593SERBSF10,634

593SERBSF10,634

Site Name (Subject):	ULAH BATTERY/BATTERY PILES
Site ID (Document ID):	NCD981864614
Document Name (DocType):	Correspondence (C)
Report Segment:	
Description:	General Correspondence, 1981 - 1995
Date of Document:	1/12/1995
Date Received:	1/17/1994
Box: *Enter SF and # with no spaces*	SF10,634
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**

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

JAN 12 1995

RECEIVED
JAN 17 1995
SUPERFUND SECTION

4WD-WPB

Ms. Pat DeRosa, Head
CERCLA Branch
North Carolina Department of Environment,
Health and Natural Resources
Division of Solid Waste Management
401 Oberlin Road
Raleigh, North Carolina 27605-1350

Dear Ms. DeRosa:

The following reports have recently been reviewed and accepted by EPA - Region IV Site Assessment Section:

Preliminary Assessments

Cardinal Chemical Warehouse Robeson County NCD 986 209 575	No Further Remedial Action Planned (NFRAP).
New Bern Coal Gas Plant Craven County NCD 986 197 259	Further Action (FA).

Site Inspection Prioritizations (SIPs)

CF Industries Hertford County NCD 065 288 847	FA
Chemical Leaman Tank Lines New Hanover County NCD 062 677 273	NFRAP
Duke University Gate # 11 Durham County NCD 000 813 519	NFRAP
Stanadyne Inc. Beaufort County NCD 091 567 065	NFRAP

Starling David Property NFRAP
Pitt County
NCD 003 185 311

Ulah Battery Lead Reclaiming NFRAP
Randolph County
NCD 981 864 614

Enclosed please find the Remedial Site Assessment Decision Forms for each report generated by the North Carolina Superfund program and a copy of the actual report generated by the EPA Contractor.

In addition, I have enclosed a copy of the Emergency Response Kaplan Ethyl Ether Drum file.

If you have any questions concerning these site decisions, please call me at (404) 347-5059, Extension 6150.

Sincerely,

Cynthia Gurley

Cynthia K. Gurley
NC Project Officer

Enclosures

To NC

REMEDIAL SITE ASSESSMENT DECISION - EPA REGION IV

Site Name: Ulah Battery Lead Reclaiming **EPA ID#:** NCD 981 864 614

Alias Site Names: _____

City: Asheboro **County or Parish:** Randolph **State:** NC

Refer to Report Dated: December 1994 **Report type:** SIP

Report developed by: Keith Snavely, NCDEHNR

DECISION:

|x| **1. Further Remedial Site Assessment under CERCLA (Superfund) is not required because:**

|x| 1a. Site does not qualify for further remedial site assessment under CERCLA (No Further Remedial Action Planned - NFRAP)

| | 1b. Site may qualify for further action, but is deferred to: | | RCRA | | NRC

| | **2. Further Assessment Needed Under CERCLA:** 2a. (optional) Priority: | | Higher | | Lower

2b. Activity Type: | | PA | | SI | | ESI | | HRS evaluation

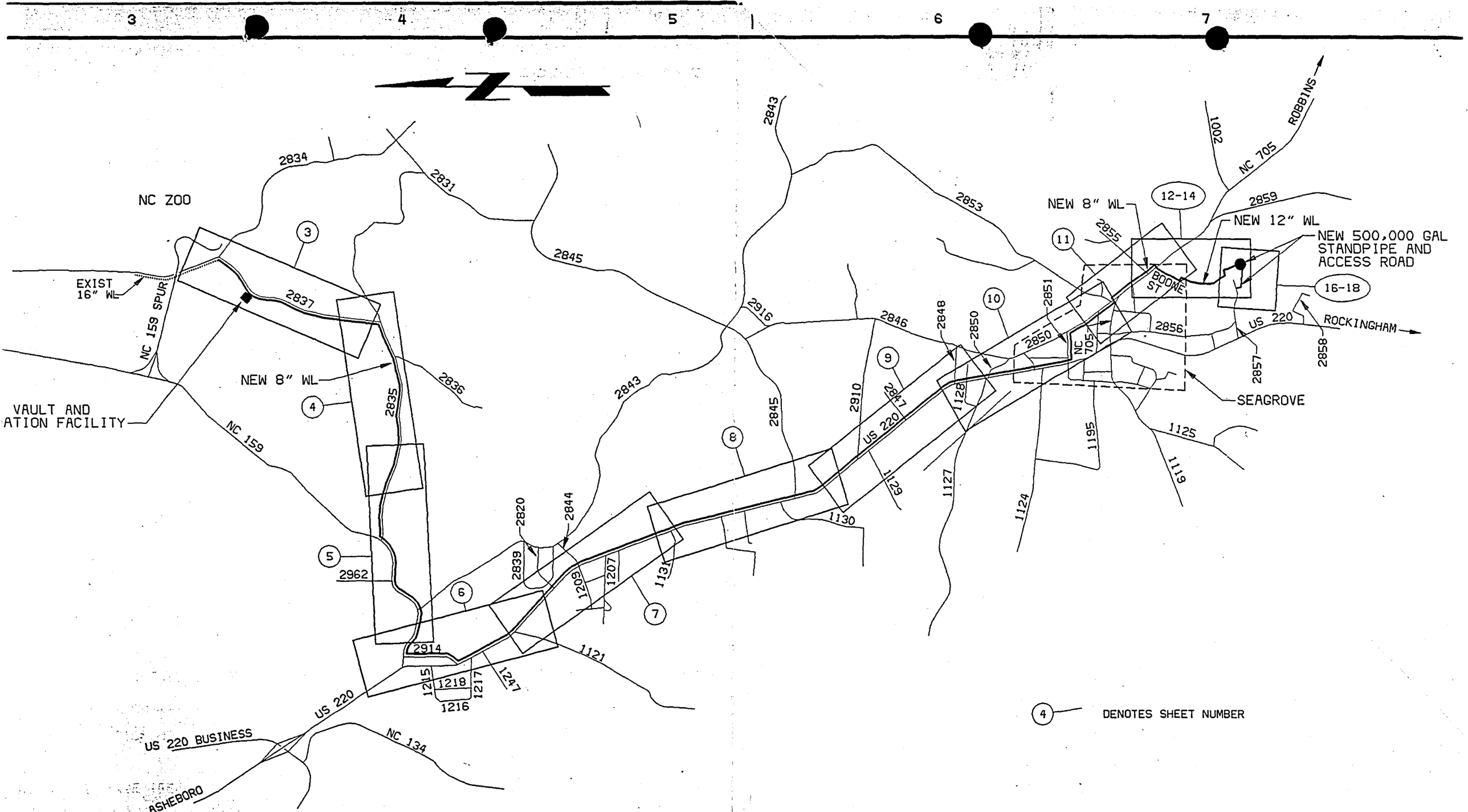
| | Other: _____

DISCUSSION/RATIONALE: Based on the removals of the battery casing piles and lead contaminated soil from the disposal areas, and the fact that the ground water and surface water pathways have not been affected by contaminant migration from the source areas, a NFRAP has been assigned. In addition, the NC Hazardous Waste Inactive Sites Program has ordered deed recordations for the residential properties located along Dinah Road to inform the public and potential buyers of past lead reclaiming operations and elevated lead levels existing in the soil of the residential properties.

Report Reviewed and Approved by: Cynthia K. Gurley Signature: Cynthia Gurley Date: 1/9/95

Site Decision Made by: Cynthia K. Gurley Signature: Cynthia Gurley Date: 1/9/95

EPA Form # 9100-3



INDEX MAP

1" = 3000'

Keith Snavely

PMMGRID STATE N.C. PUBLIC WATER SUPPLY SYSTEM 10/24/94

ACTIVE SYSTEMS

GRID LATITUDE: 353452 / 354148, LONGITUDE: 0794530 / 0795408

PWS ID	SYSTEM NAME	TYPE	POPULATION	RES.PERSON WORK PHONE	SOURCE NAME	SOURCE TYPE	SOURCE AVAIL.	LATITUDE	LONGITUDE
276126	KINGSBURY MHP	C	70	9103189203	WELL	G	P	353555	794845
276128	LEROY'S TRAILER PARK	C	60	9106291319	WELL #2	G	P	353945	794935
276144	WHITE OAK MHP	C	182	9106291319	WELL	G	P	353725	794930
	WHITE OAK MHP	C	182	9106291319	WELL	G	P	353725	794930
276151	PINEWOOD COUNTRY CLUB WTR SYST	C	178	9106650817	WELL	G	P	353650	794920
	PINEWOOD COUNTRY CLUB WTR SYST	C	178	9106650817	WELL	G	P	353650	794920
276155	SOUTHWEST MHP	C	40	9106295978	WELL SUPPLY	G	P	353840	795145
276165	HERITAGE WEST	C	40	9106650817	WELL SUPPLY	G	P	353925	795240
276169	ROCKWOOD PARK WTR SYSTEM	C	70	9106254515	WELL	G	P	353920	794850
	ROCKWOOD PARK WTR SYSTEM	C	70	9106254515	WELL	G	P	353920	794850
276171	CLAPPS CONV NURSING HOME	C	36	9106252074	WELLS	G	P	354130	794640
	CLAPPS CONV NURSING HOME	C	36	9106252074	WELLS	G	P	354130	794640
276201	RICHLAND VILLAGE MHP	C	210	9106260278	WELLS	G	P	353920	794545
	RICHLAND VILLAGE MHP	C	210	9106260278	WELLS	G	P	353920	794545
276410	ANTIOCH MISS BAPTIST CH	N	50	9108737333	WELL	G	P	353500	795015
276448	CRESTVIEW WESLEYAN CHURCH	N	114	9106256847	WELL	G	P	353920	794900
276450	FOOTHILLS HOSIERY	P	25	9106250628	WELL	G	P	353500	794715
276452	ECONO OIL CO	N	30	9106293134	WELL	G	P	354115	795025
276464	FIRST BAPTIST CH	N	80	9108737301	WELL	G	P	353614	794710
276469	FRIENDSHIP BAPTIST CHURCH	N	140	9106721927	WELL	G	P	354116	795332
276490	HWY 49 SHELL SERVICE	N	50	9106299857	WELL	G	P	354125	795030
276521	NEW HOPE METH CH	N	100	9106254765	WELL	G	P	353615	795140
276545	RICHLAND BAPTIST CHURCH	N	200	9106293344	WELL	G	P	354000	794530
276568	SOUTHWESTERN RANDOLPH HIGH SCH	P	900	9106292131	WELLS	G	P	353800	795300
	SOUTHWESTERN RANDOLPH HIGH SCH	P	900	9106292131	WELLS	G	P	353800	795300
276587	WEST BEND UNITED METH CHURCH	N	344	9106255025	WELL	G	P	354108	795000
276625	JENNIFER'S LEARNING CENTER	P	94	9106292359	WELL #1	G	P	354010	794955
276630	SOUTHWESTERN RANDOLPH MID SCH	P	650	9106292131	WELL #1	G	P	353730	795230
	SOUTHWESTERN RANDOLPH MID SCH	P	650	9106292131	WELL #2	G	P	353731	795232

RECEIVED
OCT 26 1994
SUPERFUND SECTION

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

SITE NAME: Utah Battery Lead Reclaiming CERCLIS #: NCD 981-864-614

AKA: _____ SSID: _____

ADDRESS: SR 1219 - Dinkil Rd

CITY: Asheboro STATE: NC ZIP CODE: 27203

SITE REFERENCE POINT: Site Point

USGS QUAD MAP NAME: Asheboro TOWNSHIP: ____ N/S RANGE: ____ E/W

SCALE: 1:24;000 MAP DATE: 1170R0/981 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: 79 ° 45 ' 00 " LATITUDE: 35 ° 37 ' 30 "

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

LONGITUDE: 79 ° 47 ' 30 " LATITUDE: 35 ° 37 30 "

CALCULATIONS: LATITUDE (7.5' QUADRANGLE MAP)

A) NUMBER OF RULER GRADUATIONS FROM LATITUDE GRID LINE TO SITE REF POINT: 155

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

A x 0.3304 = 51 . 21 "

C) EXPRESS IN MINUTES AND SECONDS (1'= 60"): 0 ' 51 . 21 "

D) ADD TO STARTING LATITUDE: 35 ° 37 ' 30 . 0 " + 0 ' 51 . 21 = 35° 38' 21.2

SITE LATITUDE: 35 ° 38 ' 21 . 0 "

CALCULATIONS: LONGITUDE (7.5' QUADRANGLE MAP)

A) NUMBER OF RULER GRADUATIONS FROM RIGHT LONGITUDE LINE TO SITE REF POINT: 420

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

A x 0.3304 = 138 . 76 "

C) EXPRESS IN MINUTES AND SECONDS (1'= 60"): 2 ' 18 . 76 "

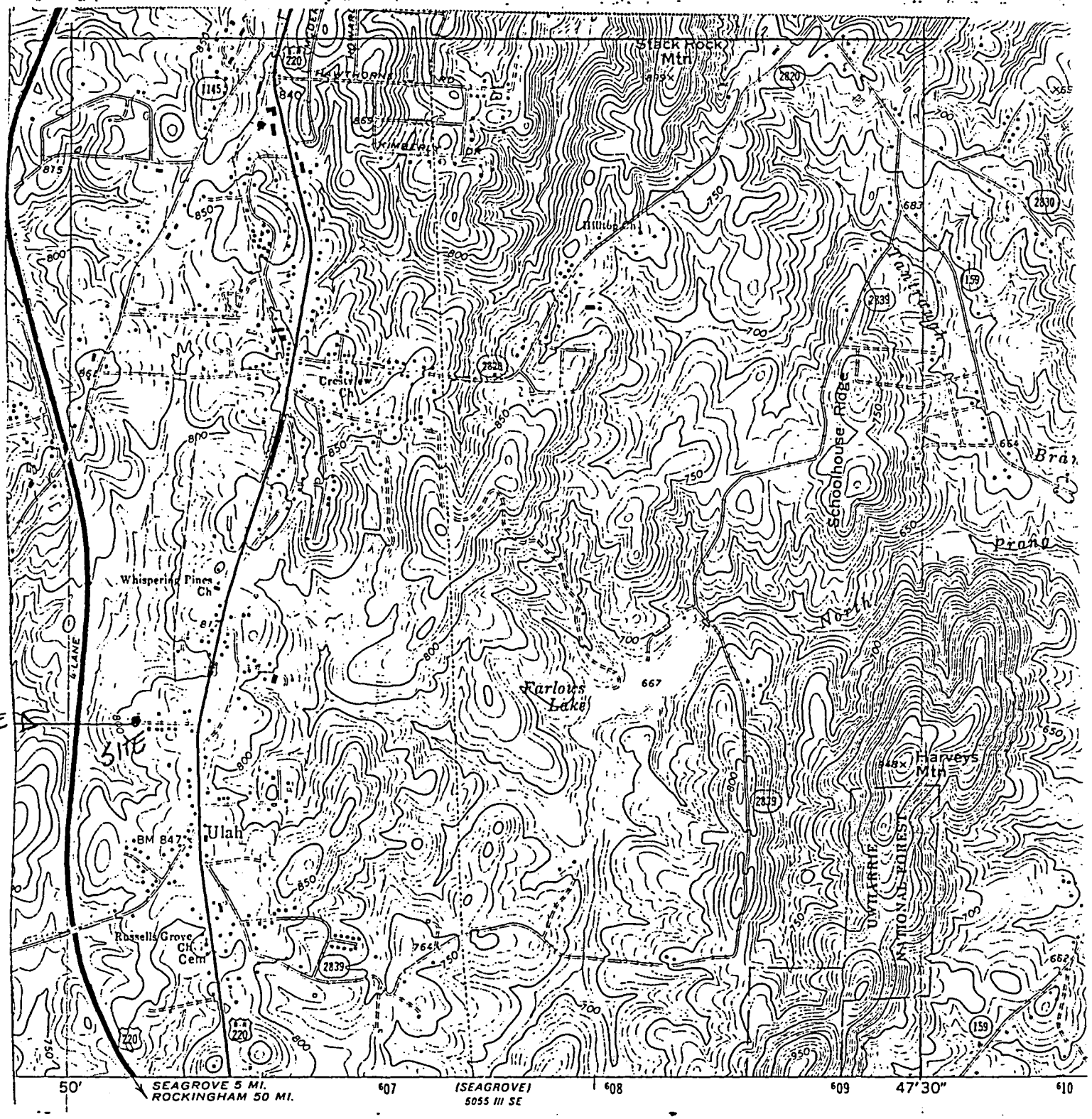
D) ADD TO STARTING LONGITUDE: 79 ° 47 ' 30 . 0 " + 2 ' 18 . 76 = 79° 49' 49"

SITE LONGITUDE: 79 ° 49 ' 49 . 0 "

INVESTIGATOR: R. Keith Gravely DATE: 9/29/94

NCD 981 864 614

SITE NAME: ULAH BATTERY LEAD Recycling NUMBER: NCD 981 864 614



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

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

LATITUDE: 35 37' 30" LONGITUDE: 79° 47' 30"

MEMO

DATE: December 24, 1994

TO: File

FROM: Keith Snavely RKS
Hydrogeologist
NC Superfund

RE: Drainage Area
Ulah Battery Lead Reclaiming
NCD 981 864 614

The drainage area for the referenced site consists of the areas north, south and west of the site along the Hammond, Coble and Hoskins residents. The site contains two small intermittent drainage ditches that drain the Hoskins/ Coble properties and the Hammond properties. These flow towards the unnamed tributary of Little River. A review of the site map prepared during the SI Report and the Topographic Map of the 4-mile TDL indicated a site drainage area of approximately 60 acres.

MEMO

DATE: Dcember 24, 1994

TO: File

FROM: Keith Snavely KLS
Hydrogeologist
NC Superfund

RE: Flow rates of Little River
Ulah Battery Lead Reclaiming
NCD 981 864 614

Mean annual flow rates were determined along LittleRiver from the site's probable points of entry (PPE), southeast towards the city of Seagrove to the end of the 15-mile surface water pathway. A review of US Department of Interior Wetland Maps of Asheboro, Farmer, Eleazer, and Seagrove and a review of the HRS Guidance manual, Interim Final- section 8.3, determined two break points exist along the surface water pathway. They occur at the intersection of the unnamed tributary that drains the site and empties into Little River and from SR 1114 to the End of the 15-mile surface water pathway south of Seagrove. Therefore three stream segments exists along the 15-mile surface water pathway for determining mean annual flow. These segments exist at 1, 3, and 11 miles in length from the PPE, respectively.

In order to calculate the mean average flow along these segments, the average annual runoff for the watersheds along the site drainage area was determined to be 13 inches per year (Water Resources Investigations Report 88-4094). The mean annual flow rates for each segment was determined by multiplying the mean annual runoff (inch/year) by the quotient of the drainage area (determined from USGS Open-File Report 83-211) divided by a conversion factor of 13.58. The flow rate calculations for the three segments are listed below. The flow rate for the last segment was determined by averaging the flow rates for three gauging stations located between SR 1114 and Seagrove.

SEGMENTS

Little River Head Waters Near Ulah
13 in/yr X 1.61 sq. miles divided by 13.58 = 1.54 cfs

Little River near Ulah
13 in/yr X 6.30 sq. miles divided by 13.58 = 6.03 cfs

Little River from SR 1114 to end of 15-mile surface water pathway
13 in/yr X 14.1 sq. miles divided by 13.58 = 13.49 cfs

13 in/yr X 20.4 sq. miles divided by 13.58 = 19.52 cfs

13 in/yr X 40.6 sq. miles divided by 13.58 = 38.86 cfs

13.49 + 19.52 + 38.86 = 71.87 Divided by 3 = 23.95 or approximately 24 cfs

MEMO

DATE: November 30, 1994

TO: File

FROM: Keith Snavely KKS
Hydrogeologist
NC Superfund

RE: Groundwater Population in 4-mile TDL
Ulah Battery Lead Reclaiming
NCD 981 864 614

The number of residents, workers, and students that are supplied drinking water from groundwater community wells and private water supply wells were calculated within the 4-mile TDL from the referenced site. This was determined by calculating the difference between the population supplied by municipal water from the Cities of Asheboro and Seagrove within the TDL, and population not supplied by municipal water. Information on community water supply wells has been determined by the NC Division of Environmental Health, Public Water Supply Section in Raleigh, North Carolina.

Groundwater population within the 4-mile TDL was determined by counting the houses, not supplied by municipal water, from each distance ring within the USGS 7.5 quadrangle maps of Asheboro, Seagrove, Eleazer, and Farmer. In order to determine the total persons per distance ring, the house count was multiplied by the average persons per household in Randolph County which is 2.57 persons (based on the 1990 US Census data). In addition, the 1992 population data from the NC State Center for Geographical Information and Analysis (CGIA) in Raleigh, North Carolina was used to update this groundwater population count since the USGS maps used for house counting are approximately 10 years old. CGIA data was used in place of the house count for the distance ring of 0.50 to 1 mile. All other populations within each distance ring were determined from house counts from the USGS maps.

In addition to the house count within the 4-mile TDL, population data from the NC Public Water Supply Section of NCDEHNR includes residents from trailer parks, daycares, and schools that are supplied water from community water supply wells within the 4-mile TDL. These residents are added to the groundwater population from the USGS maps for a total value of persons supplied drinking water from groundwater. The population data is listed in the table below.

Distance from site location	Population Per Ring	Population Cumulative
0 to 0.25	35	35
0.25 to 0.50	99	143
0.50 to 1.00	478	621
1.00 to 2.00	1620	2241
2.00 to 3.00	1943	4184
3.00 to 4.00	1747	5931

MEMO

DATE: October 26, 1994

TO: File

FROM: Keith Snavely RKS
Hydrogeologist
NC Superfund

RE: Wellhead Protection- Randolph County
Ulah Battery Lead Reclaiming
NCD 991 278 755

The Groundwater Section of the North Carolina Division of Environmental Management was contacted on October 25, 1994, to note if there are any Wellhead Protection programs for Randolph County. According to the Groundwater Section, Randolph County has no Wellhead Protection areas. In addition, the North Carolina Rural Water Supply Association (Mr. Roger Swan (704) 731-6963, a water supply association that assist in starting Wellhead protection programs) was contacted to note if any Wellhead Protection programs are in progress and have not yet been permitted in Randolph County. There are no Wellhead Protection programs in progress for Randolph County.

MEMO

DATE: October 25, 1994

TO: File

FROM: Keith Snavely KKS
Hydrogeologist
NC Superfund

RE: Critical Habitats and Endangered Species
Ulah Battery Lead Reclaiming
NCD 981 864 614
Asheboro, NC

On October 24, 1994, the Parks and Recreation section of NCDEHNR was visited to research Critical Habitats and Endangered Species within the 4-mile TDL and 15-mile Surface Water Pathway of the referenced site. An endangered and rare fish and plant was noted within the 4-mile TDL. The fish, the Carolina Darter was located along South Prong River approximately 2.75 miles southeast of the site. The plant, the Piedmont Indigo-bush is located 3.5 miles northwest of the site near Highway 64.

MEMO

DATE: October 13, 1994

TO: File

FROM: Keith Snavely
Hydrogeologist
NC Superfund

RE: Little River Fishing Information
Randolph County
Ulah Lead Reclaiming NCD 981 864 614
Asheboro, North Carolina

Mr. Stuart Cole, a fish biologist for Randolph County, was contacted to discuss the amount of fishing and fish caught on Little River near Ulah, NC in Randolph County. He did not know the amount of fish that were removed in pounds per year, but was able to confirm that this stretch of river was fished and the primary fish that are present in Little River are large mouth bass, sunfish, and catfish.

MEMO

DATE: October 11, 1994

TO: File

FROM: Keith Snavely KS
Hydrogeologist
NC Superfund

RE: Wetlands in 4-mile TDL and 15-mile Surface Water Pathway
Ulah Battery Lead Reclaiming
NCD 981 864 614

Total wetlands within each distance ring of the 4-mile target distance limit, and total wetland frontage of the 15-mile surface water pathway of the referenced site were determined from the Asheboro and Seagrove Wetland Maps. A digital planimeter was used to determine the total wetland acreage within each distance ring using a scale of 1"=24000". The wetland acreage was determined within the 4-mile TDL from the referenced site at 0 - 0.25 miles, 0.25 to 0.50 miles, 0.50 to 1 mile, 1 to 2 miles, 2 to 3 miles and 3 to 4 miles. The acreage within each distance ring is listed below:

Distance Rings (miles)	Wetland Acreage
0 - 0.25	8.5
0.25 - 0.50	0.0
0.50 - 1.00	28.0
1.00 - 2.00	48.4
2.00 - 3.00	113.0
3.00 - 4.00	52.0

Wetland frontage within the surface water pathway from the referenced site was determined by following the methodology in the HRS manual section 8.16 (Highlight 8-61). The frontage was measured using a topographic map measurer with a scale of 1"=24000". The surface water pathway was traced from the site's PPE south along Little River to southeast of Seagrove. The total wetland frontage along the 15-mile TDL of Little River is approximately 8 miles. The closest wetlands to the site are forested wetlands, and scrub-shrub wetlands west and south of the site.

Refer to 4-mile TDL acreage and surface water pathway maps for highlighted wetland areas.

MEMO

DATE: October 11, 1994

TO: File

FROM: Keith Snavely KS
Hydrogeologist
NC Superfund

RE: Fishery Information - Little River
Randolph County
Ulah Battery Lead Reclaiming
NCD 981 864 614

Mike Faw, Wildlife Officer in Randolph County, (ph 910-626-2850) was contacted about fishing along Little River within Randolph County. He noted that bass fishing is present in Little River. In addition, he noted fishing at the Crossroad of SR 1114, at HWY 134 Crossroad, and at a pond along SR 1135 and Little River. He also noted fishing along the Crossroad of SR 1119 west of Seagrove.

MEMO

DATE: October 6, 1994

TO: File

FROM: Keith Snavely KS
Hydrogeologist
NC Superfund

RE: Little River Fishery Information
Ulah Battery Lead Reclaiming
NCD 981 864 614

Mr. Mike Kaykendall, (910-576-1014) the wildlife officer in Montgomery County was contacted about fishing information along Little River near Seagrove, NC. According to Mr. Kaykendall, fishing is present in this segment of Little River although public access is limited to the river. He did not have any information about the amount of fish removed from this segment and referred me to the fish biologist, Ms. Sheri Bryant (910-449-7625) in Randolph County.

MEMO

DATE: October 6, 1994

TO: File

FROM: Keith Snavely RKS
Hydrogeologist
NC Superfund

RE: Water Intakes- Little River
Ulah Battery Lead Reclaiming
NCD 981 864 614

Mr. Wade McDonald of the Public Water Supply section of the Winston-Salem Division of Environmental Health was contacted to determine if there were water intakes located along Little River in Randolph County from Ulah to Seagrove. According to Mr. McDonald there are no water intakes from this River along this river segment.

MEMO

DATE: September 30, 1994

TO: File

FROM: Keith Snavely KS
Hydrogeologist
NC Superfund

RE: Seagrove Water Supply System
Ulah Battery Lead Reclaiming
NCD 981 864 614

Mike Walker of Seagrove Water Utilities was contacted to discuss the Seagrove metropolitan water system and its extent from the Seagrove area north towards Asheboro and Ulah. According to Mr. Walker, the Seagrove water system serves as a metropolitan water supply similar to a county water system. The Seagrove water system purchases its water from Asheboro which uses surface water bodies as their main source of water supply. There are no water supply wells used as a source of water supply for the Seagrove system. Mr. Walker noted the water lines from the Seagrove system start near SR 2834 and SR 2837 near the Asheboro Zoo and continue down SR 2837 to SR 2835. They continue west on SR 2835 to HWY 220 and extend south down HWY 220 into Seagrove. In addition to the water purchased from the Asheboro system, Seagrove has a 500,000 gallon storage tank used as a secondary water supply.

MEMO

DATE: September 30, 1994

TO: File

FROM: Keith Snavely
Hydrogeologist KKS
NC Superfund

RE: Asheboro Water Distribution
Ulah Battery Lead Reclaiming
Asheboro, North Carolina

Mr. Dumont Bunker of the City of Asheboro Water Supply was contacted on September 29, 1994, to discuss Asheboro's Water Supply. The city receives its water supply from two Lakes. The primary water supply is from Lake Lucas the secondary water supply is from Lake Reese. There are no water supply wells that are used as city water supply sources. He said he would send me an updated water supply map of Asheboro. In addition, he noted that the City of Seagrove has a water supply system that will connect to Asheboro's system and he would contact the City of Seagrove to obtain that water supply map. The Seagrove water supply system serves as the county water supply in the area of Ulah since Randolph county does not have a water supply system.

MEMO

DATE: September 27, 1994

TO: File

FROM: Keith Snavely KS
NC Superfund
Hydrogeologist

RE: Review of Remedial Activities
June 1994 Report
Ulah Battery Lead Reclaiming Site
NCD 981 864 614
Asheboro, North Carolina

On Tuesday September 26 and 27, 1994, I contacted Scott Elder of Weston and Matthew Taylor of EPA to discuss the referenced report results for the removal of battery chip waste piles and lead contaminated soil. The report indicated that all waste piles containing battery chips and lead contaminated soil near the waste pile areas have been removed. Three maps were produced of the waste pile areas and soil sample locations from each pile. They are of the Hoskin's Stockpile, Lower Stockpile, and Strickland Stockpile. In addition, a fourth map was constructed for the location of soil samples collected from each resident along Dinah Road (State HWY 1219).

Although the report indicated that waste piles of battery chips and lead contaminated soil in the stockpile areas were removed, the maps of Hoskin's and Lower stockpile sampling areas indicated elevated lead levels at the surface following scraping activities. Matthew Taylor indicated that these areas (indicated in red print on original sampling maps) were scraped although confirmation sampling (sampling after scraping) was not performed in some of these areas. He also noted that areas in green print in the stockpile sampling maps were final confirmation sample values that indicate lower lead levels.

Matthew Taylor noted that soil samples were collected from two trenches and from residential properties along Dinah Road. Each soil sample was tested for lead. The referenced report indicated there are some properties and some areas in the trench that contained elevated lead levels. According to Matthew Taylor, most of these areas are indicative of background lead levels, although two to three samples contained 500 to 1000 ppm of lead. These areas were not removed since most of were considered isolated point sources.

In conclusion, all waste piles and associated lead contaminated soil from the pile areas have been removed. Lead is present in some residential properties above background levels.

3 June 1994

TO: File

FROM: Jack Butler

SUBJECT: Ulah Battery
NCD981864614
Asheboro, Randolph County

Mr. Mat Taylor, EPA Region IV, contacted our office to inform us that the removal action at the subject site is complete and EPA considers the site to no longer present any threat to public health or the environment. Mr. Taylor reported that all casings have been removed, soil below the casings has been removed, confirmatory sampling has been done and the excavated areas will be reseeded.

In addition to the areas behind Mr. Hoskin's house and the area deep in the woods at the end of the road, an additional small area was found on the north side of the road near the roads entrance. This is behind a house where Herbert Bowman lives. He rents from Helen Strickland. Reportedly, Joe Jackson broke batteries in this area approximately 20 years ago, however, he is now deceased. Approximately 4 to 6 truck loads of soil and debris was removed from this area. A total of approximately 600 yards^3 have been removed from the site. Approximately half this was casings and approximately half was contaminated soil.

This site was visited by the North Carolina Superfund Section on 24 March 1994 and 26 April 1994. On both occasions Matt Taylor, OSC, was met to tour the site and get a site status update. Photos were also taken of ongoing remediation to document this activity.

JB/dk/19

15 March 1994

TO: File

FROM: Jack Butler JWB

SUBJECT: Ulah Battery
NCD981864614
Asheboro, Randolph County

Mr. Matt Taylor, EPA Region IV Emergency Response Branch, contacted our office on this date to inform us that he has returned to the subject site to continue the removal action conducted in October and November 1993. Mr. Taylor reported that they intend on shipping approximately 4,000 cubic yards of shredded batteries to Pinewood, South Carolina. This action will take approximately 2½ weeks (approximately 15 trucks per day). During this action Mr. Taylor can be reached at the site at (910) 629-0357. Mr. Taylor intends to sample soil under the removal area and stockpile any residual contaminated soil. This will be removed after more funding becomes available in June 1994.

JB/dk/18

9 November 1993

TO: File

FROM: Jack Butler

SUBJECT: Ulah Battery
NCD981864614
Asheboro, Randolph County, NC

On 27 October 1993, Mr. Matt Taylor, EPA Region IV, contacted our office to inform us that he was at the subject site to perform Phase I of a Removal Action. On 29 October 1993, he recontacted our office to give an update, and on 4 November representatives from the NC Superfund Section office visited the site to photograph the progress.

By 4 November all batteries in the lower pile in the woods had been shredded and stockpiled on plastic in the area of the original pile. All intact cases in the pile behind Mr. Hoskin's house were in the process of being moved to the shredder and added to this stockpile. This shredding reduces the volume by approximately 75%. Previously crushed and/or burned casings located in the pile behind Mr. Hoskin's house will be left there until final disposal.

During the visit on 4 November, Mr. Taylor indicated that he planned to return to remove the shredded and crushed battery cases as a hazardous waste to an off-site RCRA approved facility in February or March 1994. Mr. Taylor estimated that the transportation and disposal would cost approximately $600K to $1M.

JB/dk/17

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

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

COMMUNITY FACT SHEET

****

Site Clean-up — Matt Taylor, On-Scene Coordinator
Ulah Battery Site — U.S. Environmental Protection Agency

****

The United States Environmental Protection Agency (EPA) will be conducting a clean-up operation at the Ulah Battery site during the month of October and November 1992. This time frame is subject to change depending on site specific activities. Between 1965 and 1981 lead was recovered from automotive batteries at the site. As a result of this "battery cracking" operation certain areas were contaminated with lead. The State of North Carolina Department of Environment, Health, and Natural Resources conducted a clean-up in September 1988 of the battery processing and disposal area. EPA plans to remove and transport the two remaining battery piles to a proper disposal facility.

Work will begin each morning, Monday through Saturday, around 7:00 am. Several pieces of heavy equipment will be used on site and trucks will be entering and exiting the site removing the battery piles. We apologize for any inconvenience these trucks and other site activities may cause and we appreciate your patience while EPA conducts the clean-up. If any site activities become a problem or you have any questions, please call or stop by the office trailer and ask for Matt Taylor. Matt Taylor is an On-Scene Coordinator and represents the U.S. EPA at the Ulah Battery site.

You may also notice that workers at the site are wearing protective clothing. This type of equipment is used as a matter of practice on all U.S. EPA clean-ups and does not mean there is danger to area residents. In fact, only the workers who handle the battery piles directly will be wearing protective clothing. Again we would like to thank you for your patience and understanding while we are working to remove the battery piles. Future "Community Fact Sheets" will be distributed as needed.

Site Telephone Number:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

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

RECEIVED
OCT 0 6 1993
NC DIVISION OF SOLID WASTE MANAGEMENT

SEP 2 8 1993

Mr. Mike Kelley, Deputy Director
Solid Waste Management Division
North Carolina Division of
Solid Waste Management
P.O. Box 27687
Raleigh, NC 27611-7687

Dear Mr. Kelley:

The U.S. Environmental Protection Agency's Emergency Response and Removal Branch (ERRB) reviewed the information sent to EPA on the following site to determine it's eligibility for a potential removal action under the National Contingency Plan (NCP). The site information was evaluated using criteria from Section 300.415 of the NCP and current ERRB program guidance.

Based upon ERRB's review, the listed site meets the criteria for removal eligibility and has been assigned to the following On-Scene Coordinator (OSC):

Ulah Battery Reclaiming, Asheboro, NC - Matt Taylor

Should you have any questions concerning this site, please contact the OSC at (404) 347-3931.

Sincerely,

Myron D. Lair, Chief
Emergency Response and Removal Branch

cc: Narindar Kumar, Site Assessment Section, EPA

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

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary

DEHNR

21 September 1993

TO: Debbie Crane
Public Affairs Officer

FROM: Jack Butler, PE
Environmental Engineering Supervisor

SUBJECT: Ulah Battery, NCD981864614
Asheboro, Randolph County

As we discussed last week on the telephone, EPA Region IV is presently conducting soil sampling at the subject site in response to an immediate removal request from our office. This removal request was in response to a report of a third child in the area with elevated blood lead levels. The attached site summary is provided for your information.

The two remaining piles of crushed and/or buried battery casings are the primary areas being addressed by the present removal activity. Conversations with Mr. Matt Taylor, EPA On Scene Coordinator (OSC) for this project indicate that actual removal of casings and soil are presently scheduled for mid to late October 1993. Removal options discussed with Mr. Taylor during our site visit on 15 September include excavation, transportation as hazardous material, and off-site treatment and disposal or excavation, on-site treatment, transportation as non-hazardous material and off-site disposal.

Mr. Jim Martin and Ms. Karen Allen, Randolph County Health Department, have also been contacted and informed of this present site activity. If you have any questions or would like to discuss this site, please contact me at (919) 733-2801.

JB/dk/Ulah.15

Attachment

cc: Mike Kelly, Deputy Director, Division Solid Waste Management

P.O. Box 27687, Raleigh, North Carolina 27611-7687 Telephone 919-733-4996 FAX 919-733-4810
An Equal Opportunity Affirmative Action Employer 50% recycled/ 10% post-consumer paper

SITE SUMMARY

ULAH BATTERY RECLAMATION/BATTERY PILES

Site Description

The Ulah Battery Reclamation/Battery Piles site is approximately two miles south of Asheboro in Randolph County on SR 1219, in the rural residential community of Ulah. The site was used as a battery breaking operation between 1965 and 1981. Batteries were broken and lead plates were removed and melted in drums. Battery acid was allowed to spill onto the ground. The Ulah Battery Reclamation site consisted of a battery processing area (this area was cleaned up using the Inactive Hazardous Sites Cleanup Fund) and two battery piles which remain at the site.

The remediation of the battery processing and disposal area was conducted by the North Carolina Superfund Section in September 1988. This remediation was in part in response to a report of two children in the area who had elevated blood lead levels. The processing and disposal area present the greatest direct contact hazard to the health of the local residents and the greatest threat to groundwater used as the drinking water sources in the area. The remediation consisted of removal of approximately 2,000 tons of contaminated soil and battery casings for off-site disposal in a permitted hazardous waste landfill. The excavated area was backfilled with clean soil, graded to the original contour and reseeded to prevent erosion. The cost of this remedial action, including mobilization, transportation, disposal and restoration of the excavated area, was approximately $350,000.

The two remaining battery piles consist of approximately 750 cubic yards and 700 cubic yards of crushed and uncrushed battery casings, respectively. Based on an estimate of 1.0 ton per cubic yard for the two battery piles, approximately 1,450 tons of casings remain on site. In addition, an estimated 300 tons of contaminated soil beneath the battery piles will likely require remediation

SITE HEALTH AND SAFETY PLAN

A. General Information

Site Name Ulah Battery Lead Reclaiming ID # NCD 981 864 614

Location SR 1219, Asheboro, Randolph County, NC

Proposed Date of Investigation September 15, 1993

Date of Briefing September 14, 1993

Date of Debriefing September 16, 1993

Nature of Visit (check one):

On-Site Reconnaissance	
Sampling	X
Remediation Overview	
Sampling Overview	X

Health Department Official Contacted Mr. James Martin

Date of Contact September 8, 1993

Site Investigation Team: All site personnel have read the Site Health and Safety Plan and are familiar with its provisions.

	Personnel	Responsibilities	Signature
Team 1	Jack Butler	team leader, sampling	Jack Butler
Team 1	David Lilley	sampling	David Lilley

Plan Preparation:

Prepared By: David Lilley, Industrial Hygienist

Reviewed By: Jack Butler, Environmental Engineer

B. SITE/WASTE CHARACTERISTICS

Waste Type(s) ____ Liquid X Solid ____ Sludge ____ Gas

Characteristics ____ Corrosive ____ Ignitable ____ Radioactive

____ Volatile X Toxic ____ Reactive ____ Other

List Known or Suspected Hazards (physical, chemical biological or radioactive) on Site and their toxicological effects. Also, if known, list chemical amounts

HAZARD	WARNING PROPERTIES	TLV
Lead	Odor Threshold (OT) = no data	$0.05 mg/m^3$

ID # NCD 981 864 614

Facility Description: Size approx. 5 acres Buildings 10 homes

Disposal Methods Being Investigated Surface disposal of battery cases and spillage of lead from a lead reclaiming operation.

Unusual Features on Site (dike integrity, power lines, terrain, etc.): Two large piles of battery casings on-site: one was 25' high and 75'x 100' in diameter, the other 40' in diameter.

History of the Site: Site was used from 1965 to 1981 as a lead reclaiming operation. Batteries were broken on-site and lead plates melted in a 55 gallon drum. The battery casings were burned, used as road fill or just piled up. Samples taken prior to cleanup showed lead levels in the soil from 0.6 to 14.4%.

C. HAZARD EVALUATION

The site can be toured and sampled in level D protection. PE or PVC gloves will be worn while collecting water samples. Steel toed work boots will be worn while conducting tour and sampling.

D. WORK PLAN INSTRUCTION

Map or Sketch Attached? yes

Perimeter Identified? no

Command Post Identified? no

Zones of Contamination Identified? no

Personal Protective Equipment/Level of Protection: ____ C _X_ D

Modifications Wear goggles and PVC gloves while preparing and collecting acid preserved samples. Avoid breathing acid vapors. Rinse pipetts with deionized water before disposing of in trash bag.

ID # NCD 981 864 614

Surveillance Equipment:

_____ HNU	_____ Detector Tubes and Pumps
_____ OVA	_____ 02 Meter
_____ Explosimeter	_____ Radiation Monitor

Decontamination Procedures

_____Level C Respirator wash, respirator removal, suit wash (if needed), suit removal, boot wash, boot removal and glove removal.

___X___Level D Boot wash and rinse and boot removal, suit removal, glove and goggle removal.

Modifications Dispose of trash properly, on-site if possible.

Work Schedule/Visit Objectives The purpose of this visit is to determine if the site poses a threat to the public health or environment because of releases of contaminants to groundwater. Sampling may consist of drinking water well sampling.

EMERGENCY PRECAUTIONS

Route of Exposure	First Aid
Eyes	irrigate immediately
Skin	soap and water wash
Inhalation	fresh air and artificial respiration
Ingestion	get medical attention immediately

ID # NCD 981 864 614

Location of Nearest Phone: nearby residences

Hospital (Address and Phone Number)

Randolph Hospital, Incorporated, 373 N. Fayetteville St., P.O. Box 1048

Asheboro, NC 27203 (919) 625-5151

Emergency Transportation Systems (Phone Numbers)

Fire (919) 625-1600

Ambulance (919) 625-1600

Rescue Squad (919) 625-1600

Emergency Route to Hospital Take SR 1219 to Business Road 220 and take a left and go North. Travel into Asheboro past US 64 and US 42. The hospital will be on the left 2 or 3 blocks past US 42.

PREVAILING WEATHER CONDITIONS AND FORECAST Partly cloudy with a chance of rain, highs in the 80s.

EQUIPMENT CHECKLIST

	Air purifying respirator	X	First Aid Kit
	Cartridges for respirator	X	3 gal. Deionized H20
	Dust Mask	X	Rainsuit
	O_2 Indicator	X	Gloves (PE/PVC/nitrile/cloth)
X	Eye Wash Unit	X	Boots/Boot Covers
	H NU		Coveralls (tyvek/saranex)
	OVA	X	Eye Protection
	Explosimeter	X	Hard Hat
		X	Decontamination Materials

Poison Control Center - State Coordinator
Duke University Medical Center
Telephone: 1-800-672-1697
Box 3024
Durham, NC 27710

ASHEVILLE 704-255-4490	Western NC Poison Control Center Memorial Mission Hosp. 509 Biltmore Ave. 28801	HENDERSONVILLE 704-693-6522 Ext. 555,556	Margaret R. Pardee Memorial Hospital Fleming St., 28739
CHARLOTTE 704-379-5827	Mercy Hospital 2001 Vail Ave, 28207	HICKORY 704-322-6649	Catawba Mem. Hosp. Fairgrove Chur. Rd 28601
DURHAM 1-800-672-1697	Duke Univ. Med. Center Box 3007, 27710	JACKSONVILLE 919-577-2555	Onslow Mem. Hospital Western Blvd. 28540
GREENSBORO 919-379-4105	Moses Cone Hospital 1200 N. Elm St. 27420	WILMINGTON 919-343-7046	New Hanover Mem. Hospital 2131 S. 17th St. 28401

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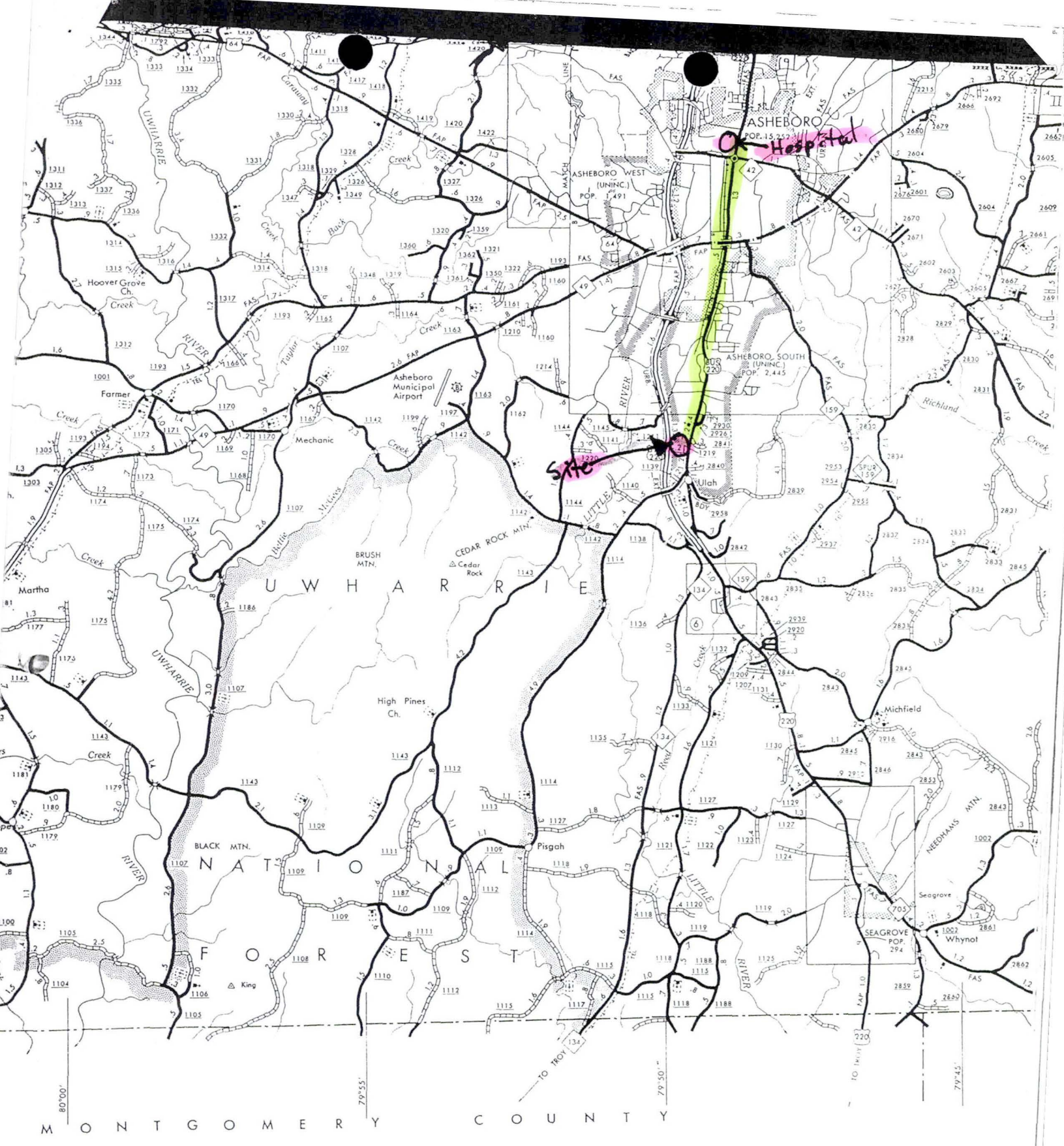
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POP. 1,491
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(UNINC.)
POP. 2,445
Asheboro
Municipal
Airport
Hoover Grove
Ch.
Farmer
Mechanic
Ulah
SAFE
Martha
BRUSH
MTN.
CEDAR ROCK MTN.
Cedar
Rock
U W H A R R I E
N A T I O N A L
F O R E S T
High Pines
Ch.
BLACK MTN.
King
Pisgah
Michfield
Seagrove
SEAGROVE
POP.
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M O N T G O M E R Y
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1,730,000'
1,760,000'

TO BE COMPLETED BY PROJECT MANAGER

PROJECT MANAGER: Jack Butler PROJECT: Ulah Battery

INVESTIGATION DATE: September 15, 1993

RECONNAISSANCE _____ SAMPLING VISIT X

Materials Used (Please insert a number in the blank)

_____ Air Purifying respirator cartridges
_____ Eye Wash Units
_____ First Aid Kit
_____ Gloves (polyethylene)
_____ Gloves (PVC)
_____ Gloves (nitrile)
_____ Gloves (cloth)
_____ Boot covers
_____ Coveralls (tyvek)
_____ Coveralls (saranex)

Respirator Worn By

Approximate Time in Respirator

Air Monitoring Data (Include Calibration Reading)

HNU:

OVA:

Explosimter:

Radiation Meter:

If the maximum personal protective equipment as outlined in the Hazard Evaluation Section was not used, please justify:

Visitors Present

Organization Represented

Signature

HAZARDOUS SUBSTANCE INFORMATION FORM

Chemical Name: Lead, inorganic dusts

I. PHYSICAL/CHEMICAL PROPERTIES

	Reference
Chemical Formula Pb	1
Natural Physical State at 25°C solid	1
Vapor Pressure N/A mm Hg at 20°C	1
Melting Point 327.4 °F/°C Boiling Point 1,740 °F/°C	1
Flash Point (open or closed cup) N/A °C/°F	
Solubility - H_2O N/A	
Other N/A	

Physical Features: (odor, color, etc.) appearance and odor vary depending upon specific compound.

II. TOXICOLOGICAL DATA

suspected or confermed human carcinogen

Standards: .15 mg/m^3 (2) TLV 0.05 mg/m^3 (3) PEL N/A (4) IDLH

Routes of Exposure: inhalation, ingestion, eye contact, skin contact(3)

Acute/Chronic Symptoms: Acute: lassitude, pallor, constipation, abdominal pain, gingival gum line, tremors. Target organs: GI tract, CNS, kidneys, blood.(3)

First Aid: Inhalation: artificial respiration; Ingestion: get medical attention immediately; Eye contact: irrigate immediately; Skin contact: soap and water wash immediately

Chemical Name: Lead, inorganic dusts

III. HAZARDOUS CHARACTERISTICS — Reference

A. Combustibility Yes ___ No X ___ _____

Toxic by-products _____ _____

_____ _____

B. Flammability LEL N/A UEL _____ _____

C. Reactivity Hazard None _____ _____

D. Corrosivity Hazard yes/no pH: _____ _____

Neutralizing agent: _____ _____

E. Radioactive Hazard — Exposure Rate

Background	yes/no	_____	_____
Alpha particles	yes/no	_____	_____
Beta particles	yes/no	_____	_____
Gamma radiation	yes/no	_____	_____

IV. REFERENCES

(1) The Merck Index, 11th Edition, 1989

(2) Threshold Limit Values and Biological Exposure Indices for 1991-1992, ACGIH.

(3) 29 CFR 1910.1025

(4) Pocket Guide to Chemical Hazards, NIOSH, 1987.

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

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary

DEHNR

25 August 1993

Mr. Matt Taylor, On-Scene Coordinator
US Environmental Protection Agency
Waste Management Division
Emergency Response and Removal Branch
345 Courtland Street, NE
Atlanta, Georgia 30365

Subject: Ulah Battery, NCD981864614
Randolph County, NC

Dear Mr. Taylor:

The North Carolina Superfund Section has received and reviewed the Action Memorandum and Ceiling Increase for Removal Action at the subject site. Our office fully supports any removal action at this site that will result in a reduction of the present risk to public health and the environment. The following general comments concerning the Action Memorandum are presented for your information.

1. On page 5 excavation and stockpiling of contaminated soil is presented as one item of the Proposed Action Description. Our office requests that the treatment and disposal option for the waste be determined prior to excavation of contaminated soil, and that stockpiling of contaminated soil thus be minimized to reduce the potential for the spread of contamination.

2. On page 6 and 7 under "Project Schedule" it is stated that "The control phase of this action can be initiated within thirty (30) days of approval of this Action Memorandum". It was also noted that this Action Memorandum was approved by Mr. Joseph R. Franzmathes on 12 August 1993. Based on conversations with Mr. Franzmathes on 25 August 1993, it is our understanding that a schedule for this action has not been established at this time pending approval of funding. Our office requests that we be kept informed of the status of this project and be provided with a schedule for this action as soon as it is established.

Our office appreciates the opportunity to review this Action Memorandum and looks forward to working with the US EPA in the planned actions at the Ulah Battery site. Due to the State's cleanup action in 1988, our office has an extensive file on this site and several years of knowledge and experience related to this site. We encourage the US EPA to utilize our resources to the maximum extent possible. If you have any questions or would like to discuss this site please contact me at (919) 733-2801.

Sincerely,

Jack Butler

Jack Butler, PE
Environmental Engineering Supervisor

cc: Joseph R. Franzmathes
Doug Lair
Shane Hitchcock
Mike Kelly

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

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

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SUPERFUND SECTION

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AUG 1 6 1993
NC DIVISION OF SOLID WASTE MANAGEMENT

Date: August 12, 1993

Mike Kelly
Director, Solid Waste
Management Division
North Carolina Division of
Solid Waste Management
P. O. Box 27687
Raleigh, NC 27611-7687

Dear Mr. Kelly:

We are pleased to provide a copy of the Action Memorandum and Ceiling Increase for Removal Action for the Ulah Battery Site, in Randolph County, North Carolina. If you have any questions or comments concerning this document, please contact the On-Scene Coordinator at the following address:

Matt Taylor
U.S. Environmental Protection Agency
Waste Management Division
Emergency Response and Removal Branch
345 Courtland St., NE
Atlanta, Georgia 30365
(404) 347-3931

Sincerely,

R. Donald Ruggi

for Myron D. Lair, Chief
Emergency Response and Removal Branch

Enclosure

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

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

ACTION MEMORANDUM

DATE: AUG 12 1993

SUBJECT: Request for a Removal Action at the Ulah Battery site Asheboro, Randolph County, North Carolina

FROM: Matthew W. Taylor, On-Scene Coordinator M. T.
Emergency Response and Removal Branch

TO: Joseph R. Franzmathes, Director
Waste Management Division

THROUGH: Myron D. Lair, Chief JWS for 8-12
Emergency Response and Removal Branch

SITE ID #: HV

I. PURPOSE

The purpose of this Action Memorandum is to request and document approval of the proposed removal action described herein for the Ulah Battery site, located approximately two miles south of Asheboro in Randolph County, North Carolina. The Ulah Battery site was recently referred to the Emergency Response and Removal Branch by the State of North Carolina Department of Environment, Health, and Natural Resources (NCDEHNR). The total project ceiling is $1,994,400 of which $1,902,400 is for extramural costs. The site poses a threat to public health and the environment that meets the NCP Section 300.415(b)(2) criteria for removal actions.

II. SITE CONDITIONS AND BACKGROUND

A. Site Description

1. Removal Site Evaluation

Between 1965 and 1981 lead was recovered from automotive batteries at the Ulah Battery site. Recovered lead was melted in vats made from 55-gallon drums. Battery acid was spilled onto the ground and battery casings were either burned, used as driveway fill, or accumulated in waste piles. The site consists

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of the battery processing area, which was cleaned up by NCDEHNR in September of 1988, two battery piles which remain at the site, and residential yards that are contaminated.

The two remaining battery piles are located in a residential area. The two battery piles consist of approximately 750 cubic yards and 700 cubic yards of crushed and uncrushed battery casings respectively. The casings in the larger pile are crushed and partially burned. The smaller pile contains open uncrushed casings. The key problem areas of the site include:

- The two unsecured battery piles
- Lead contaminated soil in the residential area
- The off-site migration of contaminants
- Potential for surface water and ground water contamination.

2. Physical Location

The Ulah Battery site is located approximately two miles south of Asheboro in Randolph County on Dinah Road. The site is in the rural residential community of Ulah. The site occupies 20 to 25 acres of residential and undeveloped land. Access is from Business Hwy 220, which borders the site on the east. The headwaters of Little River form the western boundary. Woodland and old fields border to the north and south.

3. Site Characteristics

At the present time, the site is inactive and two stockpiles of battery casings remain unsecured in the residential area. The site is unsecured which allows children living in the area to have unrestricted access to the battery piles. A sampling investigation was conducted at the Ulah Battery site during the week of April 27, 1993, by personnel from the US-EPA, Region IV Environmental Services Division. During the sampling investigation 29 soil and sediment, and 2 surface water samples were collected. The highest concentration of lead detected in the soil samples collected from the yards was 5,900 mg/kg. The soil samples from around the battery piles ranged in lead concentration from 570 mg/kg to 270,000 mg/kg. This sampling investigation revealed that lead is migrating from the battery piles

via surface run-off to adjacent areas which includes the residential area along Dinah Road and the surrounding woods, and down-gradient stream.

4. Release or Threatened Release into the Environment of a Hazardous Substance, or Pollutant or Contaminant

The release or threat of release of hazardous substances at the site may present an imminent and substantial endangerment to the public health or welfare or the environment. In order to protect the public health or welfare or the environment, it is necessary that action be taken to abate the release or threat of release of hazardous substances from the site into the environment. The lead bearing waste piles and the lead contaminated soil are the main hazards posed by the site. The passage of time increases the risk that the lead contaminated soil and debris will be ingested by children.

5. NPL Status

This site is not on the National Priorities List (NPL). The State of North Carolina has conducted a site investigation to determine if the site could be ranked on the NPL.

B. Other Actions to Date

1. Previous Actions

EPA initiated a sampling investigation during the week of April 27, 1993. The sample investigation was conducted to determine if the lead contamination in the residential area adjacent to the site posed a threat to the public health or welfare or the environment. No actual response actions have been conducted by EPA to date.

2. Current Actions

There are no current actions being conducted.

C. State and Local Authorities' Role

1. State and Local Actions to Date

In September of 1988 the North Carolina Superfund Section conducted a remediation of the battery processing and disposal area. The processing and disposal area presented the greatest direct contact hazard to the health of the local residents and the

greatest threat to groundwater used as the drinking water source in the area. The remediation consisted of removal of approximately 2,000 tons of contaminated soil and battery casings for disposal in a permitted hazardous waste landfill. The excavated area was backfilled with clean soil, graded to the original contour and reseeded to prevent erosion. The total cost of this remedial action was approximately $350,000.

The Randolph County Health Department has conducted blood lead level surveys of residents that live in close proximity to the site. Analytical results from the blood lead level surveys revealed elevated levels of lead in some of the children.

2. Potential for Continued State/Local Response

It is unlikely that either NCDEHNR or any county or local agencies will take any direct response actions to clean up the site. However, ERRB staff will coordinate with state and local agencies in order to ensure these agencies are aware of any future actions.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

A. Threats to Public Health or Welfare

The EPA has determined that a release of a hazardous substance, as defined by CERCLA, into the environment has occurred at the site. The substances found on-site exhibit the characteristics for classification as a hazardous waste under EPA regulations at 40 C.F.R. Section 261.20. Blood and soil data indicate unacceptable levels of lead exposure has occurred. The threat of human exposure to lead is of immediate concern.

In a Memorandum dated May 14, 1993, the Agency of Toxic Substances and Disease Registry concluded the lead levels in the soil at a residence posed a public health hazard, especially to children below the age of six. The blood lead level found in one of the children tested demonstrated that exposure to lead at levels that may cause harm have occurred for at least one child and are continuing to occur.

B. Threats to the Environment

The large amounts of lead-bearing waste that are currently located on site could potentially migrate off site. Any mammalian species living near the site would be adversely

impacted by a release. In addition, the potential for groundwater contamination exists at the site.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of the hazardous substances from this site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

VI. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

Proposed actions include the determination of the extent of lead contamination at the site. Treatment and disposal of the 1,450 yards of stockpiled waste that presently exists on-site. Other future response actions include any additional excavation of contaminated soils and covering of stockpiles. These actions include the personnel, analytical, transportation and disposal costs involved in the cleanup of waste at the site.

1. Proposed Action Description

The proposed response actions are as follows:

- Improve site security
- Determine the extent of soil contamination
- Excavate and stockpile contaminated soil
- Determine treatment and disposal options for the wastes
- Treat or transport and dispose of all waste streams

2. Contribution to Remedial Performance

There is no remedial action currently associated with this site.

3. Description of Alternate Technologies

A complete evaluation of alternative technologies will be made prior to the disposal/treatment phase of this

response. The following are some of the treatment technologies being considered for the contaminated soil:

* Solidification/stabilization with land disposal.

* Solidification/stabilization on-site disposal.

* Soil washing with lead reclamation.

It is hoped that soil washing or some other lead reclamation technology will prove viable at that time. The casings in the remaining two battery piles are primary rubber with carbon black and polypropylene. The casings can be shredded, washed and separated based on the different density of the hard rubber and polypropylene. The cleaned hard rubber can be used with asphalt for road paving, manufacturing of asphalt shingles or burned as fuel. The polypropylene can be melted and reformed into other products. A site specific contract could be awarded based on the treatment technology selected and a cost/benefit analysis.

4. EE/CA

The proposed removal is a time critical removal action which does not require an EE/CA.

5. ARARS

The Applicable or Relevant and Appropriate Requirements (ARARS) identified for the proposed removal activities are the federal RCRA land disposal restrictions (LDRs) for storage, treatment, and disposal of hazardous waste. At this time, no State of North Carolina requirements have been identified as additional ARARs.

CERCLA Section 121(d)(4) provides that under certain circumstances, ARARs may be waived during on-site CERCLA removal actions. NCP Section 300.430(f)(1)(ii)(C) details the circumstances in which applicable ARARs can be waived for removal actions. The NCP states that compliance with an ARAR is not necessary when the removal action does not involve final cleanup of a site and the final cleanup will attain the ARAR.

6. Project Schedule

The control phase of this action can be initiated

within thirty (30) days of approval of this Action Memorandum. The time required to complete the removal action is not known with certainty, but will take a minimum of 180 days.

B. Estimated Costs

The total project ceiling is currently $1,994,400.

Extramural Costs:	Current Ceiling
Regional Allowance	$1,500,000
TAT	85,000
SUBTOTAL	1,585,000
20% CONTINGENCY	317,000
TOTAL EXTRAMURAL COSTS	$1,902,000

Intramural Costs:	Current Ceiling
DIRECT COST	$36,000
INDIRECT COSTS	56,400
TOTAL INTRAMURAL COSTS	92,400
TOTAL PROJECT CEILING	$1,994,400

VII. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Delayed action will increase public health risks to the adjacent and adjoining property through potential releases via surface runoff from the battery piles. Contamination may spread from the site to down-gradient property if response action is not taken.

VIII. OUTSTANDING POLICY ISSUES

There are no outstanding policy issues at this time.

IX. ENFORCEMENT

No financially viable PRPs have been identified at this time.

X. RECOMMENDATION

This decision document represents the selected removal action for the Ulah Battery site in Asheboro, Randolph County, North Carolina developed in accordance with CERCLA as amended, and is consistent with the NCP. This decision is based on the Administrative Record for the site.

Conditions at the site meet the NCP section 300.415(b)(2) criteria for a removal and I recommend your approval of the proposed action. The total project ceiling is $1,994,400 of which an estimated $1,902,000 comes from the Regional removal allowance.

Approved James D Kutzman for Date: 8/12/93

Disapproved _____ Date: _____

Joseph R. Franzmathes, Director
Waste Management Division
Environmental Protection Agency, Region IV

Attachments

cc: Mike Kelley, Deputy Director
Solid Waste Management Division

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

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

AUG 0 1 1993

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SUPERFUND SECTION

Jack Butler, P.E.
Division of Solid Waste Management
Superfund Section
North Carolina Department of Environment,
Health and Natural Resources
PO Box 27687
Raleigh, NC 27611-7687

Dear Jack:

Please find enclosed a copy of the sampling results for the Ulah Battery Site in Ulah, North Carolina. As noted in the report, the highest concentration of lead in the soils was found to be 5,900 mg/kg in the field adjacent to the Eubank's trailer. Soils around the battery piles contained lead in much higher concentrations. At this time, no decision has been made as to the appropriate actions to take at the site. As soon as a decision is made, EPA will notify you. If you have any questions, please call me at (404)347-3931.

Sincerely,

Mary Jo Penick
On-Scene Coordinator

cc: Karen Allen, Randolph County Health Dept.

U. S. ENVIRONMENTAL PROTECTION AGENCY
REGION IV, ATHENS, GEORGIA

MEMORANDUM

JUL 27 1993

SUBJECT: Ulah Battery Site, Emergency Sampling Investigation, Ashboro, North Carolina
ESD Project No. 93-0393

FROM: Charles Till, P.G.
Hazardous Waste Section
Environmental Compliance Branch
Environmental Services Division

WRB for

TO: Mary Jo. Penick
Removal Management Section
Emergency Response & Removal Branch
Waste Management Division

THRU: William R. Bokey, Chief
Hazardous Waste Section
Environmental Compliance Branch
Environmental Services Division

William R. Bokey

Attached is the Emergency Sampling Investigation Report on the Ulah Battery Site. Included with the report are the analytical data sheets which are attached as Appendix A. If you have any questions, please call me at (706) 546-3171.

Attachments:

cc: Bokey/Hall

EMERGENCY SAMPLING INVESTIGATION
ULAH BATTERY SITE
ASHBORO, NORTH CAROLINA
APRIL 1993

INTRODUCTION

A sampling investigation was conducted at the Ulah Battery Site in Ashboro, North Carolina during the week of April 27, 1993, by personnel from the US-EPA, Region IV Environmental Services Division. The study was requested by Ms. Penick (ERRB) to determine the lead contamination in the residential area adjacent to the Site for possible removal action. Charles Till, Mike Singletary, and Gerald Foree were the field sampling team for ESD. Charles Till was the ESD project leader. Ms. Penick was present and assisted the ESD sampling team during the investigation.

The Ulah Battery Site is in a residential area on Dinah Road and is composed of several large battery piles (consisting mostly of battery casings) located on the Hoskins property and the Coble property. The site has had partial removal operations performed by the State of North Carolina on the Hammond property, but nothing has been done on the two existing battery piles. The sampling locations were situated in areas along both sides of Dinah Road up gradient and downgradient of the battery piles. Samples collected were analyzed at the EPA laboratory in Athens, Georgia for lead and total metals. However, only lead results will be discussed in this report. All of the analytical data sheets will be attached as Appendix A.

DISCUSSION

During the sampling investigation, 29 soil and sediment, and 2 surface water samples were collected. The samples were collected along Dinah Road from front yards, the drainage ditches on both sides of the road, the two battery piles, and from the unnamed stream downgradient of the battery pile on the Coble property. Refer to Figure 1 for sampling locations and TABLE 1 for the lead results.

The samples numbered UBS-01 through UBS-22 were collected along Dinah Road and the samples numbered UBS-23 through UBS-30 were collected around the two battery piles. Samples UBW-29 and UBW-30 were surface water samples collected from the unnamed stream down gradient of the battery pile in the woods on the Coble property.

UBS-01 thru UBS-22 [illegible]
23 thru 30 - Battery Pile
UBW-[illegible] Surf. H_2O

The soil samples collected along Dinah Road were collected in the front yards from 0-3 inches. The sediment samples collected along Dinah Road were from the drainage ditches on both sides of the road.

The highest concentration of lead detected in the soil samples collected from the yards was 5,900 mg/kg in sample number UBS-10. This sample was collected in a field adjacent to the Eubanks mobile home. Samples collected from the two drainage ditches contained lead ranging from 68 mg/kg to 3,000 mg/kg with the highest concentrations in the samples collected from the ditch immediately adjacent to the battery pile on the Hoskins property.

The soil samples collected around the battery pile on the Hoskins property were a series of composite samples that contained lead at concentrations ranging from 570 mg/kg to 270,000 mg/kg. Composite soil samples collected down gradient from the battery pile in the woods on the Coble property contained lead at concentrations ranging from 950 to 1900 mg/kg. The two surface water samples, collected from the unnamed stream located downgradient of the battery pile on the Coble property, did not contain detectable concentrations of lead. The two sediment samples collected from this stream contained lead at concentrations of 13 and 15 mg/kg.

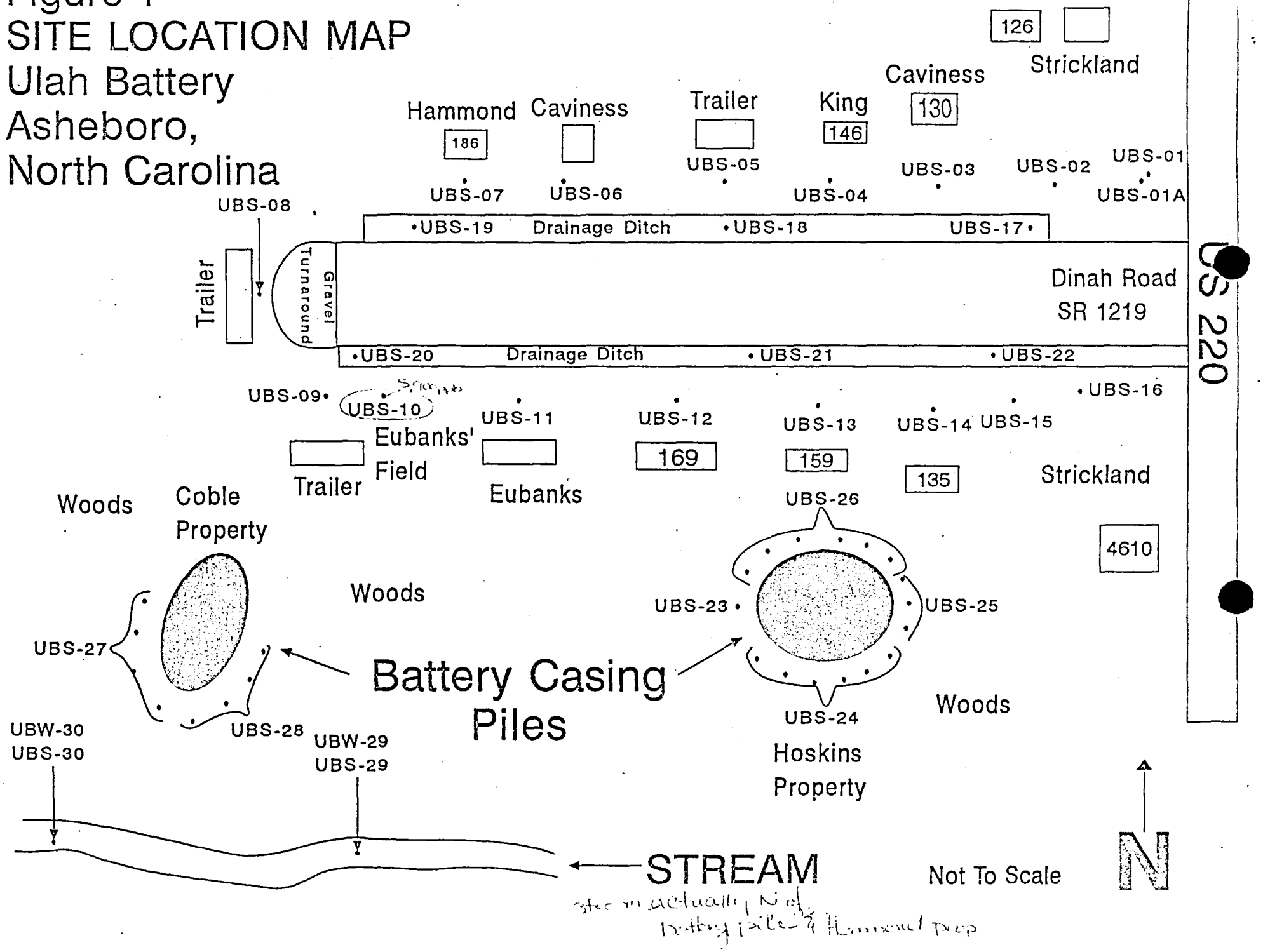
The data results indicate that lead is migrating from the battery piles via surface runoff to the adjacent areas which includes the residential area along Dinah Road and the surrounding woods, and the downgradient unnamed stream. Removal of the two battery piles would possibly eliminate the lead source and reduce the offsite lead migration.

APPENDIX A

TABLE 1
ANALYTICAL RESULTS (LEAD)
ULAH BATTERY SITE
ASHBORO, NORTH CAROLINA
APRIL, 1993

SAMPLE NUMBER		LEAD (mg/kg)
(Soil-From Yards Along Dinah Rd.)		
UBS-01	Corner of Dinah Rd. & US 220	80
UBS-01A	(Duplicate)	63
UBS-02	Strickland Prop.	130
UBS-03	Caviness Prop.	29
UBS-04	King Prop.	84
UBS-05	Trailer next to King House	33
UBS-06	Caviness House	400
UBS-07	Hammond Prop.	34
UBS-08	Trailer At End Of Dinah Rd.	37
UBS-09	Trailer At End Of Dinah Rd. (Left Side)	24
UBS-10	Field Adjacent To Eubanks Trailer	5,900
UBS-11	Eubanks Trailer	290
UBS-12	169 Dinah Rd.	53
UBS-13	159 Dinah Rd.	230
UBS-14	135 Dinah Rd.	450
UBS-15	Field Next To 135 Dinah Rd.	140
UBS-16	4610 US 220 & Dinah Rd.	120
(Sediment-From Ditches)		
UBS-17	Ditch At Culvert Of 130 Dinah Rd.	68
UBS-18	Ditch At Culvert Of Yard Next To 146 Dinah Rd.	270
UBS-19	Ditch At W. Prop. Line Of 186 Dinah Rd.	1,200
UBS-20	Ditch At End Of Dinah On Left Side	2,200
UBS-21	Ditch At Upper End Of 169 Dinah	360
UBS-22	Ditch At Upper End Of 135 Dinah	3,000
(Soil-From Battery Pile-Hoskins Prop.)		
UBS-23	Downgradient Side (West) Of Battery Pile	29,000
UBS-24	Left Side (South) Of Battery Pile	570
UBS-25	Upper Side (East) Of Battery Pile	33,000
UBS-26	Right Side (North) Of Battery Pile	270,000
(Soil-From Battery Pile-Coble Prop.)		
UBS-27	Left Lower Side (SW) Of Battery Pile	950
UBS-28	Right Lower Side (SE) Of Battery Pile	1900
(Surface Water-From Unnamed Stream-Coble Prop.)		
UBW-29	(Upgradient)	00
UBW-30	(Downgradient)	00
(Sediment-From Unnamed Stream-Coble Prop.)		
UBS-29	(Upgradient)	13
UBS-30	(Downgradient)	15

Figure 1
SITE LOCATION MAP
Ulah Battery
Asheboro,
North Carolina



SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 05/20/93

** PROJECT NO. 93-0393 SAMPLE NO. 76296 SAMPLE TYPE: SOIL PROG ELEM: SSF COLLECTED BY: K BROWN **
** SOURCE: ULAH BATTERY CITY: ASHBORO ST: NC **
** STATION ID: UBS-01 UPGRAD CORNER OF US 220 AND RD 1219 COLLECTION START: 04/27/93 0835 STOP: 00/00/00 **

MG/KG	ANALYTICAL RESULTS
4.0U	SILVER
12U	ARSENIC
NA	BORON
61	BARIUM
2.0U	BERYLLIUM
2.0U	CADMIUM
7.6	COBALT
40	CHROMIUM
30	COPPER
4.0U	MOLYBDENUM
8.0U	NICKEL
80	LEAD
12U	ANTIMONY
16U	SELENIUM
10U	TIN
6.2	STRONTIUM
20U	TELLURIUM
34U	TITANIUM
40U	THALLIUM
140	VANADIUM
4.1	YTTRIUM
64	ZINC
NA	ZIRCONIUM
0.11	MERCURY
18000	ALUMINUM
490	MANGANESE

MG/KG	ANALYTICAL RESULTS
610	CALCIUM
520	MAGNESIUM
42000	IRON
400U	SODIUM
800U	POTASSIUM
28	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*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 QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

05/20/93

METALS DATA REPORT

PROJECT NO. 93-0393   SAMPLE NO. 76297   SAMPLE TYPE: SOIL   PROG ELEM: SSF   COLLECTED BY: K BROWN
SOURCE: ULAH BATTERY   CITY: ASHBORO   ST: NC
STATION ID: UBS-01A UPGRAD CORNER OF US 220 AND RD 1219   COLLECTION START: 04/27/93 0840   STOP: 00/00/00

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
4.0U	SILVER	250	CALCIUM
12U	ARSENIC	450	MAGNESIUM
NA	BORON	50000	IRON
52	BARIUM	400U	SODIUM
2.0U	BERYLLIUM	800U	POTASSIUM
2.0U	CADMIUM	23	PERCENT MOISTURE
7.1	COBALT		
39	CHROMIUM		
35	COPPER		
4.0U	MOLYBDENUM		
8.0U	NICKEL		
63	LEAD		
12U	ANTIMONY		
16U	SELENIUM		
10U	TIN		
4.0U	STRONTIUM		
20U	TELLURIUM		
370	TITANIUM		
40U	THALLIUM		
170	VANADIUM		
5.0	YTTRIUM		
55	ZINC		
NA	ZIRCONIUM		
0.12	MERCURY		
21000	ALUMINUM		
530	MANGANESE		

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 05/20/93

PROJECT NO. 93-0393 SAMPLE NO. 76298 SAMPLE TYPE: SOIL PROG ELEM: SSF COLLECTED BY: K BROWN
SOURCE: ULAH BATTERY CITY: ASHBORO ST: NC
STATION ID: UBS-02 STRICKLAND PROPERTY ADJ TO STREET COLLECTION START: 04/27/93 0900 STOP: 00/00/00

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
2.0U	SILVER	2100	CALCIUM
8.0U	ARSENIC	670	MAGNESIUM
NA	BORON	24000	IRON
160	BARIUM	200U	SODIUM
1.0U	BERYLLIUM	730	POTASSIUM
1.0U	CADMIUM	20	PERCENT MOISTURE
6.6	COBALT		
24	CHROMIUM		
27	COPPER		
2.0U	MOLYBDENUM		
7.6	NICKEL		
130	LEAD		
6.0U	ANTIMONY		
8.0U	SELENIUM		
6.6	TIN		
20	STRONTIUM		
10U	TELLURIUM		
180	TITANIUM		
20U	THALLIUM		
62	VANADIUM		
8.1	YTTRIUM		
76	ZINC		
NA	ZIRCONIUM		
0.10U	MERCURY		
19000	ALUMINUM		
1100	MANGANESE		

REMARKS ***REMARKS***

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 05/20/93

PROJECT NO. 93-0393 SAMPLE NO. 76299 SAMPLE TYPE: SOIL
SOURCE: ULAH BATTERY
STATION ID: USB-03 CAVINESS PROP ADJ TO STREET

PROG ELEM: SSF COLLECTED BY: K BROWN
CITY: ASHBORO ST: NC
COLLECTION START: 04/27/93 0910 STOP: 00/00/00

MG/KG	ANALYTICAL RESULTS
4.0U	SILVER
12U	ARSENIC
NA	BORON
36	BARIUM
2.0U	BERYLLIUM
2.0U	CADMIUM
6.1	COBALT
64	CHROMIUM
48	COPPER
4.0U	MOLYBDENUM
8.0U	NICKEL
29	LEAD
12U	ANTIMONY
16U	SELENIUM
10U	TIN
4.0U	STRONTIUM
20U	TELLURIUM
340	TITANIUM
40U	THALLIUM
160	VANADIUM
4.3	YTTRIUM
24	ZINC
NA	ZIRCONIUM
0.06	MERCURY
24000	ALUMINUM
330	MANGANESE

MG/KG	ANALYTICAL RESULTS
430	CALCIUM
570	MAGNESIUM
58000	IRON
400U	SODIUM
800U	POTASSIUM
16	PERCENT MOISTURE

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 05/20/93

PROJECT NO. 93-0393 SAMPLE NO. 76300 SAMPLE TYPE: SOIL
SOURCE: ULAH BATTERY
STATION ID: UBS-04 KING PROP ADJ TO STREET

PROG ELEM: SSF COLLECTED BY: K BROWN
CITY: ASHBORO ST: NC
COLLECTION START: 04/27/93 0925 STOP: 00/00/00

MG/KG	ANALYTICAL RESULTS
4.0U	SILVER
12U	ARSENIC
NA	BORON
42	BARIUM
2.0U	BERYLLIUM
2.0U	CADMIUM
4.0U	COBALT
28	CHROMIUM
18	COPPER
4.0U	MOLYBDENUM
8.0U	NICKEL
84	LEAD
12U	ANTIMONY
16U	SELENIUM
10U	TIN
4.1	STRONTIUM
20U	TELLURIUM
170	TITANIUM
40U	THALLIUM
69	VANADIUM
4.0U	YTTRIUM
24	ZINC
NA	ZIRCONIUM
0.05U	MERCURY
20000	ALUMINUM
290	MANGANESE

MG/KG	ANALYTICAL RESULTS
950	CALCIUM
510	MAGNESIUM
32000	IRON
400U	SODIUM
800U	POTASSIUM
16	PERCENT MOISTURE

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 05/20/93

PROJECT NO. 93-0393 SAMPLE NO. 76301 SAMPLE TYPE: SOIL
SOURCE: ULAH BATTERY
STATION ID: UBS-05 TRAILER NEXT TO KING HOUSE ADJ STREET

PROG ELEM: SSF COLLECTED BY: K BROWN
CITY: ASHBORO ST: NC
COLLECTION START: 04/27/93 0930 STOP: 00/00/00

MG/KG	ANALYTICAL RESULTS
3.0U	SILVER
9.0U	ARSENIC
NA	BORON
46	BARIUM
1.5U	BERYLLIUM
1.5U	CADMIUM
4.5	COBALT
29	CHROMIUM
14	COPPER
3.0U	MOLYBDENUM
6.0U	NICKEL
33	LEAD
9.0U	ANTIMONY
12U	SELENIUM
7.5U	TIN
3.0U	STRONTIUM
15U	TELLURIUM
150	TITANIUM
30U	THALLIUM
63	VANADIUM
5.2	YTTRIUM
24	ZINC
NA	ZIRCONIUM
0.05U	MERCURY
17000	ALUMINUM
480	MANGANESE

MG/KG	ANALYTICAL RESULTS
680	CALCIUM
500	MAGNESIUM
27000	IRON
300U	SODIUM
600U	POTASSIUM
14	PERCENT MOISTURE

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 05/20/93

PROJECT NO. 93-0393 SAMPLE NO. 76302 SAMPLE TYPE: SOIL PROG ELEM: SSF COLLECTED BY: K BROWN
SOURCE: ULAH BATTERY CITY: ASHBORO ST: NC
STATION ID: UBS-06 CAVINESS HOUSE ADJ TO STREET COLLECTION START: 04/27/93 0940 STOP: 00/00/00

MG/KG	ANALYTICAL RESULTS
2.0U	SILVER
9.0U	ARSENIC
NA	BORON
33	BARIUM
1.0U	BERYLLIUM
1.0U	CADMIUM
3.7	COBALT
26	CHROMIUM
19	COPPER
2.0U	MOLYBDENUM
4.0U	NICKEL
400	LEAD
6.0U	ANTIMONY
8.0U	SELENIUM
5.7	TIN
3.6	STRONTIUM
10U	TELLURIUM
210	TITANIUM
20U	THALLIUM
64	VANADIUM
3.2	YTTRIUM
58	ZINC
NA	ZIRCONIUM
0.05U	MERCURY
12000	ALUMINUM
230	MANGANESE

MG/KG	ANALYTICAL RESULTS
990	CALCIUM
450	MAGNESIUM
21000	IRON
200U	SODIUM
400U	POTASSIUM
17	PERCENT MOISTURE

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 05/20/93

PROJECT NO. 93-0393 SAMPLE NO. 76303 SAMPLE TYPE: SOIL
SOURCE: ULAH BATTERY
STATION ID: UBS-07 HAMMOND PROP

PROG ELEM: SSF COLLECTED BY: K BROWN
CITY: ASHBORO ST: NC
COLLECTION START: 04/27/93 0950 STOP: 00/00/00

MG/KG	ANALYTICAL RESULTS
3.0U	SILVER
9.0U	ARSENIC
NA	BORON
31	BARIUM
1.5U	BERYLLIUM
1.5U	CADMIUM
3.0U	COBALT
19	CHROMIUM
23	COPPER
3.0U	MOLYBDENUM
14	NICKEL
34	LEAD
9.0U	ANTIMONY
12U	SELENIUM
7.5U	TIN
3.0U	STRONTIUM
15U	TELLURIUM
420	TITANIUM
30U	THALLIUM
61	VANADIUM
6.2	YTTRIUM
110	ZINC
NA	ZIRCONIUM
0.05U	MERCURY
14000	ALUMINUM
250	MANGANESE

MG/KG	ANALYTICAL RESULTS
170	CALCIUM
970	MAGNESIUM
38000	IRON
300U	SODIUM
1100	POTASSIUM
21	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

REPRINTED ON05/24/93

METALS DATA REPORT

PROJECT NO. 93-0393 SAMPLE NO. 76304 SAMPLE TYPE: SOIL
SOURCE: ULAH BATTERY
STATION ID: UBS-08 TRAILER YARD AT END OF STREET COBLE PROP

PROG ELEM: SSF COLLECTED BY: K BROWN
CITY: ASHBORO ST: NC
COLLECTION START: 04/27/93 1000 STOP: 00/00/00

MG/KG	ANALYTICAL RESULTS
4.0U	SILVER
12U	ARSENIC
NA	BORON
50	BARIUM
2.0U	BERYLLIUM
2.0U	CADMIUM
7.8	COBALT
21	CHROMIUM
22	COPPER
4.0U	MOLYBDENUM
8.0U	NICKEL
37	LEAD
12U	ANTIMONY
16U	SELENIUM
10U	TIN
4.0U	STRONTIUM
20U	TELLURIUM
640	TITANIUM
40U	THALLIUM
80	VANADIUM
8.2	YTTRIUM
36	ZINC
NA	ZIRCONIUM
0.05U	MERCURY
19000	ALUMINUM
530	MANGANESE

MG/KG	ANALYTICAL RESULTS
310	CALCIUM
2000	MAGNESIUM
42000	IRON
400U	SODIUM
2600	POTASSIUM
22	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 05/20/93

PROJECT NO. 93-0393 SAMPLE NO. 76305 SAMPLE TYPE: SOIL
SOURCE: ULAH BATTERY
STATION ID: UBS-09 TRAILER YARD AT END OF STREET LEFT SIDE

PROG ELEM: SSF COLLECTED BY: K BROWN
CITY: ASHBORO ST: NC
COLLECTION START: 04/27/93 1010 STOP: 00/00/00

MG/KG	ANALYTICAL RESULTS
4.0U	SILVER
12U	ARSENIC
NA	BORON
27	BARIUM
2.0U	BERYLLIUM
2.0U	CADMIUM
4.0U	COBALT
19	CHROMIUM
23	COPPER
4.0U	MOLYBDENUM
8.0U	NICKEL
24	LEAD
12U	ANTIMONY
16U	SELENIUM
10U	TIN
4.0U	STRONTIUM
20U	TELLURIUM
330	TITANIUM
40U	THALLIUM
78	VANADIUM
4.0U	YTTRIUM
20	ZINC
NA	ZIRCONIUM
0.05U	MERCURY
12000	ALUMINUM
220	MANGANESE

MG/KG	ANALYTICAL RESULTS
490	CALCIUM
390	MAGNESIUM
46000	IRON
400U	SODIUM
800U	POTASSIUM
25	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 05/20/93

PROJECT NO. 93-0393 SAMPLE NO. 76306 SAMPLE TYPE: SOIL PROG ELEM: SSF COLLECTED BY: K BROWN
SOURCE: ULAH BATTERY CITY: ASHBORO ST: NC
STATION ID: UBS-10-FIELD ADJ TO STREET EUBANKS COLLECTION START: 04/27/93 1025 STOP: 00/00/00

MG/KG	ANALYTICAL RESULTS
6.0U	SILVER
8.8	ARSENIC
NA	BORON
46	BARIUM
3.0U	BERYLLIUM
3.0U	CADMIUM
6.0U	COBALT
36	CHROMIUM
22	COPPER
6.0U	MOLYBDENUM
12U	NICKEL
5900	LEAD
18U	ANTIMONY
24U	SELENIUM
15U	TIN
6.2	STRONTIUM
30U	TELLURIUM
160	TITANIUM
60U	THALLIUM
55	VANADIUM
6.0U	YTTRIUM
74	ZINC
NA	ZIRCONIUM
0.05U	MERCURY
14000	ALUMINUM
310	MANGANESE

MG/KG	ANALYTICAL RESULTS
1100	CALCIUM
1200	MAGNESIUM
24000	IRON
600U	SODIUM
1200U	POTASSIUM
NA	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 05/20/93

** PROJECT NO. 93-0393 SAMPLE NO. 76307 SAMPLE TYPE: SOIL PROG ELEM: SSF COLLECTED BY: K BROWN **
** SOURCE: ULAH BATTERY CITY: ASHBORO ST: NC **
** STATION ID: UBS-11 EUBANKS TRAILER FRONT YARD COLLECTION START: 04/27/93 1030 STOP: 00/00/00 **

MG/KG	ANALYTICAL RESULTS
3.0U	SILVER
12U	ARSENIC
NA	BORON
56	BARIUM
1.5U	BERYLLIUM
1.5U	CADMIUM
9.6	COBALT
29	CHROMIUM
12	COPPER
3.0U	MOLYBDENUM
6.0U	NICKEL
290	LEAD
9.0U	ANTIMONY
12U	SELENIUM
7.5U	TIN
3.1	STRONTIUM
12U	TELLURIUM
130	TITANIUM
30U	THALLIUM
53	VANADIUM
9.5	YTTRIUM
60	ZINC
NA	ZIRCONIUM
0.05U	MERCURY
17000	ALUMINUM
960	MANGANESE

MG/KG	ANALYTICAL RESULTS
900	CALCIUM
560	MAGNESIUM
23000	IRON
300U	SODIUM
660	POTASSIUM
18	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 05/20/93

PROJECT NO. 93-0393 SAMPLE NO. 76314 SAMPLE TYPE: SOIL PROG ELEM: SSF COLLECTED BY: C TILL
SOURCE: ULAH BATTERY CITY: ASHBORO ST: NC
STATION ID: UBS-12 FRONT YARD OF 169 DINAH RD COLLECTION START: 04/27/93 1040 STOP: 00/00/00

MG/KG	ANALYTICAL RESULTS
2.0U	SILVER
9.0U	ARSENIC
NA	BORON
48	BARIUM
1.0U	BERYLLIUM
1.0U	CADMIUM
5.1	COBALT
28	CHROMIUM
12	COPPER
2.0U	MOLYBDENUM
4.0U	NICKEL
53	LEAD
6.0U	ANTIMONY
8.0U	SELENIUM
5.0U	TIN
3.0	STRONTIUM
10U	TELLURIUM
99	TITANIUM
20U	THALLIUM
42	VANADIUM
3.8	YTTRIUM
25	ZINC
NA	ZIRCONIUM
0.05U	MERCURY
17000	ALUMINUM
330	MANGANESE

MG/KG	ANALYTICAL RESULTS
1000	CALCIUM
650	MAGNESIUM
17000	IRON
200U	SODIUM
460	POTASSIUM
17	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 05/20/93

PROJECT NO. 93-0393 SAMPLE NO. 76315 SAMPLE TYPE: SOIL PROG ELEM: SSF COLLECTED BY: C TILL
SOURCE: ULAH BATTERY CITY: ASHBORO ST: NC
STATION ID: UBS-13 FRONT YARD OF 159 DINAH RD COLLECTION START: 04/27/93 1050 STOP: 00/00/00

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
3.0U	SILVER	840	CALCIUM
12U	ARSENIC	590	MAGNESIUM
NA	BORON	27000	IRON
52	BARIUM	300U	SODIUM
1.5U	BERYLLIUM	600U	POTASSIUM
1.5U	CADMIUM	20	PERCENT MOISTURE
3.0U	COBALT		
27	CHROMIUM		
21	COPPER		
3.0U	MOLYBDENUM		
6.0U	NICKEL		
230	LEAD		
9.0U	ANTIMONY		
12U	SELENIUM		
7.5U	TIN		
4.6	STRONTIUM		
15U	TELLURIUM		
140	TITANIUM		
30U	THALLIUM		
65	VANADIUM		
3.0U	YTTRIUM		
47	ZINC		
NA	ZIRCONIUM		
0.05U	MERCURY		
20000	ALUMINUM		
180	MANGANESE		

REMARKS ***REMARKS***

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 05/20/93

PROJECT NO. 93-0393 SAMPLE NO. 76316 SAMPLE TYPE: SOIL
SOURCE: ULAH BATTERY
STATION ID: UBS-14 FRONT YARD OF 135 DINAH RD

PROG ELEM: SSF COLLECTED BY: C TILL
CITY: ASHBORO ST: NC
COLLECTION START: 04/27/93 1105 STOP: 00/00/00

MG/KG	ANALYTICAL RESULTS
4.0U	SILVER
4.3	ARSENIC
NA	BORON
41	BARIUM
2.0U	BERYLLIUM
2.0U	CADMIUM
5.8	COBALT
35	CHROMIUM
47	COPPER
4.0U	MOLYBDENUM
8.0U	NICKEL
450	LEAD
12U	ANTIMONY
16U	SELENIUM
10U	TIN
4.0U	STRONTIUM
20U	TELLURIUM
440	TITANIUM
40U	THALLIUM
110	VANADIUM
16	YTTRIUM
42	ZINC
NA	ZIRCONIUM
0.05U	MERCURY
17000	ALUMINUM
260	MANGANESE

MG/KG	ANALYTICAL RESULTS
250	CALCIUM
1200	MAGNESIUM
41000	IRON
400U	SODIUM
1100	POTASSIUM
13	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 05/20/93

PROJECT NO. 93-0393 SAMPLE NO. 76317 SAMPLE TYPE: SOIL
SOURCE: ULAH BATTERY
STATION ID: UBS-15 FIELD NEXT TO 135 DINAH RD

PROG ELEM: SSF COLLECTED BY: C TILL
CITY: ASHBORO ST: NC
COLLECTION START: 04/27/93 1115 STOP: 00/00/00

MG/KG	ANALYTICAL RESULTS
2.0U	SILVER
15U	ARSENIC
NA	BORON
68	BARIUM
1.0U	BERYLLIUM
1.0U	CADMIUM
4.0	COBALT
24	CHROMIUM
21	COPPER
2.0U	MOLYBDENUM
4.0U	NICKEL
140	LEAD
6.0U	ANTIMONY
8.0U	SELENIUM
5.0U	TIN
7.3	STRONTIUM
10U	TELLURIUM
150	TITANIUM
20U	THALLIUM
55	VANADIUM
4.4	YTTRIUM
46	ZINC
NA	ZIRCONIUM
0.05U	MERCURY
15000	ALUMINUM
470	MANGANESE

MG/KG	ANALYTICAL RESULTS
1100	CALCIUM
860	MAGNESIUM
22000	IRON
200U	SODIUM
460	POTASSIUM
20	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 05/20/93

** PROJECT NO. 93-0393 SAMPLE NO. 76318 SAMPLE TYPE: SOIL PROG ELEM: SSF COLLECTED BY: C TILL **
** SOURCE: ULAH BATTERY CITY: ASHBORO ST: NC **
** STATION ID: UBS-16 YARD OF 4610 CORNER OF US220 AND DINAH RD COLLECTION START: 04/27/93 1125 STOP: 00/00/00 **

MG/KG	ANALYTICAL RESULTS
2.0U	SILVER
12U	ARSENIC
NA	BORON
40	BARIUM
1.0U	BERYLLIUM
1.0U	CADMIUM
3.5	COBALT
26	CHROMIUM
21	COPPER
2.0U	MOLYBDENUM
4.0U	NICKEL
120	LEAD
6.0U	ANTIMONY
8.0U	SELENIUM
5.0U	TIN
3.0	STRONTIUM
10U	TELLURIUM
190	TITANIUM
20U	THALLIUM
69	VANADIUM
2.5	YTTRIUM
30	ZINC
NA	ZIRCONIUM
0.05U	MERCURY
13000	ALUMINUM
340	MANGANESE

MG/KG	ANALYTICAL RESULTS
500	CALCIUM
570	MAGNESIUM
22000	IRON
200U	SODIUM
400U	POTASSIUM
17	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 05/20/93

PROJECT NO. 93-0393 SAMPLE NO. 76319 SAMPLE TYPE: SOIL
SOURCE: ULAH BATTERY
STATION ID: UBS-17 DITCH AT CULVERT OF 130 DINAH RD

PROG ELEM: SSF COLLECTED BY: C TILL
CITY: ASHBORO ST: NC
COLLECTION START: 04/27/93 1315 STOP: 00/00/00

MG/KG	ANALYTICAL RESULTS
6.0U	SILVER
5.0U	ARSENIC
NA	BORON
30	BARIUM
3.0U	BERYLLIUM
3.0U	CADMIUM
6.0U	COBALT
50	CHROMIUM
62	COPPER
6.0U	MOLYBDENUM
12U	NICKEL
68	LEAD
18U	ANTIMONY
24U	SELENIUM
15U	TIN
7.6	STRONTIUM
30U	TELLURIUM
470	TITANIUM
60U	THALLIUM
200	VANADIUM
6.5	YTTRIUM
43	ZINC
NA	ZIRCONIUM
0.06	MERCURY
25000	ALUMINUM
330	MANGANESE

MG/KG	ANALYTICAL RESULTS
1700	CALCIUM
2000	MAGNESIUM
68000	IRON
600U	SODIUM
1200U	POTASSIUM
26	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 05/20/93

PROJECT NO. 93-0393 SAMPLE NO. 76320 SAMPLE TYPE: SOIL
SOURCE: ULAH BATTERY
STATION ID: UBS-18 DITCH AT CULVERT OF DRIVEWAY OF HOUSE

PROG ELEM: SSF COLLECTED BY: C TILL
CITY: ASHBORO ST: NC
COLLECTION START: 04/27/93 1320 STOP: 00/00/00

MG/KG	ANALYTICAL RESULTS
5.0U	SILVER
5.0U	ARSENIC
NA	BORON
40	BARIUM
2.5U	BERYLLIUM
2.5U	CADMIUM
11	COBALT
38	CHROMIUM
50	COPPER
5.0U	MOLYBDENUM
19	NICKEL
270	LEAD
15U	ANTIMONY
20U	SELENIUM
12U	TIN
13	STRONTIUM
25U	TELLURIUM
410	TITANIUM
50U	THALLIUM
110	VANADIUM
13	YTTRIUM
110	ZINC
NA	ZIRCONIUM
0.05U	MERCURY
29000	ALUMINUM
600	MANGANESE

MG/KG	ANALYTICAL RESULTS
2700	CALCIUM
6600	MAGNESIUM
52000	IRON
500U	SODIUM
1000U	POTASSIUM
22	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 05/20/93

PROJECT NO. 93-0393 SAMPLE NO. 76321 SAMPLE TYPE: SOIL PROG ELEM: SSF COLLECTED BY: C TILL
SOURCE: ULAH BATTERY CITY: ASHBORO ST: NC
STATION ID: UBS-19 DITCH AT W PROP LINE OF 186 DINAH RD COLLECTION START: 04/27/93 1330 STOP: 00/00/00

MG/KG	ANALYTICAL RESULTS
4.0U	SILVER
8.6	ARSENIC
NA	BORON
38	BARIUM
2.0U	BERYLLIUM
2.0U	CADMIUM
10	COBALT
34	CHROMIUM
40	COPPER
4.0U	MOLYBDENUM
18	NICKEL
1200	LEAD
12U	ANTIMONY
16U	SELENIUM
10U	TIN
12	STRONTIUM
20U	TELLURIUM
340	TITANIUM
40U	THALLIUM
87	VANADIUM
12	YTTRIUM
73	ZINC
NA	ZIRCONIUM
0.05U	MERCURY
26000	ALUMINUM
520	MANGANESE

MG/KG	ANALYTICAL RESULTS
2400	CALCIUM
6100	MAGNESIUM
45000	IRON
400U	SODIUM
800U	POTASSIUM
22	PERCENT MOISTURE

REMARKS ***REMARKS***

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 05/20/93

PROJECT NO. 93-0393 SAMPLE NO. 76322 SAMPLE TYPE: SOIL PROG ELEM: SSF COLLECTED BY: C TILL
SOURCE: ULAH BATTERY CITY: ASHBORO ST: NC
STATION ID: UBS-20 DITCH AT END OF DINAH ON LEFT SIDE COLLECTION START: 04/27/93 1340 STOP: 00/00/00

MG/KG	ANALYTICAL RESULTS
7.0U	SILVER
11	ARSENIC
NA	BORON
36	BARIUM
3.5U	BERYLLIUM
3.5U	CADMIUM
7.0U	COBALT
84	CHROMIUM
58	COPPER
7.0U	MOLYBDENUM
14U	NICKEL
2200	LEAD
21U	ANTIMONY
28U	SELENIUM
18U	TIN
7.0U	STRONTIUM
35U	TELLURIUM
470	TITANIUM
70U	THALLIUM
190	VANADIUM
7.0U	YTTRIUM
77	ZINC
NA	ZIRCONIUM
0.05U	MERCURY
32000	ALUMINUM
210	MANGANESE

MG/KG	ANALYTICAL RESULTS
1200	CALCIUM
1300	MAGNESIUM
70000	IRON
700U	SODIUM
1400U	POTASSIUM
21	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 05/20/93

PROJECT NO. 93-0393 SAMPLE NO. 76323 SAMPLE TYPE: SOIL PROG ELEM: SSF COLLECTED BY: C TILL
SOURCE: ULAH BATTERY CITY: ASHBORO ST: NC
STATION ID: UBS-21 DITCH AT UPPER END OF 169 DINAH COLLECTION START: 04/27/93 1350 STOP: 00/00/00

MG/KG	ANALYTICAL RESULTS
5.0U	SILVER
6.8	ARSENIC
NA	BORON
38	BARIUM
2.5U	BERYLLIUM
2.5U	CADMIUM
6.3	COBALT
32	CHROMIUM
47	COPPER
5.0U	MOLYBDENUM
10U	NICKEL
360	LEAD
15U	ANTIMONY
20U	SELENIUM
12U	TIN
9.6	STRONTIUM
25U	TELLURIUM
340	TITANIUM
50U	THALLIUM
110	VANADIUM
9.0	YTTRIUM
63	ZINC
NA	ZIRCONIUM
0.05U	MERCURY
27000	ALUMINUM
360	MANGANESE

MG/KG	ANALYTICAL RESULTS
2200	CALCIUM
3200	MAGNESIUM
49000	IRON
500U	SODIUM
1000U	POTASSIUM
19	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 05/20/93

** PROJECT NO. 93-0393 SAMPLE NO. 76324 SAMPLE TYPE: SOIL PROG ELEM: SSF COLLECTED BY: C TILL **
** SOURCE: ULAH BATTERY CITY: ASHBORO ST: NC **
** STATION ID: UBS-22 DITCH AT UPPER END OF 135 DINAH COLLECTION START: 04/27/93 1355 STOP: 00/00/00 **

MG/KG	ANALYTICAL RESULTS
5.0U	SILVER
9.0	ARSENIC
NA	BORON
75	BARIUM
2.5U	BERYLLIUM
2.5U	CADMIUM
8.3	COBALT
46	CHROMIUM
82	COPPER
5.0U	MOLYBDENUM
16	NICKEL
3000	LEAD
15U	ANTIMONY
20U	SELENIUM
12U	TIN
20	STRONTIUM
25U	TELLURIUM
500	TITANIUM
50U	THALLIUM
190	VANADIUM
9.6	YTTRIUM
130	ZINC
NA	ZIRCONIUM
0.07	MERCURY
24000	ALUMINUM
930	MANGANESE

MG/KG	ANALYTICAL RESULTS
4600	CALCIUM
2900	MAGNESIUM
56000	IRON
500U	SODIUM
1000U	POTASSIUM
37	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 05/20/93

PROJECT NO. 93-0393 SAMPLE NO. 76325 SAMPLE TYPE: SOIL
SOURCE: ULAH BATTERY
STATION ID: UBS-23 DRAINAGE WEST DITCH BELOW CASING PILE

PROG ELEM: SSF COLLECTED BY: C TILL
CITY: ASHBORO ST: NC
COLLECTION START: 04/27/93 1420 STOP: 00/00/00

MG/KG	ANALYTICAL RESULTS
30U	SILVER
25	ARSENIC
NA	BORON
85	BARIUM
15U	BERYLLIUM
15U	CADMIUM
66	COBALT
30U	CHROMIUM
120	COPPER
30U	MOLYBDENUM
60U	NICKEL
29000	LEAD
90U	ANTIMONY
120U	SELENIUM
75U	TIN
30U	STRONTIUM
150U	TELLURIUM
220	TITANIUM
300U	THALLIUM
52	VANADIUM
1900	YTTRIUM
690	ZINC
NA	ZIRCONIUM
0.05U	MERCURY
32000	ALUMINUM
680	MANGANESE

MG/KG	ANALYTICAL RESULTS
6400	CALCIUM
1600	MAGNESIUM
24000	IRON
3000U	SODIUM
6000U	POTASSIUM
75	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 05/20/93

PROJECT NO. 93-0393 SAMPLE NO. 76326 SAMPLE TYPE: SOIL PROG ELEM: SSF COLLECTED BY: C TILL
SOURCE: ULAH BATTERY CITY: ASHBORO ST: NC
STATION ID: UBS-24 LEFT SIDE OF CASING PILE COLLECTION START: 04/27/93 1430 STOP: 00/00/00

MG/KG	ANALYTICAL RESULTS
2.0U	SILVER
12U	ARSENIC
NA	BORON
16	BARIUM
1.0U	BERYLLIUM
1.0U	CADMIUM
2.0U	COBALT
17	CHROMIUM
41	COPPER
2.0U	MOLYBDENUM
4.0U	NICKEL
570	LEAD
6.0U	ANTIMONY
8.0U	SELENIUM
6.1	TIN
2.0U	STRONTIUM
10U	TELLURIUM
200	TITANIUM
20U	THALLIUM
69	VANADIUM
2.1	YTTRIUM
23	ZINC
NA	ZIRCONIUM
0.05U	MERCURY
8400	ALUMINUM
130	MANGANESE

MG/KG	ANALYTICAL RESULTS
240	CALCIUM
380	MAGNESIUM
24000	IRON
200U	SODIUM
400U	POTASSIUM
NA	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

05/20/93

METALS DATA REPORT

PROJECT NO. 93-0393 SAMPLE NO. 76327 SAMPLE TYPE: SOIL PROG ELEM: SSF COLLECTED BY: C TILL
SOURCE: ULAH BATTERY CITY: ASHBORO ST: NC
STATION ID: UBS-25 UPPER SIDE OF CASING PILE COLLECTION START: 04/27/93 1445 STOP: 00/00/00

ANALYTICAL RESULTS

MG/KG	
30U	SILVER
33	ARSENIC
NA	BORON
230	BARIUM
15U	BERYLLIUM
15U	CADMIUM
30U	COBALT
57	CHROMIUM
260	COPPER
30U	MOLYBDENUM
60U	NICKEL
33000	LEAD
130	ANTIMONY
120	SELENIUM
75U	TIN
39	STRONTIUM
150U	TELLURIUM
360	TITANIUM
300U	THALLIUM
130	VANADIUM
30U	YTTRIUM
460	ZINC
NA	ZIRCONIUM
0.18	MERCURY
16000	ALUMINUM
760	MANGANESE

ANALYTICAL RESULTS

MG/KG	
5800	CALCIUM
850	MAGNESIUM
71000	IRON
3000U	SODIUM
6000U	POTASSIUM
29	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 05/20/93

PROJECT NO. 93-0393 SAMPLE NO. 76328 SAMPLE TYPE: SOIL PROG ELEM: SSF COLLECTED BY: C TILL
SOURCE: ULAH BATTERY CITY: ASHBORO ST: NC
STATION ID: UBS-26 RIGHT SIDE OF CASING PILE COLLECTION START: 04/27/93 1450 STOP: 00/00/00

MG/KG	ANALYTICAL RESULTS
120U	SILVER
330	ARSENIC
NA	BORON
290	BARIUM
62U	BERYLLIUM
62U	CADMIUM
120U	COBALT
120U	CHROMIUM
320	COPPER
120U	MOLYBDENUM
250U	NICKEL
270000	LEAD
4700	ANTIMONY
500U	SELENIUM
350	TIN
120U	STRONTIUM
620U	TELLURIUM
.180	TITANIUM
1200U	THALLIUM
120U	VANADIUM
120U	YTTRIUM
330	ZINC
NA	ZIRCONIUM
0.05U	MERCURY
10000	ALUMINUM
170	MANGANESE

MG/KG	ANALYTICAL RESULTS
6200U	CALCIUM
1200U	MAGNESIUM
26000	IRON
12000U	SODIUM
25000U	POTASSIUM
17	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 05/20/93

PROJECT NO. 93-0393 SAMPLE NO. 76308 SAMPLE TYPE: SOIL PROG ELEM: SSF COLLECTED BY: C TILL
SOURCE: ULAH BATTERY CITY: ASHBORO ST: NC
STATION ID: UBS-27 LEFT LOWER PORTION OF CASING PILE COLLECTION START: 04/27/93 1530 STOP: 00/00/00

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
2.0U	SILVER	290	CALCIUM
12U	ARSENIC	450	MAGNESIUM
NA	BORON	19000	IRON
36	BARIUM	200U	SODIUM
1.0U	BERYLLIUM	470	POTASSIUM
1.0U	CADMIUM	27	PERCENT MOISTURE
2.4	COBALT		
11	CHROMIUM		
18	COPPER		
2.0U	MOLYBDENUM		
4.0U	NICKEL		
(*) 950	LEAD		
6.0U	ANTIMONY		
8.0U	SELENIUM		
5.8	TIN		
2.1	STRONTIUM		
10U	TELLURIUM		
170	TITANIUM		
20U	THALLIUM		
42	VANADIUM		
3.8	YTTRIUM		
27	ZINC		
NA	ZIRCONIUM		
0.05U	MERCURY		
12000	ALUMINUM		
120	MANGANESE		

REMARKS ***REMARKS***

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 05/20/93

PROJECT NO. 93-0393 SAMPLE NO. 76309 SAMPLE TYPE: SOIL PROG ELEM: SSF COLLECTED BY: C TILL
SOURCE: ULAH BATTERY CITY: ASHBORO ST: NC
STATION ID: UBS-28 RIGHT LOWER PORTION OF CASING PILE COLLECTION START: 04/27/93 1535 STOP: 00/00/00

MG/KG	ANALYTICAL RESULTS
3.0U	SILVER
5.5	ARSENIC
NA	BORON
75	BARIUM
1.5U	BERYLLIUM
1.5U	CADMIUM
3.3	COBALT
17	CHROMIUM
67	COPPER
3.0U	MOLYBDENUM
49	NICKEL
1900	LEAD
9.0U	ANTIMONY
12U	SELENIUM
7.9	TIN
4.3	STRONTIUM
15U	TELLURIUM
130	TITANIUM
30U	THALLIUM
44	VANADIUM
3.3	YTTRIUM
450	ZINC
NA	ZIRCONIUM
0.05U	MERCURY
14000	ALUMINUM
210	MANGANESE

MG/KG	ANALYTICAL RESULTS
690	CALCIUM
560	MAGNESIUM
29000	IRON
300U	SODIUM
600U	POTASSIUM
24	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 05/20/93

PROJECT NO. 93-0393 SAMPLE NO. 76310 SAMPLE TYPE: SURFACEWA PROG ELEM: SSF COLLECTED BY: C TILL
SOURCE: ULAH BATTERY CITY: ASHBORO ST: NC
STATION ID: UBW-29 STREAM UPGRAD BELOW CASING PILE COLLECTION START: 04/27/93 1555 STOP: 00/00/00

UG/L	ANALYTICAL RESULTS	MG/L	ANALYTICAL RESULTS
2.0U	SILVER	3.8	CALCIUM
6.0U	ARSENIC	1.5	MAGNESIUM
NA	BORON	0.36	IRON
12	BARIUM	5.1	SODIUM
1.0U	BERYLLIUM	0.39	POTASSIUM
1.0U	CADMIUM		
2.0U	COBALT		
2.0U	CHROMIUM		
2.0U	COPPER		
2.0U	MOLYBDENUM		
4.0U	NICKEL		
8.0U	LEAD		
6.0U	ANTIMONY		
8.0U	SELENIUM		
5.0U	TIN		
32	STRONTIUM		
10U	TELLURIUM		
11	TITANIUM		
20U	THALLIUM		
2.0U	VANADIUM		
2.0U	YTTRIUM		
2.4	ZINC		
NA	ZIRCONIUM		
0.2U	MERCURY		
320	ALUMINUM		
12	MANGANESE		

REMARKS ***REMARKS***

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

05/20/93

METALS DATA REPORT

PROJECT NO. 93-0393 SAMPLE NO. 76311 SAMPLE TYPE: SURFACEWA PROG ELEM: SSF COLLECTED BY: C TILL
SOURCE: ULAH BATTERY CITY: ASHBORO ST: NC
STATION ID: UBW-30 STREAM BELOW CASING PILE DOWNGRAD COLLECTION START: 04/27/93 1610 STOP: 00/00/00

UG/L	ANALYTICAL RESULTS
2.0U	SILVER
6.0U	ARSENIC
NA	BORON
12	BARIUM
1.0U	BERYLLIUM
1.0U	CADMIUM
2.0U	COBALT
2.0U	CHROMIUM
2.0U	COPPER
2.0U	MOLYBDENUM
4.0U	NICKEL
8.0U	LEAD
6.0U	ANTIMONY
8.0U	SELENIUM
5.0U	TIN
32	STRONTIUM
10U	TELLURIUM
14	TITANIUM
20U	THALLIUM
2.0U	VANADIUM
2.0U	YTTRIUM
5.1	ZINC
NA	ZIRCONIUM
0.2U	MERCURY
400	ALUMINUM
11	MANGANESE

MG/L	ANALYTICAL RESULTS
3.8	CALCIUM
1.5	MAGNESIUM
0.41	IRON
5.0	SODIUM
0.52	POTASSIUM

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 05/20/93

** PROJECT NO. 93-0393 SAMPLE NO. 76312 SAMPLE TYPE: SOIL PROG ELEM: SSF COLLECTED BY: C TILL **
** SOURCE: ULAH BATTERY CITY: ASHBORO ST: NC **
** STATION ID: UBS-29 STREAM BELOW CASING PILE UPGRAD COLLECTION START: 04/27/93 1550 STOP: 00/00/00 **

MG/KG	ANALYTICAL RESULTS
1.0U	SILVER
4.0U	ARSENIC
NA	BORON
32	BARIUM
0.50U	BERYLLIUM
0.50U	CADMIUM
2.9	COBALT
6.9	CHROMIUM
6.4	COPPER
1.0U	MOLYBDENUM
2.0U	NICKEL
13	LEAD
3.0U	ANTIMONY
4.0U	SELENIUM
2.5U	TIN
5.9	STRONTIUM
5.0U	TELLURIUM
97	TITANIUM
10U	THALLIUM
21	VANADIUM
7.3	YTTRIUM
19	ZINC
NA	ZIRCONIUM
0.05U	MERCURY
5300	ALUMINUM
88	MANGANESE

MG/KG	ANALYTICAL RESULTS
580	CALCIUM
640	MAGNESIUM
11000	IRON
100U	SODIUM
200U	POTASSIUM
32	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 05/20/93

PROJECT NO. 93-0393 SAMPLE NO. 76313 SAMPLE TYPE: SOIL
SOURCE: ULAH BATTERY
STATION ID: UBS-30 STREAM BELOW CASING PILE DOWNGRAD

PROG ELEM: SSF COLLECTED BY: C TILL
CITY: ASHBORO ST: NC
COLLECTION START: 04/27/93 1615 STOP: 00/00/00

MG/KG	ANALYTICAL RESULTS
1.0U	SILVER
8.0U	ARSENIC
NA	BORON
52	BARIUM
0.50U	BERYLLIUM
0.50U	CADMIUM
7.4	COBALT
7.2	CHROMIUM
8.1	COPPER
1.0U	MOLYBDENUM
2.0U	NICKEL
15	LEAD
3.0U	ANTIMONY
4.0U	SELENIUM
2.5U	TIN
13	STRONTIUM
5.0U	TELLURIUM
140	TITANIUM
10U	THALLIUM
24	VANADIUM
7.8	YTTRIUM
26	ZINC
NA	ZIRCONIUM
0.05U	MERCURY
6400	ALUMINUM
290	MANGANESE

MG/KG	ANALYTICAL RESULTS
1200	CALCIUM
880	MAGNESIUM
12000	IRON
100U	SODIUM
330	POTASSIUM
54	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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18 June 1993

TO: File

FROM: Jack Butler

SUBJECT: Ulah Battery
NCD 981 864 614

Ms. Mary Jo Penick, EPA Region IV Removal Section (404/347-3931), was contacted by our office on this date concerning the subject site. Ms. Penick reported that a sampling team from EPA Region IV conducted sampling at the site in April 1993. This sampling was conducted to aid EPA in evaluating the removal request that North Carolina has previously submitted. Ms. Penick reported that she had not yet received the results from this sampling, however, she expects them any time now. Ms. Penick agreed to keep our office informed and will send a copy of the sampling results when she receives them.

Ms. Penick added that the family with the child with elevated blood lead moved out at the end and May and she is working with the local Health Department to prevent the house from being rerented to families with small children.

JB/dk/11

22 April 1993

TO: File

FROM: Jack Butler JB

SUBJECT: Ulah Battery
NCD 981 864 614

Ms. Mary Jo Penick, EPA Region IV Removal Section (404/347-3931), contacted our office on this date concerning the subject site. Ms. Penick reported that a sampling team from EPA Region IV would arrive at the site on 26 April 1993 and conduct sampling on 27 April 1993. This sampling is being conducted to aid EPA in evaluating the removal request that North Carolina has previously submitted. Ms. Penick was provided phone numbers for Mr. Hammond, Mr. King, Mr. Caviness, Mr. McMillon, and Mr. Hoskins. These individuals own wells on the site that will be included in this sampling.

JB/dk/10

23 March 1993

TO: File

FROM: Jack Butler

SUBJECT: Ulah Battery
NCD981864614

Ms. Mary Jo Penick, EPA Removal Branch (404/347-3931), was contacted on this date to determine the status of the removal request at this site. Ms. Penick reported that she is presently arranging for the EPA ESD Branch to do additional sampling at this site to define the areas to be addressed. This sampling will probably be in mid April. Ms. Penick will contact our office when a definite date has been determined.

Ms. Penick also reported that as of the first week of March, the family is still living in the house. It had been previously reported that this family was voluntarily relocating at the end of February. Ms. Penick is, therefore, further exploring the option of relocating this family and preventing the house from being rerented.

A copy of the Randolph County Department "Initial Notice to Property Owners" dated 1 March 1993, was faxed to Ms. Penick on this date for her information.

JB/dk/9

Randolph County Health Dept.
ASHEBORO, NORTH CAROLINA 27203-7368

Personal Health
Health Education
Environmental Health
Nutrition Services
Dental Health

RECEIVED
MAR 8 1993
SUPERFUND SECTION

Ira McDowell Governmental Center
2222-B South Fayetteville Street
Telephone (919) 629-2131
FAX (919) 629-0882

INITIAL NOTICE TO PROPERTY OWNER

CERTIFIED MAIL
RE: Lead Abatement at 186 Dinah Rd., Asheboro, N.C.

March 1, 1993

Dear Mr. Marvin E. Caviness:

A recent inspection of your property, located at 186 Dinah Road, Asheboro, N.C. revealed the presence of lead-contaminated soil. This is considered a hazard to human health, especially to children. This condition is in violation of North Carolina General Statute 130A-131.5 and 15A NCAC 18A and the identified lead hazard must be corrected. You must submit a plan to abate the hazard, in writing, to this office within 14 days following receipt of this notice. Enclosed is a sheet which explains the acceptable methods for making these corrections. The area which must be abated is shown in the accompanying diagram where soil samples indicated lead at higher levels than 500 ppm. Please be aware of the dangers and necessary safety precautions associated with each method of abatement.

Under the law, the lead hazard must be corrected within 60 days of the Department's approval of the abatement plan. This Department and occupants must be notified of the dates of correction activities.

The paint on the front porch post and ceiling may require abatement in the future should the condition of the paint deteriorate further. It is advised but not required at this time. Abatement of exterior woodwork may be done by paint removal or encapsulation techniques. This process would have to be approved in the same manner as that described above.

The site will be scheduled for reinspection within 60 days after the abatement plan is approved. Please call this office if you have any questions. We are available to provide you with assistance in complying with this notice.

Sincerely,

Karen D. Allen

Karen D. Allen, R.S.
Environmental Health Specialist

Enclosures

cc: Jim Hayes, Lead Investigation and Abatement Program Manager
Gary Cole, Regional Environmental Health Specialist
Jack Butler, N.C. Superfund Section

Randolph County Health Dept.
ASHEBORO, NORTH CAROLINA 27203-7368

Personal Health
Health Education
Environmental Health
Nutrition Services
Dental Health

Ira McDowell Governmental Center
2222-B South Fayetteville Street
Telephone (919) 629-2131
FAX (919) 629-0882

Environmental Investigation Report for Lead Hazards

Investigation Date: January 8, 1993 and February 8, 1993

Address Investigated: 186 Dinah Road
Asheboro, N.C. 27203

Property Owner: Marvin E. Caviness
Rt. 7 Box 381
Asheboro, N.C. 27203

Investigation ordered by: Randolph County Health Department
for: Ashley Gasey

Investigators:

Jim Hayes, Program Manager, Environmental Health Services Section
Gary Cole, Regional Environmental Health Specialist, Division of Environmental Health
Karen D. Allen, Environmental Health Specialist, Randolph County Health Department

Findings:

Ashley Gasey born January 26, 1991 lives with her parents, Richard and Connie Gasey and four siblings at 186 Dinah Road, Asheboro, N.C. The family has resided at this house approximately two years. Ashley was reported to have an elevated blood lead level of 33 micrograms per deciliter on November 25, 1992. A second test showed a blood lead level of 29 micrograms on December 3, 1992. The blood lead levels of the other children of the household were not considered elevated.

On January 8, 1992, Jim Hayes, Gary Cole, and Karen D. Allen, met Mrs. Gasey at the home located at 186 Dinah Road, Asheboro, N.C. to evaluate the residence for the presence of lead hazards. A Lead Paint Analyzer was used to detect the presence of lead-based paint by x-ray florescence analysis. Painted surfaces inside the home did not show the presence of lead-based paint. A water sample analysis of water collected from the kitchen tap did not show lead contamination. Lead-based paint measuring 1.0 micrograms per square centimeter or greater lead content was detected on the front porch post. The condition of the paint was cracking but intact. This paint was out of the reach of the child in question and was not considered to be a hazard at this time.

Mrs. Gasey pointed out where the child had been observed to eat dirt near the front steps. A soil sample was collected. Analysis showed that the lead content measured 1,031 ppm. This exceeds the level of 500 ppm which considered to represent a lead hazard from soil.

Soil samples collected by Gary Cole and Karen Allen on February 8, 1993 showed levels of lead from 520 ppm to 2,853 in the area of the driveway and near the road. The accompanying diagram shows the approximate locations of the samples which were collected.

All soil contaminated with lead above 500 ppm must be considered potentially hazardous to young children. In the past, nearby property was used for lead reclamation from car batteries. This house site is apparently outside the clean-up area where soil was removed in 1988.

Recommendations:

A lead safe environment is needed for Ashley to recover. Since blood lead levels as low as 10 micrograms per deciliter can cause permanent brain damage, reduce intelligence, impair perception, speech and hearing, cause learning disabilities and hinder growth there is no doubt that the lead hazard near this house represents an environment injurious to the health of small children.

Abatement required:

All lead hazards must be abated in accordance with North Carolina General Statutes 130A-131.5 and Title 15A North Carolina Administrative Code 18A .3105. The lead hazard requiring abatement at 186 Dinah Road is the lead contaminated soil. Lead contaminated soil is hazardous because children eat dirt and contaminated soil may be tracked into the house and contaminate house dust which is easily ingested by small children.

Abatement of contaminated soil can be accomplished by its removal and replacement or by simply covering contaminated soil with six inches of new soil and establishing vegetative cover to prevent erosion.

Although the paint on the front porch post and ceiling is not considered a hazard at this time it may become one in the future should the paint deteriorate further. Abatement of exterior woodwork may be done by paint removal or encapsulation techniques. These processes would have to be approved by this department.

This report was prepared by:

Karen D. Allen

Karen D. Allen, R.S.
Environmental Health Specialist

11 February 1992

TO: File

FROM: Jack Butler

SUBJECT: Ulah Battery
NCD981864614

Ms. Mary Jo Penick, EPA Region IV Emergency Response (404/347-3931), was recontacted on 10 February 1993, concerning the subject site and the status of the Immediate Removal Evaluation request. Ms. Penick reported that she had talked with Mr. Gary Cole of the Davidson County Health Department, and he had reported that the Health Department had collected 12 soil samples on 8 February 1992 from the front yard of the house with the child with elevated blood lead levels. She also added that the family presently in the house is planning on moving out at the end of February 1993. Ms. Pennick is exploring options to prevent the house from being reoccupied.

JB/dk/8

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

SITE NAME: ULAH BATTERY LEAD RECLAIMING CERCLIS #: NCD 981864614

AKA: _____ SSID: _____

ADDRESS: SR 1219

CITY: Asheboro STATE: NC ZIP CODE: 27203

SITE REFERENCE POINT: SITE POINT

USGS QUAD MAP NAME: Asheboro TOWNSHIP: ___ N/S RANGE: ___ E/W

SCALE: 1:24,000 MAP DATE: 1970 RV 1981 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: 79 ° 45 ' 00 " LATITUDE: 35 ° 37 ' 30 "

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

LONGITUDE: 79 ° 47 ' 30 " LATITUDE: 35 ° 37 ' 30 "

CALCULATIONS: LATITUDE (7.5' QUADRANGLE MAP)

A) NUMBER OF RULER GRADUATIONS FROM LATITUDE GRID LINE TO SITE REF POINT: 157

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

A x 0.3304 = 51 . 87 "

C) EXPRESS IN MINUTES AND SECONDS (1' = 60"): 0 ' 51 . 87 "

D) ADD TO STARTING LATITUDE: 35 ° 37 ' 30 . ___ " + 0 ' 51 . 87 =

SITE LATITUDE: 35 ° 38 ' 22 . 01 "

CALCULATIONS: LONGITUDE (7.5' QUADRANGLE MAP)

A) NUMBER OF RULER GRADUATIONS FROM RIGHT LONGITUDE LINE TO SITE REF POINT: 417

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

A x 0.3304 = 137 . 78 "

C) EXPRESS IN MINUTES AND SECONDS (1' = 60"): 2 ' 17 . 78 "

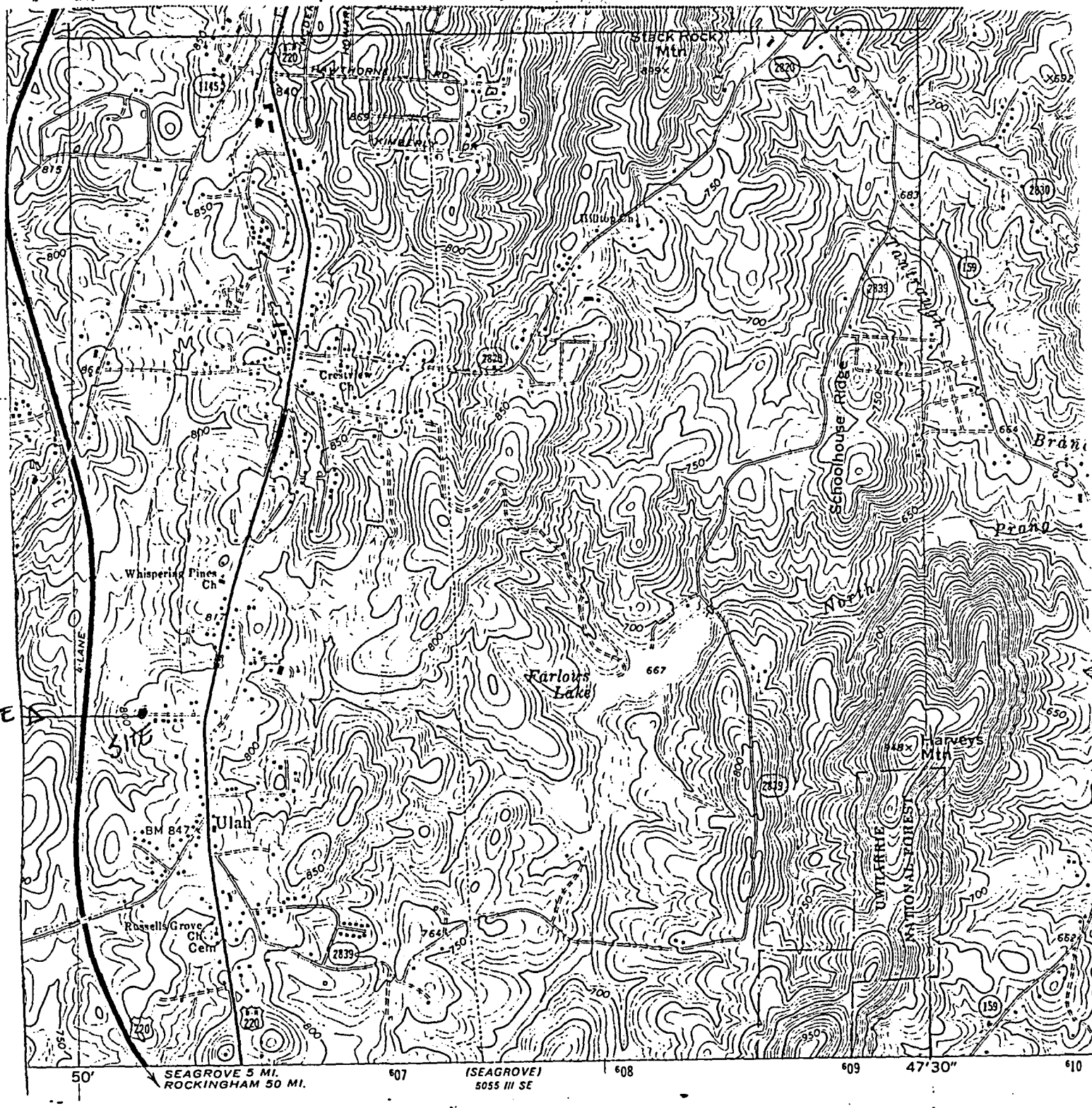
D) ADD TO STARTING LONGITUDE: 79 ° 47 ' 30 . 0 " + 2 ' 17 . 78 =

SITE LONGITUDE: 79 ° 49 ' 48 . 0 "

INVESTIGATOR: Holly L Spires DATE: 4-15-92

NCD 981 864 614

SITE NAME: ULAH BATTERY LEAD Recovery NUMBER: NCD981864614



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

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

LATITUDE: 35 31 30 LONGITUDE: 79 47 30

Site Name: Ulah Battery Lead Reclaim
Site Number: NCD 981 864 614

Site Location: Asheboro, N.C.
Randolph County
Latitude: 35 38 22.0
Longitude: 79 49 48.0

Date: July 06, 1992

Calculation Results

Distance from Site Location	Population Per Ring	Population Cumulative	Number of Households Per Ring	Number of Households Cumulative
0 to 1/4 mile	35	35	15	15
>1/4 to 1/2 mile	99	134	40	55
>1/2 to 1 mile	478	612	193	248
>1 to 2 miles	2,084	2,696	788	1,036
>2 to 3 miles	3,532	6,228	1,271	2,307
>3 to 4 miles	5,053	11,281	2,124	4,431

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

FILE COPY

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

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

William L. Meyer
Director

May 14, 1991

Mr. James Martin
Environmental Health Supervisor
Randolph County Health Department
2222B S. Fayetteville Street
Asheboro, NC 27203

RE: Site Investigation
Ulah Battery
NCD981864614

Dear Mr. Martin:

David Lilley of the North Carolina Superfund Section spoke with you today to notify you that the North Carolina Superfund Section will conduct a site investigation of the subject site located in Randolph County, NC. The investigation will be conducted on June 4, 1991 by Bruce Nicholson of the North Carolina Superfund Section.

The purpose of the investigation is to determine if the site poses a hazard to public health or the environment because of releases of contaminants to soil, surface water, groundwater, or air. The investigation team will take samples to determine if a hazardous condition exists.

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

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

Sincerely,

C Charlotte Jesneck

Charlotte Jesneck. Head
Inactive Sites Branch
Superfund Section

Enclosures

cc: Jim Coffey
Doug Holyfield
Steve Reid
Patricia Bowden
Ann Rudd
David Lilley
File

State
Trip Notification & Authoriz

Prepared by: BRUCE NICHOLSON

Today's Date: May 13, 91

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

Site Trip

Date of Trip: June 4, 1991

If trip date changed or cancelled note below:
Trip Date Changed To: _____ Cancelled: ___

NCD#: 981864614 Site Name: ULAH BATTERY
City: Asheboro County: RANDOLPH

Reason for Trip: Private Well Sampling

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

Authorized by: [signature]
Industrial Hygienist

Project Team Leader: Bruce Nicholson

Assistants: Luanne Williams, _____, _____

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

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

(Please list appropriate County Health Department contact person to call to advise of trip)
Environmental Supervisor or Health Director to call: Mr. James Martin Title: Supervisor Env. Health
(Note if Dr., M.P., etc.)
Telephone Number: (919) 629 - 2131

Notes: Health Department Official Contacted: Jim Martin
Back Up Letter Required: Yes ✓ No ___
Notified Mr. Martin on 5-14-91 (ABC)

Note: Signed original to Data Manager

SOIL TYPE AND FEASIBILITY OF CEMENT STABILIZATION AT THE ULAH BATTERY SITE

D. Mark Durway
Geologist

January 20, 1989

Soil at Ulah Battery in Randolph County is comprised of silt loam and silty clay loam formed from the felsic metavolcanic rock of the Carolina Slate Belt. While a soil survey for Randolph County has not yet been published, soils in the site area have been tentatively identified as belonging to the Georgeville-Herndon soil association (1). Georgeville and Herndon soils are very similar in all aspects except color (2). Typical clay content, cation exchange capacity, and permeability of these soils are as follows (3,4):

SERIES	CLAY CONTENT,%	CATION EXCHANGE CAPACITY, meq/ 100 g soil at pH 7	PERMEABILITY, in/hr
Georgeville			
A horizon (0-6")	5-35	10.7	0.6-2
B horizon (6-63")	27-60	9.2	0.6-2
Herndon			
A horizon (0-9")	5-35	7.5	0.6-2
B horizon (9-48")	27-60	9.7	0.6-2

Particle size analysis of two surface soil samples collected from the #2 disposal area showed clay contents of 13.75% and 22.5%, which is typical for Georgeville and Herndon A horizons (site maps, laboratory analyses, and grain size distribution diagrams are attached).

The decision not to use cement stabilization as a means of remediating the Ulah Battery site took into consideration a number of issues including: first, whether the cement-soil bond would have had the structural integrity to remain permanently fixed; and second, whether leaching of lead would have occurred once the stabilization process had been completed. Dr. Mike Lemming of the Department of Materials Engineering at NCSU provided insight into dealing with these issues, indicating that

cement strength is a function of the ratio of water to cement. Since clay has a very high water demand, he said, the addition of clayey soil to cement decreases the cement's structural strength and durability (5). Dr. Roy Borden of the Department of Civil Engineering at NCSU added that more important than cement strength was whether or not lead would be able to leach once the stabilization process had been completed. Dr. Borden said that either laboratory or in-situ testing would be required in order to determine whether or not leaching of lead would occur. He also noted that thorough mixing of the contaminated soil, cement, and water would be important (6).

Cement stabilization of contaminated soil at Ulah Battery might have been an effective means of remedying the public health and environmental threat which the site posed. However, it did not appear that permanent stabilization of the waste could be achieved because of the high clay content of onsite soil. Furthermore, there was no available evidence to support that leaching of lead would not occur.

REFERENCES

1) Tant, PL, et. al., General soil map of North Carolina, USDA Soil Conservation Service, April 1974.

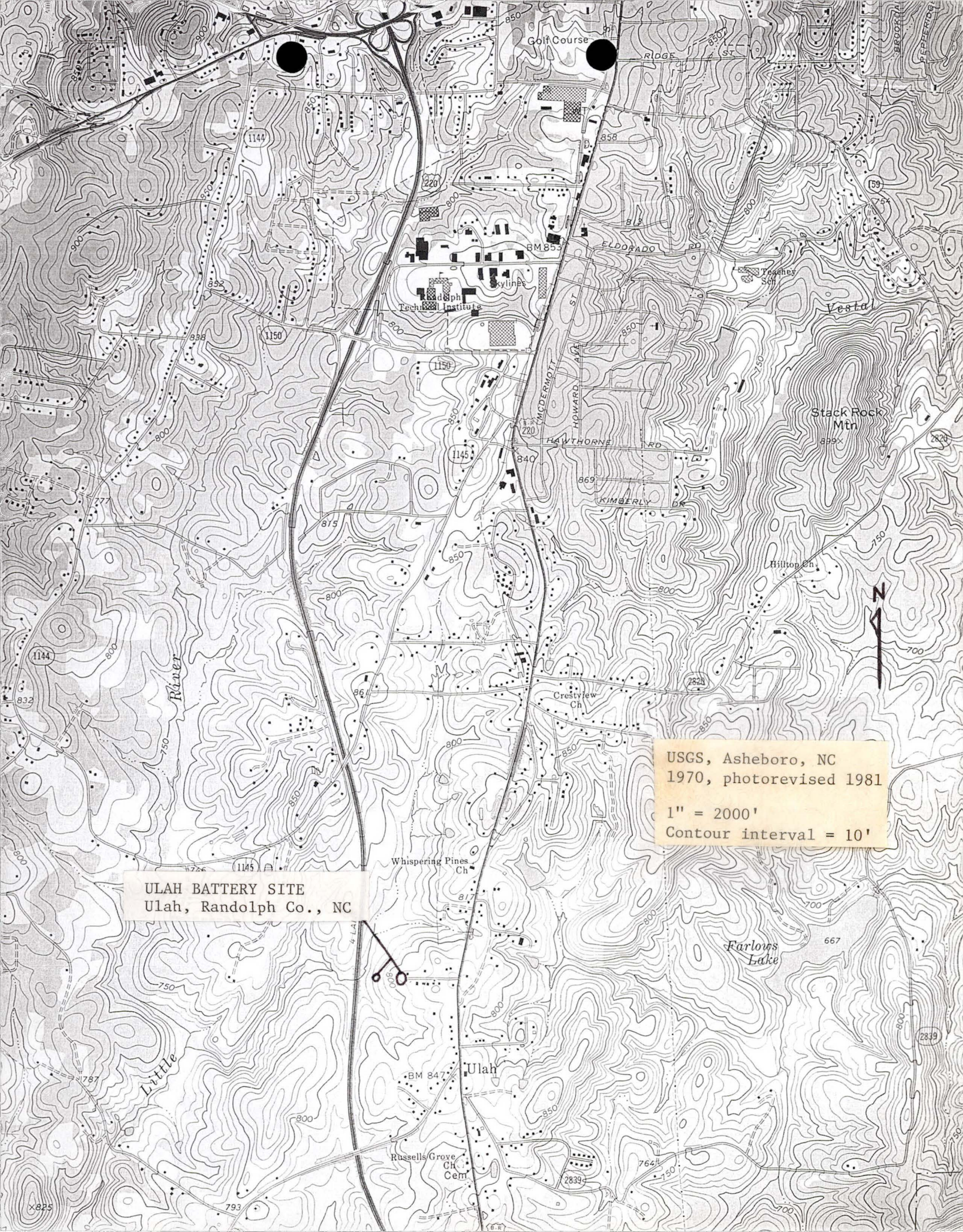
2) Daniels, RB, et. al., Soil systems in North Carolina, NC Agricultural Research Service, Bull. 467, October 1984.

3) Soil interpretation records for Georgeville and Herndon soils provided courtesy of the Soil Conservation Service office in Randolph Co., NC.

4) Buol, SW, personal communication, 1-19-89. Cation exchange values provided courtesy of Dr. Buol are based on determinations made at the Department of Soil Science at NCSU on 12 Georgeville and 7 Herndon soil samples.

5) Lemming, M, personal communication, 10-10-88.

6) Borden, RH, personal communication, 10-10-88.

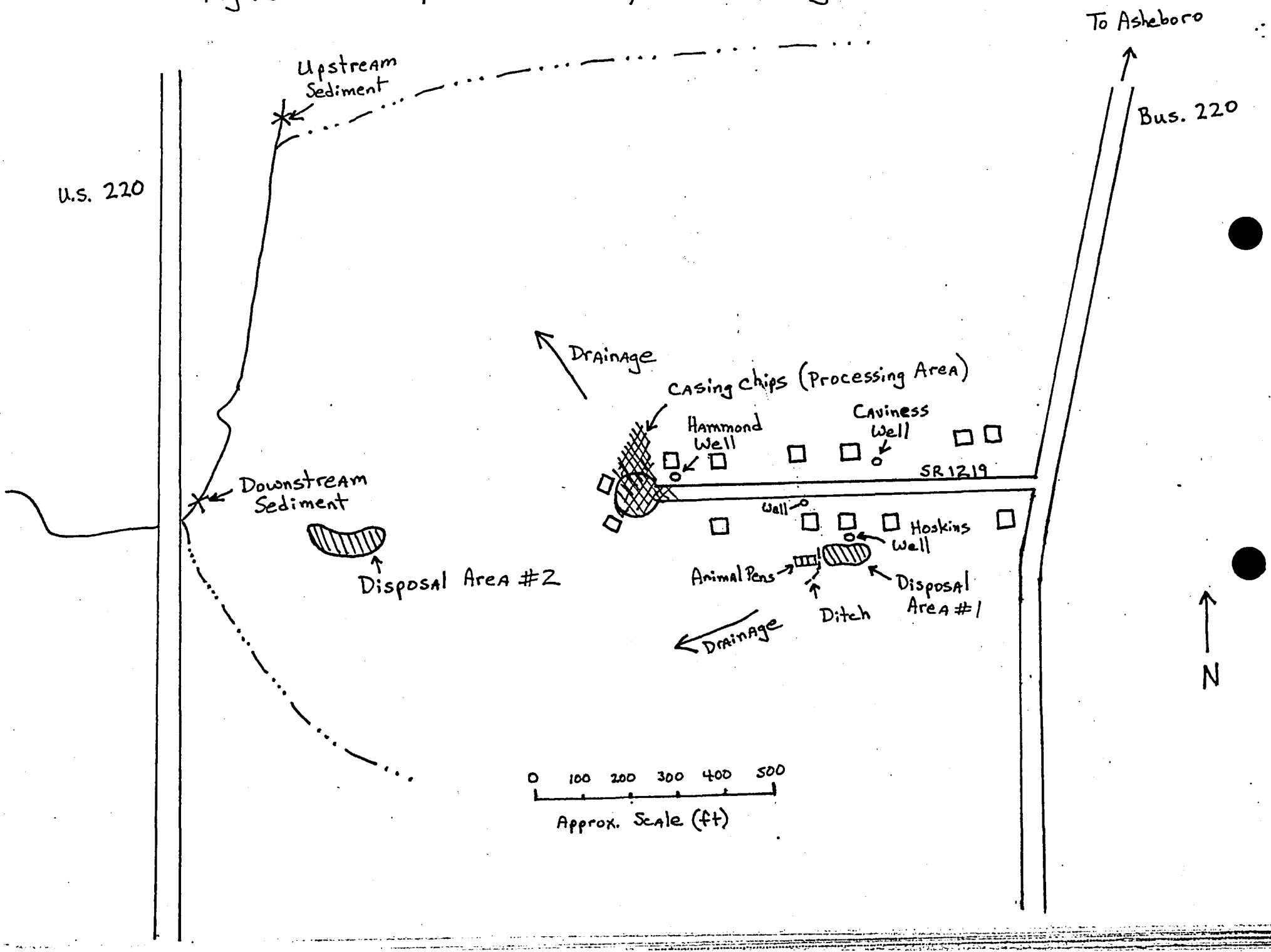


USGS, Asheboro, NC
1970, photorevised 1981

1" = 2000'
Contour interval = 10'

ULAH BATTERY SITE
Ulah, Randolph Co., NC

Figure 1. Site layout: Ulah Battery Lead Reclaiming.



GEORGEVILLE SERIES

The Georgeville series consists of well drained, moderately permeable soils that formed in material mostly weathered from Carolina slate or fine grained rocks of the Piedmont Uplands. Slopes are 2 to 25 percent.

TAXONOMIC CLASS: Clayey, kaolinitic, thermic Typic Hapludults.

TYPICAL PEDON: Georgeville silt loam--forested, mainly hardwoods of maple, southern red oak, and elm.
(Colors are for moist soil.)

O2--1 to 0 inches; decayed leaves and live roots.

A1--0 to 4 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium subangular blocky structure; friable; many fine and common medium roots; strongly acid; abrupt smooth boundary. (3 to 5 inches thick)

A2--4 to 6 inches; yellowish brown (10YR 5/4) silt loam; weak medium subangular blocky structure; friable; many fine and medium roots; strongly acid; abrupt broken boundary. (0 to 5 inches thick)

B21t--6 to 10 inches; yellowish red (5YR 5/6) silt clay loam; weak fine subangular blocky structure; friable; common fine and few medium roots; thin patchy distinct clay films on faces of peds; common fine pores; strongly acid; clear smooth boundary. (0 to 8 inches thick)

B22t--10 to 28 inches; red (2.5YR 4/8) clay; moderate fine subangular blocky structure; friable; few fine and medium roots; thin continuous distinct clay films on faces of peds; common fine pores; strongly acid; clear smooth boundary. (10 to 25 inches thick)

B23t--28 to 41 inches; red (2.5YR 4/6) clay with few fine distinct strong brown (7.5YR 5/8) mottles; moderate fine and medium subangular blocky structure; friable; moderately thick continuous distinct clay films on faces of peds; few fine pores; strongly acid; gradual smooth boundary. (10 to 25 inches thick)

B24t--41 to 53 inches; red (2.5YR 4/6) silty clay loam with few fine distinct yellowish brown (10YR 5/6) and few fine prominent brownish yellow (10YR 6/8) mottles; moderate coarse subangular blocky structure; friable; few fine roots; thick continuous distinct clay films on faces of peds; few fine pores; few fine flakes of mica; strongly acid; gradual smooth boundary. (0 to 20 inches thick)

B3--53 to 63 inches; red (2.5YR 4/6) silty clay loam with common fine and medium distinct reddish yellow (7.5YR 6/8) and few fine faint dark yellowish brown (10YR 4/6) mottles; weak coarse and very coarse subangular blocky structure; friable; few fine roots; thin patchy faint clay films on faces of peds; few fine flakes of mica; strongly acid. (10 to 25 inches thick)

TYPE LOCATION: Lancaster County, South Carolina; 6 miles northeast of Lancaster, South Carolina; 1.3 miles east of junction of State Highway 28 and 82; 60 feet south of State Highway 28; and 235 feet southeast of power pole no. COA31.

RANGE IN CHARACTERISTICS: Thickness of the clayey part of the Bt horizon ranges from 24 to 48 inches. Depth to the bottom of the clayey Bt horizon exceeds 30 inches. Depth to bedrock is more than 60 inches. The soil is very strongly acid to neutral in the A horizon and very strongly acid or strongly acid throughout the rest of the profile. Content of coarse fragments range to as much as 20 percent by volume in the A horizon and to as much as 5 percent in the Bt horizon. Few fine flakes of mica are in the lower part of the solum of some pedons.

The A1 or Ap horizon has hue of 5YR to 2.5Y, or it is neutral, value of 4 or 5, and chroma of 0 to 8. The A2 horizon, where present, has hue of 5YR to 2.5Y, value of 4 or 5, and chroma of 3 to 8. The A horizon is silt loam, loam, very fine sandy loam, or the slaty analogues of these. Where eroded, the A horizon has hue of 2.5YR to 5YR, value of 4 or 5, and chroma of 4 to 8. It is clay loam or silty clay loam. Structure of the A horizon is blocky or granular.

The B1 horizon, where present, has hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 or 8. It is silty clay loam or clay loam.

The upper part of the B2t horizon of many pedons has hue of 5YR, value of 4 or 5, and chroma of 6 or 8. The middle part of the B2t horizon, and in many pedons the upper part of the B2t horizon, has hue of 10R or 2.5YR, value of 4 or 5, and chroma of 6 or 8. The lower part of the B2t horizon has hue of 10R or 2.5YR, value of 4 or 5, and chroma of 6 or 8, commonly with mottles in shades of yellow or brown. The B2t horizon commonly is clay or silty clay but ranges to clay loam or silty clay loam. The particle size control section averages more than 30 percent silt or more than 40 percent silt plus very fine sand.

The B3 horizon has hue of 10R of 5YR, value of 4 or 5, and chroma of 6 or 8, commonly with mottles in shades of yellow or brown. It is silt loam, loam, silty clay loam, or clay loam.

The C horizon has hue of 10R to 10YR, value of 4 to 6, and chroma of 3 to 8, commonly with mottles in shades of brown, yellow, gray, or red. In some pedons, the C horizon is coarsely mottled in shades of red, brown, yellow or gray. It is silt loam, loam, very fine sandy loam, or fine sandy loam with as much as 90 percent soft saprolite of Carolina slate or fine-grained rock material. Coarse fragments range to as much as 10 percent in some pedons.

COMPETING SERIES: These are the Appling, Aragon, Cecil, Chestatee, Herndon, Hulett, Madison, Mayodan, Nankin, Pacolet, Spotsylvania, and Wedowee series. Appling, Cecil, Hulett, Madison, Nankin, Pacolet, and Wedowee soils have less than 30 percent silt in the control section. Aragon soils have Bt horizons that are mottled in the upper part and C horizons of weathered limestone, sandstone, shale, or siltstone. Chestatee soils have more than 15 percent by volume of coarse fragments throughout. Herndon soils have Bt horizons with hue of 5YR or yellower. Mayodan soils are less silty and have higher amounts of exchangeable aluminum relative to the exchange capacity. Spotsylvania soils have a lithologic discontinuity.

GEOGRAPHIC SETTING: Georgeville soils are on gently to strongly sloping Piedmont uplands. Slopes are generally 6 to 12 percent and range from 2 to 25 percent. The soil formed in residuum weathered from fine grained rocks, generally classed as phyllites or Carolina slates. Annual rainfall ranges from 44 to 60 inches. Mean annual temperature is about 63 degrees F., and the growing season is 200 to 240 days.

GEOGRAPHICALLY ASSOCIATED SOILS: In addition to the competing Cecil, Herndon, and Pacolet series, these are the Alamance, Badin, Goldston, Gundy, Kirksey, Nason, and Tatum series. Alamance and Kirksey soils are fine-silty. Goldston soils are loamy-skeletal. Badin, Gundy, Nason, and Tatum soils have mixed mineralogy

DRAINAGE AND PERMEABILITY: Well drained; medium runoff; moderate permeability.

USE AND VEGETATION: Cleared areas are used for cotton, small grains, tobacco, corn, hay, and pasture. Forested areas are in mixed hardwood and pines.

DISTRIBUTION AND EXTENT: Piedmont of Virginia, Alabama, Georgia, North Carolina, and South Carolina. The series is extensive.

SERIES ESTABLISHED: Cabarrus County, North Carolina; 1910.

REMARKS: This revision uses the linear relationship between the thickness of the clayey Bt horizon and depth to the bottom of the clayey Bt horizon as series criteria instead of solum thickness.

SC001A

SOIL INTERPRETATIONS RECORD

MLRA(S): 136
TRG.JCM. 5-79
TYPIC HAPLUDULTS. CLAYEY. KAOLINITIC. THERMIC

GEORGEVILLE SERIES

THE GEORGEVILLE SERIES CONSISTS OF WELL DRAINED SOILS ON THE PIEDMONT UPLAND. THE SOIL FORMED IN RESIDUUM FROM SLATE. IN A REPRESENTATIVE PROFILE. THE SURFACE LAYER IS YELLOWISH BROWN SILT LOAM. THE SUBSOIL IS YELLOWISH RED OR RED SILTY CLAY LOAM. SILTY CLAY OR CLAY. SLOPES RANGE FROM 2 TO 25 PERCENT.

ESTIMATED SOIL PROPERTIES (A)

DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHTO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO. 4	10	40	200	LIQUID LIMIT	PLASTICITY INDEX
0-6	SIL. L. VFSL	ML	A-4	0-2	90-100	85-100	65-100	51-98	<40	NP-10
0-6	SY-SIL. SY-L. SY-VFSL	ML	A-4	0-5	75-90	70-80	60-75	55-70	<30	NP-5
0-6	SICL. CL	CL. ML	A-6. A-7	0-2	90-100	90-100	85-100	65-98	30-45	11-20
6-10	SICL. CL	CL. ML	A-6. A-7. A-4	0-1	90-100	90-100	85-100	70-98	30-45	8-20
10-53	C. SIC. SICL	MH. ML	A-7	0-1	95-100	95-100	90-100	75-98	41-75	15-35
53-63	SICL. L. SIL	ML. CL. CL-ML	A-4. A-6	0-5	90-100	90-100	65-100	51-95	<30	NP-12

DEPTH (IN.)	CLAY (PCT <2MM)	MOIST BULK DENSITY (G/CM3)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (PH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	EROSION FACTORS K	T	WIND EROD. GROUP	ORGANIC MATTER (PCT)	CORROSIVITY STEEL	CONCRETE
0-6	5-27	1.20-1.40	0.6-2.0	0.15-0.20	4.5-6.0	-	LOW	.32	4	5	.5-2	HIGH	HIGH
0-6	5-27	1.10-1.40	0.6-2.0	0.12-0.17	4.5-6.0	-	LOW	.28	4	8	.5-2		
0-6	27-35	1.20-1.40	0.6-2.0	0.13-0.18	4.5-6.0	-	LOW	.32	3	6	<.5		
6-10	27-35	1.20-1.40	0.6-2.0	0.13-0.18	4.5-5.5	-	LOW	.32					
10-53	35-60	1.20-1.40	0.6-2.0	0.13-0.18	4.5-5.5	-	LOW	.28					
53-63	15-40	1.20-1.40	0.6-2.0	0.05-0.10	4.5-5.5	-	LOW	.32					

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

SANITARY FACILITIES (B)

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

BUILDING SITE DEVELOPMENT (B)

SHALLOW EXCAVATIONS	2-8%: MODERATE-TOO CLAYEY 8-15%: MODERATE-TOO CLAYEY.SLOPE 15+%: SEVERE-SLOPE
DWELLINGS WITHOUT BASEMENTS	2-8%: SLIGHT 8-15%: MODERATE-SLOPE 15+%: SEVERE-SLOPE
DWELLINGS WITH BASEMENTS	2-8%: SLIGHT 8-15%: MODERATE-SLOPE 15+%: SEVERE-SLOPE
SMALL COMMERCIAL BUILDINGS	2-4%: SLIGHT 4-8%: MODERATE-SLOPE 8+%: SEVERE-SLOPE
LOCAL ROADS AND STREETS	2-15%: SEVERE-LOW STRENGTH 15+%: SEVERE-LOW STRENGTH.SLOPE
LAWNS. LANDSCAPING AND GOLF FAIRWAYS	2-8% SIL.L.VFSL.SICL.CL: SLIGHT 8-15% SIL.L.VFSL.SICL.CL: MODERATE-SLOPE 2-8% SY: MODERATE-SMALL STONES 8-15% SY: MODERATE-SMALL STONES.SLOPE 15+%: SEVERE-SLOPE

CONSTRUCTION MATERIAL (B)

ROADFILL	POOR-LOW STRENGTH
SAND	IMPROBABLE-EXCESS FINES
GRAVEL	IMPROBABLE-EXCESS FINES
TOPSOIL	2-15%: POOR-THIN LAYER 15+%: POOR-THIN LAYER.SLOPE

WATER MANAGEMENT (B)

POND RESERVOIR AREA	2-20%: MODERATE-SEEPAGE 20+%: SEVERE-SLOPE
EMBANKMENTS DIKES AND LEVEES	SEVERE-HARD TO PACK
EXCAVATED PONDS AQUIFER FED	SEVERE-NO WATER
DRAINAGE	DEEP TO WATER
IRRIGATION	2-3%: FAVORABLE 3+%: SLOPE
TERRACES AND DIVERSIONS	2-8%: FAVORABLE 8+%: SLOPE
GRASSED WATERWAYS	2-8%: FAVORABLE 8+%: SLOPE

REGIONAL INTERPRETATIONS

RECREATIONAL DEVELOPMENT (B)

CAMP AREAS	2-8% SIL.L.VFSL.SICL.CL: SLIGHT 8-15% SIL.L.VFSL.SICL.CL: MODERATE-SLOPE 2-8% SY: MODERATE-SMALL STONES 8-15% SY: MODERATE-SLOPE.SMALL STONES 15+%: SEVERE-SLOPE	PLAYGROUNDS	2-6% SICL.CL: MODERATE-SLOPE 2-6% SIL.L.VFSL: MODERATE-SLOPE.SMALL STONES 6+% SIL.L.VFSL.SICL.CL: SEVERE-SLOPE 2-6% SY: SEVERE-SMALL STONES 6+% SY: SEVERE-SLOPE.SMALL STONES
PICNIC AREAS	2-8% SIL.L.VFSL.SICL.CL: SLIGHT 8-15% SIL.L.VFSL.SICL.CL: MODERATE-SLOPE 2-8% SY: MODERATE-SMALL STONES 8-15% SY: MODERATE-SLOPE.SMALL STONES 15+%: SEVERE-SLOPE	PATHS AND TRAILS	2-15%: SLIGHT 15-25%: MODERATE-SLOPE

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

CLASS-DETERMINING PHASE	CAPA-BILITY	CORN (BU)		COTTON LINT (LBS)		OATS (BU)		GRAIN SORGHUM (BU)		LEGUME HAY (TONS)		TALL FESCUE (AUM)		TOBACCO (LBS)	
	NIRR	IRR.	NIRR	IRR.	NIRR	IRR.	NIRR	IRR.	NIRR	IRR.	NIRR	IRR.	NIRR	IRR.	NIRR	IRR.
2-6%	2E		95		700		80		60		3.0		6.0		2200	
6-10%	3E		85		625		70		55		2.8		5.5		2000	
10-15%	4E		70		-		60		45		2.5		5.0		-	
15-25%	6E		-		-		-		-		-		-		-	
2-6% SICL.CL.ER.	3E		75		525		65		45		2.5		5.0		-	
6-10% SICL.CL.ER.	4E		60		450		50		35		2.0		4.5		-	
10-15% SICL.CL.ER.	6E		-		-		-		-		-		-		-	
15-25% SICL.CL.ER.	7E		-		-		-		-		-		-		-	

WOODLAND SUITABILITY (C)

CLASS-DETERMINING PHASE	ORD SYM	MANAGEMENT PROBLEMS: EROSION HAZARD	EQUIP. LIMIT	SEEDLING MORT'Y.	WINDTH. HAZARD	PLANT COMPET.	POTENTIAL PRODUCTIVITY: COMMON TREES	SITE INDX	TREES TO PLANT
2-15%	3O	SLIGHT	SLIGHT	SLIGHT	SLIGHT		LOBLOLLY PINE	81	LOBLOLLY PINE
15-25%	3R	MODERATE	MODERATE	SLIGHT	SLIGHT		LONGLEAF PINE	67	VIRGINIA PINE
							SHORTLEAF PINE	63	EASTERN REDCEDAR
							WHITE OAK	69	BLACK WALNUT
							SCARLET OAK	70	YELLOW-POPLAR
							SOUTHERN RED OAK	67	
2-15% SICL.CL.ER.	4C	MODERATE	MODERATE	MODERATE	SLIGHT		LOBLOLLY PINE	70	LOBLOLLY PINE
15-25% SICL.CL.ER.	4C	SEVERE	SEVERE	MODERATE	SLIGHT		LONGLEAF PINE	60	VIRGINIA PINE

WINDBREAKS

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

WILDLIFE HABITAT SUITABILITY (D)

CLASS-DETERMINING PHASE	POTENTIAL FOR HABITAT ELEMENTS: GRAIN & SEED	GRASS & LEGUME	WILD HERB.	HARDWD TREES	CONIFER PLANTS	SHRUBS	WETLAND PLANTS	SHALLOW WATER	POTENTIAL AS HABITAT FOR: OPENLD WILDLF	WOODLD WILDLF	WETLAND WILDLF	RANGELD WILDLF
2-10%	FAIR	GOOD	GOOD	GOOD	GOOD	-	V. POOR	V. POOR	GOOD	GOOD	V. POOR	-
10-15%	POOR	FAIR	GOOD	FAIR	FAIR	-	V. POOR	V. POOR	FAIR	FAIR	V. POOR	-
15-25%	V. POOR	V. POOR	POOR	FAIR	FAIR	-	V. POOR	V. POOR	POOR	FAIR	V. POOR	-
2-6% SICL.CL.ER.	FAIR	FAIR	FAIR	GOOD	FAIR	-	V. POOR	V. POOR	FAIR	GOOD	V. POOR	-
6-15% SICL.CL.ER.	POOR	POOR	POOR	FAIR	POOR	-	V. POOR	V. POOR	POOR	FAIR	V. POOR	-
15-25% SICL.CL.ER.	V. POOR	V. POOR	POOR	FAIR	POOR	-	V. POOR	V. POOR	POOR	FAIR	V. POOR	-

POTENTIAL NATIVE PLANT COMMUNITY (RANGELAND OR FOREST UNDERSTORY VEGETATION)

COMMON PLANT NAME	PLANT SYMBOL (NLEON)	PERCENTAGE COMPOSITION (DRY WEIGHT) BY CLASS DETERMINING PHASE: ALL				
LITTLE BLUESTEM	ANSC2	37				
PANICUM	PANIC	8				
TALL OATGRASS	AREL3	2				
SWITCHCANE	ARTE4	6				
HONEYSUCKLE	LONIC	29				
GRAPE	VITIS	4				
TICKCLOVER	DESMO	2				
LESPEDEZA	LESPE	4				
UNKNOWNS	UUUU	8				
POTENTIAL PRODUCTION (LBS./AC. DRY WT):						
FAVORABLE YEARS		2950				
NORMAL YEARS		2450				
UNFAVORABLE YEARS		1950				

FOOTNOTES

A EST. BASED ON TEST DATA FROM 8 PEDONS FROM LANCASTER, MCCORMICK, AND SALUDA CCS., SC. 3 CUS. IN GA. AND 2 COS. IN NC

B RATINGS BASED ON NATIONAL SOILS HANDBOOK, PART.II. SECTION 403. MARCH 31. 1978.

C RATINGS BASED ON "SOIL SURVEY INTERPRETATIONS FOR WOODLAND, PROGRESS REPORT W-13". SEPT. 1969.

D WILDLIFE RATINGS BASED ON SOILS MEMORANDUM 74. JAN. 1972.

Established Series
Rev. THG:JCM
1/72

HERNDON SERIES

The Herndon series consists of well drained, moderately permeable soils that formed in material mostly weathered from Carolina slate or fine grained rocks of the Piedmont Uplands. Slopes are 2 to 15 percent.

Taxonomic Class: Clayey, Kaolinitic, thermic Typic Hapludults.

Typical Pedon: Herndon silt loam--forested.
(Colors are for moist soil.)

A1--0 to 3 inches; very dark grayish brown (2.5Y 3/2) silt loam; weak fine granular structure; friable; many fine roots, few medium and large roots; 2 percent pebbles of quartz; very strongly acid; clear smooth boundary. (0 to 4 inches thick)

A2--3 to 9 inches; pale olive (5Y 6/4) silt loam; weak fine granular structure; friable; many fine roots, few medium and large roots; 2 percent pebbles of quartz; few fine brown concretions; strongly acid; clear smooth boundary. (3 to 9 inches thick)

B1--9 to 14 inches; pale yellow (2.5Y 7/4) silty clay loam; moderate fine and medium, subangular blocky structure; friable; few fine, medium and large roots; 1 percent pebbles of quartz; strongly acid; clear smooth boundary. (0 to 6 inches thick)

B21t--14 to 25 inches; yellowish brown (10YR 5/8) silty clay; few fine and medium distinct olive yellow (2.5Y 6/8) mottles, moderate medium subangular blocky structure; friable; few medium and large roots; thin patchy clay films on faces of peds; very strongly acid; clear smooth boundary. (8 to 30 inches thick)

B22t--25 to 39 inches; strong brown (7.5YR 5/6) clay; few fine distinct reddish yellow (5YR 6/8) and few fine faint brownish yellow (10YR 6/6) mottles; firm, hard; few medium and large roots; few dark brown concretions; thin patchy clay films on faces of peds; 1 percent fragments of partially weathered rock; very strongly acid; clear wavy boundary. (12 to 20 inches thick)

B3--39 to 48 inches; reddish yellow (7.5YR 7/8) silty clay loam; few fine faint strong brown (7.5YR 5/8), few fine distinct very pale brown (10YR 7/3), and yellowish red (5YR 5/8), and few fine prominent olive yellow (5Y 6/8) mottles; moderate fine and medium subangular blocky structure; few thin patchy clay films mostly on vertical faces of peds; 1 percent pebbles of quartz; very strongly acid; clear wavy boundary. (4 to 24 inches thick)

C--48 to 68 inches; strong brown (7.5YR 5/8), yellowish red (5YR 5/8), red (2.5YR 4/6), very pale brown (10YR 7/4), and white (10YR 8/2) silt loam; 80 percent saprolite that crushes easily; 10 percent pebbles of slate; very strongly acid.

Type Location: Saluda County, South Carolina; 8 miles north of Saluda; 1/4 mile south of Coleman's crossroad on west side of South Carolina Secondary Highway 78.

Range in Characteristics: Thickness of the clayey part of the Bt horizon ranges from 24 to 48 inches. Depth to the bottom of the clayey Bt horizon exceeds 30 inches. Depth to bedrock is more than 60 inches. The soil is very strongly acid to slightly acid in the A horizon and extremely acid to strongly acid in the B and C horizons. In some pedons content of coarse fragments range to as much as 20 percent by volume in the A horizon and to as much as 5 percent by volume in the Bt horizon.

The A horizon has hue of 7.5YR to 5Y, value of 3 to 6, and chroma of 2 to 8. Horizons with value of 3 are less than 6 inches thick. The A horizon commonly is silt loam, loam, very fine sandy loam, or the stony analogues of these textures. In some pedons, the A horizon is silty clay loam.

The B1 horizon, where present, has hue of 10YR, value of 5 to 7, and chroma of 4 to 8. It is silt loam, loam, or silty clay loam.

The Bt horizon has hue of 5YR to 10YR, value of 4 to 7, and chroma of 4 to 8. Mottles in shades of brown or red are in most pedons. The Bt horizon is silty clay loam, silty clay, or clay. The particle size control section averages more than 30 percent silt or more than 40 percent silt plus very fine sand. The B3 horizon has colors similar to the Bt horizon. It is silt loam, loam, silty clay loam, or clay loam. Some pedons have as much as 10 percent coarse fragments.

The C horizon is multicolored varying in shades of white, brown, or red. It is silt loam, loam, or fine sandy loam with as much as 90 percent soft saprolite of Carolina slate or fine-grained rock material. Coarse fragments range to as much as 10 percent in some pedons.

Competing Series: These are the Appling, Aragon, Cecil, Chestatee, Georgeville, Hulett, Madison, Mayodan, Nankin, Pacolet, Spotsylvania, and Wedowee series. Appling, Cecil, Hulett, Madison, Mayodan, Nankin, Pacolet, and Wedowee soils have less than 30 percent silt in the control section. Aragon soils have C horizons of ~~weathered limestone, sandstone, shale, or siltstone. Chestatee soils have more than 15 percent by volume of~~ coarse fragments in the control section. Georgeville soils have Bt horizons with hue redder than 5YR. Spotsylvania soils have a lithological discontinuity.

Geographic Setting: Herndon soils are on gently sloping to strongly sloping Piedmont Uplands. Slope gradients are 2 to 15 percent. The soil formed in residuum weathered from fine-grained rocks generally classed as phyllites or Carolina slates. Near the type location, the mean annual temperature is 64° F., the annual precipitation is about 45 inches, and the growing season is 200 to 240 days.

Geographically Associated Soils: In addition to the competing Appling, Badin, Cecil, Georgeville, and Pacolet series, these are the Alamance, Goldston, Gundy, Kirksey, Nason, and Tatum series. Alamance and Kirksey soils are fine-silty. Goldston soils are loamy-skeletal. Badin, Gundy, Nason, and Tatum soils have mixed mineralogy.

Drainage and Permeability: Well drained; medium runoff; moderate permeability.

Use and Vegetation: Cleared areas are used primarily for cotton, small grains, corn, tobacco, hay, and pasture. Forested areas are dominantly in loblolly or shortleaf pine with some mixed hardwood.

Distribution and Extent: Georgia, North Carolina, South Carolina, and Virginia. The series is extensive.

Series Established: Statesville Area, North Carolina; 1901.

SC0017

SOIL INTERPRETATIONS RECORD

MLRA(S): 136
REV. BNS, 12-83
TYPIC HAPLUDULTS, CLAYEY, KAOLINITIC, THERMIC

HERNDON SERIES

THE HERNDON SERIES CONSISTS OF WELL DRAINED, MODERATELY PERMEABLE SOILS OF THE PIEDMONT UPLANDS. TYPICALLY THESE SOILS HAVE VERY DARK GRAYISH BROWN SILT LOAM SURFACE LAYERS. THE SUBSOIL IS ABOUT 39 INCHES THICK. THE UPPER 5 INCHES IS PALE YELLOW SILTY CLAY LOAM; THE NEXT 11 INCHES YELLOWISH BROWN SILTY CLAY; THE NEXT 14 INCHES IS STRONG BROWN CLAY; AND THE LOWER 9 INCHES IS REDDISH YELLOW SILTY CLAY LOAM. THE UNDERLYING MATERIAL TO A DEPTH OF 68 INCHES IS MOTTLED SILT LOAM. SLOPES RANGE FROM 2 TO 15 PERCENT.

ESTIMATED SOIL PROPERTIES (A)

DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHTO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO. 4	10	40	200	LIQUID LIMIT	PLASTICITY INDEX
0-9	ST-L, ST-SIL, ST-VFSL	ML	A-4	10-30	80-98	75-95	60-80	51-75	<30	NP-5
0-9	L, SIL, VFSL	ML, CL, CL-ML	A-4, A-6	0-2	90-100	90-100	80-98	60-90	<36	NP-12
0-9	SICL	CL, ML	A-6, A-7	0-2	95-100	95-100	90-100	65-95	30-49	11-20
9-48	SICL, SIC, C	MH, ML	A-7	0-1	98-100	90-100	80-99	70-98	41-70	13-30
48-68	SIL, L, FSL	MH, ML	A-7, A-5	0-2	90-100	85-100	80-99	51-95	41-70	9-36

DEPTH (IN.)	CLAY (PCT)	MOIST BULK DENSITY (G/CM3)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (PH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	EROSION FACTORS K	T	EROD. GROUP	ORGANIC MATTER (PCT)	CORROSIVITY STEEL	CONCRETE
0-9	5-27	1.10-1.40	0.6-2.0	0.12-0.17	4.5-6.5	-	LOW	.24	5	8	.5-1	HIGH	HIGH
0-9	5-27	1.20-1.40	0.6-2.0	0.14-0.20	4.5-6.5	-	LOW	.43	5	5	.5-1		
0-9	27-35	1.20-1.40	0.6-2.0	0.13-0.18	4.5-6.5	-	LOW	.49	4	6	<.5		
9-48	35-60	1.30-1.60	0.6-2.0	0.13-0.18	3.6-5.5	-	LOW	.28					
48-68	10-30	1.20-1.40	0.6-2.0	0.05-0.08	3.6-5.5	-	LOW	.32					

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

SANITARY FACILITIES (B)

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

BUILDING SITE DEVELOPMENT (B)

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

CONSTRUCTION MATERIAL (B)

ROADFILL	POOR-LOW STRENGTH
SAND	IMPROBABLE-EXCESS FINES
GRAVEL	IMPROBABLE-EXCESS FINES
TOPSOIL	POOR-THIN LAYER

WATER MANAGEMENT (B)

POND RESERVOIR AREA	2-3%: MODERATE-SEEPAGE 3-8%: MODERATE-SEEPAGE,SLOPE 8+%: SEVERE-SLOPE
EMBANKMENTS DIKES AND LEVEES	SEVERE-HARD TO PACK
EXCAVATED PONDS AQUIFER FED	SEVERE-NO WATER
DRAINAGE	DEEP TO WATER
IRRIGATION	2-3% ST-L,ST-SIL,ST-VFSL: FAVORABLE 3+% ST-L,ST-SIC,ST-VFSL: SLOPE 2-3% SIL,VFSL,SICL: ERODES EASILY 3+% L,SIL,VFSL,SICL: SLOPE,ERODES EASILY
TERRACES AND DIVERSIONS	2-8% ST-L,ST-SIL,ST-VFSL: FAVORABLE 8+% ST-L,ST-SIL,ST-VFSL: SLOPE 2-8% L,SIL,VFSL,SICL: ERODES EASILY 8+% L,SIL,VFSL,SICL: SLOPE,ERODES EASILY
GRASSED WATERWAYS	2-8% ST-L,ST-SIL,ST-VFSL: FAVORABLE 8+% ST-L,ST-SIL,ST-VFSL: SLOPE 2-8% L,SIL,VFSL,SICL: ERODES EASILY 8+% L,SIL,VFSL,SICL: SLOPE,ERODES EASILY

REGIONAL INTERPRETATIONS

RECREATIONAL DEVELOPMENT

CAMP AREAS	2-8%: SLI[illegible] 8-15%: MODERATE-SLOPE	PLAYGROUNDS	[illegible] L,SIL,VFSL,SICL: MODERATE-SLOPE 2-6% ST: MODERATE-LARGE STONES,SLOPE 6+%: SEVERE-SLOPE
PICNIC AREAS	2-8%: SLIGHT 8-15%: MODERATE-SLOPE	PATHS AND TRAILS	ST-L,ST-SIL,ST-VFSL: SLIGHT L,SIL,VFSL,SICL: SEVERE-ERODES EASILY

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

CLASS-DETERMINING PHASE	CAPA-BILITY	CORN (BU)		OATS (BU)		COTTON LINT (LBS)		GRAIN SORGHUM (BU)		LEGUME HAY (TONS)		TALL FESCUE (AUM)		TOBACCO (LBS)	
	NIRR	IRR.	NIRR	IRR.	NIRR	IRR.	NIRR	IRR.	NIRR	IRR.	NIRR	IRR.	NIRR	IRR.	NIRR	IRR.
2-6%	2E		95		80		700		55		3.0		8.0		2200	
6-10%	3E		85		70		600		45		2.8		7.5		2000	
10-15%	4E		70		60		-		40		2.5		7.0			
2-10% ST	4S		70		60		-		-		-		6.0			
10-15% ST	6S		-		-		-		-		-		5.5			
2-6% SICL,ERODED	3E		75		65		600		45		2.8		7.5			
6-10% SICL,ERODED	4E		60		50		500		35		2.5		7.0			
10-15% SICL,ERODED	6E		-		-		-		-		2.0		6.0			

WOODLAND SUITABILITY (C)

CLASS-DETERMINING PHASE	ORD SYM	MANAGEMENT PROBLEMS: EROS'N HAZARD	EQUIP. LIMIT	SEEDL. MORT'Y	WINDTH HAZARD	PLANT COMPET	POTENTIAL PRODUCTIVITY: COMMON TREES	STITE INDX	PROD CLAS	TREES TO PLANT
2-15%	8A	SLIGHT	SLIGHT	SLIGHT	SLIGHT		LOBLOLLY PINE	80	8	LOBLOLLY PINE
2-15% ST	8X	SLIGHT	MODER.	SLIGHT	SLIGHT		SHORTLEAF PINE	161	6	VIRGINIA PINE
2-15% SICL,ERODED	8C	MODER.	MODER.	MODER.	SLIGHT		WHITE OAK	165	3	EASTERN REDCEDAR
							SOUTHERN RED OAK	172	4	YELLOW-POPLAR
							YELLOW-POPLAR	191	6	

WINDBREAKS

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

WILDLIFE HABITAT SUITABILITY (D)

CLASS-DETERMINING PHASE	POTENTIAL FOR HABITAT ELEMENTS: GRAIN & SEED	GRASS & LEGUME	WILD HERB.	HARDWD TREES	CONIFER PLANTS	SHRUBS	WETLAND PLANTS	SHALLOW WATER	OPENLD WILDLF	POTENTIAL AS HABITAT FOR: WOODLD WILDLF	WETLAND WILDLF	RANGELD WILDLF
2-6%	GOOD	GOOD	GOOD	GOOD	GOOD	-	IV. POOR	IV. POOR	GOOD	GOOD	IV. POOR	-
6-15%	FAIR	GOOD	FAIR	GOOD	GOOD	-	IV. POOR	IV. POOR	FAIR	GOOD	IV. POOR	-
2-15% ST	POOR	FAIR	POOR	FAIR	FAIR	-	IV. POOR	IV. POOR	POOR	FAIR	IV. POOR	-
2-6% SICL,ERODED	FAIR	FAIR	FAIR	GOOD	FAIR	-	IV. POOR	IV. POOR	FAIR	GOOD	IV. POOR	-
6-15% SICL,ERODED	POOR	POOR	POOR	POOR	POOR	-	IV. POOR	IV. POOR	POOR	FAIR	IV. POOR	-

POTENTIAL NATIVE PLANT COMMUNITY (RANGELAND OR FOREST UNDERSTORY VEGETATION)

COMMON PLANT NAME	PLANT SYMBOL (NLSPN)	PERCENTAGE COMPOSITION (DRY WEIGHT) BY CLASS DETERMINING PHASE: ALL				
LITTLE BLUESTEM	ANSC2	37				
PANICUM	PANIC	8				
TALL OATGRASS	AREL3	2				
SWITCHCANE	ARTE4	6				
HONEYSUCKLE	LONIC	29				
GRAPE	VITIS	4				
TICKCLOVER	DESMO	2				
LESPEDEZA	LESPE	4				
UNKNOWNS	UUUU	8				
POTENTIAL PRODUCTION (LBS./AC. DRY WT):						
FAVORABLE YEARS		2950				
NORMAL YEARS		2450				
UNFAVORABLE YEARS		1950				

FOOTNOTES

A ESTIMATES OF ENGINEERING TEST PROPERTIES BASED ON TEST DATA OF 6 PEDONS FROM 3 COS IN SC,1 IN GA, AND 1 IN NC.
B RATINGS BASED ON NATIONAL SOILS HANDBOOK.
C WOODLAND RATINGS BASED ON "SOIL SURVEY INTERPRETATIONS FOR WOODLAND, PROGRESS REPORT W-13", SEPT. 1969.
D WILDLIFE RATINGS BASED ON SOILS MEMORANDUM 74, JAN. 1972.

. C. Department of Human Resources
Division of Health Services

SAMPLE ANALYSES REQUEST

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

Site Number 76 ~~NCD~~ 981864614 Field Sample Number 3100

Name of Site Ulah Battery Site Location Asheboro, N.C.

Collected By Jack Butler ID# 44 Date Collected Oct. 11, 1988 Time 10:00

Type of Sample:

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

Comments: #1 - N Lagoon (surface soil collected at disposal area #2

RECEIVED DEC 9 1988 SOLID WASTE MANAGEMENT SECTION SUPERFUND BRANCH

INORGANIC CHEMISTRY

Extractables		Total			
Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
✓ Arsenic	<0.01	✓ Arsenic	8	✓ Silver	<20
✓ Barium	0.08	✓ Barium	102	____ Sulfates	
✓ Cadmium	<0.08	✓ Cadmium	<8.0	____ Zinc	
✓ Chromium	<0.20	____ Chloride		____ Ph	
✓ Lead	2.8	✓ Chromium	<20	____ Conductivity	
✓ Mercury	<0.02	____ Copper		____ TDS	
✓ Selenium	<0.005	____ Fluoride		____ TOC	
✓ Silver	<0.20	____ Iron			
		✓ Lead	17,000		
		____ Manganese			
		✓ Mercury	<0.1		
		____ Nitrate			
		✓ Selenium	<2.5		

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

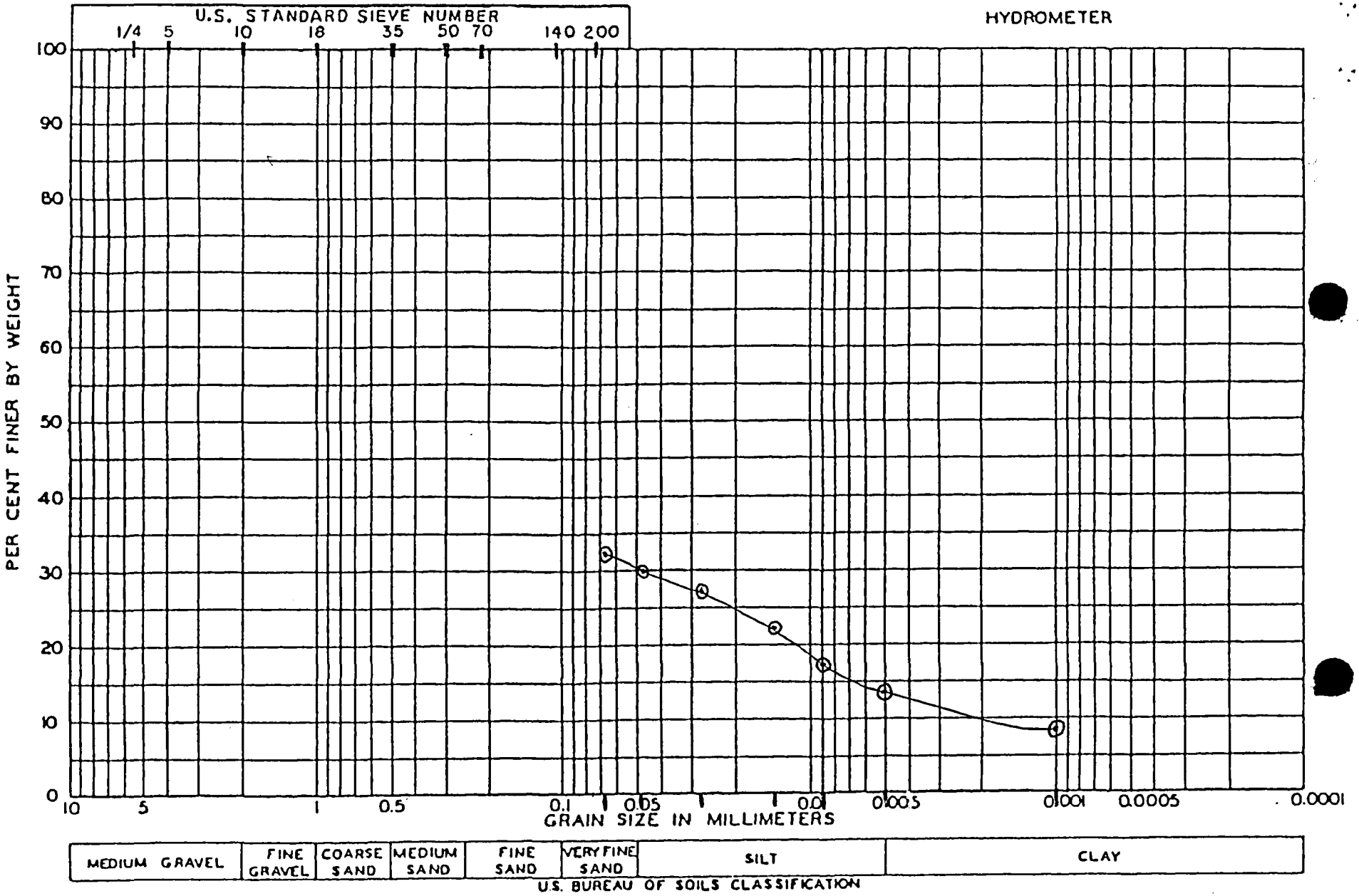
Parameter	Results PCi/1
____ Gross Alpha	
____ Gross Beta	

Date Received ____ Date Reported 019405 OCT 1288

Date Extracted ____ Date Analyzed ____

Reported By ____ Lab Number ____

DHS 3191 (Revised 7/85)



PROJECT ULAH BATTERY SITE, Randolph Co., NC BORING NO _____ SAMPLE NO. 2

DEPTH _____ ELEVATION _____ REMARKS Lab #19405; sample from red, clayey horizon; 13.75% clay
Not EP toxic

GRAIN SIZE DISTRIBUTION DIAGRAM

analysis performed 1/4-1/5/89
D. Mark Durway

Department of Human Resources
Division of Health Services

SAMPLE ANALYSES REQUEST

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

Site Number 76 0981864614 Field Sample Number 3101

Name of Site Ulah Battery Site Location Asheboro, N.C.

Collected By Jack Butler ID# 44 Date Collected Oct. 11, 1988 Time 10:00

Type of Sample:

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

Comments: 2-W Lower (disposal area #2, surface soil)

RECEIVED DEC 2 1988 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	5	✓ Silver	<19
✓ Barium	<0.04	✓ Barium	42	Sulfates	
✓ Cadmium	<0.08	✓ Cadmium	<7.5	Zinc	
✓ Chromium	<0.20	Chloride		Ph	
✓ Lead	<1.00	✓ Chromium	<19	Conductivity	
✓ Mercury	<0.02	Copper		TDS	
✓ Selenium	<0.005	Fluoride		TOC	
✓ Silver	<0.20	Iron			
		✓ Lead	2400		
		Manganese			
		✓ Mercury	<0.1		
		Nitrate			
		✓ Selenium	<2.4		

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

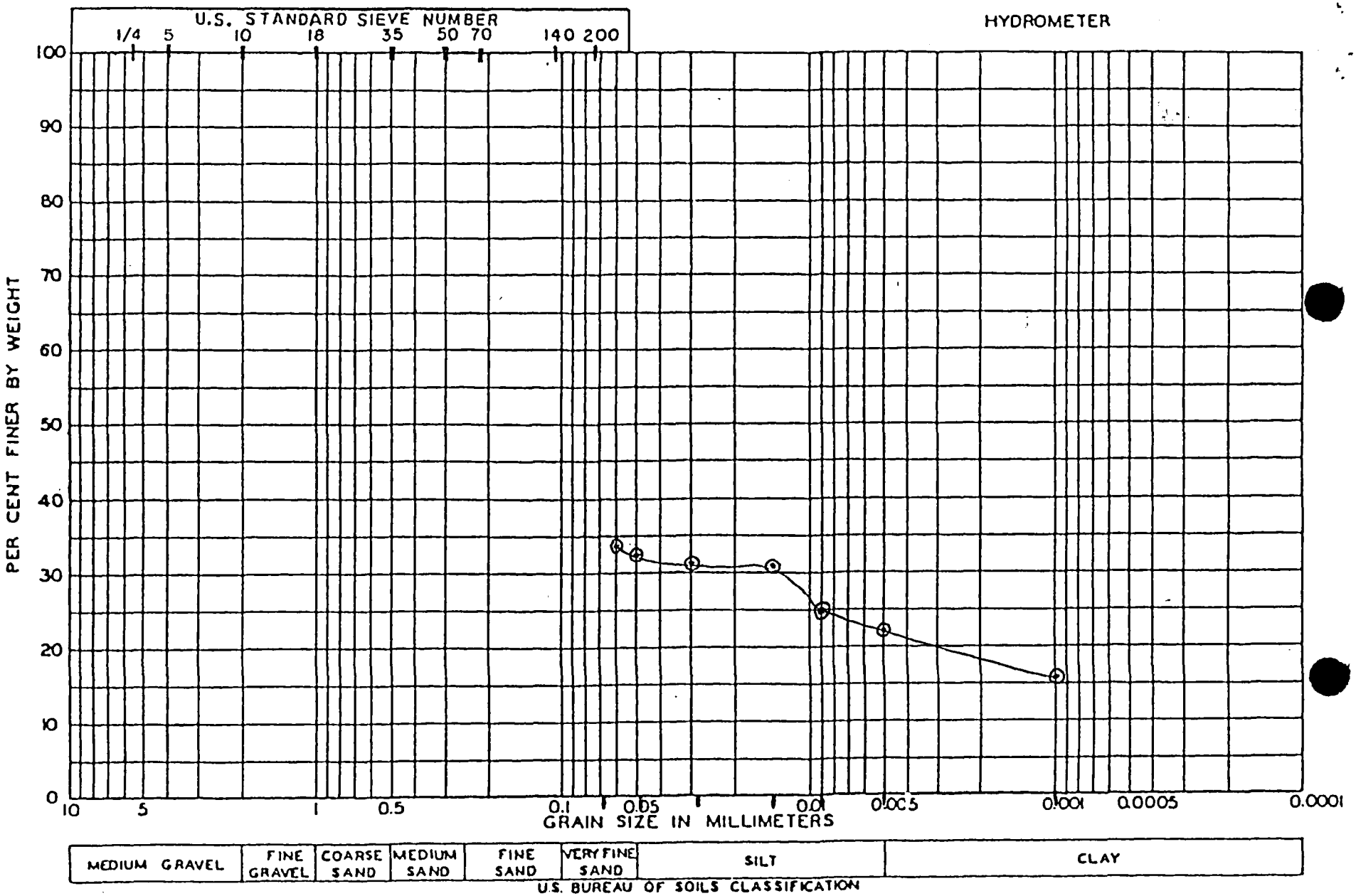
RADIOCHEMISTRY

Parameter	Results PCi/1
Gross Alpha	
Gross Beta	

Date Received ___ Date Reported 019406 OCT 1288

Date Extracted ___ Date Analyzed ___

Reported By ___ Lab Number ___



PROJECT ULAH BATTERY SITE, Randolph Co., NC BORING NO _____ SAMPLE NO. 1

DEPTH _____ ELEVATION _____ REMARKS Lab #19406; sample from red, clayey horizon; 22.5% clay
EP toxic with Pb

GRAIN SIZE DISTRIBUTION DIAGRAM

analysis performed 1/4-1/5-89
D. Mark Durway

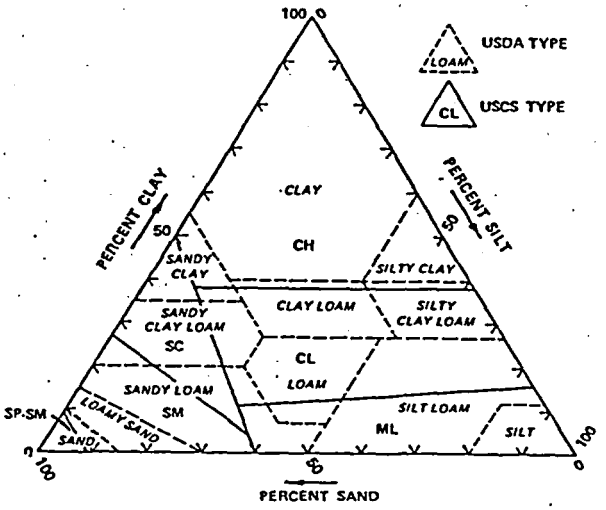
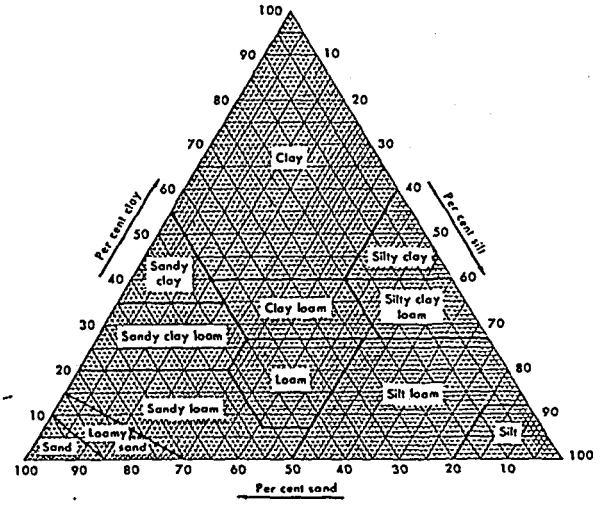


Figure 1. USCS superimposed on USDA soil chart.(3)



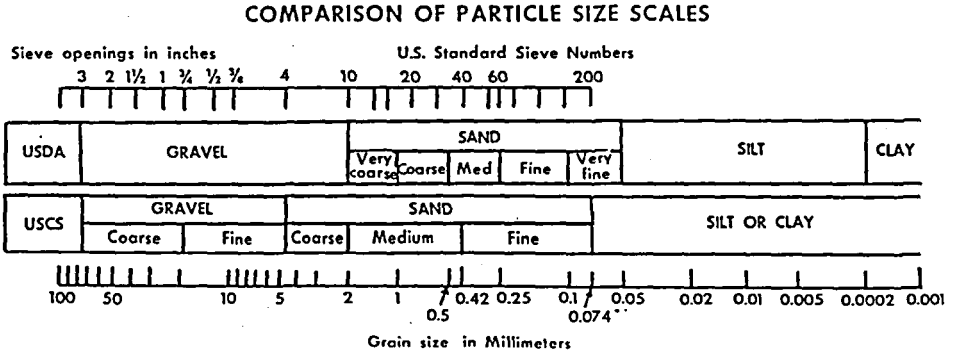


Figure 5. Textural classification chart (U.S. Department of Agriculture) and comparison of particle size scales.

TABLE 5
UNIFIED SOIL CLASSIFICATION SYSTEM AND CHARACTERISTICS PERTINENT TO SANITARY LANDFILLS

Major Divisions		SYMBOL Letter	SYMBOL Hatching	SYMBOL Color	NAME	Potential Frost Action	Drainage Characteristics*	Value for Embankments	Permeability cm per sec	Compaction Characteristics †	Std AASHO Max Unit Dry Weight lb per cu ft ‡	Requirements for Seepage Control
COARSE-GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	GW		RED	Well-graded gravels or gravel-sand mixtures, little or no fines	None to very slight	Excellent	Very stable, pervious shells of dikes and dams	$k > 10^{-2}$	Good, tractor, rubber-tired steel-wheeled roller	125-135	Positive cutoff
		GP			Poorly graded gravels or gravel-sand mixtures, little or no fines	None to very slight	Excellent	Reasonably stable, pervious shells of dikes and dams	$k > 10^{-2}$	Good, tractor, rubber-tired steel-wheeled roller	115-125	Positive cutoff
		GM		YELLOW	Silty gravels, gravel-sand-silt mixtures	Slight to medium	Fair to poor Poor to practically impervious	Reasonably stable, not particularly suited to shells, but may be used for impervious cores or blankets	$k = 10^{-3}$ to 10^{-6}	Good, with close control, rubber-tired, sheepsfoot roller	120 -135	Toe trench to none
		GC			Clayey gravels, gravel-sand-clay mixtures	Slight to medium	Poor to practically impervious	Fairly stable, may be used for impervious core	$k = 10^{-6}$ to 10^{-8}	Fair, rubber-tired, sheepsfoot roller	115-130	None
	SAND AND SANDY SOILS	SW		RED	Well-graded sands or gravelly sands little or no fines	None to very slight	Excellent	Very stable, pervious sections slope protection required	$k > 10^{-3}$	Good, tractor	110-130	Upstream blanket and toe drainage or wells
		SP			Poorly graded sands or gravelly sands, little or no fines	None to very slight	Excellent	Reasonably stable, may be used in dike section with flat slopes	$k > 10^{-3}$	Good, tractor	100-120	Upstream blanket and toe drainage or wells
		SM		YELLOW	Silty sands, sand-silt mixtures	Slight to high	Fair to poor Poor to practically impervious	Fairly stable, not particularly suited to shells, but may be used for impervious cores or dikes	$k = 10^{-3}$ to 10^{-6}	Good, with close control, rubber-tired, sheepsfoot roller	110-125	Upstream blanket and toe drainage or wells
		SC			Clayey sands, sand-clay mixtures	Slight to high	Poor to practically impervious	Fairly stable, use for impervious core for flood control structures	$k = 10^{-6}$ to 10^{-8}	Fair, sheepsfoot roller, rubber-tired	105-125	None
FINE-GRAINED SOILS	SILTS AND CLAYS LL IS LESS THAN 50	ML		GREEN	Inorganic silts and very fine sands rock flour, silty or clayey fine sands or clayey silts with slight plasticity	Medium to very high	Fair to poor	Poor stability, may be used for embankments with proper control	$k = 10^{-3}$ to 10^{-6}	Good to poor, close control essential, rubber-tired roller, sheepsfoot roller	95-120	Toe trench to none
		CL			Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays	Medium to high	Practically impervious	Stable, impervious cores and blankets	$k = 10^{-6}$ to 10^{-8}	Fair to good, sheepsfoot roller, rubber-tired	95-120	None
		OL			Organic silts and organic silt-clays of low plasticity	Medium to high	Poor	Not suitable for embankments	$k = 10^{-4}$ to 10^{-6}	Fair to poor, sheepsfoot roller	80-100	None
	SILTS AND CLAYS LL IS GREATER THAN 50	MH		BLUE	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts	Medium to very high	Fair to poor	Poor stability, core of hydraulic dam, not desirable in rolled fill construction	$k = 10^{-4}$ to 10^{-6}	Poor to very poor, sheepsfoot roller	70-95	None
		CH			Inorganic clays of high plasticity, fat clays	Medium	Practically impervious	Fair stability with flat slopes, thin cores, blankets and dike sections	$k = 10^{-6}$ to 10^{-8}	Fair to poor, sheepsfoot roller	75-105	None
		OH			Organic clays of medium to high plasticity, organic silts	Medium	Practically impervious	Not suitable for embankments	$k = 10^{-6}$ to 10^{-8}	Poor to very poor, sheepsfoot roller	65-100	None
HIGHLY ORGANIC SOILS		Pt		Orange	Peat and other highly organic soils	NOT RECOMMENDED FOR SANITARY LANDFILL CONSTRUCTION						

*Values are for guidance only; design should be based on test results.

†The equipment listed will usually produce the desired densities after a reasonable number of passes when moisture conditions and thickness of lift are properly controlled.

‡Compacted soil at optimum moisture content for Standard AASHO (Standard Proctor) compactive effort.

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

31 October 1988

MEMORANDUM

TO: Sueanna Peeler, Assistant Attorney General
Department of Justice

FROM: William L. Meyer, Chief WLM
Solid Waste Management Section

RE: Ulah Battery Lead Reclamation

In September, 1988, the Department of Human Resources removed 2,000 tons of contaminated soil and battery casings at a site known as Ulah Battery Lead Reclamation in Randolph County. The removal cost was approximately $344,000 and funds from the Carolina Clean Drinking Water Fund were used.

It is our understanding that we must bring an action to recover costs and for reimbursement of the Fund. We would appreciate assistance from your office to file the action for the Department.

BM/LC/acr

C. Bill Meyer

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

12 September 1988

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

FROM: William L. Meyer, Chief WLM
Solid Waste Management Section

RE: Leland T. Jones
Ulah Battery Lead Reclamation

Leland T. Jones has provided invaluable support to the Superfund Branch during contracting process for the first hazardous waste cleanup under NC GS 130A-310. I would appreciate you considering sending the attached memorandum or something similar pointing our his support to Secretary Flaherty.

LC/acr./ulah2.mem

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

12 September 1988

TO: David T. Flaherty
Secretary of Human Resources

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

RE: Leland T. Jones
Ulah Battery Lead Reclamation

On September 19 a private contractor will begin excavation of 2000 tons of hazardous waste in the community of Ulah in Randolph County. This is the first cleanup operation under new legislation ratified in 1987. Unique issues were involved in a contract of this type and magnitude.

Leland T. Jones, the Chief of the Department of Human Resources Purchasing Office provided invaluable support to the DHS Superfund Branch during the development of the Request for Proposals and at the proposal meeting. He also provided thorough technical assistance and detailed guidance during the contractor selection and approval processes.

Mr. Jones assistance and guidance have been an asset. We feel his consistent and solid support of the first state hazardous waste cleanup, under the new legislation is a major element in the success of the contract process. We are most appreciative of Mr. Jones and the Department level support of this cleanup operation.

North Carolina
Department of Administration

James G. Martin, Governor

James S. Lofton, Secretary

August 10, 1988

Ms. Lee Crosby
N.C. Department of Human Resources
Division of Health Services
Solid Waste Management Branch
Bath Building
Raleigh, North Carolina 27611

Dear Ms. Crosby:

RE: SCH File #88-E-4430-1103; Draft Environmental Impact Statement; Ulah Battery Lead Reclamation Project - Remove Threat of Direct Contact Exposure and Minimize Potential Threat to Groundwater and Surface Water by Excavating Contaminated Soils

The above referenced environmental impact information has been reviewed through the State Clearinghouse under the provisions of the North Carolina Environmental Policy Act.

Attached to this letter are comments made by agencies during the course of this review. The comment(s) need to be addressed in the Final Environmental Impact Statement. This document should be submitted to the State Clearinghouse upon completion for compliance with the North Carolina Environmental Policy Act.

Best regards.

Sincerely,

James S. Lofton

JSL:jt

cc: Region G

Attachment

116 West Jones Street • Raleigh, North Carolina 27603-8003 • Telephone 919-733-7232

An Equal Opportunity / Affirmative Action Employer

State of North Carolina
Department of Natural Resources and Community Development
A95/EIS REVIEW - PROJECT COMMENTS

Reviewing Office: NRCD	
Project Number: 88-1103	Due Date:

After review of this project it has been determined that the NRCD permit(s) indicated must be obtained in order for this project to comply with North Carolina Law.
Questions regarding these permits should be addressed to the Regional Office indicated on the reverse of this form.
All applications, information and guidelines relative to these plans and permits are available from the same Regional Office.

	PERMITS	SPECIAL APPLICATION PROCEDURES or REQUIREMENTS	Normal Process Time (statutory time limit)
☐	Permit to construct & operate wastewater treatment facilities, sewer system extensions, & sewer systems not discharging into state surface waters.	Application 90 days before begin construction or award of construction contracts On-site inspection. Post-application technical conference usual	30 days (90 days)
☐	NPDES - permit to discharge into surface waters and/or permit to operate and construct wastewater facilities discharging into state surface waters.	Application 180 days before begin activity. On-site inspection. Pre-application conference usual. Additionally, obtain permit to construct wastewater treatment facility-granted after NPDES. Reply time, 30 days after receipt of plans or issue of NPDES permit-whichever is later.	90-120 days (N/A)
☐	Water Use Permit	Pre-application technical conference usually necessary	30 days (N/A)
☐	Well Construction Permit	N/A	7 days (15 days)
☐	Dredge and Fill Permit	Application copy must be served on each riparian property owner. On-site inspection. Pre-application conference usual. Filling may require Easement to Fill from N.C. Department of Administration and Federal Dredge and Fill Permit.	55 days (90 days)
☐	Permit to construct & operate Air Pollution Abatement facilities and/or Emission Sources	N/A	60 days (90 days)
☐	Any open burning associated with subject proposal must be in compliance with 15 NCAC 2D.0520.	N/A	60 days (90 days)
☐	Demolition of structures containing asbestos material must be in compliance with 15 NCAC 2D.0525 which prohibits burning of such materials.		
☐	Complex Source Permit required under 15 NCAC 2D.0800.		
☒	The Sedimentation Pollution Control Act of 1973 must be properly addressed for any land disturbing activity. An erosion & sedimentation control plan will be required if one or more acres to be disturbed. Plan filed with proper Regional Office (Land Quality Sect.) at least 30 days before begin activity.		
☐	The Sedimentation Pollution Control Act of 1973 must be addressed with respect to the referrenced Local Ordinance:		
☐	Mining Permit	On-site inspection usual. Surety bond filed with NRCD as shown: AFFECTED LAND AREA — AMOUNT OF BOND Less than 5 acres — $ 2,500 5 but less than 10 acres — 5,000 10 but less than 25 acres — 12,500 25 or more acres — 25,000	30 days (60 days)
☐	North Carolina Burning Permit	On-site inspection by N.C. Division Forest Resources if permit exceeds 4 days	1 day (N/A)
☐	Special Ground Clearance Burning Permit (Dare, Hyde, Washington, Tyrell counties)	On-site inspection by N.C. Division Forest Resources required.	1 day (N/A)
☐	Oil Refining Facilities	N/A	90-120 days (N/A)
☐	Dam Safety Permit	If permit required, application 60 days before begin construction. Applicant must hire N.C. qualified engineer to: prepare plans, inspect construction, certify construction is according to NRCD approved plans. May also require Department of Human Resources permit under mosquito control program.	30 days (N/A)
☐	Permit to drill exploratory oil or gas well	File surety bond of $5,000 with NRCD running to State of N.C. conditional that any well opened by drill operator shall, upon abandonment, be plugged according to NRCD rules and regulations.	10 days (N/A)
☐	Geophysical Exploration Permit	Application filed with NRCD at least 10 days prior to issue of permit Application by letter. No standard application form.	10 days (N/A)

Continued on reverse

	PERMITS	SPECIAL APPLICATION PROCEDURES or REQUIREMENTS	Proce (statuto limit)
☐	State Lakes Construction Permit	Application fee based on structure size is charged. Must include descriptions & drawings of structure & proof of ownership of riparian property	15-20 days (N/A)
☐	401 Water Quality Certification	N/A	60 days (130 days)
☐	CAMA Permit for MAJOR development	$10.00 fee must accompany application	55 days (180 days)
☐	CAMA Permit for MINOR development	$10.00 fee must accompany application	22 days (60 days)

☐ Several geodetic monuments are located in or near the project area. If any monuments need to be moved or destroyed, please notify:
N.C. Geodetic Survey, Box 27687, Raleigh, NC 27611

☐ A full EIS must be required under the provisions of NEPA and SEPA

Other comments (attach additional pages as necessary, being certain to cite comment authority):

Melba McGee	NRCD	8/1/88
reviewer signature	agency	date

REGIONAL OFFICES

☐ Asheville Regional Office
159 Woodfin Street
Asheville, NC 28801
(704) 253-3341

☐ Fayetteville Regional Office
Suite 714 Wachovia Building
Fayetteville, NC 28301
(919) 486-1541

☐ Mooresville Regional Office
1119 North Main Street
Mooresville, NC 28115
(704) 663-1699

☐ Raleigh Regional Office
Box 27687
Raleigh, NC 27611
(919) 733-2314

☐ Washington Regional Office
1502 North Market Street
Washington, NC 27889
(919) 946-6481

☐ Wilmington Regional Office
7225 Wrightsville Avenue
Wilmington, NC 28403
(919) 256-4161

☒ Winston-Salem Regional Office
8003 Silas Creek Parkway Extension
Winston-Salem, NC 27106
(919) 761-2351

Division of Environmental Management
Groundwater Section

July 29, 1988

JUL 1988
D. MRCD
PLANNING & ASSESSMENT

MEMORANDUM

TO Melba McGee, Planning & Assessment

FROM: Douglass Dixon, Groundwater Section, DEM

RE: Comments Regarding Draft Environmental Remedial Plan, Ulah Battery Lead Reclamation Site, Randolph County, Project No. 88-1103

The above referenced plan does not contain sufficient information to allow for a reasonably thorough assessment of existing groundwater quality or the potential for degradation of groundwater resources in the area. Existing groundwater quality may be determined by direct sampling methods via monitor wells. The potential for degradation of groundwater resources may be evaluated in terms of the leachability of residual lead and the mobility of lead once it has entered the groundwater system.

Literature indicates that most common geologic materials have a strong capacity for cation adsorption. This capacity is especially prevalent where the colloids are made up predominantly of clay minerals. In this environment, lead is relatively immobile in permeable unfractured zones. However, the above reference report contains little data about hydrogeological conditions at the Ulah Battery lead reclamation site.

Information contained in the geologic map of Region G, North Carolina (N.C. Geological Survey) indicates that the predominant rock types in the Ulah vicinity are felsic volcanics exhibiting moderately rapid permeability. Thickness of the soil solum is listed at 20 inches and depth to bedrock is approximately 1.5 to 3.5 feet. Mobility of lead in the groundwater system may be enhanced where near-surface bedrock is characterized by significant fractures.

A thorough evaluation of the potential impact on local groundwater resources, including nearby water supply wells, is contingent upon the availability of information pertaining to (1) existing groundwater quality including ph, (2) redox potential of the environment, and (3) hydrogeologic properties of the saprolite and underlying bedrock. Additional geologic data may be obtained from on-site borings and lithologic descriptions prepared during well construction of local water supply wells.

In summary, it is recommended that the remedial investigation be expanded to include an assessment of existing groundwater quality and an evaluation of chemical and hydrogeological properties which may enhance the solubility and mobility of lead in the groundwater system.

If you should have any questions, please let me know.

cc: Brenda Smith
GW Incident Files
Bill Jeter

10 August 1988

TO: File

FROM: Jack Butler

SUBJECT: Telephone conversation with Chip Womack, Asheboro Courier Tribune, about Ulah Battery, NCD981864614

Mr. Chip Womack, Asheboro Courier Tribune, contacted our office on this date to obtain information on the recycling of battery casings from the subject site. Mr. Womack was informed that our office was in the process of gathering information on recycling these batteries, and that several companies had expressed an interest in this project.

JB/ds/pc.58

ULAH BATTERY LEAD RECLAMATION SITE
CAROLINA CLEAN DRINKING WATER FUND CLEANUP

18 May	Request for Proposal mailed to contractors
24 May	Pre-proposal tour (Ulah)
1 June	Pre-proposal meeting (Raleigh)
6 June	Proposal addendum mailed to contractors
13 June	Proposals submitted to DHR by contractors
14 June	Written Declaration signed by W.L. Meyer and G. Elliott
15 June	Order mailed to owners of property and to the former battery breakers (certified mail)
16 June	Meeting with Randolph County Health Director G. Elliott and Solid Waste Supervisor J.D. Smith (Health Director involved in remedial action plan development 130A-310.4a)
17 June	Notification of the Randolph County Board of Health (Dr. Robert Scott; 130A-310.4a)
21 June	Mailed Cleanup Action Plans to the Health Director, Register of Deeds Office and the Randolph County public libraries
23 June	Newspaper notice to announce the public meeting (25 July) and the availability of the proposed cleanup plan
27 June	Newspaper notice; second notice
4 July	Newspaper notice; third notice

ISSUE DATE: June 6, 1988

ISSUING AGENCY: State of North Carolina
Department of Human Resources
Purchasing Office
325 North Salisbury Street
Raleigh, North Carolina 27611

ADDENDUM
REQUEST FOR PROPOSAL
HS-478-88

SITE: Ulah Battery Lead Reclamation
Ulah, Randolph County

USING AGENCY: Solid Waste Management Section
Superfund Branch
Room 203, Bath Building
306 North Wilmington Street
Raleigh, North Carolina 27602

IMPORTANT: Indicate firm name and the words "ULAH BATTERY LEAD RECLAMATION REMEDIAL ACTION PROPOSAL" on the front of each sealed proposal envelope or package, along with the date for the receipt of proposals specified below.

Sealed Proposals will be received until 5:00 P.M., DST, June 13, 1988 for providing services as described herein.

<u>SEND ALL PROPOSALS DIRECTLY TO THE ISSUING AGENCY AT THE ADDRESS SHOWN ABOVE</u>

June 6, 1988

The following addenda are made to the Ulah Battery Reclamation Request for Proposal, HS-478-88:

1. All proposals are to be received by 5:00 p.m., DST, June 13, 1988.

2. The scope of the project will include:

   a. Removal, transport, and disposal of broken battery casings and up to 12 inches of soil below the casings.

   b. Sampling of soil in excavated area.

   c. Fill of the excavated area with 6 to 12 inches of clean fill.

3. All proposals shall include a cost to remove, transport, and properly dispose of as hazardous waste 500 tons of broken battery casings and contaminated soil. A cost per ton for removal, transport, and proper disposal of broken battery casings and contaminated soil in excess of 500 tons should also be included in each proposal.

4. The area of removal is located at the end of State Road 1219 as set forth in 2.2 (a) of the Request for Proposal, HS-478-88. The exact area of excavation will be determined by DHR personnel based on laboratory analyses of soil sampling conducted by DHR at the site.

5. All proposals shall include a cost for laboratory analyses for total lead using U.S. EPA Reference Methods 3050 or 3020, and 7420.

6. Laboratory analyses shall be performed using U.S. Environmental Protection Agency procedures and guidelines set forth in the following documents:

   a. "Engineering Support Branch Standard Operating Procedures and Quality Assurance Manual" - Available free upon written request from:

      Environmental Compliance Branch
      Environmental Services Division
      College Station Road
      Athens, GA 30613
      Attention: Doug Lair, Chief
      Hazardous Waste Section
      Telephone: (404) 546-3351

   b. "Analytical Contract Lab Program Statement of Work" - Available free upon request from:

      Mich Yanchulis
      Sample Management Office
      P.O. Box 818
      Alexandria, VA 22313
      Telephone: (703) 684-5678

   c. "Test Methods for Evaluating Solid Waste", Vol. 1 A, B, and C, 3rd. Edition, SW 846 - Available for a fee from:

      Superintendent of Documents
      U.S. Government Printing Office
      Washington, D.C. 20402

7. All proposals shall include a cost per ton of clean fill for the excavated area. A cost per unit area will also be included in each proposal for final grading and seeding of the site.

8. The excavated area is to be refilled with 6 to 12 inches of clean fill dirt (ASTM Class A-2 or equivalent) free of large stones, rocks, wood, scrap metal, glass, and other rubble, debris, and chemical contaminants which may pose a threat to public health and safety or the environment. The fill dirt is to be graded to conform to the surrounding terrain and provide proper drainage and prevent ponding on the site. The graded fill is to be compacted in the road, parking, and driveway areas to meet 95% standard proctor method at optimum moisture content in maximum 12-inch lifts. The final graded fill area is to be seeded with a proper cover to prevent erosion of the fill material.

9. Dust suppression will be provided by the contractor in the removal area and along State Road 1219 on request by DHR representatives. Frequency of dust suppression action will be determined by a visual inspection by DHR personnel or by a level of 1.0 mg/cubic meter dust.

10. Time for Acceptance in the Request for Proposal (Section 4.9) is changed from 60 days to 90 days. Section 4.9 Time for Acceptance should be as follows: Each proposal must state that it is a firm offer which may be accepted within a period of 90 days; although the contract is expected to be awarded prior to that time, the 90-day period is requested in order to allow for unforeseen delays.

ISSUE DATE: _____

ISSUING AGENCY: State of North Carolina
Department of Human Resources
Purchasing Office
325 North Salisbury Street
Raleigh, North Carolina 27611

REQUEST FOR PROPOSAL

SITE: Ulah Battery Lead Reclamation
Ulah, Randolph County

USING AGENCY: Solid Waste Management Section
Superfund Branch
Room 203, Bath Building
306 North Wilmington Street
Raleigh, North Carolina 27602

IMPORTANT: Indicate firm name and the words "ULAH BATTERY LEAD RECLAMATION REMEDIAL ACTION PROPOSAL" on the front of each sealed proposal envelope or package, along with the date for the receipt of proposals specified below.

Sealed Proposals will be received until 5:00 P.M., EDST, June 6, 1988 for providing services as described herein.

SEND ALL PROPOSALS DIRECTLY TO THE ISSUING AGENCY AT THE ADDRESS SHOWN ABOVE

1.0 INTRODUCTION

1.1 Purpose

The Department of Human Resources has the responsibility for protecting the public from inactive hazardous substance or waste disposal sites.

1.2 Background

The Ulah Battery Lead Reclamation site is located along SR 1219 approximately two miles south of Asheboro off Business 220 in Randolph County. The Ulah Battery site was the location of a battery cracking operation from approximately 1965 until 1981. Soil contamination has been confirmed. Groundwater contamination is not indicated. Piles of battery casings are also present at the site.

2.0 SCOPE OF PROJECT

2.1 The proposal shall include attendance at any and all public hearings scheduled pursuant to NCGS 130A-310.

2.2 The proposal should address the extent of contamination and remedial cleanup action with fixed price costs for each of the following areas of contamination (you may bid on any one or all of these areas):

a. A battery processing area located at the end of State Road 1219 approximately 50 feet by 70 feet.
b. A large battery casing pile located behind a residence south of State Road 1219.
c. A large battery casing pile located about 500 ft. west of the processing area at the end of State Road 1219.

2.3 The proposal shall include provisions for split samples, daily reporting to DHR and daily logs for work completed.

2.4 The proposal shall include a provision to notify DHR in writing before the conditions are disturbed, in the event that conditions differ from the conditions outlined in the contract.

2.5 DHR will provide reports and information completed by DHR personnel concerning contamination at Ulah Battery.

3.0 THE PROCUREMENT PROCESS

3.1 General Proposal Process

The following is a general description of the process by which a firm will be selected to perform the project.

3.1.1 Request for Proposals (RFP's) are being sent to prospective contractors. The opening for proposals is 5:00 p.m., June 6, 1988.

3.1.2 A preproposal tour of the site will be conducted by DHR at the Ulah Battery Lead Reclamation site, at the intersection of Highway 220 Business and State Road 1219, Ulah, Randolph County at 10:00 A.M. on Tuesday, May 24, 1988. Attendance at the preproposal tour is a prerequisite for DHR evaluation of the proposal. Notify the DHR Superfund Branch of your intention to attend the preproposal tour on or before Monday, May 23, 1988 at (919) and provide your name, mailing address and telephone number. 733-2801

3.1.3 Proposals in one original and three copies shall be submitted to DHR. Each original must be signed and dated by an official to bind the firm.

3.1.4 All proposals must be received by DHR not later than the date and time specified on the cover sheet of the RFP.

3.1.5 At the date and time specified on the cover of the RFP, the proposal package will be opened and the name of the firm will be announced publicly.

3.1.6 DHR may request oral presentations or discussions with any or all offerers for the purpose of clarification. However, offerers are cautioned that the evaluators are not required to request clarification; therefore, all proposals should be complete and concise and reflect the most favorable terms available from the offerer.

3.1.7 The "not to exceed" cost offered by each firm will be tabulated and will become a matter of public record on final award of the contract. (Also see section 3.2.7.)

3.1.8 Proposals will be evaluated according to completeness, content, ability of the offerer and its staff, and price. The contract will be awarded to the offerer whose proposal was deemed to provide the best value to the State based upon the foregoing and other relevant factors. DHR may make multiple awards. The State shall reserve the right to award the contract.

3.2 Proposal Content

Each offerer will be required to submit a separate sealed package which will be labeled "Ulah Battery Lead Reclamation Remedial Action Proposed" and must bear the name of the firm and the closing date for proposals on the outside of the package. The package shall contain the offerer's offer in an original and three copies and must include:

3.2.1 Organizational structure of the firm, including its relationship to any and all parent firms, affiliated firms, or subsidiaries.

3.2.2 A list of current and previous similar contracts including details regarding experience in providing the same or similar services to other firms or agencies. Provide the name, address and telephone number of a person at each firm or agency who can be contacted regarding the contracts. Also, provide a list of names and duties of current staff who worked on the projects.

3.2.3 A brief resume for each manager and supervisor and each professional staff person to be assigned to this project, stressing any experience with this type of study.

3.2.4 If the offerer is incorporated, the state in which the firm is incorporated must be included. (NOTE: In order to execute a contract, firm must be licensed in North Carolina.)

3.2.5 Subcontracting shall be limited to hazardous waste transporters and to environmental laboratories for sample analyses. Subcontracting will not relieve the contractor of any responsibilities of the contract.

3.2.6 Background information about subcontractors:
Provide the same information as requested in paragraph 3.2 for each and every subcontractor that the offerer proposes to perform any of the functions under this contract. Any and all subcontractors must have the written approval of DHR.

3.2.6 Offerer's detailed project approach:

3.2.6.1 A discussion of each major project task to include:

a. Title
b. Purpose
c. Methodology
d. Estimated beginning and completion dates
e. Staff members involved, number of professional man hours to be utilized, and location of work, for each major task.
f. On-site removal activities
g. Off-site removal activities
h. Total number of clerical/administrative work days for entire project.

3.2.6.2 Project Overview

a. A work plan including a diagram depicting the scheduling of the various tasks

b. Goals and objectives of the offerer's approach

c. A brief overview of the contents of the final report

d. A discussion of any State assistance required

3.2.7 Each offerer will be required to submit a Cost Analysis, including estimates of the quantity of waste for removal and a unit price. Supporting data and billing rates should be included showing the basis for computing the unit price.

NOTICE: All offerers must propose a "not to exceed " price for the total project. Proposals not in conformity with this provision are subject to rejection by the State.

3.3 Requests for Information by Offerers

All inquiries regarding the RFP requirements should be withheld until the preproposal conference. Inquiries thereafter should be submitted in writing to:

Solid Waste Management Section
Superfund Branch
306 North Wilmington Street
Raleigh, North Carolina 27602
Phone: (919) 733-2801

3.4 Unsolicited Proposal Changes

Any change to a proposal which is received after the closing date on the cover sheet of the RFP and which is not specifically solicited as a clarification by the State will be rejected.

3.5 Submission of the Proposal

Proposals should be mailed to the N.C. Department of Human Resources, Purchasing Office, 325 North Salisbury Street, Raleigh, North Carolina 27611. If the proposal is hand delivered, the proposal shall be delivered to the N.C. Department of Human Resources Purchasing Office, Room 462, Albemarle Building, at the corner of Lane and Salisbury Streets in Raleigh.

4.0 General Information on Submitting Proposals

4.1 Award or Rejection

All qualified proposals will be evaluated and award made to that firm whose combination of cost and technical offers is deemed to be in the best interest of the State. Cost shall be a factor, but not the overriding factor, in determining the contractor. The State reserves the unqualified right to reject any or all offers if determined to be in its best interest.

4.2 Decline to Offer

Any firm which receives a copy of the RFP but which declines to make an offer is requested to send a formal "Decline to Offer" to the issuing office. Failure to respond as requested may subject the firm to removal from consideration on future requirements.

4.3 Costs for Proposal Preparation

Any costs incurred by offerers in preparing or submitting offers are the offer's sole responsibility; the State of North Carolina will not reimburse any offerer for any costs incurred prior to award.

4.4 Elaborate Proposals

Elaborate proposals in the form of brochures or other presentations beyond that necessary to present a complete and effective proposal are not needed.

4.5 Oral Explanations

The State will not be bound by oral explanations or instructions given at any time during the competitive process or after award.

4.6 Reference to Other Data

Only information which is received in response to the RFP will be evaluated; reference to information previously submitted will not suffice.

4.7 Proprietary or Other "Confidential" Information

Any trade secrets or other date which the offerer does not wish disclosed to other than State personnel involved in the evaluation or contract administration will be kept confidential if identified as follows: Each page shall be identified in bold-face at the top and bottom as "Confidential". Any section of the proposal which is to remain confidential should, in addition, be so marked in bold-face on the title page of that section. Net cost information may not be deemed confidential.

4.8 Titles

Titles and headings in the RFP and any subsequent contract are for convenience only and shall have no binding force or effect.

4.9 Time for Acceptance

Each proposal must state that it is a firm offer which may be accepted within a period of 60 days; although the contract is expected to be awarded prior to that time, the 60 day period is requested in order to allow for unforeseen delays.

4.10 Form of Proposal

Each proposal shall be submitted in a form which, at the option of the State, may be incorporated verbatim into a contract.

4.11 Exceptions

Any exceptions to terms, conditions, or other requirements in any part of this RFP must be clearly pointed out in a distinct section of the proposal. Otherwise, the State will consider that all items offered are in strict compliance with the RFP, and the successful offerer will be responsible for compliance.

4.12 Advertising

In submitting its proposal the offerer agrees not to use the results therefrom as a part of any news release or commercial advertising without prior written approval of the North Carolina DHR Purchasing Office and the Using Agency.

4.13 Confidentiality of Proposals

In submitting its proposal the offerer agrees not to discuss or otherwise reveal its technical or cost information to any source outside of the using or issuing agency, government or private, until after the award of the contract. Offerers not in compliance with this provision may be disqualified, at the option of DHR, from contract award. Only discussions authorized by the issuing agency are exempt from this provision.

4.14 Right to Submitted Material

All responses, inquiries, or correspondence relating to or in reference to this RFP, and all other reports, charts, displays, schedules, exhibits, and other documentation submitted by the offerers will become the property of the State when received.

4.15 Competitive Offer

Pursuant to the provisions of G.S. 143-54, and under penalty of perjury, the signer of any proposal submitted in response to this RFP thereby certifies that his proposal has not been arrived at collusively nor otherwise in violation of either Federal or North Carolina laws.

5.0 GENERAL CONTRACTOR CONDITIONS

5.1 Liability

The contractor shall assume liability for any damage or loss resulting from the wrongful act(s) and/or negligence of its employees connected with the performance of work associated with this RFP.

5.2 Insurance

Before beginning any work, the contractor must submit a certificate showing that he has obtained insurance for the following:

5.2.1 Worker's Compensation including Occupational Disease.
Before beginning any work, the contractor must obtain and maintain for the duration of the contract, Worker's Compensation Insurance including Occupational Disease for all employees and subcontractors and their employees who engage in any work under the contract and any additional insurance as may be required by the laws of the State of North Carolina.

5.2.2 Public Liability and Property Damage Insurance.
Before beginning any work the contractor must obtain and maintain for the duration of the contract, Public Liability and Property Damage insurance, including coverage for natural resource damages. The coverage shall protect the contractor and employees, subcontractors and employees, and the State, including DHR and any of their employees, from liability against claims for damages for personal injury, sickness or disease, including death and from liability against claims for damages to property which may arise, directly or indirectly, from operations in connection with the performance of work under the contract by the contractor, any subcontractor, or anyone directly or indirectly employed by them or under the control of them. Insurance will be in such amount deemed to be the minimum for adequate coverage for potential liability and potential property damage.

5.2.3 Automobile Liability and Property Damage Insurance.
Before beginning any work the contractor must obtain and maintain, for the duration of the contract, Automobile Liability Insurance and Property Damage Insurance on all vehicles used in connection with the contract. This insurance coverage will apply to the cost of cleanup and liability associated with any off-site or on-site spill of waste material. Insurance will be in such amount deemed to be the minimum for adequate coverage for potential liability and potential property damage.

5.3 Indemnification

The contractor shall agree to indemnify and hold harmless the State of North Carolina and its agencies, including DHR and all of its agents, employees and officials, against any and all liability of whatsoever kind arising out of any obligations of and work performance by the contractor and any subcontractor and their employees.

5.4 Laws

The Contractor shall comply with all laws, ordinances, codes, rules, and regulations bearing on the performance of work in connection with the contract, including any Federal, State and local agencies having jurisdiction.

5.5 Equipment and Supplies

The contractor will provide all labor, materials, equipment, tools, and supervision for performances of all work in connection with this RFP.

5.6 Inspection

The contractor shall report to DHR twice each day to report projected daily activities and completed daily activities and shall split samples with DHR upon request. DHR reserves the right to make a determination as to whether activities are performed satisfactorily.

5.7 Quality Control and Quality Assurance

The contractor must adhere to U.S. Environmental Protection Agency guidelines in the "Engineering Support Branch Standard Operating Procedures and Quality Assurance Manual".

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

May 24, 1988

MEMORANDUM

TO: Lee Crosby, Head
Superfund Branch

FROM: John I. Freeman, D.V.M., M.P.H., Head
Environmental Epidemiology Branch

SUBJECT: Ulah Battery Site, Asheboro, N. C.

As per our discussion on May 23, 1988, this is to advise you that our recommended clean-up level for lead in soil is 500 ppm. Soil with lead levels above 500 ppm to which children have access appears to be responsible for blood lead levels increasing above background levels.

Please contact me at 733-3410 if I may be of further assistance.

JIF:lp

c: Colleen Miller

20 May 1988

TO: Lee Crosby

FROM: Jack Butler

SUBJECT: Field work for the week of May 16-20, 1988

On May 16, 1988 the following people met at the Ulah Battery site, NCD981864614, in Asheboro, North Carolina.

J. D. Smith - Randolph County Health Department
George Elliot - Randolph County Health Department
Bill Meyer - NC DHR/DHS
Paul Crissman - NC DHR/DHS
Lee Crosby - NC Superfund Branch
Stan Atwood - NC Superfund Branch
Charlotte Varlashkin - NC Superfund Branch
Jack Butler - NC Superfund Branch

The site was toured and photographed. No samples were collected.

On May 18, 1988 the following people met at the Carolina Production Finishing site, NCD981015886, in Asheville, North Carolina.

Jack Butler - NC Superfund Branch
Stan Atwood - NC Superfund Branch
Keith Masters - NC DHR/DHS
Don Link - NC NRCD
Kay Dechant - NC NRCD
Roberto Pursell - Buncombe County Hazardous Waste Office
Charles McKenzie - Buncombe County Health Department
Tom Jones - Town and Country Realty
C. W. Craven - Beverly Hanks and Associates
Bob Jolly - Asheville Heating and Cooling, Inc. (Potential Purchaser)

EPA Region IV performed an immediate removal of plating wastes from this site in January and February 1988. The site was toured and photographed, and soil samples were collected on site. A water sample was also collected from the waste water treatment tanks on site. Laboratory results are pending.

On May 19, 1988 the following people met at the Money Worth site, NCD008839276, in Swannanoa, North Carolina.

Jack Butler - NC Superfund Branch
Stan Atwood - NC Superfund Branch
Jim Patterson - NC DHR/DHS
Keith Masters - NC DHR/DHS
Harold Saylor - NC DHR/DHS
Ron Thomas - Buncombe County Health Department
Joe Mongovis - Money Worth, Inc. (site owner)
Brenda Robinson - Money Worth, Inc.
Jack Westall - Westall, Gray, Kimel, and Connolly

At one time this site was an unpermitted open dump which has been covered. Water and sewer lines were installed as part of planned development of a trailer park. This excavation unearthed landfilled material. The site was toured and photographed and soil samples were collected on site. Samples of solid material were also collected from two crushed drums on site. Laboratory results are pending.

JB/ds/pc.11-12

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

18 May 1988

TO: Bill Meyer

FROM: Lee Crosby Lee

RE: Ulah Battery Proposal

The following contractors will be sent a Request for Proposal on 18 May 1988:

William Stilwell
GSX Services, Inc.
Rt. 11, Box 3/Watlington Indus. Rd.
Reidsville, NC 27320
919/342-6106

E.C. Jordon Co.
1061 West Oakland Park Blvd. Suite 132
Fort Lauderdale, Flordia 33311

Metcalf & Eddy, Inc.
1430 West Peachtree St., N.E. Suite 200
Atlanta, GA 30309

Ms. Pat Patrick
Soil and Materials Engineers
3500 B. Regency Parkway
Cary, NC 27511
919/481-0397

Roy F. Weston
4020 Westchase Blvd.
Raleigh, NC 27607

IT Corporation
312 Directors Drive
Knoxville, TN 37923

Richard Hill
Environmental Pacific Corp.
5285 South West Meadow Rd., Suite 120
Oswego, Oregon 97034
503/835-1313

Lou Magdits
Exide Corporation
645 Penn Street
Reading, PA 19612-4205
215-378-0500

O.H. Materials, Inc.
1000 Holcomb Woods Parkway, Suite 112
Rosewell, GA 30076
404/641-1066

Tim Haley
Chemical Waste Management, Inc.
2600 DELK Road, Suite 100
Marietta, GA 30067
800-241-7829

A.J. Simmons, Jr.
High Rise Service Co., Inc.
Route 1, Box 2000
Leland, NC 28451
919/371-2325

Thomas Barbee
ECOFLO
2750 Patterson Street
Greensboro, NC 27407
919/855-7925

Jerry Deakle
ENVIRO-CHEM Environmental Services
1005 Investment Blvd.
Apex, NC 27502
919/362-9010

U.S. Ecology, Inc.
9200 Shelbyville Rd., Suite 300
Louisville, Kentucky 40207
502/426-7160

Robert Barefoot
Four Seasons Tank Cleaning, Inc.
207 Robins Street
Greensboro, NC 27406
919/273-2718

LC/pb/pan.

6 May 1988

TO: Lee Crosby

FROM: Stan Atwood SA

RE: Fact Sheet for Ulah Battery Lead Reclamation site

- **July 1980.** The Randolph County Health Department collected ground water, soil, and battery casing samples. Ground water was not contaminated, soil contained 98 to 38,000 parts per million (ppm), and battery casings contained 420 to 5760 ppm lead.

- **August 1980.** Blood samples were collected from two residents. Results were reported negative. The Health Department also notified residents on hazards of lead exposure.

- **10 September 1981.** Personnel from the Occupational Health Branch and the County Health Department visited the site. Reported that the lead reclaiming business had been operating for about 16 years. Two disposal areas were reported (a processing area and a large battery casing pile). Broken casings were scattered along the driveway. Concluded that there was a potential for lead exposure and recommended follow-up evaluation involving Health Department, Lead Screening Committee, the Hazardous Waste Branch, and the Department of Natural Resources and Community Development.

- **23 July 1986.** Environmental Epidemiology Branch visited the site with the County Health Department. Conditions were noted to be essentially the same as previously reported. Seven soil samples were collected, lead content ranged from 262 to 144,184 ppm. Parents were advised to have their children tested at the Health Department. Nine children were eventually screened, one child was found to have elevated blood lead.

- **October 1986.** Two additional soil samples taken by the Environmental Epidemiology Branch. Lead content was 37 and 126 ppm. Environmental Epidemiology Branch notifies Solid and Hazardous Waste Management Branch to arrange a meeting.

- **November 1986.** The site was added to the Superfund list of potential hazardous waste sites. A Preliminary Assessment was done and a high priority was assigned for a Site Investigation. A removal request was also forwarded to EPA.

- **27 January 1987.** Superfund Site Investigation conducted. Ground water and surface water samples collected did not show elevated lead levels. A second large casing pile was discovered in the woods about 500 ft. west of the processing area.

- **12 May 1987.** Site Investigation Report and Preliminary Hazard Ranking System (HRS) score submitted to EPA. Preliminary HRS was high enough to be considered for listing on the National Priority List (NPL).

- **July 1987.** Inactive Hazardous Sites Bill passed by N.C. General Assembly. This bill requires the Department of Human Resources to implement a program for locating, cataloguing, and monitoring all inactive hazardous substance or waste disposal sites in N.C. It also requires the development of a State priority list based on the extent to which the sites endanger the public health and environment.

- **August 1987.** Ulah Battery not included in EPA review of sites for proposed NPL listing. Sites not included in this review will be delayed for listing on the NPL until the HRS system is revised. These revisions will likely be delayed until the spring of 1989.

- **January 1988.** The Ulah Battery Site ranks first out of the first 50 sites considered under the Inactive Sites program.

- **19 February 1988.** Meeting between NC Superfund Branch and Randolph County Health Department to discuss possibility of cleanup under the Inactive Sites program.

SA/tb/stan-6-7

Ulah Battery

26 February 1988

TO: Lee Crosby

FROM: Jack Butler

RE: Telephone conversation with Richard Hill, Environmental Pacific (503-835-1313), about recycability and/or disposal options of hard rubber battery cases.

On 25 February 1988, Mr. Richard Hill, Environmental Pacific, Oregon, was contacted concerning recycability and/or disposal options of hard rubber battery cases (Ulah Battery). Mr. Hills name and phone number was one of 5 recyclers provided by Ms. Maxie May of the Southeast Waste Exchange (704-547-2307). Mr. Hill reported that Environmental Pacific collects alkali batteries and lead acid batteries from all over the nation for recycling. Their collection points include Edison in Greenville, N.C. Since there are no smelters of lead acid batteries in the north west these batteries are sent overseas for recycling. Mr. Hill also reported that they would be interested in hard rubber battery casings from old battery braking operations. These casings are washed at their facility in Oregon, ground up, repackaged, and shipped to the orient for reuses. Mr. Hill added that he knew of no one in the U.S. that reprocessed battery casings.

Mr. Hill said that if the casings had to be treated as hazardous waste the removal cost would be about $400/ton. If the casings could be classified as scrap the cost of removal would be about $100/ton. This cost includes removal and shipment to their plant in Oregon. All removal work would be done by Environmental Pacific. These costs also assume a 90% recycability. Mr. Hill reported that his company could also remove casings mixed with soil (20-40% recycability) but that the cost would be about the same as disposing of the material as a hazardous waste.

For a weight to volume conversion Mr. Hill said a 4 ft. x 4 ft. x 4 ft. gaylord box of ground battery casings weights about 1,500 to 2,000 lbs. The same volume of broken or whole casings would weigh about half this amount.

Mr. Hill reported Environmental Pacific had used casings from old battery breaking operations in Alaska and were presently submitting a proposal to EPA to remove 80,000 tons of casings from a site in Portland, Oregon. (Rough calculations indicate approximately 625 tons of casings at the Ulah Battery site).

Before Environmental Pacific could commit to a definite price to remove any casings from a site they would need a 4 ft. x 4 ft. x 3 ft. sample container of the casings. Mr. Hill said that they could probably collect this sample and anaylses it at no cost if it was done during their next trip to Edison in Greenville, N.C.

JB/pb/0557b.7

Utah Battery

26 February 1988

To: File

From: Jack Butler

Re: Telephone survey concerning the recycability of hard rubber battery casings.

The following individuals and companies were contacted on February 24 and 25, 1988 concerning the recycability of hard rubber battery casings.

Mike Belcak, Falcon Battery (704-376-7454) reported their company operated as a middle man, purchasing spent batteries and selling them to recyclers. He knew of no one who would take casings without the lead plates.

Tommy Youngblood, Saunders Lead Co. (205-566-1563) would be interested in recycling plastic battery cases but not hard rubber cases.

Richard Hill, Environmental Pacific (505-835-1313) will remove hard rubber battery casings for $100/ton if they could be classified as scrap or $400/ton if they were classified as hazardous waste. (see memo to Lee Crosby, 26 February 1988.)

Michael Green, Cohen and Green (919-483-1371) reported that he knew of no one that recycled old battery cases.

Lou Magdits, General Battery Corp. (215-378-0500) reported that attempts to use old hard rubber battery casings in asphalt paving or shingles had failed due to unexceptable lead levels. The General Battery facility in Reading, PA washes old cases they receive and use them as fuel for their boilers. Mr. Magdits reported that this did involve some cost but it was less than disposal in a landfill.

Mr. Bukowski, Asphalt Institute (301-277-4258), did not know of any use of hard rubber battery casings in the asphalt industry.

Mr. Boyd Lisenby, Concord, N.C. (704-786-7683) recycles lead from batteries but does not take battery casings.

Durham Scrap Metal (919-688-8824) also only recycles lead from spent batteries and doe not accept old casings.

Glen Krouse, Interstate Lead Company could not use battery casings.

Swartz Junk (919-682-0429) and Thomas Scrap (919-596-2281) in Durham both suggest that the best way to dispose of old battery casings was probably in a landfill if the landfill would take them.

An attempt was also made to contact American Batteries at 833-2330 in Raleigh but their phone had been disconnected.

JB/pb/0557b.8

9 February 1988

TO: File

FROM: Jack Butler

SUBJECT: Update of Ulah Battery
NCD981864614

Ms. Charlene Wiggins, NC DHR/DHS, Epidemiology (733-3410), was contacted on this date to get an update on activity by the Epidemiology Branch at the subject site. Ms. Wiggins reported that she knew of no activity by their group since blood testing was done in October 1986.

Mr. J. D. Smith, Randolph County Health Department (919-629-2131), was also contacted for a site update. Mr. Smith reported that he knew of no changes or activity at the site since our visit in January 1987.

JB/ds/0526b-88

To: File

From: Stan Atwood SA

Re: Ulah Battery Site Visit

I contacted George Elliot, Health Director Randolph Co., on this date to inform him of our planned visit to the subject site on 28 January 1988.

SA/pb/0489.28

postponed SA 1/28/88

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

12 May 1987

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

Dear Ms. Smith:

SUBJECT: Site Inspection Report
Ulah Battery Lead Reclaiming NC D981864614
Route 7
Asheboro, NC 27203

Submitted herewith is the Site Inspection Report for the subject site. Based on our review of the available data we have concluded the following.

The Ulah Battery Lead Reclaiming site is located in a rural residential section about two miles south of Asheboro, NC. Automotive batteries were broken on site from about 1965 until 1981. Battery acid was spilled on the ground; recovered lead was melted; and battery casings were burned, used as driveway fill, or piled up. There are presently two large piles of battery casings on site with an estimated combined volume of 1400 yd^3. One of these waste piles is directly behind a home. All residents use wells.

Samples collected in 1981 and 1986 show high lead concentrations in the soil (up to 14%). Ground water and surface water samples collected on 29 January 1987 during a CERCLA site investigation were not contaminated. Blood samples were also collected from several children at the site in 1986. One child was found to have Class III lead poisoning (blood lead 40-50 ug/dl, low 20's normal; erythrocyte protoporphyrin level 140-150 ug/dl, 35 normal). This child is receiving treatment and no longer lives at the site.

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

Sincerely,

Stan Atwood, Toxicologist
CERCLA Unit
Solid and Hazardous Waste Management Branch
Environmental Health Section

SA/tb/0234b

Date: 6 May 1987

To: File

From: Stan Atwood SA

Subject: Ground water level-Ulah Battery Lead Reclaiming

I spoke by telephone today with Jerry Dickinson to see if he had any additional well information. His son's well (located across the street) is 146 ft. deep. Mr. Dickinson said he had checked around the Ulah community and believed the water table was generally between 30 and 40 ft.

1 May 1987

TO: File

FROM: Stan Atwood SA

RE: Ulah Battery Lead Reclaiming

I received a message today from Jim Martin, Randolph Health Dept., about the 4 year old girl being treated for lead poisoning. She has moved away from the site and is still undergoing treatment. Her blood lead level is still elevated but it is decreasing.

23 January 1987

TO: File

FROM: Stan Atwood SA

RE: Meeting with Randolph County Health Department
Ulah Battery Lead Reclaiming

I called Mr. George Elliot, Health Director Randolph County [(919) 629-2131] to arrange a meeting at 10:00 a.m. on 27 January 1987. Mr. Jim Martin will be our contact person.

SA/tb/0323b

21 January 1987

TO: File

FROM: Stan Atwood SA

RE: Asheboro water distribution system (919) 626-1200, ext. 228.

I spoke with Mr. Dumont Bunker, Asheboro City Engineer, about the availability of water distribution maps. Mr. Bunker told me he would have a copy ready for me to pick up next Tuesday. They are located at 146 North Church Street.

SA/tb/0323b

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

Ulah Battery Lead Reclaiming

WRITTEN DECLARATION

This written declaration is issued under the North Carolina General Statutes 130A-310.3(a). Ulah Battery Lead Reclaiming operated as an unincorporated battery recycling facility from approximately 1965 until 1981 in Asheboro, Randolph County, North Carolina. Based upon information available to the Department, the Secretary of the Department of Human Resources has declared that Ulah Battery Lead Reclaiming endangers the public health and the environment.

FINDINGS OF FACT

1. On 29 January 1987, the Superfund Branch conducted a site investigation at a site known as Ulah Battery Lead Reclaiming. The site is located two miles south of Asheboro on Business 220.

2. The Ulah Battery Lead Reclaiming site was used to reclaim lead from automotive batteries from approximately 1965 until 1981. The facility operated as an unincorporated family owned business in a residential area.

3. During the Superfund Branch investigation three disposal areas were identified:

   a. A large battery casing pile located behind a residence.
   b. A battery processing area located at the end of the driveway.
   c. A large battery casing pile located about 500 ft. west of the processing area.

4. Soil samples show surface soil lead content at Ulah Battery Lead Reclaiming ranging from 37 parts per million (ppm) to more than 144,000 ppm total lead.

5. Soil and battery casing samples previously taken by the Randolph County Health Department show 38,000 ppm total lead and 7.5 ppm extractable lead. The maximum concentration of contaminants for the characteristic of EP (extraction procedure) toxicity is 5.0 ppm as defined by 40 CFR 261.24.

6. Nine children live in the immediate vicinity of the waste piles. One four-year old child living at the site had a blood level concentration greater than 40 ug/dl which constitutes Class III lead poisoning as determined by Memorial Hospital in Chapel Hill (25 ug/dl is the current standard). The child's mother stated that the child frequently eats dirt and a soil sample collected from her driveway contained 10.6% lead.

7. Many toxicological studies have shown an association between lead contaminated soil and increased lead absorption, particularly in children. Elevated blood lead levels have been reported among children exposed to soil concentrations as low as 500 ppm. Recent studies indicate that hearing thresholds and neurological development can be affected at levels below the current blood lead standard of 25 mg/dl.

8. Ten residences adjacent to the battery casing waste piles use groundwater as a primary drinking water source.

9. Groundwater samples collected on 29 January 1987 do not show the presence of lead above EPA interim primary drinking water standards of 0.05 ppm lead.

10. However, an extractable lead level above 5.0 ppm indicates the potential for lead migration to the groundwater at levels above the EPA interim primary drinking water standard of 0.05 ppm. Analyses of soil and battery casings show extractable lead levels at 7.5 ppm. Therefore, there is a potential for groundwater contamination above the EPA interim primary drinking water standard of 0.05 ppm for lead at the Ulah Battery Lead Reclaiming site.

CONCLUSIONS OF LAW

Based upon the foregoing Findings of Fact, the Secretary has concluded:

1. The above described property constitutes an inactive hazardous substance or waste disposal site as defined in North Carolina General Statutes 130A-310(3).

2. The above described inactive hazardous waste or disposal site endangers the public health and environment.

3. Secretary of Human Resources has jurisdiction in this matter pursuant to North Carolina General Statutes 130A-310.

WHEREFORE based upon the foregoing facts and conclusions, the Secretary of Human Resources hereby declares, pursuant to North Carolina General Statutes 130A-310, that the above premises is an inactive hazardous substance or waste disposal site which endangers public health and the environment.

This ____ day of February, 1988.

By:_____

David T. Flaherty, Secretary

Department of Human Resources

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

James G. Martin, Governor
Phillip J. Kirk, Jr., Secretary

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

19 January 1986

TO: Steve Reid, Public Information Officer

FROM: Lee Crosby, CERCLA Unit Lee
Solid and Hazardous Waste Management Branch

RE: NC CERCLA Site Investigation
Ulah Battery Lead Reclaiming
Asheboro, Randolph County

The CERCLA Unit will conduct a site investigation at Ulah Battery Lead Reclaiming in Asheboro on Tuesday, 27 Janaury 1986. A prelminary assessment and transmittal letter are attached.

If you need additional information, please contact Jack Butler or me at 733-2801.

cc: Doug Holyfield

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

James G. Martin, Governor
Phillip J. Kirk, Jr., Secretary

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

19 January 1987

Mr. George Elliott, Health Director
2222 South Fayetteville St.
Asheboro, NC 27203

Dear Mr. Elliott:

The CERCLA Unit of the Solid and Hazardous Waste Management Branch will conduct a site investigation at Ulah Battery Lead Reclaiming in Asheboro on Tuesday, 27 January 1987. A copy of the preliminary assessment has been enclosed for your information.

If you have any additional questions, please do not hesitate to contact Stan Atwood, Toxicologist, or me at (919) 733-2801.

Sincerely,

Lee Crosby

Lee Crosby, CERCLA Unit Manager
CERCLA Unit
Solid and Hazardous Waste Management Branch
Environmental Health Section

LC/pc

Main file

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

James G. Martin, Governor
Phillip J. Kirk, Jr., Secretary

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

14 November 1986

Mr. Ned Jessup
Emergency Response and Control Section
EPA Region IV Waste Division
345 Courtland Street, N.E.
Atlanta, GA 30365

Dear Mr. Jessup

Subject: Immediate Removal Request
Ulah Battery Lead Reclaiming NC D TBA
SR 1219
Asheboro, NC 27203

In response to your request for background information for the subject site the preliminary assessment is enclosed. Soils samples collected by the NC Environmental Epidemiology Branch and the Randolph County Health Department on 23 July 1986 range between 0.6% and 14.4% lead. The site was used for more than 15 years to reclaim lead from batteries and is located in a rural residential area south of Asheboro. Chips from battery cases were scattered over the site, including the road and driveways. Two large piles of broken battery cases were also found. In addition, nine children live at this site; one has an elevated blood lead content.

An immediate removal of the scrap piles and contaminated soil is requested. Continued exposure, particularly for the children, to the high lead levels could result in serious health effects.

A tentative date of 25 November 1986 has been set to gather additional information needed to evaluate the site under the Mitre Hazard Ranking System (HRS). If you have any questions, please contact Lee Crosby or me at (919) 733-2801.

Sincerely,

Stan Atwood, Toxicologist
CERCLA Unit
Solid and Hazardous Waste Management Branch
Environmental Health Section

SA/tb/0342b

Enclosures: Preliminary Assessment Report
Memo from J. Freeman to W. Meyer dated 20 October 1986.

cc: Ms. Denise Smith

Main

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

James G. Martin, Governor
Phillip J. Kirk, Jr., Secretary

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

14 November 1986

TO: Bill Meyer, Head
Solid and Hazardous Waste Management Branch

FROM: Lee Crosby, CERCLA Unit Lee
Solid and Hazardous Waste Management Branch

RE: Ulah Battery Lead Reclaiming
Asheboro, NC

John Freeman and Charlene Wiggins of the Environmental Epidemiology met with Julian Foscue and me to discuss the Ulah Battery Lead Reclaiming site in Randolph County. Dr. Freeman believes that a January 1987 response date for an EPA immediate removal is appropriate.

The Environmental Epidemiology Branch have addressed the immediate public health concerns by the following:

1) Each of the families has been notified of the direct contact hazard of lead.

2) All of the nine children have been screened for lead blood levels by the County Health Dept.

3) One child with an elevated level has been given a test and chelating is not indicated at this time. Further tests will be given in three months.

However, a direct contact hazard may remain due to dust levels inside the homes. Stan Atwood tells me that lead levels inside the home are frequently higher than the soil levels. Also the limits of contamination have not been defined. A well used for drinking water is located next to the area where the batteries were cracked (1985 laboratory analysis does not show elevated Pb levels).

Based <u>only</u> on our conversation with John Freeman, there doesn't seem to be any reason to put a response deadline in the request for immediate removal to EPA or to pursue using the Hazardous Waste Remedial Fund.

LC/lw/0342b

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

James G. Martin, Governor
Phillip J. Kirk, Jr., Secretary

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

14 November 1986

TO: Stan Atwood, CERCLA Toxicologist

FROM: Lee Crosby, CERCLA Unit Manager Lee

RE: Ulah Battery Lead Reclaiming
Site Inspection

Denise Smith, EPA project officer tells me that she will notify us as to whether the CERCLA Unit will be allowed to collect additional information on-site for the HRS score. There is no need to have the on-site health and safety plan developed until a decision is made about the SI.

LC/tb/0342b

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

James G. Martin, Governor
Phillip J. Kirk, Jr., Secretary

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

14 November 1986

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

Dear Ms. Smith:

SUBJECT: Preliminary Assessment Report Additions
Ulah Battery Lead Reclaiming NC D TBA
SR 1219
Asheboro, NC 27203

Please add the enclosed memos and map to the Preliminary Assessment for the subject site. These were inadvertently left out of the PA package mailed to you earlier.

Sincerely,

Stan Atwood

Stan Atwood, Toxicologist
CERCLA Unit
Solid and Hazardous Waste Management Branch
Environmental Health Section

SA/tb/0342b

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

James G. Martin, Governor
Phillip J. Kirk, Jr., Secretary

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

12 November 1986

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

Dear Ms. Smith:

SUBJECT: Preliminary Assessment Report
Ulah Battery Lead Reclaiming NCD TBA
SR 1219
Asheboro, NC 27203

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

Glen Hoskins, Marvin Caviness, and Elbert Caviness were battery dealers who apparently operated a lead reclaiming business at the subject site from about 1965 to 1981. Batteries were broken on site and the lead plates were melted in a 55 gallon drum. The battery casings were burned, used as road fill, or just piled up. There are two large piles of casings on site. One is estimated at 25 feet high and 75 to 100 feet in diameter; the second is about 40 feet in diameter.

The site is located south of Asheboro off US 220. There are 10 homes in the immediate vicinity of the dump site along SR 1219. These homes are served by groundwater. Samples taken on 23 July 1986 indicate that the soil is heavily contaminated with lead. In addition, one child in the vicinity was found to have elevated blood lead.

Because of the high soil lead levels in a residential area, a <u>high</u> priority for inspection is recommended. If you have any questions please contact me at (919) 733-2801.

Sincerely,

Stan Atwood

Stan Atwood, Toxicologist
CERCLA Unit
Solid and Hazardous Waste Management Branch
Environmental Health Section

SA/tb/0342b

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

II. IDENTIFICATION
01 STATE NC | 02 SITE NUMBER D

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site): Olan Battery Lead Reclaiming
02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER: Route 7, Box 376 (SR 1219)

03 CITY: Asheboro | 04 STATE: NC | 05 ZIP CODE: 27203 | 06 COUNTY: Randolph | 07 COUNTY CODE: 76 | 08 CONG DIST: 04

09 COORDINATES: LATITUDE 35° 38' 20" | LONGITUDE 79° 49' 45"

10 DIRECTIONS TO SITE (Starting from nearest public road): Follow Business US 220 South from Asheboro about 3.5 miles past US 64. Turn right on SR 1219.

III RESPONSIBLE PARTIES

01 OWNER (If known): Glen Hoskins
02 STREET (Business, mailing, residential): Route 7, Box 376

03 CITY: Asheboro | 04 STATE: NC | 05 ZIP CODE: 27203 | 06 TELEPHONE NUMBER: (919) 625-4510

07 OPERATOR (If known and different from owner):
08 STREET (Business, mailing, residential):

09 CITY | 10 STATE | 11 ZIP CODE | 12 TELEPHONE NUMBER

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

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

IV. CHARACTERIZATION OF POTENTIAL HAZARD

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

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

03 YEARS OF OPERATION
1965 (BEGINNING YEAR) | 1981 (ENDING YEAR) [ ] UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED: Lead recovered from batteries. Battery casings stacked in piles up to 25 feet high and 75 to 100 feet in diameter. Driveways are paved with chips from battery casings.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION: Potential for lead poisoning from contaminated soil and dust. Wells on site could also become contaminated. Nine children live near the site.

V. PRIORITY ASSESSMENT

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

VI. INFORMATION AVAILABLE FROM

01 CONTACT: Jim Martin, Sanitarian
02 OF (Agency/Organization): Randolph Co. Health Department
03 TELEPHONE NUMBER: (919) 629-2131

02 PERSON RESPONSIBLE FOR ASSESSMENT: Stan Atwood/Jack Butler
05 AGENCY: NC DHR/DHS | ORGANIZATION: SHW Mgmt. Br. | 03 TELEPHONE NUMBER: (919) 733-2801 | 08 DATE: 11/12/86

EPA FORM 2070-12 (7-81)

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NC	D

II. WASTE STATES, QUANTITIES, AND CHARACTERS

01 PHYSICAL STATES (Check all that apply)

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

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

TONS
CUBIC YARDS
NO. OF DRUMS

03 WASTE CHARACTERISTICS (Check all that apply)

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

III. WASTE TYPES

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ADICS			
BAS	BASES			
MES	HEAVY METALS			

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

CATEGORY	SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
MES	Lead	7439-92-1		Soil to 14%	

V. FEEDSTOCKS (See Appendix for CAS numbers)

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

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

1. John Freeman, Head, Env. Epid. Branch, memo to William Meyer, Head SHW Mgmt. Branch, 10-20-86.
2. Pat Curran, Supervisor, Ind. Hygiene Consultants, memo to Ronald Levine, DHR acting director, 9-18-81.
3. Jim Martin, Sanitarian Randolph Co. Health Dept. telephone conversation with Stan Atwood, CERCLA Unit, 11-10-86.
4. USGS Topographic map, 7.5' Quadrangle, Asheboro Quad., 1981.

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

II. IDENTIFICATION
01 STATE NC | 02 SITE NUMBER D

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] A. GROUNDWATER CONTAMINATION 02 [ ] OBSERVED (DATE:) [X] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED 04 NARRATIVE DESCRIPTION Leaching over the past 20 years.

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

01 [X] C. CONTAMINATION OF AIR 02 [ ] OBSERVED (DATE:) [X] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED 04 NARRATIVE DESCRIPTION Wind blown dust; battery casings were burned in the past.

01 [X] D. FIRE/EXPLOSIVE CONDITIONS 02 [ ] OBSERVED (DATE:) [X] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED 04 NARRATIVE DESCRIPTION Large piles of battery casings on site.

01 [X] E. DIRECT CONTACT 02 [ ] OBSERVED (DATE:) [X] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED 20-40 est. 04 NARRATIVE DESCRIPTION Soil is contaminated, people in the area subject to contact.

01 [X] F. CONTAMINATION OF SOIL 02 [X] OBSERVED (DATE: 7-23-86) [ ] POTENTIAL [ ] ALLEGED
03 AREA POTENTIALLY AFFECTED 10 (Acres) 04 NARRATIVE DESCRIPTION Lead content in soil samples up to 14.4%.

01 [X] G. DRINKING WATER CONTAMINATION 02 [ ] OBSERVED (DATE:) [X] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED 04 NARRATIVE DESCRIPTION Wells on site.

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

01 [X] I. POPULATION EXPOSURE/INJURY 02 [X] OBSERVED (DATE: 7-23-86) [ ] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED 04 NARRATIVE DESCRIPTION One four year old girl found to have elevated blood lead. She is presently being treated.

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

II. IDENTIFICATION
01 STATE NC | 02 SITE NUMBER D

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

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

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

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

01 [X] M. UNSTABLE CONTAINMENT OF WASTE (Spills/runoff/standing leaking drums) — 02 [X] OBSERVED (DATE: 1981,1986) [ ] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION
Waste piles on site; soil contamination.

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

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

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

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

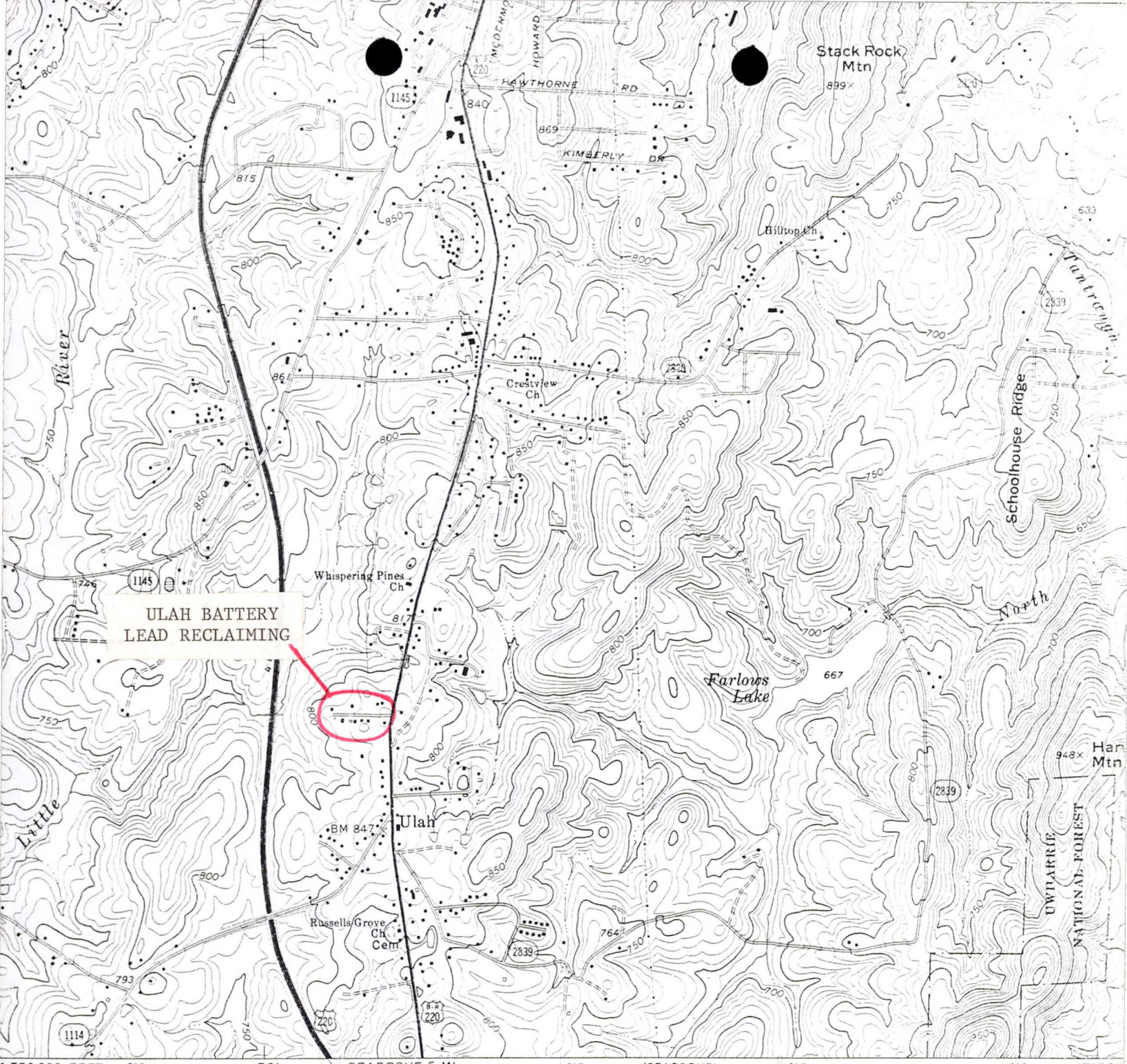
III. TOTAL POPULATION POTENTIALLY AFFECTED:

IV. COMMENTS

The high soil lead levels and a documented case of elevated blood lead suggests that this site represents a health threat to the people in the immediate vicinity. Immediate removal is requested.

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

As previously cited.



SCALE 1:24 000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

MN GN
5½°
98 MILS
0°42'
12 MILS

UTM GRID AND 1981 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

THIS MAP COMPLIES WITH NATIONAL MAP ACCURAC
FOR SALE BY U. S. GEOLOGICAL SURVEY, RESTON, V
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS A

ASHEBORO, N. C.

NE/4 ASHEBORO 15' QUADRANGLE
N3537.5—W7945/7.5

1970
PHOTOREVISED 1981
DMA 5055 III NE—SERIES V842

10 November 1986

TO: File

FROM: Stan Atwood

RE: Ulah Battery Lead Reclaiming

I called Jim Martin, Sanitarian Randolph County Health Department, (919) 629-2131, about the subject site. Operations as a battery lead recovery site began in the mid-sixties and continued through the early eighties. Battery casings were burned on site to melt lead and may have been used for heating. Lead was melted in 55-gallon drums cut in half.

SA/tb/0342b

10 November 1986

TO: File

FROM: Stan Atwood SA

RE: Ulah Battery Lead Reclaiming

I called Steve Phibbs on this date about the subject site. He had no knowledge of this site.

SA/tb/0342b

10 November 1986

TO: File

FROM: Stan Atwood SA

RE: Ulah Battery Lead Reclaiming

I received a call from Denise Smith today inquiring about the status of the PA for the subject site. I told her we would mail it before the end of the week. She requested that we send it by overnight express mail.

SA/tb/0342b

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

James G. Martin, Governor
Phillip J. Kirk, Jr., Secretary

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

6 November 1986

TO: Bill Meyer, Head
Solid and Hazardous Waste Management Branch

FROM: Lee Crosby, CERCLA Unit
Solid and Hazardous Waste Management Branch

RE: Battery Dump Site
Randolph County
NCD (TBA)

Charlene Wiggins and John Freeman can meet on:

14 NOVEMBER 1986, FRIDAY
1:30 p.m. - BATH BUILDING
4th FLOOR CONFERENCE ROOM

Ted Taylor may also attend (schedule permitting). Stan Atwood is completing the assessment and I will be talking with Ned Jessup (EPA) about when they will be responding for the immediate removal.

Placing a New Site in ERRIS

In order to place a new site in ERRIS, the following information is necessary. This information should be provided to the 3012 supervisor, who will then relay it to EPA.

1) Site name Ulah Battery Lead Reclaiming
2) Address (specific location needed - use map if necessary) SR 1219
3) City Asheboro
4) County Randolph
5) State NC 27203
6) County code 76
7) Congressional district 4
8) Site discovery date 6 Nov 1986
9) Contact person Stan Atwood

RCRA/NPL POLICY QUESTIONNAIRE FOR INITIAL SCREENING

Site Name Ulah Battery Lead Reclaiming

City Asheboro State N.C.

Facility I.D. Number NCD-TBA

Type of Facility: Generator____ Transporter____ TSD____

I. RCRA APPLICABILITY	yes	no
Does the facility have RCRA interim status?		✓
Did the facility ever have RCRA interim status?		✓
Does the facility have a final or post-closure permit? If so, date issued _____		✓
Is the facility a non-notifier that has been identified by States or EPA?		✓
Is the facility a known or possible protective filer?		✓

STOP HERE IF ALL ANSWERS TO QUESTIONS IN SECTION I ARE NO

II. FINANCIAL STATUS

Is the facility owned by an entity that has filed for bankruptcy under federal laws (Chapter 7 or 11) or State laws? ___ ___

If yes, what has it filed under?
Chapter 7___ Chapter 11___ Other___

III. ENFORCEMENT

RCRA Status

Has the facility lost authorization to operate via LOIS, 3005(c) permit denial, 3008(h) IS termination, 3005(d) permit revocation? ___ ___

Has the facility's Interim Status been terminated via another mechanism (i.e. administrative termination)?

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

RECEIVED
OCT 22 1986
SOLID & HAZARDOUS WASTE MANAGEMENT BRANCH

James G. Martin, Governor
Phillip J. Kirk, Jr., Secretary

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

MEMORANDUM

TO: William Meyer, Head
Solid and Hazardous Waste Management Branch

FROM: John I. Freeman, D.V.M., M.P.H., Head
Environmental Epidemiology Branch

SUBJECT: Battery Dump Site in Randolph County

DATE: October 20, 1986

The Environmental Epidemiology Branch was recently informed of an area in Randolph County that had been used as a dump site for discarded battery casings. Several residents of the Ula community had previously been involved in salvaging lead from the batteries and discarding the casings or crushing them to be spread over the dirt road on which the dump is located. The operation was discontinued five years ago when the county health department became aware of it and explained the hazards to the parties involved. Although the problem was brought to the attention of the Solid and Hazardous Waste Management Branch in 1981, no further action was taken other than the collection of soil and water samples.

On July 23, 1986, Charlene Wiggins, Lead Epidemiologist with the Environmental Epidemiology Branch, visited the site with two representatives of the Randolph County Health Department. The scrap pile is located behind a house trailer and is approximately 25 feet high and 75 to 100 feet in diameter. It appears to mainly be composed of casing bottoms. Farther down the road, a second area approximately 40 feet in diameter was found coated in broken pieces of casing tops. This was the area originally used to melt the lead from the batteries. Small pieces of casings were also observed along the dirt path and the driveways along it.

During the visit, Ms. Wiggins collected soil samples near the scrap pile, the area where the lead was melted, and along the road. The lead content in these areas ranged from 0.6% to 14.4% (see attached). As you are aware, soil containing greater than 0.05% is considered to be a hazard.

Since children are particularly susceptible to lead poisoning due to their high rate of intestinal absorption and natural hand-to-mouth habits, Ms. Wiggins

attempted to identify all children living along the dirt road. Six children were identified at the five houses where someone was home. There was no answer at the remaining five houses. The parents were informed of the hazards of lead and advised to have their children tested for lead at the county health department. All six of these children have been tested, and one was found to have Class III lead poisoning (with Class IV being the most severe). This child has been living in a house trailer which is free of lead hazards for approximately one year. Her mother admitted that the child frequently eats dirt, and a soil sample collected from her driveway contained 10.6% lead. The child is presently being treated at Memorial Hospital in Chapel Hill.

In further investigation, three more children were found to live in the area. The county health department is trying to arrange testing for these children at this time.

Due to the high levels of lead in the soil and the presence of young children in the area, the Environmental Epidemiology Branch feels the situation requires further discussion with members of the Solid and Hazardous Waste Management Branch. Please contact Charlene Wiggins or me at 733-3410 at your earliest convenience to arrange a meeting.

JIF:CW:lp

Attachment

c: Mr. George Elliott, Health Director
Randolph County Health Department

North Carolina Department of Human Resources
Division of Health Services
Occupational Health Laboratory

ANALYSIS REPORT

OCT 1986

Company: Private Residence - Site of Battery Salvage Operation

Address: Rt. 7 Asheboro, NC Randolph Co.

Service Requested: Lead Analysis on Soil Samples

Sample Taken On: 10-3-86 By: C Wiggins

Submitted To Laboratory On: 10-6-86 (RECD. 10-7-86 V.P.) By:

Date of Analysis: 10-8-86 Date Reported: 10-8-86

Analyzed By: V.P.

LABORATORY NUMBER	SAMPLE NUMBER	DESCRIPTION	REMARKS	RESULTS IN ppm Pb
6[illegible]710	#1	Soil in backyard - 15 ft. from dump - across drainage ditch	Clay	126 ppm
6[illegible]711	#2	Soil from garden approx. 75 feet from dump	Clay	37 ppm

COMMENTS: Send report to: Charlene Wiggins Env. Spec.

REPORTED BY: John L. Neal
Chief, Occupational Health Lab

NIOSH Analytical Method: P&CAM 173: GENERAL PROCEDURES FOR METALS. Filter collection, atomic absorption analysis. 1977

North Carolina Department of Human Resources
Division of Health Services
Occupational Health Laboratory

ANALYSIS REPORT

Company: Private Residence - Site of Battery Salvage Operation

Address: Rt. 7, Asheboro, NC Randolph Co.

Service Requested: Lead Analysis on Soil Samples

Sample Taken On: 7-23-86 [REC'D. 7-25-86 V.P.] By: C Wiggins

Submitted To Laboratory On: _____ By: _____

Date of Analysis: 7-31-86 Date Reported: 7-31-86

Analyzed By: V.P.

RECEIVED OCT 22 1986 SOLID & HAZARDOUS WASTE MANAGEMENT BRANCH

LABORATORY NUMBER	SAMPLE NUMBER	DESCRIPTION	REMARKS	RESULTS IN ppm Pb
6[illegible]2118	#1	driveway - near melting location - paved with casings		106,811
6[illegible]2119	#2	Area near melting location at oldest dump site		20,906
6[illegible]2120	#3	Area downhill of dump site		1,246
6[illegible]2121	#4	Edge of driveway lined with battery casings		6,787
6[illegible]2122	#5	Area batteries were melted at + drums were stored		144,784
6[illegible]2123	#6	Soil beside workbench at Hammond home		262
6[illegible]2124	#7	Rear of Hammond site - beside drainage ditch		4,134

COMMENTS: Send to Charlene Wiggins
Environmental Epi

REPORTED BY: John L. Neal
Chief, Occupational Health Lab

DHS Form 1440 (Rev. 2-75)
Occupational Health

STATE OF NORTH CAROLINA

DEPARTMENT OF HUMAN RESOURCES

Division of Health Services

P. O. Box 2091 Raleigh 27602

JAMES B. HUNT, JR.
GOVERNOR

SARAH T. MORROW, M.D., M.P.H.
SECRETARY

Ronald H. Levine, M.D., M.P.H.
Acting Director

September 18, 1981

MEMORANDUM

TO: Ronald H. Levine, M.D., M.P.H.
Acting Director

THROUGH: MPH Martin P. Hines, D.V.M., M.P.H., Chief
Epidemiology Section

C. Daniel Baucom, Head
Occupational Health Branch DB

FROM: Pat Curran, Supervisor
Industrial Hygiene Consultants Pat

SUBJECT: Battery/Lead Reclaiming Operation - Randolph County

A site visit was made to a battery/lead reclaiming operation outside Asheboro last week. A copy of the site visit report is attached. On the basis of this site visit, I feel a potential for adverse health and environmental effects exists for the residents and surrounding area. I would like to offer the following recommendations:

(1) The Lead Screening Committee be alerted and offer the County Health Department any assistance necessary to screen the residents and evaluate the potential to lead exposures from the reclaiming operation, the scrap piles, homes, food, water, roads, driveways, and yards.

(2) The Hazardous Waste Section be brought in to provide a current evaluation of the storage and disposal of the batteries, lead and acid.

I talked with Bill Meyer and the Hazardous Waste Section is familiar with this operation. They have an attorney looking into the possibility of prosecuting similar operations starting in Cabarrus County.

(3) The North Carolina Department of Natural Resources and Community Development be advised of the operation to take any action they deem appropriate.

(4) Most, if not all, battery/lead reclaiming operations sell their materials to Willard Lead Products Company in Charlotte. An effort should be made to obtain the company's list of suppliers. This would provide a good starting point for a coordinated evaluation of similar operations in the state.

(5) The Division of Health Services should provide any assistance the Randolph County Health Department needs in follow-up to this site visit.

If you should have questions concerning the above recommendations, please feel free to contact me.

PC:ng

Attachment

cc: Randolph County Health Department

Eg File.

NORTH CAROLINA
DEPARTMENT OF HUMAN RESOURCES
DIVISION OF HEALTH SERVICES
OCCUPATIONAL HEALTH BRANCH
RALEIGH, NORTH CAROLINA

TECHNICAL REPORT

REPORT OF VISIT TO Glen Hoskins/Marvin & Elbert Caviness Battery Dealers

Address Route 7, Box 376 Location

Asheboro, N. C. 27203

Visit made by Pat Curran and Kathy Douglas Date Sept. 10, 1981

Persons Contacted Mr. Martin & Mr. Workman - Randolph County Health Department

Reason for visit Follow-up to letter from county health department concerning this operation.

Product Mfg. --- No. Employees ---

Plant Medical Services ---

Copies to: Dr. Ronald H. Levine
Dr. Martin P. Hines
C. Dan Baucom
Randolph County Health Department
Files

REPORT:

A site visit was made to this battery/lead and scrap metal reclaiming operation as a result of the Randolph County Health Department's response to a July 17, 1981 N. C. Division of Health Services' letter inquirying about such operations. This letter was sent to all health departments throughout the state. The visit was made with Mr. Martin and Mr. Workman of the Randolph County Health Department. Since no one responsible for the operation was home, no contact was made.

Site Visit Findings

This is apparently a small family type battery/lead salvage and reclaiming operation which has been in operation for approximately 16 years. It is located on a dirt road off Highway 220 in Asheboro. Eleven (11) houses or trailers are along the road. Apparently, these families are all related in some manner and some are involved with the reclaiming operation. There are two large piles of scrap battery casing parts along the road. The largest scrap pile (20 feet high x 75-100 feet in diameter) is located behind a trailer and consist mostly of casing bottoms. Next to this pile is a well with a work bench built onto the well house. (A battery dripping acid was on the bench.) The slope of the land is such that any rain run-off from the scrap pile could run into a family garden located in a near by field. The other scrap pile (30 feet in diameter) is farther down the road and consists mostly of casing tops. Apparently, lead from the batteries is melted here (possibly to remove seperator plates), since rusted 55-gallon drums and slag were noted. Rain run-off

is down a 1 1/2 - 2 feet wide gully. The gully was followed a short distance but it could not be determined where it leads. Broken battery casings are scattered along driveways and the dirt road as fill. It was not apparent how acid from the batteries is handled. No containers, drums, or tanks were seen in any of the areas.

At the end of the visit, a wife of one of the men involved with the operation came out and said batteries were no longer being reclaimed because they found out it would hurt their children. However, some yet to be reclaimed batteries were seen. So it is doubtful the operation has completely stopped.

An initial investigation was conducted by the County Health Department in July, 1980 in which water samples (from the well and trailer beside the large pile of casings) and soil samples were taken. Results of the water samples are attached and show normal pH levels and no lead content. No written report of the soil samples has been received by the county from the N. C. Division of Health Services' Laboratory Section. Telephoned results of two (2) soil samples showed 3000 ppm and 2500 ppm of lead. Blood samples were also taken on two (2) residents and found to be negative. (No numerical results are in the report.) These results are also attached. The Solid and Hazardous Waste Section of the N. C. Division of Health Services was contacted and has additional information pertaining to the operation.

Conclusions

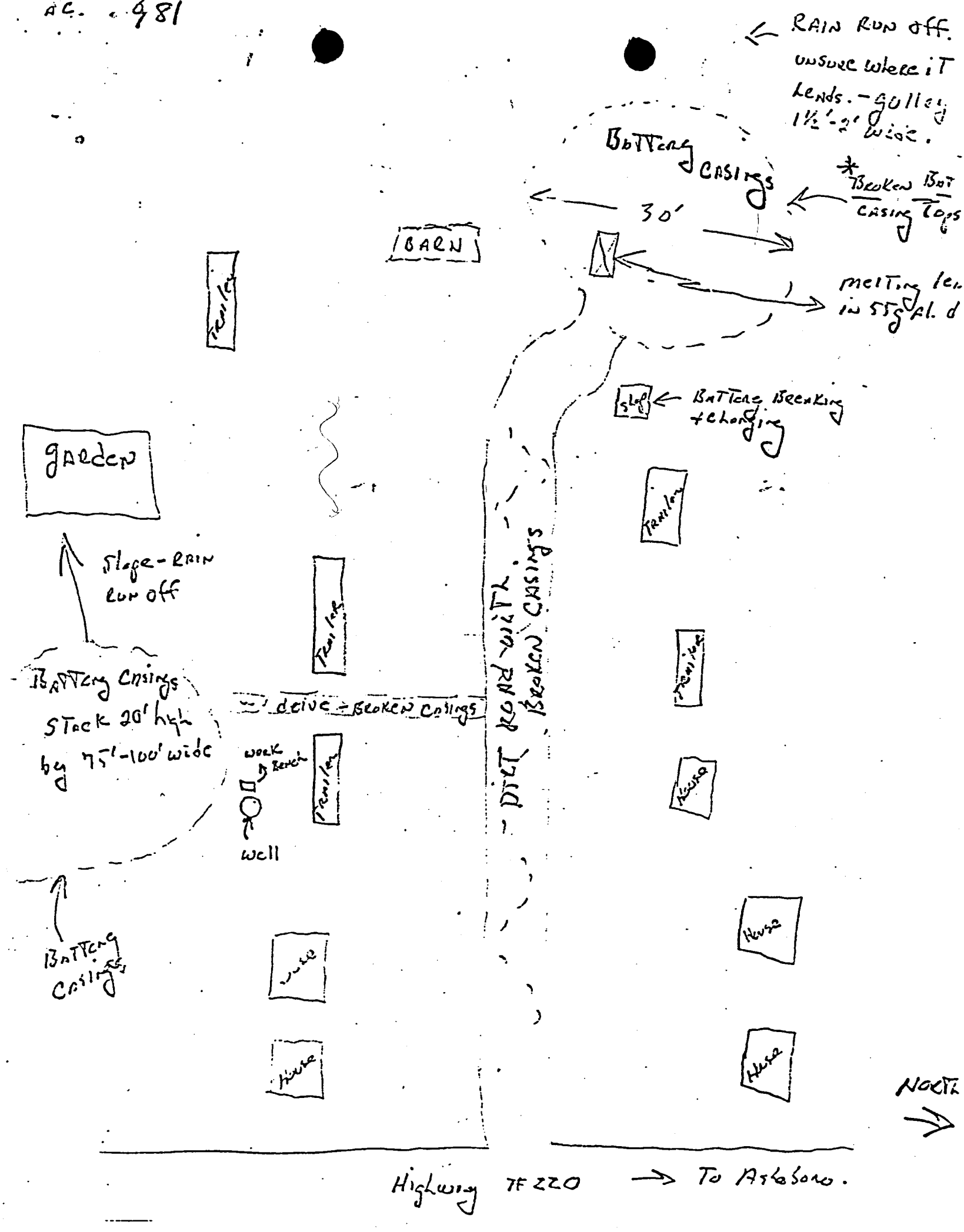
There is a potential for lead exposure to the residents and adverse environmental effects are present from the reclaiming process, the storage of casings, the handling of acid, lead residue on the roads, driveways and yards, and lead contamination of homes (from clothes and shoes), food from gardens and water. A coordinated evaluation should be made by appropriate local and state agencies (Randolph County Health Department, Lead Screening Committee, and Hazardous Waste Section of the N. C. Division of Health Services and the N. C. Department of Natural Resources and Community Development) to determine the health and environmental effects of this operation. The Occupational Health Branch will provide any technical assistance needed in this evaluation.

Pat Curran

John "Pat" Curran
Industrial Hygiene Consultant
Occupational Health Branch

PC:ng

AC. 481


RAIN RUN OFF.
unsure where it
ends. - gulley
1½'-2' wide.
Battery casings
*Broken Bat
casing tops
30'
BARN
melting ice
in 55 gal. d
Trailer
Slab
Battery Breaking
& changing
garden
Trailer
Trailer
Stage - RAIN
run off
Trailer
Trailer
Battery Casings
Stack 20' high
by 75'-100' wide
drive - Broken casings
DIRT ROAD - WITH
BROKEN CASINGS
work
Bench
Trailer
House
well
Battery
Casings
House
House
House
NORTH
Highway 7F 220 → To Astoria.

Randolph County Health Dept.
ASHEBORO, NORTH CAROLINA 27203

Personal Health
Emergency Medical Services
Environmental Health
Building Inspections

Ira McDowell Governmental Center
2222 South Fayetteville Street
Telephone (919) 629-2131
Archdale Office (919) 431-2116

Mr. Ba
Do you know this one?
Please forward to Mr. Rh

August 13, 1981

Dr. Rhyne
Please add to local file.
MPH

AUG 14 1981

Dr. Martin P. Hines
Chief, Epidemiology Section
Department of Human Resources
Division of Health Services
P.O. Box 2091
Raleigh, NC 27602

Dear Dr. Hines:

In reply to your letter dated July 17, 1981, we can supply you with the following list of names and results of our preliminary investigation:

Battery Dealers

Glen Hoskins Rt. 7, Box 376 Asheboro, NC 27203 Phone: 625-4510	Marvin & Elbert Caviness Rt. 7 Asheboro, NC 27203 Phone: 625-3230

Blood Samples Taken

Rita Williams, Mother, 08-14-80 - Neg. (9)
Homer L. Williams, Son, 08-21-80 - Neg. (11)

Enclosed you will find copies of water samples, maps, and notes from our investigation. Mr. Bill Myers, Solid & Hazardous Waste Section, phone 733-2178, has additional information regarding this operation.

If we may be of further service to you regarding this problem, please let us know.

Sincerely,

J. D. Workman Jr.

J. D. Workman, Jr.
Sanitarian Supervisor I

JDW,JR./dlc

Enclosures

NOTES

August 7, 1980

Jim Martin & Robert Tolen visited the following houses for the purpose of notifying the occupants of the possible contamination of lead from being exposed to the burning of battery casing & battery casing being used as a fill on drives and yards.

House #1 Rita Williams
House #2 Vacant: However previous occupants were notified. (Hayes)
House #3 Howard Strickland
House #4 No one home. ~~7-13-83~~

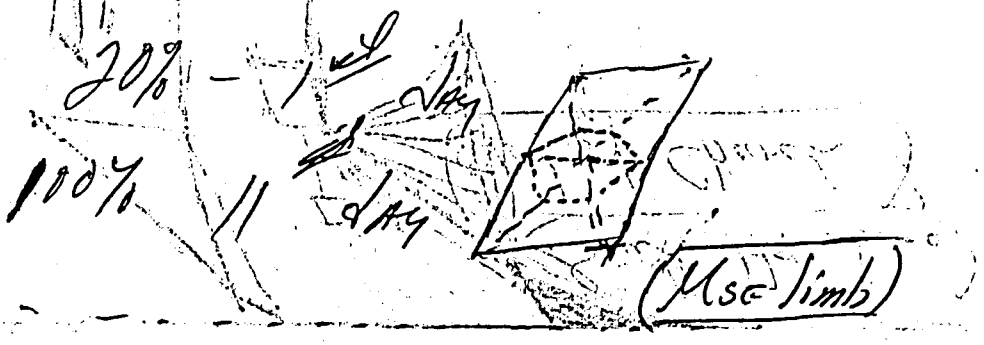
3000 B/M. Extract (Gold)

2580 B/m on casing

Tie up between lead & casing (13

20% – wet

100% – dry



Lead Sulfate – Lead Carbonate

And get into lead filled

8-27-80 10:05

Bob

call Bill Myer Raleigh

733-2178 today

between 1-2

has not written letter

going to be state-wide letter

lead content averaged 2500-3000

parts per million

has more information

so please call

called Bill Moyer 733-2178
8/6/80

Letter was to be sent with details on the handling on Battery Casing.

8/22/80 733-2178

Letter to be sent with details on the handling of B/casing.
(Bill Meyers

MCG

DIVISION OF HEALTH SERVICES
N[illegible] DEPARTMENT OF HUMAN RESOURCE[illegible]
P.O. BOX [illegible]47 - 306 N. WILMINGTON ST., [illegible]EIGH 27611

CHEMICAL ANALYSES - SOLID AND HAZARDOUS WASTE

BATTERY WASTE

urce: Randolph Co. H.D.
dress: Asheboro, N.C.
Zip
ounty: Randolph
eport To: Bill Meyer
ddress: Solid Waste
Zip
elephone Number: ( ) -
ollected By:
ate Collected: Time AM PM
ocation of Sampling Point: See map

Remarks:
Sample #1 - soil

Extractable Metals / Total Metals	Results		Results
Arsenic	<0.50	Solids, dissolved	
Barium	<10.0	Solids, suspended	
Cadmium	<0.10	Solids, total	
Chloride		Solids, total volatile	
Chromium	<0.50	Spec. Conductivity	
Color		Zinc	
Copper		Endrin	
Flammability		Lindane	
Fluoride		Methoxychlor	
Iron		Toxaphene	
Lead	7.15	2,4-D	
Manganese		2,4,5-TP	
Mercury	<0.02		
Nitrate			
pH			
Selenium	<0.10		
Silver	<0.50		

Results expressed in ppm unless otherwise indicated.

te Received 11 July 80 Date Reported 29 July 80 Reported By

Laboratory Number 01109

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

CHEMICAL ANALYSES - SOLID AND HAZARDOUS WASTE

Source: Randolph Co. H.D.
Address: Asheboro, N.C.
Zip
County: Randolph.
Report To: Bill Meyer
Address: Solid Waste
Zip
Telephone Number: ( ) -
Collected By:
Date Collected: Time AM PM
Location of Sampling Point: See map

Remarks:

) Extractable Metals / Total Metals	Results	Results expressed in ppm unless otherwise indicated.	Results
Arsenic		Solids, dissolved	
Barium	<1.9	Solids, suspended	
Cadmium	1.30	Solids, total	
Chloride		Solids, total volatile	
Chromium	24.6	Spec. Conductivity	
Color		Zinc	
Copper		Endrin	
Flammability		Lindane	
Fluoride		Methoxychlor	
Iron		Toxaphene	
Lead	16,000	2,4-D	
Manganese		2,4,5-TP	
Mercury			
Nitrate			
pH			
Selenium			
Silver	1.67		

Date Received 11 July 80 Date Reported 29 July 80 Reported By

Laboratory Number 01109

DIVISION OF HEALTH SERVICES
N[illegible] DEPARTMENT OF HUMAN RESOURCES
P.O. BOX [illegible]47 - 306 N. WILMINGTON ST., [illegible]EIGH 27611

CHEMICAL ANALYSES - SOLID AND HAZARDOUS WASTE

urce: Randolph Co. H.D.
dress: Asheboro, N.C.
Zip
unty: Randolph
eport To: Bill Meyer
ddress: Solid Waste
Zip
elephone Number: ( ) -
ollected By:
ate Collected: Time AM PM
ocation of Sampling Point: See exp

Remarks:
Sample # 2 - Soil

Extractable Metals) Total Metals	Results	Results expressed in ppm unless otherwise indicated.	Results
Arsenic	<0.50	Solids, dissolved	
Barium	<10.0	Solids, suspended	
Cadmium	0.31	Solids, total	
Chloride		Solids, total volatile	
Chromium	<0.50	Spec. Conductivity	
Color		Zinc	
Copper		Endrin	
Flammability		Lindane	
Fluoride		Methoxychlor	
Iron		Toxaphene	
Lead	48.8	2,4-D	
Manganese		2,4,5-TP	
Mercury	<0.02		
Nitrate			
pH			
Selenium	<0.10		
Silver	<0.50		

te Received 11 July 80 Date Reported 29 July 80 Reported By

Laboratory Number 01110

DIVISION OF HEALTH SERVICES
N. C. DEPARTMENT OF HUMAN RESOURCES
P.O. BOX 29047 - 306 N. WILMINGTON ST., RALEIGH 27611

CHEMICAL ANALYSES - SOLID AND HAZARDOUS WASTE

Source: Randolph Co. H. D.

Address: Asheboro, N.C.

Zip

County: Randolph

Report To: Bill Meyer

Address: Solid Waste

Zip

Telephone Number: ( ) -

Collected By:

Date Collected: Time AM PM

Location of Sampling Point: See exp

Remarks:

) Extractable Metals
✓ Total Metals

Results expressed in ppm unless otherwise indicated.

	Results		Results
Arsenic		Solids, dissolved	
Barium	3.7	Solids, suspended	
Cadmium	26.7	Solids, total	
Chloride		Solids, total volatile	
Chromium	29.8	Spec. Conductivity	
Color		Zinc	
Copper		Endrin	
Flammability		Lindane	
Fluoride		Methoxychlor	
Iron		Toxaphene	
Lead	38,000	2,4-D	
Manganese		2,4,5-TP	
Mercury			
Nitrate			
pH			
Selenium			
Silver	0.74		

Date Received 11 July 80 Date Reported 29 July 80 Reported By

Laboratory Number 01110

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

CHEMICAL ANALYSES - SOLID AND HAZARDOUS WASTE

: Randolph Co. H.D.
: Asheboro, N.C.
Zip
: Randolph
To: Bill Harper
s: Solid Waste
Zip
one Number: ( ) -
ted By:
ollected: Time AM PM
on of Sampling Point: See map

Remarks:
Sample #3 - Soil

Results expressed in ppm unless otherwise indicated.

Extractable Metals / Total Metals	Results		Results
Arsenic	<0.50	Solids, dissolved	
Barium	<10.0	Solids, suspended	
Cadmium	<0.10	Solids, total	
Chloride		Solids, total volatile	
Chromium	<0.50	Spec. Conductivity	
Color		Zinc	
Copper		Endrin	
Flammability		Lindane	
Fluoride		Methoxychlor	
Iron		Toxaphene	
Lead	3.37	2,4-D	
Manganese		2,4,5-TP	
Mercury	<0.02		
Nitrate			
pH			
Selenium	<0.10		
Silver	<0.50		

ceived 11 July 80 Date Reported 29 July 80 Reported By

Laboratory Number 01111

STATE LABORATOR OF
DIVISION OF HEALTH SERVICES
N[illegible] DEPARTMENT OF HUMAN RESOURC[illegible]
P.O. BOX 28047 - 306 N. WILMINGTON ST., [illegible]LEIGH 27611

CHEMICAL ANALYSES - SOLID AND HAZARDOUS WASTE

.ource: Randolph Co. H.D.
:ddress: Asheboro, N.C.
Zip
ounty: Randolph
.eport To: Mell Moser
:ddress: Solid Waste
Zip
'elephone Number: ( ) -
ollected By:
ate Collected: Time AM PM
ocation of Sampling Point: Seep sump

Remarks:
Sample #3 — Soil

) Extractable Metals
(✓) Total Metals

Results expressed in ppm unless otherwise indicated.

	Results		Results
Arsenic		Solids, dissolved	
Barium	20	Solids, suspended	
Cadmium	<0.20	Solids, total	
Chloride		Solids, total volatile	
Chromium	14.8	Spec. Conductivity	
Color		Zinc	
Copper		Endrin	
Flammability		Lindane	
Fluoride		Methoxychlor	
Iron		Toxaphene	
Lead	470	2,4-D	
Manganese		2,4,5-TP	
Mercury			
Nitrate			
pH			
Selenium			
Silver	0.59		

.te Received 11 July 80 Date Reported 29 July 80 Reported By

Laboratory Number 91111

DIVISION OF HEALTH SERVICES
N[redacted] DEPARTMENT OF HUMAN RESOURC[redacted]
P.O. BOX [redacted]047 - 306 N. WILMINGTON ST., [redacted]EIGH 27611

CHEMICAL ANALYSES - SOLID AND HAZARDOUS WASTE

urce: Randolph Co. H.D.
dress: Asheboro, N.C.
Zip
unty: Randolph
port To: Bill Meyer
dress: Solid Waste
Zip
lephone Number: ( ) -
llected By:
te Collected: Time AM PM
cation of Sampling Point: See map

Remarks:
Sample #4 - Soil

Extractable Metals) Total Metals	Results	Results expressed in ppm unless otherwise indicated.	Results
Arsenic	<0.50	Solids, dissolved	
Barium	<10.0	Solids, suspended	
Cadmium	<0.10	Solids, total	
Chloride		Solids, total volatile	
Chromium	<0.50	Spec. Conductivity	
Color		Zinc	
Copper		Endrin	
Flammability		Lindane	
Fluoride		Methoxychlor	
Iron		Toxaphene	
Lead	6.44	2,4-D	
Manganese		2,4,5-TP	
Mercury	<0.02		
Nitrate			
pH			
Selenium	<0.10		
Silver	<0.50		

te Received 11 July 80 Date Reported 29 July 80 Reported By

Laboratory Number 1112

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

CHEMICAL ANALYSES - SOLID AND HAZARDOUS WASTE

ource: Randolph Co. H.D.
ddress: Asheboro, N.C.
Zip
ounty: Randolph
eport To: Bill Mayer
ddress: Solid Waste
Zip
elephone Number: ( ) -
ollected By:
ate Collected: Time AM PM
ocation of Sampling Point: See map

Remarks:
Sample #4 - Soil

) Extractable Metals
✓ Total Metals

	Results
Arsenic	
Barium	34
Cadmium	<0.20
Chloride	
Chromium	32.6
Color	
Copper	
Flammability	
Fluoride	
Iron	
Lead	1900
Manganese	
Mercury	
Nitrate	
pH	
Selenium	
Silver	0.95

Results expressed in ppm unless otherwise indicated.

	Results
Solids, dissolved	
Solids, suspended	
Solids, total	
Solids, total volatile	
Spec. Conductivity	
Zinc	
Endrin	
Lindane	
Methoxychlor	
Toxaphene	
2,4-D	
2,4,5-TP	

te Received 11 July 86 Date Reported 29 July 86 Reported By

Laboratory Number 1112

DIVISION OF HEALTH SERVICES
N. C. DEPARTMENT OF HUMAN RESOURCES
P.O. BOX [illegible]47 - 306 N. WILMINGTON ST., [illegible]EIGH 27611

CHEMICAL ANALYSES - SOLID AND HAZARDOUS WASTE

urce: Randolph Co. H.D.
idress: Asheboro, N.C
Zip
unty: Randolph
port To: Bill Moser
idress: Solid Waste
Zip
lephone Number: ( ) -
llected By:
te Collected: Time AM PM
cation of Sampling Point: See map

Remarks:
Sample #5 - soil

Extractable Metals
) Total Metals

Results expressed in ppm unless otherwise indicated.

	Results		Results
Arsenic	<0.50	Solids, dissolved	
Barium	<10.0	Solids, suspended	
Cadmium	<0.10	Solids, total	
Chloride		Solids, total volatile	
Chromium	<0.50	Spec. Conductivity	
Color		Zinc	
Copper		Endrin	
Flammability		Lindane	
Fluoride		Methoxychlor	
Iron		Toxaphene	
Lead	3.19	2,4-D	
Manganese		2,4,5-TP	
Mercury	<0.02		
Nitrate			
pH			
Selenium	<0.10		
Silver	<0.50		

te Received 11 July 80 Date Reported 29 July 80 Reported By

Laboratory Number 01113

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

CHEMICAL ANALYSES - SOLID AND HAZARDOUS WASTE

ource: Randolph Co. H.D.
ddress: Asheboro, N.C.
Zip
ounty: Randolph.
eport To: Bill Meyer
ddress: Solid Waste
Zip
elephone Number: ( ) -
ollected By:
ate Collected: Time AM PM
ocation of Sampling Point: See map

Remarks:
Sample #5 - Soil

) Extractable Metals
) Total Metals

	Results
Arsenic	
Barium	76
Cadmium	0.19
Chloride	
Chromium	6.50
Color	
Copper	
Flammability	
Fluoride	
Iron	
Lead	800
Manganese	
Mercury	
Nitrate	
pH	
Selenium	
Silver	0.78

Results expressed in ppm unless otherwise indicated.

	Results
Solids, dissolved	
Solids, suspended	
Solids, total	
Solids, total volatile	
Spec. Conductivity	
Zinc	
Endrin	
Lindane	
Methoxychlor	
Toxaphene	
2,4-D	
2,4,5-TP	

te Received 11 July 80 Date Reported 29 July 80 Reported By

Laboratory Number 1113

DIVISION OF HEALTH SERVICES
N[illegible] DEPARTMENT OF HUMAN RESOURC[illegible]
P.O. BOX [illegible]047 - 306 N. WILMINGTON ST., [illegible]LEIGH 27611

CHEMICAL ANALYSES - SOLID AND HAZARDOUS WASTE

urce: Randolph Co. H.D.

dress: Asheboro N.C.

Zip

unty: Randolph

port To: Bill Mayer

dress: Solid Waste

Zip

lephone Number: ( ) -

llected By:

te Collected: Time AM PM

cation of Sampling Point: See map

Remarks:

Sample # 6 - Soil

Extractable Metals) Total Metals	Results	Results expressed in ppm unless otherwise indicated.	Results
Arsenic	<0.50	Solids, dissolved	
Barium	<10.0	Solids, suspended	
Cadmium	<0.10	Solids, total	
Chloride		Solids, total volatile	
Chromium	<0.50	Spec. Conductivity	
Color		Zinc	
Copper		Endrin	
Flammability		Lindane	
Fluoride		Methoxychlor	
Iron		Toxaphene	
Lead	<0.50	2,4-D	
Manganese		2,4,5-TP	
Mercury	<0.02		
Nitrate			
pH			
Selenium	<0.10		
Silver	<0.50		

te Received 11 July 80 Date Reported 29 July 80 Reported By

Laboratory Number 1114

STATE LABORATORY OF PUBLIC HEALTH
DIVISION OF HEALTH SERVICES
N[illegible] DEPARTMENT OF HUMAN RESOURC[illegible]
P.O. BOX 28047 - 306 N. WILMINGTON ST., RALEIGH 27611

CHEMICAL ANALYSES - SOLID AND HAZARDOUS WASTE

ource: Randolph Co. H.D.
ddress: Asheboro, N.C.
Zip
ounty: Randolph
eport To: Bill Mayer
ddress: Solid Waste
Zip
elephone Number: ( ) -
ollected By:
ate Collected: Time AM PM
ocation of Sampling Point: See map

Remarks:
Sample #6 - Soil

) Extractable Metals
✓ Total Metals

	Results
Arsenic	
Barium	22
Cadmium	<0.19
Chloride	
Chromium	18.3
Color	
Copper	
Flammability	
Fluoride	
Iron	
Lead	98
Manganese	
Mercury	
Nitrate	
pH	
Selenium	
Silver	0.77

Results expressed in ppm unless otherwise indicated.

	Results
Solids, dissolved	
Solids, suspended	
Solids, total	
Solids, total volatile	
Spec. Conductivity	
Zinc	
Endrin	
Lindane	
Methoxychlor	
Toxaphene	
2,4-D	
2,4,5-TP	

te Received 11 July 80 Date Reported 29 July 80 Reported By
Laboratory Number 1114

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

CHEMICAL ANALYSES - SOLID AND HAZARDOUS WASTE

Source: Randolph Co. H.D.
Address: Asheboro, N.C.
Zip
County: Randolph
Report To: Bill Meyer
Address: Solid Waste
Zip
Telephone Number: ( ) -
Collected By:
Date Collected: Time AM PM
Location of Sampling Point: See map

Remarks:
Sample # 8 - lower section - battery casings

) Extractable Metals
) Total Metals

	Results		Results
Arsenic		Solids, dissolved	
Barium		Solids, suspended	
Cadmium		Solids, total	
Chloride		Solids, total volatile	
Chromium		Spec. Conductivity	
Color		Zinc	
Copper		Endrin	
Flammability		Lindane	
Fluoride		Methoxychlor	
Iron		Toxaphene	
Lead		2,4-D	
Manganese		2,4,5-TP	
Mercury		Bulk Density	0.28 Kg / 0.45 L
Nitrate			
pH			
Selenium			
Silver			

Results expressed in ppm unless otherwise indicated.

Date Received 11 July 80 Date Reported 18 Aug 80 Reported By

Laboratory Number 15 01115

Randolph Co. H.D. (1115)

Lead Analysis of Battery Casing Material

A) Extraction in water + extrapolation of extraction curve (25 grams of sample)

Sample	Pb, mg/Kg
1	1520
2	4960
3	2560
Mean	3000
S.D.	1760

B) Direct analysis of lead in casings (2.3 grams sample)

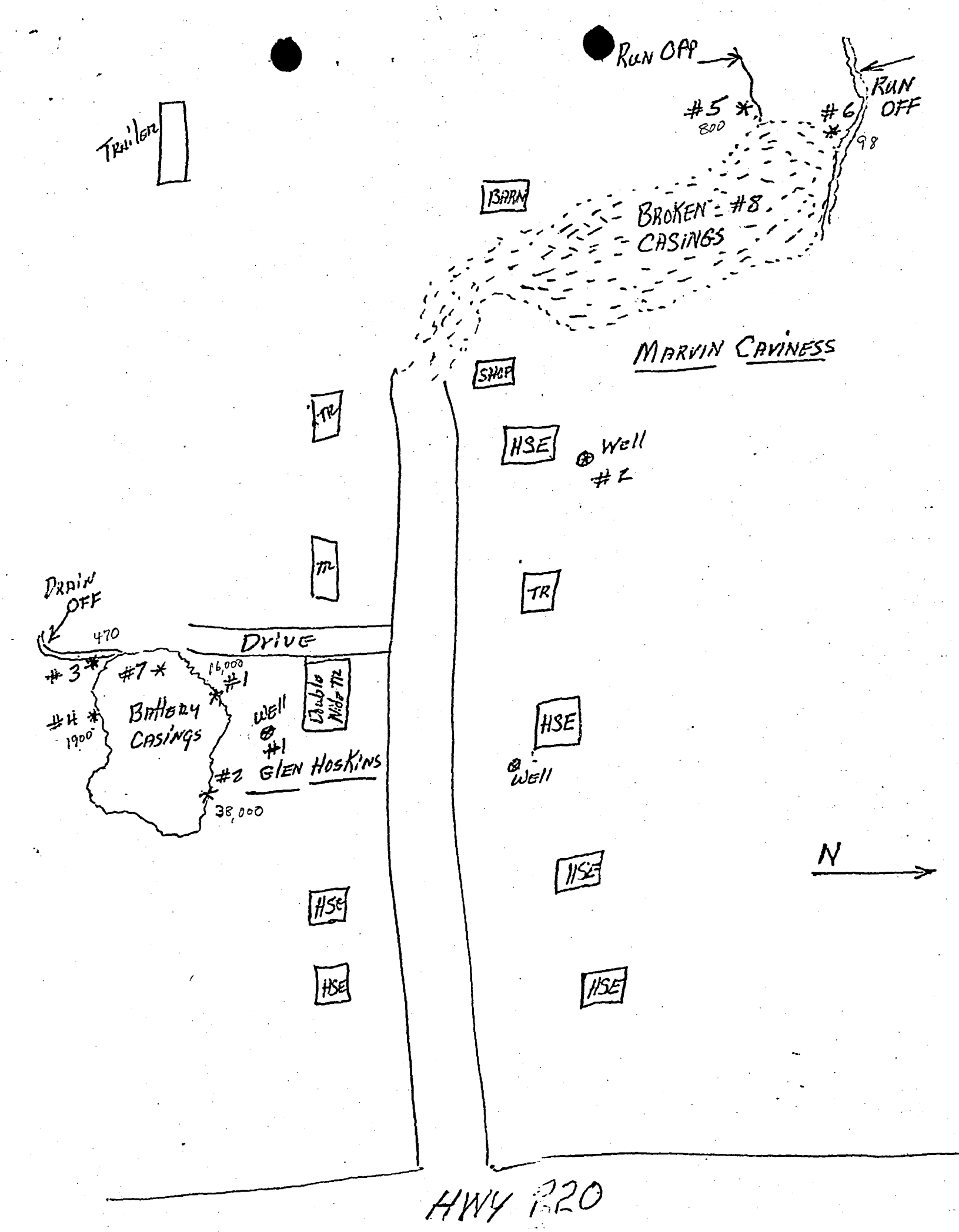
Sample	Pb, mg/Kg
1	1560
2	420
3	5760
Mean	2580
S.D.	2800

Titration of Battery Casing Material

(50 grams of sample)

5 grams of Na_2CO_3 required for one Kg of casing material

5 gms Na_2CO_3 equivalent to 4.7 gms $CaCO_3$


RUN OFF
RUN OFF
#5
800
#6
98
TRAILER
BARN
BROKEN #8
CASINGS
MARVIN CAVINESS
SHOP
TR
HSE
Well
#2
TR
TR
DRAIN OFF
470
DRIVE
#3
#7
16,000
#1
#4
1900
BATTERY
CASINGS
WELL
#1
GLEN HOSKINS
#2
38,000
Double Wide TR
HSE
WELL
N
HSE
HSE
HSE
HSE
HWY 220

#1, 2, 3, 4, 5, & 6 Soil Samples

7 & 8 Battery Casings

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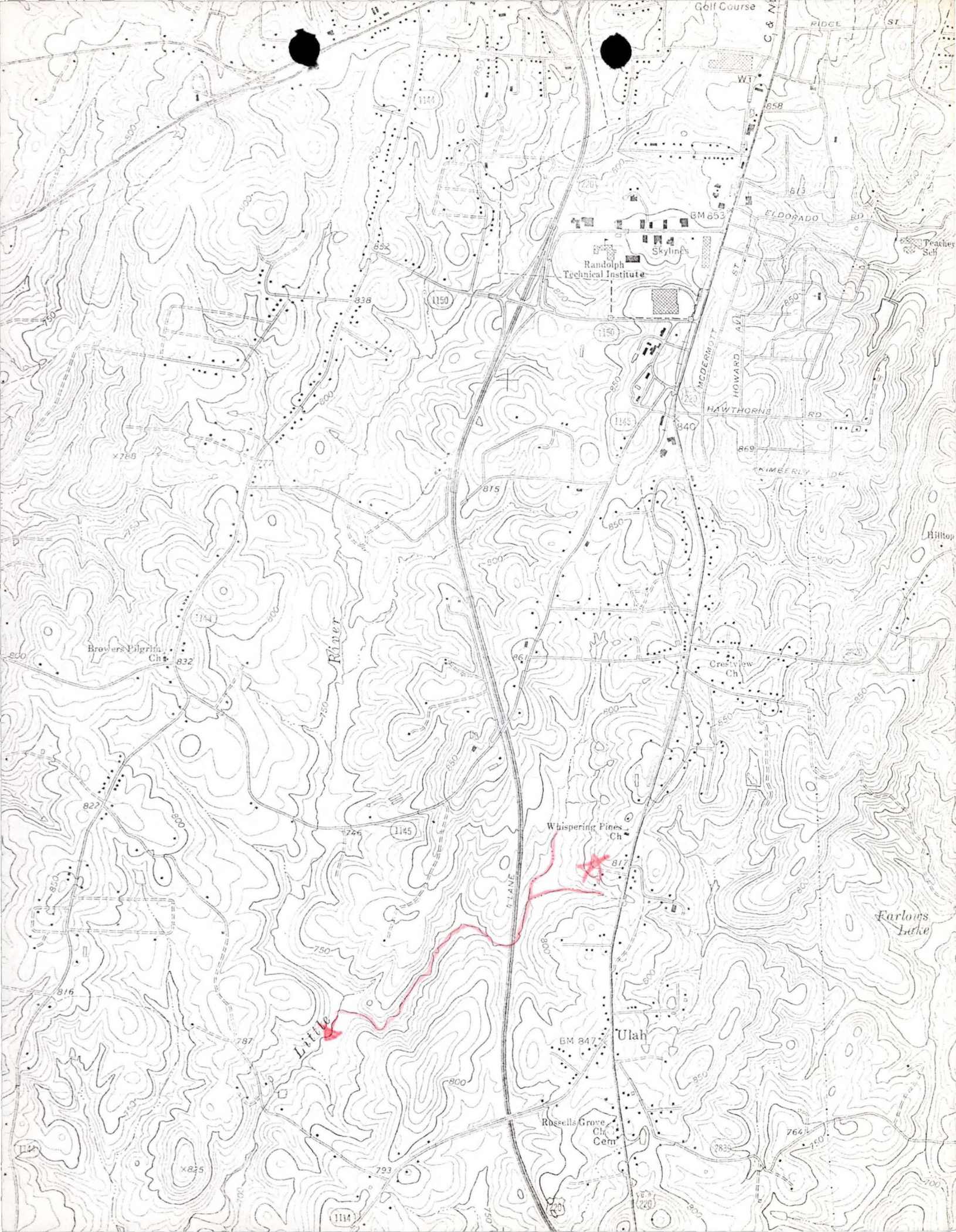
SOLID & HAZARDOUS WASTE MANAGEMENT BRANCH


Golf Course
C & N
RIDGE ST
W1
BM 853
ELDORADO RD
Skylines
Randolph Technical Institute
Teachey Sch
MCDERMOTT ST
HOWARD AV
HAWTHORNE RD
KIMBERLY DR
Hilltop
Browers Pilgrim Ch
River
Crestview Ch
Whispering Pines Ch
LANE
Farlows Lake
Little
BM 847
Ulah
Russells Grove Ch Cem