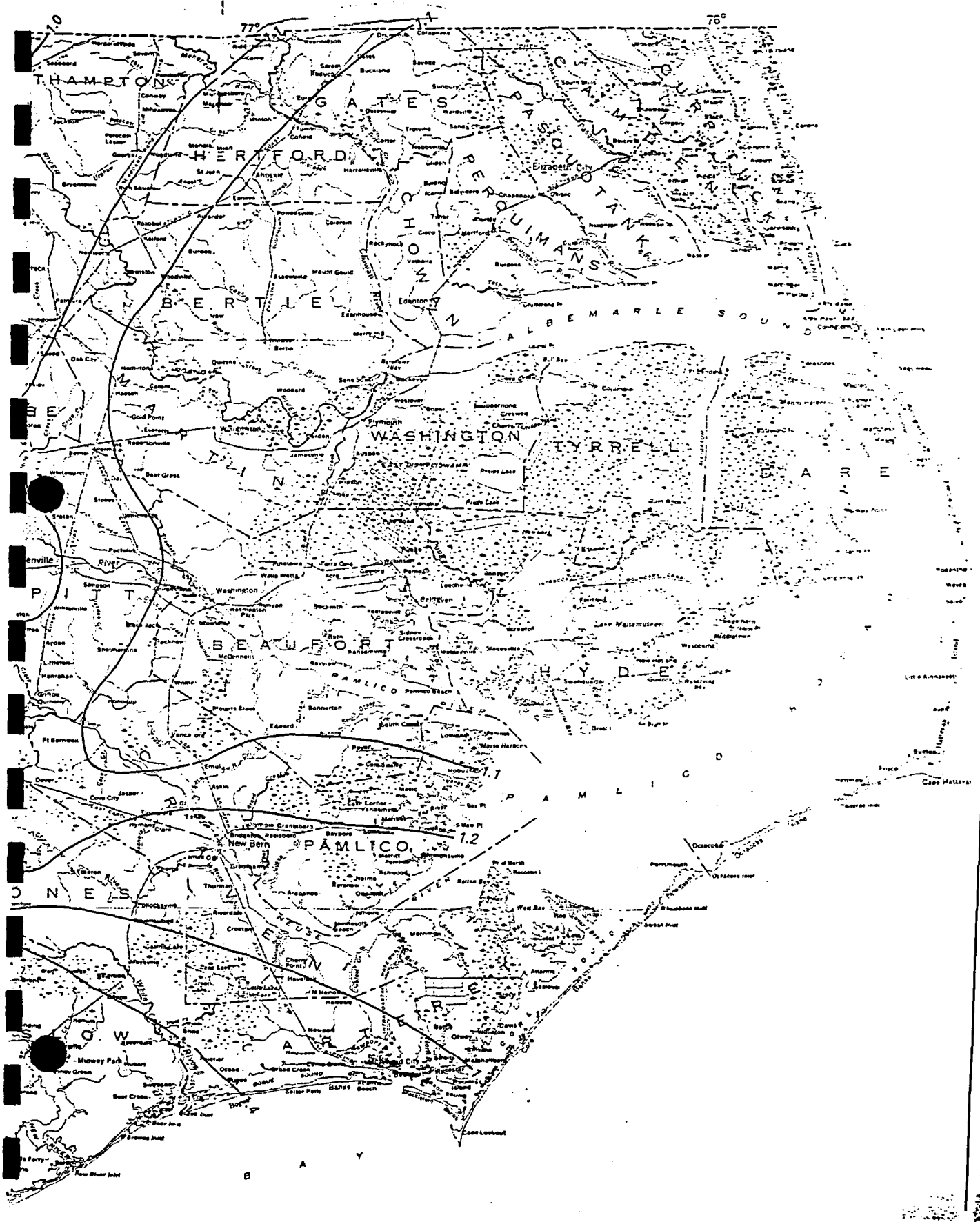
AN ANNUAL RUNOFF — Interval in cubic feet
d per square mile, is variable. Adapted from
71)

MEAN ANNUAL RUNOFF FOR NORTH CAROLINA

By

G.L. Giese and Robert R. Mason, Jr.

1993


77°
76°
HERTFORD
GATES
CHOWAN
PERQUIMANS
PASQUOTANK
CAMDEN
CURRITUCK
BERTIE
ALBEMARLE SOUND
MARTIN
WASHINGTON
TYRRELL
DARE
PITT
BEAUFORT
HYDE
PAMLICO
PAMLICO RIVER
PAMLICO SOUND
New Bern
CRAVEN
JONES
CARTERET
Cape Hatteras
1.1
1.2

REFERENCE 34

Subject: Re: Surface Water Intakes
Date: Tue, 18 Sep 2001 11:38:07 -0400
From: Melanie Bryson <Melanie.Bryson@ncmail.net>
To: Fred Hill <Fred.Hill@ncmail.net>

Fred,

That's exactly what I needed. Thanks for all the information.

Melanie

Fred Hill wrote:

> *Hi (again),*
> *Sorry I didn't recognize the creek or airport references to Hertford Co., but there are no surface intakes their either. The closest are in Halifax Co. (Weldon & Roanoke Rapids) and Pitt Co.(Greenville Util. Comm.) but they should not be affected.*
> *Thanks*
> *Fred*
>
> *Melanie Bryson wrote:*
>
> > *Fred,*
> >
> > *Thanks for the information for the Columbus County site. What about Hertford County? Are there any surface water intakes along the Cutawhiskie or Potecasi Creeks or anywhere else in that part of the county around the Tri-County Airport?*
> >
> > *Melanie*
> >
> > *Fred Hill wrote:*
> >
> > > *Hi,*
> > > *There are no surface water supplied potable water systems in that portion of Columbus Co. Intakes for Wilmington and Brunswick Co.'s NW WTP are located on the Cape Fear River above lock #1 at the Bladen Co. line. International Paper Co (Rieglewood) operates a WTP w/ intake also on the Cape Fear adjacent to their mill site. IP provides potable water to their employees and to the Rieglwood Sanitary District.*
> > >
> > > *There have been vague discussions about developing a surface supply in the southern part of the county, but nothing has developed that I am aware of.*
> > >
> > > *Thanks,*
> > > *Fred*
> > >
> > > *Melanie Bryson wrote:*
> > >
> > > > *Fred,*
> > > >
> > > > *I am investigating two different potential superfund sites in eastern North Carolina and need information concerning any surface water intakes. The first site is located in Columbus County at Vinegar Hill, along Hwy 701 northeast of Tabor City. I am interested in Grissett Swamp and if there are any surface water intakes located anywhere along Grissett Swamp east of where Hwy 701 crosses it.*
> > > >

Hertford County

> > > > *The second site is the Tri-County Airport. I am concerned with any*
> > > > *surface water intakes that may be present along Cutawhiskie Creek and*
> > > > *Potecasi Creek.*
> > > >
> > > > *All assistance you provide is greatly appreciated.*
> > > >
> > > > *Melanie Bryson*

Melanie Bryson <Melanie.Bryson@ncmail.net>
Environmental Engineer
DWM-Superfund Section
NC Department of Environment & Natural Resources

REFERENCE 35

Memorandum

Date: December 13, 2001

To: File

From: Melanie Bryson
Environmental Engineer
NC Superfund Section

Subject: Fisheries along the 15-mile Surface Water Pathway

Tri-County Airport
Aulander, Hertford County, NC
EPA ID: NCN 000 407 205

On Wednesday, December 12, 2001, I spoke with Mr. Pete Kornegay (252-338-3606) of the NC Wildlife Resources Commission concerning fisheries along Cutawhiskie and Potecasi Creeks. Mr. Kornegay stated that there was no fishing activity anywhere along Cutawhiskie Creek. However, he also stated that there were heavy fishing activities along Potecasi Creek, especially near NC 11. He stated that people fished large-mouth bass, bluegill, pumpkin seed, yellow perch, white catfish, and yellow bullheads.

REFERENCE 36

Memorandum

Date: October 18, 2001

To: File

From: Melanie Bryson
Environmental Engineer
NC Superfund Section

Subject: Natural Heritage Sites Trip Report

Tri-County Airport
Aulander, Hertford County, NC
EPA ID: NCN 000 407 205

On Tuesday, September 18, 2001, Melanie Bryson of the NC Superfund Section reviewed the topographic maps located at the NC Natural Heritage Program in the Archdale Building in downtown Raleigh, NC. The purpose of the trip was to identify and record the locations of endangered or threatened species, special concern species, and sensitive environments within a 4-mile radius of the subject site and along the 15-mile downstream surface water pathway.

An animal species classified as a NC Significantly rare species as well as a Federal Species of Concern, the Chowanoke Crayfish, was identified in Cutawhiskie Creek, approximately 3.0 miles downstream of the site's probable point of entry (PPE) along the surface water pathway.

A natural community, the Cypress Gum Swamp, was identified along Urahaw Swamp, approximately 4.0 miles northwest of the site. This natural community is not in the surface water pathway.

No other endangered or threatened species, special concern species, and sensitive environments were identified with the target distances.

REFERENCE 37

Site Name: Tri-County Airport
Site Number: NCN 000 407 205

Site Location: Aulander, Hertford County, N.C.

Latitude: 36 18 07.5
Longitude: 077 10 46.5

Date: October 01, 2001

Calculation Results

Distance from Site Location	Population		Number of Households	
	Per Ring	Cumulative	Per Ring	Cumulative
0 to 1/4 mile	3	3	1	1
>1/4 to 1/2 mile	8	11	3	4
>1/2 to 1 mile	33	44	13	17
>1 to 2 miles	177	221	71	88
>2 to 3 miles	980	1,201	365	453
>3 to 4 miles	762	1,963	283	736

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

REFERENCE 38

NORTH CAROLINA
DEPARTMENT OF CONSERVATION AND DEVELOPMENT
R. BRUCE ETHERIDGE, DIRECTOR

DIVISION OF MINERAL RESOURCES
JASPER L. STUCKEY, STATE GEOLOGIST

BULLETIN NUMBER 51

GROUND WATER IN THE Halifax Area, North Carolina

BY

M. J. MUNDORFF

PREPARED IN COOPERATION WITH THE UNITED STATES GEOLOGICAL SURVEY

RALEIGH
1946

RECORDS OF WELLS IN NORTHAMPTON COUNTY—*Continued*

Well Number	Location	Owner	Driller	Type of Well	Depth of Well (feet)	Diameter of Well (inches)	Geologic Formation and Chief Aquifer	Depth to Water Level (feet)	Yield Gallons Per Minute	Remarks
69	Jackson	Town	Bill Mathews	bored	40	1¼	Sunderland, sand		75	Six wells yield 75 gallons a minute when water level high.
70	Jackson	George Burgwyn	O. L. Truby	drilled	97	6	Cretaceous, sand	12±	6–8	Has 8-foot screen.
71	Jackson	County	Sydnor Pump & Well Co.	drilled	270	4	Cretaceous, sand			Cased 150 feet; water muddy and never cleared up. Well abandoned.
72	Jackson	Mrs. E. J. Gay	Fisher	drilled	153	4	Cretaceous, sand			Screen? Supply always satisfactory; water contains some iron.
73	Jackson	Town	Layne Atlantic Co.		260	20–8	Cretaceous, sand and gravel		20	Gravel-walled well; screen from 220 to 240 feet. Log given.
74	Jackson	Miss Emma Long	Ellis Well Co.	jetted	90	4	?			Not used now.
75	Jackson, 5 miles east of	B. L. Allen		bored	17	1¼	Wicomico, sand and gravel		7	Water contains much iron.
76	Potecasi, 2.5 miles west of	Junior G. Futrell Mrs. N. T. Blowne	?	jetted	60	1¼	Cretaceous, sand	+3⅗	2	Flows. Sulfur odor and taste. Reported depth 90 feet; measured, 60 feet.
77	Potecasi	E. B. Lassiter Lonnie Bradley	Lonnie Bradley	bored	45	1¼	Sand	+½	¾	
78	Potecasi	Seaboard Railway	Heater Well Co.	drilled	145	4½	Cretaceous, sand	+1	6½	Flows 6.5 gallons a minute 1 foot above surface. Analysis in table. Temperature 60°F 4/9/43.
79	Potecasi	E. B. Lassiter Sawmill		bored	50	1¼	Yorktown, sand		10–15	Water forms boiler scale; contains no iron. Strainer used.
80	Potecasi	E. B. Lassiter Sawmill		bored	45	1¼	Yorktown, sand		10–15	Two wells as above but no strainer used.
81	Potecasi	F. C. Jenkins		bored & driven	50	1¼	Yorktown, sand	10±	10±	Went through pipe clay. Water contains too much iron for washing clothes.
82	Potecasi	S. N. Parker	?	drilled	160	3	Cretaceous, sand	15	8	Has 116 feet of casing; water contains much iron.
83	Woodland	Woodland School		bored & driven	35	1¼	Wicomico, sand and clay			Two wells; water contains much iron. Supply sometimes inadequate.
84	Woodland	Mrs. Lewter McDaniel	E. J. Mead	jetted	205	2	Cretaceous, sand			Water contains much iron.
85	Woodland	Dr. W. R. Parker	E. J. Mead	jetted	205	3–2	Cretaceous, sand	30±		Screen used; good supply; water contains no iron.
86	Woodland	J. M. Taylor, Jim Bolton	E. J. Mead	jetted	200	2	Cretaceous, sand			Suction pump; water contains no iron.
87	Woodland	Town	Sydnor Pump & Well Co.	drilled	264	8	Cretaceous, sand and clay	27	35	Has 10-foot screen at 250 feet; tested at 35 gallons a minute with 157-foot drawdown 24 hours
88	Woodland	Town	Sydnor Pump & Well Co.	drilled	182	8	Cretaceous, sand and clay	22	60	Has 10-foot screen at 172 feet; tested at 60 gallons a minute with 108-foot drawdown. 24 hours.
89	Woodland	J. M. Brown Co.		bored & driven	50	1¼	Yorktown, sand ?		4–5	Suction pump; water contains no iron.
90	Rich Square	W. H. Spivey		driven	65	1¼	Yorktown ? sand ?			Water contains iron. Adequate supply.
91	Rich Square	W. H. Spivey		driven	20	1¼	Wicomico			Suction pump used.
92	Rehoboth	Mrs. Will Barham		bored	45	1¼	?	20±		Water contains iron. Suction pump used.
93	Boones X Road	Turner Brothers		bored	55	2½–1¼	Yorktown, sand			Strainer. Deep-well pump, with cylinder 8 feet below surface.
94	Rich Square	C. M. Robbins		driven	18	1¼	Wicomico, sand, fine			Suction pump used; water contains iron.
95	Rich Square	Rich Square School	Heater Well Co.	drilled	165	4	Cretaceous, sand, hard		15	Water comes from sand between 160 and 165 feet.
96	Rich Square	W. C. Worrell		bored & driven	22	1¼	Wicomico, sand, fine	15±	1–2	Strainer. Analysis in table