UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Environmental Response Branch
Edison, New Jersey

FACSIMILE REQUEST AND COVER SHEET

TO: Dorann Johnson	OFFICE:
FAX NUMBER:	# OF PAGES (INCLUDING COVER)
FROM: Sella Buronette	DATE: 6-25-93

RESTAGE: Apologize not getting it to you in Art Brown one of those days -

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U.S. EPA REGION IV

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V. 2-040506

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL RESPONSE BRANCH
Edison, New Jersey 08837

June 25, 1993

MEMORANDUM

SUBJECT: Air Sampling for Lead

FROM: Sella M. Burchette, Environmental Scientist SMB
Safety & Air Surveillance Section
Environmental Response Branch

TO: Dorann Johnson, OSC
EPA Region IV

Regarding our phone conversations of 6/23/93, consider the following recommendations in developing your sampling scheme.

- RAM I or Minirams may be employed to conduct realtime particulate level monitoring. There are two ways this can occur.
  1. **Total Dust Action Level.** Establish background levels for particulates prior to initiating any disruptive activity (heavy equipment movement etc.) Monitor during activities when particulates may be entrained into the air pathway. Should action levels reach 2-3 times background, work should cease and the dust suppression methods being instituted should be evaluated for effectiveness.

Based upon the numbers we discussed, the following calculations indicate it would require 10mg/m^3 of soil/dust to be entrained into the air (worst case 5500 ppm concentration ([]) lead in soil) based on percentages to reach the PEL for lead as related to worker health and safety.

X = total dust [] in air

P= % contaminant in soil

C= given PEL for compound

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I hope this information is useful. Again, should you require further assistance for a conference call regarding this matter, please do not hesitate to contact me at 908-321-6726.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

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

#1077

4WD-SISB

JAN 22 1990

Mr. John Taylor, Chief
Land Protection Branch
Georgia Department of Natural Resources
205 Butler Street, SW
Atlanta, Georgia 30334

RE: NFRAP GEORGIA SITES

Dear Mr. Taylor:

This is to inform you that the Georgia CERCLIS sites listed below have been assigned No Further Remedial Action Planned (NFRAP) designations. The reason for the designations are the low Preliminary Hazardous Ranking System (HRS) scores calculated for each of the sites.

Please be advised that the NFRAP designations are based on information currently available and conditions and policies that currently exist.

GAD003269503 Carter William Company
GAD087515417 Thompson-Hayward Chemical Company
GAD086077112 Hoover Universal Franklin Aluminum
GAD000645572 Georgia Kraft Co. - Adairsville Forest
GAD981929623 Catoosa County Lapack Site
GAD050766401 Escambia Treating Company
GAD981931017 Hazelhurst Mills Evaporation Field
GAD075869248 Douglas and Lomason Company
GAD003323185 Triangle Chemical Company
GAD080107873 Excello Corporation - Davidson Rubber Division
GAD000222091 Selig Chemical Industries
GAD981472004 Sammons Septic Tank Service
GAD093703650 Georgia-Pacific Corporation Chip-n-Saw
GAD003305307 Ford Motor Company - Atlanta Assembly Plant
GAD991274838 Champion Building Products/Champion International

It is possible that in the future our investigation of a site may be reactivated if new information or policies warrant such an action.

Should you have any questions, please contact me at (404) 347-5065.

Sincerely,

1/18/90

Mario E. Villamarzo
Georgia Project Officer
Site Assessment Section

YELLOW

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

SISB/SAS
RECEIVED
JAN 02 1990
EPA - REGION IV
ATLANTA, GA.

C-586-12-9-115

December 27, 1989

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

Date: 1-10-90
Site Disposition: NFRAP
EPA Project Manager: James P. Thomas

Subject: Screening Site Inspection, Phase I
Thompson-Hayward Chemical Company
Powder Springs, Cobb County, Georgia
EPA ID No. GAD087515417
TDD No. F4-8910-62

Dear Mr. Hanke:

FIT 4 conducted a Phase I Screening Site Inspection of Thompson-Hayward Chemical Company in Powder Springs, Cobb County, Georgia. This assessment included a review of EPA and state file material, completion of a target survey and an offsite reconnaissance of the facility and surrounding area.

Thompson-Hayward Chemical is owned by Harrison Crossfield and was formerly owned by Tesco Chemical (Refs. 1, 2). Mr. Crossfield changed the facility name to Harcros Chemical Group on October 5, 1988 (Ref. 2). The facility began operations prior to 1962 and is still operating; it is located on the corner of Florence Road and U.S. 278 (Refs. 1, 3). Thompson-Hayward (Harcros) manufactures sodium hypochlorite, and they repackage liquid chlorine for swimming pool use (Ref. 1).

Sodium hypochlorite is used as a commercial laundry and household bleach, as a sanitizer for swimming pools, and as a disinfectant for municipal water and sewage systems. Sodium hypochlorite is typically produced by the chlorination of sodium hydroxide. The liquid chlorine is mixed with the caustic in a cell, and electrolysis is employed to produce the sodium hypochlorite. Agitation of the solution in the cell is necessary to minimize local overchlorination. Prior to bottling, any suspended solids are allowed to settle or are removed by filtration (Ref. 4).

Typically, chlorine is produced by placing a saturated brine solution of potassium or sodium chloride in a diaphragm cell and electric current is introduced to the system. The diaphragm is employed to separate the chlorine and hydrogen liberated at the anode, and the caustic soda is collected at the cathode. The chlorine is discharged from the anode compartment under a slight vacuum and is dried, purified, compressed, liquidfied, stored, and shipped (Ref. 5).

Hazardous wastes generated at the facility include: off-specification raw materials, bad batches, chlorine, sodium hydroxide, hydrofluorosilicic acid, muriatic acid, sodium hypochlorite, and ethylene glycol. From before 1962, through 1980, the facility buried damaged gas cylinders on the grounds. This practice was discontinued in 1980, and the remaining buried cylinder were to be exhumed (Refs. 1, 6). It is also suspected that some of the drums of chemicals are buried under the pond on the facility (Ref. 7). The pond is lined with clay and approximately 100 gal/day of runoff water from the rail loading area enters it. This pond is not discharged and showed no evidence of overflow or leakage in 1980 (Ref. 1).

Thompson-Hayward Chemical requested withdrawal of their Part A application on June 4, 1981 (Ref. 8). The Part A was formally withdrawn on June 11, 1981, and the facility is presently classified as a non-handler of hazardous waste (Ref. 9).

The facility is located in the Piedmont hydrogeologic regime, which is typified by a thin regolith overlying folded, faulted, and fractured metamorphic and igneous crystalline bedrock of Paleozoic age (Ref. 10). The source of groundwater in the area is the unconfined crystalline rock aquifer system. Groundwater occurs within pore spaces of the regolith and within fracture systems in the bedrock (Ref. 11, p. 252). Water levels are quite variable in this aquifer. The water table is located 5 feet below land surface (Ref. 12, p. 46). The sandy clay loams of the residual soil represent the layer with the lowest hydraulic conductivity between the crystalline rock aquifer and the surface with values ranging between 1×10^{-3} to 1×10^{-5} cm/sec (Ref. 12 p. 46). The net annual precipitation is 8 inches and the 1-year, 24-hour rainfall is 3.3 inches (Refs. 13, pp. 43, 63; 14 p. 93).

Municipal water is available to all residents in the area, and all of the municipal systems use surface water (Refs. 15, 16). The municipal systems that serve the area are Cobb County and Paulding County (Refs. 15, 16). Paulding County buys all their water from Cobb County (Ref. 16). Cobb County obtains water from an intake on Lake Allatoona (Ref. 15). No potable wells were found in the vicinity of the facility (Ref. 3).

Surface water runoff from the facility travels approximately 1500 feet south and enters Powder Spring Creek. Then it flows 5 miles southeast and enters Sweetwater Creek, which continues to flow southeast beyond the end of the 15 stream-mile surface water pathway (Ref. 17). Three permitted surface water intakes are located along the pathway. Two of the intakes are industrial and one is municipal. The municipal intake belongs to the city of East Point (Ref. 18). East Point's municipal water system serves 45,000 people, and the intake is located 15 miles downstream of the facility (Ref. 19). No commercial fishing takes place on Powder Spring Creek or Sweetwater Creek, but sport fishing does occur (Ref. 20). The ranges of some endangered or threatened species are included in the state of Georgia, although there are no federally designated critical habitats in Cobb County (Ref. 21). There are wetlands 4 miles west of the facility (Ref. 17).

A site reconnaissance was conducted on November 3, 1989. The facility is located in an industrial area. The entire facility is fenced and the nearest residence is located one-half mile to the west (Ref. 3). The population within the 4-mile radius of the facility is 15,270 (Ref. 22).

Based on the results of this evaluation, the low number of potentially affected surface water and groundwater users, FIT 4 recommends that no further remedial action be planned for Thompson-Hayward chemical. If you have any comments or questions about this Phase I SSI, please contact me at NUS Corporation.

Very truly yours,

Jelaine Tinsley

Jelaine Tinsley
Project Manager

Approved:

Greg Schank

JT/dwf

Enclosures

cc: Mario Villamarzo

REFERENCES

1. Action Report on Thompson-Hayward Chemical on June 2, 1980; filed by Jennifer Kaduck, Georgia Environmental Protection Division.

2. Beverly Burke, Harcros Chemical Group, telephone conversation with Jelaine Tinsley, NUS Corporation, November 9, 1989 Subject: Name change of Thompson-Hayward Chemical.

3. NUS Corporation Field Logbook No. F4-1805 for Thompson-Hayward Chemical, TDD No. F4-8910-62. Documentation of facility reconnaissance, November 3, 1989.

4. J. A. Wojtowicz, "Sodium Hypochlorite," Kirk-Othmer Encyclopedia of Chemical Technology, 3rd ed., Vol. 5 (New York: John Wiley & Sons, 1983).

5. J.J. Leddy et. al., "Chlorine," Kirk-Othmer Encyclopedia of Chemical Technology, 3rd. ed., Vol.5 (New York: John Wiley & Sons, 1983).

6. EPA Potential Hazardous Waste Site log (EPA form T2070-1) for Thompson-Hayward Chemical Company, Powder Springs, Georgia. Filed by R. Ferrazzuolo, EPA Region IV, June 23, 1980.

7. Richard Stonebraker, Deputy, Environmental Emergency Branch, Atlanta, Georgia, letter to Jim Scarbrough, Chief, Enforcement Division, February 25, 1980. Subject: Industrial waste site.

8. Harold Vandiver, Branch Manager, Thompson-Hayward Chemical Company, Powder Springs, Georgia, letter to Daniel Thoman, Environmental Engineer, Consolidated Permits Branch, Atlanta, Georgia, June 4, 1981. Subject: Request for withdrawal of Part A application.

9. Daniel Thoman, Environmental Engineer, Consolidated Permits Branch, Atlanta, Georgia, letter to Harold Vandiver, Branch Manager, Thompson-Hayward Chemical Company, Powder Springs, Georgia, June 11, 1989. Subject: Part A application formally withdrawn.

10. Keith I. McConnell and Charlotte E. Abrams, Geology of the Greater Atlanta Region, Bulletin 96 (Atlanta, Georgia: Georgia Geologic Survey, 1984).

11. Linder Aller, et al., DRASTIC: A Standardized System for Evaluating Ground Water Pollution Potential Using Hydrogeologic Settlings, EPA-60012-87-035 (Ada, Oklahoma: EPA, April 1987).

12. U.S. Department of Agriculture, Soil Conservation Service, Soil Survey of Cobb County, Georgia (December 1973).

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

14. U.S. Department of Commerce, Rainfall Frequency Atlas of the United States, Technical Paper Number 40 (Washington, D.C.: GPO, 1961).

15. Mr. Walter Koscica, Cobb County Water Department, telephone conversation with Jelaine Tinsley, NUS Corporation, November 9, 1989. Subject: Water source and use in Cobb County.

16. Ms. Cindy Ralston, Paulding County Water Department, telephone conversation with Jelaine Tinsley, NUS Corporation, November 3, 1989. Subject: Water source and use in Paulding County.

17. U.S.Geological Survey 7.5 minute series Topographic Quadrangle Maps of Georgia: Nebo 1973 (Photorevised 1982), Lost Mountain 1954 (PR 1982), Dallas 1973, Austell 1954 (PR 1982), Mableton 1954 (PR 1982), Ben Hill 1954 (PR 1982), scale 1:24,000.

18. Georgia Department of Natural Resources Environmental Protection Division, Water Availability and use Chattahoochee River Basin (1984).

19. Mr. Robert Hall East Point Water Department, telephone conversation with Jelaine Tinsley, NUS Corporation, November 16, 1989. Subject: Water source and use in East Point.

20. Mr. Alfred Mauldin, Georgia Department of Natural Resources, telephone conversation with Jelaine Tinsley, NUS Corporation, November 16, 1989. Subject: Fishing in Powder Spring Creek and Sweet Water Creek.

21. U.S. Fish and Wildlife Service, Endangered and Threatened Species of the Southeastern United States (Atlanta, Georgia, 1988), p. 45.

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

HAZARD RANKING SYSTEM SCORING SUMMARY

FOR

THOMPSON HAYWARD CEMICAL (HARCROS)
EPA SITE NUMBER GAD087515417
POWDER SPRINGS
COBB COUNTY, GA
EPA REGION: 4

SCORE STATUS: IN PREPARATION

SCORED BY JELAINE TINSLEY
OF NUS CORPORATION
ON 12/08/89

DATE OF THIS REPORT: 12/11/89
DATE OF LAST MODIFICATION: 12/11/89

GROUND WATER ROUTE SCORE	:	4.69
SURFACE WATER ROUTE SCORE	:	10.62
AIR ROUTE SCORE	:	0.00
MIGRATION SCORE	:	6.71

HRS GROUND WATER ROUTE SCORE

CATEGORY/FACTOR	RAW DATA	ASN. VALUE	SCORE
1. OBSERVED RELEASE	NO	0	0
2. ROUTE CHARACTERISTICS			
DEPTH TO WATER TABLE	5 FEET		
DEPTH TO BOTTOM OF WASTE	6 FEET		
DEPTH TO AQUIFER OF CONCERN	-1 FEET	3	6
PRECIPITATION	48.0 INCHES		
EVAPORATION	40.0 INCHES		
NET PRECIPITATION	8.0 INCHES	2	2
PERMEABILITY	1.0X10-4 CM/SEC	2	2
PHYSICAL STATE		3	3
TOTAL ROUTE CHARACTERISTICS SCORE:			13
3. CONTAINMENT		3	3
4. WASTE CHARACTERISTICS			
TOXICITY/PERSISTENCE:TRICHLOROETHANE,NOS			15
WASTE QUANTITY CUBIC YDS	2501		
DRUMS	0		
GALLONS	0		
TONS	0		
TOTAL	2501 CU. YDS	8	8
TOTAL WASTE CHARACTERISTICS SCORE:			23
5. TARGETS			
GROUND WATER USE		1	3
DISTANCE TO NEAREST WELL	> 3 MILES		
AND	MATRIX VALUE	0	0
TOTAL POPULATION SERVED	0 PERSONS		
NUMBER OF HOUSES	0		
NUMBER OF PERSONS	0		
NUMBER OF CONNECTIONS	0		
NUMBER OF IRRIGATED ACRES	0		
TOTAL TARGETS SCORE:			3

GROUND WATER ROUTE SCORE (Sgw) = 4.69

HRS SURFACE WATER ROUTE SCORE

CATEGORY/FACTOR	RAW DATA	ASN. VALUE	SCORE
1. OBSERVED RELEASE	NO	0	0
2. ROUTE CHARACTERISTICS			
SITE LOCATED IN SURFACE WATER	NO		
SITE WITHIN CLOSED BASIN	NO		
FACILITY SLOPE	2.0 %		
INTERVENING SLOPE	4.0 %	1	1
24-HOUR RAINFALL	3.3 INCHES	3	3
DISTANCE TO DOWN-SLOPE WATER	1500 FEET	2	4
PHYSICAL STATE	3		3
TOTAL ROUTE CHARACTERISTICS SCORE:			11
3. CONTAINMENT	3		3
4. WASTE CHARACTERISTICS			
TOXICITY/PERSISTENCE:TRICHLOROETHANE,NOS			15
WASTE QUANTITY CUBIC YDS	2501		
DRUMS	0		
GALLONS	0		
TONS	0		
TOTAL	2501 CU. YDS	8	8
TOTAL WASTE CHARACTERISTICS SCORE:			23
5. TARGETS			
SURFACE WATER USE		3	9
DISTANCE TO SENSITIVE ENVIRONMENTS		0	0
COASTAL WETLANDS	NONE		
FRESH-WATER WETLANDS	NONE		
CRITICAL HABITAT	NONE		
DISTANCE TO STATIC WATER	> 3 MILES		
DISTANCE TO WATER SUPPLY INTAKE	> 3 MILES		
AND	MATRIX VALUE	0	0
TOTAL POPULATION SERVED	0		
NUMBER OF HOUSES	0		
NUMBER OF PERSONS	0		
NUMBER OF CONNECTIONS	0		
NUMBER OF IRRIGATED ACRES	0		
TOTAL TARGETS SCORE:			9

SURFACE WATER ROUTE SCORE (Ssw) = 10.62

HRS AIR ROUTE SCORE

CATEGORY/FACTOR	RAW DATA	ASN. VALUE	SCORE
1. OBSERVED RELEASE	NO	0	0

2. WASTE CHARACTERISTICS

REACTIVITY: MATRIX VALUE

INCOMPATIBILITY

TOXICITY

WASTE QUANTITY CUBIC YARDS
DRUMS
GALLONS
TONS

TOTAL

TOTAL WASTE CHARACTERISTICS SCORE: N/A

3. TARGETS

POPULATION WITHIN 4-MILE RADIUS
0 to 0.25 mile
0 to 0.50 mile
0 to 1.0 mile
0 to 4.0 miles

DISTANCE TO SENSITIVE ENVIRONMENTS
COASTAL WETLANDS
FRESH-WATER WETLANDS
CRITICAL HABITAT

DISTANCE TO LAND USES
COMMERCIAL/INDUSTRIAL
PARK/FOREST/RESIDENTIAL
AGRICULTURAL LAND
PRIME FARMLAND
HISTORIC SITE WITHIN VIEW?

TOTAL TARGETS SCORE: N/A

AIR ROUTE SCORE (Sa) = 0.00

HAZARD RANKING SYSTEM SCORING CALCULATIONS
FOR
SITE: THOMPSON HAYWARD CEMICAL (HARCROS)
AS OF 12/11/89

GROUND WATER ROUTE SCORE

ROUTE CHARACTERISTICS		13
CONTAINMENT	X	3
WASTE CHARACTERISTICS	X	23
TARGETS	X	9

= 2691 /57,330 X 100 = 4.69 = S_{gw}

SURFACE WATER ROUTE SCORE

ROUTE CHARACTERISTICS		11
CONTAINMENT	X	3
WASTE CHARACTERISTICS	X	23
TARGETS	X	9

= 6831 /64,350 X 100 = 10.62 = S_{sw}

AIR ROUTE SCORE

OBSERVED RELEASE 0 /35,100 X 100 = 0.00 = S_{air}

SUMMARY OF MIGRATION SCORE CALCULATIONS

	S	S^2
GROUND WATER ROUTE SCORE (S_{gw})	4.69	22.00
SURFACE WATER ROUTE SCORE (S_{sw})	10.62	112.78
AIR ROUTE SCORE (S_{air})	0.00	0.00
$S^2_{gw} + S^2_{sw} + S^2_{air}$		134.78
$\sqrt{(S^2_{gw} + S^2_{sw} + S^2_{air})}$		11.61
$S_M = \sqrt{(S^2_{gw} + S^2_{sw} + S^2_{air})}/1.73$		6.71

RECONNAISSANCE CHECKLIST FOR HRS2 CONCERNS

Instructions: Obtain as much "up front" information as possible prior to conducting fieldwork. Complete the form in as much detail as you can, providing attachments as necessary. Cite the source for all information obtained.

Site Name: Thompson-Hayward Chemical (Harcros)
City, County, State: Powder Springs, Cobb Co., Georgia
EPA ID No.: GAD087515417
Person responsible for form: Jelaine Tinsley
Date: November 3, 1989

Air Pathway

Describe any potential air emission sources onsite: None

Identify any sensitive environments within 4 miles: Yes, wetlands 4 miles west of facility

Identify the maximally exposed individual (nearest residence or regularly occupied building - workers do count): Workers

Groundwater Pathway

Identify any areas of karst terrain: None

Identify additional population due to consideration of wells completed in overlying aquifers to the AOC: None

Do significant targets exist between 3 and 4 miles from the site? No

Is the AOC a sole source aquifer according to Safe Drinking Water Act? (i.e. is the site located in Dade, Broward, Volusia, Putnam, or Flagler County, Florida): No

Surface Water Pathway

Are there intakes located on the extended 15-mile migration pathway? Yes, two industrial about 3 miles downstream and one municipal 15 miles downstream of the facility.

Are there recreational areas, sensitive environments, or human food chain targets (fisheries) along the extended pathway? Yes, recreational fishing on Powder Springs Creek.

Onsite Exposure Pathway

Is there waste or contaminated soil onsite at 2 feet below land surface or higher? Yes, buried chlorine cyliners.

Is the site accessible to non-employees (workers do not count)? No, the facility is completely fenced.

Are there residences, schools, or day care centers onsite or in close proximity? Yes, residences 1/2 mile from the facility.

Are there barriers to travel (e.g., a river) within one mile? No

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

C-586-5-9-163

received
JUN 01 1989
SISB/SAS

May 30, 1989

COMPLETE
ENG.

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

Subject: Draft Screening Site Inspection Report (Phase II)
Tifton Aluminum Company
Tifton, Tift County, Georgia
Revision 0
TDD No. F4-8804-34

Dear Mr. Hanke:

Enclosed please find one (1) copy of the Draft Screening Site Inspection Report, Phase II, for Tifton Aluminum Company, Tifton, Georgia. If you have any questions or comments, please do not hesitate to contact me.

Very truly yours,

Eric Corbin
Project Manager

Approved:

EC/kw

Enclosure (1)

D-586-3-9-39

DRAFT REPORT
SCREENING SITE INSPECTION, PHASE II
TIFTON ALUMINUM COMPANY
TIFTON, TIFT COUNTY, GEORGIA
EPA ID #GAD003483607

Prepared Under
TDD No. F4-8804-34
CONTRACT NO. 68-01-7346

Revision 0

FOR THE

WASTE MANAGEMENT DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

May 30, 1989

NUS CORPORATION
SUPERFUND DIVISION

Prepared By	Reviewed By	Approved By
Eric Corbin Project Manager	Greg Schank Assistant Regional Project Manager	Murray Warner, P.E. Regional Project Manager

NOTICE

The information in this document has been funded wholly by the United States Environmental Protection Agency (EPA) under Contract Number 68-01-7346 and is considered proprietary to the EPA.

This information is not to be released to third parties without the expressed or written consent of the EPA.

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EXECUTIVE SUMMARY

Tifton Aluminum Company is located approximately 2.5 miles southeast of Tifton, Tift County, Georgia in the Tifton Industrial Park adjacent to Southwell Boulevard. The Tifton facility has operated under the same ownership since 1966 and has been primarily engaged in the manufacturing and sales of aluminum extrusions. Secondary operations have included extrusion die manufacturing; ingot casting by the direct chill method; and anodizing, painting and fabrication of aluminum extrusions. Wastes produced through these operations include wastewater treatment sludges, spent solvents, and waste paints. The principal concern at the facility is a wastewater treatment system that allows suspended solids to settle out as aluminum hydroxide sludge, which is disposed of in six unlined surface impoundments.

The hydrogeologic setting in the vicinity of the Tifton Aluminum facility is within the Coastal Plain region of southwestern Georgia in an area known as the Tifton Upland. The Coastal Plain region is underlain by alternating beds of sand, clay, silt, limestone, and dolomite, which thicken progressively toward the southeast. In Tift County, these sediments form two distinct aquifers, a surficial aquifer and the deep Principal Artesian aquifer, separated by a thick confining layer.

GW Concerns

7 PUBLIC WELLS + 349 PRIVATE

The city of Tifton Water Department operates six wells within a 4-mile radius of the facility that provide potable water to approximately 7000 connections. One of the Tift County Water Department's five wells is located within a 4-mile radius of the facility and provides service to approximately 596 connections. In addition to the city and county systems, approximately 349 private wells have been identified within a 4-mile site radius. While most of the municipal and private wells are completed in the deeper, confined Principal Artesian aquifer, some private wells utilize groundwater obtained from the surficial aquifer. In addition, the surface water pathway is also of concern. Numerous wetlands exist along the surface water pathway. Also, beaver and raccoon are trapped on Gum Creek and the New River is often fished.

SW CONCERNS

Seven environmental samples were collected during the field investigation. Chemical analyses of groundwater and sediment samples collected during the field investigation, revealed the existence of heavy metals on the facility grounds. In particular, elevated levels of aluminum, chromium, copper, and nickel were detected in samples collected from or near onsite disposal areas. Of these, aluminum and chromium are the only contaminants detected that are also known components of

wastes deposited at the site. Although other constituents were detected at elevated concentrations, their presence is difficult to attribute to the site.

The results of the field investigation indicate the presence of significant contamination that is attributable to the facility. However, due to the relatively low permeabilities of the unconsolidated surface soils, it is unlikely that contamination will migrate into the surficial aquifer, and the heavily used Principal Artesian aquifer is protected by a clay confining layer. In addition, there are very few people, sensitive environments or food chain concerns associated with the surface water or air pathways that would be affected if contamination were to migrate from the facility. Also, the potential for onsite exposure is low. Based on these conclusions, it is recommended that no further remedial action be planned for Tifton Aluminum Company.

1.0 INTRODUCTION

The NUS Corporation Region 4 Field Investigation Team (FIT) was tasked by the U.S. Environmental Protection Agency (EPA), Waste Management Division to conduct a Screening Site Inspection (SSI) at Tifton Aluminum Company in Tifton, Tift County, Georgia. The investigation was performed under the authority of the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA). The task was performed to satisfy the requirements stated in Technical Directive Document (TDD) number F4-8804-34. The field investigation was conducted during the period from January 9 - 10, 1989.

1.1 OBJECTIVE

The objectives of this investigation were to determine the nature of contaminants present at the site and to determine if a release of these substances has occurred or may occur. Further, this investigation sought to determine the possible pathways by which contamination could migrate from the site and the populations and environments they would potentially affect. Through these objectives, a recommendation was made regarding future activities at the site.

1.2 SCOPE OF WORK

The objectives were achieved through the completion of a number of specific tasks. These activities were to:

- obtain and review relevant background materials;
- obtain information on local water systems;
- evaluate potentially affected populations and environments associated with the groundwater, surface water, air and onsite exposure pathways;
- conduct a survey of private wells;
- develop a site sketch drawn to scale;

- collect one surface soil sample, four sediment samples, and two groundwater samples;
- incorporate obtainable information into the site investigation form.

2.0 SITE CHARACTERIZATION

2.1 SITE BACKGROUND AND HISTORY

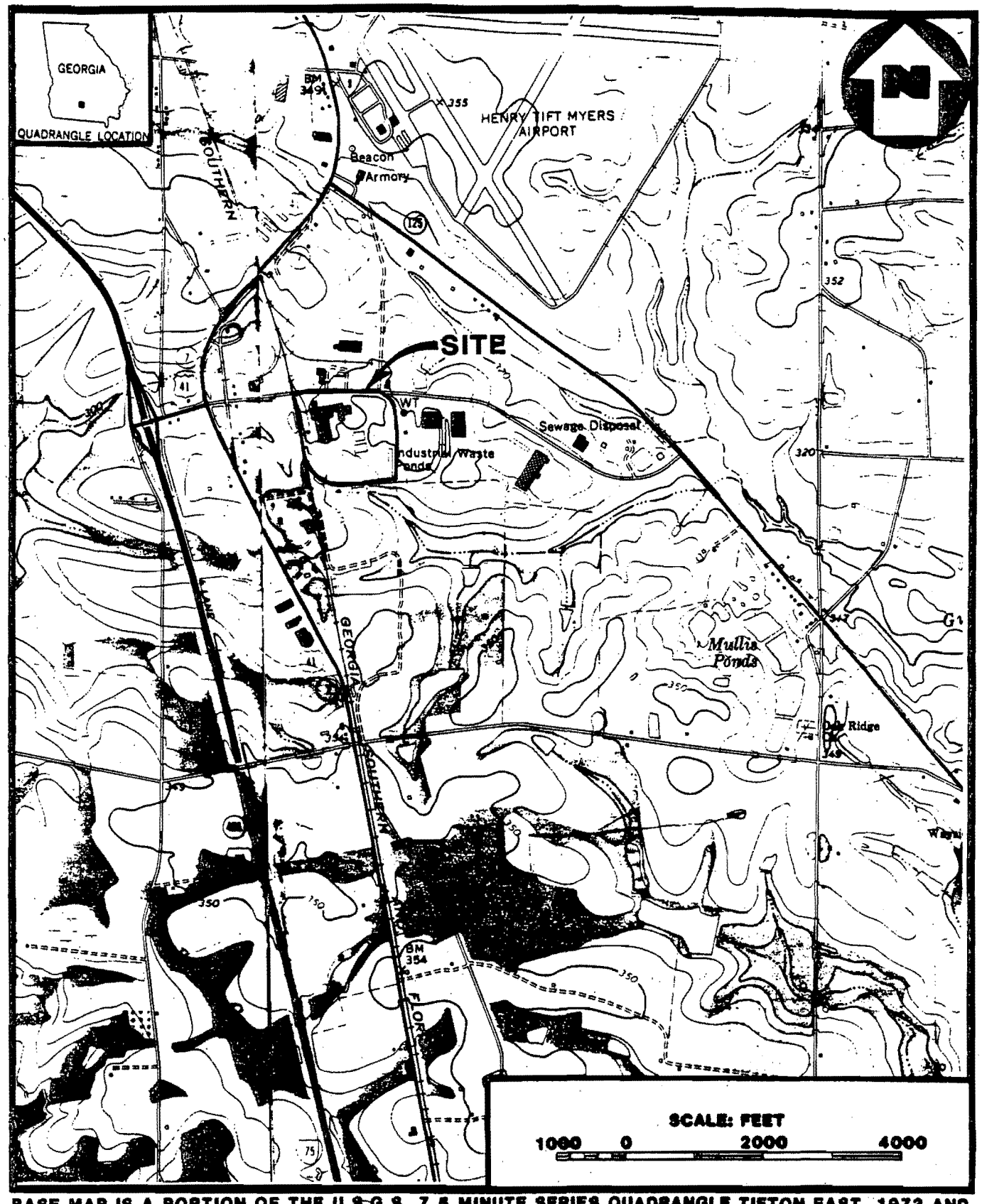
Tifton Aluminum Company is situated on a 37.75-acre parcel of land owned by the Aluminum Company of America (ALCOA) that has been operated by Tifton Aluminum Company, Inc. since 1966 (Refs. 1, 2). The currently active facility is situated in the Tifton Industrial Park and occupies the tract of property on the south side of Southwell Boulevard (Refs. 3, 4; Figure 1). Tifton Aluminum is primarily engaged in the manufacturing and sales of aluminum extrusions. Secondary operations at the site include extrusion die manufacturing; ingot casting; and anodizing, painting, and fabrication of aluminum extrusions (Ref. 2). Details regarding these secondary operations are not available. It is only known that aluminum anodizing has occurred since 1969 and painting since 1974 (Ref. 5).

In August of 1980, Tifton Aluminum filed an initial Notification of Hazardous Waste Activity form with the EPA in response to the Resource Conservation and Recovery Act (RCRA), and in November 1980, a RCRA Part A permit application was filed (Refs. 6, 7). The Georgia Department of Natural Resources, Environmental Protection Division (DNR-EPD), inspected the site in July 1981 and found that some waste disposal information in the Part A application was incorrect (Ref. 8). As a result, a notice of violation was issued in February 1982 (Ref. 9).

Subsequently, a corrected RCRA form and a revised Part A application were filed in June 1982. Waste activities listed were: spent solvent drum storage; wastewater treatment sludge storage, treatment and disposal in surface impoundments; and dichromate drum storage (Refs. 10, 11).

In 1983, on request of Tifton Aluminum, DNR-EPD withdrew the facility's permit application and changed its status to generator (Ref. 12). The wastewater treatment sludge produced as a result of the anodizing and paint pretreatment processes contained trivalent chromium (Refs. 5, 8). Spent solvents are stored in drums until removed and reclaimed by Ramsey Chemical Company of Valdosta, Georgia. Wastes from the paint process line are also stored in drums and removed by Ramsey Chemical for disposal (Refs. 2, 8).

A letter from Tifton Aluminum to DNR-EPD stated that, although the presence of chromium caused the sludge to be classified as hazardous, Tifton Aluminum had been granted an exclusion from regulation for this sludge on June 20, 1983, and was attempting to obtain a permanent delisting of



BASE MAP IS A PORTION OF THE U.S.G.S. 7.5 MINUTE SERIES QUADRANGLE TIFTON EAST, 1973 AND TIFTON WEST, 1973.

SITE LOCATION MAP
TIFTON ALUMINUM COMPANY, INC.
TIFTON, GEORGIA

FIGURE 1

NUS CORPORATION

the sludge in the onsite impoundments (Ref. 5). DNR-EPD confirms that Tifton Aluminum was granted a delisting by the EPA. The state, however, has the authority to require stricter compliance and has been reviewing the situation; it is possible that the delisting could be effectively negated by the state (Ref. 13).

2.2 SITE DESCRIPTION

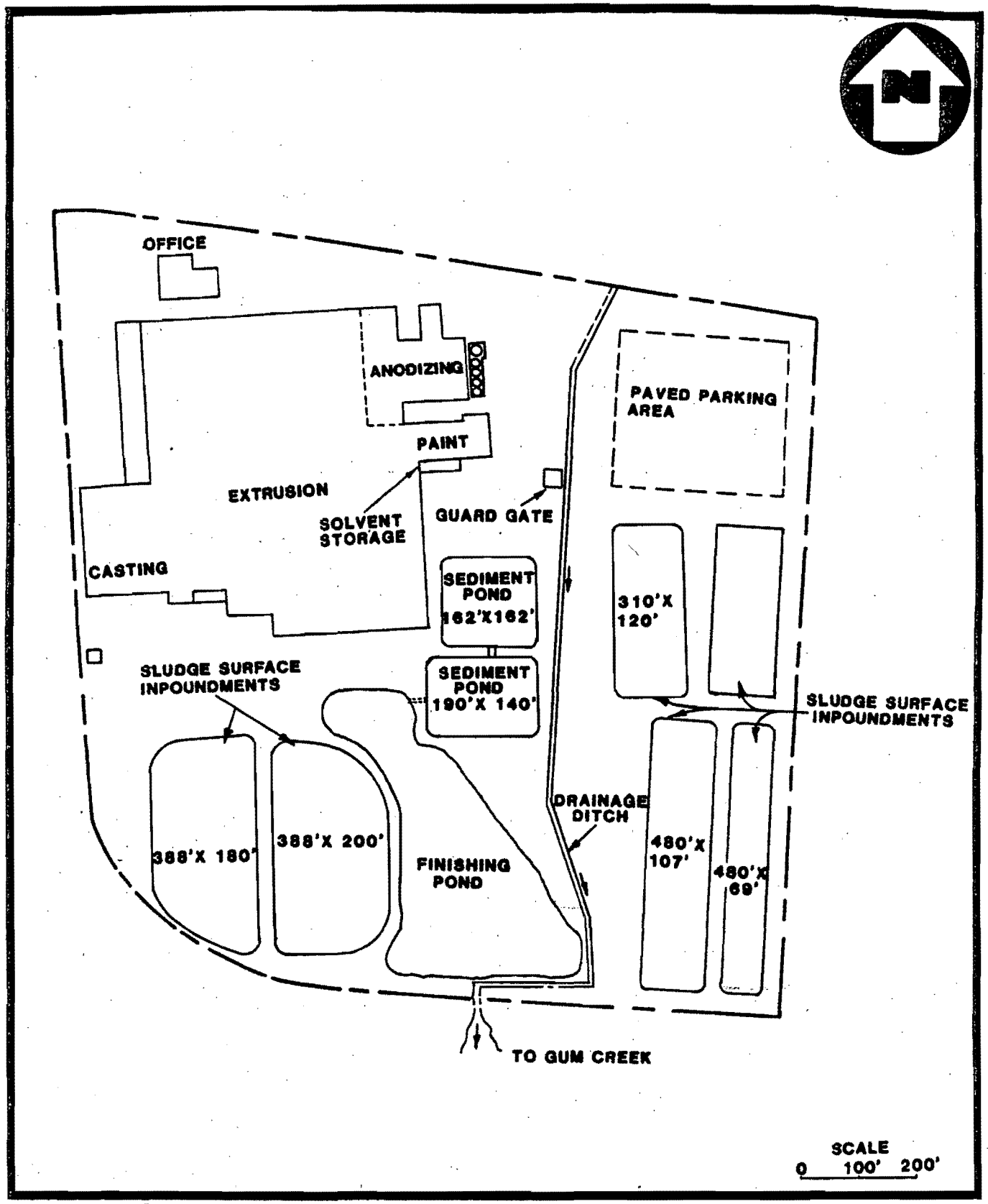
2.2.1 Site Features

Tifton Aluminum Company is a currently active, industrial facility, which is located in the Tifton County Industrial Park. Tifton Aluminum occupies the tract of property on the south side of Southwell Boulevard between the Georgia Southern and Florida railroad tracks on the west and Magnolia Industrial Boulevard on the east (Refs. 1, 3; Figure 1). The topography of the site tends to slope gently to the south and USGS topographic mapping of the site indicates that an unnamed intermittent tributary drains the site (Figure 1). The site is 37.75 acres in size and contains a small office building, a large main manufacturing facility, six surface sludge impoundments, and a wastewater treatment system comprised of two sediment ponds and one finishing pond (Ref. 1, Figure 2). An onsite drainage ditch originates at the facility's northern property boundary and extends to the facility's southern boundary where it enters an unnamed tributary of Gum Creek. The office and manufacturing facilities are located in the northwest portion of the property and the lagoon systems are situated around the facility's eastern and western property boundaries (Figure 2).

The Tifton Aluminum Company facility is not easily accessible. A six-foot, chain-link fence topped with barbed wire encompasses the property (Figure 2). Access to the site is only possible through the main office or through a guard gate in the northeast portion of the property (Ref. 3).

2.2.2 Waste Characteristics

The facility is primarily engaged in the manufacturing and sales of aluminum extrusions. Secondary operations conducted include extrusion die manufacturing; ingot casting by the direct chill method; and anodizing; painting and fabrication of aluminum extrusions (Refs. 2, 7). Wastes produced through these operations include wastewater treatment sludge, spent solvents, and paint wastes (Refs. 2, 5, 8). It is known that the spent solvents contain methyl ethyl ketone and that the sludge contains metals (Ref. 2).



SITE LAYOUT MAP
TIFTON ALUMINUM COMPANY
TIFTON, TIFT COUNTY, GEORGIA

FIGURE 2

NUS CORPORATION

Both the anodizing and paint pretreatment processes produce wastewater. Since the paint pretreatment wastewater contains hexavalent chromium, it undergoes a dichromate reduction process in a treatment tank using sulfuric acid and sodium bisulfide. Afterward, this treated wastewater is combined with the anodizing wastewater and passes through the plant's wastewater treatment system along with any process cooling water (Refs. 5, 8).

The wastewater treatment system consists of two sediment (settling) ponds and one finishing pond, which drains to an unnamed tributary of Gum Creek (Refs. 2, 3, 8, Figure 2). This discharge is regulated under an NPDES permit, #GA0000124. Outflow from the wastewater lagoon averages one million gallons per day (Ref. 14). The onsite drainage ditch primarily serves to drain areas upgradient of the facility and has never been known to have received waste (Ref. 3; Figure 2).

In the sediment ponds, suspended solids settle out as aluminum hydroxide sludge, which is dewatered and disposed of in six surface impoundments (Refs. 2, 5, 8). "This sludge is known to contain metals" (Ref. 2). During the field investigation, the impoundments were dry, gray-white in color and virtually devoid of vegetation (Ref. 3). All lagoons and impoundments are known to be unlined (Ref. 2). The surface impoundments have a design capacity of 27,530,828 gallons (Ref. 7). Available information indicates that as much as 47,689 tons of wastewater treatment sludge may have been disposed of in the impoundments each year (Refs. 7, 11). 47,689 T/yr OF WWT SLUDGE

In addition, wastes from the paint process line and spent solvents containing methyl ethyl ketone and other cleaning agents are also produced (Ref. 2). Spent solvents and wastes from the paint process line are stored in drums until removed and reclaimed by Ramsey Chemical Company of Valdosta, Georgia (Ref. 2). Drum storage capacity is listed as 2530 gallons (Ref. 7). According to available information there have been no onsite spills (Ref. 2).

3.0 REGIONAL POPULATIONS AND ENVIRONMENTS

3.1 POPULATION AND LAND USE

3.1.1 Demography

The local area surrounding Tifton Aluminum is primarily industrial due to the facility being situated in the Tifton Industrial Park (Ref. 4). Additionally, large, undeveloped tracts of property exist near the facility, which have the potential for future industrial development. However, residential neighborhoods do exist approximately 1,000 feet due west of the facility along Hobby Road. The facility is situated approximately 2.5 miles southeast of downtown Tifton and the 4-mile radius around the facility encompasses almost all of the city of Tifton (Appendix A). The facility employs some 500 people (Ref. 4). A house count performed on a USGS topographic map indicates that approximately 50 homes exist within a 1-mile radius of the facility. No schools, day-care centers, or sensitive environments have been identified within 1 mile of the site (Appendix A).

3.1.2 Land Use

Land use in the 4-mile site radius consists of industrial, institutional, commercial, residential, agricultural, and recreational areas. Industrial operations in Tifton and in the Tifton Industrial Park include Bold Corporation, Queen Carpet Corporation, Union Camp Corporation, Tifton Textiles, Inc., and many others (Ref. 4). Institutional and commercial establishments can be found in the town of Tifton.

Residential areas can be found as close as 1,000 feet west of the facility (Appendix A). The nearest agricultural area is a cultivated field approximately 1,500 feet west of the site (Figure 1). An athletic field and Fulwood Park are recreational areas that are located near downtown Tifton (Appendix A). The only sensitive environments identified in the Tifton area are freshwater wetlands (Ref. 15). The nearest wetland is on Gum Creek approximately 2.1 stream miles from the site (Appendix A).

3.2 HYDROLOGY

3.2.1 Climatology

The average annual rainfall in the Tift County region is approximately 47 inches per year. Mean annual lake evaporation is approximately 45 inches per year. Net rainfall is, therefore, 2 inches per year. In July, the site area receives its highest normal total precipitation (approximately 6 inches). The site area receives its least precipitation in October and November (2.5 inches each month) (Ref. 16).

3.2.2 Overland Drainage

Surface water runoff, which may potentially contain contaminants from the facility grounds, would be directed principally to the south via the onsite drainage ditch or the wastewater treatment system (Figure 2). Both converge and enter an unnamed tributary of Gum Creek at the facility's southern property boundary. This tributary flows southeast and enters Gum Creek approximately 1.5 miles downstream (Figure 2, Appendix A).

3.2.3 Potentially Affected Water Bodies

Overland drainage discharges into an intermittent tributary of Gum Creek. This tributary flows southeast and becomes a part of Gum Creek approximately 1.5 miles downstream. Gum Creek continues in a southeasterly course for approximately 4 miles and converges with the New River. The New River flows south and forms the boundary of the Cook County/Berrien County line (Appendix A).

There are no surface water intakes in the vicinity or downstream of the site (Ref. 17). However, numerous wetlands exist on Gum Creek and the New River (Appendix A). In addition, trapping of beaver and raccoon is known to occur on Gum Creek in the vicinity of the Parker Road Crossing, approximately 3.4 stream miles from the site boundary. The area where State Route 125 crosses the New River just over the Berrien County line, approximately 6.8 miles from the site boundary, is a popular fishing spot (Ref. 15). No critical habitats have been identified in this study area.

3.3 GROUNDWATER

3.3.1 Hydrogeology

The Tifton Aluminum Company is located within the Coastal Plain Physiographic Province of southwestern Georgia in an area known as the Tifton Upland (Ref. 18, p. 278). This area is characterized by low, rolling hills and is dissected by numerous marshy streams (Appendix A).

The Coastal Plain Province is underlain by alternating beds of sand, clay, silt, limestone, and dolomite which thicken progressively toward the southeast (Ref. 18, p. 251). In Tifton the sedimentary deposits range in age from post-Miocene to Eocene and include, in descending order, undifferentiated post-Miocene alluvial and marine sediments, the Miocene aged Hawthorn Group, the Suwanee Limestone of Oligocene age, and the Eocene aged Ocala and Claiborne groups (Ref. 19). In Tift County, these sediments form two distinct aquifers, a surficial aquifer and the deep Principal Artesian aquifer, separated by a thick confining layer.

The surficial aquifer is an unconfined, water table aquifer composed of the undifferentiated post-Miocene sediments, and sand lenses within the upper Hawthorn Group (Ref. 18 , p. 279). The post-Miocene sediments are thin in this area and are usually less than 50 feet thick. Water in this aquifer is encountered as shallow as 10 feet below land surface and may be obtained from sands in the Hawthorn Group down to a maximum depth of about 100 feet in the site area (Ref. 20). Recharge to this aquifer occurs from rainfall percolating down through the permeable surface sediments. At the Tifton Aluminum site the surficial aquifer is overlain by a dense clay material (Ref. 3, pp. 20, 21). Many private wells in Tift County utilize the surficial aquifer.

The lower portions of the Hawthorn Group function as a confining layer for the deeper Principal Artesian aquifer (Ref. 21, p. A8). The Hawthorn consists of pale-to-dark-green, phosphatic, sandy clay; phosphatic sand; and phosphatic, sandy limestone (Ref. 18, p. 272). The Hawthorn is at least 100 feet thick in Tift County, and in the site vicinity it appears to be 250 feet thick (Ref. 20).

The Principal Artesian aquifer (also referred to as the Floridan aquifer system) is a sequence of hydraulically connected limestone and dolomite ranging in age from early Miocene to late Paleocene (Ref. 21, p. A6). In Tift County, the aquifer is composed of the Suwanee Limestone and limestone of the Ocala Group (Ref. 19). The Suwanee ranges from chalky and fossiliferrous to dense and unfossiliferrous. The Ocala Limestone is white to cream-colored and calcitized (Ref. 18, p. 272).

In the site vicinity, the Principal Artesian aquifer is encountered at about 300 feet below land surface (Ref. 20), and is 500 to 600 feet thick (Ref. 19). It is confined above by the Hawthorn Group and below by clays of the Claiborne Group (Ref. 19), which results in its artesian properties (Ref. 18, p. 280).

Recharge to the Principal Artesian aquifer occurs northwest of Tift County in its outcrop area and regional flow is to the southeast. Locally, flow directions may be influenced by cones of depression created in areas of high pumpage (Ref. 18, pp. 280-282). The Principal Artesian aquifer provides high yields for most municipal systems in the area.

3.3.2 Aquifer Use

Two water systems (the city of Tifton Water Department and the Tift County Water Department) are the sole suppliers of municipal water to areas within 4 miles of the site (Refs. 22, 23, Appendix A). The city of Tifton Water Department operates a system consisting of six active wells located within 4 miles of the site that are finished in the Ocala or Floridan aquifers at depths ranging from 450 to 753 feet. This system provides service to approximately 7000 connections (Ref. 22, Appendix A). The nearest municipal well is located approximately 200 feet east of the facility boundary (Appendix A).

The Tift County Water Department obtains its water from five wells and at three tie-in points to the city system where the county draws water for resale. One of the five wells is located approximately 3.25 miles northeast of the site and is 175 to 200 feet deep. The other four wells are located more than 4 miles from the facility. This system provides service to approximately 596 connections (Ref. 23).

In addition to the city and county water supply, there remain many area residents who rely on private wells. Within a 3-mile radius of the site approximately 250 homes have been identified that are served by private wells. When the 4-mile radius is considered, approximately 99 additional homes utilize private wells as their source of water (Appendix A). Among private wells in Tift County, it has been estimated that 10 percent are in the range of 40-60 feet deep, 20 percent are 100-200 feet deep and 70 percent are 400-600 feet deep (Ref. 24). Thus approximately 30 percent of the homes on private wells can be estimated as being served by the surficial aquifer, and 70 percent by the Principal Artesian aquifer. The neareat private well is located approximately 1000 feet south of the facility boundary and is completed in the surficial aquifer (Ref. 3, Appendix A).

3.4 SUMMARY OF POTENTIALLY AFFECTED POPULATIONS AND ENVIRONMENTS

There are three pathways of concern for the facility: the groundwater, surface water, and air pathways. The onsite exposure pathway is not considered a concern because the facility boundary is secure.

Potential contamination of groundwater is the primary possible migration pathway of concern at the facility. Groundwater withdrawals by private wells completed in the surficial aquifer within 4 miles of the facility serve a total population of 397 people. Although a substantially larger population utilizes groundwater obtained from the deeper Principal Artesian aquifer, the risk to this population is considered to be low due to the presence of the Hawthorn Group confining layer.

The surface water pathway, which includes Gum Creek and the New River, is also of some concern. Numerous wetlands exist on both water bodies. The New River is also a popular recreational fishing spot.

There is potential for contaminant migration via to the air pathway from contaminated soils in the surface impoundments. A substantial number of schools, businesses, and residences exist within a 2- to 4-mile radius from the facility.

4.0 FIELD INVESTIGATION

4.1 SAMPLE COLLECTION

4.1.1 Sample Collection Methodology

All sample collection, sample preservation, and chain-of-custody procedures used during this investigation were in accordance with the standard operating procedures as specified in Sections 3 and 4 of the Engineering Support Branch Standard Operating Procedures and Quality Assurance Manual; United States Environmental Protection Agency, Region IV, Environmental Services Division, April 1, 1986.

4.1.2 Duplicate Samples

Richard B. Reeves, Engineering Manager at Tifton Aluminum Company, Inc. elected to receive split samples (Ref. 12). Mike Nance, representative for Tifton Aluminum Company, Inc., accepted duplicate soil and water samples during the NUS FIT 4 sampling investigation (Ref. 12).

4.1.3 Description of Samples and Sample Locations

A total of seven environmental samples were collected during this inspection. One surface soil and four sediment samples were collected. The surface soil sample was collected to assess background soil conditions. One sediment sample was collected to determine upstream sediment conditions and three were collected to assess possible contaminants on site. One temporary well water sample was collected to assess onsite groundwater conditions. In addition, a private groundwater well sample was collected to assess offsite groundwater conditions. Sample codes, descriptions and locations are presented in Table 1, and sample locations are presented on Figure 3.

4.2 SAMPLE ANALYSIS

4.2.1 Analytical Support and Methodology

All samples collected were analyzed under the Contract Laboratory Program (CLP) and analyzed for all parameters listed in the Target Compound List (TCL). Organic analysis of soil samples was

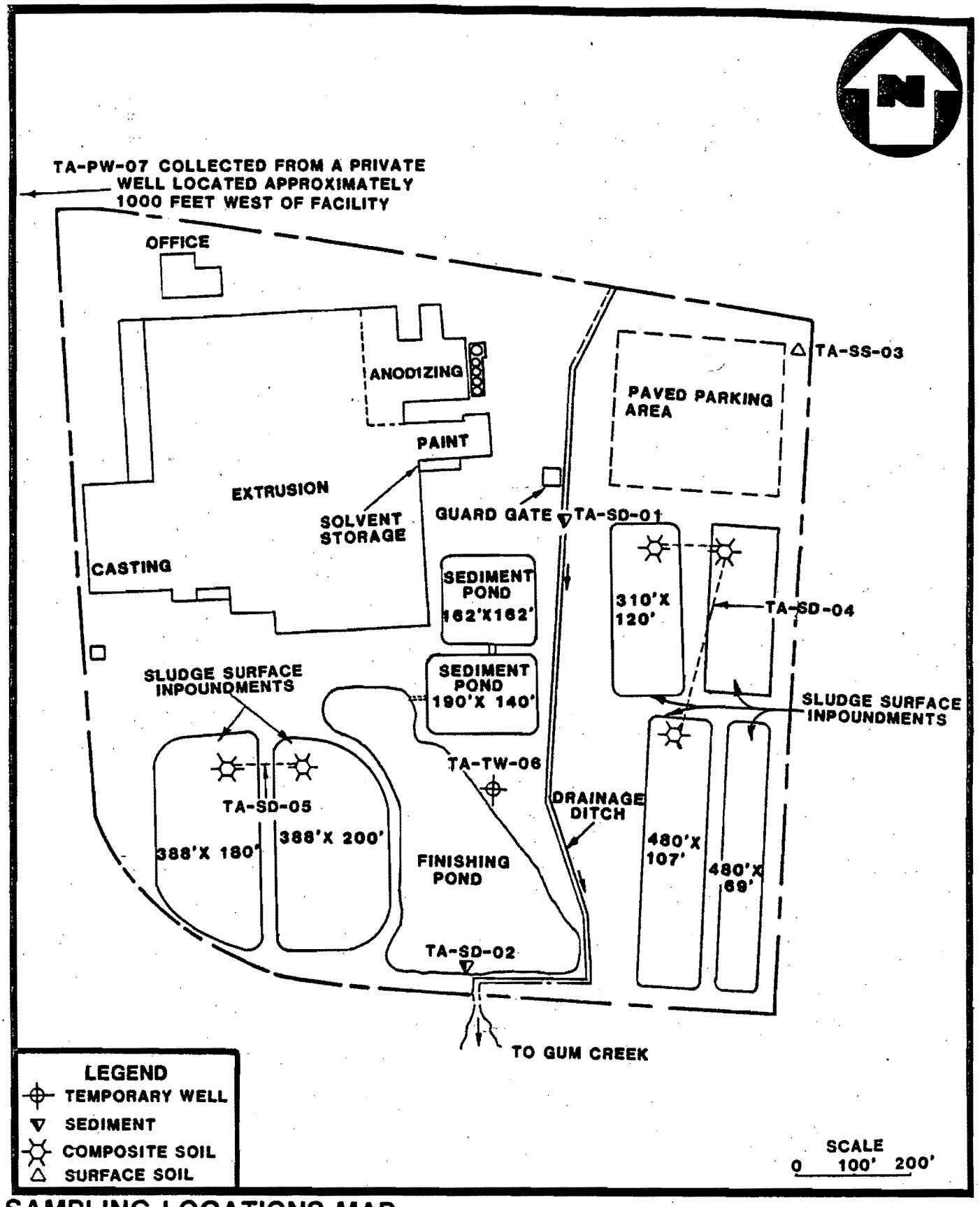
TABLE 1

SAMPLE CODES, DESCRIPTIONS AND LOCATIONS
TIFTON ALUMINUM COMPANY
TIFTON, GEORGIA

Sample Code	Location	Collection Date	Collection Time	Depth (ft bls)	Sample Description
TA-SD-01	Sediment sample collected from an upgradient location in the onsite drainage ditch at a point located near the east-central portion of the property.	01/10/89	0850	--	Sandy, light brown in color.
TA-SD-02	Sediment sample collected from the southern edge of the facilities final fishing pond located in the south-central portion of the property immediately adjacent to the discharge point.	01/09/89	1710	--	Dark brown sediment
TA-SS-03	Surface soil sample collected from a background area along the northeastern side of the facility in a grassy area where a former ballfield existed.	01/09/89	1450	2	Light brown, sandy soil
TA-SD-04	Sediment sample collected as a composite from three of four unlined surface impoundments located along the eastern portion of the property.	01/09/89	1540	--	White, chalky material
TA-SD-05	Sediment sample collected as a composite from two unlined surface impoundments located in the southwest portion of the property.	01/09/89	1635	2	White, chalky material
TA-TW-06	Groundwater collected from a temporary monitoring well located approximately 125 feet south of the second downstream wastewater treatment pond and immediately adjacent to the final finishing pond.	01/10/89	1340	4.5	--
TA-PW-07	Groundwater sample collected from a private well located approximately 1000 feet west of the facility property boundary.	01/10/89	1750	4.5	--

Explanation of Codes

TA - Tifton Aluminum
SD - Sediment
SS - Surface Soil
TW - Temporary Well
PW - Private Well



SAMPLING LOCATIONS MAP
TIFTON ALUMINUM COMPANY
TIFTON, TIFT COUNTY, GEORGIA

FIGURE 3

NUS CORPORATION

performed by Chem West, Sacramento, California. Organic analysis of water samples was performed by Triangle Laboratories, Research Triangle Park, North Carolina. Inorganic analysis of soil and water samples was performed by Energy and Environment Engineering, Somerville, Massachusetts.

All laboratory analyses and laboratory quality assurance procedures used during this investigation were in accordance with standard procedures and protocols as specified in the Analytical Support Branch Operations and Quality Assurance Manual, United States Environmental Protection Agency, Region IV, Environmental Services Division, revised June 1, 1985; or as specified by the existing United States Environmental Protection Agency standard procedures and protocols for the contract analytical laboratory program.

4.2.2 Analytical Data Quality

All analytical data were subjected to a quality assurance review as described in the EPA Environmental Services Division laboratory data evaluation guidelines. As shown in the tables, some of the organic and inorganic parameters were assigned estimated concentrations. This means that the qualitative analysis was acceptable, but the reported concentration should not be considered accurate. Some compounds were noted as being detected based on the presumptive evidence of their presence. This means that the compound was tentatively identified, and its detection cannot be used as a positive identification as to its presence. Some of the data were found to be invalid according to QA/QC procedures. Invalid data were not used in this report, since resampling and analysis would be necessary to confirm the results of all invalid data. The complete analytical data sheets are provided in Appendix B.

4.2.3 Presentation of Analytical Results

This section discusses the significant findings from the analysis of the environmental samples collected during the investigation at Tifton Aluminum Company. Results of inorganic and organic analysis of surface soil and sediment samples are presented in Tables 2 and 3, respectively. The results of the groundwater samples are summarized in Tables 4 and 5.

Aluminum and chromium were the only contaminants detected that are also known components of waste deposited at the facility (Refs. 2, 3, 5, 6, 13). The aluminum probably originated in the aluminum hydroxide sludge from the anodizing wastewater treatment system. The chrome can be traced to the paint pretreatment process. The wastewater streams from the anodizing operations and the paint pretreatment operation are combined after chrome reduction is achieved on the paint

TABLE 2

SUMMARY OF ORGANIC ANALYTICAL RESULTS
SURFACE SOIL AND SEDIMENT SAMPLES
TIFTON ALUMINUM COMPANY
TIFTON, GEORGIA

PARAMETERS (ug/kg)	Control	Background	Onsite		
	SD-01	SS-03	SD-02	SD-04	SD-05
EXTRACTABLE COMPOUNDS					
PHENANTHRENE	87J	-	-	-	-
FLUORANTHENE	170J	-	-	-	-
PYRENE	120J	-	-	-	-
BENZO(A)ANTHRACENE	78J	-	-	-	-
DI-N-OCTYLPHTHALATE	290J	-	-	-	-
OCTAHYDRODIMETHYL(METHYLETHENYL)NAPHTHALENE	-	-	30,000JN	-	-
OCTAHYDROMETHYLMETHYLENE(METHYLETHYL)NAPHTHALENE	-	-	20,000JN	-	-
TETRADEANOIC ACID	-	-	3000JN	-	-
METHYLTETRADECANOIC ACID, METHYLESTER	-	-	7000JN	-	-
HEXADECENOIC ACID	-	-	20,000JN	-	-
ACETYLOXYOCTADECENOIC ACID,METHYLESTER	-	-	30,000JN	-	-
OCTADECENOIC ACID	-	-	100,000JN	-	-
PHYTOL	-	-	50,000JN	-	-
HEXADECANOIC ACID	-	-	-	700JN	-
PETROLEUM PRODUCT	N	-	-	N	-
UNIDENTIFIED COMPOUNDS/NO.	5000J/10	-	800,000J/10	20,000J/8	3000J/1
PESTICIDE\PCB COMPOUNDS					
4,4'-DDE (P,P'-DDE)	-	59	-	-	-

- Material analyzed for but not detected above minimum quantitation limit
J Estimated value
N Presumptive evidence of presence of material

TABLE 3

SUMMARY OF INORGANIC ANALYTICAL RESULTS
SURFACE SOIL AND SEDIMENT SAMPLES
TIFTON ALUMINUM COMPANY
TIFTON, GEORGIA

PARAMETERS (mg/kg)	Control	Background	Onsite		
	SD-01	SS-03	SD-02	SD-04	SD-05
ALUMINUM	5100	4500	51,000	280,000	270,000
ANTIMONY	-	-	90	47	-
ARSENIC	1.5	1.2	3.3	4.8	4.4
CALCIUM	820	170	8600	2300	3300
CHROMIUM	36	6.7	280	1700	1400
COPPER	7.5	-	170	270	230
IRON	9400	5300	8200	2500	1700
LEAD	8.3	4.5	20	48	36
MAGNESIUM	460	69	3000	1100	1900
MANGANESE	33	77	78	85	78
NICKEL	-	4.6	33	28	28
POTASSIUM	320	72	400	-	-
SODIUM	-	-	-	750	22,000
VANADIUM	19	11	-	32	29
ZINC	46	-	100	23	20

\- Material analyzed for but not detected above minimum quantitation limit

TABLE 4

SUMMARY OF ORGANIC ANALYTICAL RESULTS
GROUNDWATER SAMPLES
TIFTON ALUMINUM COMPANY
TIFTON, GEORGIA

PARAMETERS (ug/l)	Control	Onsite
	PW-07	TW-06
PURGEABLE COMPOUNDS		
CARBON DISULFIDE	-	1J

- Material analyzed for but not detected above minimum quantitation limit

J Estimated value

TABLE 5

SUMMARY OF INORGANIC ANALYTICAL RESULTS
GROUNDWATER SAMPLES
TIFTON ALUMINUM COMPANY
TIFTON, GEORGIA

PARAMETERS (ug/l)	Control PW-07	Onsite TW-06
ALUMINUM	-	980,000
ANTIMONY	-	79
ARSENIC	-	53J
BARIUM	630J	1500J
CALCIUM	7400	52,000
CHROMIUM	-	600
COBALT	12	47
COPPER	-	180
IRON	-	1,200,000
LEAD	6	210
MAGNESIUM	11,000	24,000
MANGANESE	50	1800
MERCURY	-	2J
NICKEL	-	160
POTASSIUM	4500	17,000
SODIUM	21,000	140,000
VANADIUM	-	2300
ZINC	-	390

- Material analyzed for but not detected above minimum quantitation limit

J Estimated value

pretreatment waste stream and a wastewater treatment sludge containing aluminum and chromium is produced. The chromium in the paint pretreatment process has caused the wastewater treatment sludge to be classified as a hazardous waste. However, Tifton has been granted an exclusion from regulation for this sludge (Ref. 3).

Aluminum and chromium were both detected in the easternmost and westernmost surface impoundments and from the wastewater treatment system in samples TA-SD-02, TA-SD-04, and TA-SD-05. The concentration of aluminum in sediment samples TA-SD-02, TA-SD-04, and TA-SD-05 is 51,000 mg/kg, 280,000 mg/kg, and 270,000mg/kg, respectively. The concentration of chromium in these same samples is 280 mg/kg, 1700 mg/kg, and 1400 mg/kg, respectively.

These values are significantly elevated in comparison to the values for the control and the background samples (TA-SD-01 and TA-SS-03). Significantly elevated levels of aluminum (980,000 ug/l) and chromium (600 ug/l) were also detected in temporary well sample TA-TW-06. Inorganic analysis of surface soil, sediment and groundwater samples indicate that both aluminum and chromium are migrating from the facility. Several other inorganic constituents (copper, lead, and nickel) were detected at concentrations greater than the concentrations found in TA-SD-01 or TA-SS-03. In addition, copper, lead, and nickel were also detected in sample TA-TW-06 at levels exceeding control sample TA-PW-07. Onsite samples showing the presence of copper and lead, when contrasted against background and control samples, tend to indicate that these substances may be potentially related to facility operations. The only organic substances detected in onsite samples were a wide array of extractable compounds detected in TA-SD-02. No information is available to indicate that these substances are related to past facility operations.

5.0 SUMMARY

Pathways of concern for the facility include groundwater, surface water, and air exposure. Groundwater pathway targets include people who utilize groundwater from the surficial aquifer within a 4-mile radius of the site. The surface water pathway may affect people performing recreational activities such as trapping on Gum Creek approximately 3.6 miles from the site and fishing on the New River approximately 6.8 miles from the site. In addition, numerous wetlands exist on both water bodies.

Air pathway targets include students, faculty, employees, and residences located within a 4-mile radius of the facility that may be affected by air-borne contaminants from the site. There are five schools, several rural communities, many residential areas, and numerous Tifton businesses within this radius.

The sampling investigation consisted of the collection of seven environmental samples: four sediment, one surface soil, and two groundwater. Aluminum and chromium were the only contaminants detected that were also known components of waste disposed of at the facility. Three of the sediment samples and one of the groundwater samples showed aluminum and chromium concentrations elevated significantly above control and background samples. This suggests that both aluminum and chromium may be migrating from the facility.

The results of the field investigation indicate the presence of significant contamination that is attributable to the facility. However, due to the relatively low permeabilities of the unconsolidated surface soils, it is unlikely that contamination will migrate into the surficial aquifer, and the heavily used Principal Artesian aquifer is protected by a clay confining layer. In addition, there are very few people, sensitive environments or food chain concerns associated with the surface water or air pathways that would be affected if contamination were to migrate from the facility. Also, the potential for onsite exposure is low. Based on these conclusions, it is recommended that no further remedial action be planned for Tifton Aluminum Company.

REFERENCES

1. Map 56, Parcel 25, Tifton Tax Assessor's Office.

2. U.S. EPA, Potential Hazardous Waste Site Preliminary Assessment, performed by Gilda Knowles, September 9, 1985.

3. Eric S. Corbin, 1989. Field Logbook No. F4-1179, TDD No. F4-8804-34 for Tifton Aluminum Company, Tifton, Georgia.

4. Telecon between Richard McKenna of NUS Corporation and Connie Boardman, Tifton Chamber of Commerce, May 23, 1988.

5. Letter from C.W. Houseworth of Tifton Aluminum to Jennifer Kaduck of the Environmental Protection Division, Georgia Department of Natural Resources, dated April 22, 1985.

6. Notification of Hazardous Waste Activity submitted to EPA by H.E. Chandler of Tifton Aluminum, August 8, 1980.

7. RCRA Part A Permit Application submitted to EPA by F.C. Irving of Tifton Aluminum, November 11, 1980.

8. Georgia Department of Natural Resources, Environmental Protection Division, Inspection Checklist: Interim Status Standards for Treatment, Storage and Disposal Facilities, and associated notes, completed by Edward Cook, July 8, 1981.

9. Letter from M.N. McCall, III, of the Land Protection Branch, Environmental Protection Division, Georgia Department of Natural Resources, to Hugh Changler of Tifton Aluminum, February 18, 1982.

10. Notification of Hazardous Waste Activity submitted to EPA by R.D. Johnson of Tifton Aluminum, June 25, 1982.

11. RCRA Part A Permit Application submitted to EPA by R.D. Johnson of Tifton Aluminum, June 25, 1982.

12. Letter from J.D. Taylor, Jr., of the Industrial and Hazardous Waste Management Program, Environmental Protection Division, Georgia Department of Natural Resources, to C.W. Houseworth of Tifton Aluminum, September 26, 1983.

13. Telecon between Richard McKenna of NUS Corporation and Howard Barefoot of the Solid Waste Program, Environmental Protection Division, Georgia Department of Natural Resources, May 12, 1988.

14. Telecon between Richard McKenna of NUS Corporation and Larry Hedges, Industrial Wastewater Program, Environmental Protection Division, Georgia Department of Natural Resources, May 13, 1988.

15. Telecon between Richard McKenna of NUS Corporation and Tony Moreland, Tift County Ranger, Georgia Fish and Game, May 13, 1988.

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

17. Water Availability and Use Report, Coastal Plain River Basins "Draft;" Georgia Environmental Protection Division.

18. M.T. Thomson, S.M. Herrick, Eugene Brown, and others; "The availability and use of water in Georgia", Bulletin No. 65 (Department of Mines, Mining, and Geology, December 1956), pp. 251-270-273, 278.

19. Ram Arora, Ph.D., "Hydrogeologic Evaluation for Underground Injection Control in the Coastal Plain of Georgia", Hydrologic Atlas 10, (Georgia Geological Survey, Atlanta, 1984).

20. Formation Log, Layne Atlantic Company, drilled on Golden Road, Tifton, Georgia; Test Hole No. 1, Well No. 7, November 24, 1986.

CERCLA ELIGIBILITY QUESTIONNAIRE

Site Name: Thompson- Hayward (Harcros)

City: Powder Springs State: Georgia

EPA I.D. Number: GAD087515417

I. CERCLA ELIGIBILITY	YES	NO
Did the facility cease operations prior to November 19, 1980?		✓

If answer YES, STOP, facility is probably a CERCLA site
If answer NO, Continue to Part II

II. RCRA ELIGIBILITY	YES	NO
Did the facility file a RCRA Part A application?	✓	
If YES:		
1) Does the facility currently have interim status?		✓
2) Did the facility withdraw its Part A application?	✓	
3) Is the facility a known or possible protective filer? (facility filed in error)	✓	
4) Type of facility: Generator___ Transporter___ Recycler___ TSD (Treatment/Storage/Disposal)___		
Does the facility have a RCRA operating or post closure permit?		✓
Is the facility a late (after 11/19/80) or non-filer that has been identified by the EPA or the State? (facility did not know it needed to file under RCRA)		✓

If all answers to questions in Part II are NO, STOP, the facility is a CERCLA eligible site.

If answer to #2 or #3 is YES, STOP, the facility is a CERCLA eligible site.

If #2 and #3 are NO and any OTHER answer is YES, site is RCRA, continue to Part III.

III: RCRA SITES ELIGIBLE FOR NPL	YES	NO
Has the facility owner filed for bankruptcy under federal or state laws?		
Has the facility lost RCRA authorization to operate or shown probable unwillingness to carry out corrective action?		
Is the facility a TSD that converted to a generator, transporter or recycler facility after November 19, 1980?		

Site Inspection Report

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
GA	D087515417

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Thompson-Hayward Chemical Company (Parcels)	Florence Rd + US. 278

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Powder Springs	GA.	30073	Cobb		

09 COORDINATES LATITUDE	LONGITUDE	10 TYPE OF OWNERSHIP (Check one)
33 52 40.__	084 42 50.__	☑ A. PRIVATE ☐ B. FEDERAL ____ ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL ☐ F. OTHER ____ ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION	02 SITE STATUS	03 YEARS OF OPERATION
11 03 89 (MONTH DAY YEAR)	☑ ACTIVE ☐ INACTIVE	____ (BEGINNING YEAR) active (ENDING YEAR) ____ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)

☐ A. EPA ☑ B. EPA CONTRACTOR NUS Corp (Name of firm) ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR ____ (Name of firm)
☐ E. STATE ☐ F. STATE CONTRACTOR ____ (Name of firm) ☐ G. OTHER ____ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
Jelaine Tinsley	Project Manager	Fit	(404) 938-7710

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

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

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☑ PERMISSION ☐ WARRANT	1530	sunny, clear 65°F

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Mario Villamarzo	EPA Region 4	(404)

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
Jelaine Tinsley	NUS. Corp.	Fit	404-938-7710	11 03 89 (MONTH DAY YEAR)

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
GA	D087515417

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

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

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

TONS _____

CUBIC YARDS _____

NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

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

III. WASTE TYPE

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

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

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
	Chlorine	7782-50-5			
	Sodium Hypochlorite	7681-52-9			
	Sodium Hydroxide	1310-73-2			
	muriatic acid	7647-01-0			
	hydrofluorosilicic acid				
	ethylene glycol				

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)

EPA + State files

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
GA	D087515417

II. HAZARDOUS CONDITIONS AND INCIDENTS

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

possible buried cylinders of Chlorine liquid

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

Possible buried - cylinders of chlorine liquid under pond

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

None Documented

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

N. D.

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

N. D.

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

Possible leakage of cylinders.

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

N.D.

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

a contractor was injured at this plant (2-80). A blade of a bulldozer struck an underground cylinder and the chlorine was sprayed into his face.

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

N. D.

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
GA	D087515417

II. HAZARDOUS CONDITIONS AND INCIDENTS (continued)

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

None Documented
N.D.

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

N.D

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

N. D

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

N. D

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

N. D.

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

N. D.

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

N. D

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

N. D.

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

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

EPA + State files

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
GA	D087515417

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☐ A. NPDES				
☐ B. UIC				
☐ C. AIR				
☐ D. RCRA				
☐ E. RCRA INTERIM STATUS				
☐ F. SPCC PLAN				
☐ G. STATE (Specify)				
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
☐ J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
✓ A. SURFACE IMPOUNDMENT		
☐ B. PILES		
☐ C. DRUMS, ABOVE GROUND		
☐ D. TANK, ABOVE GROUND		
☐ E. TANK, BELOW GROUND		
☐ F. LANDFILL		
☐ G. LANDFARM		
☐ H. OPEN DUMP		
☐ I. OTHER (Specify)		

04 TREATMENT (Check all that apply)

- ☐ A. INCENERATION
- ☐ B. UNDERGROUND INJECTION
- ☐ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- ☐ E. WASTE OIL PROCESSING
- ☐ F. SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☐ H. OTHER (Specify)

05 OTHER

✓ A. BUILDINGS ON SITE

06 AREA OF SITE

5 (Acres)

07 COMMENTS

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

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

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

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: YES ✓ NO

02 COMMENTS

facility is completely fenced

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

EPA + state files

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
GA	D087515417

II. DRINKING WATER SUPPLY

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

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☐ A. ONLY SOURCE FOR DRINKING ☑ B. DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER _____

03 DISTANCE TO NEAREST DRINKING WATER WELL _____ (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
5 (ft)		_____ (ft)	_____ (gpd)	☐ YES ☑ NO

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

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

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

☑ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☐ D. NOT CURRENTLY USED

02 AFFECTED, POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Powder Spring Creek	☐	.3 (mi)
Sweetwater Creek	☐	.5 (mi)
	☐	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. _____ NO. OF PERSONS	B. _____ NO. OF PERSONS	C. _____ NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION .5 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE _____

04 DISTANCE TO NEAREST OFF-SITE BUILDING .15 (mi)

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

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
GA	D087751547

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. $10^{-6} - 10^{-8}$ cm/sec ☐ B. $10^{-4} - 10^{-6}$ cm/sec ☐ C. $10^{-4} - 10^{-3}$ cm/sec ☐ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☐ B. RELATIVELY IMPERMEABLE ($10^{-4} - 10^{-6}$ cm/sec) ☐ C. RELATIVELY PERMEABLE ($10^{-2} - 10^{-4}$ cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
6 (ft)	(ft)	

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
8.0 (in)	3.3 (in)	2 %		4 %

09 FLOOD POTENTIAL

SITE IS IN _____ YEAR FLOODPLAIN

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

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE: A. _____ (mi)

OTHER: B. 4 (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

_____ (mi) None

ENDANGERED SPECIES: _____

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AGRICULTURAL LANDS: AG LAND
A. .15 (mi)	B. .5 (mi)	C. _____ (mi)	D. _____ (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

Facility area has a mild slope

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

State & EPA Files

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
GA	D087515417

II. SAMPLES TAKEN

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

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☐ GROUND ☐ AERIAL

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

03 MAPS ☑ YES ☐ NO

04 LOCATION OF MAPS NUS corp.

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

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

EPA + State Files

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
GA	D087515417

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER
Harrison Crossfield Thompson Hayward (Harcros)			

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE
Florence Rd. + US 278			

05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE
Powder Springs	GA	30073			

PARENT COMPANY (If applicable)

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first)

01 NAME	02 D+B NUMBER

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

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

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

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

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

05 CITY	06 STATE	07 ZIP CODE

IV. REALTY OWNER(S) (If applicable; list most recent first)

01 NAME	02 D+B NUMBER

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

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

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

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

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

05 CITY	06 STATE	07 ZIP CODE

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

EPA + state files

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
GA	D087515417

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE	07 ZIP CODE	08 YEARS OF OPERATION
09 NAME OF OWNER			

OPERATOR'S PARENT COMPANY (If applicable)

10 NAME	11 D+B NUMBER	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
14 CITY	15 STATE	16 ZIP CODE	

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

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE	07 ZIP CODE	08 YEARS OF OPERATION
09 NAME OF OWNER DURING THIS PERIOD			

PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)

10 NAME	11 D+B NUMBER	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
14 CITY	15 STATE	16 ZIP CODE	

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE	07 ZIP CODE	08 YEARS OF OPERATION
09 NAME OF OWNER DURING THIS PERIOD			

10 NAME	11 D+B NUMBER	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
14 CITY	15 STATE	16 ZIP CODE	

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE	07 ZIP CODE	08 YEARS OF OPERATION
09 NAME OF OWNER DURING THIS PERIOD			

10 NAME	11 D+B NUMBER	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
14 CITY	15 STATE	16 ZIP CODE	

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

EPA + State Files

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
GA	D087515417

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

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

EPA state files

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
GA	D087515417

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: None Documented

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: N. D.

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: N.D

01 ☐ D. SPILLED MATERIAL REMOVED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: N. D.

01 ☐ E. CONTAMINATED SOIL REMOVED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: N.D.

01 ☐ F. WASTE REPACKAGED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: N. D.

01 ☐ G. WASTE DISPOSED ELSEWHERE — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: N. D.

01 ☑ H. ON SITE BURIAL — 02 DATE 2-25-80 — 03 AGENCY ____
04 DESCRIPTION: Buried cylinders of chlorine liquid was reported by a contractor

01 ☐ I. IN SITU CHEMICAL TREATMENT — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: N. D.

01 ☐ J. IN SITU BIOLOGICAL TREATMENT — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: N.D

01 ☐ K. IN SITU PHYSICAL TREATMENT — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: N.D

01 ☐ L. ENCAPSULATION — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: N.D.

01 ☐ M. EMERGENCY WASTE TREATMENT — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: N. D.

01 ☐ N. CUTOFF WALLS — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: N. D

01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: N.D

01 ☐ P. CUTOFF TRENCHES/SUMP — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: N. D.

01 ☐ Q. SUBSURFACE CUTOFF WALL — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: N.D

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
GA	D087515417

II PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N.D.

01 ☐ S. CAPPING/COVERING — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N.D

01 ☐ T. BULK TANKAGE REPAIRED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N.D.

01 ☐ U. GROUT CURTAIN CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N.D.

01 ☐ V. BOTTOM SEALED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N.D.

01 ☐ W. GAS CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N.D.

01 ☐ X. FIRE CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N.D

01 ☐ Y. LEACHATE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N.D

01 ☐ Z. AREA EVACUATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N.D

01 ☐ 1. ACCESS TO SITE RESTRICTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N.D

01 ☐ 2. POPULATION RELOCATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N.D.

01 ☐ 3. OTHER REMEDIAL ACTIVITIES — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N.D.

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

EPA + State files

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
GA	D087515417

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY ENFORCEMENT ACTION YES / NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY ENFORCEMENT ACTION

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

EPA + state files

EPA FORM 2070-13 (7-81)

Action Report

Reference No. 1

3-8-82

FACILITY ID	REGION	COUNTY	HOURS	REVIEWED BY	CODED
	North 4	Cobb 033	8	HB	

FACILITY NAME Thompson Hayward Chemical Co. (formerly Tesco)

ADDRESS Florence Rd. CITY Powder Springs ZIP 30073

PERSON(S) CONTACTED Jack Booker TITLE Plant Manager

404/943-5922

TRIP BY Jennifer Kaduck JKK ACCOMPANIED BY Farrazuolo, EPA

INVESTIGATION DATE 6-2-80 FOLLOW-UP DATE N/A

REFERENCE EPA referral 5-21-80

PROGRAM ACTIVITY Inspection and Compliance, Industrial (03)

ACTIONS	FINDINGS/DECISIONS	NEXT ACTIONS
inspection, complaint 31	facility not in violation 71	none required 48

COMMENTS, CONCLUSIONS, AND RECOMMENDATIONS:

1. Mr. Booker reported that 5-6 150 lb. full cylinders of liquid chlorine remain buried in the outdoor area behind the plant. He said no written records exist regarding this disposal. Rich Ferrazuolo and I informed him that future disposal of this waste would be in violation of the hazardous waste regulations. He reported that this practice had occurred since before 1962 for these cylinders that were too damaged to repair. Also, he said that he had exhumed several NH_4 cylinders recently. He also said no more cylinders would be buried.
2. This plant was previously owned by Tesco Chemical.
3. Approximately 100 gal/day of run-off water from rail loading area runs to a non-discharge surface impoundemnt lined with clay. Inspection of the embankment showed no overflow or leakage. EPD WQ recommended construction of this surface impoundment.
4. Tesco manufactures sodium hypochlorite. They also repackage liquid chlorine into cylinders

CONCLUSIONS AND RECOMMENDATIONS CONT.

for swimming pool use. Attached is a list of raw materials, spillage of which is washed into the surface impoundment.

5. I explained to Mr. Booker that any hazardous waste must be managed in a manner acceptabl to the Division and in accordance with the new hazardous waste regulations.

CONCLUSIONS:

1. This facility may generate hazardous waste through spillage, off-spec raw materials, or bad batches. Disposal of cylinders has been discontinued and remaining buried cylinders are being exhumed for venting.

RECOMMENDATIONS: None.

JH IN[illegible]-01 [illegible] CLEARANCE STOCK

R W / H	LP CO	PROD CODE	PRODUCT DESCRIPTION	ON HAND	UNITS / PKG	UNIT MEA	TY PK
738	26	14275	T DET N 4 BLK DLY		1	LBS	BD
738	26	[illegible]	T DET N 12	17[illegible]1-	1	LBS	BL
738	26	[illegible]	T DET N 12 BLK DLY	[illegible]	[illegible]	LBS	[illegible]
738	26	[illegible]	T DET N 12 460#	18-	[illegible]	LBS	DR
738	26	[illegible]	T DET N 9.5	73825	1	LBS	BL
738	26	[illegible]	T DET N 9.5 BLK DLY	17700-	1	LBS	BD
738	26	[illegible]	T DET N 9.5 460#	44-	[illegible]	LBS	DR
738	16	10[illegible]	TOLUCL	36	1	GAL	BL
738	26	10[illegible]	TOLUCL 55GAL		[illegible]	GAL	[illegible]
738	16	[illegible]	TRICHLORETHYLENE	177-	1	LBS	BL
738	26	[illegible]	TRICHLORETHYLENE BLK DLY	802	1	LBS	BD
738	26	06[illegible]	TRICHLORETHYLENE 460#	11	460	LBS	DR
738	16	05672	TRICHLOROETHANE 111		1	LBS	BL
738	16	20923	TRICHLOROETHANE 111	7715-	1	GAL	BL
738	16	14260	TRICHLOROETHANE 111 94 GAL	11	94	GAL	DR
738	16	20648	TRICHLOROETHANE 111 600#	3	600	LBS	DR
738	26	13235	TRIETHANE (111) BLK DLY	1533-	1	GAL	BD
738	26	1[illegible]	WATER DEIONIZED		1	GAL	BL
738	26	02466	WATER DISTILLED		1	LBS	BL
738	16	18730	WATER TAP		1	GAL	BL
738	16	10377	ZINC SULPHATE 36 100#		100	LBS	BA

TOTALS DEPT 6 ITEM 165 1 2,165.16

BR W CP CC	PRCD CODE	PRODUCT DESCRIPTION	ON HAND	UNITS	UNT TYP PAC
0738 16	06689	LIME HYDRATED 2 PLY BAGS 50#	538	LBS	BAG
0738 16	06553	METHANOL BULK	3267	GAL	BLK
0738 26	02715	METHANOL 99% 55GAL	20-	GAL	DRM
0738 26	15017	METHANOL 99% BLK DLY		GAL	BDY
0738 26	09431	METHYL ETHYL KETONE 370#		370 LBS	DRM
0738 16	10334	METHYLENE CHLORIDE	25699-	LBS	BLK
0735 26	04307	METHYLENE CHLORIDE 600#	18	600 LBS	DRM
0738 23	15044	MINERAL SEAL OIL	32	GAL	BLK
0738 26	08316	NAPHTHA HEAVY AROMA	7	GAL	BLK
0738 16	[illegible]	NAIN BLK GRAN 100#	5-	100 LBS	DRM
0740 16	03[illegible]	NAIN MTH GRAN 5X5.5Y		CSS	CSE
0735 16	[illegible]	NAIN MTH TAB 100#	2	100 LBS	DRM
0738 26	[illegible]	PERCHLOREETHYLENE X D	180	LBS	BLK
0738 16	07490	PHOS SODA HEXA GROUND 100#	69	100 LBS	BAG
0738 16	07452	PHOS SODA HEXA PLATE 100#	102	100 LBS	BAG
0738 16	07407	PHOS SODA TETR PYRO AH GR 100#		100 LBS	BAG
0738 16	07485	PHOS SODA TRI CRYS FINE 100#		100 LBS	BAG
0738 16	07496	PHOS SODA TRIPOLY ANHY GR 100#		100 LBS	BAG
0738 16	09637	POLY SOLV EB	7871-		BLK
0738 16	13561	POLY SOLV EB BLK DLY			BDY
0738 16	07785	POLY SOLV EB 410#	5	410 LBS	DRM
0738 16	13590	POLY SOLV EE BLK DLY		1 LBS	BDY
0738 16	19203	POLYPROPYLENE GLYCOL 2000	88-	1 LBS	BLK
0738 16	07609	POTASH CAUSTIC LQ 45	42957	1 LBS	BLK
0738 26	07605	POTASH CAUSTIC LQ 45 660#	45-	660 LBS	DRM
0738 16	02850	POTASH PERMANGANATE FF 50KG	1-	50 KG	DRM
0738 16	17624	POTASH PERMANGANATE FF 150 KG	4	150 KG	DRM
0738 16	02873	POTASH PERMANGANATE TECH 50KG	15	50 KG	DRM
0738 16	17622	POTASH PERMANGANATE TECH 150KG	1	150 KG	DRM
0738 16	02865	POTASH PERMANGANATE TECH 250KG		250 KG	DRM
0738 16	09087	PROPYLENE GLYCOL IND GR		1 LBS	PRT
0738 16	21658	PROPYLENE GLYCOL TECH	8794-	1 LBS	BLK
0738 16	07669	PROPYLENE GLYCOL TECH 480#	8-	480 LBS	DRM
0738 16	05933	PROPYLENE GLYCOL USP	4270-	1 LBS	BLK
0738 16	07633	PROPYLENE GLYCOL USP 480#	18	480 LBS	DRM
0738 16	15587	SALT COARSE	132-	80 LBS	BAG
0738 16	09622	SILICONE GR 82 45#		45 LBS	CAN
0738 16	07980	SODA ASH DENSE GRAN 100#	302	100 LBS	BAG
0738 16	07989	SODA ASH LIGHT 100#	14c	100 LBS	BAG
0738 16	18640	SODA ASH NATURAL LIGHT TH 50#	163	50 LBS	BAG
0738 16	18641	SODA ASH NATURAL MED TH 100#	94	100 LBS	BAG
0738 26	15773	SODA CAUSTIC LIQ 15.2%	32240	1 GAL	BLK
0738 26	14479	SODA CAUSTIC LIQ 23% BLK DLY		1 GAL	BDY
0738 16	08026	SODA CAUSTIC LIQ 50% DIPH C GR	84457	1 LBS	BLK
0738 26	15232	SODA CAUSTIC LIQ 50% LB/LC/BDY	48660-	1 LBS	BDY
0738 26	08013	SODA CAUSTIC LIQ 50% R 650#	9	650 LBS	DRM
0738 26	08032	SODA CAUSTIC LIQ 50% 650#	9-	650 LBS	DRM
0738 16	16258	SODA CAUSTIC PELS 500#	1	500 LBS	DRM
0738 16	08049	SODA CAUSTIC REG FLAKE 100#		100 LBS	DRM
0738 16	08048	SODA CAUSTIC REG FLAKE 400#	12-	400 LBS	DRM
0738 16	10930	SODIUM BICARB USP PCKD 1 100#		100 LBS	BAG
0738 16	18590	SODIUM BICHROMATE GRAN 100#		100 LBS	BAG
0738 16	08112	SODIUM BISULPHATE 400#		400 LBS	DRM
0738 26	08127	SODIUM CHLORITE 100#	32	100 LBS	DRM
0738 16	01000	SODIUM FLUORIDE WHITE GRAN 100	71	100 LBS	BAG
0738 16	01067	SODIUM FLUORIDE WHITE GRAN 125	30	125 LBS	DRM
0738 16	08166	SODIUM FLUORIDE WHITE 100#	9	100 LBS	BAT
0738 16	08165	SODIUM FLUORIDE WHITE 125#	54	125 LBS	DRM
0738 26	16130	SODIUM HYPOCHLORITE SOLN	815	1 GAL	DRM
0738 26	16061	SODIUM HYPOCHLORITE SOLN 15GL	1	15 GAL	DRM
0738 26	14379	SODIUM HYPOCHLORITE SOLN 50GL		50 GAL	DRM
0738 26	11628	SODIUM HYPOCHLORITE SOLN 55GL	5	55 GAL	DRM
0738 26	16429	SODIUM HYPOCHLORITE SOLN 4X1GL	201	4 GAL	CSE
0738 16	08209	SODIUM SILICATE N	3775-		TNK
0738 26	08267	SODIUM SILICATE N 650#	2	650 LBS	DRM
0738 16	08318	SODIUM SILICOFLUORIDE WH 100#	165	100 LBS	BAG
0738 20	[illegible]	SOLVENT MINERAL SPIRITS	1000	1 GAL	BLK
0738 26	[illegible]	SOLVENT MINERAL SPIRITS 55GAL	11-	55 GAL	DRM
0738 [illegible]	[illegible]	[illegible] DIOXIDE 1 TON		2000 LBS	[illegible]
0738 26	[illegible]	T CARB DENTRA 50#	440	50 LBS	BAG
0738 26	[illegible]	T CARB ENDURA 50#	9	50 LBS	BAG
0738 26	[illegible]	T CARB ULTRA 50#		50 LBS	BAG

			PRODUCT DESCRIPTION						
		04946	ACID ACETIC GLACIAL		24				
		27998	ACID ACETIC GLACIAL 440#						
0738	16	05076	ACID BORIC TECH GRAN 100#						
0738	25	17451	ACID FORMIC 90%						
0738	16	05220	ACID FORMIC 90% 5330						
0738	26	11715	ACID HYDROFLUOROSILICIC 23%		11940				
0738	26	20269	ACID HYDROFLUOROSILICIC 23% BLY		73190-				
0738	26	09312	ACID HYDROFLUOROSILICIC 23% NR		29				
0738	26	10815	ACID HYDROFLUOROSILICIC 23% 140#		10-				
0738	26	[illegible]	ACID HYDROFLUOROSILICIC 23% 300#		22-				
0738	[illegible]	[illegible]	ACID HYDROFLUOROSILICIC 23% 330#		1				
0738	[illegible]	[illegible]	ACID HYDRIATIC 208E		12491				
0738	[illegible]	[illegible]	ACID HYDRIATIC 208E BLK DLY		9-				
0738	26	[illegible]	ACID HYDRIATIC 208E 140#		17-				
0738	26	[illegible]	ACID HYDRIATIC 208E 4X1GAL		168-				
[illegible]	[illegible]	[illegible]	ACID HYDRIATIC 208E 500#		3-				
0738	[illegible]	[illegible]	ACID NITRIC 42BE		1-				
0738	[illegible]	[illegible]	ACID NITRIC 42BE 165#		1-				
0738	[illegible]	[illegible]	ACID NITRIC 42BE 900#		600				
0738	[illegible]	[illegible]	ACID PHOSPHORIC 75%		354-				
0738	[illegible]	07271	ACID PHOSPHORIC 75% 600# R		1				
0738	16	[illegible]	ACID PHOSPHORIC 75% 700# NR		9-				
0738	[illegible]	[illegible]	ACID SULFURIC 66BE		247-				
0738	26	[illegible]	ACID SULFURIC 66BE 60#		1				
0738	[illegible]	[illegible]	ACID SULFURIC 66BE 200#						
0738	26	[illegible]	ACID SULFURIC 66BE 750#						
0738	26	05368	ADJ FLUID 63 37 PLAIN 5GAL						
0738	16	05406	ALCOHOL ISOPROPYL 99%						
0738	16	[illegible]	ALCOHOL ISOPROPYL 99% 55GAL						
0738	16	05482	ALUMINUM SULPHATE GROUND 50#		114				
0738	16	05462	ALUMINUM SULPHATE GROUND 100#		243				
0738	16	05465	ALUMINUM SULPHATE LUMP 100#						
0738	16	10437	ALUMINUM SULPHATE RICE 200#		31				
0738	16	10478	ALUMINUM SULPHATE RICE 50#		114				
0738	16	10234	AMMONIA ANHYDROUS		51152				
0738	16	02492	AMMONIA ANHYDROUS 100#		2				
0738	16	05401	AMMONIA ANHYDROUS 150#						
0738	26	13304	AMMONIA ANHYDROUS BLK DLY		7990-				
0738	[illegible]	05490	AMMONIA AQUA 26BE						
0738	26	10440	AMMONIA AQUA 26BE 100#		23-				
0738	[illegible]	05500	AMMONIA AQUA 26BE 300#		16				
0738	16	05523	AMMONIUM SULFATE 100#		100				
0738	16	17327	ADJ FLUID 70-30 54 GAL		13				
0738	26	25558	BLEND A 20 54 GAL						
0738	16	10456	BORAX GRAN 5 MOL 100#						
0738	16	17438	BOTTLES PLASTIC 4X1GAL						
0738	16	09719	CALCIUM CHLORIDE FLAKE 100#		47-				
0738	16	15546	CARBON ACTIVATE GRADE 55#		17				
0738	16	16097	CELATOM AW 27 50#						
0738	16	16084	CELATOM SP 50 25#		8				
0738	26	02146	CHLORINE CYST OBNED 50#		4				
0738	26	05846	CHLORINE TC		43512-				
0738	26	15221	CHLORINE TH 105#		1				
0738	26	05848	CHLORINE TH 150#		143-				
0738	26	05847	CHLORINE TH 2000#		14-				
0738	16	06083	COPPER SULPHATE LGE CRYS 100#		5				
0738	16	06086	COPPER SULPHATE MED CRYS 100#		4				
0738	16	06095	COPPER SULPHATE SNOWFORM 100#		161				
0738	16	06479	EPSOM SALTS TECH 100#		8-				
0738	16	[illegible]	ETHYLENE GLYCOL		62344-				
0738	26	13547	ETHYLENE GLYCOL BLK DLY						
0738	16	26498	ETHYLENE GLYCOL 510#		32				
0738	16	06510	FERRI FLOC 50#		39				
0738	16	06517	FERRI FLOC 100#		16				
0738	16	21677	FORMALDEHYDE 37 7 INH						
0738	16	10975	FORMALDEHYDE 37 7 METH 500#						
0738	26	01711	FREESTYLE ALGAETROL 76 12X1GT		9				
0738	26	09000	FREESTYLE CALCIUM HYPO GR 25#						
0738	26	01700	FREESTYLE CALCIUM HYPO GR 100#		6				
0738	26	01721	FREESTYLE FILTER POWDER 50#						
0738	16	[illegible]	HAMPENE 100 600#						
0738	26	[illegible]	HI SOL 10						

NUS CORPORATION AND SUBSIDIARIES **TELECON NOTE**

CONTROL NO.	DATE: 11-9-89	TIME: 2:35 p.m.

DISTRIBUTION:

Reference No. 2

BETWEEN: Beverly Burke	OF: Harcros	PHONE: (404) 435-6676

AND: Jelaine Tinsley, NUS Corporation

DISCUSSION:

Beverly stated that Thompson-Hayward Chemical had their name changed to Harcros on October 5, 1988. She said it is the same company just a different name. She also stated the owner renamed all of his different chemical companies to Harcros. Harcros comes from the owners name Harrison Crossfield. He resides in Great Britain.

Reference No. 3

"Rite in the Rain" - A unique All-Weather Writing Paper created to shed water and enhance the written image. It is widely used throughout the world for recording critical field data in all kinds of weather.

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LEVEL

Notebook No. 311

F4-1805

TDD F4-8910-62
Thompson-Hayward Chemical Co
Powdersprings/Cobb/Georgia
Jelaine D. Tinsley-project Manager
Site reconnaissance 11-3-89

LOGBOOK REQUIREMENTS
REVISED - NOVEMBER 29, 1988

NOTE: ALL LANGUAGE SHOULD BE FACTUAL AND OBJECTIVE

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

11-3-89 The undersigned have read the work plan for this phase of the site assessment

Jelaine Tinsley Jelaine Tinsley

All entries will be made by Jelaine Tinsley and photo will be described in photo log beginning on page 41

000001

1530 arrived at U.S 278 + Florence Rd. The chemical Plant here is named Harcros Chemical Group Inc.
weather sunny 65°F

I Drove up and down Florence Rd looking for another chemical plant. I can't find another.

1540 The area is industrial and commercial.
Rhodes Regional Distrobution center is North of the plant.

The chemical plant is completely fenced and unpaved except for the road, loading dock and tank areas.

J. Jinsley 11-3-89

On the loading dock area are gray cylinders on their sides
J.J. 11-3-89

North of the main buildin are 3 concrete cylinders about 2 stories high.

Also on the north side of the plant a little west of the concrete cylinders is a pond.

On the east side of the plant is a tank labeled Hydrogen peroxide 35 it has a cinder block wall around it. The wall is about 2 feet high and the ground is paved.

J. Jinsley 11-3-89

another tank on the east side of the plant is labeled Phosphoric acid is in a paved area about 6 feet deep. also in the paved area are blue, black and gray drums.

1550 In the north east corner of the plant are old tanks and trucks.

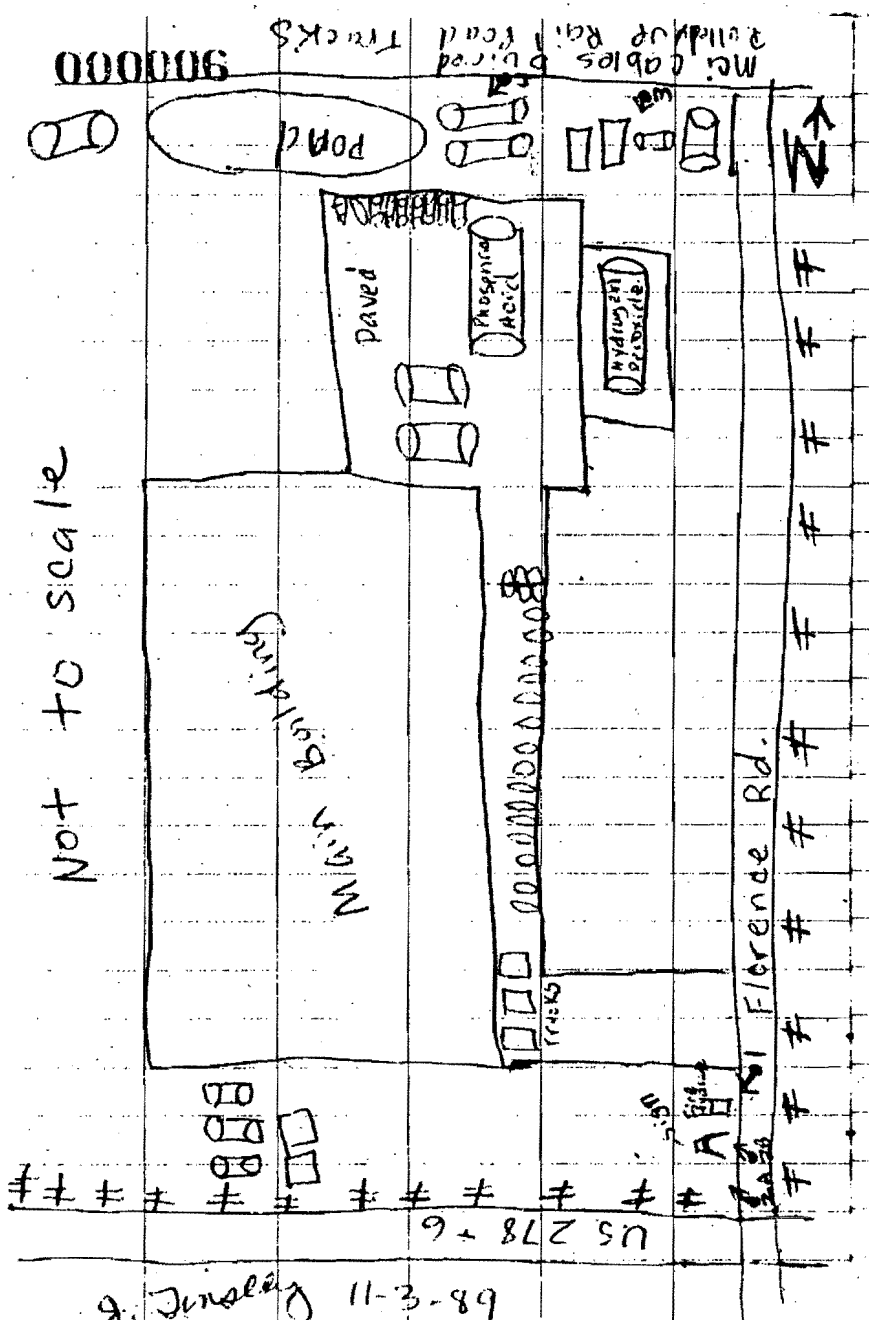
Across the road on the east side is an open field and no houses.
North of the plant are more businesses Rhodes Wilson Air Cond
Jimmerson Iron work

West 1/2 mile is the nearest house and it is on city water. Railroad tracks divide the road from the plant to houses.

J. Jinsky 11-3-81

The railroad tracks directly behind the plant (running east + west on the North end) Have been pulled up. There are MCI cable here where the tracks once were located.

J. Jinsky 11-3-81



1610

I drove around the area there are a lot of new housing and sub divisions all of which are on county water. I couldn't find any wells.

J. Tinsley 11-3-89

J. Tinsley 11-3-89

000006

000007

000040

Case No. _____

Low Concentration yes/no

Water

Date 11-3-89 By Whom J. Tinsley

Time 1540 Roll 1 pg 6

Location Powder Springs/Cobb/GA.

Picture of Facility sign facing S

Date 11-3-89 By Whom J. Tinsley

Time 1540 Roll 2A pg 6

Location Powder Springs/Cobb/GA.

Picture of Pano-rama of facility Facing North west

Date 11-3-89 By Whom J. Tinsley

Time 1540 Roll 2B p6.

Location Powder Springs/Cobb/GA.

Picture of Pan-orama of facility facing North West

000011

000042

11-3-89 J. Tinsley
1540 3 p.b.
Powder Springs / Cobb / GA

Old cylinders and trucks
On North side of facility (Picture taken facing S)

11-3-89 J. Tinsley
1540 4 pb
Powder Springs / Cobb / GA

Concrete cylinders and
ponds on North side of facility (Picture taken facing South west)

000043

Reference No. 4

Kirk-Othmer

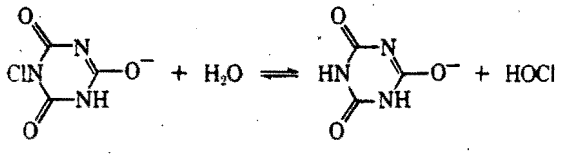
Encyclopedia of Chemical Technology

Third Edition

Although the hypochlorite ion itself is a relatively poor disinfectant (145) in comparison to hypochlorous acid, it serves as a reservoir of the latter by hydrolysis:

$$ClO^- + H_2O \rightleftharpoons HOCl + HO^-$$

The relative concentrations of ClO^- and HOCl are a function of pH: at 25°C they are equal at 7.54 pH. This is within the usual operating pH range of 7.2–7.6 for swimming-pool water. For adequate germicidal activity, the free available chlorine (HOCl + ClO^-) should be maintained at 1.0 ppm. The hypochlorite ion absorbs uv light in the range of 250–350 nm and therefore can be decomposed to O_2, Cl^-, and ClO_3^- by sunlight. Addition of cyanuric acid decreases this decomposition by formation of a chloroisocyanurate that reduces the concentrations of HOCl and ClO^- but hydrolyzes rapidly to maintain the equilibria:



$$HOCl + HO^- \rightleftharpoons H_2O + ClO^-$$

The equilibrium constant for the first reaction is 2.40×10^{-6} (146). When cyanuric acid is used in conjunction with a hypochlorite for sanitizing swimming pool water, the free available chlorine is usually kept within 1.0–1.5 ppm.

HYPOCHLORITE SOLUTIONS

Sodium Hypochlorite (Liquid Bleach). Commercial strength liquid bleach, used by industries, laundries, and in swimming pool sanitation, contains 12–15% available chlorine and is sold in 3.8- and 7.6-L polyethylene bottles and 23–57-L carboys, 205-L drums, and tank trucks of about 3-kL capacity and greater. Household bleach contains about 5% available chlorine and is sold in 1–5.7-L polyethylene containers. Shipping is limited within a short radius of the plant because of transportation costs. Liquid bleach for use in pulp or textile bleaching is usually prepared on site at concentrations of 30–40 g/L of available chlorine.

Calcium Hypochlorite (Bleach Liquor). Bleach liquor is a solution of calcium hypochlorite and calcium chloride containing some dissolved lime. The available chlorine content can vary but is typically about 30–35 g/L. It is used primarily in pulp bleaching. Although it has some disadvantages in comparison to sodium hypochlorite, it has considerable use because of lower cost. No production statistics are available since it is invariably prepared on site and consumed captively.

Manufacture

Sodium Hypochlorite. Sodium hypochlorite solution is usually prepared by chlorination of NaOH. Cooling is necessary since excessive temperatures can result in chlorate formation, representing loss of yield, and may contribute to lower product stability. Since chlorate formation is also a function of concentration, the upper limit of 30°C usually employed with <6% NaOCl is reduced to about 20°C for 10–15%

concentrations. The chlorination of caustic is exothermic and liberates 103.1 kJ/mol (24.65 kcal/mol) when gaseous chlorine is used. Liquid chlorine feed is preferred since advantage can be taken of its heat of vaporization, 16.5 kJ/mol (3.94 kcal/mol), to reduce the cooling requirement. Since 50% caustic is normally employed, and diluted to the desired strength, its heat of dilution, 20.3 kJ/mol (4.86 kcal/mol), is an additional cooling load. The dilution is controlled by conductivity or density. For preparation of dilute NaOCl solutions, cooling of the caustic is sufficient to absorb the heat of reaction, but for higher concentrations cooling of the hypochlorite solution is also necessary. In batch preparation of dilute hypochlorite, ice can be added directly to the caustic to provide the necessary precooling. Although manual titration is probably still employed in some small-scale operations for determining the extent of chlorination, monitoring of the oxidation potential is not only more convenient but mandatory in continuous operation. The oxidation potential of the solution is dependent on the half cell reaction $Cl^- + 2\,HO^- \rightleftharpoons ClO^- + H_2O + 2\,e^-$, and its magnitude is given by the equation $E = E_o - 0.0296 \log_{10} [[ClO^-]/[HO^-]^2\,[Cl^-]]$ where E_o (−0.89 V) is the standard electrode potential at 25°C when concentrations are at unit activity. Although the oxidation potential is essentially a function of pH, its measurement is preferred to pH measurement because of its faster response and lower maintenance requirements (147). The oxidation potential is measured with a potentiometer using an ORP (oxidation–reduction potential) cell consisting of a calomel or silver reference electrode and a platinum indicating electrode. Agitation of the hypochlorite solution is necessary to minimize local overchlorination and also to reduce any time lag in response of the ORP cell. Air has been used in batch operation for this purpose; however, sufficient agitation can be obtained from the turbulence of the Cl_2 feed itself or by recirculating through an external loop. Complete absorption of the Cl_2 is ensured by maintaining an adequate depth of solution in the chlorinator. In many continuous systems the Cl_2 and caustic are allowed to react in a mixing zone, which may be a packed tubular reactor, with the hypochlorite solution going either to a surge tank or to storage. The conversion of NaOH is usually limited to about 92–94% for ease of control and to avoid overchlorination. A small excess of NaOH is necessary for adequate storage stability. In certain applications, such as textile-bleaching, little or no free caustic alkalinity is desirable. In bleaching of pulp, a pH adjustment may be made to obtain the necessary degree of activity. Prior to bottling, any suspended solids are allowed to settle or they may be removed by filtration.

Sodium hypochlorite is also prepared electrolytically using small diaphragmless or membrane cells, with a capacity of 1–150 kg/d of equivalent Cl_2, which produce a dilute hypochlorite solution of 1–3 and 5–6 g/L from seawater and brine, respectively (see Chemicals from brine). They are employed in sewage and wastewater treatment and in commercial laundries, large swimming pools, and aboard ships. These electrolyzers are produced or distributed by a number of companies.

Calcium Hypochlorite. The mechanics of the preparation of bleach liquor by chlorination of lime slurry is only slightly different than that of sodium hypochlorite and the heat liberated per mol of chlorine is approximately the same. Continuous systems are preferred because of their lower maintenance requirements. On a sufficiently large scale a lime slaker can be justified. In general, good quality, slaked lime is employed to make a thick slurry that is subsequently diluted to the desired concentration by means of a density controller. The lime slurry is conveyed to a suitable reactor (such as a tower) where it is contacted with chlorine under the control of an

ORP cell. The
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ORP cell. The finished bleach liquor can go to a settling tank (for sludge separation) or be put through a centrifugal cleaner before going to storage.

Economic Aspects

In the United States, ca 227–272 t/d of chlorine is processed into sodium hypochlorite solution for household bleach alone. In addition, there are markets for swimming pool sanitation, commercial laundries, paper and pulp manufacture, and textile and food processing. Total United States production is probably >180,000 t/yr on a dry basis (148).

Uses

Sodium hypochlorite is used in the bleaching of wood pulp and textiles where it is largely produced on site for captive consumption. It is also used as a commercial laundry and household bleach, as a sanitizer for swimming pools, and as a disinfectant for municipal water and sewage. In food processing, sodium hypochlorite is employed as a disinfectant and sanitizer. In the production of oil it is added to water used for flooding to prevent the formation of fungi which could cause plugging. In oil refineries it is employed as a sweetening agent. Large quantities of sodium hypochlorite are used in the chemical industry, primarily for the manufacture of hydrazine (qv) as well as in the synthesis of organic chemicals. Sodium hypochlorite is also used in the manufacture of chlorinated trisodium phosphate (see Bleaching agents).

SOLID HYPOCHLORITES

Sodium Hypochlorite–Trisodium Phosphate Complex. Commercial crystalline trisodium phosphate (TSP) is a complex of the type $(Na_3PO_4.xH_2O)_nNaY$ where n = 4 to 7, x = 11 or 12, and Y is a monovalent anion (see Phosphoric acids and phosphates). Chlorinated trisodium phosphate is also a complex of this type with the formula $(Na_3PO_4.11H_2O)_4.NaOCl$ (149). The crystalline, efflorescent product is trigonal with refractive indexes $\omega = 1.450$ and $\epsilon = 1.455$ and it is uniaxial-positive. Its melting point of 62°C is really a transition to $Na_3PO_4.8H_2O$. A high purity product can be obtained by crystallization from a liquor having the proper Na_2O–P_2O_5 ratio containing an excess of NaOCl. Although the calculated available chlorine is 4.66%, commercial material usually contains about 3.65% owing to the presence of salt as well as chlorate from decomposition of NaOCl. The loss in storage is about 0.05% available chlorine per month. The initial process via crystallization–filtration (150) was simplified by addition of NaOCl solution to a hot, concentrated Na_3PO_4 solution containing some Na_2HPO_4 followed by cooling and granulation of the solidified mass (151). The product is shipped in 45-kg polyethylene-lined paper bags, 23-kg Fiberpak drums, and 57- and 136-kg Leverpak drums.

Dibasic Magnesium Hypochlorite. The magnesium analogue of dibasic calcium hypochlorite has been synthesized by addition of either a sodium or calcium hypochlorite solution to an excess of aqueous $MgCl_2$ or $Mg(NO_3)_2$ (152). The reaction probably proceeds as follows:

$$2\,ClO^- + 2\,Cl^- + 2\,H_2O = 2\,Cl_2 + 4\,HO^-$$

$$3\,Mg^{2+} + 2\,ClO^- + 4\,HO^- \rightarrow Mg(OCl)_2.2Mg(OH)_2$$

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J. A. WOJTOWICZ
Olin Corporation

Reference No. 5

Kirk-Othmer

Third Edition

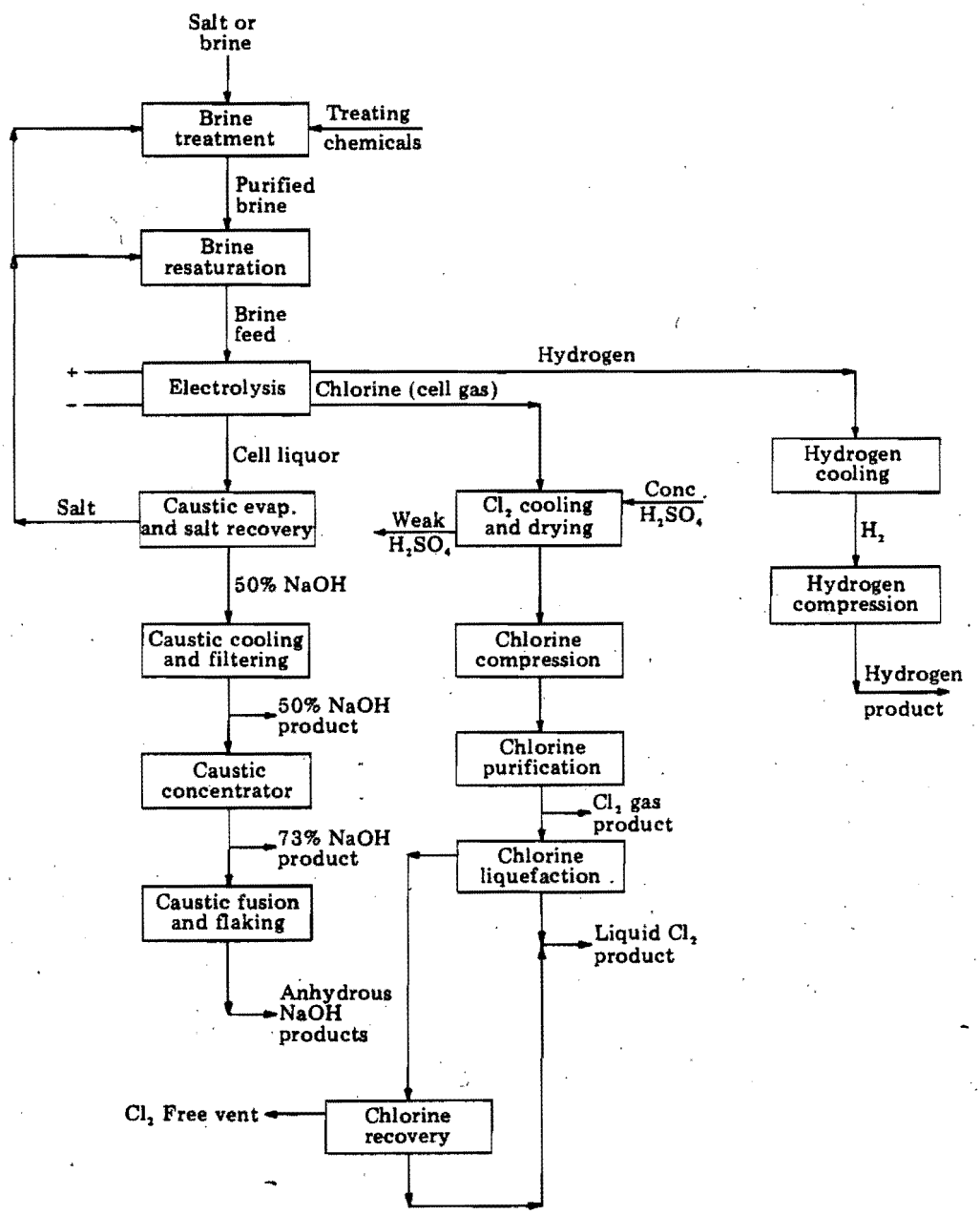

Figure 18. Flow diagram of diaphragm-cell operation in a chlorine–caustic plant.

Manufacturing Processes

Chlorine was known to the alchemists as far back as the 13th century (6). However, more than 500 years passed before the properties of chlorine were investigated by Scheele in 1774. In 1789 it was discovered that a potash solution would absorb chlorine and that chlorine reacted with milk of lime to form a stable bleaching agent. A patent for the bleaching application was issued in 1798. It was 1813, however, before the elemental nature of chlorine was generally accepted.

In 1800 Cruickshank demonstrated the decomposition of salt by means of an electric current. However, the process did not achieve commercial significance until the latter part of the 19th century when equipment became available to generate the large amounts of direct current required. Virtually all of the basic discoveries and inventions necessary for the development of both the diaphragm- and mercury-cell processes for brine electrolysis were made during the period from 1883 to 1893.

The essential component of a practicable diaphragm cell, a porous, chemically resistant diaphragm, was invented in 1886. It was used by the Griesheim Company in Germany in a 300-kW cell with potassium chloride as the electrolyte. The first diaphragm plant in the United States was built in 1893 in Rumford Falls, N. Y.

The first mercury cell of industrial significance was invented by Hamilton Young Castner in 1892. The process was developed to make very pure caustic soda, which Castner believed was necessary for the electrochemical production of metallic sodium.

Upon development of the Leblanc and Solvay processes for making sodium carbonate, sodium hydroxide became a relatively common chemical. Soda ash was converted to caustic soda by the well known lime–soda reaction. Even though electrolytic caustic soda was produced in the 1890s, the lime–soda process remained dominant until the late 1940s. Caustic soda is no longer produced for sale by this process, which is, however, still used in small-scale production for captive plant consumption.

For the electrolytic production of caustic soda, diaphragm cells predominate in the United States, whereas mercury cells are prevalent in Europe and the Far East. There are a number of factors that have contributed to these preferences: (*1*) The relatively high voltage drop of mercury-arc rectifiers used to supply d-c power discouraged the use of large single cells (low voltage, high current) in Europe, and favored the use of a number of smaller cells operated in series (high voltage, low current). (*2*) Asbestos, needed for diaphragms, is native to Canada and the northern United States; mercury is produced in Spain and Italy. (*3*) Energy needed for evaporation of water to concentrate dilute caustic effluent from diaphragm cells has been more plentiful and lower in cost in the United States than in Europe. (*4*) Salt used for chlorine production in Europe, Japan, and Italy traditionally has been supplied and transported in the solid (ie, crystalline) form, which is ideal for use in mercury cells. (*5*) European consumers developed an early preference for the higher purity of mercury-cell caustic. Thus European producers found little incentive to make diaphragm-cell caustic with its higher salt content.

Electrolytic Cell Operating Characteristics. In 1975 all of the caustic soda and caustic potash produced in the United States and 95.2% of the chlorine was made by the electrolysis of sodium or potassium chloride.

Currently there are three types of electrolytic cells in commercial use for the production of chlor–alkali: the mercury cell, the diaphragm cell, and the membrane cell. These cells are illustrated schematically in Figure 6. In each, the objective is the isolation of the separate reaction products.

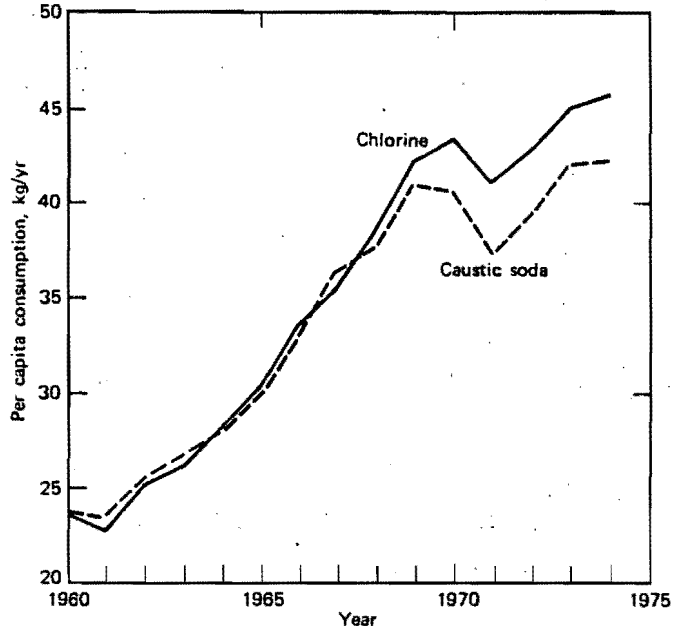

Figure 4. Use of caustic soda and chlorine per capita in the United States.

Mercury-cell and diaphragm-cell technology is available for purchase from a number of suppliers (Table 5). Most suppliers can provide several sizes of cells. Each supplier's cells have distinctive, patented features. However, within a given classification cells from different suppliers have essentially the same operating conditions and characteristics. For purposes of comparison, the operating specifications of a Hooker H-4 diaphragm cell and a Uhde 350-135M mercury cell, representative of the largest and most modern cells in operation, are shown in Table 6. Included are preliminary operating data on Asahi Chemical's cation-exchange-membrane cell. The functional group on the fluorocarbon substrate in this cell is believed to be a carboxylic acid, as compared with a sulfonic acid group in the Du Pont Nafion membrane (see Fluorine compounds, organic). Energy balances calculated for a "typical" diaphragm-cell plant are presented in Figure 7 (chlorine production) and Figure 8 (caustic soda production).

The Mercury Cell Process. As shown in Figure 9, the mercury-cell process actually involves two cells. In the primary electrolyzer (or brine cell), purified, saturated brine containing approximately 25.5 wt % sodium chloride flows through an elongated trough that is inclined slightly from the horizontal. In the bottom of this trough a shallow sheet of mercury, the cathode, flows concurrently with the brine. Closely spaced above the cathode, an anode assembly is suspended which consists of horizontal blocks of graphite or dimensionally stable (titanium-base) anodes. Current flowing through the cell decomposes the brine that is passing through the narrow space between the electrodes, liberating chlorine gas at the anode and sodium metal at the cathode. The chlorine gas is accumulated above the anode assembly and discharged to the purification process.

As it is liberated at the surface of the mercury cathode, the sodium immediately

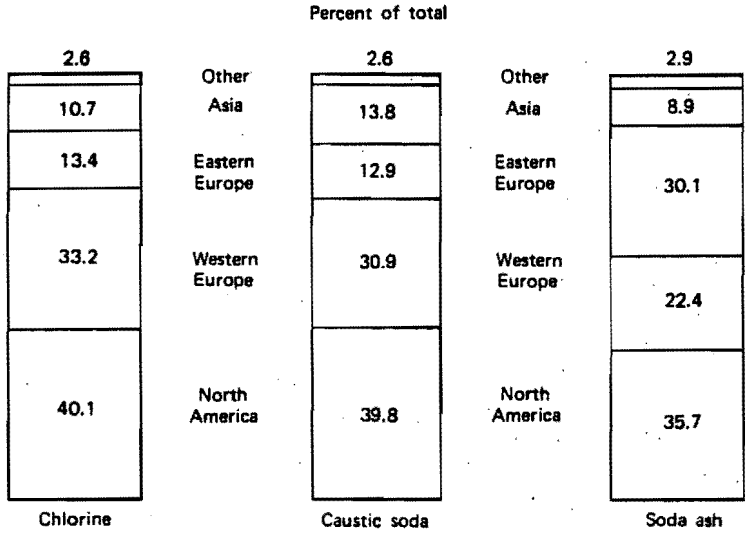

Figure 5. Estimated distribution of world production of chlor–alkali products, 1973.

forms an amalgam which essentially eliminates the reaction with water in the brine to form caustic soda and hydrogen, and reaction with dissolved chlorine. A low concentration amalgam, containing 0.25–0.5 wt % of sodium, is formed in the mercury cathode.

Decomposer. From the electrolyzer, the dilute amalgam is fed to a separate packed-bed reactor (the decomposer, denuder, or soda cell) where it reacts with water. In modern installations the decomposer consists of a vertical steel column containing graphite packing. Employing countercurrent flow, the amalgam flows down the column, and deionized water flows up. A horizontal trough-type decomposer with countercurrent flow is also used. In either case, water reacts with the sodium metal. In the electrolyzer:

$$Na^+ + Cl^- \rightarrow Na{-}Hg + \tfrac{1}{2}\,Cl_2\uparrow \qquad (1)$$

In the decomposer:

$$Na{-}Hg + H_2O \rightarrow Na^+ + OH^- + \tfrac{1}{2}\,H_2\uparrow + Hg \qquad (2)$$

In the second reaction (eq. 2) the decomposer may be regarded as a short-circuited electrical cell in which graphite is the cathode and sodium amalgam the anode. The reaction involves a significant amount of electrical energy that, theoretically, is recoverable from the decomposer. However, such recovery has never been economical in practice.

For its operation, the mercury cell depends upon the higher overpotential of hydrogen vs mercury to achieve the preferential release of sodium rather than hydrogen. However, impurities that can appear on the mercury surface may lack this high overvoltage protection, and can cause localized release of hydrogen into the chlorine that is being collected from the anode. The presence of even trace amounts of certain metals, such as vanadium, can cause the release of dangerous amounts of hydrogen.

Mercury cells are usually operated so as to maintain a 21–22 wt % concentration

Table 4. World Chlorine Production

	Number of plants, 1975				1973 Production, thousand metric tons
	[a]	[b]	[c]	Total[d]	
North America					
United States	26	38	8	79	9,270
Canada	10	9		19	904
Mexico	5	2		7	153
South America					
Argentina	6	4	3	13	130
Brazil	12	6		17	160
other					110
Europe					
France	10	4		14	1,230
Fed. Rep. Germany	14	5	5	19	2,450
Italy	20	4	5	26	1,170
U. K.	8	1	2	9	1,040
U. S. S. R.	3	4		6	2,700
other					3,120
Asia					
Japan	59	57		74	2,640
other					480
Africa					80
Australia	7	3		110	120
Total					*25,750*

[a] Mercury-cell plants.
[b] Diaphragm-cell plants.
[c] Chlorine oxidation, HCl electrolysis, or unspecified.
[d] Total may sum less than individuals since some plants operate combined mercury cells and diaphragm cells.

of salt in the spent brine discharging from the electrolyzer. This corresponds to a decomposition of 15–16% of the salt during a single pass. Further salt decomposition to a lower concentration in the brine would decrease brine conductivity, with an attendant loss of electrical efficiency. A portion, or in some cases all, of the depleted brine is then dechlorinated, resaturated with solid salt, and returned to the cell-brine feed. Total salt resaturation is unique to the operation of mercury cells, which must operate with solid salt in order to maintain a water balance. In some installations diaphragm and mercury cells are operated in combination. Such dual operation can be advantageous because mercury cells can operate on high quality salt from the caustic evaporators of the diaphragm process.

Mercury Cell Construction. The principal structural components of the mercury-cell electrolyzer are an elongated, slightly inclined trough and a gas-tight cover. The trough is made of steel, and its sides are lined with a protective, nonconductive coating to prevent contact with the electrolyte, to confine brine–cathode contact to the mercury surface, and to avoid the corrosive action of the electrolyte. Modern electrolyzers are about 1–2.5 m wide and 10–25 m long. The steel base is made as smooth as possible to ensure mercury flow in an unbroken sheet. In the event of a break in the mercury surface, caustic soda will be formed on the bare (steel) cathode, with

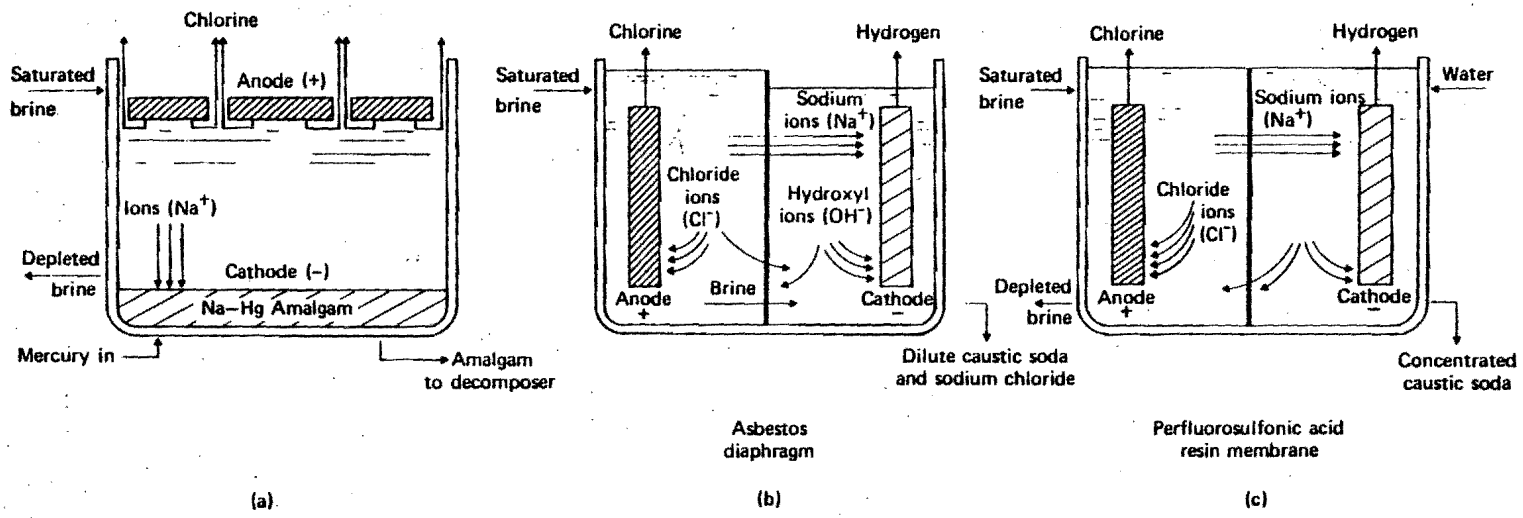

Figure 6. Chlorine electrolysis cells: (a) mercury cell; (b) ordinary diaphragm cell; (c) new membrane cell (7). Reprinted with permission of Mc-Graw Hill, Inc.

Table 5. Mercury Cell and Diaphragm Cell Suppliers

Mercury cells	Diaphragm cells	Diaphragm cells (for HCl)
de Nora	Diamond	de Nora
Krebshosina	PPG	Krebs-BASF
Krebs-BASF	Hooker	Uhde
Krebs		
Kureka		
Olin		
Toso		
Uhde		

a simultaneous release of hydrogen, which will mix with the chlorine. Because hydrogen and chlorine can form a highly explosive mixture, extreme precaution is necessary to prevent hydrogen formation.

The whole electrolyzer must be insulated from the floor to prevent stray ground currents because the entire bottom of the electrolyzer is the cathode. Conductors may be attached at appropriate locations to the steel trough to achieve better current distribution and control of current density.

An "end box" is attached to each end of the electrolyzer. The end box incorporates weirs and compartments for the chlorine gas, separating the mercury and brine streams, washing the mercury, and permitting the removal of thick mercury "butter" that is formed by impurities. This butter moves sluggishly down the electrolyzer trough, and can accumulate to the point where it shorts the anode to the cathode. Dimensionally stable anodes are particularly vulnerable to damage caused by faulty anode adjustment or other causes of short circuits to the mercury cathode.

Mercury Losses. The mercury used in a mercury cell represents a significant portion (10–15%) of the total investment in the cell. Depending on cell size, the amount required ranges from 680 to 1360 kg/(t·d) (1360 to 2720 lb per short ton per day) of chlorine capacity. By government decree, this mercury is not considered fixed capital, and cannot be depreciated.

Prior to government regulation, mercury losses from mercury-cell plants ranged from 135 to 225 g/t (0.3 to 0.5 pound per short ton) chlorine (12). At the operating temperatures of electrolyzers and decomposers, mercury has a measurable vapor pressure; even with cooling, mercury is lost in the product and waste streams from a plant. Recent EPA regulations limit effluent discharge to 0.28 g mercury per metric ton of product for existing plants, with an additional 50% reduction for new plants (2). To meet these regulations, in addition to elaborate filter systems, mercury-cell plants have also had to install more efficient coolers to condense mercury vapor.

Diaphragm Cells. Chlor–alkali diaphragm cells produce chlorine and sodium (or potassium) hydroxide by electrolysis of saturated brine. Figure 10 shows the construction of a 150-kA Hooker Type H4 diaphragm cell. A diaphragm is employed to separate the chlorine liberated at the anode, and the hydrogen and caustic soda produced at the cathode. Without the diaphragm to isolate them, the caustic soda and chlorine would react to form sodium hypochlorite, with further reaction to produce sodium chlorate. (Electrolysis without a diaphragm is, in fact, used commercially to produce sodium chlorate.)

Table 6. Typical Electrolytic Cell Characteristics

Characteristics	Hooker H-4[a]	Uhde 350-135M[b]	Asahi Chemical[c,d]
cell size, active electrolysis area, m^2	64.6	34.6	216
type of cell	series		bipolar
cells/electrolyzer	1	1	80
rated current, kA	150	346	864
current density at rating, kA/m^2	2.32	10.0	4.0
cell voltage at rating, V	3.44	4.27	3.75
NaOH current efficiency at rating, %	96.6	96.6	93
d-c power at rating, kWh/t of Cl_2	2692	3135	2703[e]
cell dimensions			
width, m	3.11	2.7	na
length, m	2.58	17.7	na
height, m	2.13		na
working floor space per cell, m^2	5.73	79.5	na
rated chlorine production, t/d	4.57	10.53	28.0

[a] Diaphragm cell with asbestos diaphragm (8).
[b] Mercury cell with metal anodes.
[c] Cell with ion exchange membranes (9).
[d] na means not available.
[e] Per metric ton of NaOH.

Modern diaphragm cells employ vertical electrodes and a cathode-supported diaphragm. Asbestos is vacuum-deposited on the cathode to form the diaphragm, which separates the feed brine, or anolyte, from the caustic-containing catholyte. Purified brine enters the anode compartment and percolates through the diaphragm into the cathode chamber. The percolation rate is controlled by maintaining a higher liquid level in the anode compartment to establish a positive and carefully controlled hydrostatic head. The percolation rate is determined as a compromise between a low rate that would produce a desirably high concentration of caustic soda in the catholyte (which provides the cell effluent) and a high rate to limit the back migration of hydroxyl ions from catholyte to anolyte, which decreases cathode current efficiency. The relation between current efficiency and catholyte caustic concentration for a typical diaphragm cell is shown in Figure 11.

In the diaphragm cell, saturated brine (ca 25 wt % NaCl) is decomposed to approximately half of its original concentration in a pass through the electrolyzer as compared to a 16% decomposition of salt per pass in mercury cells. Heating caused by passage of current through the diaphragm-cell resistance raises the operating temperature of the electrolyte to 80–99°C (14).

Electrolytic decomposition of water and hypochlorous acid (from the reaction of chlorine with water) forms oxygen at the anode. When dimensionally stable anodes are used, oxygen leaves the cell with the chlorine. With graphite anodes some of the oxygen reacts with the graphite and/or the binder to form carbon dioxide. The resulting graphite erosion gradually increases the electrode spacing and the corresponding cell voltage drop. Particles of graphite break off, tending to plug the diaphragm, with a resulting gradual loss of diaphragm permeability. After 90–100 days of operation (15) the diaphragm becomes inoperable and the asbestos must be replaced. Precipitation of calcium and magnesium hydroxides on the catholyte side of the diaphragm may

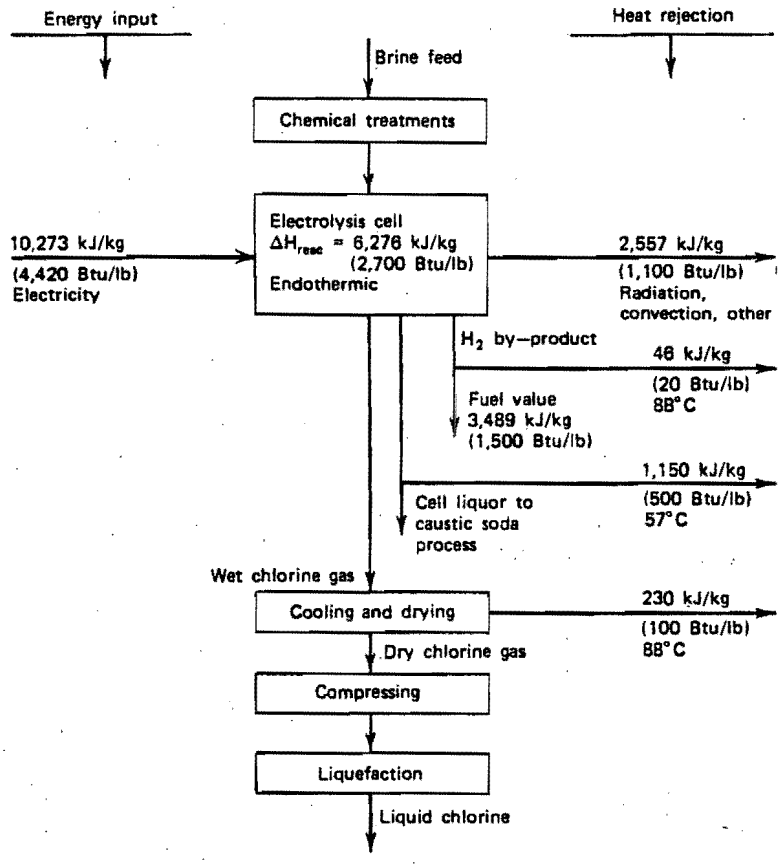

Figure 7. Chlor–alkali energy diagram of chlorine production (10). Electricity—this does not include inefficiency in electric power generation; actual heat value is about three times 10,273 kJ/kg.

also create blocking problems. Hydrochloric acid is added to the brine entering the anode compartment to neutralize back-migrating hydroxyl ions and to suppress formation of hypochlorous acid, both of which are damaging to graphite.

As in mercury cells, chlorine discharges from the anode compartment, together with small amounts of oxygen, carbon dioxide, and hydrogen. The catholyte solution discharging from the cell (usually known as cell effluent or cell liquor) contains about 10% caustic soda and 14% sodium chloride, although these concentrations may vary with the type of cell and its operating conditions.

Electrolytic cells are designed to operate at specific values of voltage and current, which vary among cells from different manufacturers, but over only a small range. Although mercury cells operate at higher voltages and current densities, there is also little variation in ratings among cells from different manufacturers. Typical values for Hooker H4 diaphragm cells and Uhde 350 135M mercury cells are presented in Table 6. Higher production rates can be achieved with any of these cells, without a substantial loss in current efficiency, by increasing current density to a specified maximum value. Above this maximum, however, operation becomes uneconomical as electrode efficiencies decrease and cell power (I^2R) losses increase. The relationships

World Chlor–Alkali

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Miscellaneous

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J. J. LEDDY
I. C. JONES, JR.
B. S. LOWRY
F. W. SPILLERS
R. E. WING
C. D. BINGER
Dow Chemical U.S.A.

Reference No. 6

EPA

POTENTIAL HAZARDOUS WASTE SITE LOG

SITE NUMBER: GA00001001

NOTE: The initial identification of a potential site or incident should not be interpreted as a finding of illegal activity or confirmation that an actual health or environmental threat exists. All identified sites will be assessed under the EPA's Hazardous Waste Site Enforcement and Response System to determine if a hazardous waste problem actually exists.

SITE NAME AND STREET ADDRESS (or other identifier): Thompson - Hayward Chemical Company

CITY: Powder Springs | STATE: GA | ZIP CODE:

SUMMARY OF POTENTIAL OR KNOWN PROBLEM: citizen complaint concerning possibility of buried glinders of liquid chlorine coming in contact with water

ITEM	DATE OF DETERMINATION OR COMPLETION	RESPONSIBLE ORGANIZATION OR INDIVIDUAL (EPA, State, Contractor, Other)	PERSON MAKING ENTRY TO LOG FORM	DATE ENTERED ON LOG (mo, day, yr)
1. IDENTIFICATION OF POTENTIAL PROBLEM	3/22/80	EPA, EEB	Fenazzuolo	6/23/80
2. PRELIMINARY ASSESSMENT				
APPARENT SERIOUSNESS OF PROBLEM: ☐ HIGH ☐ MEDIUM ☐ LOW ☐ NONE ☐ UNKNOWN				
3. SITE INSPECTION	6/2/80	EPA, Fenazzuolo	Fenazzuolo	6/23/80
4. EPA TENTATIVE DISPOSITION (check appropriate item(s) below)				
☐ a. NO ACTION NEEDED				
☐ b. INVESTIGATIVE ACTION NEEDED				
☐ c. REMEDIAL ACTION NEEDED				
☐ d. ENFORCEMENT ACTION NEEDED				
5. EPA FINAL STRATEGY DETERMINATION (check appropriate item(s) below)				
☐ a. NO ACTION NEEDED				
☐ b. REMEDIAL ACTION NEEDED				
☐ c. REMEDIAL ACTION NEEDED BUT, NO RESOURCES AVAILABLE				
☐ d. ENFORCEMENT ACTION NEEDED				
☐ (1) CASE DEVELOPMENT PLAN PREPARED				
☐ (2) ENFORCEMENT CASE FILED OR ADMINISTRATIVE ORDER ISSUED				
6. STRATEGY COMPLETED				

EPA Form T2070-1 (R.12-79) PREVIOUS EDITION MAY BE USED

EPA

POTENTIAL HAZARDOUS WASTE SITE LOG

SITE NUMBER: GA00001001

NOTE: The initial identification of a potential site or incident should not be interpreted as a finding of illegal activity or confirmation that an actual health or environmental threat exists. All identified sites will be assessed under the EPA's Hazardous Waste Site Enforcement and Response System to determine if a hazardous waste problem actually exists.

SITE NAME AND STREET ADDRESS (or other identifier): Thompson - Hayward Chemical Company

CITY: Powder Springs | STATE: GA | ZIP CODE:

SUMMARY OF POTENTIAL OR KNOWN PROBLEM: citizen complaint concerning possibility of buried cylinders of liquid chlorine coming in contact with water

ITEM	DATE OF DETERMINATION OR COMPLETION	RESPONSIBLE ORGANIZATION OR INDIVIDUAL (EPA, State, Contractor, Other)	PERSON MAKING ENTRY TO LOG FORM	DATE ENTERED ON LOG (mo,day,yr)
1. IDENTIFICATION OF POTENTIAL PROBLEM	2/22/80	EPA, EEB	Fenazzuolo	6/23/80
2. PRELIMINARY ASSESSMENT				
APPARENT SERIOUSNESS OF PROBLEM: ☐ HIGH ☐ MEDIUM ☐ LOW ☐ NONE ☐ UNKNOWN				
3. SITE INSPECTION	6/2/80	EPA, Fenazzuolo	Fenazzuolo	6/23/80
4. EPA TENTATIVE DISPOSITION (check appropriate item(s) below)				
☐ a. NO ACTION NEEDED				
☐ b. INVESTIGATIVE ACTION NEEDED				
☐ c. REMEDIAL ACTION NEEDED				
☐ d. ENFORCEMENT ACTION NEEDED				
5. EPA FINAL STRATEGY DETERMINATION (check appropriate item(s) below)				
☐ a. NO ACTION NEEDED				
☐ b. REMEDIAL ACTION NEEDED				
☐ c. REMEDIAL ACTION NEEDED BUT, NO RESOURCES AVAILABLE				
☐ d. ENFORCEMENT ACTION NEEDED				
☐ (1) CASE DEVELOPMENT PLAN PREPARED				
☐ (2) ENFORCEMENT CASE FILED OR ADMINISTRATIVE ORDER ISSUED				
6. STRATEGY COMPLETED				

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

REGION	SITE NUMBER (to be assigned by Hq)
IV	GA 000010001

GENERAL INSTRUCTIONS: Complete Sections I and III through XV of this form as completely as possible. Then use the information on this form to develop a Tentative Disposition (*Section II*). File this form in its entirety in the regional Hazardous Waste Log [illegible]. Be sure to include all appropriate Supplemental Reports in the file. Submit a copy of the forms to: U.S. Environmental Protection Agency; Site Tracking System; Hazardous Waste Enforcement Tack Force (*EN-335*); 401 M St., SW; Washington, DC 20460.

I. SITE IDENTIFICATION

A. SITE NAME: Thompson-Hayward Chemical Co.
B. STREET (or other identifier): U.S. Highway 278
C. CITY: Powder Springs
D. STATE: GA
E. ZIP CODE:
F. COUNTY NAME: Cobb

G. SITE OPERATOR INFORMATION
1. NAME: Jack Booker, Plant Mgr
2. TELEPHONE NUMBER:
3. STREET:
4. CITY:
5. STATE:
6. ZIP CODE:

H. REALTY OWNER INFORMATION (*if different from operator of site*)
1. NAME:
2. TELEPHONE NUMBER:
3. CITY:
4. STATE:
5. ZIP CODE:

I. SITE DESCRIPTION: Past disposal of chlorides & liquid chlorine, zone currently storing, however. Surface impoundment which contains runoff from dock, RR tracks and street

J. TYPE OF OWNERSHIP
- [ ] 1. FEDERAL
- [ ] 2. STATE
- [ ] 3. COUNTY
- [ ] 4. MUNICIPAL
- [x] 5. PRIVATE

II. TENTATIVE DISPOSITION (*complete this section last*)

A. ESTIMATE DATE OF TENTATIVE DISPOSITION (*mo., day, & yr.*): 7/15/80

B. APPARENT SERIOUSNESS OF PROBLEM
- [ ] 1. HIGH
- [x] 2. MEDIUM
- [ ] 3. LOW
- [ ] 4. NONE

PREPARER INFORMATION
1. NAME: R. Ferazzuolo
2. TELEPHONE NUMBER: FTS 257-2234
3. DATE (*mo., day, & yr.*): 6/23/80

III. INSPECTION INFORMATION

A. PRINCIPAL INSPECTOR INFORMATION
1. NAME: R. Ferazzuolo
2. TITLE: Chemical Engineer
3. ORGANIZATION: EPA - Region IV
4. TELEPHONE NO. (*area code & no.*): 404/881-2234

B. INSPECTION PARTICIPANTS

1. NAME	2. ORGANIZATION	3. TELEPHONE NO.
R. Ferazzuolo	EPA - Region IV	404/881-2234
J. Kadulk	GA EPD, Atlanta	404/656-2833

C. SITE REPRESENTATIVES INTERVIEWED (*corporate officials, workers, residents*)

1. NAME	2. TITLE & TELEPHONE NO.	3. ADDRESS
Jack Booker	Plant Mgr 943-5452	(see above)

Continued From Front

II. INSPECTION INFORMATION (continued)

D. GENERATOR INFORMATION (sources of waste)

1. NAME	2. TELEPHONE NO.	3. ADDRESS	4. WASTE TYPE GENERATED
Thompson-Hayward	913-5452	Highway 278, Powder Spro.	chlorine, caustics are raw materials

E. TRANSPORTER/HAULER INFORMATION

1. NAME	2. TELEPHONE NO.	3. ADDRESS	4. WASTE TYPE TRANSPORTED

F. IF WASTE IS PROCESSED ON SITE AND ALSO SHIPPED TO OTHER SITES, IDENTIFY OFF-SITE FACILITIES USED FOR DISPOSAL.

1. NAME	2. TELEPHONE NO.	3. ADDRESS

G. DATE OF INSPECTION (mo., day, & yr.)	H. TIME OF INSPECTION	I. ACCESS GAINED BY: (credentials must be shown in all cases)
		☐ 1. PERMISSION ☐ 2. WARRANT

J. WEATHER (describe) Clear and warm, temp. in mid 70's

IV. SAMPLING INFORMATION

A. Mark 'X' for the types of samples taken and indicate where they have been sent e.g., regional lab, other EPA lab, contractor, etc. and estimate when the results will be available.

1. SAMPLE TYPE	2. SAMPLE TAKEN (mark 'X')	3. SAMPLE SENT TO:	4. DATE RESULTS AVAILABLE
a. GROUNDWATER			
b. SURFACE WATER			
c. WASTE			
d. AIR			
e. RUNOFF			
f. SPILL			
g. SOIL			
h. VEGETATION			
i. OTHER (specify)			

B. FIELD MEASUREMENTS TAKEN (e.g., radioactivity, explosivity, PH, etc.)

1. TYPE	2. LOCATION OF MEASUREMENTS	3. RESULTS

Continue On Page 3

Continued From Page 2

IV. SAMPLING INFORMATION (continued)

C. PHOTOS

1. TYPE OF PHOTOS NONE
   - [ ] a. GROUND
   - [ ] b. AERIAL
2. PHOTOS IN CUSTODY OF:

D. SITE MAPPED?

- [ ] YES. SPECIFY LOCATION OF MAPS:

E. COORDINATES

1. LATITUDE (deg.-min.-sec.)
2. LONGITUDE (deg.-min.-sec.)

V. SITE INFORMATION

A. SITE STATUS

- [x] 1. ACTIVE (Those inductrial or municipal sites which are being used for waste treatment, storage, or disposal on a continuing basis, even if infrequently.)
- [ ] 2. INACTIVE (Those sites which no longer receive wastes.)
- [ ] 3. OTHER (specify): (Those sites that include such incidents like "midnight dumping" where no regular or continuing use of the site for waste disposal has occurred.)

B. IS GENERATOR ON SITE?

- [ ] 1. NO
- [x] 2. YES (specify generator's four-digit SIC Code): 2819

C. AREA OF SITE (in acres)

20

D. ARE THERE BUILDINGS ON THE SITE?

- [ ] 1. NO
- [x] 2. YES (specify):

VI. CHARACTERIZATION OF SITE ACTIVITY

Indicate the major site activity(ies) and details relating to each activity by marking 'X' in the appropriate boxes.

'X'	A. TRANSPORTER	'X'	B. STORER	'X'	C. TREATER	'X'	D. DISPOSER
	1. RAIL		1. PILE		1. FILTRATION		1. LANDFILL
	2. SHIP		2. SURFACE IMPOUNDMENT		2. INCINERATION		2. LANDFARM
	3. BARGE		3. DRUMS		3. VOLUME REDUCTION		3. OPEN DUMP
	4. TRUCK		4. TANK, ABOVE GROUND		4. RECYCLING/RECOVERY	X	4. SURFACE IMPOUNDMENT
	5. PIPELINE		5. TANK, BELOW GROUND		5. CHEM./PHYS./TREATMENT		5. MIDNIGHT DUMPING
	6. OTHER (specify):		6. OTHER (specify):		6. BIOLOGICAL TREATMENT		6. INCINERATION
					7. WASTE OIL REPROCESSING		7. UNDERGROUND INJECTION
					8. SOLVENT RECOVERY		8. OTHER (specify):
					9. OTHER (specify):		

E. SUPPLEMENTAL REPORTS: If the site falls within any of the categories listed below, Supplemental Reports must be completed. Indicate which Supplemental Reports you have filled out and attached to this for..

- [ ] 1. STORAGE
- [ ] 2. INCINERATION
- [ ] 3. LANDFILL
- [x] 4. SURFACE IMPOUNDMENT
- [ ] 5. DEEP WELL
- [ ] 6. CHEM/BIO/PHYS TREATMENT
- [ ] 7. LANDFARM
- [ ] 8. OPEN DUMP
- [ ] 9. TRANSPORTER
- [ ] 10. RECYCLOR/RECLAIMER

VII. WASTE RELATED INFORMATION

A. WASTE TYPE

- [x] 1. LIQUID
- [ ] 2. SOLID
- [ ] 3. SLUDGE
- [ ] 4. GAS

B. WASTE CHARACTERISTICS

- [x] 1. CORROSIVE
- [ ] 2. IGNITABLE
- [ ] 3. RADIOACTIVE
- [ ] 4. HIGHLY VOLATILE
- [ ] 5. TOXIC
- [ ] 6. REACTIVE
- [ ] 7. INERT
- [ ] 8. FLAMMABLE
- [ ] 9. OTHER (specify):

WASTE CATEGORIES

Are records of wastes available? Specify items such as manifests, inventories, etc. below.

—

Continue On Reverse

Continued From Front

VII. WASTE RELATED INFORMATION *(continued)*

2. Estimate the amount *(specify unit of measure)* of waste by category; mark 'X' to indicate which wastes are present.

a. SLUDGE	b. OIL	c. SOLVENTS	d. CHEMICALS	e. SOLIDS	f. OTHER
AMOUNT	AMOUNT	AMOUNT	AMOUNT	AMOUNT	AMOUNT
UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE
X (1) PAINT, PIGMENTS	X (1) OILY WASTES	X (1) HALOGENATED SOLVENTS	X (1) ACIDS	X (1) FLYASH	X (1) LABORATORY, PHARMACEUT.
(2) METALS SLUDGES	(2) OTHER *(specify)*:	(2) NON-HALOGNTD. SOLVENTS	(2) PICKLING LIQUORS	(2) ASBESTOS	(2) HOSPITAL
(3) POTW		(3) OTHER *(specify)*:	X (3) CAUSTICS	(3) MILLING/MINE TAILINGS	(3) RADIOACTIVE
(4) ALUMINUM SLUDGE			(4) PESTICIDES	(4) FERROUS SMELTING WASTES	(4) MUNICIPAL
(5) OTHER *(specify)*:			(5) DYES/INKS	(5) NON-FERROUS SMLTG. WASTES	(5) OTHER *(specify)*:
			(6) CYANIDE	(6) OTHER *(specify)*:	
			(7) PHENOLS		
			X (8) HALOGENS		
			(9) PCB		
			(10) METALS		
			(11) OTHER *(specify)*		

D. LIST SUBSTANCES OF GREATEST CONCERN WHICH ARE ON THE SITE *(place in descending order of hazard)*

1. SUBSTANCE	2. FORM *(mark 'X')*			3. TOXICITY *(mark 'X')*				4. CAS NUMBER	5. AMOUNT	6. UNIT
	a. SOLID	b. LIQ.	c. VAPOR	a. HIGH	b. MED.	c. LOW	d. NONE			
chlorine		X		X				7782-50-5		
sodium hydroxide	X	X		X		X		1310-73-2		
hydrofluorosilicic acid		X			X			16961-83-4		
muriatic acid (HCL)		X			X			7647-01-0		
sodium hypochlorite		X				X				
ethylene glycol		X			X			107-21-1		

VIII. HAZARD DESCRIPTION

FIELD EVALUATION HAZARD DESCRIPTION: Place an 'X' in the box to indicate that the listed hazard exists. Describe the hazard in the space provided.

☐ A. HUMAN HEALTH HAZARDS

Continued From Page 4

VIII. HAZARD DESCRIPTION (continued)

☐ B. NON-WORKER INJURY/EXPOSURE

☐ C. WORKER INJURY/EXPOSURE

☐ D. CONTAMINATION OF WATER SUPPLY

☐ E. CONTAMINATION OF FOOD CHAIN

☐ F. CONTAMINATION OF GROUND WATER

☒ G. CONTAMINATION OF SURFACE WATER

~~Potential for erosion of banks for surface impoundment may cause overflow into swale leading to a creek~~

Continue On Reverse

Continued From Page 6

VIII. HAZARD DESCRIPTION (continued)

☐ N. FIRE OR EXPLOSION

☒ O. SPILLS/LEAKING CONTAINERS/RUNOFF/STANDING LIQUID

Some spillage adjacent to loading docks at RR. tracks. This runs off via underground pipeline to the impoundment

☐ P. SEWER, STORM DRAIN PROBLEMS

☒ Q. EROSION PROBLEMS

Side of impoundment sloping towards gully showed visible signs of erosion

☐ R. INADEQUATE SECURITY

☐ S. INCOMPATIBLE WASTES

VIII. HAZARD DESCRIPTION *(continued)*

☐ T. MIDNIGHT DUMPING

☐ U. OTHER *(specify)*:

IX. POPULATION DIRECTLY AFFECTED BY SITE

A. LOCATION OF POPULATION	B. APPROX. NO. OF PEOPLE AFFECTED	C. APPROX. NO. OF PEOPLE AFFECTED WITHIN UNIT AREA	D. APPROX. NO. OF BUILDINGS AFFECTED	E. DISTANCE TO SITE *(specify units)*
1. IN RESIDENTIAL AREAS				—
2. IN COMMERCIAL OR INDUSTRIAL AREAS	5 -10			
3. IN PUBLICLY TRAVELLED AREAS				
4. PUBLIC USE AREAS *(parks, schools, etc.)*				

X. WATER AND HYDROLOGICAL DATA

A. DEPTH TO GROUNDWATER *(specify unit)*	B. DIRECTION OF FLOW	C. GROUNDWATER USE IN VICINITY
D. POTENTIAL YIELD OF AQUIFER —	E. DISTANCE TO DRINKING WATER SUPPLY *(specify unit of measure)*	F. DIRECTION TO DRINKING WATER SUPPLY

G. TYPE OF DRINKING WATER SUPPLY

☐ 1. NON-COMMUNITY < 15 CONNECTIONS ☐ 2. COMMUNITY *(specify town)*: > 15 CONNECTIONS

☐ 3. SURFACE WATER ☐ 4. WELL —

Continue On Page 9

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region IV, Atlanta, Georgia

DATE: February 25, 1980 — Reference No. 7

SUBJECT: Industrial Waste Site

FEB 26 1980

FROM: Deputy, Environmental Emergency Branch

TO: Jim Scarbrough
Chief, Residuals Management Branch

THROUGH: Sanford W. Harvey, Jr.
Director, Enforcement Division

On February 22, 1980, a local contractor (name unknown) notified our office that Thompson-Hayward Chemical Company has been disposing of hazardous substances underground. The plant is located on Highway 278 in Powder Springs, Georgia. According to this person, they have been disposing of chemicals in drums and cylinders at this site for many years. Drainage from this site enters a small creek and a pond.

The contractor was injured at this plant about six months ago while operating a bulldozer. The accident occurred when the blade of the dozer struck an underground cylinder of chlorine. The chlorine was sprayed into his face.

He was also told by some of the company employees that some of the drums of chemicals are buried under the pond.

R. D. Stonebraker

Richard Stonebraker

EPA Form 1320-6 (Rev. 3-76)

Reference No. 8

Thompson-Hayward Chemical Company

June 4, 1981

EPA Region IV
Consolidated Permits Branch
345 Courtland St.
Atlanta, Georgia 30365

ATTENTION: Mr. Dan Thoman

RE: EPA ID# GAD087515417

Dear Mr. Thoman:

Confirming our telephone conversation of today, the reason we filed for a hazardous waste permit was precautionary. We are not normal generators of processors of hazardous waste.

We would want to retain our EPA ID number just in case we would have an accidental spill which we would want to treat

Please let us hear from you.

Very truly yours,

Thompson-Hayward Chemical Company

Harold Vandiver
Branch Manager

HV/cc

cc: Willis Hart - Kansas City

Reference No. 9

[redacted]

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

JUN 1 1 1981

REF: 4E-CP

Mr. Harold Vandiver
Thompson-Hayward Chemical Co.
P. O. Box 20178, Station N
Atlanta, Georgia 30325

Dear Mr. Vandiver:

In response to your letter of June 4, 1981, your company, Thompson-Hayward Chemical, may retain their Environmental Protection Agency (EPA) hazardous waste identification number (GA0087515417) even though the facility is a non-handler of hazardous waste.

In the event of a spill your facility would be considered a generator of hazardous waste and subject to regulation under 40 C.F.R. Parts 261 and 262, Identification and Listing of Hazardous Waste and Standards Applicable to Generators of Hazardous Waste, respectively. However, in order to treat, store, and dispose of the waste on site, an emergency permit under 40 C.F.R. Part 122.27 would be required.

If I can be of further assistance please do not hesitate to call me at 404/881-2328.

Sincerely,

Daniel Thoman

Daniel P. Thoman
Environmental Engineer
Consolidated Permits Branch

cc: Land Protection Branch
Environmental Protection Division
Atlanta, Ga.

REC. JUN 15 1981

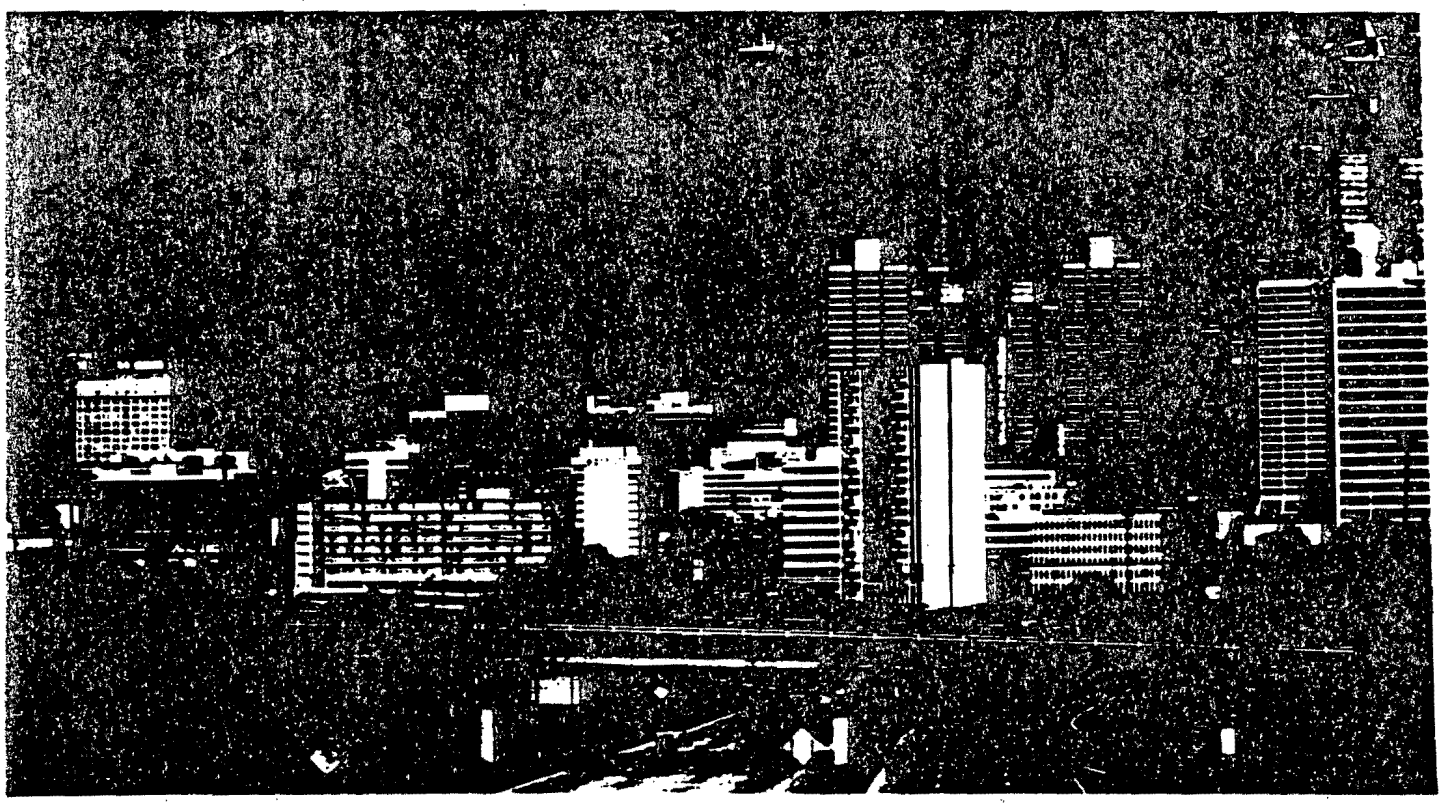
LAND PROTECTION BRANCH

~~Jennifer~~ this is probably your facility
File: Thompson Hayward Cobb Co

Reference No. 10

GEOLOGY OF THE GREATER ATLANTA REGION

Keith I. McConnell and Charlotte E. Abrams

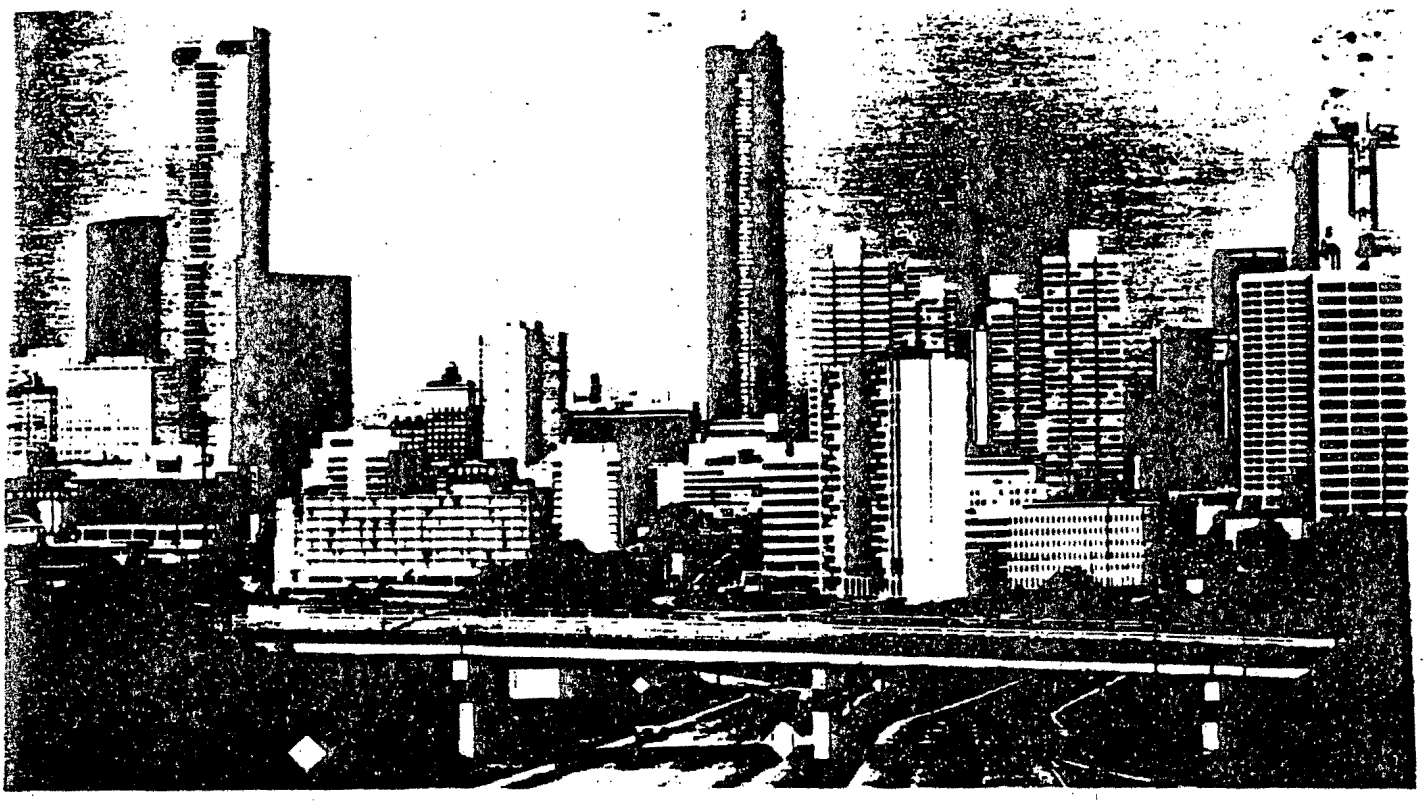


Department of Natural Resources
Environmental Protection Division
Georgia Geologic Survey

BULLETIN 96

GEOLOGY OF THE GREATER ATLANTA REGION

Keith I. McConnell and Charlotte E. Abrams



Department of Natural Resources
J. Leonard Ledbetter, Commissioner

Environmental Protection Division
Harold F. Reheis, Assistant Director

Georgia Geologic Survey
William H. McLemore, State Geologist

Atlanta
1984

BULLETIN 96

GEOLOGY OF THE GREATER ATLANTA REGION

Keith I. McConnell and Charlotte E. Abrams

ABSTRACT

The oldest rocks present in the Greater Atlanta Region (i.e., Corbin Gneiss Complex) are exposed in the crest of the Salem Church anticlinorium, a major northeast trending fold in the Blue Ridge portion of the study area. Nonconformably overlying these 1 b.y.-old Grenville gneisses are metasedimentary rocks of the Pinelog and Wilhite Formations. These two formations are interpreted as lithostratigraphic equivalents of units within the late Precambrian Snowbird and Walden Creek Groups of the Ocoee Supergroup. Stratigraphically above the Wilhite Formation is a metamorphosed clastic sequence that is interpreted as a lithostratigraphic equivalent of the Great Smoky Group as defined to the northeast of the study area. Rocks of the Murphy belt group are exposed in the Murphy synclinorium conformably above the Great Smoky Group. The Murphy belt group is composed predominantly of a metamorphosed succession of clastic rocks and also includes the Murphy Marble. The Murphy belt group does not extend southwest of the Murphy synclinorium east of Cartersville; however, rocks of the Great Smoky Group trend around the reentrant in the Cartersville fault into what is referred to as the Talladega belt. Units of the Talladega belt in this area are at least partially equivalent to the Ocoee Supergroup and therefore are late Precambrian in age.

Lithologic units of the Blue Ridge are separated from the rocks of the northern Piedmont by the Allatoona fault. The northern Piedmont can be divided into two major lithologic units, New Georgia and Sandy Springs Groups. The New Georgia Group is interpreted to contain the oldest units in this portion of the northern Piedmont and is characterized by a metamorphosed sequence of predominantly felsic and mafic volcanic and plutonic lithologies. The Sandy Springs Group is interpreted to conformably overlie the New Georgia Group and is composed dominantly of interlayered metavolcanic and metasedimentary rocks with a decreasing metavolcanic component upward in the stratigraphic sequence. Eastern and western belts of the Sandy Springs Group are separated by the Chattahoochee fault, a major tectonic boundary in the northern Piedmont.

Northern Piedmont rocks are separated from similar lithologies and stratigraphic sequences in the southern Piedmont by the Brevard fault zone. In the Greater Atlanta Regional Map area, the Brevard zone is a zone of early ductile and late, brittle shearing that is interpreted to have formed, at least in part, as a result of high strain along the axial zone of a large F_1 isocline. No major vertical displacement is apparent along this segment of the Brevard zone.

South of the Brevard fault zone, units defined as Atlanta Group by previous workers are interpreted in this report to be exposed in a large-scale synformal anticline. The Atlanta Group is characterized by metamorphosed sedimentary and volcanic rocks that have many similarities to lithologies north of the Brevard zone. Possible correlations between the Atla Group and the New Georgia and Sandy Springs Groups a presented in this report.

Paleozoic plutonic rocks present within the Grea Atlanta Regional Map area are divided into three ma categories based upon chemical composition, depth of intrus and time of intrusion relative to Paleozoic metamorphis Earliest (category 1) intrusions were emplaced at shall levels coincident with volcanism, are concordant to the regio trend, and are characterized by dacitic subvolcanic plut and volcanics. Category 2 plutons were intruded synt tonically, at an intermediate level in the crust, and a characterized by moderately high concentrations of potassiu nearly concordant contacts with the country rocks and a la of any association with volcanism. Both category 1 and plutons have a metamorphic overprint. The final category Paleozoic intrusive rocks present in the study area is dom nantly granitic in composition, lacks a metamorphic overpri is discordant to the regional trend and does not have a volcar component. Plutons of category 3 are known to occur on south of the Brevard fault zone.

Two major regional progressive metamorphic events a seven deformational events have been recognized in the stu area. The earliest deformation and metamorphism recogniz occurred during the Grenville orogeny (approximately 1.0 m.y. ago) and is reflected only in basement gneisses of the Bl Ridge. The second metamorphic event is interpreted to ha occurred approximately 365 m.y. ago and was associated wi a major episode of isoclinal recumbent folding (F_1). Axi planar foliation (S_1) associated with this fold event represen the dominant planar feature in crystalline rocks of the are Folds related to this deformation have not been recognize within the Valley and Ridge west of the Cartersville faul partially supporting the existence of the fault east Cartersville. F_2 folding postdated Paleozoic metamorphisr and is responsible for the geometry of outcrop patterns in th Greater Atlanta Region. Subsequent folding events (F_3 an F_4) interfere with earlier fold patterns and complicate outcro patterns of map units.

Twenty-eight commodities have been mined or prospecte within the boundaries of the Greater Atlanta Regional Map Of these various commodities only barite, ocher, sand, granit (dimension stone and crushed), limestone, structural clays and marble are still being mined. Areas of extensive mining and (or) prospecting include the limestone, bauxite and shale deposits of Floyd and Polk Counties; barite, ocher [illegible] and manganese deposits of the Cartersville district; [illegible] massive sulfide and gold deposits in the northern [illegible] and crushed and dimension stone from quarries [illegible] Mountain, Panola, Palmetto, and Ben Hill [illegible] and Lithonia Gneiss south of the Brevard fault zone [illegible] the Austell, Sand Hill, Kennesaw and Dallas gneisses [illegible] the Brevard zone.

ACKNOWLEDGEMENTS

The Atlanta Regional Map project involved many former and present day members of the Georgia Geologic Survey. Special recognition should go to Samuel M. Pickering, Jr., former State Geologist, who originated the Atlanta Regional Map project and to Joseph B. Murray and David E. Lawton who supervised the initial stages of this investigation. Also, we would like to recognize several former members of the Georgia Survey who, since their departure, have given support and guidance in the various areas that they worked. These include John O. Costello, Falma J. Moye, and Robert E. Dooley. In addition, we sincerely appreciate the support and assistance given to us by representatives of the mineral industry. In particular, the efforts of Randy Slater of Tennessee Chemical Corporation in gaining access to core from western Georgia was particularly helpful. Other members of the mineral industry who have assisted us through discussions and chemical analyses will, at their own request, remain anonymous. Outside technical review of the manuscript was by Robert D. Hatcher, Jr., James F. Tull, and James A. Whitney. Stan D. Bearden reviewed the mineral location map for the Cartersville district. Finally, we would like to express our appreciation to Gilles O. Allard and Robert H. Carpenter for their reviews of the economic geology portion of the Greater Atlanta Regional Map report and for their assistance and guidance in our efforts to understand and promote the ore deposits of west Georgia.

INTRODUCTION

Purpose and Methods

This report presents results of the Greater Atlanta Regional Map project, an effort to develop a comprehensive geologic data base for the rapidly growing Atlanta metropolitan area. The primary objective of the Atlanta Regional Map project was to provide a compilation and synthesis of existing and newly derived geologic information for the Greater Atlanta Regional Map area for use by private industry, the general public, and the geological community. A secondary objective of this project was to compile a single-source listing and map of mines and prospects in the Atlanta area primarily for use by the mineral industry. When aspects of mapping related to the Greater Atlanta Regional Map project generated interest from within the mineral exploration community, the economic part of the project was expanded to include a detailed examination of the origin of base and precious metal deposits in the Atlanta area.

The base used for the above-mentioned compilations is the map of the Greater Atlanta Region. The Atlanta map was the first of a new series of 1:100,000 scale topographic maps produced by the U.S. Geological Survey. Unlike 1:100,000 scale maps that followed it, the Greater Atlanta Regional Map was not in the 1° of longitude format. The Greater Atlanta Regional Map encompasses 1 degree, 30 minutes longitude and 1 degree of latitude and is centered on the city of Atlanta (Fig. 1). Ninety-six 7.5-minute quadrangles are contained within the boundaries of the Greater Atlanta Regional Map (Fig. 1) as are portions of three major geologic provinces (i.e., Valley and Ridge, Blue Ridge, and Piedmont).

To produce a geologic map of an area as large as that contained within the Greater Atlanta Regional Map requires an enormous amount of time and money. For that reason, existing geologic literature was reviewed in an effort to find suitable geologic mapping for compilation. Some information used in compilation of the geologic map of the study area (Plate I) was available as open-file maps at the Georgia Geologic Survey. Geologic information also was available from various hydrologic reports and nearly all of the Valley and Ridge portion of the Greater Atlanta Regional Map was compiled from these hydrologic maps.

At the start of this project much of the Blue Ridge and Piedmont contained within the boundaries of the Greater Atlanta Regional Map lacked adequate geologic mapping. A major task of the Greater Atlanta Region project was to provide mapping for these areas. In a cooperative effort, members of the Georgia Geologic Survey, U.S. Geological Survey and the University System of Georgia performed detailed and reconnaissance geologic mapping on 7.5-minute base maps. Detailed mapping generally was reserved for those areas that were exceedingly complex structurally or were of potential economic significance. Detailed petrographic studies were limited to the formal definition of specific lithologic units. Many of these petrographic studies were included in derivative reports and investigations. Chemical analyses of rocks were restricted to selected units. Most of the analytical work reported in this investigation was performed in laboratories of the Georgia Geologic Survey and U.S. Geological Survey, although some analytical work on potentially economically significant units was provided by several mineral exploration companies.

Any compilation of data from multiple sources requires compromises in the handling of differing interpretations and mapping detail in adjacently mapped areas. Also, all areas could not be mapped to the degree that would provide a complete and solid data base for interpretation. This report contains examples of all of these compromises and constraints. In particular, all areas within the study area were not mapped to the same degree of detail (see Appendix D) and, therefore, some compromises regarding lithostratigraphic contacts were necessary. In addition, controversial areas for which more than one interpretation of the geology existed required a judgement as to which interpretation was to be used on the compilation. Justification for the interpretations used are included within the text of this report.

Belt Terminology

Any author of a regional report on the geology of crystalline rocks in the southeast almost immediately encounters the problems related to the "belt" terminology which is commonly used to define the major rock groupings as long, linear belts. Although there is almost universal dislike for the "belt" terminology, terms such as Blue Ridge, Inner Piedmont, Talladega, etc., have become entrenched in the literature and in the minds of Appalachian geologists. The use of these terms has almost become an obligatory part of any manuscript written on the southern Appalachian orogen. Faced with these entrenched terms, authors of reports on crystalline rocks in the southeast must select one of four alternatives in preparing a manuscript: 1) using the belt classification of either Crickmay (1952) or King (1955); 2) using a previous

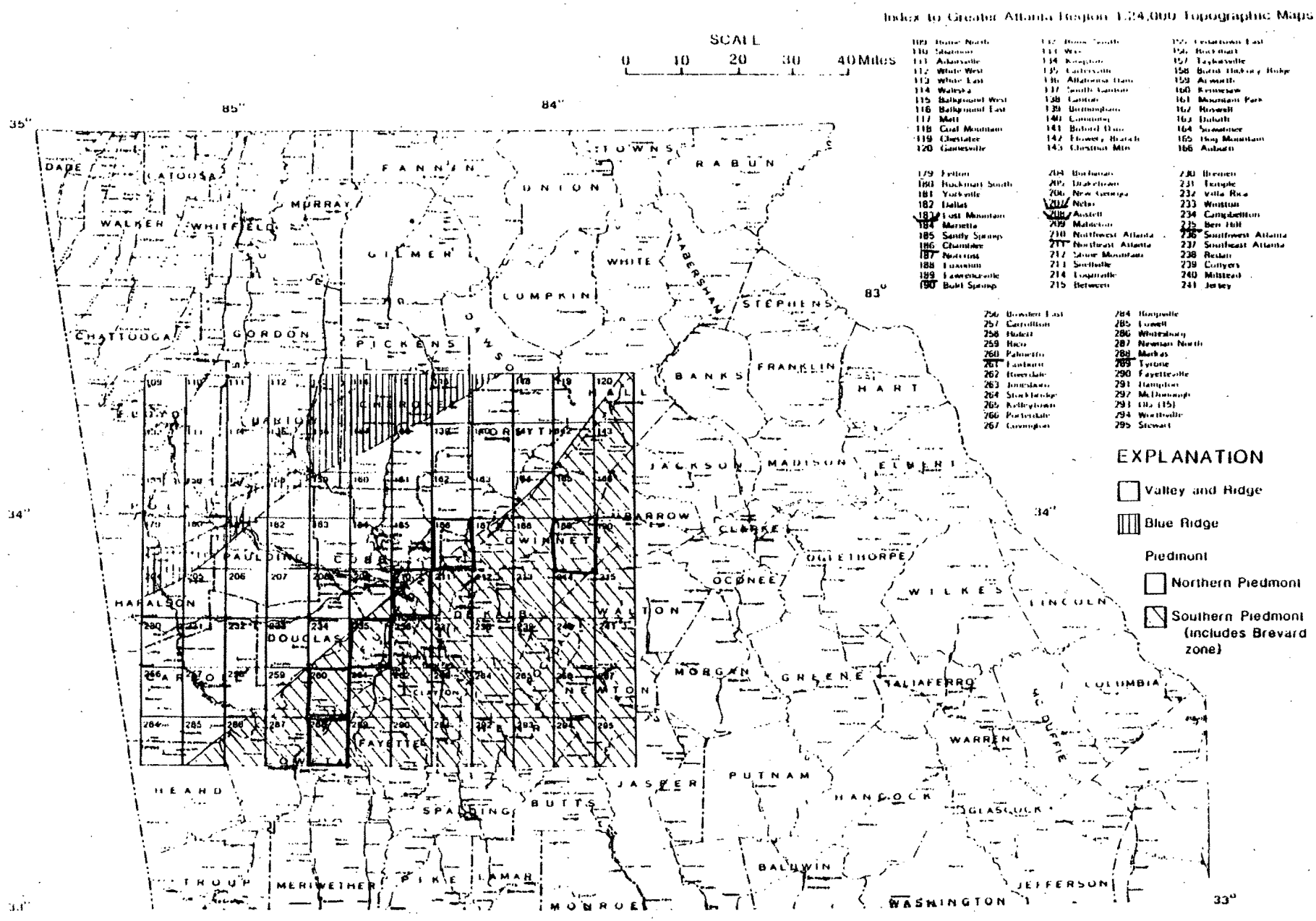


Figure 1. Greater Atlanta Regional Map area with geologic provinces and

defined modification of these classifications (e.g., Hatcher, 1978a); 3) proposing a new modification of these classifications based upon local considerations; or 4) proposing an entirely new classification. All of the four alternatives listed above have drawbacks, and selection of any one alternative will not meet with universal acceptance. In the report on the Greater Atlanta Region, we have chosen to follow the third alternative and propose a modification of King's (1955) original classification. This modification of King's classification of geologic belts and the reasoning behind it are presented below.

In choosing the third alternative, we have eliminated the other three based on the following considerations. In the 30 years since Crickmay (1952) and King (1955) originally proposed their belt terminology, knowledge of the geology of the crystalline rocks in the southern Appalachians has increased substantially. Detailed mapping has shown that the belts as originally defined are too general, have little relation to physiographic provinces, and have poorly defined boundaries. Because of this, geologists in various parts of the orogen have modified the belt terminology to fit their own particular observations. Thus, Hatcher (1978a) modified King's Blue Ridge by separating it into three subdivisions: an eastern, a central and a western Blue Ridge belt, while Neathery and others (1974, 1975) termed part of what King called Blue Ridge as northern Piedmont. Belt modifications of neither Hatcher nor Neathery are appropriate when applied to major lithologic units of the Greater Atlanta Region. Lithologic units of the study area contain characteristics that lend support to both Hatcher and Neathery's belt modifications, but also do not completely fit either author's modification of King's belts. For the above reason we feel that alternatives 1 and 2 as presented above have more liabilities than good characteristics and therefore have not been used in this report.

The fourth alternative is to propose an entirely new classification based on local considerations. The problem with this alternative is that the terms Piedmont and Blue Ridge have become so entrenched in the literature that it is doubtful that any locally defined terminology proposed would ever reach any significant level of usage or recognition outside of the State of Georgia. An example of this is Crickmay's (1952) terminology which has been largely ignored outside of the state. We, therefore, conclude that the third alternative of proposing a new modification of preexisting terms based on local considerations is the most appropriate.

Rocks of the Atlanta Region in this report are divided into three major geologic provinces (Valley and Ridge, Blue Ridge, and Piedmont) as modified after King (1955). Physiographic terms used for the belt terminology are retained because they are so entrenched in the literature, but it must be emphasized that they have little or no relevance to the physiographic provinces.

In this report the Valley and Ridge geologic province is similar to the Valley and Ridge belt of King (1955). It is composed of the unmetamorphosed to weakly metamorphosed rocks of the foreland fold and thrust belt, but also includes the basal lower Cambrian clastic rocks of the Chilhowee Group (Unaka belt of King, 1955). The southern and eastern boundary of the Valley and Ridge geologic province is the Cartersville fault that separates the relatively unmetamorphosed lower Cambrian lithologies from late Precambrian Ocoee Supergroup lithologies.

The Blue Ridge geologic province as defined in this re bears little resemblance to the Blue Ridge belt as define King (1955). King (1955) recognized that the Blue Ridge included portions of the Blue Ridge and Piedmont phy graphic provinces and generally defined it as comprising area between the Unaka Mountains on the northwest and Brevard fault zone to the southeast. King also recogn several less extensive belts in the Blue Ridge, namely Dahlonega and Murphy belts. Other geologists have t troubled by the broadly defined Blue Ridge belt and h modified it into either several smaller belts (i.e., easte central, and western Blue Ridge belts of Hatcher, 1978a termed part of King's Blue Ridge belt, northern Piedm (Neathery and others, 1974, 1975). Hatcher's eastern B Ridge belt roughly corresponds with the northern Piedm as defined in Alabama, with one notable exception: inclusion of the Talladega belt in the northern Piedmont Alabama.

In this report on the Greater Atlanta Region we define Blue Ridge geologic province as covering the area between Cartersville and Allatoona faults, including rocks of Talladega and Murphy belts. The Blue Ridge geologic provir therefore coincides generally with the rifted continen margin where debris from the continent was deposit (miogeoclinal portion of the orogen).

Rocks lying between the Allatoona fault and Fall Li (Coastal Plain unconformity) are interpreted to lie in t Piedmont geologic province. Since the Brevard represents prominent feature in this area and separates similar lithologi and stratigraphic sequences, the area north and west of tl Brevard fault zone is termed northern Piedmont and th south and east of the Brevard is termed southern Piedmor The northern Piedmont as defined in this report differs fro the northern Piedmont as defined in Alabama in that tl former does not include rocks of the Talladega belt. Tl boundary between Blue Ridge and Piedmont geologic pr vinces roughly corresponds to the transition from miogeoclin to eugeoclinal deposition in the Appalachian orogen.

The southern Piedmont as defined in this report woul cover the area between the Brevard fault zone and the Coasta Plain overlap. Rocks of the Charlotte and Carolina slate belt are interpreted as subdivisions of the southern Piedmon much as the Talladega and Murphy belts represent sub divisions of the Blue Ridge geologic province.

Previous Works

VALLEY AND RIDGE

As with most of northwest Georgia, earliest reports on the geology of that part of the Greater Atlanta Regional Map area underlain by Valley and Ridge rocks were done by C.W. Hayes (1891, 1901, 1902). In these early reports, Hayes outlined the stratigraphy and structure of a major portion of the Valley and Ridge in Georgia, named and defined the Coosa, Rome, and Cartersville faults in this same area (1891, 190[illegible] [illegible] set the stage for numerous subsequent argumen[illegible] the position of the Cartersville fault by moving the tra[illegible] ard from his original interpretation (Hayes, 1901 [illegible] ugh much of Hayes' work was modified later, the [illegible] on-tributions of this exceptional pioneer in Georgia [illegible] still remain intact. At about the same time as Hayes was [illegible] ning

his reports on the Valley and Ridge. Spencer (1893, p. 3) published a compendium on the "scientific, economic, and agricultural standpoints" of the Paleozoic Group in northwest Georgia. More specifically, Spencer (1893) described the geology and mineral resources of Polk, Floyd, Bartow, Gordon, Murray, Whitfield, Catoosa, Chattooga, Walker and Dade Counties.

For a short period of time following Hayes' and Spencer's work, advances in the knowledge of the geology of the Valley and Ridge followed the lines of individual economic mineral studies in a series of bulletins published by members of the Geological Survey of Georgia. Most of these reports covered the occurrence of economic minerals throughout the State with only a portion of the report covering northwest Georgia. Topics covered in these reports include: iron ores in Polk, Bartow, and Floyd Counties (McCallie, 1900); bauxite (Watson, 1904); ocher (Watson, 1906); fossil iron ore deposits (McCallie, 1908); limestones and cement materials (Maynard, 1912); slate (Shearer, 1918); and barite (Hull, 1920). In addition, two reports on manganese deposits of Georgia were produced (Watson, 1908; Hull and others, 1919) as well as a second report on iron ore deposits (Haseltine, 1924). Somewhat later, Smith (1931) published on shales and brick clays of Georgia and Furcron (1942) reported on dolomites and magnesium limestones.

In 1948, a revision of Valley and Ridge stratigraphy was published by Butts and Gildersleeve (1948). Much of these data were incorporated previously into the State Geologic Map of 1939 (Cooke and others, 1939). Butts and Gildersleeve (1948) provided some revisions to the 1939 map and included a section on the mineral resources of northwest Georgia. Kesler (1950) subsequently published his detailed report on the geology and mineral resources of the Cartersville area. In this report, Kesler disputed the existence of the Cartersville fault of Hayes (1901) and revised the Paleozoic stratigraphy in the Cartersville area. An important aspect of Kesler's stratigraphic revision is that he limited the Shady Dolomite to the stratigraphic zone containing interbedded hematite and dolomite. This aspect of Paleozoic stratigraphy will be discussed further in following paragraphs.

Croft (1963) produced the first of two reports on the hydrology of Bartow County in which he indicated that much of the Lower Cambrian sequence was overturned. Shortly after the publication of Croft's report, the Geological Society of Georgia made the Cartersville fault problem and associated Paleozoic stratigraphy the subject of a field trip. In the report published for the field trip, Bentley and others (1966) suggested that the Cartersville fault did not exist south of Bolivar and that quartzites unconformably overlying the Corbin gneiss are Weisner Formation (Chilhowee Group).

Cressler (1970) published a report on the hydrology of Floyd and Polk Counties and McLemore and Hurst (1970) reported on the carbonate rocks of the Coosa Valley area. Cressler and others (1979) published the second report on the geohydrology of Bartow County that also included the geohydrology of Cherokee and Forysth Counties, which lie east of the Cartersville fault. Cressler and others (1979) provided mapping in the Cartersville area and, like Butts and Gildersleeve (1948) and Croft (1963), expanded the limits of the Shady Dolomite to include dolomitic limestones that Kesler (1950) had placed in the Rome Formation. Included in the report by Cressler and others (1979) were the results mapping in southern Bartow County by Crawford (197 1977b). This mapping outlined the trace of the Cartersv fault through southern Bartow County. Much of the inforr tion derived by Cressler and Crawford was presented on Georgia Geological Society field trip in 1977 (Chowns, 197

The first detailed study of the stratigraphy and depc tional environments of the lowermost Cambrian rocks in nor western Georgia was carried out by Mack (1980). Mack's wc established the internal stratigraphy for the Chilhowee Grc just west of the Cartersville fault and related these findings the better known Chilhowee Group in Tennessee.

Reade and others (1980) published the results of th investigation in the Emerson-Cartersville area. Most mappi done in that investigation took place in the barite pits of Thompson-Weinman Corporation. In that report, usage of t term "Shady Formation" is restricted to a black dolosto directly above the ledge-forming quartzites of the Weisn Formation, whereas dolostones above this black carbonate a placed in the Rome Formation. Reade and others' (198 definition of the Lower Cambrian stratigraphy, which similar to that of Kesler's (1950) stratigraphy, is an indicati of the problems involved with stratigraphic and structur interpretation in the Cartersville area.

BLUE RIDGE

In this report, the term Blue Ridge is limited to tho rocks present between the Allatoona fault (McConnell ar Costello, 1980b) and the Cartersville fault. As with the Valle and Ridge, the earliest work in the Blue Ridge was done t C.W. Hayes. In 1891, Hayes first reported on faulting in ti Cartersville area and introduced the term "Cartersville fault Hayes (1891) mapped the trace of the Cartersville fau directly through the city of Cartersville possibly coincide with what is now referred to as the White fault. In subsequent publication Hayes (1901) relocated the fault a fe miles to the east. Much of Hayes' work in the Blue Ridg remains unpublished. In his unpublished Cartersville foli Hayes (1895) outlined the stratigraphy and structure of th Blue Ridge just east of the Cartersville fault and pointed ou the nonconformity between the Corbin Gneiss and its cove sequence. In addition, Hayes' map implied equivalenc between those rocks overlying the Corbin Gneiss Complex an rocks that were later to be termed Talladega belt rock (Crickmay, 1952). Hayes' early work and relocation of th trace of the Cartersville fault set the stage for an 80-yea controversy over the existence of the fault and the stratigraph of the sedimentary and crystalline rocks in the Cartersvil area. This controversy persists today.

Shortly after Hayes' work, the series of publications b the Geological Survey of Georgia regarding various minera commodities began. These publications specifically related t Blue Ridge geology include McCallie's (1907) report on the marbles of Georgia, Hull's (1920) report on [illegible] (1935) report on kyanite and vermiculite, and [illegible] and Teague's (1945) report on sillimanite and [illegible]. During this same period, Bayley (1928) publishe[illegible] of the Tate quadrangle and described in deta[illegible] types of Georgia marble. Also, Crickmay (193[illegible] the Talladega Series in the southern Appalachi[illegible] that portion of the Blue Ridge in the Greater Atla[illegible]

Map. Crickmay (1936) indicated that the Talladega Series, originally defined in Alabama, extends across western Georgia to near Cartersville and then turns northward toward North Carolina and Tennessee. In that interpretation rocks of the Murphy belt group and parts of the Ocoee Supergroup were considered part of the Talladega series. With the publication of Crickmay's report, the controversy over the Cartersville fault problem began in earnest. In 1950, Kesler indicated that the Cartersville fault did not exist east of Cartersville and that the Corbin Gneiss was a "static emplacement." Rocks overlying the Corbin were included in the Lower Cambrian Valley and Ridge sequence and amphibolites south of the Allatoona fault were considered to be para-amphibolites (i.e., metamorphosed Rome shale) Kesler (1950).

In 1964, Sever published a report on the geology and ground water in Dawson County in the extreme northeastern part of the study area, and Fairley (1965) revised the work of Bayley (1928) in the Tate Quadrangle. Smith and others (1969) published a listing of previous and new isotopic age dates and an isograd map of Georgia which included the Blue Ridge. Shortly before Smith and others' (1969) report, the Cartersville fault problem was addressed at the annual meeting of the Georgia Geological Society (Bentley and others, 1966). Bentley and others (1966) extended the Cartersville fault southward to near Bolivar, but questioned its existence east of Cartersville. They reassigned rocks defined by Hayes as Ocoee to the Weisner Formation of the Chilhowee Group (Bentley and others, 1966).

In 1970, Crawford and Medlin suggested that graphitic phyllites of the Talladega belt were equivalent to those in the Sandy Springs Group and Cressler (1970) described parts of the Talladega belt in his study of the geology and hydrology of Polk County. Hurst (1970, 1973) published regional reports that included what is here termed "Blue Ridge." Hurst (1970) outlined metamorphic isograds and indicated that the Cartersville fault was present east of Cartersville. Hurst (1973) interpreted the Cartersville fault to be absent east of Cartersville and equated rocks overlying the Corbin Gneiss with the Weisner Formation and Shady Dolomite. Crawford and Medlin (1973) suggested that Talladega belt rocks are equivalent to rocks exposed in the Austell-Frolona antiform to the southeast; Fairley (1973) equated members of the Murphy belt group with rocks south of the Allatoona fault (i.e., New Georgia Group of this report); and Power and Forrest (1973, p. 698) described the stratigraphy and paleogeography of the Murphy belt group suggesting it represented an "ancient transgressive linear shoreline."

During 1973, information regarding relative ages of rocks in the Blue Ridge also was published. McLaughlin and Hathaway (1973) described the occurrence of fossils in the Murphy Marble that suggested an early Paleozoic age for the marble, but Chapman and Klatt (1983) cast doubt on this interpretation by showing that fossils associated with the Murphy marble are within Quaternary sinkhole deposits. Odom and others (1973) reported a Pb-Pb age of 1000 m.y. from zircons extracted from the Corbin Gneiss. Dallmeyer (1975) confirmed a Grenville or Proterozoic Y age for the Corbin Gneiss using $^{40}Ar/^{39}Ar$ techniques.

Since 1973, published work on Blue Ridge geology was related primarily to problems of the Cartersville fault east of Cartersville and the stratigraphy and structure of the rocks southeast of Emerson (Plate I). Crawford (1976, 1977a, 1977b), in several open-file maps, outlined the lithologic characteristics of the northeastern portion of the Talladega belt. Crawford's interpretation of the western portion of the Cartersville fault was reported in the Georgia Geological Society guidebook prepared by Chowns (1977). Crickmay (1933) and Costello (1978) reported on ductile shear zones in the Corbin Gneiss; O'Connor and others (1978) reported on the stratigraphy and structure of the Salem Church anticlinorium; and McConnell and Costello (1979) indicated that large-scale crustal shortening had occurred in the southwestern Blue Ridge. Cressler and others (1979) and Crawford and Cressler (1981, 1982) suggested that the Talladega "Group" and associated lithologies overthrust the Great Smoky fault (an extension of the Cartersville fault in this report) and the southwestern terminus of the Salem Church anticlinorium along a low-angle fault termed the "Emerson (Cartersville) fault." McConnell and Costello (1980b, 1982a) disputed this interpretation and suggested that rock units of the Talladega belt bend around the Emerson reentrant in the Cartersville-Great Smoky fault (Cartersville fault in this report) and merge with rocks of the Ocoee Supergroup. McConnell and Costello (1980b) and Costello and McConnell (1980) outlined the basic stratigraphy of rocks nonconformably overlying the Corbin Gneiss equating them to the Ocoee Supergroup. Some of these units were later formalized (McConnell and Costello, 1984).

Other recent publications on the geology of the Blue Ridge include "Economic geology of the Georgia Marble District" (Power, 1978), a report on uranium in graphitic phyllites in this area (McConnell and Costello, 1980a), and an abstract on recumbent folding in rocks nonconformably overlying the Corbin Gneiss (Costello and McConnell, 1981). In 1982, a preliminary compilation of the geology in the Greater Atlanta Regional Map area was published (McConnell and Abrams, 1982a).

NORTHERN PIEDMONT

The term northern Piedmont as used in this report includes those rocks northwest of the Brevard fault zone and southeast of the Allatoona fault. Although the problem of regional "belt" terminology was discussed in a previous section, it can be said here that rocks and stratigraphic successions of the northern Piedmont strongly resemble those south of the Brevard fault zone and differ from Ocoee Supergroup, Murphy belt group and Talladega "Group" rocks north of the Allatoona fault. These relationships as well as the fact that the area between the Brevard and Allatoona faults is physiographically Piedmont are the factors related to terming this area northern Piedmont.

Previous works on the geology of the northern Piedmont are bimodally split with regard to time. During the late 1800's and early 1900's, bulletins published by the Geological Survey of Georgia dealt with many economic minerals known to occur in the northern Piedmont. Early publications relating to economic mineral and rock occurrences present in the northern Piedmont include reports on corundum deposits (K[illegible] 1[illegible]), gold deposits (Yeates and others, 1896; Jones, 1909) [illegible]es and gneisses (Watson, 1902), manganese (Watson [illegible]), asbestos, talc and soapstone (Hopkins, 1914), pyrite [illegible]its (Shearer and Hull, 1918) manganese (Hull and other[illegible] 19[illegible]).

iron ore deposits (Haseltine, 1924), and aluminosilicate deposits (Prindle, 1935; Furcron and Teague, 1945).

In the years between 1945 and 1966, only two reports on the northern Piedmont were published: Crickmay's (1952) *Geology of the crystalline rocks of Georgia* and Hurst's (1955) geologic map of the Kennesaw Mountain-Sweat Mountain area. In his report, Crickmay coined the belt terminology for Georgia and included what in this report is termed northern Piedmont in his Wedowee-Ashland and Tallulah belts.

Publications relating to the geology of the northern Piedmont picked up again in the late 1960's with Higgins' (1966) report and map (Higgins, 1968) on the Brevard zone. In these publications, Higgins outlined the general stratigraphy north of the Brevard fault zone near Atlanta and introduced the term Sandy Springs Sequence, which was subsequently revised to the Sandy Springs Group by Higgins and McConnell (1978a, 1978b). In the early 1970's Hurst published two regional studies (1970, 1973) on crystalline rocks in Georgia. In the latter of these, Hurst (1973) used the term "Blue Ridge" for what in this report is referred to as northern Piedmont. In addition, Hurst (1973), using terms originally introduced in Alabama by Adams (1926), defined the Ashland Group and Wedowee Formation in Georgia. These terms, derived from rock units described in Alabama, were used to define rocks in the southwestern part of the northern Piedmont. The use of these terms and their applicability are discussed in detail in a later section.

Hurst and Crawford (1970) published a report on the sulfide deposits of the Coosa Valley area which included geochemical maps as well as reconnaissance mapping in Paulding and Haralson Counties and descriptions of cores from various sources. Similar compilations were published by Long (1971) and Hurst and Long (1971) for the Chattahoochee-Flint area. Crawford and Medlin (1970, 1971, 1973, 1974) and Medlin and Crawford (1973) described the stratigraphy and structure of the northern Piedmont in west-central Georgia. These reports presented interpretations regarding the stratigraphy and structure of the area between the Cartersville and Brevard fault zones. Additional publications from the mid-to-early 1970's are: the petrology and geochemistry of some of the felsic gneisses in west Georgia (Coleman and others, 1973; Bearden, 1976; Sanders, 1977); origin and strontium isotope composition of amphibolites in the Cartersville to Villa Rica area (Hurst and Jones, 1973; Jones and others, 1973); a geologic map of Forsyth and parts of Fulton Counties (Murray, 1973); open-file maps of an area along the northwestern border of the northern Piedmont (Crawford, 1976, 1977a, 1977b); and K-Ar dates of rocks on either side of the Brevard zone (Stonebraker, 1973).

In the late 1970's there was a revival of interest in publications regarding economic minerals and their occurrences. Cook (1978b, 1978c) reported on soil geochemistry in the area of the Franklin-Creighton gold mine and on several other massive sulfide deposits in western Georgia. Somewhat later Abrams and others (1981), Abrams and McConnell (1981a, 1982a, 1982b, 1982c) and McConnell and Abrams (1982b, 1983) interpreted the massive sulfide and gold deposits in west Georgia to be volcanogenic in origin and showed the genetic and geographic relationship between banded iron formation and most of the major massive sulfide and gold deposits in west Georgia.

During the late 1970's and early 1980's the results studies on stratigraphic and structural problems in northern Piedmont on both local and regional scales w published. Higgins and McConnell (1978a; 1978b) revised a formalized the terminology of the Sandy Springs Group; Kl (1980, 1981) indicated that rocks of the Sandy Springs Grc are present south of the Brevard fault zone; McConnell (198 described a metabasaltic unit with back-arc basin affinit (i.e., Pumpkinvine Creek Formation) on the northweste border of the northern Piedmont; and Abrams and McConn (1981a, 1981b) and McConnell and Abrams (1978) revised stratigraphy and structural interpretations in the Aust Villa Rica area emphasizing the influence of multi deformation in this area. Two regional studies were complet in this period. McConnell and Costello (1980b) led a field t across the northern Piedmont and southwestern Blue Rid and defined the major rock units and structural features those two areas, and McConnell and Abrams (1982a) compil the available data for the northern Piedmont onto one map

SOUTHERN PIEDMONT AND BREVARD FAULT ZONE

The term southern Piedmont, as used in this repo consists of rocks southeast of the Brevard fault zone. Th usage would include parts of King's (1955) Inner Piedmo belt and Crickmay's (1952) Dadeville belt.

As with all of the aforementioned geographic areas, sor of the earliest work performed in the southern Piedmont w published in the form of bulletins describing economic miner occurrences. Economic minerals and rocks that were discuss in this area include corundum (King, 1894); gold (Yeates ar others, 1896; Jones, 1909); asbestos, soapstone and talc depos (Hopkins, 1914); granites and gneisses (Watson, 1902); kyani and vermiculite (Prindle, 1935); sillimanite and kyani (Furcron and Teague, 1945); and pyrite deposits (Shearer ar Hull, 1918).

The first significant study of the geology of the souther Piedmont outside of economic reports was that done Crickmay (1952) in his study of the crystalline rocks Georgia. Crickmay (1952) termed rocks of the Brevard fau zone the Brevard belt and rocks southeast of the Brevard th Dadeville belt. Two observations in Crickmay's report ar interesting in light of the current ideas regarding the natur of the Brevard fault zone. Crickmay commented on th "button" schist, suggesting that it resulted from the formatio of a second cleavage, and also noted that rocks of the Dadevil belt were "essentially a repetition of the rocks of the Tallula belt . . ." (i.e., northern Piedmont) (Crickmay, 1952, p. 6).

Following the work of Crickmay, interest turned to th major post-metamorphic granite intrusives which are s prominent in the Piedmont southeast of the Brevard zon Herrmann (1954) provided the first detailed mapping in th southern Piedmont in the Stone Mountain-Lithonia distric Herrmann (1954) described in detail the structure an petrography in this area as well as the aggregate industry tha had developed. Beginning in 1957, a series of abstracts an articles was published regarding the age of some of th aforementioned granite intrusives. Pinson and others (1957 reported ages of approximately 280 m.y. for the Ston Mountain Granite, 290 m.y. for the Lithonia Gneiss and 34 m.y. for the Ben Hill Granite. Subsequent publications by Pinson and others (1957a, 1958) and Grunenfelder and Silve

Reference No. 11

EPA-600/2-87-(
April 1

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

by

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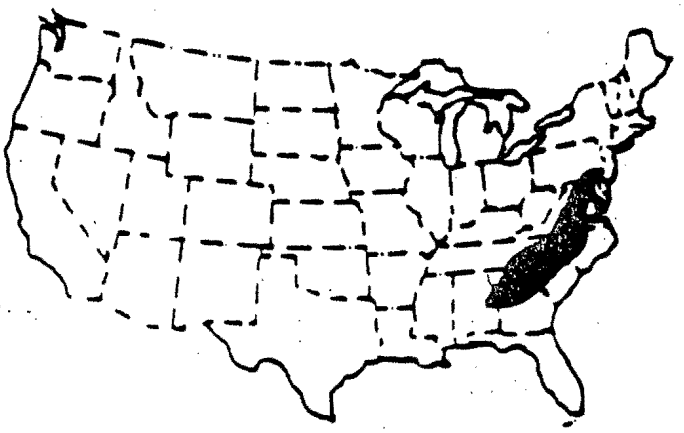
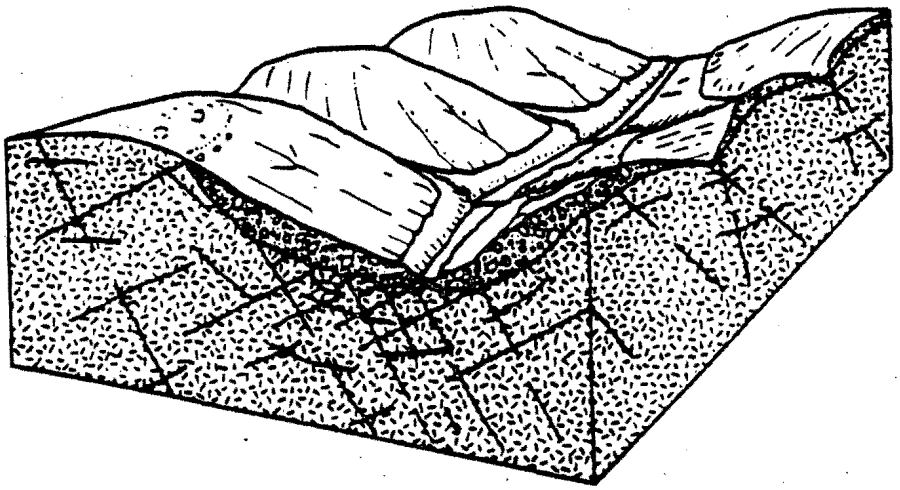
8. PIEDMONT BLUE RIDGE GROUND-WATER REGION





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

8. PIEDMONT BLUE RIDGE REGION

(Thick regolith over fractured crystalline and metamorphosed sedimentary rocks)

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

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

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

REFERENCES

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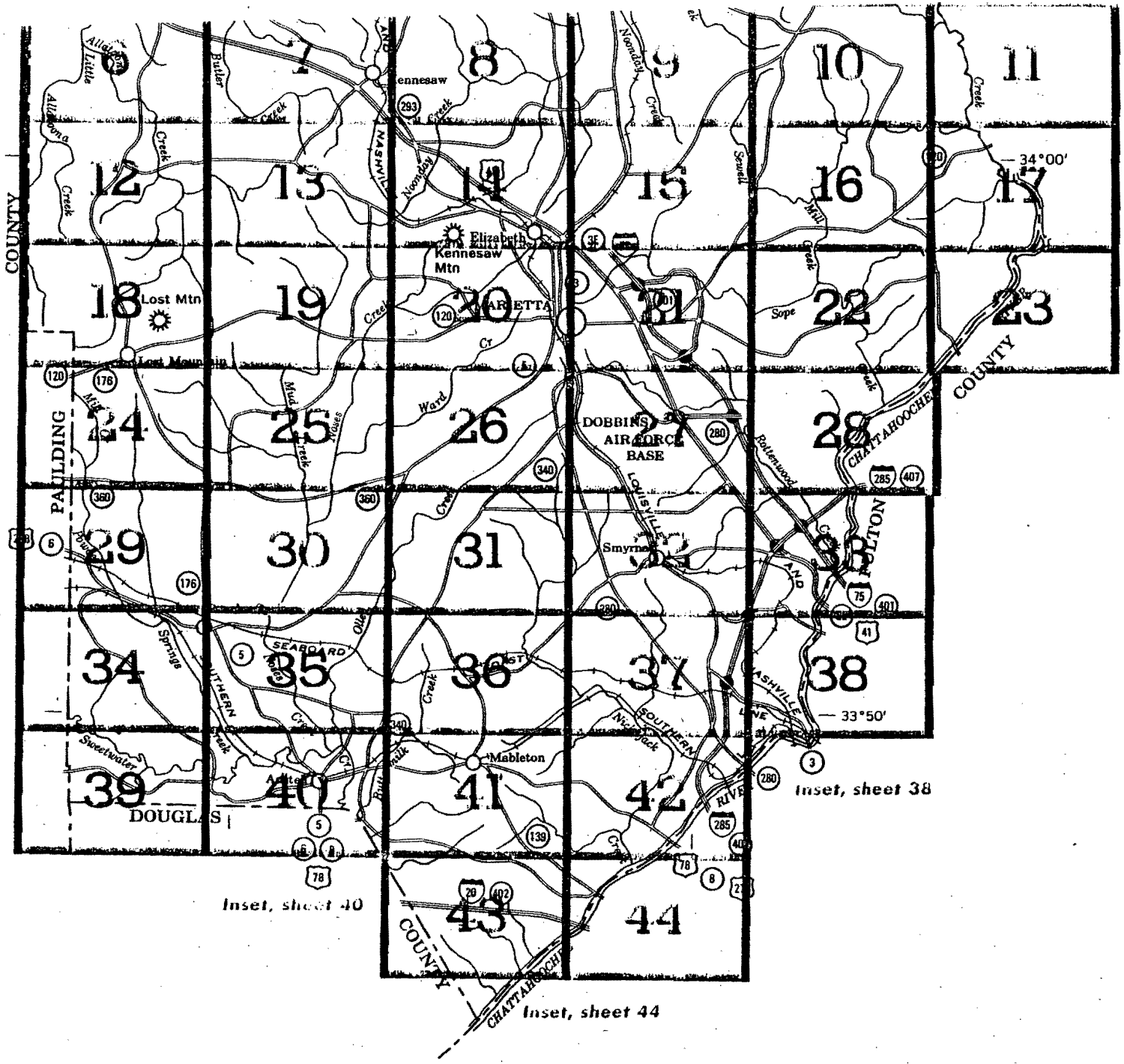
Reference No. 12

SOIL SURVEY OF

Cobb County, Georgia

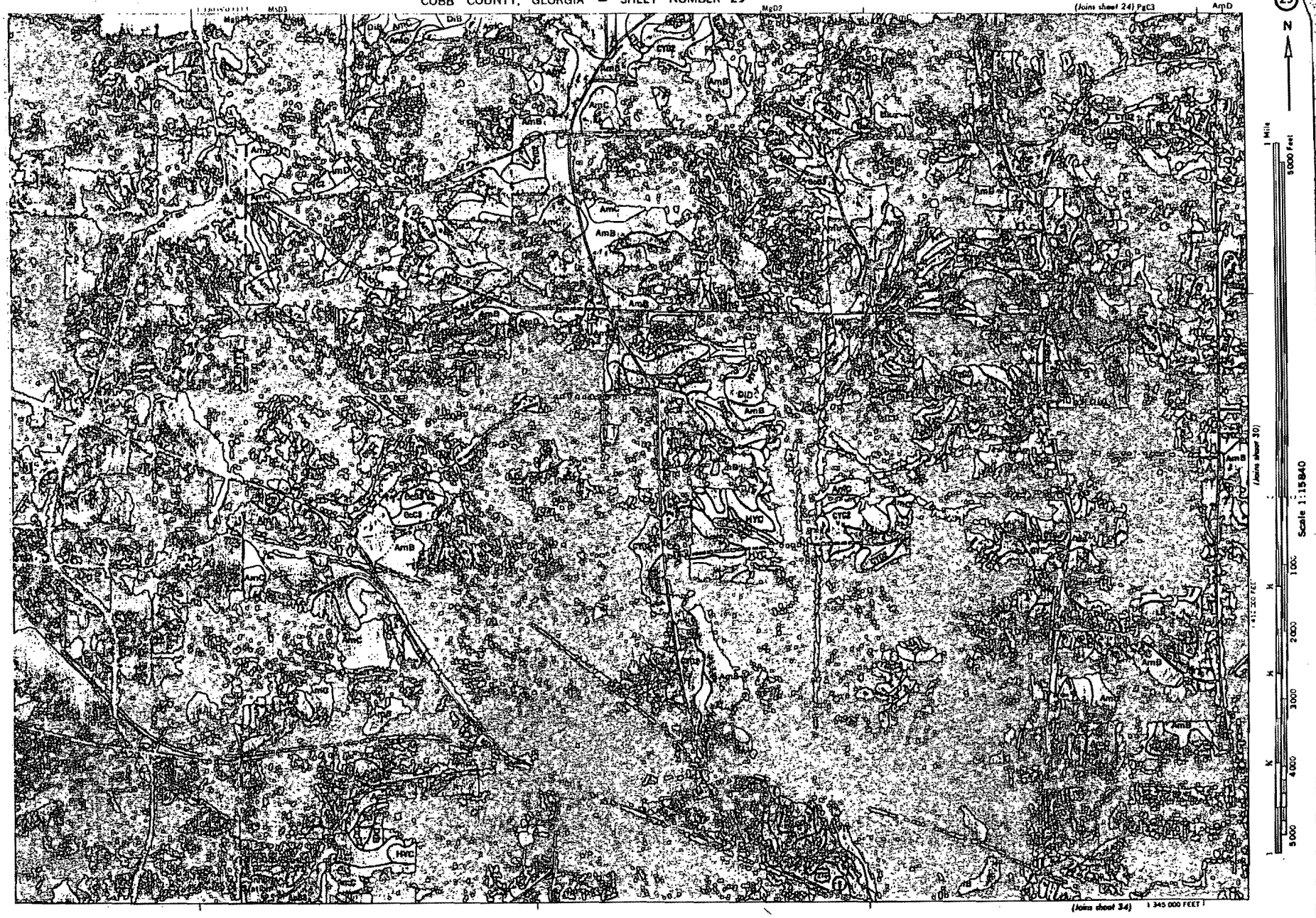
United States Department of Agriculture
Soil Conservation Service
In cooperation with
University of Georgia, College of Agriculture
Agricultural Experiment Stations

Issued December 1973



Kennesaw
Elizabeth
Kennesaw Mtn
Lost Mtn
Lost Mountain
MARIETTA
DOBBINS AIR FORCE BASE
Smyrna
Mableton
Aditeal
PAULDING COUNTY
DOUGLAS COUNTY
FULTON COUNTY
CHATTAHOOCHEE RIVER
LOUISVILLE AND NASHVILLE
SEABOARD
SOUTHERN
34°00'
33°50'
Inset, sheet 38
Inset, sheet 40
Inset, sheet 44

COBB COUNTY, GEORGIA — SHEET NUMBER 29



SOIL LEGEND

The first letter in each symbol is the initial one of the soil name. If the third letter is a capital, B, C, D, E, or F, it shows the range of slope. Symbols without a slope letter are those of nearly level soils. A final number, 2 or 3, in the symbol shows that the soil is eroded or severely eroded.

SYMBOL	NAME
AL	Altavista silt loam, occasionally flooded
AlB	Altavista sandy loam, 0 to 4 percent slopes
AmB	Appling sandy loam, 2 to 6 percent slopes
AmC	Appling sandy loam, 6 to 10 percent slopes
AmD	Appling sandy loam, 10 to 15 percent slopes
AnB3	Appling sandy clay loam, 2 to 6 percent slopes, severely eroded
AnC3	Appling sandy clay loam, 6 to 10 percent slopes, severely eroded
Cah	Cartecay soils
Csw	Chewacla soils, wet variants
Cw	Cartecay silt loam, silty variant
CYB2	Cecil sandy loam, 2 to 6 percent slopes, eroded
CYC2	Cecil sandy loam, 6 to 10 percent slopes, eroded
DiB	Durham sandy loam, 2 to 6 percent slopes
GeB3	Gwinnett clay loam, 2 to 6 percent slopes, severely eroded
GeC3	Gwinnett clay loam, 6 to 10 percent slopes, severely eroded
GeD3	Gwinnett clay loam, 10 to 15 percent slopes, severely eroded
GeE2	Gwinnett clay loam, 15 to 25 percent slopes, eroded
GgB2	Gwinnett loam, 2 to 6 percent slopes, eroded
GgC2	Gwinnett loam, 6 to 10 percent slopes, eroded
GgD2	Gwinnett loam, 10 to 15 percent slopes, eroded
HSB	Hiwassee loam, 2 to 6 percent slopes
HTC2	Hiwassee clay loam, 6 to 10 percent slopes, eroded
HTD2	Hiwassee clay loam, 10 to 15 percent slopes, eroded
HYC	Helena sandy loam, 2 to 10 percent slopes
LDF	Louisburg stony sandy loam, 15 to 45 percent slopes
LkE	Louisa gravelly sandy loam, 10 to 25 percent slopes
LnE	Louisburg sandy loam, 10 to 25 percent slopes
LNF	Louisa soils, 25 to 60 percent slopes
MDC3	Madison clay loam, 6 to 10 percent slopes, severely eroded
MDE3	Madison clay loam, 15 to 25 percent slopes, severely eroded
MgB2	Madison sandy loam, 2 to 6 percent slopes, eroded
MgC2	Madison sandy loam, 6 to 10 percent slopes, eroded
MgD2	Madison sandy loam, 10 to 15 percent slopes, eroded
MID2	Musella gravelly soils, 6 to 15 percent slopes, eroded
MIE3	Musella gravelly soils, 15 to 25 percent slopes, severely eroded
MJF	Musella and Pacolet stony soils, 10 to 45 percent slopes
MsD3	Madison and Pacolet soils, 10 to 15 percent slopes, severely eroded
MsE2	Madison and Pacolet soils, 15 to 25 percent slopes, eroded
PfD	Pacolet sandy loam, 10 to 15 percent slopes
PgC3	Pacolet sandy clay loam, 6 to 10 percent slopes, severely eroded
Ron	Roanoke silt loam
Toc	Toccoa soils
Tod	Toccoa sandy loam, local alluvium
Ubp	Urban land and Borrow pits
Ud	Urban land
UeC	Urban land-Appling complex, 2 to 10 percent slopes
UfC	Urban land-Cecil complex, 2 to 10 percent slopes
UgC	Urban land-Gwinnett complex, 2 to 10 percent slopes
UhC	Urban land-Madison complex, 2 to 10 percent slopes
UiE	Urban land and Pacolet soils, 10 to 25 percent slopes
WjF	Wilkes stony sandy loam, 10 to 40 percent slopes
WvD	Wilkes sandy loam, clayey subsoil variant, 6 to 15 percent slopes

WORKS

Highways and roads

Divided .....

Good motor .....

Poor motor .....

Trail .....

Highway markers

National Interstate

U. S. .....

State or county

Railroads

Single track .....

Multiple track .....

Abandoned .....

Bridges and crossings

Road .....

Trail .....

Railroad .....

Ferry .....

Ford .....

Grade .....

R. R. over .....

R. R. under .....

Tunnel .....

Buildings .....

School .....

Church .....

Mine and quarry .....

Gravel pit .....

Power line .....

Pipeline .....

Cemetery .....

Dams .....

Levee .....

Tanks .....

Well, oil or gas .....

Forest fire or lookou

Located object .....

TABLE 4.—*Estimat*

[An asterisk in the first column indicates that at least one mapping unit in this series is made up of two or more kinds of soil. The soils b referring to other series that appear in the first column of th

Soil series and map symbols	Depth to— Hard rock	Depth to— Seasonal high water table	Depth from surface	Classification: USDA texture
	Inches	*Inches*	*Inches*	
Altavista:				
AlB	>60	22	0–14	Sandy loam
			14–50	Sandy clay loam
			50–57	Sandy clay loam
AL	>60	14	0–18	Silt loam and sandy loam
			18–53	Sandy clay loam
			53–60	Clay loam
Appling: AmB, AmC, AmD, AnB3,[2] AnC3[2]	>60	>60	0–6	Sandy loam
			6–17	Sandy clay loam
			17–38	Clay
			38–53	Sandy clay loam
			53–60	Clay loam
Cartecay: Cah	>60	6	0–26	Stratified layers of sandy loam and silt loam
			26–36	Loamy sand
			36–45	Silt loam
Cartecay, silty variant: Cw	>60	9	0–32	Silt loam
			32–45	Silty clay loam, silt loam, and sandy clay loam
Cecil: CYB2, CYC2	>60	>60	0–6	Sandy loam
			6–32	Clay
			32–45	Sandy clay loam
			45–60	Sandy loam
Chewacla, wet variants: Csw	>60	3	0–4	Silt loam
			4–48	Silty clay loam
Durham: DiB	>60	>60	0–11	Sandy loam
			11–61	Sandy clay loam
Gwinnett: GgB2,[3] GgC2,[3] GgD2,[3] GeB3, GeC3, GeD3, GeE2.[3]	>60	>60	0–5	Clay loam
			5–24	Clay
			24–36	Clay loam
			36–72	Weathered soft rock and clay
Helena: HYC	>60	27	0–5	Sandy loam
			5–14	Sandy clay loam
			14–37	Clay
			37–55	Weathered soft rock and clay
Hiwassee: HSB, HTC2,[2] HTD2[2]	>60	>60	0–5	Loam
			5–54	Clay
			54–70	Clay loam to gravelly sandy loam
Louisa: LkE, LNF	>60	>60	0–14	Gravelly sandy loam and gravelly loam
			14–26	Weathered, loose, soft, small schist fragments with 1 percent clay lenses.
			26–30	Soft bedrock.
Louisburg: LnE, LDF[3]	28–48	>60	0–23	Sandy loam
			23–31	Weathered soft rock and sandy loam
			31	Hard rock.

See footnotes at end of table.

The seasonal high water table is 6 inches below the surface for short periods. Runoff is slow.

Because they are wet and frequently flooded, these soils are poorly suited to many of the cultivated crops commonly grown in the county. If drained they can be used intensively. Pasture and hay crops respond well if fertilizer is applied and adequate drainage is provided.

About a fourth of the acreage is cultivated or pastured; the rest is idle or wooded. Reforested areas are mainly in willows, alders, or shortleaf and loblolly pines. (Capability unit IIIw-2; woodland suitability group 2w8)

Cartecay Series, Silty Variant

The Cartecay series, silty variant, consists of deep, somewhat poorly drained soils on flood plains. Slopes are 0 to 2 percent. Once or twice each year these soils are subject to stream overflow that lasts 2 to 7 days. Along the Chattahoochee River overflow is less frequent.

In a representative profile, the surface layer is dark-brown silt loam, 5 inches thick, that is mottled with brown and yellowish red. The next layer is silt loam, about 11 inches thick, that is mottled with shades of brown, yellow, and red. Between depths of 16 and 32 inches is silt loam mottled with gray, yellowish red, red, and shades of brown. This is underlain to a depth of 45 inches by dark grayish-brown silty clay loam that is mottled with gray, yellowish red, red, and shades of brown. Depth to hard rock is more than 60 inches.

Natural fertility is low, and organic-matter content is moderate. Permeability is moderate, and available water capacity is high. Reaction is medium acid to slightly acid throughout the profile. Tilth is generally good. In a few wet places it is poor.

This soil is suited to most pasture and hay crops commonly grown in the county. About three-fourths of the acreage is wooded or idle, and the rest is cultivated or is used for pasture. In natural wooded areas, the main trees are ash, willows, red maple, sweetgum, blackgum, and water oak.

Representative profile of Cartecay silt loam, silty variant, in hardwoods, 100 feet north of Sope Creek, 1.4 miles south of Georgia Highway No. 120, and 0.6 mile southeast of East Cobb Junior High School:

A—0 to 5 inches, dark-brown (7.5YR 4/4) silt loam; few, fine, distinct, yellowish-red and brown mottles; weak, fine, granular structure; friable; many fine roots; many worm casts; few fine mica flakes; medium acid; clear, smooth boundary.

C1—5 to 16 inches, mottled brown (10YR 5/3), yellowish-brown (10YR 5/4), brownish-yellow (10YR 6/6), strong-brown (7.5YR 5/6), and yellowish-red (5YR 4/6) silt loam; massive (structureless); friable; thin horizontal bedding planes; common fine roots; few, soft, black coatings; common fine mica flakes; few fine pores; few worm casts; medium acid; clear, smooth boundary.

C2—16 to 22 inches, mottled brown (10YR 5/3), yellowish-red (5YR 5/8), strong-brown (7.5YR 5/6), red (2.5YR 4/8), grayish-brown (10YR 5/2), and gray (10YR 6/1) silt loam; massive (structureless); friable; thin horizontal bedding planes; common fine roots; few, soft, black coatings; few fine pores; common fine mica flakes; slightly acid; clear, smooth boundary.

C3—22 to 32 inches, mottled yellowish-red (5YR 5/8), red (2.5YR 4/8), yellowish-brown (10YR 5/4), olive-brown (2.5Y 4/4), and gray (10YR 5/1) silt loam; massive (structureless); friable; few, fine, soft, black coatings; few fine pores; few fine mica flakes; medium acid; clear, wavy boundary.

C4—32 to 45 inches +, dark grayish-brown (2.5Y 4/2) silty clay loam; many, medium, prominent, red (2.5YR 4/8), yellowish-red (5YR 5/8), olive-brown (2.5Y 4/4), and gray (N 5/0) mottles; massive (structureless); friable; few fine roots; few, soft, black concretions; few fine mica flakes; medium acid.

The A horizon is 5 to 8 inches thick and ranges from dark brown to yellowish brown. Depth to gray mottles is commonly about 16 inches but ranges from 14 to 20 inches. The C4 horizon is silt loam, loam, silty clay loam, or sandy clay loam. The water table is normally at a depth of 15 to 30 inches, but the seasonal high water table is at a depth of 9 inches for 2 or 3 days in wet periods.

These soils are covered with water for periods of 2 to 7 days once every 5 to 20 years along the Chattahoochee River and once or twice annually along other streams in the county.

Cartecay, silty variant, occurs with Tocca, Chewacla, wet variants, Roanoke, Altavista, and normal Cartecay soils. It is better drained than the Chewacla, wet variants. It is more poorly drained than the Toccoa soils, more silty than the normal Cartecay soils, and has less distinct horizons than the Roanoke and Altavista soils.

Cartecay silt loam, silty variant (Cw).—This soil has 0 to 2 percent slopes, and runoff is slow.

Included in mapping are a few areas of soils that have a silty clay or sandy clay subsoil. In some areas the soil is free of gray mottles to a depth of 30 inches, and in other areas the surface layer has gray mottles.

If drained, this soil is suited to most of the pasture plants commonly grown in the county and to corn, soybeans, and a few other cultivated crops. It can be cultivated every year if adequately drained and otherwise well managed, but damage from flooding is a hazard.

About a fourth of the acreage is cultivated or pastured. The rest is wooded or idle. (Capability unit IIIw-2; woodland suitability group 2w8)

Cecil Series

The Cecil series consists of deep, well-drained soils that formed in material weathered from granite, gneiss, and mica schist. These soils are on broad to narrow ridgetops and moderately long hillsides throughout the county. Slopes range from 2 to 10 percent.

In a representative profile, the surface layer is chiefly strong-brown sandy loam to a depth of 6 inches. The subsoil extends to a depth of about 45 inches. It is red clay in the upper 12 inches, and red clay and sandy clay loam mottled with yellowish brown, yellowish red, and strong brown in the lower part. The underlying material is red sandy loam mottled with strong brown and yellowish red. Depth to hard rock is generally more than 60 inches.

These soils are low in natural fertility and strongly acid to very strongly acid throughout. The organic-matter content is low, permeability is moderate, and available water capacity is medium. Tilth is good except in eroded areas or galled spots.

Cecil soils are well suited to farming and to some nonfarm uses. A large acreage is pastured or cultivated or is used for residential sites. The native vegetation is mixed hardwoods and pine trees.

Representative profile of Cecil sandy loam, 2 to 6 percent slopes, eroded, in pine woods, 1 mile north of Shiloh

Methodist Church, 1 mile northeast of railroad, and 1.1 miles south of Cherokee County line:

Ap—0 to 6 inches, strong-brown (7.5YR 5/6) sandy loam; few, fine, distinct, red mottles; weak, fine, granular structure; very friable; many fine roots; few quartz pebbles; few worm casts; strongly acid; abrupt, smooth boundary.

B21t—6 to 18 inches, red (2.5YR 5/6) clay; moderate, medium, subangular blocky structure; firm; common fine roots; few quartz pebbles; few worm casts; few fine mica flakes; prominent red (2.5YR 4/6) clay films on ped surfaces; very strongly acid; clear, smooth boundary.

B22t—18 to 32 inches, red (2.5YR 4/8) clay; few, medium, prominent, yellowish-brown (10YR 5/6) mottles; moderate, medium, subangular blocky structure; firm; few fine roots; few, weak, red schist fragments; few fine mica flakes; few quartz pebbles; prominent red (2.5YR 4/6) clay films on ped surfaces; very strongly acid; clear, wavy boundary.

B3t—32 to 45 inches, interior of peds are red (2.5YR 4/6), and ped surfaces are yellowish-red (5YR 5/8) sandy clay loam; common, medium, distinct mottles of strong brown (7.5YR 5/8); weak, medium, subangular blocky structure; friable; few fine roots; common fine mica flakes; few quartz pebbles and few, weak, red schist fragments; clay films on ped surfaces; very strongly acid; clear, wavy boundary.

C—45 to 60 inches +, red (2.5YR 4/6) sandy loam; common, medium, distinct, strong-brown (7.5YR 5/8) and yellowish-red (5YR 4/8) mottles; massive (structureless); friable; few fine roots; few, weak, red schist fragments; common fine mica flakes; very strongly acid.

The Ap horizon is brown, dark-brown, strong-brown, or yellowish-brown sandy loam 5 to 8 inches thick. The combined thickness of the A and B horizons ranges from 44 inches to more than 55 inches. The B1t horizon, where present, is yellowish-red sandy clay loam. The B2t horizons are red sandy clay to clay, and the B3t horizon is red or yellowish-red sandy clay loam. The B horizon ranges from 33 inches to about 50 inches in thickness. Depth to yellowish-brown, strong-brown, or reddish-yellow mottles ranges from 15 to 39 inches.

Cecil soils occur with Pacolet, Appling, Madison, Gwinnett, and Louisburg soils. They are deeper than the Pacolet soils and have a redder subsoil than the Appling soils. They contain less mica, especially in the surface layer and the upper part of the subsoil, than the Madison soils. They are deeper than the Gwinnett soils, and their subsoil is not as red. They are deeper, are more clayey in the subsoil, and have more distinct horizons than the Louisburg soils.

Cecil sandy loam, 2 to 6 percent slopes, eroded (CYB2).—This soil is on narrow to broad ridgetops. Erosion has removed most of the original surface layer of this soil, and the plow layer extends into the subsoil. Galled spots and rills occur in most areas. The present surface layer is strong-brown, yellowish-brown, dark-brown, or brown sandy loam 5 to 7 inches thick. In other respects, the profile is similar to the one described as representative for the series.

Included in mapping are some areas of similar soils that have a gravelly fine sandy loam and sandy clay loam surface layer and a sandy clay loam subsoil. Some small severely eroded areas are also included. In these areas the surface layer is yellowish-red or red sandy clay loam, and tilth is poor. Small areas of Madison, Pacolet, and Gwinnett soils are also included.

The plow layer of this soil has good tilth except in the galled spots. Runoff is medium. The effective rooting zone is more than 36 inches deep.

This Cecil soil is suited to moderately intensive farming. Crops respond well to good management, especially to fertilizer. This soil is also well suited to most nonfarm uses. The hazard of erosion is slight to moderate in cultivated fields and in unprotected bare areas.

About half the acreage is wooded; the rest is idle, cultivated, or pastured or is used for residential or industrial sites. (Capability unit IIe-1; woodland suitability group 3o7)

Cecil sandy loam, 6 to 10 percent slopes, eroded (CYC2).—This soil is on long, narrow ridgetops and moderately long hillsides. Mapped areas are less than 5 to more than 50 acres in size. The surface layer is yellowish-brown or dark-brown sandy loam 5 to 8 inches thick. It is a mixture of the original surface layer and the upper part of the subsoil. Galled spots, rills, and shallow gullies are in most areas. The subsoil ranges from about 33 inches to more than 45 inches in thickness. In other respects the profile is similar to the one described as representative for the series.

Included in mapping are some small areas where the soil is severely eroded, the plow layer is yellowish-red or red sandy clay loam, and tilth is poor. In a few places, the surface layer is gravelly fine sandy loam. Areas of Madison, Pacolet, and Gwinnett soils are also included.

The plow layer of this soil generally has good tilth except in severely eroded areas. Runoff is medium.

This soil is suited to a wide range of crops and to most nonfarm uses. It responds to good management, especially to fertilizer. The slopes and the runoff rate make the hazard of further erosion moderate to severe where this soil is cultivated and left unprotected.

About 65 percent of the acreage is wooded; the rest is idle, cultivated, or pastured or is used for residential or industrial sites. (Capability unit IIIe-1; woodland suitability group 3o7)

Chewacla Series, Wet Variants

The Chewacla series, wet variants, consists of deep, poorly drained soils that developed in recent alluvium on first bottoms. Slopes are 0 to 2 percent. These soils are in small to medium areas near the larger streams in the county.

In a representative profile, the surface layer is dark-brown to a depth of 12 inches. It is mottled silt loam in the upper 4 inches and silty clay loam mottled with gray in the lower part. The subsoil, to a depth of 48 inches, is grayish-brown or mottled gray silty clay loam. Depth to hard rock is more than 60 inches.

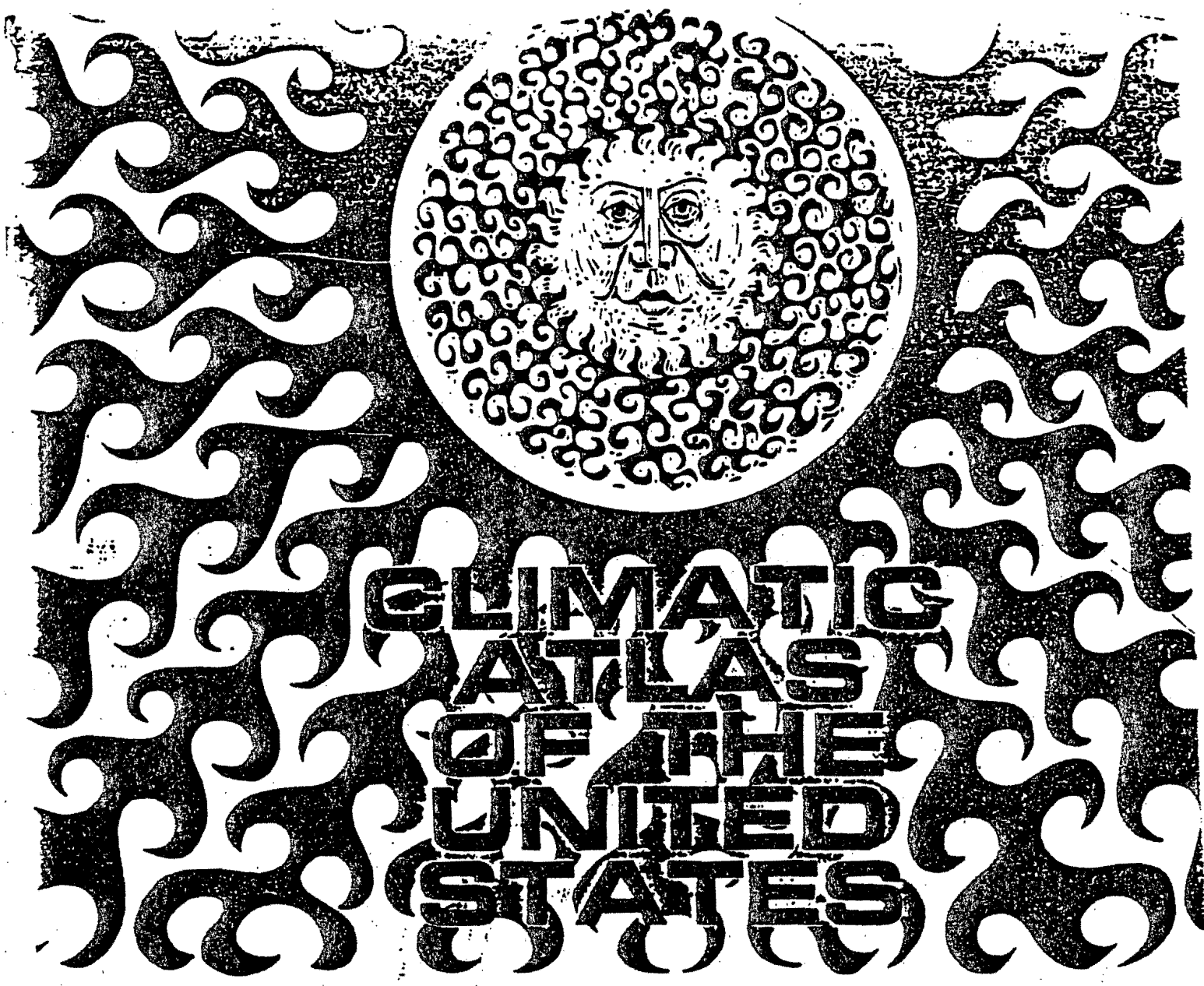
These soils are low in natural fertility and moderate in organic-matter content. Permeability is moderate, and the available water capacity is high. Reaction is strongly acid to medium acid throughout the profile. Tilth is generally good, but it is poor where the soils are wet.

Chewacla, wet variants, are suited to a limited range of crops. About 80 percent of the acreage is wooded; the rest is cultivated, pastured, or idle. In natural wooded areas, the trees are red maple, ash, willow, and water oak.

Representative profile of Chewacla heavy silt loam, wet variants, in woods, 110 yards east of Noses Creek, 1.5 miles south of Georgia Highway No. 360, and 0.8 mile northwest of Georgia Highway No. 5:

A11—0 to 4 inches, dark-brown (10YR 4/3) silt loam; many, fine, prominent, very pale brown, yellowish-red, and light brownish-gray mottles; weak, fine, granular structure; friable; many fine roots; few, fine, black and dark-brown concretions; strongly acid; abrupt, smooth boundary.

Reference No. 13



RCE . Environmental Science Services Administration . Environmental Data Service

LAKE EVAPORATION

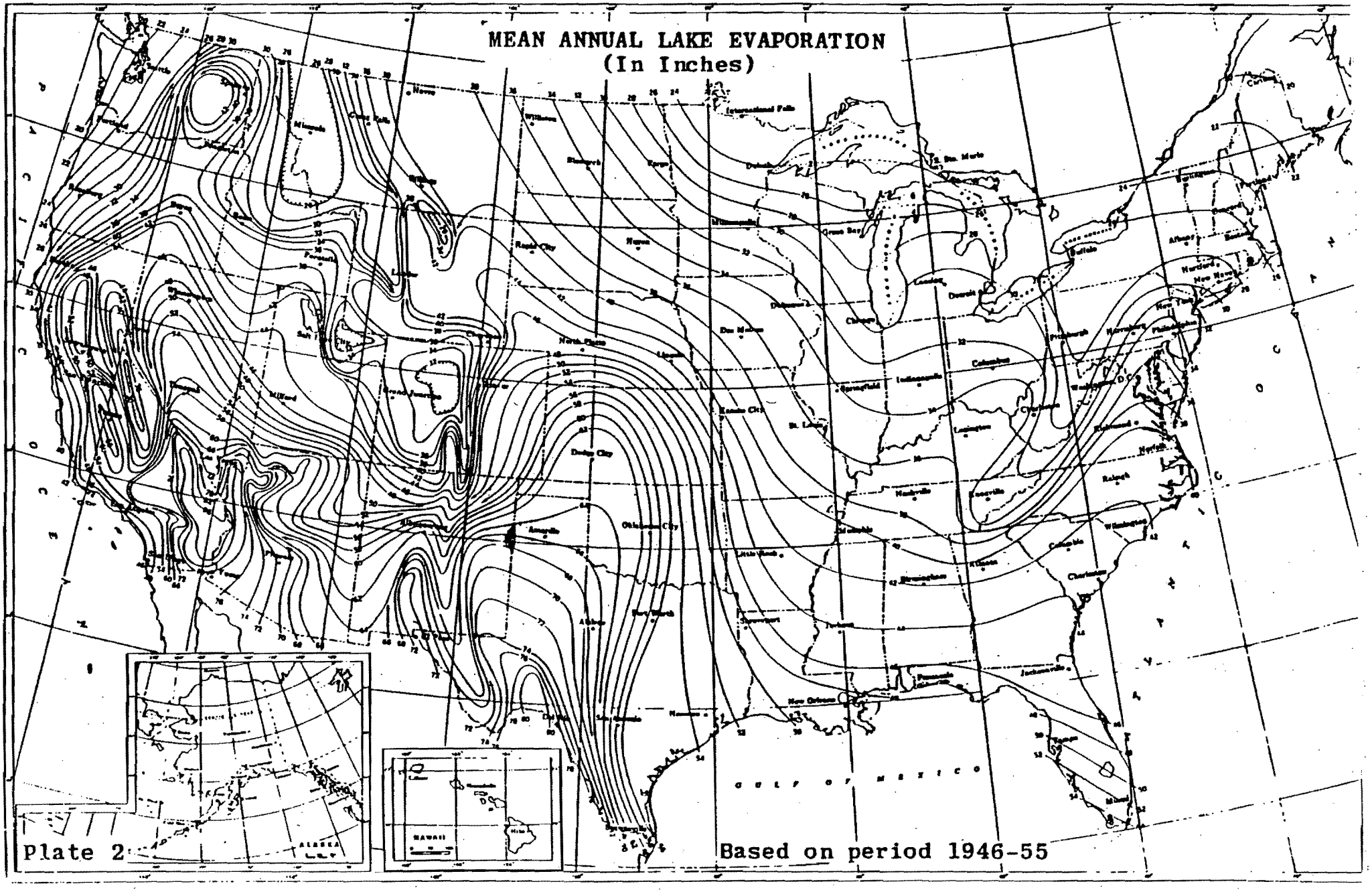
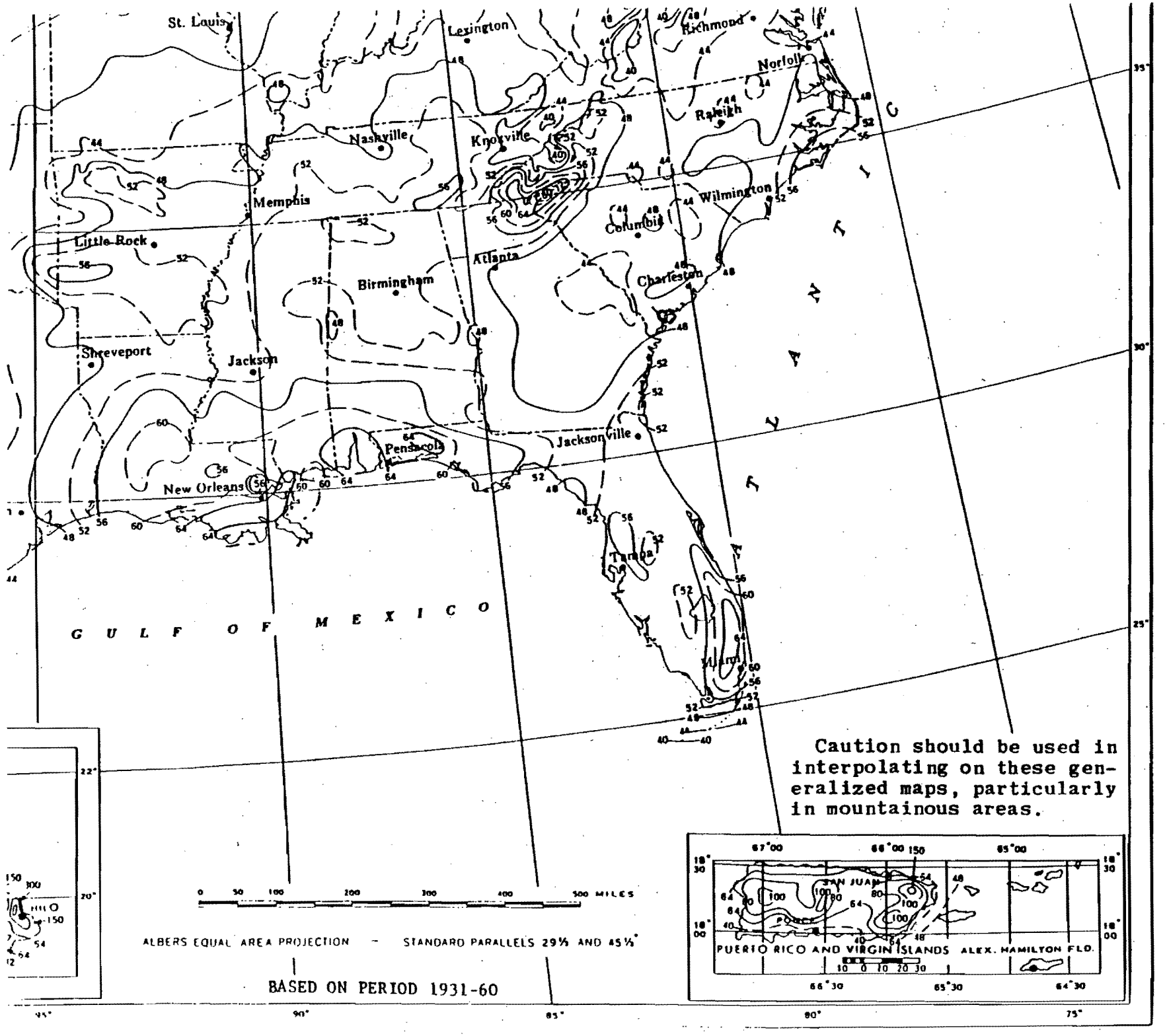


Plate 2


St. Louis
Lexington
Richmond
Norfolk
Raleigh
Nashville
Knoxville
Memphis
Wilmington
Columbia
Little Rock
Atlanta
Birmingham
Charleston
Shreveport
Jackson
Jacksonville
Pensacola
New Orleans
Tampa
Miami
G U L F O F M E X I C O
A T L A N T I C
Caution should be used in interpolating on these generalized maps, particularly in mountainous areas.
0 50 100 200 300 400 500 MILES
ALBERS EQUAL AREA PROJECTION — STANDARD PARALLELS 29½ AND 45½°
BASED ON PERIOD 1931-60
PUERTO RICO AND VIRGIN ISLANDS
SAN JUAN
ALEX. HAMILTON FLD.

U.S. DEPARTMENT OF COMMERCE
C. R. Smith, Secretary

ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
Robert M. White, Administrator

ENVIRONMENTAL DATA SERVICE
Woodrow C. Jacobs, Director

JUNE 1968

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1983

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WEATH
F. W. REI

TECHNICAL PAPER NO. 40

RAINFALL FREQUENCY ATLAS OF THE UNITED STATES

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

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

Reference No. 14

PROPERTY
FIT

GULF OF MEXICO
ATLANTIC OCEAN

NUS CORPORATION AND SUBSIDIARIES **TELECON NOTE**

CONTROL NO.	DATE: 11-9-89	TIME: 10:30 p.m.

DISTRIBUTION:

Reference No. 15

BETWEEN: Mr. Walter Koscica	OF: Cobb County Water Department	PHONE: (404) 423-1000

AND: Jelaine Tinsley, NUS Corporation

DISCUSSION:

Mr. Koscica stated that Cobb County serves the entire county water and also my area of concern. He said that there may be some people on water from wells but county water is available to everyone. He said the water is from Lake Allatoona and over 460,000 people are served.

NUS CORPORATION AND SUBSIDIARIES **TELECON NOTE**

CONTROL NO.	DATE: 11-3-89	TIME: 10:15 a.m.

DISTRIBUTION:

Reference No. 16

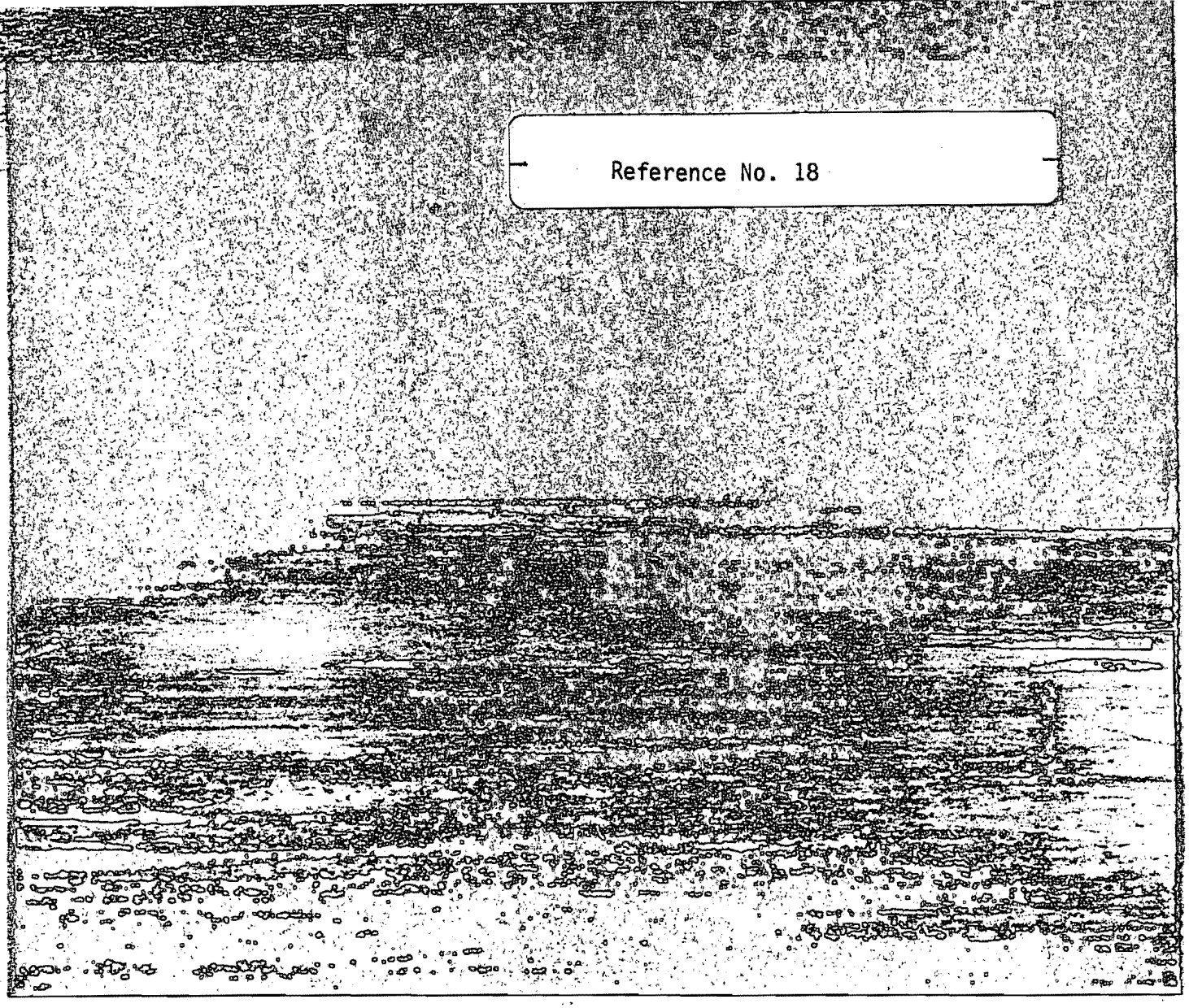
BETWEEN: Cindy Ralston	OF: Paulding County Water Dept.	PHONE: (404) 445-2761

AND: Jelaine Tinsley, NUS Corporation

DISCUSSION:

Cindy stated that Paulding buys their water from Cobb County and they serve 8,500 connections. She said that there are some places in the county without county water available to them. My area of concern does have county water available to them.

Reference No. 18



Water Availability & Use

CHATTAHOOCHEE RIVER BASIN

Georgia Department of Natural Resources
Environmental Protection Division

FACILITY I.D. NUMBER	FACILITY NAME	COUNTY	CITY	STREAM	RIVER MILE	PLANT DISCHARGE (MGD)	PERMITTED WITHDRAWAL (MGD)	DRAINAGE AREA (SQ.MI.)	7Q10 (CFS)	LEVEL OF SERVICE (%)
1-010(MSW)	City of Clarkesville MWS	Habersham	Clarkesville	Soque River	10.5		1.0	101	74.3	≥99*
1-020(MSD)	City of Clarkesville WPCP	Habersham	Clarkesville	Soque River	10.0	0.75		104	80.0	
1-030(MSW)	City of Cornelia MWS	Habersham	Cornelia	Camp Creek	3.5		2.8	1.9	1.3	≤60*
1-040(MGW)	City of Demorest MWS	Habersham	Demorest	Hazel Creek	3.2/S.0.5		0.35	N/A	N/A	
1-050(MSD)	City of Demorest WPCP	Habersham	Demorest	Hazel Creek	7.6	0.40		28.6	24.0	
1-060(MSD)	City of Cornelia WPCP	Habersham	Cornelia	S. Fork Mud Cr.	0.9	2.50		2.0	1.4	
1-070(MSD)	City of Baldwin WPCP	Habersham	Baldwin	S. Fork Mud Cr.	0.5	0.30		2.0	1.3	
1-080(MSD)	White Sulfur WPCP	Hall	Gainesville	Lake Lanier	379.1	0.10				
1-090(MSD)	Linwood Drive WPCP	Hall	Gainesville	Lake Lanier	371.4	3.0				
1-100(MSW)	City of Gainesville MWS	Hall	Gainesville	Lake Lanier	370.0		12.0	1040	630	≥99*
1-110(MSW)	City of Cleveland MWS	White	Cleveland	Turner Creek	0.5		0.4	8.3	4.2	≥99*
1-120(MSD)	City of Cleveland WPCP	White	Cleveland	Cox Creek	0.3	0.35		3.0	1.1	
1-125(MSW)	City of Dahlonega MWS	Lumpkin	Dahlonega	Yahoola Creek	5.0		1.25	23.0	18	≥99*
1-130(MSD)	City of Dahlonega WPCP	Lumpkin	Dahlonega	Yahoola Cr Trib	0.1	0.72		0.5	0.2	
1-140(IGW)	Deering Milliken, Inc	Hall	Gainesville	Flat Creek	5.3/S.0.2		0.21	N/A	N/A	
1-150(MSD)	Flat Creek WPCP	Hall	Gainesville	Flat Creek	6.4	7.0		3.5	0.8	
1-160(MSD)	City of Flowery Br WPCP	Hall	Flowery Br	Lake Lanier	354.2/E.4.0	0.2				
1-170(MSW)	City of Cumming MWS	Forsyth	Cumming	Lake Lanier	351.1/W.3.0		2.5	1040	630	≥99*
1-180(MSW)	Gwinnett Co Water & Sewage Auth., Lake Lanier Plant	Gwinnett	Lawrenceville	Lake Lanier	348.5		36.0	1040	630	≥99*
1-190(MSW)	City of Buford MWS	Hall	Buford	Lake Lanier	348.4		1.5	1040	630	≥99*

* Calculated without minimum streamflow requirement

CHATTAHOOCHEE RIVER WATER AVAILABILITY AND USE REPORT

GEORGIA ENVIRONMENTAL PROTECTION DIVISION

MAJOR FACILITIES IN HYDROLOGIC UNIT #1

FIGURE 5

FACILITY I.D. NUMBER	FACILITY NAME	COUNTY	CITY	STREAM	RIVER MILE	PLANT DISCHARGE (MGD)	PERMITTED WITHDRAWAL (MGD)	DRAINAGE AREA (SQ.MI.)	7Q10 (CFS)	LEVEL OF SERVICE (%)
2-010(MSW)	City of Sugar Hill MWS	Gwinnett	Sugar Hill	Richland Creek	5.8/E.0.2		0.14	N/A	N/A	
2-015(ISW)	Bona Allen, Inc.	Gwinnett	Buford	Suwanee Creek	14.7		0.28	5.8	1.0	≥99*
2-020(ISD)	Bona Allen, Inc.	Gwinnett	Buford	Suwanee Creek	14.6	0.14		5.8	0.1	
2-030(MSD)	City of Buford Westside WPCP	Gwinnett	Buford	Suwanee Creek	7.9	0.25		3.23	0.54	
2-040(MSD)	City of Buford Southside WPCP	Gwinnett	Buford	Suwanee Creek	5.9	1.0		14.0		
2-050(MSW)	Gwinnett County Water Auth.	Gwinnett	Lawrenceville	Chat. River	338.0		12.0	1100	670	≥99*
2-060(MSW)	DeKalb County Water & Sewer Dept.	DeKalb	Decatur	Chat. River	325.5		96.0	1210	720	≥99*
2-070(MSD)	Crooked Creek WPCP	Gwinnett	Norcross	Crooked Creek	1.7	2.0				
2-080(MSD)	Johns Creek WPCP	Fulton	Roswell	Chat. River	324.0	4.0		1214	700	
2-090(MSD)	City of Cumming WPCP	Forsyth	Cumming	Big Creek	24.2	0.25		0.49	0.04	
2-095(MSW)	City of Roswell MWS	Fulton	Roswell	Big Creek	2.0		0.62	96.4	7.9	≥99*
2-100(ISW)	Horseshoe Bend Prop., Inc.	Fulton	Roswell	Chat. River	315.6		0.25	1250	760	≥99*
2-110(MSD)	Big Creek WPCP	Fulton	Roswell	Chat. River	315	6.0		1255	740	
2-120(MSW)	Cobb Co. Marietta Water Auth.	Cobb	Acworth	Chat. River	310		48	1390	810	≥99*
2-130(MSW)	City of Atlanta MWS	Fulton	Atlanta	Chat. River	299.6		160	1460	900	86-99
2-140(MSD)	Chattahoochee WPCP	Cobb	Smyrna	Chat. River	299.1	20		1461	781	
2-150(MSD)	R.M. Clayton WPCP	Fulton	Atlanta	Chat. River	298.8	120		1462	701	
2-160(ISW)	Ga. Power Plant McDonough	Cobb	Atlanta	Chat. River	298.6		394	1600	915	50-58
2-170(ISW)	Ga. Power Plant Atkinson	Cobb	Atlanta	Chat. River	298.6		432	1600	915	50-58
2-180(ISD)	Ga. Power Plant McDonough Atkinson	Cobb	Atlanta	Chat. River	298.0	818		1600	855	
2-190(MSD)	South Cobb WPCP	Cobb	Mableton	Chat. River	294.5	24		1650	943	
2-200(IGW)	Anaconda Aluminum Co.	Fulton	Atlanta	Chat. River	293.0		0.33	N/A	N/A	

* Calculated without minimum streamflow requirement

CHATTAHOOCHEE RIVER WATER AVAILABILITY AND USE REPORT

GEORGIA ENVIRONMENTAL PROTECTION DIVISION

MAJOR FACILITIES IN HYDROLOGIC UNIT #2

FIGURE 6

FACILITY I.D. NUMBER	FACILITY NAME	COUNTY	CITY	STREAM	RIVER MILE	PLANT DISCHARGE (MGD)	PERMITTED WITHDRAWAL (MGD)	DRAINAGE AREA (SQ.MI.)	7Q10 (CFS)	LEVEL OF SERVICE (%)
2-210(MSD)	Utoy Creek WPCP	Fulton	Atlanta	Chat. River	291.7	30		1680	981	
2-220(MSD)	Douglasville-North WPCP	Douglas	Douglasville	Gothards Creek	4.0	1.0		9.9		
2-230(ISW)	Sweetwater Paper Board	Cobb	Austell	Sweetwater Creek	16.2		0.20	150	9	≥99*
2-240(ISW)	Austell Box Board Company	Cobb	Austell	Sweetwater Creek	14.4		0.70	153	9	≥99*
2-250(ISD)	Austell Box Board Company	Cobb	Austell	Sweetwater Creek	14.0	0.18		153	9	
2-260(MSW)	City of East Point MWS	Douglas	East Point	Sweetwater Creek	1.0		11.5	246	15	≥99*
2-270(MSD)	Camp Creek WPCP	Fulton	College Park	Chat. River	283.5	15		1715	1090	
2-280(MSD)	Line Creek WPCP	Fulton	Fairburn	Line Creek	6.9	0.22		2.4		
2-290(MSD)	City of Union WPCP	Fulton	Union City	Deep Creek	8.0	0.25		1.0		

* Calculated without minimum streamflow requirement

CHATTAHOOCHEE RIVER WATER AVAILABILITY AND USE REPORT

GEORGIA ENVIRONMENTAL PROTECTION DIVISION

MAJOR FACILITIES IN HYDROLOGIC UNIT #2

FIGURE 6 CONT

FACILITY I.D. NUMBER	FACILITY NAME	COUNTY	CITY	STREAM	RIVER MILE	PLANT DISCHARGE (MGD)	PERMITTED WITHDRAWAL (MGD)	DRAINAGE AREA (SQ.MI.)	7Q10 (CFS)	LEVEL OF SERVICE (%)
3-005(MSW)	City of Douglasville MWS	Douglas	Douglasville	Anneewakee Creek	9.5		0.74	4.3	0.2	89
3-010(MSW)	Douglas County Water Dept.	Douglas	Douglasville	Anneewakee Creek	7.4		0.75	7.9	2.1	89-98*
3-020(MSD)	Douglasville-South WPCP	Douglas	Douglasville	Anneewakee Creek	7.3	1.0		8.0		
3-030(MSW)	Douglas County Board of Commissioners	Douglas	Douglasville	Bear Creek	1.1		4.0	23.0	6.0	92*
3-040(MSD)	City of Palmetto WPCP	Fulton	Palmetto	Little Bear Creek	3.5	0.60		0.9		
3-050(MSW)	City of Palmetto MWS	Fulton	Palmetto	Cedar Creek	14.4		0.45	0.9	0.2	68*
3-060(ISW)	Georgia Power Plant Yates	Coweta		Chat. River	259		666	2403	1410	≥99*
3-070(ISD)	Georgia Power Plant Yates	Coweta		Chat. River	259	660		2403	1400	
3-080(MSD)	Wahoo Creek WPCP	Coweta	Newnan	Wahoo Creek	9.3	0.75		6.93	1.0	
3-090(MSD)	Snake Creek WPCP	Coweta	Newnan	Snake Creek	2.2	0.4		1.94	0.3	
3-100(ISW)	The Bibb Co.-Arnco Mills	Coweta	Newnan	Wahoo Creek	5.7		0.65	16.0	2.3	≥ 99*
3-110(ISD)	Bibb Manufact. Co.-Arnco	Coweta	Sargent	Wahoo Creek	4.8	0.25		20.9	6.2	
3-120(ISW)	Georgia Power Plant Wansley	Heard		Chat. River	248.8		60	2507	1540	91-96
3-130(ISD)	Georgia Power Plant Wansley	Heard		Chat. River	248.7	59.4		2507	1450	
3-140(MGW)	City of Franklin MWS	Heard	Franklin	Chat. River	236/E.0.1		0.10	N/A	N/A	
3-150(MSD)	City of Franklin WPCP	Heard	Franklin	Chat. River	235	0.10		2680	1500	
3-160(ISW)	Franklin Aluminum Division	Heard	Franklin	Hillabahatchee	2.4		0.20	85	19.3	≥ 99*
3-170(ISD)	Franklin Aluminum Division	Heard	Franklin	Hillabahatchee	2.4	0.20		85	19.3	
3-180(ISD)	William L. Bonnell Co., Inc.	Coweta	Newnan	Mineral Springs Cr.	2.0	0.68		0.25	0.05	
3-190(MSD)	Mineral Springs WPCP	Coweta	Newnan	Mineral Springs Cr.	0.1	0.75		4.45	3.1	
3-200(MGW)	City of Grantville MWS	Coweta	Grantville	Yellowjacket Cr.			0.32	N/A	N/A	

* Calculated without minimum streamflow requirement

CHATTAHOOCHEE RIVER WATER AVAILABILITY AND USE REPORT

GEORGIA ENVIRONMENTAL PROTECTION DIVISION

MAJOR FACILITIES IN HYDROLOGIC UNIT #3

FIGURE 7

FACILITY I.D. NUMBER	FACILITY NAME	COUNTY	CITY	STREAM	RIVER MILE	PLANT DISCHARGE (MGD)	PERMITTED WITHDRAWAL (MGD)	DRAINAGE AREA (SQ.MI.)	7Q10 (CFS)	LEVEL OF SERVICE (%)
3-210(MSD)	Hogansville Road WPCP	Troup	LaGrange	Yellowjacket Cr.	15.8	0.25		0.5	0.03	
3-220(IGW)	Uniroyal, Inc.	Troup	Hogansville	Yellowjacket Cr.	16.3/S.0.6		0.1	N/A	N/A	
3-230(MSD)	City of Hogansville WPCP	Troup	Hogansville	Yellowjacket Cr.	15.6	0.50		45.0	3.0	
3-240(MSW)	City of Hogansville MWS	Troup	Hogansville	Flat Creek	3.1		0.39	32.0	2.1	≥ 99*
3-250(MSD)	Yellowjacket Creek WPCP	Troup	LaGrange	Dixie Creek	2.0	1.0		0.6	0.01	
3-260(MSW)	City of LaGrange MWS	Troup	LaGrange	West Point Res.	214		8.0	3550	1600	≥99*
3-270(ISW)	Deering Milliken, Inc.	Troup	LaGrange	West Point Res.	214		1.0	3550	1600	≥99*
3-275(MSW)	City of West Point MWS	Troup	West Point	West Point Res.	201.7		1.8	3550	1600	≥99*
3-280(ISW)	West Point Pepperell, Lanett Plant			Chat. River	199.1		2.5	3550	704	≥99*
3-285(ISW)	West Point Pepperell Service Center			Chat. River	199.1		5.3	3550	704	≥99*
3-290(MSD)	City of West Point WPCP	Troup	West Point	Chat. River	196.6	1.0		3550		
3-300(ISD)	Milliken & Co., Unity Plant	Troup	LaGrange	West Point Res.	3.7	0.01				
3-310(MSD)	Blue John Municipal WPCP	Troup	LaGrange	Blue John Creek	3.9	3.5		4.4		
3-320(MSD)	Blue John Industrial WPCP	Troup	LaGrange	Blue John Creek	3.0	2.5		9.6		
3-330(ISW)	West Point Pepperell, Fairfax Mill			Chat. River	192.4		3.5	3630	790	≥99*
3-340(ISW)	West Point Pepperell, Langdale Mill			Chat. River	192.4		8.3	3630	790	≥99*
3-350(MSD)	City of Pine Mountain WPCP	Harris	Pine Mountain	Turkey Creek	2.5	0.13		4.0		
3-360(IGW)	Ida Cason Callaway Found.	Harris	Pine Mountain	Mountain Creek	23.0/N.0.6		0.10	N/A	N/A	
3-370(IGW)	Ida Cason Callaway Found.	Harris	Pine Mountain	Mountain Creek	21.7		0.20	N/A	N/A	

* Calculated without minimum streamflow requirement

CHATTAHOOCHEE RIVER WATER AVAILABILITY AND USE REPORT

GEORGIA ENVIRONMENTAL PROTECTION DIVISION

MAJOR FACILITIES IN HYDROLOGIC UNIT #3

FIGURE 7 CONT

FACILITY I.D. NUMBER	FACILITY NAME	COUNTY	CITY	STREAM	RIVER MILE	PLANT DISCHARGE (MGD)	PERMITTED WITHDRAWAL (MGD)	DRAINAGE AREA (SQ.MI.)	7Q10 (CFS)	LEVEL OF SERVICE (%)
4-010(MSD)	Heiferhorn Creek WPCP	Muscogee	Columbus	Heiferhorn Cr.	3.4	0.15		18.5	2.1	
4-020(MSW)	City of Columbus MWS	Muscogee	Columbus	Lake Oliver	165.6		45.0	4600	1200	≥99*
4-030(MSD)	Columbus-North WPCP	Muscogee	Columbus	Rocky Branch	0.7	2.0		1.1		
4-040(ISW)	West Point Pepperell	Muscogee	Columbus	Chat. River	161.3		0.6	4638	1400	≥99*
4-050(ISD)	Fieldcrest Mills, Inc.	Muscogee	Columbus	Chat. River	160.3	9.73		4640	1400	
4-060(MSD)	Columbus-South WPCP	Muscogee	Columbus	Chat. River	155	30		4670		
4-070(MSD)	Battle Forest WPCP	Muscogee	Columbus	Tiger Creek	1.5	0.15		5	1.1	
4-080(MSW)	Fort Benning WTP	Chattahoochee	Fort Benning	Upatoi Creek	2.2		10.0	447	134	≥99*
4-090(MGW)	City of Lumpkin MWS	Stewart	Lumpkin	Hodchodkee Cr.	21.7/E.1.0		0.25	N/A	N/A	
4-100(ISD)	Lumpkin Mining Corp., Inc.	Quitman	Georgetown	Chat. River	96.3	0.25		6730		
4-110(MSD)	City of Fort Gaines WPCP	Clay	Fort Gaines	Chat. River	74.2	0.30		7580		
4-120(MGW)	City of Fort Gaines MWS	Clay	Fort Gaines	Chat. River	73.7		0.32	N/A	N/A	
4-125(ISD)	Great Southern Paper Co.	Early	Cedar Springs	Chat. River	40.3	83.0		8280		
4-130(ISW)	Great Southern Paper Co.	Early	Cedar Springs	Chat. River	40.4		115	8280	2500	≥99*
4-140(IGW)	Great Southern Paper Co.	Early	Cedar Springs	Chat. River	38.5/E.1.0		0.2	N/A	N/A	

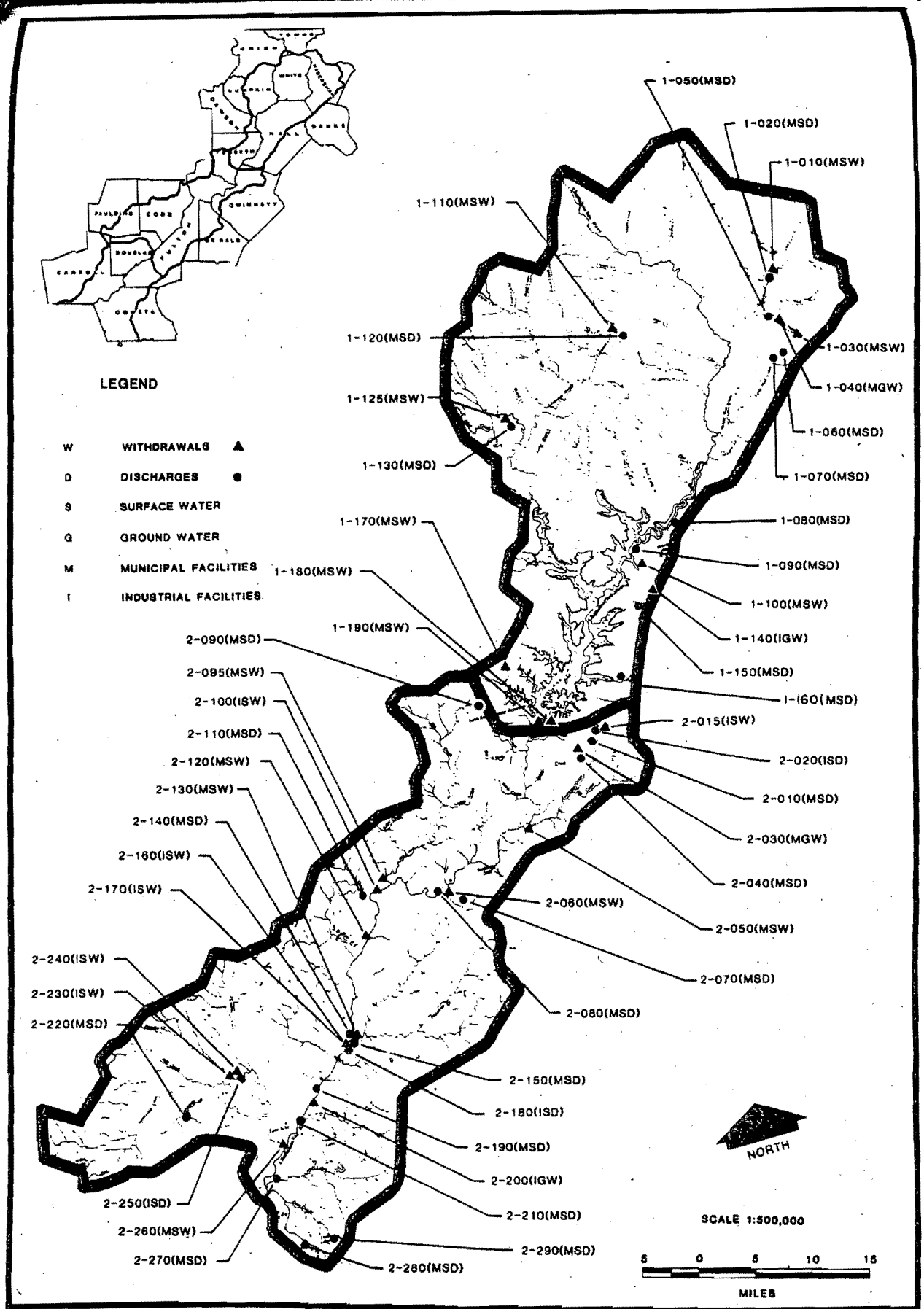
* Calculated without minimum streamflow requirement

CHATTAHOOCHEE RIVER WATER AVAILABILITY AND USE REPORT

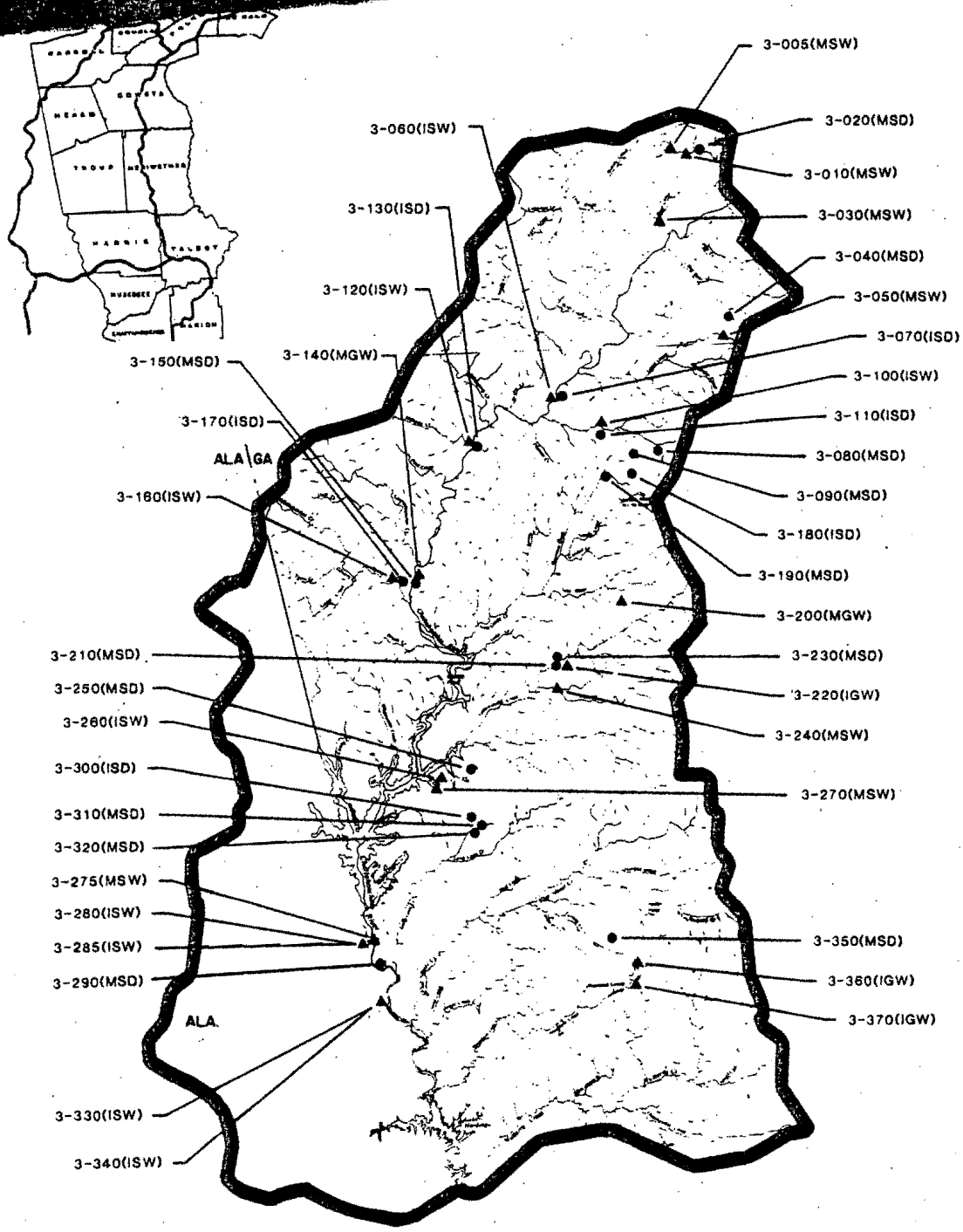
GEORGIA ENVIRONMENTAL PROTECTION DIVISION

MAJOR FACILITIES IN HYDROLOGIC UNIT #4

FIGURE 8



CHATTAHOOCHEE RIVER WATER AVAILABILITY AND USE REPORT	GEORGIA ENVIRONMENTAL PROTECTION DIVISION	MAJOR WATER USERS HYDROLOGIC UNITS #1&2 FIGURE 9



LEGEND

W	WITHDRAWALS ▲		G	GROUND WATER
D	DISCHARGES ●		M	MUNICIPAL FACILITIES
S	SURFACE WATER		I	INDUSTRIAL FACILITIES

NORTH

SCALE 1:500,000

5 0 5 10 15

MILES

CHATTAHOOCHEE RIVER WATER AVAILABILITY AND USE REPORT	GEORGIA ENVIRONMENTAL PROTECTION DIVISION	MAJOR WATER USERS HYDROLOGIC UNIT #3 FIGURE 10

NUS CORPORATION AND SUBSIDIARIES **TELECON NOTE**

CONTROL NO.	DATE: 11-16-89	TIME: 12:15 p.m.

DISTRIBUTION:

Reference No. 19

BETWEEN: Robert Hall	OF: East Point Water Department	PHONE: (404) 765-1069

AND: Jelaine Tinsley, NUS Corporation

DISCUSSION:

Mr. Hall stated that East Point Water Department obtains water from Sweet Water Creek and the intake is about 1 mile north of the Chattahoochee River. He said they serve all of East Point and College Park area. He also stated that they serve approximately 45,000 people.

NUS CORPORATION AND SUBSIDIARIES **TELECON NOTE**

CONTROL NO.	DATE: 11-16-89	TIME: 1:30 p.m.

DISTRIBUTION:

Reference No. 20

BETWEEN: Alfred Maulding	OF: Georgia Department of Natural Resources	PHONE: (404) 656-4817

AND: Jelaine Tinsley, NUS Corporation

DISCUSSION:

Alfred stated that no commercial fishing takes place on Powder Spring Creek or Sweet Water Creek only sport fishing.

Reference No. 21

ENDANGERED AND THREATENED SPECIES

U.S. FISH AND WILDLIFE SERVICE

REGION 4 - ATLANTA

Federally Listed Species by State

GEORGIA

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

Mammals	General Distribution
Bat, gray (Myotis grisescens) - E	Northwest, West
Bat, Indiana (Myotis sodalis) - E	Extreme Northwest
Manatee, West Indian (Trichechus manatus) - E	Coastal waters
Panther, Florida (Felis concolor coryi) - E	Entire state
Whale, finback (Balaenoptera physalus) - E	Coastal waters
Whale, humpback (Megaptera novaeangliae) - E	Coastal waters
Whale, right (Eubalaena glacialis) - E	Coastal waters
Whale, sei (Balaenoptera borealis) - E	Coastal waters
Whale, sperm (Physeter catodon) - E	Coastal waters

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

Reptiles	
Alligator, American (Alligator mississippiensis) - T(S/A)*	Coastal plain
Snake, eastern indigo (Drymarchon corais couperi) - T	Southeast

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

GEORGIA (cont'd)

	General Distribution
Turtle, Kemp's (Atlantic) ridley (*Lepidochelys kempii*) - E	Coastal waters
Turtle, green (*Chelonia mydas*) - T	Coastal waters
Turtle, hawksbill (*Eretmochelys imbricata*) - E	Coastal waters
Turtle, leatherback (*Dermochelys coriacea*) - E	Coastal waters
Turtle, loggerhead (*Caretta caretta*) - T	Coastal waters

Fishes

Darter, amber (*Percina antesella*) - E,CH	Conasauga R., Murray County
Darter, snail (*Percina tanasi*) - T	S. Chickamauga Cr., Catoosa County
Logperch, Conasauga (*Percina jenkinsi*) - E,CH	Conasauga R., Murray County
Sturgeon, shortnose (*Acipenser brevirostrum*) - E	Coastal rivers

Plants

Baptisia arachnifera (hairy rattleweed) - E	Wayne, Brantley Counties
Isotria medeoloides (small whorled pogonia) - E	Rabun County
Lindera melissifolia (pondberry) - E	Wheeler County
Oxypolis canbyi (Canby's dropwort) - E	Burke, Lee, Sumter Counties
Sarracenia oreophila (green pitcher plant)- E	Towns County
Scutellaria montana (large-flowered skullcap) - E	Floyd, Gordon, Walker Counties
Torreya taxifolia (Florida torreya) - E	Decatur County
Trillium persistens (persistent trillium) - E	Tallulah-Tugaloo River system, Rabun and Habersham Counties

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Minister's Fellowship Breakfast

Saturday, March 23, 2014

Time Change, Jobs Change
Relationships Change
Friends Remain

It is my prayers that this
Is the beginning of a
LASTING FRIENDSHIP

Thank you for coming!

Rev. Rodney Dexter Grier

Rev. Rodney Dexter Grier

Rev. Rodney Dexter Grier
Pastor

STAY FAITHFUL & BE GRATEFUL
"STILL STANDING"

* * * *

Things are to be **used**

People are to be loved

Be yourself....This may be

The only day we HAVE.

Watch your **THOUGHTS**;

They become your ***words***.

Watch your **WORDS**;

They become your ***actions***.

Watch your **ACTIONS**;

They become your ***habits***.

Watch your **HABITS**;

They become your ***Character***.

Watch your **CHARACTER**;

It becomes your ***Destiny***.

Reference No. 22

```
Enter the next ring distance
GEMS> 6.4

Enter the next ring distance
GEMS>
```

COVERAGE

STATE	COUNTY	STATE NAME	COUNTY NAME
13	67	Georgia	Cobb Co
13	121	Georgia	Fulton Co
13	223	Georgia	Paulding Co

CENTER POINT AT STATE : 13 Georgia
COUNTY : 223 Paulding Co

Press RETURN key to continue...

REGION OF THE COUNTRY

Zipcode found: 30141 at a distance of 3.9 Km

STATE	CITY NAME	FIPSCODE	LATITUDE	LONGITUDE
GA	HIRAM	13223	33.8783	84.7567

Press RETURN key to continue ...

CENSUS DATA

THOMPSON-HAYWARD
LATITUDE 33:52:40 LONGITUDE 84:42:50 1980 POPULATION

KM	0.00-.400	.400-.810	.810-1.60	1.60-3.20	3.20-4.80	4.80-6.40	SECTOR TOTALS
S 1	0	0	0	0	440	0	440
S 2	0	0	0	1675	494	0	2169
S 3	0	0	0	0	0	3492	3492
S 4	0	0	0	0	2582	0	2582
S 5	0	0	0	1244	0	940	2184
S 6	0	0	0	1603	0	0	1603
S 7	0	0	0	0	1464	0	1464
S 8	0	0	0	0	1336	0	1336
RING TOTALS	0	0	0	4522	6316	4432	15270

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

METALS DATA REPORT 02/24/89

PROJECT NO. 89-227 SAMPLE NO. 32754 SAMPLE TYPE: SOIL
SOURCE: TIFTON ALUMINUM
STATION ID: SD-01
CASE NUMBER: 11209 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: S CASH
CITY: TIFTON ST: GA
COLLECTION START: 01/09/89 STOP: 00/00/00
MD NUMBER: L407

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
5100	ALUMINUM	33	MANGANESE
20U	ANTIMONY	0.11UJ	MERCURY
1.5	ARSENIC	5U	NICKEL
30U	BARIUM	320	POTASSIUM
0.15U	BERYLLIUM	0.40UJ	SELENIUM
1.3U	CADMIUM	0.75U	SILVER
820	CALCIUM	100U	SODIUM
36	CHROMIUM	0.55U	THALLIUM
2.3U	COBALT	NA	TIN
7.5	COPPER	19	VANADIUM
9400	IRON	46	ZINC
8.3	LEAD	20	PERCENT MOISTURE
460	MAGNESIUM		

APPENDIX B

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.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

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

02/24/89

METALS DATA REPORT

PROJECT NO. 89-227 SAMPLE NO. 32753 SAMPLE TYPE: SOIL
SOURCE: TIFTON ALUMINUM
STATION ID: SD-02
CASE NUMBER: 11209 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: S CASH
CITY: TIFTON ST: GA
COLLECTION START: 01/09/89 STOP: 00/00/00
MD NUMBER: L406

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
51000	ALUMINUM	78	MANGANESE
90	ANTIMONY	1UJ	MERCURY
3.3	ARSENIC	33	NICKEL
290U	BARIUM	400	POTASSIUM
1.2U	BERYLLIUM	3.2UJ	SELENIUM
10U	CADMIUM	6U	SILVER
8600	CALCIUM	160U	SODIUM
280	CHROMIUM	4.4U	THALLIUM
18U	COBALT	NA	TIN
170	COPPER	12U	VANADIUM
8200	IRON	100	ZINC
20	LEAD	90	PERCENT MOISTURE
3000	MAGNESIUM		

REMARKS

REMARKS

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

02/24/89

METALS DATA REPORT

PROJECT NO. 89-227 SAMPLE NO. 32749 SAMPLE TYPE: SOIL
SOURCE: TIFTON ALUMINUM
STATION ID: SS-03
CASE NUMBER: 11209 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: S CASH
CITY: TIFTON ST: GA
COLLECTION START: 01/09/89 STOP: 00/00/00
MD NUMBER: L402

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
4500	ALUMINUM	77	MANGANESE
9.5U	ANTIMONY	0.08UJ	MERCURY
1.2	ARSENIC	4.6	NICKEL
20U	BARIUM	72	POTASSIUM
0.13U	BERYLLIUM	0.34UJ	SELENIUM
1.1U	CADMIUM	0.64U	SILVER
170	CALCIUM	20U	SODIUM
6.7	CHROMIUM	0.47U	THALLIUM
1.9U	COBALT	NA	TIN
3U	COPPER	11	VANADIUM
5300	IRON	3U	ZINC
8.5	LEAD	06	PERCENT MOISTURE
69	MAGNESIUM		

REMARKS

REMARKS

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

METALS DATA REPORT 02/24/89

PROJECT NO. 89-227 SAMPLE NO. 32752 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: S CASH
SOURCE: TIFTON ALUMINUM CITY: TIFTON ST: GA
STATION ID: SD-05 COLLECTION START: 01/09/89 STOP: 00/00/00
CASE NUMBER: 11209 SAS NUMBER: MD NUMBER: L405

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
270000	ALUMINUM	78	MANGANESE
70U	ANTIMONY	0.60UJ	MERCURY
4.4	ARSENIC	28	NICKEL
50U	BARIUM	310U	POTASSIUM
0.93U	BERYLLIUM	2.5UJ	SELENIUM
7.8U	CADMIUM	4.7U	SILVER
3300	CALCIUM	22000	SODIUM
1400	CHROMIUM	3.4U	THALLIUM
14U	COBALT	NA	TIN
230	COPPER	29	VANADIUM
1700	IRON	20	ZINC
36	LEAD	87	PERCENT MOISTURE
1900	MAGNESIUM		

REMARKS ***REMARKS***

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

METALS DATA REPORT 02/24/89

PROJECT NO. 89-227 SAMPLE NO. 32743 SAMPLE TYPE: GROUNDWA PROG ELEM: NSF COLLECTED BY: S CASH
SOURCE: TIFTON ALUMINUM CITY: TIFTON ST: GA
STATION ID: TW-06 COLLECTION START: 01/10/89 STOP: 00/00/00
CASE NUMBER: 11209 SAS NUMBER: MD NUMBER: L408

UG/L	ANALYTICAL RESULTS	UG/L	ANALYTICAL RESULTS
980000	ALUMINUM	1800	MANGANESE
79	ANTIMONY	2J	MERCURY
53J	ARSENIC	160	NICKEL
1500J	BARIUM	17000	POTASSIUM
5U	BERYLLIUM	2U	SELENIUM
5U	CADMIUM	3U	SILVER
52000	CALCIUM	140000	SODIUM
600	CHROMIUM	3UJ	THALLIUM
47	COBALT	NA	TIN
180	COPPER	2300	VANADIUM
1200000	IRON	390	ZINC
210	LEAD		
24000	MAGNESIUM		

REMARKS ***REMARKS***

FOOTNOTES
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*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

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

02/24/89

METALS DATA REPORT

*** ***
** PROJECT NO. 89-227 SAMPLE NO. 32744 SAMPLE TYPE: GROUNDWA PROG ELEM: NSF COLLECTED BY: S CASH **
** SOURCE: TIFTON ALUMINUM CITY: TIFTON ST: GA **
** STATION ID: PW-07 COLLECTION START: 01/10/89 STOP: 00/00/00 **
** CASE NUMBER: 11209 SAS NUMBER: MD NUMBER: L409 **
** **
*** ***

UG/L	ANALYTICAL RESULTS	UG/L	ANALYTICAL RESULTS
820U	ALUMINUM	50	MANGANESE
45U	ANTIMONY	0.20UJ	MERCURY
2U	ARSENIC	16U	NICKEL
630J	BARIUM	4500	POTASSIUM
1U	BERYLLIUM	2U	SELENIUM
5U	CADMIUM	3U	SILVER
7400	CALCIUM	21000	SODIUM
8U	CHROMIUM	3UJ	THALLIUM
12	COBALT	NA	TIN
20U	COPPER	6U	VANADIUM
90U	IRON	40U	ZINC
6	LEAD		
11000	MAGNESIUM		

REMARKS ***REMARKS***

FOOTNOTES
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*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

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

02/28/89

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 89-227 SAMPLE NO. 32761 SAMPLE TYPE: SOIL
SOURCE: TIFTON ALUMINUM
STATION ID: SD-04

PROG ELEM: NSF COLLECTED BY: S CASH
CITY: TIFTON ST: GA
COLLECTION START: 01/09/89 STOP: 00/00/00

CASE NO.: 11209 SAS NO.: D. NO.: L404

UG/KG	ANALYTICAL RESULTS
38U	CHLOROMETHANE
38U	BROMOMETHANE
38U	VINYL CHLORIDE
38U	CHLOROETHANE
400U	METHYLENE CHLORIDE
200U	ACETONE
19U	CARBON DISULFIDE
19U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
19U	1,1-DICHLOROETHANE
19U	1,2-DICHLOROETHENE (TOTAL)
19U	CHLOROFORM
19U	1,2-DICHLOROETHANE
38U	METHYL ETHYL KETONE
19U	1,1,1-TRICHLOROETHANE
19U	CARBON TETRACHLORIDE
38U	VINYL ACETATE
19U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
19U	1,2-DICHLOROPROPANE
19U	CIS-1,3-DICHLOROPROPENE
19U	TRICHLOROETHENE(TRICHLOROETHYLENE)
19U	DIBROMOCHLOROMETHANE
19U	1,1,2-TRICHLOROETHANE
19U	BENZENE
19U	TRANS-1,3-DICHLOROPROPENE
19U	BROMOFORM
38U	METHYL ISOBUTYL KETONE
38U	METHYL BUTYL KETONE
19U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
19U	1,1,2,2-TETRACHLOROETHANE
4000U	TOLUENE
19U	CHLOROBENZENE
19U	ETHYL BENZENE
19U	STYRENE
19U	TOTAL XYLENES
74	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.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 02/28/89

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

*** ***
** PROJECT NO. 89-227 SAMPLE NO. 32761 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: S CASH **
** SOURCE: TIFTON ALUMINUM CITY: TIFTON ST: GA **
** STATION ID: SD-04 COLLECTION START: 01/09/89 STOP: 00/00/00 **
** CASE.NO.: 11209 SAS NO.: D. NO.: L404 MD NO: **
**   **
*** ***

ANALYTICAL RESULTS UG/KG

N	PETROLEUM PRODUCT
700JN	HEXADECANOIC ACID
20000J	8 UNIDENTIFIED COMPOUNDS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 02/28/89

** PROJECT NO. 89-227 SAMPLE NO. 32761 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: S CASH
** SOURCE: TIFTON ALUMINUM CITY: TIFTON ST: GA
** STATION ID: SD-04 COLLECTION START: 01/09/89 STOP: 00/00/00
** CASE NO.: 11209 SAS NO.: D. NO.: L404

UG/KG	ANALYTICAL RESULTS
1300U	PHENOL
1300U	BIS(2-CHLOROETHYL) ETHER
1300U	2-CHLOROPHENOL
1300U	1,3-DICHLOROBENZENE
1300U	1,4-DICHLOROBENZENE
1300U	BENZYL ALCOHOL
1300U	1,2-DICHLOROBENZENE
1300U	2-METHYLPHENOL
1300U	BIS(2-CHLOROISOPROPYL) ETHER
1300U	(3-AND/OR 4-)METHYLPHENOL
1300U	N-NITROSODI-N-PROPYLAMINE
1300U	HEXACHLOROETHANE
1300U	NITROBENZENE
1300U	ISOPHORONE
1300U	2-NITROPHENOL
1300U	2,4-DIMETHYLPHENOL
6200U	BENZOIC ACID
1300U	BIS(2-CHLOROETHOXY) METHANE
1300U	2,4-DICHLOROPHENOL
1300U	1,2,4-TRICHLOROBENZENE
1300U	NAPHTHALENE
1300U	4-CHLOROANILINE
1300U	HEXACHLOROBUTADIENE
1300U	4-CHLORO-3-METHYLPHENOL
1300UJ	2-METHYLNAPHTHALENE
1300U	HEXACHLOROCYCLOPENTADIENE (HCCP)
1300U	2,4,6-TRICHLOROPHENOL
6200U	2,4,5-TRICHLOROPHENOL
1300U	2-CHLORONAPHTHALENE
6200U	2-NITROANILINE
1300U	DIMETHYL PHTHALATE
1300U	ACENAPHTHYLENE
1300U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
6200U	3-NITROANILINE
1300U	ACENAPHTHENE
6200U	2,4-DINITROPHENOL
6200U	4-NITROPHENOL
1300U	DIBENZOFURAN
1300U	2,4-DINITROTOLUENE
1300U	DIETHYL PHTHALATE
1300U	4-CHLOROPHENYL PHENYL ETHER
1300U	FLUORENE
6200U	4-NITROANILINE
6200U	2-METHYL-4,6-DINITROPHENOL
1300U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
1300U	4-BROMOPHENYL PHENYL ETHER
1300U	HEXACHLOROBENZENE (HCB)
6200UJ	PENTACHLOROPHENOL
1300U	PHENANTHRENE
1300U	ANTHRACENE
1300U	DI-N-BUTYLPHTHALATE
1300U	FLUORANTHENE
1300U	PYRENE
1300U	BENZYL BUTYL PHTHALATE
2500U	3,3'-DICHLOROBENZIDINE
1300U	BENZO(A)ANTHRACENE
1300U	CHRYSENE
1300U	BIS(2-ETHYLHEXYL) PHTHALATE
1300U	DI-N-OCTYLPHTHALATE
1300U	BENZO(B AND/OR K)FLUORANTHENE
1300U	BENZO-A-PYRENE
1300U	INDENO (1,2,3-CD) PYRENE
1300U	DIBENZO(A,H)ANTHRACENE
1300U	BENZO(GHI)PERYLENE
74	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

02/28/89

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 89-227   SAMPLE NO. 32761   SAMPLE TYPE: SOIL   PROG ELEM: NSF   COLLECTED BY: S CASH
SOURCE: TIFTON ALUMINUM   CITY: TIFTON   ST: GA
STATION ID: SD-04   COLLECTION START: 01/09/89   STOP: 00/00/00
CASE NUMBER: 11209   SAS NUMBER: D. NUMBER: L404

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
30.U	ALPHA-BHC	300U	METHOXYCHLOR
30.U	BETA-BHC	61.U	ENDRIN KETONE
30.U	DELTA-BHC		CHLORDANE (TECH. MIXTURE) /1
30.U	GAMMA-BHC (LINDANE)	300U	GAMMA-CHLORDANE /2
30.U	HEPTACHLOR	300U	ALPHA-CHLORDANE /2
30.U	ALDRIN	610U	TOXAPHENE
30.U	HEPTACHLOR EPOXIDE	300U	PCB-1016 (AROCLOR 1016)
30.U	ENDOSULFAN I (ALPHA)	300U	PCB-1221 (AROCLOR 1221)
61.U	DIELDRIN	300U	PCB-1232 (AROCLOR 1232)
61.U	4,4'-DDE (P,P'-DDE)	300U	PCB-1242 (AROCLOR 1242)
61.U	ENDRIN	300U	PCB-1248 (AROCLOR 1248)
61.U	ENDOSULFAN II (BETA)	610U	PCB-1254 (AROCLOR 1254)
61.U	4,4'-DDD (P,P'-DDD)	610U	PCB-1260 (AROCLOR 1260)
61.U	ENDOSULFAN SULFATE	74	PERCENT MOISTURE
61.U	4,4'-DDT (P,P'-DDT)		

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE   *NA-NOT ANALYZED   *NAI-INTERFERENCES   *J-ESTIMATED VALUE   *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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*C-CONFIRMED BY GCMS   1. WHEN NO VALUE IS REPORTED, SEE CHLORDANE CONSTITUENTS.

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

PURGEABLE ORGANICS DATA REPORT 02/28/89

PROJECT NO. 89-227 SAMPLE NO. 32762 SAMPLE TYPE: SOIL
SOURCE: TIFTON ALUMINUM
STATION ID: SD-05

PROG ELEM: NSF COLLECTED BY: S CASH
CITY: TIFTON ST: GA
COLLECTION START: 01/09/89 STOP: 00/00/00

CASE NO.: 11209 SAS NO.: D. NO.: L405

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
83U	CHLOROMETHANE	42U	1,2-DICHLOROPROPANE
83U	BROMOMETHANE	42U	CIS-1,3-DICHLOROPROPENE
83U	VINYL CHLORIDE	42U	TRICHLOROETHENE(TRICHLOROETHYLENE)
83U	CHLOROETHANE	42U	DIBROMOCHLOROMETHANE
100U	METHYLENE CHLORIDE	42U	1,1,2-TRICHLOROETHANE
200U	ACETONE	42U	BENZENE
42U	CARBON DISULFIDE	42U	TRANS-1,3-DICHLOROPROPENE
42U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	42U	BROMOFORM
42U	1,1-DICHLOROETHANE	83U	METHYL ISOBUTYL KETONE
42U	1,2-DICHLOROETHENE (TOTAL)	83U	METHYL BUTYL KETONE
42U	CHLOROFORM	42U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
42U	1,2-DICHLOROETHANE	42U	1,1,2,2-TETRACHLOROETHANE
83U	METHYL ETHYL KETONE	300U	TOLUENE
42U	1,1,1-TRICHLOROETHANE	42U	CHLOROBENZENE
42U	CARBON TETRACHLORIDE	42U	ETHYL BENZENE
83U	VINYL ACETATE	42U	STYRENE
42U	BROMODICHLOROMETHANE	42U	TOTAL XYLENES
		88	PERCENT MOISTURE

REMARKS

REMARKS

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

02/28/89

EXTRACTABLE ORGANICS DATA REPORT

PROJECT NO. 89-227 SAMPLE NO. 32762 SAMPLE TYPE: SOIL
SOURCE: TIFTON ALUMINUM
STATION ID: SD-05

PROG ELEM: NSF COLLECTED BY: S CASH
CITY: TIFTON ST: GA
COLLECTION START: 01/09/89 STOP: 00/00/00

CASE NO.: 11209 SAS NO.: D. NO.: L405

UG/KG	ANALYTICAL RESULTS
2700U	PHENOL
2700U	BIS(2-CHLOROETHYL) ETHER
2700U	2-CHLOROPHENOL
2700U	1,3-DICHLOROBENZENE
2700U	1,4-DICHLOROBENZENE
2700U	BENZYL ALCOHOL
2700U	1,2-DICHLOROBENZENE
2700U	2-METHYLPHENOL
2700U	BIS(2-CHLOROISOPROPYL) ETHER
2700U	(3-AND/OR 4-)METHYLPHENOL
2700U	N-NITROSODI-N-PROPYLAMINE
2700U	HEXACHLOROETHANE
2700U	NITROBENZENE
2700U	ISOPHORONE
2700U	2-NITROPHENOL
2700U	2,4-DIMETHYLPHENOL
13000U	BENZOIC ACID
2700U	BIS(2-CHLOROETHOXY) METHANE
2700U	2,4-DICHLOROPHENOL
2700U	1,2,4-TRICHLOROBENZENE
2700U	NAPHTHALENE
2700U	4-CHLOROANILINE
2700U	HEXACHLOROBUTADIENE
2700U	4-CHLORO-3-METHYLPHENOL
2700UJ	2-METHYLNAPHTHALENE
2700U	HEXACHLOROCYCLOPENTADIENE (HCCP)
2700U	2,4,6-TRICHLOROPHENOL
13000U	2,4,5-TRICHLOROPHENOL
2700U	2-CHLORONAPHTHALENE
13000U	2-NITROANILINE
2700U	DIMETHYL PHTHALATE
2700U	ACENAPHTHYLENE
2700U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
13000U	3-NITROANILINE
2700U	ACENAPHTHENE
13000U	2,4-DINITROPHENOL
13000U	4-NITROPHENOL
2700U	DIBENZOFURAN
2700U	2,4-DINITROTOLUENE
2700U	DIETHYL PHTHALATE
2700U	4-CHLOROPHENYL PHENYL ETHER
2700U	FLUORENE
13000U	4-NITROANILINE
13000U	2-METHYL-4,6-DINITROPHENOL
2700U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
2700U	4-BROMOPHENYL PHENYL ETHER
2700U	HEXACHLOROBENZENE (HCB)
13000UJ	PENTACHLOROPHENOL
2700U	PHENANTHRENE
2700U	ANTHRACENE
2700U	DI-N-BUTYLPHTHALATE
2700U	FLUORANTHENE
2700U	PYRENE
2700U	BENZYL BUTYL PHTHALATE
5500U	3,3'-DICHLOROBENZIDINE
2700U	BENZO(A)ANTHRACENE
2700U	CHRYSENE
2700U	BIS(2-ETHYLHEXYL) PHTHALATE
2700U	DI-N-OCTYLPHTHALATE
2700U	BENZO(B AND/OR K)FLUORANTHENE
2700U	BENZO-A-PYRENE
2700U	INDENO (1,2,3-CD) PYRENE
2700U	DIBENZO(A,H)ANTHRACENE
2700U	BENZO(GHI)PERYLENE
88	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

02/28/89

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 89-227 SAMPLE NO. 32762 SAMPLE TYPE: SOIL
SOURCE: TIFTON ALUMINUM
STATION ID: SD-05
CASE NO.: 11209 SAS NO.:

PROG ELEM: NSF COLLECTED BY: S CASH
CITY: TIFTON ST: GA
COLLECTION START: 01/09/89 STOP: 00/00/00
D. NO.: L405 MD NO:

ANALYTICAL RESULTS UG/KG

3000J 1 UNIDENTIFIED COMPOUND

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

02/28/89

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 89-227 SAMPLE NO. 32762 SAMPLE TYPE: SOIL
SOURCE: TIFTON ALUMINUM
STATION ID: SD-05
CASE NUMBER: 11209 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: S CASH
CITY: TIFTON ST: GA
COLLECTION START: 01/09/89 STOP: 00/00/00
D. NUMBER: L405

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
66.U	ALPHA-BHC	660U	METHOXYCHLOR
66.U	BETA-BHC	130U	ENDRIN KETONE
66.U	DELTA-BHC		CHLORDANE (TECH. MIXTURE) /1
66.U	GAMMA-BHC (LINDANE)	660U	GAMMA-CHLORDANE /2
66.U	HEPTACHLOR	660U	ALPHA-CHLORDANE /2
66.U	ALDRIN	1300U	TOXAPHENE
66.U	HEPTACHLOR EPOXIDE	660U	PCB-1016 (AROCLOR 1016)
66.U	ENDOSULFAN I (ALPHA)	660U	PCB-1221 (AROCLOR 1221)
130U	DIELDRIN	660U	PCB-1232 (AROCLOR 1232)
130U	4,4'-DDE (P,P'-DDE)	660U	PCB-1242 (AROCLOR 1242)
130U	ENDRIN	660U	PCB-1248 (AROCLOR 1248)
130U	ENDOSULFAN II (BETA)	1300U	PCB-1254 (AROCLOR 1254)
130U	4,4'-DDD (P,P'-DDD)	1300U	PCB-1260 (AROCLOR 1260)
130U	ENDOSULFAN SULFATE	88	PERCENT MOISTURE
130U	4,4'-DDT (P,P'-DDT)		

REMARKS

REMARKS

FOOTNOTES

*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

02/28/89

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 89-227 SAMPLE NO. 32760 SAMPLE TYPE:
SOURCE:
STATION ID: SS-03

PROG ELEM: NSF COLLECTED BY: S CASH
CITY: TIFTON ST: GA
COLLECTION START: 01/09/89 STOP: 00/00/00

CASE NO.: 11209 SAS NO.: D. NO.: L403

UG/KG	ANALYTICAL RESULTS
11U	CHLOROMETHANE
11U	BROMOMETHANE
11U	VINYL CHLORIDE
11U	CHLOROETHANE
20U	METHYLENE CHLORIDE
20U	ACETONE
5U	CARBON DISULFIDE
5U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
5U	1,1-DICHLOROETHANE
5U	1,2-DICHLOROETHENE (TOTAL)
5U	CHLOROFORM
5U	1,2-DICHLOROETHANE
20U	METHYL ETHYL KETONE
5U	1,1,1-TRICHLOROETHANE
5U	CARBON TETRACHLORIDE
11U	VINYL ACETATE
5U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
5U	1,2-DICHLOROPROPANE
5U	CIS-1,3-DICHLOROPROPENE
5U	TRICHLOROETHENE(TRICHLOROETHYLENE)
5U	DIBROMOCHLOROMETHANE
5U	1,1,2-TRICHLOROETHANE
5U	BENZENE
5U	TRANS-1,3-DICHLOROPROPENE
5U	BROMOFORM
11U	METHYL ISOBUTYL KETONE
11U	METHYL BUTYL KETONE
5U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
5U	1,1,2,2-TETRACHLOROETHANE
600U	TOLUENE
5U	CHLOROBENZENE
5U	ETHYL BENZENE
5U	STYRENE
5U	TOTAL XYLENES
6	PERCENT MOISTURE

REMARKS

REMARKS

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

EXTRACTABLE ORGANICS DATA REPORT 02/28/89

PROJECT NO. 89-227 SAMPLE NO. 32760 SAMPLE TYPE:
SOURCE:
STATION ID: SS-03

PROG ELEM: NSF COLLECTED BY: S CASH
CITY: TIFTON ST: GA
COLLECTION START: 01/09/89 STOP: 00/00/00

CASE NO.: 11209 SAS NO.: D. NO.: L403

UG/KG	ANALYTICAL RESULTS
350U	PHENOL
350U	BIS(2-CHLOROETHYL) ETHER
350U	2-CHLOROPHENOL
350U	1,3-DICHLOROBENZENE
350U	1,4-DICHLOROBENZENE
350U	BENZYL ALCOHOL
350U	1,2-DICHLOROBENZENE
350U	2-METHYLPHENOL
350U	BIS(2-CHLOROISOPROPYL) ETHER
350U	(3-AND/OR 4-)METHYLPHENOL
350U	N-NITROSODI-N-PROPYLAMINE
350U	HEXACHLOROETHANE
350U	NITROBENZENE
350U	ISOPHORONE
350U	2-NITROPHENOL
350U	2,4-DIMETHYLPHENOL
1700U	BENZOIC ACID
350U	BIS(2-CHLOROETHOXY) METHANE
350U	2,4-DICHLOROPHENOL
350U	1,2,4-TRICHLOROBENZENE
350U	NAPHTHALENE
350U	4-CHLOROANILINE
350U	HEXACHLOROBUTADIENE
350U	4-CHLORO-3-METHYLPHENOL
350UJ	2-METHYLNAPHTHALENE
350U	HEXACHLOROCYCLOPENTADIENE (HCCP)
350U	2,4,6-TRICHLOROPHENOL
1700U	2,4,5-TRICHLOROPHENOL
350U	2-CHLORONAPHTHALENE
1700U	2-NITROANILINE
350U	DIMETHYL PHTHALATE
350U	ACENAPHTHYLENE
350U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
1700U	3-NITROANILINE
350U	ACENAPHTHENE
1700U	2,4-DINITROPHENOL
1700U	4-NITROPHENOL
350U	DIBENZOFURAN
350U	2,4-DINITROTOLUENE
350U	DIETHYL PHTHALATE
350U	4-CHLOROPHENYL PHENYL ETHER
350U	FLUORENE
1700U	4-NITROANILINE
1700U	2-METHYL-4,6-DINITROPHENOL
350U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
350U	4-BROMOPHENYL PHENYL ETHER
350U	HEXACHLOROBENZENE (HCB)
1700UJ	PENTACHLOROPHENOL
350U	PHENANTHRENE
350U	ANTHRACENE
350U	DI-N-BUTYLPHTHALATE
350U	FLUORANTHENE
350U	PYRENE
350U	BENZYL BUTYL PHTHALATE
700U	3,3'-DICHLOROBENZIDINE
350U	BENZO(A)ANTHRACENE
350U	CHRYSENE
350U	BIS(2-ETHYLHEXYL) PHTHALATE
350U	DI-N-OCTYLPHTHALATE
350U	BENZO(B AND/OR K)FLUORANTHENE
350U	BENZO-A-PYRENE
350U	INDENO (1,2,3-CD) PYRENE
350U	DIBENZO(A,H)ANTHRACENE
350U	BENZO(GHI)PERYLENE
6	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.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

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

02/28/89

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 89-227 SAMPLE NO. 32760 SAMPLE TYPE:
SOURCE:
STATION ID: SS-03
CASE NUMBER: 11209 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: S CASH
CITY: TIFTON ST: GA
COLLECTION START: 01/09/89 STOP: 00/00/00
D. NUMBER: L403

UG/KG	ANALYTICAL RESULTS
8.4U	ALPHA-BHC
8.4U	BETA-BHC
8.4U	DELTA-BHC
8.4U	GAMMA-BHC (LINDANE)
8.4U	HEPTACHLOR
8.4U	ALDRIN
8.4U	HEPTACHLOR EPOXIDE
8.4U	ENDOSULFAN I (ALPHA)
17.U	DIELDRIN
59.	4,4'-DDE (P,P'-DDE)
17.U	ENDRIN
17.U	ENDOSULFAN II (BETA)
17.U	4,4'-DDD (P,P'-DDD)
17.U	ENDOSULFAN SULFATE
17.U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
84.U	METHOXYCHLOR
17.U	ENDRIN KETONE
	CHLORDANE (TECH. MIXTURE) /1
84.U	GAMMA-CHLORDANE /2
84.U	ALPHA-CHLORDANE /2
170U	TOXAPHENE
84.U	PCB-1016 (AROCLOR 1016)
84.U	PCB-1221 (AROCLOR 1221)
84.U	PCB-1232 (AROCLOR 1232)
84.U	PCB-1242 (AROCLOR 1242)
84.U	PCB-1248 (AROCLOR 1248)
170U	PCB-1254 (AROCLOR 1254)
170U	PCB-1260 (AROCLOR 1260)
6	PERCENT MOISTURE

REMARKS

REMARKS

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

PURGEABLE ORGANICS DATA REPORT 02/28/89

PROJECT NO. 89-227 SAMPLE NO. 32756 SAMPLE TYPE: GROUNDWA PROG ELEM: NSF COLLECTED BY: S CASH
SOURCE: TIFTON ALUMINUM CITY: TIFTON ST: GA
STATION ID: PW-07 COLLECTION START: 01/10/89 STOP: 00/00/00

CASE NO.: 11209 SAS NO.: D. NO.: L409

UG/L	ANALYTICAL RESULTS
10U	CHLOROMETHANE
10U	BROMOMETHANE
10U	VINYL CHLORIDE
10U	CHLOROETHANE
5U	METHYLENE CHLORIDE
10UJ	ACETONE
5U	CARBON DISULFIDE
5U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
5U	1,1-DICHLOROETHANE
5U	1,2-DICHLOROETHENE (TOTAL)
5U	CHLOROFORM
5U	1,2-DICHLOROETHANE
20UJ	METHYL ETHYL KETONE
5U	1,1,1-TRICHLOROETHANE
5U	CARBON TETRACHLORIDE
10U	VINYL ACETATE
5U	BROMODICHLOROMETHANE

UG/L	ANALYTICAL RESULTS
5U	1,2-DICHLOROPROPANE
5U	CIS-1,3-DICHLOROPROPENE
5U	TRICHLOROETHENE(TRICHLOROETHYLENE)
5U	DIBROMOCHLOROMETHANE
5U	1,1,2-TRICHLOROETHANE
5U	BENZENE
5U	TRANS-1,3-DICHLOROPROPENE
5U	BROMOFORM
10U	METHYL ISOBUTYL KETONE
10U	METHYL BUTYL KETONE
5U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
5U	1,1,2,2-TETRACHLOROETHANE
5U	TOLUENE
5U	CHLOROBENZENE
5U	ETHYL BENZENE
5U	STYRENE
5U	TOTAL XYLENES

REMARKS

REMARKS

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

EXTRACTABLE ORGANICS DATA REPORT 02/28/89

PROJECT NO. 89-227 SAMPLE NO. 32756 SAMPLE TYPE: GROUNDWA PROG ELEM: NSF COLLECTED BY: S CASH
SOURCE: TIFTON ALUMINUM CITY: TIFTON ST: GA
STATION ID: PW-07 COLLECTION START: 01/10/89 STOP: 00/00/00

CASE NO.: 11209 SAS NO.: D. NO.: L409

UG/L	ANALYTICAL RESULTS
10U	PHENOL
10U	BIS(2-CHLOROETHYL) ETHER
10U	2-CHLOROPHENOL
10U	1,3-DICHLOROBENZENE
10U	1,4-DICHLOROBENZENE
10U	BENZYL ALCOHOL
10U	1,2-DICHLOROBENZENE
10U	2-METHYLPHENOL
10U	BIS(2-CHLOROISOPROPYL) ETHER
10U	(3-AND/OR 4-)METHYLPHENOL
10U	N-NITROSODI-N-PROPYLAMINE
10U	HEXACHLOROETHANE
10U	NITROBENZENE
10U	ISOPHORONE
10U	2-NITROPHENOL
10U	2,4-DIMETHYLPHENOL
50U	BENZOIC ACID
10U	BIS(2-CHLOROETHOXY) METHANE
10U	2,4-DICHLOROPHENOL
10U	1,2,4-TRICHLOROBENZENE
10U	NAPHTHALENE
10U	4-CHLOROANILINE
10U	HEXACHLOROBUTADIENE
10U	4-CHLORO-3-METHYLPHENOL
10U	2-METHYLNAPHTHALENE
10U	HEXACHLOROCYCLOPENTADIENE (HCCP)
10U	2,4,6-TRICHLOROPHENOL
50U	2,4,5-TRICHLOROPHENOL
10U	2-CHLORONAPHTHALENE
50U	2-NITROANILINE
10U	DIMETHYL PHTHALATE
10U	ACENAPHTHYLENE
10U	2,6-DINITROTOLUENE

UG/L	ANALYTICAL RESULTS
50U	3-NITROANILINE
10U	ACENAPHTHENE
50UJ	2,4-DINITROPHENOL
50U	4-NITROPHENOL
10U	DIBENZOFURAN
10U	2,4-DINITROTOLUENE
10U	DIETHYL PHTHALATE
10U	4-CHLOROPHENYL PHENYL ETHER
10U	FLUORENE
50U	4-NITROANILINE
50U	2-METHYL-4,6-DINITROPHENOL
10U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
10U	4-BROMOPHENYL PHENYL ETHER
10U	HEXACHLOROBENZENE (HCB)
50U	PENTACHLOROPHENOL
10U	PHENANTHRENE
10U	ANTHRACENE
10U	DI-N-BUTYLPHTHALATE
10U	FLUORANTHENE
10U	PYRENE
10U	BENZYL BUTYL PHTHALATE
20U	3,3'-DICHLOROBENZIDINE
10U	BENZO(A)ANTHRACENE
10U	CHRYSENE
10UJ	BIS(2-ETHYLHEXYL) PHTHALATE
10U	DI-N-OCTYLPHTHALATE
10U	BENZO(B AND/OR K)FLUORANTHENE
10U	BENZO-A-PYRENE
10U	INDENO (1,2,3-CD) PYRENE
10U	DIBENZO(A,H)ANTHRACENE
10U	BENZO(GHI)PERYLENE

REMARKS

REMARKS

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

PESTICIDES/PCB'S DATA REPORT 02/28/89

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** PROJECT NO. 89-227    SAMPLE NO. 32756  SAMPLE TYPE: GROUNDWA    PROG ELEM: NSF   COLLECTED BY: S-CASH                **
** SOURCE: TIFTON ALUMINUM                                          CITY: TIFTON                ST: GA                  **
** STATION ID: PW-07                                                COLLECTION START: 01/10/89        STOP: 00/00/00    **
** CASE NUMBER: 11209          SAS NUMBER:                           D. NUMBER: L409                                   **
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UG/L	ANALYTICAL RESULTS	UG/L	ANALYTICAL RESULTS
.050U	ALPHA-BHC	.50U	METHOXYCHLOR
.050U	BETA-BHC	.10U	ENDRIN KETONE
.050U	DELTA-BHC	--	CHLORDANE (TECH. MIXTURE) /1
.050U	GAMMA-BHC (LINDANE)	.50U	GAMMA-CHLORDANE /2
.050U	HEPTACHLOR	.50U	ALPHA-CHLORDANE /2
.050U	ALDRIN	1.0U	TOXAPHENE
.050U	HEPTACHLOR EPOXIDE	.50U	PCB-1016 (AROCLOR 1016)
.050U	ENDOSULFAN I (ALPHA)	.50U	PCB-1221 (AROCLOR 1221)
.10U	DIELDRIN	.50U	PCB-1232 (AROCLOR 1232)
.10U	4,4'-DDE (P,P'-DDE)	.50U	PCB-1242 (AROCLOR 1242)
.10U	ENDRIN	.50U	PCB-1248 (AROCLOR 1248)
.10U	ENDOSULFAN II (BETA)	1.0U	PCB-1254 (AROCLOR 1254)
.10U	4,4'-DDD (P,P'-DDD)	1.0U	PCB-1260 (AROCLOR 1260)
.10U	ENDOSULFAN SULFATE		
.10U	4,4'-DDT (P,P'-DDT)		

REMARKS ***REMARKS***

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

02/28/89

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 89-227 SAMPLE NO. 32755 SAMPLE TYPE: GROUNDWA
SOURCE: TIFTON ALUMINUM
STATION ID: TW-06
CASE NUMBER: 11209 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: S CASH
CITY: TIFTON ST: GA
COLLECTION START: 01/10/89 STOP: 00/00/00
D. NUMBER: L408

UG/L	ANALYTICAL RESULTS
.050U	ALPHA-BHC
.050U	BETA-BHC
.050U	DELTA-BHC
.050U	GAMMA-BHC (LINDANE)
.050U	HEPTACHLOR
.050U	ALDRIN
.050U	HEPTACHLOR EPOXIDE
.050U	ENDOSULFAN I (ALPHA)
.10U	DIELDRIN
.10U	4,4'-DDE (P,P'-DDE)
.10U	ENDRIN
.10U	ENDOSULFAN II (BETA)
.10U	4,4'-DDD (P,P'-DDD)
.10U	ENDOSULFAN SULFATE
.10U	4,4'-DDT (P,P'-DDT)

UG/L	ANALYTICAL RESULTS
.50U	METHOXYCHLOR
.10U	ENDRIN KETONE
--	CHLORDANE (TECH. MIXTURE) /1
.50U	GAMMA-CHLORDANE /2
.50U	ALPHA-CHLORDANE /2
1.0U	TOXAPHENE
.50U	PCB-1016 (AROCLOR 1016)
.50U	PCB-1221 (AROCLOR 1221)
.50U	PCB-1232 (AROCLOR 1232)
.50U	PCB-1242 (AROCLOR 1242)
.50U	PCB-1248 (AROCLOR 1248)
1.0U	PCB-1254 (AROCLOR 1254)
1.0U	PCB-1260 (AROCLOR 1260)

REMARKS

REMARKS

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

02/28/89

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 89-227 SAMPLE NO. 32755 SAMPLE TYPE: GROUNDWA PROG ELEM: NSF COLLECTED BY: S CASH
SOURCE: TIFTON ALUMINUM CITY: TIFTON ST: GA
STATION ID: TW-06 COLLECTION START: 01/10/89 STOP: 00/00/00

CASE NO.: 11209 SAS NO.: D. NO.: L408

UG/L	ANALYTICAL RESULTS
10U	CHLOROMETHANE
10U	BROMOMETHANE
10U	VINYL CHLORIDE
10U	CHLOROETHANE
5U	METHYLENE CHLORIDE
7UJ	ACETONE
1J	CARBON DISULFIDE
5U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
5U	1,1-DICHLOROETHANE
5U	1,2-DICHLOROETHENE (TOTAL)
5U	CHLOROFORM
5U	1,2-DICHLOROETHANE
20UJ	METHYL ETHYL KETONE
5U	1,1,1-TRICHLOROETHANE
5U	CARBON TETRACHLORIDE
10U	VINYL ACETATE
5U	BROMODICHLOROMETHANE

UG/L	ANALYTICAL RESULTS
5U	1,2-DICHLOROPROPANE
5U	CIS-1,3-DICHLOROPROPENE
5U	TRICHLOROETHENE(TRICHLOROETHYLENE)
5U	DIBROMOCHLOROMETHANE
5U	1,1,2-TRICHLOROETHANE
5U	BENZENE
5U	TRANS-1,3-DICHLOROPROPENE
5U	BROMOFORM
10U	METHYL ISOBUTYL KETONE
10U	METHYL BUTYL KETONE
5U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
5U	1,1,2,2-TETRACHLOROETHANE
5U	TOLUENE
5U	CHLOROBENZENE
5U	ETHYL BENZENE
5U	STYRENE
5U	TOTAL XYLENES

REMARKS

REMARKS

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

EXTRACTABLE ORGANICS DATA REPORT 02/28/89

PROJECT NO. 89-227 SAMPLE NO. 32755 SAMPLE TYPE: GROUNDWA PROG ELEM: NSF COLLECTED BY: S CASH
SOURCE: TIFTON ALUMINUM CITY: TIFTON ST: GA
STATION ID: TW-06 COLLECTION START: 01/10/89 STOP: 00/00/00

CASE NO.: 11209 SAS NO.: D. NO.: L408

UG/L	ANALYTICAL RESULTS
10U	PHENOL
10U	BIS(2-CHLOROETHYL) ETHER
10U	2-CHLOROPHENOL
10U	1,3-DICHLOROBENZENE
10U	1,4-DICHLOROBENZENE
10U	BENZYL ALCOHOL
10U	1,2-DICHLOROBENZENE
10U	2-METHYLPHENOL
10U	BIS(2-CHLOROISOPROPYL) ETHER
10U	(3-AND/OR 4-)METHYLPHENOL
10U	N-NITROSODI-N-PROPYLAMINE
10U	HEXACHLOROETHANE
10U	NITROBENZENE
10U	ISOPHORONE
10U	2-NITROPHENOL
10U	2,4-DIMETHYLPHENOL
50U	BENZOIC ACID
10U	BIS(2-CHLOROETHOXY) METHANE
10U	2,4-DICHLOROPHENOL
10U	1,2,4-TRICHLOROBENZENE
10U	NAPHTHALENE
10U	4-CHLOROANILINE
10U	HEXACHLOROBUTADIENE
10U	4-CHLORO-3-METHYLPHENOL
10U	2-METHYLNAPHTHALENE
10U	HEXACHLOROCYCLOPENTADIENE (HCCP)
10U	2,4,6-TRICHLOROPHENOL
50U	2,4,5-TRICHLOROPHENOL
10U	2-CHLORONAPHTHALENE
50U	2-NITROANILINE
10U	DIMETHYL PHTHALATE
10U	ACENAPHTHYLENE
10U	2,6-DINITROTOLUENE

UG/L	ANALYTICAL RESULTS
50U	3-NITROANILINE
10U	ACENAPHTHENE
50UJ	2,4-DINITROPHENOL
50U	4-NITROPHENOL
10U	DIBENZOFURAN
10U	2,4-DINITROTOLUENE
10U	DIETHYL PHTHALATE
10U	4-CHLOROPHENYL PHENYL ETHER
10U	FLUORENE
50U	4-NITROANILINE
50U	2-METHYL-4,6-DINITROPHENOL
10U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
10U	4-BROMOPHENYL PHENYL ETHER
10U	HEXACHLOROBENZENE (HCB)
50U	PENTACHLOROPHENOL
10U	PHENANTHRENE
10U	ANTHRACENE
10U	DI-N-BUTYLPHTHALATE
10U	FLUORANTHENE
10U	PYRENE
10U	BENZYL BUTYL PHTHALATE
20U	3,3'-DICHLOROBENZIDINE
10U	BENZO(A)ANTHRACENE
10U	CHRYSENE
10UJ	BIS(2-ETHYLHEXYL) PHTHALATE
10U	DI-N-OCTYLPHTHALATE
10U	BENZO(B AND/OR K)FLUORANTHENE
10U	BENZO-A-PYRENE
10U	INDENO (1,2,3-CD) PYRENE
10U	DIBENZO(A,H)ANTHRACENE
10U	BENZO(GHI)PERYLENE

REMARKS

REMARKS

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

02/28/89

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 89-227 SAMPLE NO. 32764 SAMPLE TYPE: SOIL
SOURCE: TIFTON ALUMINUM
STATION ID: SD-01

PROG ELEM: NSF COLLECTED BY: S CASH
CITY: TIFTON ST: GA
COLLECTION START: 01/09/89 STOP: 00/00/00

CASE NO.: 11209 SAS NO.: D. NO.: L407

UG/KG	ANALYTICAL RESULTS
12U	CHLOROMETHANE
12U	BROMOMETHANE
12U	VINYL CHLORIDE
12U	CHLOROETHANE
200U	METHYLENE CHLORIDE
200U	ACETONE
6U	CARBON DISULFIDE
6U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
6U	1,1-DICHLOROETHANE
6U	1,2-DICHLOROETHENE (TOTAL)
6U	CHLOROFORM
6U	1,2-DICHLOROETHANE
20U	METHYL ETHYL KETONE
6U	1,1,1-TRICHLOROETHANE
6U	CARBON TETRACHLORIDE
12U	VINYL ACETATE
6U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
6U	1,2-DICHLOROPROPANE
6U	CIS-1,3-DICHLOROPROPENE
6U	TRICHLOROETHENE(TRICHLOROETHYLENE)
6U	DIBROMOCHLOROMETHANE
6U	1,1,2-TRICHLOROETHANE
6U	BENZENE
6U	TRANS-1,3-DICHLOROPROPENE
6U	BROMOFORM
12U	METHYL ISOBUTYL KETONE
12U	METHYL BUTYL KETONE
6U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
6U	1,1,2,2-TETRACHLOROETHANE
300U	TOLUENE
6U	CHLOROBENZENE
6U	ETHYL BENZENE
6U	STYRENE
6U	TOTAL XYLENES
18	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.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

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

EXTRACTABLE ORGANICS DATA REPORT 02/28/89

PROJECT NO. 89-227 SAMPLE NO. 32764 SAMPLE TYPE: SOIL
SOURCE: TIFTON ALUMINUM
STATION ID: SD-01

PROG ELEM: NSF COLLECTED BY: S CASH
CITY: TIFTON ST: GA
COLLECTION START: 01/09/89 STOP: 00/00/00

CASE NO.: 11209 SAS NO.: D. NO.: L407

UG/KG	ANALYTICAL RESULTS
400U	PHENOL
400U	BIS(2-CHLOROETHYL) ETHER
400U	2-CHLOROPHENOL
400U	1,3-DICHLOROBENZENE
400U	1,4-DICHLOROBENZENE
400U	BENZYL ALCOHOL
400U	1,2-DICHLOROBENZENE
400U	2-METHYLPHENOL
400U	BIS(2-CHLOROISOPROPYL) ETHER
400U	(3-AND/OR 4-)METHYLPHENOL
400U	N-NITROSODI-N-PROPYLAMINE
400U	HEXACHLOROETHANE
400U	NITROBENZENE
400U	ISOPHORONE
400U	2-NITROPHENOL
400U	2,4-DIMETHYLPHENOL
2000U	BENZOIC ACID
400U	BIS(2-CHLOROETHOXY) METHANE
400U	2,4-DICHLOROPHENOL
400U	1,2,4-TRICHLOROBENZENE
400U	NAPHTHALENE
400U	4-CHLOROANILINE
400U	HEXACHLOROBUTADIENE
400U	4-CHLORO-3-METHYLPHENOL
400UJ	2-METHYLNAPHTHALENE
400U	HEXACHLOROCYCLOPENTADIENE (HCCP)
400U	2,4,6-TRICHLOROPHENOL
2000U	2,4,5-TRICHLOROPHENOL
400U	2-CHLORONAPHTHALENE
2000U	2-NITROANILINE
400U	DIMETHYL PHTHALATE
400U	ACENAPHTHYLENE
400U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
2000U	3-NITROANILINE
400U	ACENAPHTHENE
2000U	2,4-DINITROPHENOL
2000U	4-NITROPHENOL
400U	DIBENZOFURAN
400U	2,4-DINITROTOLUENE
400U	DIETHYL PHTHALATE
400U	4-CHLOROPHENYL PHENYL ETHER
400U	FLUORENE
2000U	4-NITROANILINE
2000U	2-METHYL-4,6-DINITROPHENOL
400U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
400U	4-BROMOPHENYL PHENYL ETHER
400U	HEXACHLOROBENZENE (HCB)
2000UJ	PENTACHLOROPHENOL
87J	PHENANTHRENE
400U	ANTHRACENE
400U	DI-N-BUTYLPHTHALATE
170J	FLUORANTHENE
120J	PYRENE
400U	BENZYL BUTYL PHTHALATE
810U	3,3'-DICHLOROBENZIDINE
78J	BENZO(A)ANTHRACENE
400U	CHRYSENE
600U	BIS(2-ETHYLHEXYL) PHTHALATE
290J	DI-N-OCTYLPHTHALATE
400U	BENZO(B AND/OR K)FLUORANTHENE
400U	BENZO-A-PYRENE
400U	INDENO (1,2,3-CD) PYRENE
400U	DIBENZO(A,H)ANTHRACENE
400U	BENZO(GHI)PERYLENE
18	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.
02/28/89

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

*** ***
** PROJECT NO. 89-227 SAMPLE NO. 32764 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: S CASH **
** SOURCE: TIFTON ALUMINUM CITY: TIFTON ST: GA **
** STATION ID: SD-01 COLLECTION START: 01/09/89 STOP: 00/00/00 **
** CASE.NO.: 11209 SAS NO.: D. NO.: L407 MD NO: **
** **
*** ***

ANALYTICAL RESULTS UG/KG

N	PETROLEUM PRODUCT
5000J	10 UNIDENTIFIED COMPOUNDS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

02/28/89

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 89-227 SAMPLE NO. 32764 SAMPLE TYPE: SOIL
SOURCE: TIFTON ALUMINUM
STATION ID: SD-01
CASE NUMBER: 11209 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: S CASH
CITY: TIFTON ST: GA
COLLECTION START: 01/09/89 STOP: 00/00/00
D. NUMBER: L407

UG/KG	ANALYTICAL RESULTS
9.7U	ALPHA-BHC
9.7U	BETA-BHC
9.7U	DELTA-BHC
9.7U	GAMMA-BHC (LINDANE)
9.7U	HEPTACHLOR
9.7U	ALDRIN
9.7U	HEPTACHLOR EPOXIDE
9.7U	ENDOSULFAN I (ALPHA)
19.U	DIELDRIN
19.U	4,4'-DDE (P,P'-DDE)
19.U	ENDRIN
19.U	ENDOSULFAN II (BETA)
19.U	4,4'-DDD (P,P'-DDD)
19.U	ENDOSULFAN SULFATE
19.U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
97.U	METHOXYCHLOR
19.U	ENDRIN KETONE
	CHLORDANE (TECH. MIXTURE) /1
97.U	GAMMA-CHLORDANE /2
97.U	ALPHA-CHLORDANE /2
190U	TOXAPHENE
97.U	PCB-1016 (AROCLOR 1016)
97.U	PCB-1221 (AROCLOR 1221)
97.U	PCB-1232 (AROCLOR 1232)
97.U	PCB-1242 (AROCLOR 1242)
97.U	PCB-1248 (AROCLOR 1248)
190U	PCB-1254 (AROCLOR 1254)
190U	PCB-1260 (AROCLOR 1260)
18	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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*C-CONFIRMED BY GCMS 1. WHEN NO VALUE IS REPORTED, SEE CHLORDANE CONSTITUENTS.

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

02/28/89

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 89-227 SAMPLE NO. 32763 SAMPLE TYPE: SOIL
SOURCE: TIFTON ALUMINUM
STATION ID: SD-02

CASE NO.: 11209 SAS NO.:

PROG ELEM: NSF COLLECTED BY: S CASH
CITY: TIFTON ST: GA
COLLECTION START: 01/09/89 STOP: 00/00/00

D. NO.: L406

UG/KG	ANALYTICAL RESULTS
100U	CHLOROMETHANE
100U	BROMOMETHANE
100U	VINYL CHLORIDE
100U	CHLOROETHANE
400U	METHYLENE CHLORIDE
200U	ACETONE
50U	CARBON DISULFIDE
50U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
50U	1,1-DICHLOROETHANE
50U	1,2-DICHLOROETHENE (TOTAL)
50U	CHLOROFORM
50U	1,2-DICHLOROETHANE
100U	METHYL ETHYL KETONE
50U	1,1,1-TRICHLOROETHANE
50U	CARBON TETRACHLORIDE
100U	VINYL ACETATE
50U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
50U	1,2-DICHLOROPROPANE
50U	CIS-1,3-DICHLOROPROPENE
50U	TRICHLOROETHENE(TRICHLOROETHYLENE)
50U	DIBROMOCHLOROMETHANE
50U	1,1,2-TRICHLOROETHANE
50U	BENZENE
50U	TRANS-1,3-DICHLOROPROPENE
50U	BROMOFORM
100U	METHYL ISOBUTYL KETONE
100U	METHYL BUTYL KETONE
50U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
50U	1,1,2,2-TETRACHLOROETHANE
400U	TOLUENE
50U	CHLOROBENZENE
50U	ETHYL BENZENE
50U	STYRENE
50U	TOTAL XYLENES
90	PERCENT MOISTURE

REMARKS

REMARKS

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

EXTRACTABLE ORGANICS DATA REPORT 02/28/89

PROJECT NO. 89-227 SAMPLE NO. 32763 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: S CASH
SOURCE: TIFTON ALUMINUM CITY: TIFTON ST: GA
STATION ID: SD-02 COLLECTION START: 01/09/89 STOP: 00/00/00

CASE NO.: 11209 SAS NO.: D. NO.: L406

UG/KG	ANALYTICAL RESULTS
3300U	PHENOL
3300U	BIS(2-CHLOROETHYL) ETHER
3300U	2-CHLOROPHENOL
3300U	1,3-DICHLOROBENZENE
3300U	1,4-DICHLOROBENZENE
3300U	BENZYL ALCOHOL
3300U	1,2-DICHLOROBENZENE
3300U	2-METHYLPHENOL
3300U	BIS(2-CHLOROISOPROPYL) ETHER
3300U	(3-AND/OR 4-)METHYLPHENOL
3300U	N-NITROSODI-N-PROPYLAMINE
3300U	HEXACHLOROETHANE
3300U	NITROBENZENE
3300U	ISOPHORONE
3300U	2-NITROPHENOL
3300U	2,4-DIMETHYLPHENOL
16000U	BENZOIC ACID
3300U	BIS(2-CHLOROETHOXY) METHANE
3300U	2,4-DICHLOROPHENOL
3300U	1,2,4-TRICHLOROBENZENE
3300U	NAPHTHALENE
3300U	4-CHLOROANILINE
3300U	HEXACHLOROBUTADIENE
3300U	4-CHLORO-3-METHYLPHENOL
3300UJ	2-METHYLNAPHTHALENE
3300U	HEXACHLOROCYCLOPENTADIENE (HCCP)
3300U	2,4,6-TRICHLOROPHENOL
16000U	2,4,5-TRICHLOROPHENOL
3300U	2-CHLORONAPHTHALENE
16000U	2-NITROANILINE
3300U	DIMETHYL PHTHALATE
3300U	ACENAPHTHYLENE
3300U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
16000U	3-NITROANILINE
3300U	ACENAPHTHENE
16000U	2,4-DINITROPHENOL
16000U	4-NITROPHENOL
3300U	DIBENZOFURAN
3300U	2,4-DINITROTOLUENE
3300U	DIETHYL PHTHALATE
3300U	4-CHLOROPHENYL PHENYL ETHER
3300U	FLUORENE
16000U	4-NITROANILINE
16000U	2-METHYL-4,6-DINITROPHENOL
3300U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
3300U	4-BROMOPHENYL PHENYL ETHER
3300U	HEXACHLOROBENZENE (HCB)
16000UJ	PENTACHLOROPHENOL
3300U	PHENANTHRENE
3300U	ANTHRACENE
3300U	DI-N-BUTYLPHTHALATE
3300U	FLUORANTHENE
3300U	PYRENE
3300U	BENZYL BUTYL PHTHALATE
6600U	3,3'-DICHLOROBENZIDINE
3300U	BENZO(A)ANTHRACENE
3300U	CHRYSENE
3300U	BIS(2-ETHYLHEXYL) PHTHALATE
3300U	DI-N-OCTYLPHTHALATE
3300U	BENZO(B AND/OR K)FLUORANTHENE
3300U	BENZO-A-PYRENE
3300U	INDENO (1,2,3-CD) PYRENE
3300U	DIBENZO(A,H)ANTHRACENE
3300U	BENZO(GHI)PERYLENE
90	PERCENT MOISTURE

REMARKS

REMARKS

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

02/28/89

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 89-227 SAMPLE NO. 32763 SAMPLE TYPE: SOIL
PROG ELEM: NSF COLLECTED BY: S CASH
SOURCE: TIFTON ALUMINUM
CITY: TIFTON ST: GA
STATION ID: SD-02
COLLECTION START: 01/09/89 STOP: 00/00/00
CASE.NO.: 11209 SAS NO.:
D. NO.: L406 MD NO:

ANALYTICAL RESULTS UG/KG

30000JN	OCTAHYDRODIMETHYL(METHYLETHENYL)NAPHTHALENE
20000JN	OCTAHYDROMETHYLMETHYLENE(METHYLETHYL)NAPHTHALENE
3000JN	TETRADECANOIC ACID
7000JN	METHYLTETRADECANOIC ACID, METHYLESTER
20000JN	HEXADECENOIC ACID
30000JN	ACETYLOXYOCTADECENOIC ACID, METHYLESTER
100000JN	OCTADECENOIC ACID
50000JN	PHYTOL
800000J	10 UNIDENTIFIED COMPOUNDS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

02/28/89

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 89-227 SAMPLE NO. 32763 SAMPLE TYPE: SOIL
SOURCE: TIFTON ALUMINUM
STATION ID: SD-02
CASE NUMBER: 11209 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: S CASH
CITY: TIFTON ST: GA
COLLECTION START: 01/09/89 STOP: 00/00/00
D. NUMBER: L406

UG/KG	ANALYTICAL RESULTS
79.U	ALPHA-BHC
79.U	BETA-BHC
79.U	DELTA-BHC
79.U	GAMMA-BHC (LINDANE)
79.U	HEPTACHLOR
79.U	ALDRIN
79.U	HEPTACHLOR EPOXIDE
79.U	ENDOSULFAN I (ALPHA)
160U	DIELDRIN
160U	4,4'-DDE (P,P'-DDE)
160U	ENDRIN
160U	ENDOSULFAN II (BETA)
160U	4,4'-DDD (P,P'-DDD)
160U	ENDOSULFAN SULFATE
160U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
790U	METHOXYCHLOR
160U	ENDRIN KETONE
	CHLORDANE (TECH. MIXTURE) /1
790U	GAMMA-CHLORDANE /2
790U	ALPHA-CHLORDANE /2
1600U	TOXAPHENE
790U	PCB-1016 (AROCLOR 1016)
790U	PCB-1221 (AROCLOR 1221)
790U	PCB-1232 (AROCLOR 1232)
790U	PCB-1242 (AROCLOR 1242)
790U	PCB-1248 (AROCLOR 1248)
1600U	PCB-1254 (AROCLOR 1254)
1600U	PCB-1260 (AROCLOR 1260)
90	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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*C-CONFIRMED BY GCMS 1. WHEN NO VALUE IS REPORTED, SEE CHLORDANE CONSTITUENTS.

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

02/24/89

METALS DATA REPORT

** PROJECT NO. 89-227 SAMPLE NO. 32750 SAMPLE TYPE: GROUNDWA PROG ELEM: NSF COLLECTED BY: S CASH **
** SOURCE: TIFTON ALUMINUM CITY: TIFTON ST: GA **
** STATION ID: TB-01 COLLECTION START: 01/09/89 STOP: 00/00/00 **
** CASE NUMBER: 11209 SAS NUMBER: MD NUMBER: L403 **

UG/L	ANALYTICAL RESULTS	UG/L	ANALYTICAL RESULTS
45U	ALUMINUM	7U	MANGANESE
45U	ANTIMONY	0.20UJ	MERCURY
2U	ARSENIC	16U	NICKEL
3UJ	BARIUM	200U	POTASSIUM
1U	BERYLLIUM	2U	SELENIUM
5U	CADMIUM	3U	SILVER
2000	CALCIUM	100U	SODIUM
8U	CHROMIUM	3UJ	THALLIUM
9U	COBALT	NA	TIN
4U	COPPER	6U	VANADIUM
90U	IRON	6U	ZINC
1U	LEAD		
470	MAGNESIUM		

REMARKS ***REMARKS***

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

02/24/89

SPECIFIED ANALYSIS DATA REPORT

*** ***
** PROJECT NO. 89-227 SAMPLE NO. 32750 SAMPLE TYPE: GROUNDWA PROG ELEM: NSF COLLECTED BY: S CASH **
** SOURCE: TIFTON ALUMINUM CITY: TIFTON ST: GA **
** STATION ID: TB-01 COLLECTION START: 01/09/89 STOP: 00/00/00 **
** CASE.NO.: 11209 SAS NO.: D. NO.: MD NO: L403 **
**   **
*** ***

RESULTS	UNITS	PARAMETER
0.01UR	MG/L	CYANIDE

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
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SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 89-227 SAMPLE NO. 32743 SAMPLE TYPE: GROUNDWA PROG ELEM: NSF COLLECTED BY: S CASH
SOURCE: TIFTON ALUMINUM CITY: TIFTON ST: GA
STATION ID: TW-06 COLLECTION START: 01/10/89 STOP: 00/00/00
CASE.NO.: 11209 SAS NO.: D. NO.: MD NO: L408

RESULTS	UNITS	PARAMETER
0.01UR	MG/L	CYANIDE

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.

02/24/89

SPECIFIED ANALYSIS DATA REPORT

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**   PROJECT NO. 89-227    SAMPLE NO. 32744  SAMPLE TYPE: GROUNDWA    PROG ELEM: NSF   COLLECTED BY: S CASH              **
**   SOURCE: TIFTON ALUMINUM                                          CITY: TIFTON               ST: GA                  **
**   STATION ID: PW-07                                                COLLECTION START: 01/10/89      STOP: 00/00/00     **
**   CASE.NO.: 11209          SAS NO.:                                D. NO.:                    MD NO: L409             **
**                                                                                                                       **
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RESULTS	UNITS	PARAMETER
0.01UR	MG/L	CYANIDE

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.

02/24/89

SPECIFIED ANALYSIS DATA REPORT

*** ***

** PROJECT NO. 89-227 SAMPLE NO. 32754 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: S CASH **
** SOURCE: TIFTON ALUMINUM CITY: TIFTON ST: GA **
** STATION ID: SD-01 COLLECTION START: 01/09/89 STOP: 00/00/00 **
** CASE.NO.: 11209 SAS NO.: D. NO.: MD NO: L407 **
** **

*** ***

RESULTS	UNITS	PARAMETER
2.9UR	MG/KG	CYANIDE

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.

02/24/89

SPECIFIED ANALYSIS DATA REPORT

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**   PROJECT NO. 89-227    SAMPLE NO. 32753  SAMPLE TYPE: SOIL        PROG ELEM: NSF    COLLECTED BY: S CASH          **
**   SOURCE: TIFTON ALUMINUM                                          CITY: TIFTON               ST: GA                **
**   STATION ID: SD-02                                                COLLECTION START: 01/09/89        STOP: 00/00/00 **
**   CASE.NO.: 11209          SAS NO.:                                D. NO.:                    MD NO: L406           **
**                                                                                                                     **
*** * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ***
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RESULTS	UNITS	PARAMETER
37UR	MG/KG	CYANIDE

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.

02/24/89

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 89-227 SAMPLE NO. 32749 SAMPLE TYPE: SOIL
SOURCE: TIFTON ALUMINUM
STATION ID: SS-03
CASE NO.: 11209 SAS NO.:

PROG ELEM: NSF COLLECTED BY: S CASH
CITY: TIFTON ST: GA
COLLECTION START: 01/09/89 STOP: 00/00/00
D. NO.: MD NO: L402

RESULTS	UNITS	PARAMETER
3.9UR	MG/KG	CYANIDE

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

02/24/89

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 89-227 SAMPLE NO. 32751 SAMPLE TYPE: SOIL
PROG ELEM: NSF COLLECTED BY: S CASH
SOURCE: TIFTON ALUMINUM
CITY: TIFTON ST: GA
STATION ID: SD-04
COLLECTION START: 01/09/89 STOP: 00/00/00
CASE.NO.: 11209 SAS NO.:
D. NO.: MD NO: L404

RESULTS	UNITS	PARAMETER
20UR	MG/KG	CYANIDE

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.

02/24/89

SPECIFIED ANALYSIS DATA REPORT

*** ***
** PROJECT NO. 89-227 SAMPLE NO. 32752 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: S CASH **
** SOURCE: TIFTON ALUMINUM CITY: TIFTON ST: GA **
** STATION ID: SD-05 COLLECTION START: 01/09/89 STOP: 00/00/00 **
** CASE.NO.: 11209 SAS NO.: D. NO.: MD NO: L405 **
**
*** ***

RESULTS	UNITS	PARAMETER
40UR	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

02/28/89

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 89-227 SAMPLE NO. 32759 SAMPLE TYPE: GROUNDWA PROG ELEM: NSF COLLECTED BY: S CASH
SOURCE: TIFTON ALUMINUM CITY: TIFTON ST: GA
STATION ID: TB-01 COLLECTION START: 01/10/89 STOP: 00/00/00

CASE NO.: 11209 SAS NO.: D. NO.: L402

UG/L	ANALYTICAL RESULTS	UG/L	ANALYTICAL RESULTS
10U	CHLOROMETHANE	5U	1,2-DICHLOROPROPANE
10U	BROMOMETHANE	5U	CIS-1,3-DICHLOROPROPENE
10U	VINYL CHLORIDE	5U	TRICHLOROETHENE(TRICHLOROETHYLENE)
10U	CHLOROETHANE	5U	DIBROMOCHLOROMETHANE
5U	METHYLENE CHLORIDE	5U	1,1,2-TRICHLOROETHANE
10UJ	ACETONE	5U	BENZENE
5U	CARBON DISULFIDE	5U	TRANS-1,3-DICHLOROPROPENE
5U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	5U	BROMOFORM
5U	1,1-DICHLOROETHANE	10U	METHYL ISOBUTYL KETONE
5U	1,2-DICHLOROETHENE (TOTAL)	10U	METHYL BUTYL KETONE
5U	CHLOROFORM	5U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
5U	1,2-DICHLOROETHANE	5U	1,1,2,2-TETRACHLOROETHANE
20UJ	METHYL ETHYL KETONE	5U	TOLUENE
5U	1,1,1-TRICHLOROETHANE	5U	CHLOROBENZENE
5U	CARBON TETRACHLORIDE	5U	ETHYL BENZENE
10U	VINYL ACETATE	5U	STYRENE
5U	BROMODICHLOROMETHANE	5U	TOTAL XYLENES

REMARKS

REMARKS

FOOTNOTES
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*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

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

EXTRACTABLE ORGANICS DATA REPORT 02/28/89

PROJECT NO. 89-227 SAMPLE NO. 32759 SAMPLE TYPE: GROUNDWA
SOURCE: TIFTON ALUMINUM
STATION ID: TB-01

PROG ELEM: NSF COLLECTED BY: S CASH
CITY: TIFTON ST: GA
COLLECTION START: 01/10/89 STOP: 00/00/00

CASE NO.: 11209 SAS NO.: D. NO.: L402

UG/L	ANALYTICAL RESULTS
10U	PHENOL
10U	BIS(2-CHLOROETHYL) ETHER
10U	2-CHLOROPHENOL
10U	1,3-DICHLOROBENZENE
10U	1,4-DICHLOROBENZENE
10U	BENZYL ALCOHOL
10U	1,2-DICHLOROBENZENE
10U	2-METHYLPHENOL
10U	BIS(2-CHLOROISOPROPYL) ETHER
10U	(3-AND/OR 4-)METHYLPHENOL
10U	N-NITROSODI-N-PROPYLAMINE
10U	HEXACHLOROETHANE
10U	NITROBENZENE
10U	ISOPHORONE
10U	2-NITROPHENOL
10U	2,4-DIMETHYLPHENOL
50U	BENZOIC ACID
10U	BIS(2-CHLOROETHOXY) METHANE
10U	2,4-DICHLOROPHENOL
10U	1,2,4-TRICHLOROBENZENE
10U	NAPHTHALENE
10U	4-CHLOROANILINE
10U	HEXACHLOROBUTADIENE
10U	4-CHLORO-3-METHYLPHENOL
10U	2-METHYLNAPHTHALENE
10U	HEXACHLOROCYCLOPENTADIENE (HCCP)
10U	2,4,6-TRICHLOROPHENOL
50U	2,4,5-TRICHLOROPHENOL
10U	2-CHLORONAPHTHALENE
50U	2-NITROANILINE
10U	DIMETHYL PHTHALATE
10U	ACENAPHTHYLENE
10U	2,6-DINITROTOLUENE

UG/L	ANALYTICAL RESULTS
50U	3-NITROANILINE
10U	ACENAPHTHENE
50UJ	2,4-DINITROPHENOL
50U	4-NITROPHENOL
10U	DIBENZOFURAN
10U	2,4-DINITROTOLUENE
10U	DIETHYL PHTHALATE
10U	4-CHLOROPHENYL PHENYL ETHER
10U	FLUORENE
50U	4-NITROANILINE
50U	2-METHYL-4,6-DINITROPHENOL
10U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
10U	4-BROMOPHENYL PHENYL ETHER
10U	HEXACHLOROBENZENE (HCB)
50U	PENTACHLOROPHENOL
10U	PHENANTHRENE
10U	ANTHRACENE
10U	DI-N-BUTYLPHTHALATE
10U	FLUORANTHENE
10U	PYRENE
10U	BENZYL BUTYL PHTHALATE
20U	3,3'-DICHLOROBENZIDINE
10U	BENZO(A)ANTHRACENE
10U	CHRYSENE
10UJ	BIS(2-ETHYLHEXYL) PHTHALATE
10U	DI-N-OCTYLPHTHALATE
10U	BENZO(B AND/OR K)FLUORANTHENE
10U	BENZO-A-PYRENE
10U	INDENO (1,2,3-CD) PYRENE
10U	DIBENZO(A,H)ANTHRACENE
10U	BENZO(GHI)PERYLENE

REMARKS

REMARKS

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

02/28/89

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 89-227 SAMPLE NO. 32759 SAMPLE TYPE: GROUNDWA PROG ELEM: NSF COLLECTED BY: S CASH
SOURCE: TIFTON ALUMINUM CITY: TIFTON ST: GA
STATION ID: TB-01 COLLECTION START: 01/10/89 STOP: 00/00/00
CASE NUMBER: 11209 SAS NUMBER: D. NUMBER: L402

UG/L	ANALYTICAL RESULTS	UG/L	ANALYTICAL RESULTS
.050U	ALPHA-BHC	.50U	METHOXYCHLOR
.050U	BETA-BHC	.10U	ENDRIN KETONE
.050U	DELTA-BHC	--	CHLORDANE (TECH. MIXTURE) /1
.050U	GAMMA-BHC (LINDANE)	.50U	GAMMA-CHLORDANE /2
.050U	HEPTACHLOR	.50U	ALPHA-CHLORDANE /2
.050U	ALDRIN	1.0U	TOXAPHENE
.050U	HEPTACHLOR EPOXIDE	.50U	PCB-1016 (AROCLOR 1016)
.050U	ENDOSULFAN I (ALPHA)	.50U	PCB-1221 (AROCLOR 1221)
.10U	DIELDRIN	.50U	PCB-1232 (AROCLOR 1232)
.10U	4,4'-DDE (P,P'-DDE)	.50U	PCB-1242 (AROCLOR 1242)
.10U	ENDRIN	.50U	PCB-1248 (AROCLOR 1248)
.10U	ENDOSULFAN II (BETA)	1.0U	PCB-1254 (AROCLOR 1254)
.10U	4,4'-DDD (P,P'-DDD)	1.0U	PCB-1260 (AROCLOR 1260)
.10U	ENDOSULFAN SULFATE		
.10U	4,4'-DDT (P,P'-DDT)		

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.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.
*C-CONFIRMED BY GCMS 1. WHEN NO VALUE IS REPORTED, SEE CHLORDANE CONSTITUENTS.

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

C-586-9-8-231

September 26, 1988

Mr. Narindar Kumar
Site Investigation and Support Branch
Waste Management Division
Environmental Protection Agency
345 Courtland Street, N. E.
Atlanta, Georgia 30365

Subject: Preliminary Assessment
Tifton Aluminum Co., Inc.
Tifton, Georgia
TDD No. F4-8804-34
EPA ID No. GAD 003484607

1 Copy to GAERD 12/88

Dear Mr. Kumar:

Enclosed please find two copies of the Preliminary Assessment (PA) for Tifton Aluminum Company, Inc., in Tifton, Tift County, Georgia. The PA was completed by the NUS office in Arlington, Virginia as part of the "pre-test" activities prior to the Phase II, Revised HRS Field Testing Project which is now underway.

If you have any questions, feel free to contact me at my office.

Very truly yours,

Steve Walker
Project Manager

Approved:

Greg Schank

SW/kw

Enclosures (2)

cc: Mario Villamarzo

NUS CORPORATION
SUPERFUND DIVISION

INTERNAL CORRESPONDENCE

C-582-9-8-16

TO: STEVE WALKER

DATE: SEPTEMBER 2, 1988

FROM: RICK McKENNA

COPIES: P. BLACKWELL, w/o encl.
P. CLAY, w/o encl.
M. MROZEK, w/o encl.
J. SKRIDULIS, w/o encl.

SUBJECT: DRAFT PRELIMINARY ASSESSMENTS (PAs)

Enclosed are draft preliminary assessments (PAs) for the Estech General Chemicals Site in Albany,GA, and the Tifton Aluminum Company Site in Tifton, GA. These preliminary assessments are based on the field work that you and I performed during the week of April 18, 1988, along with some follow-up research conducted from the office. The packages consist of a draft "letter report," references, PA Checklist, and Projected Hazard Ranking System (HRS) Score Worksheets. The Draft Revised HRS (rHRS) dated November 10, 1987, was used in developing the projected scores. The projected score for the Estech Site is 23.53; the Tifton Aluminum Site scored 42.42.

Keep in mind that these draft preliminary assessments were prepared as a part of the "pre-test" activities in advance of Phase II of the Revised HRS Field Testing Project. As such, the content, format, and scoring procedures do not necessarily reflect the guidance that has been issued for the performance of Phase II PAs. Nor is the length and level of detail necessarily reflective of what might be expected of PAs under the rHRS; most PAs will probably be less detailed Although these packages should prove useful when "real" PAs are performed on these sites, changes will inevitably be required to reflect both the final guidance for PA form and content and the requirements of the "as promulgated" rHRS.

Thanks once again for your helpfulness and expertise in conducting these preliminary assessments; your assistance is very much appreciated. If you have any questions or require further information, please give me a call.

RM/pc

Enclosures (2)

Approved: _____

PHASE II FIELD TESTING PROJECT
PRELIMINARY ASSESSMENT

DATE: June 8, 1988

PREPARED BY: Richard McKenna
NUS Corporation

SITE: Tifton Aluminum Co., Inc.
Southwell Blvd.
Tifton, GA 31793

TDD #: HQ-8803-05

EPA ID #: GAD003484607

LOCATION

Tifton Aluminum Co., Inc. is located on Southwell Blvd. in the Tifton/Tift County Industrial Park, south of the city of Tifton. The site occupies the block on the south side of Southwell Blvd., between the Georgia Southern and Florida railroad track on the west and Magnolia Industrial Blvd. on the east (Figure 1). The coordinates of the site are 31°24'53" latitude and 83°29'47" longitude (Ref. 1).

The site is 37.75 acres in size (Ref. 2) and contains a small office building, a large main manufacturing facility, seven waste disposal surface impoundments, and a process wastewater lagoon. Figure 2 presents a diagram of the site (Ref. 3).

STATEMENT OF PROBLEM

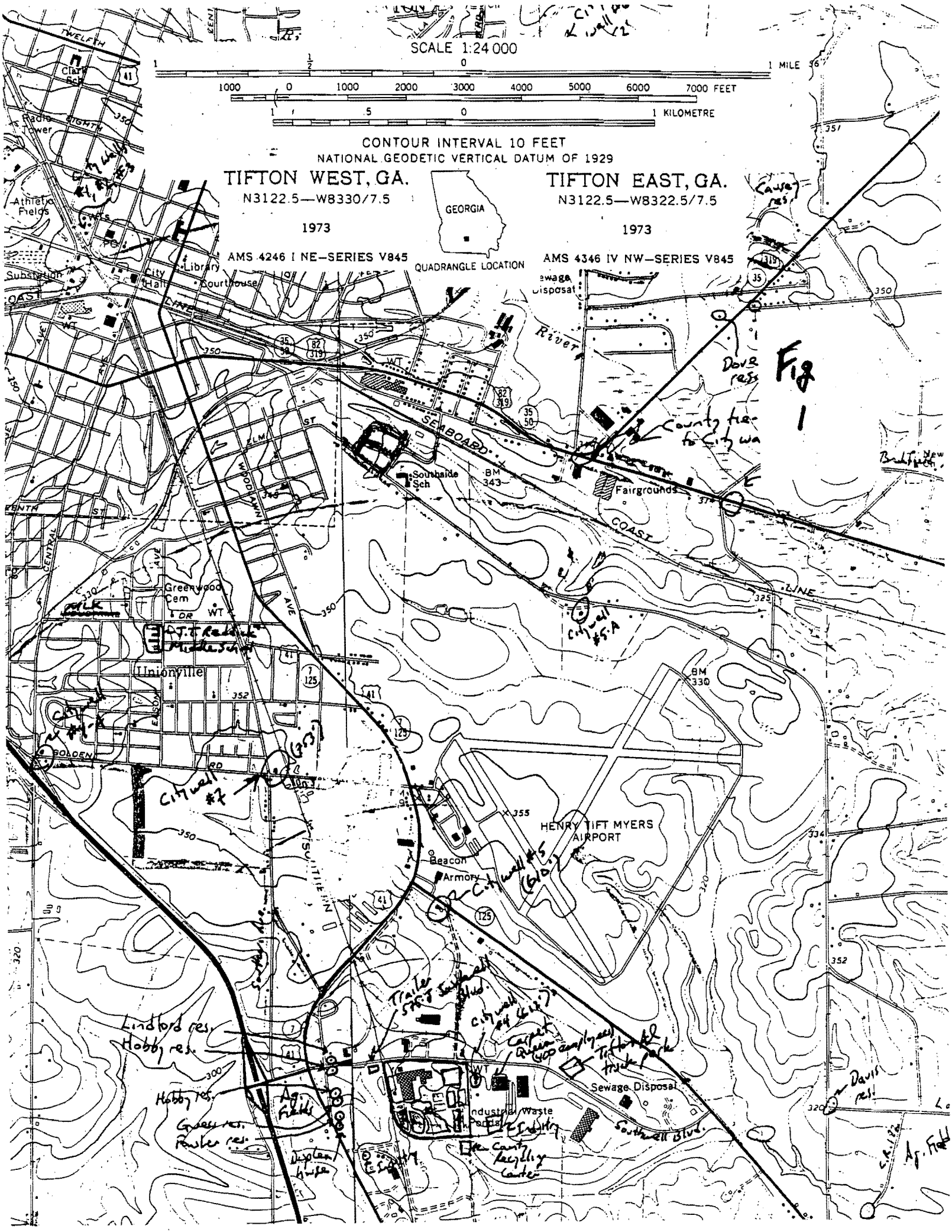
One of several process lines at the facility involves painting aluminum products. The waste stream from this process contains hexavalent chromium (Cr^{+6}). A dichromate reduction process was employed to reduce the chromium to the trivalent state (Cr^{+3}), after which the waste stream was mixed with other onsite waste streams and passed through the plant's wastewater treatment facility. Chromium-containing sludge from the wastewater treatment process was disposed of in several unlined surface impoundments.

SITE HISTORY

Tifton Aluminum is a manufacturer of aluminum extrusions. Activities at the site include aluminum extrusion, extrusion die manufacture, ingot casting, and anodizing and painting of aluminum extrusions (Ref. 4). Aluminum anodizing has occurred at the site since 1969 and painting since 1974 (Ref. 5).

Tifton Aluminum filed an initial Notification of Hazardous Waste Activity with the EPA in August 1980, identifying itself as a generator, storage and disposal facility, and transporter of hazardous wastes. Identified wastes included: spent halogenated and non-halogenated solvents, wastewater treatment sludges from electroplating, and plating bath residues from electroplating operations using cyanide (Ref. 6).

In November 1980, a RCRA Part A permit application was filed listing the same wastes identified above, and identifying the following onsite activities: drum storage; and surface impoundment storage, disposal, and treatment (Ref. 7).


SCALE 1:24 000
1 MILE
7000 FEET
1 KILOMETRE
CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
TIFTON WEST, GA.
N3122.5—W8330/7.5
1973
AMS 4246 I NE—SERIES V845
GEORGIA
QUADRANGLE LOCATION
TIFTON EAST, GA.
N3122.5—W8322.5/7.5
1973
AMS 4346 IV NW—SERIES V845
Fig 1
Clark Sch
Radio Tower
Athletic Fields
Substation
City Hall
Library
Courthouse
Sewage Disposal
River
SEABOARD
COAST
LINE
Southside Sch
Fairgrounds
Greenwood Cem
Unionville
HENRY TIFT MYERS AIRPORT
Beacon
Armory
Industrial Waste Ponds
Sewage Disposal
Southwell Blvd.
Lindford res.
Hobby res.
Ag. Fields
Davis res.
County Recycling Center
Dove res.
County tie to City wa
City well #5-A
City well #7
City well #5 (610')
City well #4 (612')
Trailer 575-J Southwell Blvd.
Carpet Queen (400 employees)
Tiftonal truck park
Duplex house
Ag. Field

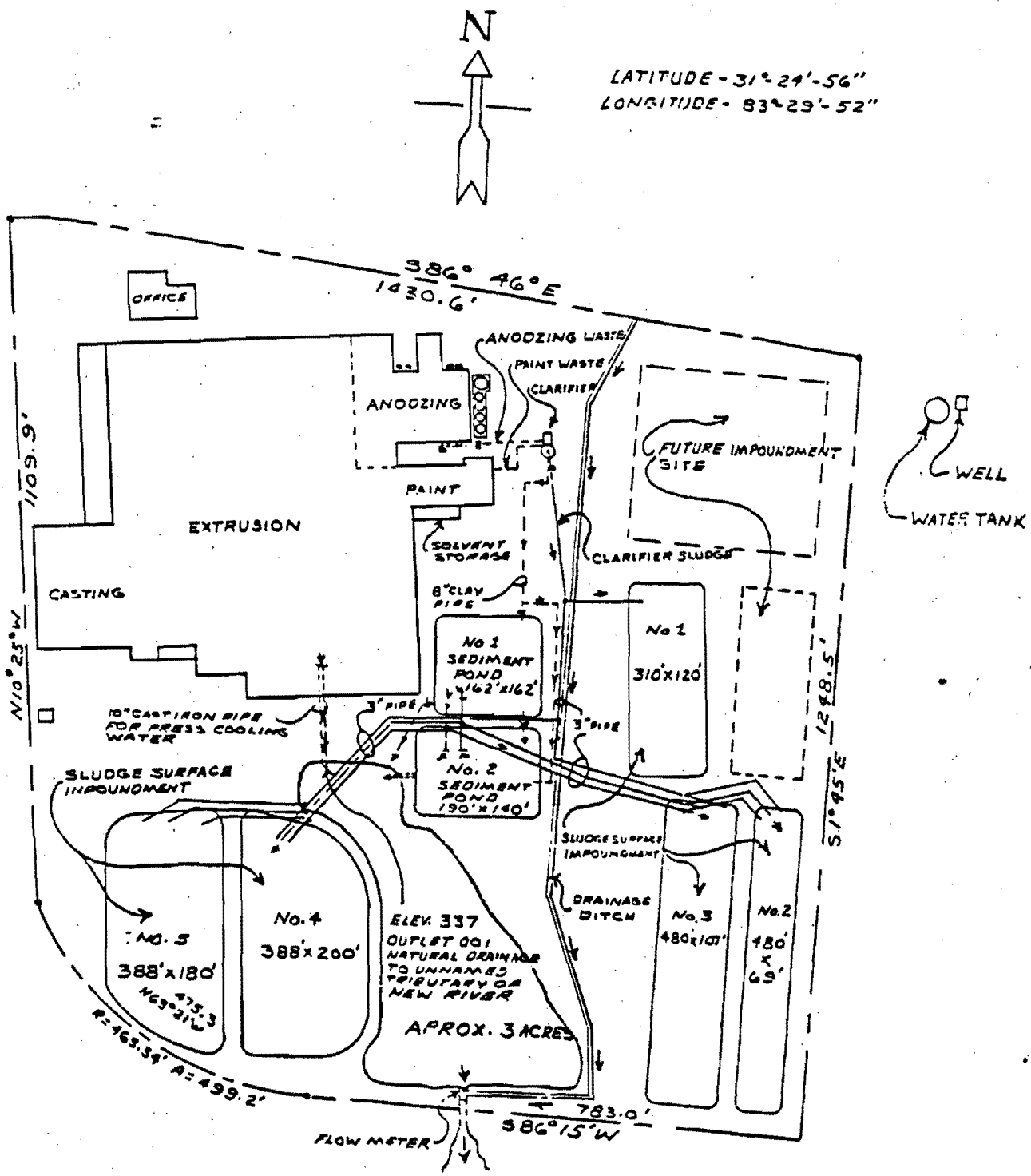


Fig. 2

TIFTON ALUMINUM CO. INC.
TIFTON GA.
Dwg. No. TA-1

The Georgia Department of Natural Resources, Environmental Protection Division (DNR-EPD), inspected the site in July 1981 for compliance with interim status standards for treatment, storage, and disposal (TSD) facilities. The inspector's notes state that the Part A application was incorrect in identifying TSD facilities. The TSD facilities inspected were: spent solvent drum storage; paint residue drum storage; wastewater treatment sludge surface impoundments; and a dichromate reduction tank. Several violations relating to waste analysis, inspection requirements, personnel training, contingency planning, and manifest systems were found (Ref. 8). As a result, a notice of violation was issued in February 1982 (Ref. 9).

NOT A TSD

A subsequent Notification of Hazardous Waste Activity and a revised Part A application were filed in June 1982. Wastes and facilities were listed as: spent solvent drum storage; wastewater treatment sludge storage, treatment and disposal in surface impoundments; and dichromate drum storage (Ref. 10 and 11).

Generator-transporter

In 1983, on request of Tifton Aluminum, DNR-EPD withdrew the facility's permit application and changed its status to that of "generator/transporter" (Ref. 12).

SITE OPERATIONS

Spent solvents were stored in drums until removed and reclaimed by Ramsey Chemical Co. of Valdosta, GA. Wastes from the paint process line also were stored in drums and removed by Ramsey for disposal (Ref. 4).

Both the anodizing and paint pretreatment processes produced wastewater. The wastewater stream from the paint pretreatment process contained hexavalent chromium and was subjected to a dichromate reduction process in a treatment tank employing sulfuric acid and sodium bisulfide. After dichromate reduction, the two wastewater streams were combined and passed through the plant wastewater treatment facility. The sludge from the wastewater treatment process was disposed of onsite in unlined surface impoundments (Ref. 8).

A letter from Tifton Aluminum to DNR-EPD stated that, although the presence of chromium caused the sludge to be classified as hazardous, Tifton Aluminum had been granted an exclusion from regulation for this sludge on June 20, 1983, and was attempting to obtain a permanent delisting of the sludge in the onsite impoundments (Ref. 5). DNR-EPD confirms that Tifton Aluminum was granted a delisting by the EPA. The state, however, has the authority to require stricter compliance and is currently reviewing the situation; it is possible that the delisting could be effectively negated by the state (Ref. 13).

In 1985, Tifton Alumnim was planning to separate the anodizing and painting waste streams, treat them separately, and dispose of the non-hazardous components from the anodizing process (aluminum hydroxide sludge) in the Tifton-Tift County Landfill (Ref. 5). The painting process waste stream would yield a sludge that Tifton Aluminum would consider "hazardous" and would dispose of "accordingly." DNR-EPD agreed that splitting the waste streams would result in a non-hazardous sludge from the anodizing process stream which was suitable for disposal in a permitted sanitary landfill (Ref. 14). It is not known if this change has taken place.

CURRENT SITE OPERATIONS

Tifton Aluminum is currently classified by DNR-EPD as a "generator/transporter" of hazardous waste (Ref. 15). It is an operating industrial facility which, so far as is known, continues to be engaged in the fabrication, anodizing and painting of aluminum extrusions.

Current practices for the treatment and disposal of paint process line wastes are not known; it is not known whether the surface sludge impoundments are still operational. It is known, however, that treated wastewater and process cooling water is discharged to an onsite lagoon, approximately 3 acres in size, which drains to an unnamed tributary of Gum Creek (Ref. 3 and 8). This discharge is regulated under an NPDES permit, #GA0000124. Outflow from the wastewater lagoon averages on the order of one million gal/day (Ref. 16).

POTENTIAL CONTAMINANTS

The potential contaminant of concern is chromium contained in the wastewater treatment sludge disposed of in the unlined, onsite surface impoundments.

The only analytical data available is a lab report prepared by Tifton Aluminum's parent company, ALCOA. The ALCOA Environmental Control Laboratory analyzed leachate from three sludges taken from Tifton Aluminum's surface impoundments. The leachate was extracted following USEPA Extraction Procedures. In each sample, concentrations of eight heavy metals were at least one order of magnitude below RCRA maximums. Thirteen additional metals were also analyzed, including hexavalent chromium which showed a concentration of less than 0.05 mg/L (Ref. 17).

The NPDES permit regulating the discharge of wastewater treatment effluent identifies the following constituents for weekly monitoring: aluminum, zinc, total chromium, hexavalent chromium, total suspended solids, total phosphorus, oil and grease, cyanide, and pH. The outflow from the wastewater lagoon averages on the order of one million gallons per day. Tifton Aluminum is said to be a "well-treated and well-run facility" that is "generally in full compliance" (Ref. 16).

WASTE CONTAINMENT AND QUANTITY

The Tifton Aluminum Site contains a total of seven impoundments plus the wastewater discharge lagoon. During the offsite reconnaissance, investigators drove the north and east boundaries of the site on adjacent roads and walked the south boundary of the site along an adjacent railroad spur. The surfaces of the impoundments were not generally visible as the sides of the impoundments are constructed of raised earth embankments, and fencing prevented investigators from gaining sufficient elevation to view the surfaces of the impoundments. The surface of "sludge surface impoundment #4" as identified on the site map (Figure 2) was, however, observed and photographed. The impoundment appeared to be filled; the surface was gray in color and virtually devoid of vegetation (Figure 3). The impoundments are known to be unlined (Ref. 4).

There are several somewhat disparate estimates of hazardous waste quantities available from different sources. References 4 and 18 list average annual quantities of 2,300 gal/yr of spent solvents and 33,012 tons/yr of wastewater treatment sludge. The total quantity of hazardous wastes on site in 1981 was given as 330,663 tons.

Fig. 3

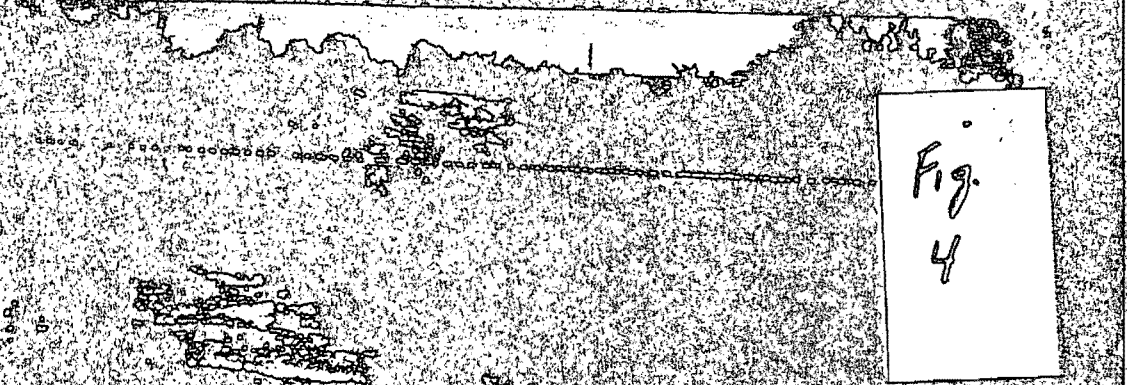


Fig. 4

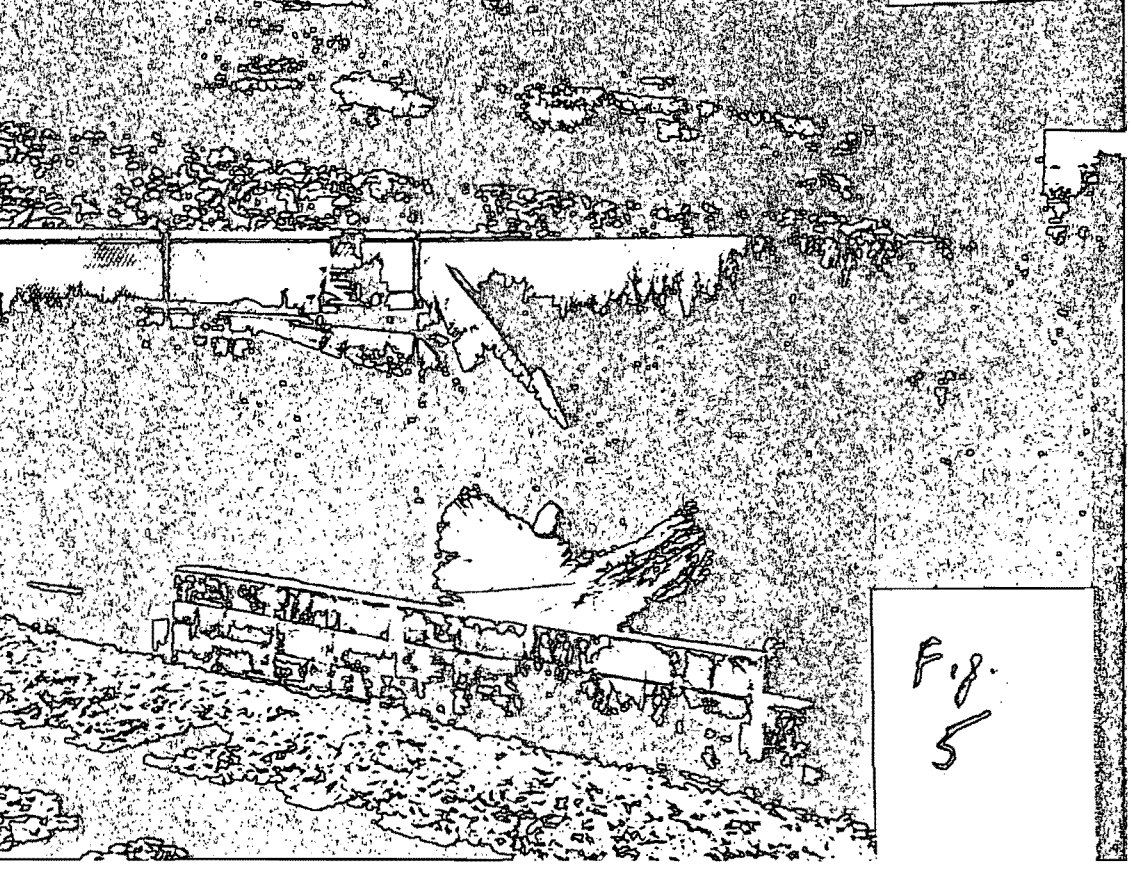


Fig. 5

The revised Part A permit application (Ref. 11) filed in June 1982 gave higher figures: 62,856 pounds of spent solvents per year (in drums); 47,689 tons of wastewater treatment sludge per year (in surface impoundments); and 8,000 pounds of chromium wastes per year (in drums).

The original Part A permit application (Ref. 7, November 1980) reported the same quantities of spent solvents and wastewater treatment sludge but did not report any chromium wastes. The original application also reported sludge from electroplating processes involving cyanide (33,000 pounds/yr in drums).

Design capacities of storage and disposal facilities were also reported in the original Part A application (Ref. 7). Drum storage capacity was listed as 2,530 gallons. Surface impoundments for storage and disposal had a design capacity of 27,530,828 gallons.

The total surface area of the seven surface impoundments is some 321,964 ft^2. The dimensions of the individual impoundments are as follows (Ref. 3):

sediment pond	#1	= 162 x 162 ft
	#2	= 190 x 140 ft
sludge impoundment	#1	= 310 x 120 ft
	#2	= 480 x 69 ft
	#3	= 480 x 107 ft
	#4	= 388 x 200 ft
	#5	= 388 x 180 ft

During the offsite reconnaissance along the railroad spur to the south of the facility, encrustations of a white substance were observed and photographed (Figure 4) on the soil surface along the drainageway between impoundment #3 and the eastern bank of the effluent lagoon (see Figure 2) and extending offsite to the area adjacent to the railroad track. A concrete runoff diversion structure was also observed and photographed alongside the railroad track in the vicinity of the southeastern corner of impoundment #5 (Figure 5). The structure was built to channel runoff from the site to a shallow and intermittent ditch running adjacent to the railroad. Stagnant standing water was observed here, as were additional deposits of white encrustations extending through the gravel ballast between the rails, indicating that the area is occasionally inundated by runoff from the site.

AIR PATHWAY CHARACTERISTICS

Chromium does not have a gas mobility ability but could be released via the air pathway in particulate form.

HYDROGEOLOGIC CHARACTERISTICS

A complete description of the geology and hydrogeology of the Tifton area is not available, as very little literature was found on the subject. The unconsolidated surface sediment in the area is a mixture of sand and clay of Neogene age (25 million years), representing ancient marine deposits. In Tift County, this material varies in thickness from less than 100 ft in the northwest corner to more than 700 ft in the southeast corner. In the area near and around the Tifton Aluminum site (i.e., within a four mile radius), the surface sediments range from about 250 to about 450 ft thick (from northwest to southeast) (Ref. 19). A well log for City Well #7, located just over one mile north of the site, indicates several potential confining layers at, for example, depths of 25-37, 122-132, 220-229, and 270-295 ft (Ref. 20).

Below the surface materials lie the Suwanee and Ocala Limestones. These form what is variously referred to as the Principle Artesian, Ocala, or Floridan Aquifer. The limestone formations range in thickness from about 250 ft northwest of Tift county to more than 400 ft in the southeast corner of the county (Ref. 19). As noted above, in the area around the site the limestone formations are found at depths ranging from 250 to 450 ft. The log for City Well #7 (Ref. 20) shows what is probably the Suwanee at about 300 ft. This aquifer provides water supply to municipal, industrial, and many deep domestic wells. Yields up to 1,000 gpm are said to be obtainable.

Net precipitation, measured at the Tifton Experiment Station, is 14.93 inches (Ref. 21).

HYDROLOGIC CHARACTERISTICS

Surface runoff on the site would drain to the onsite wastewater effluent lagoon which discharges to an unnamed tributary of Gum Creek. The site is 37.75 acres in area (Ref. 2). It is bounded on the north and east by paved roadway, preventing runon. Though a small portion of the site may drain to the west, the topography generally falls to the south and most of the site drains to the wastewater lagoon and the unnamed tributary. Thus, the upgradient drainage area is confined to the site and is something less than 37.75 acres.

On the topographic map (Ref. 1), the unnamed tributary is shown as an intermittent tributary draining the site; the effluent lagoon is not shown. It is likely that the presence of the lagoon and a continuous flow of effluent at the rate of about one million gpd (Ref. 16) has transformed the tributary from intermittent to perennial.

The unnamed tributary joins Gum Creek about 1.2 stream miles east of the site boundary. Gum Creek joins the New River about 3.5 miles further downstream. No streamflow data are available for Gum Creek.

USGS records (Ref. 22) show the nearest streamflow records on the New River to be recorded at a partial-record station located at the bridge on state highway 76, 5 miles southwest of Nashville, at latitude 31°10'37", longitude 83°19'20". This location is approximately 23 stream miles southeast of the site. Only annual maximum discharge is recorded at this station. The period of record is 1970-86:

YEAR	Q_{max} (cfs)	YEAR	Q_{max} (cfs)
1970	2030	1978	1260
1971	2250	1979	4180
1972	2210	1980	3570
1973	2800	1981	<700
1974	1100	1982	1150
1975	3780	1983	2930
1976	2850	1984	6350
1977	2040	1985	1150
		1986	5880

Average discharge of the New River in the area of interest is estimated to be on the order of 75-100 cfs (Ref. 23). The width of the river ranges from 20-40 ft (Ref. 23 and 32).

The site is not located in surface water and is not within any 100-year floodplains (Ref. 24). Its position with respect to the bounds of 500-year floodplains is not known.

The 2-year, 24-hour rainfall is estimated from an isopleth contour map at approximately four inches (Ref. 25).

VALUE = 15

ONSITE PATHWAY CHARACTERISTICS

Value of 18

As noted previously, the potential contaminants of concern are trivalent and hexavalent chromium. Onsite exposure could possibly occur through contact with chromium-contaminated sludge in the surface impoundments. Site access is restricted; the site is completely enclosed by a six-foot chain link fence topped with barbed wire.

GROUNDWATER TARGETS

The City of Tifton has seven wells in its municipal water supply system. Details of the wells are given below (Ref. 26 and 27):

WELL #	DEPTH	CASING	LOCATION	FROM SITE
1	450	NA	Between 4th St., Ridge Ave., and Forest Ave.	2.9 miles, NNW
2	515	273	" " "	"
3	580	NA	" " "	"
4	612	398	SE corner of Southwell Blvd. and Magnolia Industrial Dr.	200 ft, E
5	610	360	SW corner of S.R. 125 and Vernon Dr.	2,700 ft, N
6	652	280	N of Twiler Rd. and Windsor Dr.	3.4 miles, N
7	753	350	NE corner of Southern Ave. and Golden Rd.	1.1 miles, N

Wells #1, #2, and #3 are all located together in downtown Tifton. The wells and pumping facility are known as the Bass Plant. Well #6 and its pumping facility is known as the Hurst Plant. Well #5 is out of service, having been taken off-line early in 1988 due to unacceptably high levels of naturally-occuring radioactivity. The city is awaiting state approval of the city's plan for filling and capping this well. All other wells are operating (Ref. 26). Note that all of the wells are located within four miles of the site. Well #4 is directly across the street from Tifton Aluminum, just 200 ft from the site boundary, and is the closest well to the site.

The seven wells range in depth from 450 to 753 ft and are cased to depths ranging from 273 to 398 ft. All of the wells are finished in the Ocala, or Floridan, Aquifer, and the wells draw water only from this aquifer, with no screening in place above the indicated casing depths (Ref. 26).

The city water system serves all of the incorporated City of Tifton plus some adjacent areas of Tift County. The system presently has about 7,000 connections (i.e., water meters) (Ref. 26).

Tift County also operates a water distribution system that includes five wells. In addition, Tift County purchases water from the City of Tifton for resale to county customers. There are three tie-in points where the county draws water from the city system for resale. Most of the county system is thus interconnected to the city system and, therefore, to the city wells.

Four of the county wells are located more than four miles northwest of the site. These wells supply small, localized distribution networks that are not connected to the city system. The fifth well is located near Vanceville, in the northeast corner of the intersection of U.S. 82 and county road 162, about 3.25 miles northeast of the site. This well is approximately 175-200 ft deep (Ref. 28). At this depth, the well is not likely to be finished in the Suwanee/Ocala limestone but, rather, in the overlying sediments which are 300-400 ft deep in the vicinity of the well (Ref. 19). Together with a tie-in to the city lines at U.S. 82 and county road 158, this well serves the Brookfield distribution network--a fairly extensive service corridor that runs east from Tifton, through Vanceville and Brookfield, on to the county line (see Ref. 1 and 29). The system serves about 361 customers (Ref. 28).

A second county tie-in to the city system occurs just west of the city on McCormack Drive. This serves a small, local distribution network known as Fox Hills, having 49 user connections. The third tie-in is at U.S. 41 and Ridge Road., south of the city. This serves the area south of Tifton, to El Dorado and beyond to the county line, and has about 186 service connections (Ref. 28). In all, then, the county has a total of some 596 connections tied to the city water system.

In addition to the city and county water supply, there remain many area residents who rely on private wells. A cluster of five residences located approximately 900 ft west of the site are all on private wells: Lindford residence (shares well with Orris Hobby residence), 225 ft deep; Bobby Hobby residence, 45 ft deep; Guess residence, 484 ft deep; and Fowler residence, 450 ft deep. It would appear from these depths that the Guess and Fowler wells are finished in the Suwanee/Ocala limestone, and the Lindford and Bobby Hobby wells are finished in the overburden. The Bobby Hobby well is a dug well. Note also that, while city water is available at the street for the Lindford and Orris Hobby residences, it is not available for the other three.

From information obtained from both the city and county water authorities, the two public supply systems were mapped on USGS topographic maps. A house count of homes not served by either system was then performed, yielding the following results (Ref. 1 and 29):

DISTANCE RING	HOUSE COUNT	REMARKS
0 to 0.25 miles	0	
0.25 to 0.5	7	
0.5 to 1	7	
1 to 2	104	Plus one trailer park
2 to 3	154	
3 to 4	99	Plus two trailer parks

Among private wells in Tift County, it has been estimated that 10 percent are in the range of 40-60 ft deep, 20 percent are 100-200 ft deep, and 70 percent are 400-600 ft deep (Ref. 30). Thus, approximately 30 percent of the homes on private wells can be estimated as being served by aquifers in the overburden, and 30 percent by aquifers in the Suwanee/Ocala limestone formations.

SURFACE WATER TARGETS

As described above, the onsite wastewater effluent lagoon discharges about one million gpd to an unnamed tributary of Gum Creek which, in turn, is tributary to the New River.

The New River is said to be the most polluted water body in Tift County, due to the fact that it originates in downtown Tifton and receives much of the city's urban runoff. No drinking water intakes or industrial water users are known. Irrigation intakes are a possibility, but are not known for certain (most farmers in the area are said to draw irrigation water from ponds and surface impoundments) (Ref. 23, 31, and 32).

Trapping of beaver and raccoon is known to occur on Gum Creek in the vicinity of the Parker Road crossing, approximately 3.4 stream miles from the site boundary. The area where S.R. 125 crosses the New River, just over the Berrien County line, approximately 6.8 miles from the site boundary, is a popular fishing spot (Ref. 31).

Spot fishing occurs on the New River, throughout the area of interest, from the banks and from road crossings. Boat access, however, is described as being "limited" (Ref. 23 and 32). Species include redbreast, sunfish, speckled perch, catfish, and bass (Ref. 32). Fishing pressure is descibed as moderate. The fishery of the New River is extremely productive. Data on standing crop has been estimated from data collected in the wake of a massive fish kill in 1980 induced by malicious use of rotenone in the area south of Lenox (about 15 miles south of Tifton) (Ref. 35). From this data, the standing crop in the New River is estimated to be on the order of 120 lb/ac, on up to 150 lb/ac (Ref. 23).

No recreational facilities are known to exist on Gum Creek or the New River, though both watercourses can be accessed at road crossings (Ref. 23, 31, and 32).

The only sensitive environments in the Tifton area are wetlands (Ref. 31). The nearest wetland on Gum Creek is approx. 2.1 stream miles from the site (Ref. 1 and 29).

AIR TARGETS

The nearest single family residence is one of several trailers located adjacent (west) to the site at 575 Southwell Blvd. The distance is approximately 300 feet from the facility boundary and 800 feet from lagoon #5.

The nearest multi-family residence is a duplex at the intersection of U.S. 41 and Hobby (?) Rd., approximately 1,100 ft due west of lagoon #5.

The nearest agricultural area observed is a cultivated field approximately 1,300 feet west of lagoon #5.

Sensitive environments were not ground-confirmed during the offsite reconnaissance. On the USGS topographic maps, however, the nearest

wetland over 5 acres in size is approximately 1.4 miles southwest of the site (Ref. 1 and 29).

The site is located on the grounds of an operating industrial facility. The facility itself is located within an industrial park. The facility has immediate industrial neighbors to the north, east, and south. Industrial facilities located within the Tifton-Tift County Industrial Park include the following (Ref. 33):

Bold Corp.	100 employees
Tifton Textiles, Inc.	138
Union Camp Corp.	227
Kelley Manufacturing Co.	100
Larkin Colies, Inc.	122
Master Craft Engineering Co.	60
Prestolite Wire Corp.	225
Queen Carpet Corp.	213
Tifton Aluminum Co.	500

A four-mile radius around the site encompasses almost all of the City of Tifton, population 18,000 (Ref. 33), at a distance of one to four miles. Populations were estimated as follows:

DISTANCE	POPULATION	DESCRIPTION
Onsite	500	Employees of Tifton Aluminum.
0-1/4 mile	228	Employees of Queen Carpet plus residents of four trailers observed to the west of the site.
1/4-1/2 mile	1,025	Employees of all other Industrial Park businesses plus residents of 14 houses counted from topo maps.
1/2-1 mile	141	Residents of 37 houses counted from topo maps.
1-2 mile	6,000	One-third of the population of Tifton.
2-3 miles	6,000	One-third of the population of Tifton.
3-4 miles	6,000	One-third of the population of Tifton.

ONSITE EXPOSURE

There are no onsite residences, schools, or sensitive environments. The site is located in an active industrial park with a large number of immediate industrial and residential neighbors. The facility itself employs some 500 people (Ref. 33). The entire site is enclosed behind chain link fence topped with barbed wire.

OTHER REGULATORY INVOLVEMENT

The only other regulatory involvement known is NPDES permit #GA0000124 which regulates the discharge of wastewater effluent. As noted, this discharge is on the order of one million gpd, is monitored weekly for a variety of constituents including hexavalent chromium, and is said to be "generally in full compliance" (Ref. 16).

The facility's status with respect to RCRA is not known. As noted earlier, Notifications of Hazardous Waste Activity were filed in 1980 and 1982, and a RCRA Part A permit application was also filed in 1980 (Ref. 6, 7, 10, 11). The state of Georgia currently classifies the facility as a "generator/transporter" of hazardous waste (Ref. 12).

SUMMARY AND RECOMMENDATION

Tifton Aluminum Co., Inc., has been fabricating and anodizing aluminum extrusions at this site since 1969 and has been painting them since 1974. Treatment of the waste stream from the painting process resulted in a chromium-contaminated sludge which was disposed of in seven onsite, unlined surface impoundments. It is not known whether the same treatment processes are still being used, or whether the surface impoundments are still active, and it should be noted that Tifton Aluminum obtained a delisting for its sludge from the EPA in 1983.

Additional investigation into the regulatory status of the facility is recommended. Past RCRA involvement and present state regulatory involvement may place the facility under statutory authority other than CERCLA.

The information presented above, and in the attached references, justify a recommendation that a screening site inspection be conducted.

ATTACHMENTS

References
PA Checklist
HRS Projected Score Worksheets

REFERENCES

1. USGS Topographic Map, 7.5-minute series, Tifton East quadrangle, 1973.

2. Map 56, Parcel 25, Tifton Tax Assessor's Office.

3. Site diagram obtained from U.S. Environmental Protection Agency files, Atlanta, GA.

4. U.S. EPA, Potential Hazardous Waste Site Preliminary Assessment, performed by Gilda Knowles, September 9, 1985.

5. Letter from C. W. Houseworth of Tifton Aluminum to Jennifer Kaduck of the Environmental Protection Division, Georgia Department of Natural Resources, dated April 22, 1985.

6. Notification of Hazardous Waste Activity submitted to EPA by H. E. Chandler of Tifton Aluminum, August 8, 1980.

7. RCRA Part A Permit Application submitted to EPA by F. C. Irving of Tifton Aluminum, November 11, 1980.

8. Georgia Department of Natural Resources, Environmental Protection Division, Inspection Checklist: Interim Status Standards for Treatment, Storage and Disposal Facilities, and associated notes, completed by Edward Cook, July 8, 1981.

9. Letter from M. N. McCall, III, of the Land Protection Branch, Environmental Protection Division, Georgia Department of Natural Resources, to Hugh Chandler of Tifton Aluminum, February 18, 1982.

10. Notification of Hazardous Waste Activity submitted to EPA by R. D. Johnson of Tifton Aluminum, June 25, 1982.

11. RCRA Part A Permit Application submitted to EPA by R. D. Johnson of Tifton Aluminum, June 25, 1982.

12. Letter from J. D. Taylor, Jr., of the Industrial and Hazardous Waste Management Program, Environmental Protection Division, Georgia Department of Natural Resources, to C. W. Houseworth of Tifton Aluminum, September 26, 1983.

13. Telecon between Richard McKenna of NUS Corp. and Howard Barefoot of the Solid Waste Program, Environmental Protection Division, Georgia Department of Natural Resources, May 12, 1988.

14. Letter from Howard Barefoot, Industrial and Hazardous Waste Management Program, Environmental Protection Division, Georgia Department of Natural Resources, to C. W. Houseworth of Tifton Aluminum, November 18, 1985.

15. Letter form Jack Dempsey, Hazardous Waste Management Program, Environmental Protection Division, Georgia Department of Natural Resources, to Richard Reeves of Tifton Aluminum, April 8, 1986.

16. Telecon between Richard McKenna of NUS Corp. and Larry Hedges, Industrial Wastewater Program, Environmental Protection Division, Georgia Department of Natural Resources, May 13, 1988.

17. Memo from J. A. Lease of the ALCOA Environmental Control Laboratory to C. W. Houseworth of Tifton Aluminum, May 20, 1981 (obtained from EPA files, Atlanta).

18. Waste Management Data Sheet submitted to the Environmental Protection Division, Georgia Department of Natural Resources, by C. W. Houseworth of Tifton Aluminum, February 1, 1984.

19. Watson, T. W., 1976. The Geohydrology of Ben Hill, Irwin, Tift, Turner, and Worth Counties, Georgia. Geologic and Water Resources Division, Georgia Department of Natural Resources, Hydrologic Atlas No. 2. Three maps.

20. Layne Atlantic Co., formation log for City of Tifton Well #7, drilled November 24, 1986 (obtained from DNR-EPD files, Atlanta).

21. MITRE Corp., 1988. Draft Revised HRS Net Precipitation Values for 3,345 Weather Stations.

22. Stokes, W. R., III, T. W. Hale, and G. R. Buell, 1987. Water Resources Data, Georgia, Water Year 1986. U.S. Geological Survey, Water Data Report GA-86-1.

23. Telecon between Richard McKenna of NUS Corp. and Dan Holder, Supervisor, Fisheries Division, Georgia Fish and Game, May 31, 1988.

24. Telecon between Richard McKenna and Charles Kimber, Tift County Tax Assessor's Office, May 20, 1988.

25. Herschfield, D. M., 1961. Rainfall Frequency Atlas of the United States. U.S. Weather Bureau, Technical Paper 40.

26. Telecon between Richard McKenna of NUS Corp. and Damon Harper, Superintendent, Tifton Water Department, May 16, 1988.

27. Memorandum from Robert Pierce, Environmental Protection Division, Georgia Department of Natural Resources, Atlanta, to Paul Arnold, December 29, 1986.

28. Telecon between Richard McKenna of NUS Corp. and Ira Snow, Tift County Water Department, May 17, 1988.

29. USGS Topographic Maps, 7.5-minute series, Tifton West (1973), Omega (1973), and Lenox (1973) quadrangles.

30. Telecon between Steve Walker of NUS Corp. and Grady Thompson, Bishop Well Drilling, April 21, 1988.

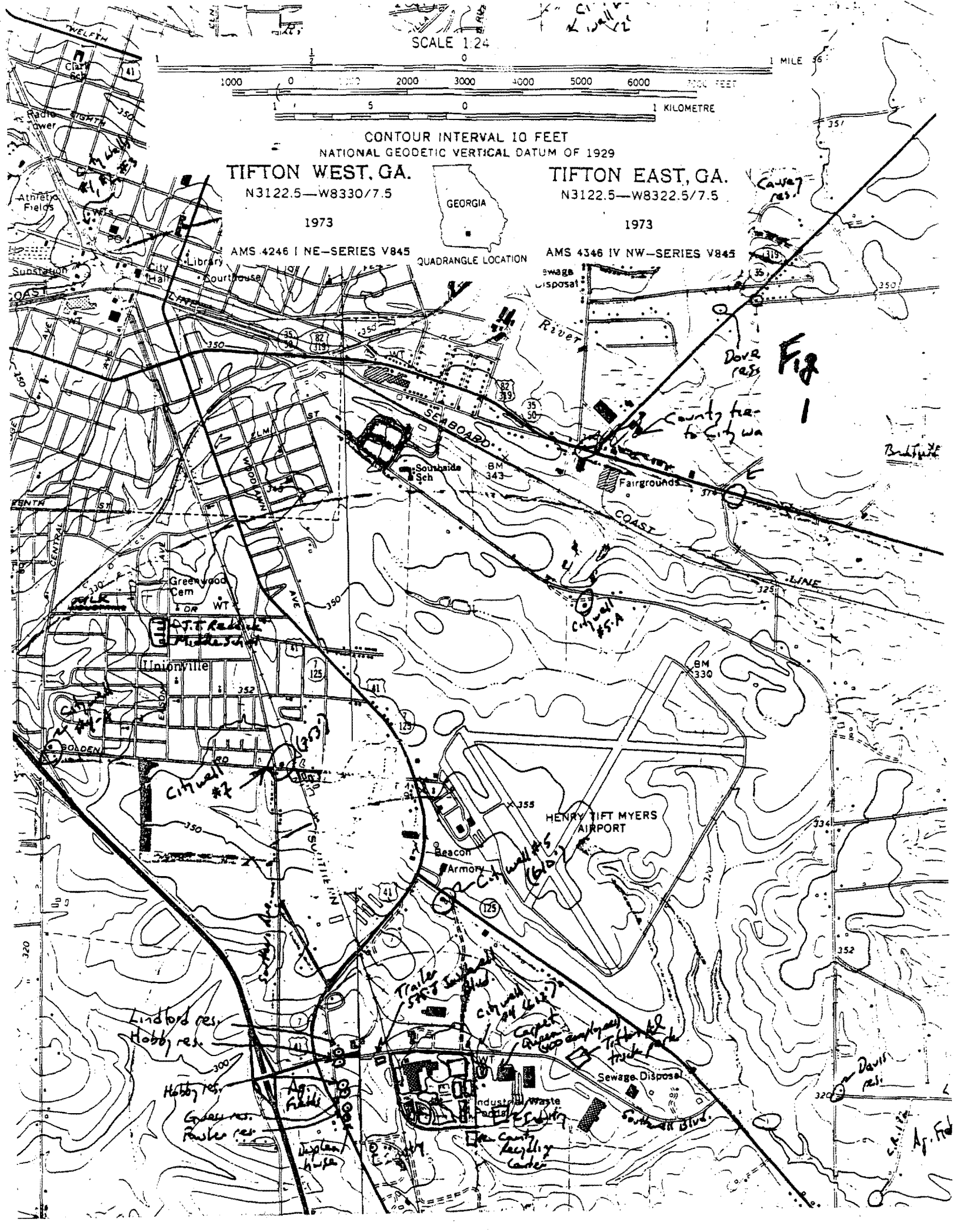
31. Telecon between Richard McKenna of NUS Corp. and Tony Moreland, Tift County Ranger, Georgia Fish and Game, May 13, 1988.

32. Telecon between Richard McKenna of NUS Corp. and Cpl. Leon Tucker, Georgia Fish and Game, May 25, 1988.

33. Telecon between Richard McKenna of NUS Corp. and Connie Boardman, Tifton Chamber of Commerce, May 23, 1988.

34. U.S. Department of Commerce, Bureau of the Census, 1983. County and City Data Book, 1983.

35. Memorandum from Mike Geihsler, Fisheries Section, Game and Fish Division, Georgia Department of Natural Resources, to Dan Holder, July 29, 1980.


SCALE 1:24
1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 KILOMETRE
CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
TIFTON WEST, GA.
N3122.5—W8330/7.5
1973
AMS 4246 I NE—SERIES V845
GEORGIA
QUADRANGLE LOCATION
TIFTON EAST, GA.
N3122.5—W8322.5/7.5
1973
AMS 4346 IV NW—SERIES V845
Fig 1
Clark Sch
Radio Tower
Athletic Fields
Substation
City Hall
Library
Courthouse
Sewage Disposal
River
SEABOARD
COAST
LINE
Southside Sch
BM 343
Fairgrounds
Greenwood Cem
Unionville
BM 330
HENRY TIFT MYERS AIRPORT
Beacon
Armory
Sewage Disposal
Industrial Waste Ponds
Southwell Blvd.
Lindford res.
Hobby res.
Ag. Fields
Davis res.
Dove res.
County tie to City wa
Citywell #5-A
Citywell #7
Citywell #5 (610')
Trailer 575-J Southwell Blvd.
Carpet Queen (400 employees)
Tiftonhill trick park
County Recycling Center
Ag. Fields

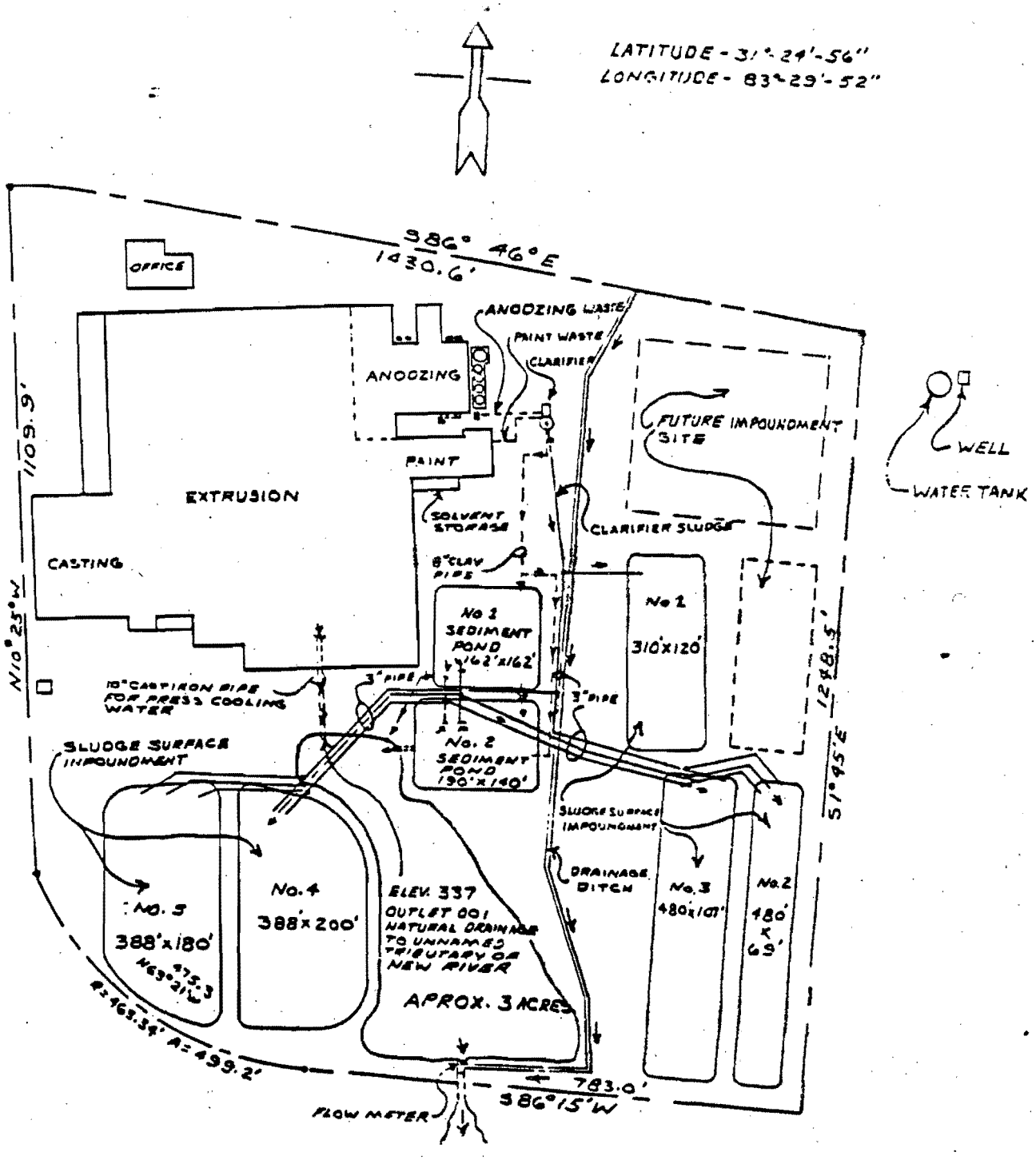


Fig. 2

TIFTON ALUMINUM CO. INC.
TIFTON GA.

TIFTON ALUMINUM COMPANY, INC. SOUTHWELL BOULEVARD, TIFTON, GEORGIA 31793 TEL: (912) 382

Reference No. 5

Reference 5

1985 April 18

Ms. Jennifer Kaduck
Program Manager
Georgia Environmental Protection Div.
Land Protection Branch
270 Washington Street SW
Atlanta GA 30334

Dear Ms. Kaduck:

We are contacting your office to obtain your approval of our plans to dispose of a nonhazardous industrial waste in the Tifton - Tift County landfill.

Tifton Aluminum Company, Inc., contacted Mr. Charles Kent, Chairman of the Tift County Commission, and advised him of our plans to dispose of aluminum hydroxide sludge from our anodizing wastewater treatment system in the Tifton - Tift County landfill.

Mr. Kent called your Division and talked with Mr. Mark Smith. Mr. Smith asked Mr. Kent to have Tifton Aluminum Company notify your office of our intent and to describe our process.

Tifton Aluminum Company, Inc., manufactures and finishes aluminum extrusions. We have been anodizing aluminum at this location since 1969 and painting since 1974. We are disposing of the sludge from the metal finishing waste treatment systems in on-site impoundments. The wastewater streams from the anodizing operation and the paint pretreatment operation are combined after chrome reduction is achieved on the paint pretreatment waste stream.

The small amount of chromium in our paint pretreatment process caused our wastewater treatment sludge to be classified as a hazardous waste. On June 20, 1983, we were granted an exclusion from regulation for this sludge. We are currently working on permanent delisting of the sludge in our impoundments.

We are modifying our process wastewater treatment system this year. We will split the systems. After chrome reduction the conversion-coating waste will no longer be mixed with the anodizing waste. We will add neutralization equipment, a clarifier, sand filter, sludge concentrator and filter press for this waste stream. The sludge from this system will be considered by Tifton Aluminum Company to be a hazardous waste and will be disposed of accordingly.

We will add an equalization tank, sludge concentrator, sand filter and filter press to the equipment treating anodizing wastewater. The aluminum hydroxide filter cake from this process is a nonhazardous waste. We request that you approve and endorse our program to dispose of this material in the Tifton - Tift County landfill.

If you need further information, please contact me.

Sincerely,

Navon Housworth

C. W. Housworth

dfr

cc: Charles Kent
Gary Crouth
E. F. Maziarz
M. E. Kommer
J. O. Hill

U.S. ENVIRONMENTAL PROTECTION AGENCY

EPA NOTIFICATION OF HAZARDOUS WASTE ACTIVITY

INSTALLATION'S EPA I.D. NO. — 0 0 0 0 4 1

Reference No. 6

I. NAME OF INSTALLATION

II. INSTALLATION MAILING ADDRESS

III. LOCATION OF INSTALLATION

PLEASE PLACE/REGION IV IN THIS SPACE

RECEIVED
AUG 12 10 39 AM '80
ENFORCEMENT

INSTRU
label, af—
informat
through

Reference 6

in the appropriate section below. If the label i
complete and correct, leave Items I, II, and II
below blank. If you did not receive a preprinte
label, complete all Items. "Installation" means
single site where hazardous waste is generated
treated, stored and/or disposed of, or a trans
porter's principal place of business. Please refe
to the INSTRUCTIONS FOR FILING NOTIFI
CATION before completing this form. The
information requested herein is required by law
(Section 3010 of the Resource Conservation and Recovery Act).

DETACH

FOR OFFICIAL USE ONLY

COMMENTS: C

INSTALLATION'S EPA I.D. NUMBER: F GAD003484607 2 1 | APPROVED | DATE RECEIVED (yr., mo., & day): 8 0 0 8 1 2

I. NAME OF INSTALLATION

TIFTON ALUMINUM CO INC

II. INSTALLATION MAILING ADDRESS

STREET OR P.O. BOX: 3 P O BOX 88

CITY OR TOWN: 4 TIFTON | ST.: GA | ZIP CODE: 31793

III. LOCATION OF INSTALLATION

STREET OR ROUTE NUMBER: 5 SOUTHWELL BLVD

CITY OR TOWN: 6 TIFTON | ST.: GA | ZIP CODE: 31793

IV. INSTALLATION CONTACT

NAME AND TITLE *(last, first, & job title)*: 2 HOUSWORTH CW SUPT. ANODIZING | PHONE NO. *(area code & no.)*: 912-382-7330

V. OWNERSHIP

A. NAME OF INSTALLATION'S LEGAL OWNER: 8 ALUMINUM CO OF AMERICA

DETACH

B. TYPE OF OWNERSHIP *(enter the appropriate letter into box)*: C

F - FEDERAL
M - NON-FEDERAL

VI. TYPE OF HAZARDOUS WASTE ACTIVITY *(enter "X" in the appropriate box(es))*

- [X] A. GENERATION
- [X] B. TRANSPORTATION *(complete Item VII)*
- [X] C. TREAT/STORE/DISPOSE
- [ ] D. UNDERGROUND INJECTION

VII. MODE OF TRANSPORTATION *(transporters only – enter "X" in the appropriate box(es))*

- [ ] A. AIR
- [ ] B. RAIL
- [X] C. HIGHWAY
- [ ] D. WATER
- [ ] E. OTHER *(specify)*

VIII. FIRST OR SUBSEQUENT NOTIFICATION

Mark "X" in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your installation's EPA I.D. Number in the space provided below.

- [X] A. FIRST NOTIFICATION
- [ ] B. SUBSEQUENT NOTIFICATION *(complete Item C)*

C. INSTALLATION'S EPA I.D. NO.

IX. DESCRIPTION OF HAZARDOUS WASTES

Please go to the reverse of this form and provide the requested information.

W	S	A	D	0	3	4	8	4	6	0	7	2	1

IX. DESCRIPTION OF HAZARDOUS WASTES *(continued from front)*

A. HAZARDOUS WASTES FROM NON-SPECIFIC SOURCES. Enter the four-digit number from 40 CFR Part 261.31 for each listed hazardous waste from non-specific sources your installation handles. Use additional sheets if necessary.

1. F001	2. F003	3. F005	4. F006	5. F008	6. F017
7. F018	8.	9.	10.	11.	12.

B. HAZARDOUS WASTES FROM SPECIFIC SOURCES. Enter the four-digit number from 40 CFR Part 261.32 for each listed hazardous waste from specific industrial sources your installation handles. Use additional sheets if necessary.

13.	14.	15.	16.	17.	18.
19.	20.	21.	22.	23.	24.
25.	26.	27.	28.	29.	30.

C. COMMERCIAL CHEMICAL PRODUCT HAZARDOUS WASTES. Enter the four-digit number from 40 CFR Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31.	32.	33.	34.	35.	36.
37.	38.	39.	40.	41.	42.
43.	44.	45.	46.	47.	48.

D. LISTED INFECTIOUS WASTES. Enter the four-digit number from 40 CFR Part 261.34 for each listed hazardous waste from hospitals, veterinary hospitals, medical and research laboratories your installation handles. Use additional sheets if necessary.

49.	50.	51.	52.	53.	54.

E. CHARACTERISTICS OF NON-LISTED HAZARDOUS WASTES. Mark "X" in the boxes corresponding to the characteristics of non-listed hazardous wastes your installation handles. *(See 40 CFR Parts 261.21 – 261.24.)*

☐ 1. IGNITABLE (D001) ☐ 2. CORROSIVE (D002) ☐ 3. REACTIVE (D003) ☐ 4. TOXIC (D000)

X. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

SIGNATURE	NAME & OFFICIAL TITLE *(type or print)*	DATE SIGNED
H. E. Chandler	H. E. CHANDLER PLANT MANAGER	8/8/80

Reference No. 7

Part A, Permit Process --- Internal Checklist

ID Number GAA 003 484 607 Inst Name TIFTON ALUMINUM CO

PHASE ONE

Refer to Form No:	Interim Regulatory Requirements	Indicate by your initials: Yes	No	Vali Prml Date
1	T/S/D Facility? (If No, return to respondent.)			
3	Form 1 received?			
1	Form 3 received?			
1 & 3	Postmarked on or before November 19, 1980?			
3	Date of operation entered?			
3	Date of operation on or before November 19, 1980?			
Notif. record	Notifier?			
"	Notified on or before August 18, 1980?			
1	Form 1, XIII B signed?			
3	Form 3, IX B Signed?			

(If all ten items above are initialed in the Yes column, generate Interim Status Acknowledgement and indicate the trigger date here: 12/19/80)

PHASE TWO

1	Unsure if regulated or non-regulated?		
3	New facility?		

1 & 3 Core items missing? If Yes, indicate which items:

Facility name___; location___; mail address___; operator info___;

certification___; process info___; waste info___; owner___; sigs___.

PHASE THREE

1 & 3 Non-core items missing? If Yes, indicate which items:

Maps___; photos___; drawings___; lat/long___.

Other observations and comments:

Received Date Stamp

(Stamp forms also)

Log out/Log in on reverse side.

Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e. 12 characters/inch).

Form Approved OMB No. 158-R0175

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER: F GAD00348460

LABEL ITEMS

I. EPA I.D. NUMBER: GAD003484607

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

Tifton Aluminum Company, Inc.
P. O. Box 88
Tifton, Georgia 31793

Southwell Blvd.
Tifton, Georgia 31793

0 2 2 0 8

RECEIVED EPA/REGION

NOV 13 ... 36 ...

ENFORCE DIVISION

GENERAL INSTRUCTIONS

If a preprinted label has been provid... it in the designated space. Review th... ation carefully; if any of it is incorr... through it and enter the correct dat... appropriate fill-in area below. Also, ... the preprinted data is absent (the are... left of the label space lists the info... that should appear), please provide i... proper fill-in area(s) below. If the ... complete and correct, you need not c... Items I, III, V, and VI (except VI-... must be completed regardless). Com... items if no label has been provided. ... the instructions for detailed item ... tions and for the legal authorization ... which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" t... questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third co... if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your ac... is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	MARK 'X' NO	MARK 'X' FORM ATTACHED	SPECIFIC QUESTIONS	MARK 'X' YES	MARK 'X' NO
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X		B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)	X			D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S.? (FORM 2D)		X
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		X	F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X		J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X

III. NAME OF FACILITY

1 SKIP TIFTON ALUMINUM CO INC

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)	B. PHONE (area code & no.)
2 CHANDLER, HUGH, E. ENV. SUPT.	912 382 7330

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 SOUTHWELL BLVD. PO BOX 88

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 TIFTON	GA	31793

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 SOUTHWELL BLVD PO BOX 88

B. COUNTY NAME

TIFT

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
6 TIFTON	GA	31793	

CONTINUED FROM THE FRONT

VII. SIC CODES (4-digit, in order of prio

A. FIRST	B. SECOND
3354 (specify) EXTRUDING ALUMINUM	3471 (specify) ANODIZING ALUMINUM

C. THIRD	D. FOURTH
(specify) PAINTING ALUMINUM	(specify)

VIII. OPERATOR INFORMATION

A. NAME: ALUMINUM COMPANY OF AMERICA

B. Is the name item VIII-A owner? ☒ YES ☐

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)
F = FEDERAL, S = STATE, P = PRIVATE, M = PUBLIC (other than federal or state), O = OTHER (specify)
P (specify)

D. PHONE (area code & no.): A 412 553 4544

E. STREET OR P.O. BOX: 1501 ALCOA BUILDING

F. CITY OR TOWN: PITTSBURGH

G. STATE: PA

H. ZIP CODE: 15219

IX. INDIAN LAND
Is the facility located on Indian lands? ☐ YES ☒ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)	B. PSD (Air Emissions from Proposed Sources)
N GA 0000124	P
C. UIC (Underground Injection of Fluids)	**D. OTHER (specify)**
U	(specify)
E. RCRA (Hazardous Wastes)	**F. OTHER (specify)**
R	(specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

Tifton Aluminum Company, Inc. is primarily engaged in the manufacturing and sales of aluminum extrusions. Secondary operations include extrusion die manufacturing, ingot casting by the direct chill method, and anodizing, painting and fabrication of aluminum extrusions.

XIII. CERTIFICATION (See instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
F. C. Irving, Jr. Executive VP Allied Products	F. C. Irving Jr.	80-11-17

COMMENTS FOR OFFICIAL USE ONLY

Please print or type in the unshaded areas only
(Fill-in areas are spaced for elite type, i.e. 12 characters/inch).

Form Approved OMB No. 158-S8000

FORM 3 RCRA

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER

F G A D 0 0 3 4 8 4 6

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your fa revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

[X] 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

[ ] 2. NEW FACILITY *(Complete item b*

FOR EXISTING FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

C	YR.	MO.	DAY
8	6 9	0 6	0 1

FOR NEW FA PROVIDE TH (yr., mo., & da TION BEGAN EXPECTED T

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

[ ] 1. FACILITY HAS INTERIM STATUS

[ ] 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provi entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes bel describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.
1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNIT MEASURE FOR PROC DESIGN CAPACIT
Treatment:		
TANK	T01	GALLONS PER DAY O LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY O LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HO GALLONS PER HOUR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided: Item III-C.)*	T04	GALLONS PER DAY O LITERS PER DAY

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UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UI ME C
GALLONS	G	LITERS PER DAY	V	ACRE-FEET	
LITERS	L	TONS PER HOUR	D	HECTARE-METER	
CUBIC YARDS	Y	METRIC TONS PER HOUR	W	ACRES	
CUBIC METERS	C	GALLONS PER HOUR	E	HECTARES	
GALLONS PER DAY	U	LITERS PER HOUR	H		

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons a other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

C DUP

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	OF
X-1	S 0 2	600	G		5				
X-2	T 0 3	20	E		6				
1	S 0 1	2,530	G		7				
2	S 0 4	27,530,828	G		8				
3	D 8 3	27,530,828	G		9				
4	T 0 2	86,400	G		10				

Continued from the front.

III. PROCESSES *(continued)*

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES *(code "T04")*. FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

IV. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER — Enter the four—digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If y handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four—digit number*(s)* from 40 CFR, Subpart C that describes the characte tics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an enn basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non—listed waste*(s)* that will be hand which possess that characteristic or contaminant.

C. UNIT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropri codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking ir account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:
   For listed hazardous waste: For each listed hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non—listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process coc contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non—listed hazardous wastes that poss that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in t extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annu quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line en "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* — A facility will treat and dispose of an estimated 900 poun per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non—listed wastes. Two wast are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimat 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
X-1	K054	900	P	T03 D80	
X-2	D002	400	P	T03 D80	
X-3	D001	100	P	T03 D80	
X-4	D002				included with above

Continue from page 2.
NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S800

EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE ONLY
W G A D 0 0 3 4 8 4 6 0 7 — 1	W DUP — 2 DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
1	F001	14,856	P	S01	
2	F003	48,000	P	S01	
3	F005				Included with above
4	F006	47,689	T	S04 T02 D83	
5	F018				Included with above
6	F017	46,800	P	S01	
7	F008	33,000	P	S01	
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					

Continued from the front.

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

EPA I.D. NO. (enter from page 1)

F G A D 0 0 3 4 8 4 6 0 7 6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility (see instructions for more detail).

VI. PHOTOGRAPHS

All existing facilities must include photographs (aerial or ground—level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)	LONGITUDE (degrees, minutes, & seconds)
31 24 56	83 29 52

VIII. FACILITY OWNER

☒ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. (area code & no.)
E	

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
F	G		

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
F. C. Irving, Jr. Executive VP - Allied Products	F. C. Irving Jr.	80-11-17

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED

Reference No. 8

Department of Natural Resources

ENVIRONMENTAL PROTECTION DIVISION

INSPECTION CHECKLIST

INTERIM STATUS STANDARDS FOR TREATMENT STORAGE AND DISPOSAL FACILITIES

SECTION I
FACILITY INFORMATION

SIC 3354 INSPECTION DATE 7-8-81

Tifton Aluminum GAD 003484607 Tift
Facility Name I.D.No. County

PO Box 88 Southwell Blvd. Tifton 31793 912/382-7330
Mailing Address City Zip Telephone Number

Hugh Chandler Plant Mang. L B Cook
Name of Owner/Operator Inspector's Signature

TYPE FACILITY:

Treatment	Storage	Disposal
☒ Tank dichromate reduction unit	☐ Tank	☒ Surface Impoundment
☐ Surface Impoundment	☒ Surface Impoundment	☐ Landfill
☐ Waste Piles	☐ Waste Piles	☐ Other (Specify)
☐ Land Treatment	☒ Container waste paint spent solvents	
☐ Incineration	☐ Other (Specify)	
☐ Chemical		
☐ Physical		
☐ Biological		
☐ Thermal (Except Incineration)		
☐ Other (Specify)		

4-81-HWM-7

SECTION II

GENERAL FACILITY STANDARDS

1. Facility I.D. No. obtained? ____ X

2. Facility notified Director relative to: (265.12)

   (a) Receiving waste from foreign source? ____ N

   (b) Status as new owner or operator? ____ N

3. Does facility have general waste analysis plan specifying: (265.13)

   (a) Parameters ____ Samples sent out

   (b) Test Methods ____ for analysis

   (c) Sampling Methods ____

   (d) Frequency ____

   Send all samples out for analysis

4. Security to include: (265.14)

   (a) Access control to active portion ____ X

   (b) 24 hour surveillance system or ____ X

   (c) An artificial or natural barrier with a gate ____ X

   (d) Warning signs at entrances ____ X

5. Owner/operator inspections note: (265.15)

   (a) Malfunctions, deterioration, operator error and discharges ____

   (b) Inspections per written schedule ____

   (c) Remedial actions on problems ____

   (d) Inspection log entries ____

6. Personnel Training Records Indicating: (Effective May 17, 1981)(265.16)

   (a) Job titles ____

   (b) Job descriptions ____

   (c) Description of continuing training ____

   (d) Completion of O.J.T. ____ or classroom ____

   (e) Training directed by person trained in Hazardous Waste ____

   (f) Trained personnel can respond effectively to emergencies ____

7. Prevention of Accidental Ignition or Reaction of Ignitable or Reactive Waste by: (265.17)

   (a) Segregating and protecting waste from source of ignition/reaction ____ X

   (b) Posting of "No Smoking" signs ____ X

   (c) Proper control during handling ____ X

8. Preparedness and prevention through: (Subpart C - 265.30)

   (a) Maintenance and operation to minimize possibility of fires, explosions and release of hazardous waste ____ X

	YES
(b) Equipment	
1) alarm system	
2) telephone or 2-way radio	X
3) fire extinguishers	X
4) water	X
(c) Testing and maintenance of equipment Super of Paint Dept + safety super.	X
(d) Immediate access to communications and alarm system no fire alarm sys in plant.	X
(e) Adequate aisle space	X
(f) Arrangements with local emergency response and hospital authorities verbal agree c̄ fire Dept.	X
9. Contingency Plan and Emergency Procedure whereby: (Subpart D - 265.50)	
(a) Contingency plan written fire emergency plan	
(b) Contingency plan contains:	
1) personnel response actions	
2) arrangements with state local authorities	
3) names, addresses and phone numbers of qualified emergency coordinator	
4) listing of emergency equipment	
5) evacuation plan	
6) SPCC plan incorporation No SPCC plan.	
(c) Name(s) of designated emergency coordinator(s), trained and authorized to implement plan are listed	
(d) Evidence is provided that emergency coordinator will implement proper emergency procedures	
10. Manifest System, Recordkeeping, and Reporting to include: (Subpart E - 265.70)	
(a) Procedures for proper execution of manifest	
(b) Records of past shipments	
(c) Manifest discrepancies noted ____ resolved ____ None noted	Y
(d) Written operating record	
(e) Readily available records copies of manifests	X
(f) Annual Report	N
(g) Report on unmanifested waste	N
11. Groundwater Monitoring (Effective Nov. 19, 1981)(Subpart F - 265.90)	
(a) Applicable facility	N
(b) Is groundwater monitoring system operational	N
(c) Number and placement of wells	
(d) Well integrity established through encasement	

(e) Sampling and analysis plan _____

(f) Sampling and analysis records _____

(g) Outline of groundwater assessment program _____

(h) Groundwater analyses submitted annually to Director _____

12. Closure and Post Closure (Post Closure-Land Disposal Only) (Subpart G - 265.110) *

(a) Adequate written closure plan available _____

(b) Adequate written post closure plan available _____

13. Financial Requirements (Subpart H - 265.140) *

(a) Written estimate of closure cost available _____

(b) Written estimate of post closure monitoring and maintenance of facility available (Land Disposal Only) _____

SECTION III

TSD FACILITY SPECIFIC STANDARDS

	waste point Yes	NO
1. Containers (Subpart I - 265.170)		
(a) Continers in good condition	X	
(b) Waste compatibility with containers	X	
(c) Containers kept closed	X	
(d) Containers managed to prevent rupture/leaks	X	
(e) Owner/operator make weekly inspections See Comment #2	X	
(f) Ignitable/reactive wastes are stored 50 ft. from property line	X	
(g) Incompatible waste/mixtures stored in the same container	X	X
(h) Waste residues removed prior to reuse of container	N/A	
(i) Segregation and protection of incompatible waste(s)	N/A	
2. Tanks (Subpart J - 265.190) * Permitted by Rule — See Comment # 1.		
(a) Threat of damage to structural integrity of tank, liner(s) or delivery system due to waste(s) and/or treatment reagents		
(b) Uncovered tanks have 2 ft. (60 cm) freeboard, or		
(c) Containment structure equal in volume		
(d) Continuous feed system(s) have a flow shutoff device		
(e) Records of additional analyses and trial runs for:		
1) incorporation of substantially different waste(s)		
2) new batch treatment process		

* Effective July 16, 1981, except tanks and containers which were effective Nov. 19, 1980.

(f) Owner/operator inspections See Comment #2

1) discharge control equipment (once/day) _____

2) operational monitoring data (once/day) _____

3) waste level (once/day) _____

4) structural integrity (once/day) _____

5) discharge containment structures (once/week) _____

(g) Prior to tank storage ignitable/reactive waste must be:

1) rendered non-ignitable/non-reactive or _____

2) tank(s) are protected from potential sources of ignition/reaction or _____

3) tank is used solely for emergencies _____

(h) Use of covered tanks complies with National Fire Protection Association's buffer zone requirements _____

(i) Incompatible waste(s) stored in same tank _____

(j) Tanks for incompatible waste(s) are washed prior to reuse _____

3. Surface Impoundments (Subpart K - 265.220)

(a) Minimum of 2 ft. (60 cm) freeboard _____

(b) Earthen dikes protected from erosion/deterioration _____

(c) Records of additional analyses and test runs when substantial change in waste or treatment process _____

(d) Owner/operator inspections

1) freeboard (once/day) See Comment #2

2) structural integrity of impoundment/ containment system (once/week) _____

(e) Impoundment used for ignitable/reactive waste _____

(f) Impoundment used for incompatible waste _____

4. Waste Piles (Subpart L - 265.250)

(a) Prevention of wind dispersal _____

(b) Record of analysis on each incoming movement _____

(c) Leachate/runoff collection system (Effective Nov. 19, 1981) _____

(d) Diversion of precipitation and run-on (Effective Nov. 19, 1981) _____

(e) Liquid or waste containing liquids placed on pile _____

(f) Prior to incorporation into a pile, ignitable/ reactive waste must be:

1) rendered non-ignitable/non-reactive or _____

2) protected from sources of ignition or reaction _____

(g) Incompatible waste(s) must be:

1) rendered compatible or _____

2) segregated and protected from other waste _____

3) piled in areas not previously used for incompatible waste _____

5. Incinerators (Subpart O - 265.340)

(a) Incinerator allowed to reach steady state condition _____

(b) Record of waste analyses to determine:

1) steady state operating condition _____

2) BTU value _____

3) halogen content _____

4) sulfur content _____

5) lead and/or mercury content (if present) _____

(c) Monitor and/or inspect instrumentation

1) combustion monitor(s) _____

2) emission control equipment _____

3) instruments to measure waste feed _____

4) instruments to measure auxiliary fuel feed _____

5) instruments to measure air flow _____

6) instruments to measure incinerator temperature _____

7) instruments to measure scrubber flow _____

8) instruments to measure scrubber pH _____

9) instruments to measure relevant level controls _____

10) color and opacity visually monitored hourly _____

11) daily inspection of complete incinerator and associated equipment _____

12) daily inspection of all emergency shutdown controls and system alarms _____

6. Thermal Treatment (Subpart P - 265.370)

(a) Steady state operating condition for continuous treatment _____

(b) Cyclic operation for batch treatment _____

(c) Record of waste analysis to determine:

1) steady state/cyclic operating conditions _____

2) BTU value _____

3) halogen content _____

4) sulfur content _____

5) lead and/or mercury content _____

(d) Monitoring instrumentation

1) temperature _____

2) emission control _____

3) waste feed _____

4) auxiliary fuel feed _____

5) process flow _____

6) process level _____

(e) Inspections once/day

1) leaks, spills and fugitive emissions _____

2) all emergency shutdown controls and alarm systems _____

(f) Open burning of hazardous waste _____

(g) Detonation/burning of explosives in accordance with buffer table _____

7. Chemical, Physical and Biological Treatment (Subpart O - 265.400)

(a) Owner/operator take adequate precautions to prevent ignition, reaction or explosion during treatment _____

(b) Where applicable does continuous waste feed equipment have a cut-off or bypass system _____

(c) Record of addition analyses when:

1) treating a substantially different waste _____

2) using substantially different process or equipment _____

(d) Record of inspections for:

1) discharge control and safety equipment _____

2) data from monitoring instrumentation _____

3) process equipment _____

4) discharge confinement structures and delivery system _____

(e) Prior to placing into a treatment process, ignitable/reactive waste must be:

1) rendered non-ignitable/non-reactive or _____

2) the process is protected from potential sources of ignition/reaction _____

(f) Incompatible waste types being placed in same process _____

(g) Treatment equipment washed before and after processing incompatible wastes _____

8. Land Treatment (Subpart M - 265.270)

(a) Waste is rendered less hazardous or non-hazardous prior to land treatment _____

(b) Run-on diversion system (Effective Nov.19, 1981) _____

(c) Runoff collection system (Effective Nov.19, 1981) _____

(d) Record of additional waste analyses to determine:

1) EP Toxicity (Table 1, 261.24) _____

2) concentrations of listed hazardous wastes (261 Subpart D) _____

3) arsenic, cadmium, lead and mercury concentrations where food chain crops are grown _____

(e) If food chain crops are grown on treated land, then:

1) owner/operator has demonstrated that hazardous constituents are not transferred to food crops in appreciable concentrations _____

2) records demonstrating the feasibility of growing food chain crops are kept at the facility and must include:

(i) tests for specific wastes and application rates _____
(ii) crop description _____
(iii) criteria for sample selection and sample size _____
(iv) analytical and statistical procedures _____

3) food chain crops cannot be grown on land receiving cadmium (Cd) waste(s) unless:

(i) pH of soil waste mixture is $\geq$ 6.5 _____
(ii) annual Cd application rate does not exceed 0.5 kg/ha. on land used for tobacco, leafy vegetables and root crops grown for human consumption _____

(f) Implementation of written unsaturated zone monitoring plan designed to:

1) detect vertical migration of waste/waste constituents _____

2) provide background monitoring on untreated soil in same area _____

3) monitoring plan must include:

(i) soil and soil pore water monitoring _____
(ii) soil types _____

(g) Records of application dates, rates, quantities and location of each hazardous waste treated. _____

(h) Closure and post closure plans address objectives outlined in 265.280 _____

(i) Ignitable/reactive wastes are incorporated into the soil immediately so that the resulting mixture is nonignitable/nonreactive. _____

(j) Incompatible waste(s) mixtures must not be treated on the same soil. _____

SECTION IV

GENERATOR STANDARDS

1. Has the facility obtained an EPA ID No? _____

   If not, why not? _____

2. Is the facility a small quantity generator? _____

3. Has facility classified all solid waste as hazardous or non-hazardous? _____

4. Does the facility have a recordkeeping system for manifests with a three-year retention time? _____

5. Does the facility accumulate hazardous waste on-site for 90 days or less? If yes, _____

   (a) Is date on which accumulation period began clearly marked? _____

   (b) Are containers properly labelled and marked prior to transport? _____

   (c) Has the facility met the preparedness and prevention requirements for storage; the contingency plan and emergency procedures requirements for storage; and the personnel training requirements? _____

   (d) (1) Are containers inspected weekly for leaks and deterioration? _____

   (2) Are ignitable or reactive wastes stored at least 50 feet from the property line? _____

   (3) Are wastes stored in tanks? If so, _____

   (4) Are wastes compatible with inner liner of tank? _____

   (5) Is tank uncovered? If so, _____

   (6) Does tank have 2 feet of freeboard or a containment, drainage or diversion structure with a capacity to hold the volume of the top 2 feet of the tank? _____

   (7) Is the tank continuous feed? If so, _____

   (8) Is tank equipped with a means to stop the inflow? _____

   (9) Is tank discharge control equipment inspected once a day? _____

   (10) Is data gathered from pressure and temperature gauges daily? _____

   (11) Is waste level inspected daily? _____

   (12) Is tank inspected for construction leaks or corrosion weekly? _____

   (13) Are dikes inspected for erosion and leakage weekly? _____

   (14) Are ignitable or reactive wastes rendered non-ignitable or non-reactive prior to storage or are the tanks protected from sources of ignition or reaction or are the tanks used solely for emergencies? _____

   (15) Does tank comply with NFPA buffer zone? _____

   (16) Are incompatible wastes stored in the same tank? If so, _____

   (17) Are tanks washed prior to reuse? _____

6. Does the facility have available copies of the manifests, annual and Exception Reports, waste analyses and test results? _____

7. Has the facility made Exception Reports? If yes, has correct reporting procedure been followed? _____

8. Does the generator import/export hazardous waste? _____

* Comment #1 *Wastewater treatment unit (tanks) are permitted by rule and ISS requirem outlined in Part 266, Subpart B, §266.11 - .17 are applicable. All of t Part 266 requirements, except .14(c), are covered in this form in Section General Facility Standards and Section III, Tanks; however, they are not nated on this form as Part 266 requirements. Requirement .14(c) is hereb noted as being complied with.

COMMENTS: #1 - Treatment tank is part of a dichromate reduc unit which uses spent H_2SO_4 from anodizing to lower pH. Chromate reduction is accomplished using SO_4. The effluent from the unit combines with other wastewater effluents and discharged into the plants NWT facility.

#2 Inspections of hazardous waste facilities were conducted regularly but facility did not have a written inspection schedule nor an inspection log book.

Reason for inspection: Routine Other _____

Discussed with:

1. Name: Mr Hugh Chandler Title: Plant Manager
   Address: PO Box 82 Tifton 31793 Telephone: 912/382-7330
2. Name: _____ Title: _____
   Address: _____ Telephone: _____

Copy of this report submitted to:

1. Name: Same as above. Title: _____
   Address: _____ Telephone: _____
2. Name: _____ Title: _____
   Address: _____ Telephone: _____

Photographs: ☐ yes ☑ no: No. _____

Samples collected: ☐ yes ☑ no No. _____ Split ☐ yes ☑ no

Reviewed by: _____ Review date: _____

Attachments:

ENVIRONMENTAL PROTECTION DIVISION
SOLID WASTE MANAGEMENT SECTION
FACILITY INFORMATION REPORT

File: Green

REPORT #:
REPORT DATE:

2-18-82

FACILITY ID	REGION	COUNTY	SIC CODE	STAFF	HOURS	REVIEWED BY	CODED
GAD003484607	1	Tift 137	3354	Ed Cook EJC	10	HB	

1. FACILITY INFORMATION

FACILITY NAME: Tifton Aluminum Co. FACILITY TYPE: aluminum extrusions

ADDRESS: P.O. Box 88, Southwell Blvd. CITY: Tifton ZIP: 31793

TELEPHONE: 912/382-7330 HOURS: 24 hrs/ 6 days/wk # OF EMPLOYEES: 450

PERSON CONTACTED: Hugh Chandler / Warren Houseworth TITLE: Plant Manager / Anodizing & Paint Supervisor

2. ACTION INFORMATION

PROGRAM ACTIVITY: inspection and compliance - industrial 03

INVESTIGATION DATE: 7-8-81 FOLLOW-UP DATE: 1-8-82

ACTIONS	FINDINGS / DECISIONS	NEXT ACTIONS
inspection, initial 34	facility in violation 70	inspection, compliance schedule 32

3. RESIDUAL MANAGEMENT INFORMATION

RESIDUAL #	I/O	COMMON NAME	PHYSICAL FORM	ANNUAL VOLUME/ WEIGHT	HANDLING CODE	SPECIAL SUBSTANCE	CONC	SPECIAL PROPERTIES	S	C	P	R	D
1	0	mixed dry trash 61	solid 4	not known	NH 1				x	x			
2	0	solvents 56	liquid 2	24 T	H 2	solv. 49		23	x	x		x	
3	0	solvents 56	"	7.5 T	"	solv. 45		11 & 23	x	x			x
4	0	oils, petroleum 36	"	8.5 T	NH 1				x	x		x	
5	0	oil based paint	2 & 4	14.3 T	H 2	solv. 49		23	x	x			x
6	0	containers	4	3 T	NH 1				x	x		x	
7	0	WWT sludge 22	sludge 3	47,689 T	H 2	Cr 16							x

4. RESIDUAL STORAGE INFORMATION

RESIDUAL	PERMIT	LOCATION	DURATION	NUMBER AND TYPE OF CONTAINER(S)	STORAGE CAPACITY
1	2	thru out facility	2-3 days	drums (9) & bins (4)	
2	4	paint shop	6-8 wks	15-25 drums (9)	unlimited
3	4	" "	4 wks	15 drums	"
4	2	oil collection system	6-8 wks	25-30 drums (9)	"

ENVIRONMENTAL PROTECTION DI''SION
SOLID WASTE MANAGEMENT SEC..JN
ACTION REPORT

File: Red

2-18-82

FACILITY ID	REGION	COUNTY	HOURS	REVIEWED BY	CODI
GAD003474607	1	Tift 137	10 hr	[illegible]	

FACILITY NAME Tifton Aluminum Co.

ADDRESS P.O. Box 88, Southwell Blvd. CITY Tifton ZIP 31793

PERSON(S) CONTACTED Hugh Chandler TITLE Plant Manager

912/382-7330 Warren Houseworth - Anodizing & Paint Superintendent

TRIP BY Ed Cook EJC ACCOMPANIED BY Britt Pendergrast

INVESTIGATION DATE 7-8-81 FOLLOW-UP DATE 1-8-82

REFERENCE

PROGRAM ACTIVITY Inspection and Compliance - Industrial (03)

ACTIONS	FINDINGS/DECISIONS	NEXT ACTIONS
inspection, initial 34	70 facility in violation of rules	inspection, compliance sched.

COMMENTS, CONCLUSIONS, AND RECOMMENDATIONS:

Tifton Aluminum is an aluminum extrusion and anodizing industry. This industry submitted a Part A application showing that the facility generated the following waste streams:

- F001, F003, F005 - spent halogenated and non-halogenated solvents
- F006 - wastewater treatment sludge from electroplating operations
- F018 & F017
- F008 - plating both sludges from electroplating operations using cyanides.

A facility inspection suggested Tifton Aluminum's Part A was incorrect. The TSD facilities inspected were:

- spent solvent drum storage F001, F003, & F005,
- ignitable paint waste drum storage (D001),
- wastewater treatment sludge surface impoundments (F019),

- dichromate reduction treatment tank (D007).

The industry's plating/anodizing operations did not utilize cyanides.

CONCLUSIONS:

Tifton Aluminum is in violation of Section 391-3-11-.10 of Georgia's Rules for Hazardous Waste Management. Specific violations are:
§265.13 "General Waste Analysis
§265.15 "General Inspection Requirements"
§265.16 "Personnel Training"
§265.51 "Purpose and Implementation of Contingency Plan"
§265.71 "Use of Manifest System"
§265.73 "Operating Record"
§265.112 "Closure Plan; Amendment of Plan"
§265.142 "Cost Estimate for Facility Closure".

RECOMMENDATIONS:

1. Notify Tifton Aluminum of its violations of the Georgia Rules for Hazardous Waste Management.

2. Conduct a follow-up compliance inspection.

Comments:

Tifton Aluminum is an aluminum extrusion and anodizing industry. This industry submitted a Part A application showing that the facility generated the following waste streams:

- F001, F003, F005 - spent halogenated and non halog solvents
- F006 - waste water treatment sludge from electro plating operations
- F019 & F017 -
- F008 - plating bath sludges from electroplating operations using cyanides.

A facility inspection suggested Tifton Aluminum's part A was incorrect. The TSD facilities inspected were:

- spent solvent drum storage F001, F003 F005)
- Ignitable paint waste drum storage (D001)
- Waste water treatment sludge surface impoundment (F019)
- Dichromate reduction treatment tank (D007)

The industry's plating/anodizing operations did not utilize cyanides.

Conclusions

Tifton Aluminum is in violation of section 391-3-11-.10 of Georgia's Rules for Hazardous Waste Management. Specific violations are

1. §§ 265.13 "General Waste Analysis"
2. §§ 265.15 "General Inspection Requirements"
3. §§ 265.16 "Personnel Training"
4. §§ 265.51 "Purpose and Implementation of Contingency Plan"
5. §§ 265.71 "Use of Manifest System"
6. §§ 265.73 "Operating Record"
7. §§ 265.112 "Closure Plan; amendment of plan"
8. §§ 265.142 "Cost Estimate for facility closure."

Recommendations

1. Notify Tifton Aluminum of its violations of the Georgia Rules for Hazardous Waste Management
2. Conduct a followup compliance inspection.

45 employee
3 shifts 6/wk.

mgr. in Commerce - Pittsburgh

7-8-81 Tifton Aluminum

Mr. Chandler. - Plant Mgmt.

Mr Warren Houseworth - Anodizing + Paint Super. handle permits -

Corp. headquarters - on env. activities

subsid. of alcoa

* Ramsey chem. taking waste paint + will store until shipping to E

" " " + recycling spent solvents.

" " " + recycling spent oils

* methylene chloride in use in cleaning

paint line ⇒ Cr^6 reduced to Cr^3 - then waste stream is combined c̄ other waste stream into WWT - overflow discharged thru NPDES

H_2SO_4 removed regularly to maintain ion exchange ratio

Inspection

Anodizing + cleaning

on Rife

* heated Tanks.

* Pre cleaner - alkaline clean

H_2O Rinse → * Cleaner - Phosphoric ...

H_2O Rinse → * Caustic etch Tank

H_2O Rinse → * 2nd caustic etch

H_2O Rinse →

Nitric acid de smut tank

H_2O Rinse → Hot Tank Bright dip

phosphoric - rinse tank is drained out + recleaned when it reaches 25%.

Transfer H_2O rinse to move to anodizing process

must control Al^{+3} in tanks in refrig.

H_2O Rinse

{ duranoic acid anodizing tank
uses organic acids

H_2SO_4 anodizing tank

H_2O rinse →

H_2SO_4 anodiz.

H_2O Rinse →

duranoic acid anodizing tank

H_2O Rinse →

→ deion H_2O Rinse
re

2 deion H_2O Tanks c pH adju
for sealing after dyeing

metal after anodizing have large open pores
~~deion H_2O~~
which aids in dying - after dyeing metal run ~~thru~~
deion H_2O c pH adjust to seal pores

Gold dye tank
ferric ammonium oxalate

Paint Process

1. paint stripped from hooks.
cold strip tank to remove paint from hooks
solvent → methyl chloride, phenol, formic acid
plan to terminate use of cold stripper - going to incineration to burn off paint

2. 5 stage washer
heat ① alkaline cleaner
③ Rinse
heat ② Chromate conversion
④ Rinse
⑤ [illegible]

drip tanks under each stage
cleaners recycled

5rd + 5th stage

overflow from from Chromate Conversion

Cr^{+6} conversion continuous operation

① drop pH to 2.5 c̄ H_2SO_4 acid isn't neutralized

② inject SO_4 to reduce neutralized in WWT.

③ add Na bisulfide

★ Fiberglass tank closed c̄ airvent

Have dumped tank to batch dump Chromate from chro conversion stage + tank is part of Cr^{+6} treatment. cation u

→ tank used on daily basis for holding H_2SO_4

if tank is used for batch dump of Cr^{+6}

then 2nd S.S tank is use for acid

→ Lab tech visually checks Tank - no dike

Paint Room

Run off paint collected in plastic bags lined 5 gal buckets

plastic bags are tie + dumped in 55 gal drums for disposa

once a yr. peel paint off spray booth walls - drum resi

+ shippment

Paint storage Rm.

waste solvent - stored in 55 gal - mainly MEK

15-25 drums accumulating ship to Ramsey - once/

6 wks for reclaiming

paint waste drums stored on pad. - go to Ramsey

+ stored until shipped to Al.

Milling Op.

use methylene chloride to clean epoxy without equip after

each shift - spent chloride c̄ resin stored in 55 gal

12 drums / every 6 mo - send waste to Ramsey

who stores it until he can ship to Al.

FIR

1. Spent solv. RCRA 55 Part A — S Trans. Rec.
Storage 6-8 wks 15-25 drums.
Trans. - Ramsey Chem. } Waldosta
Reclam Ramsey chem. }

2. Cold stripper + Methyl Resin - 14, 55 gal — S Tran. D
* Storage - 4 wk
Trans - Ramsey chem.
Disposal Al. H.WLF.

3. Wast Paint - 252 (55 gal) — S Tran. D.
Storage - ~6 mo.
Trans. - Ramsey
Disposal - AL HWLF

4. Wast oil - 25-30 55 gal. — S Trans D Rec.
Storage 6-8 wk
Trans Ramsey
Rec. Ramsey

5. ~~[illegible]~~

~~[illegible]~~
Wast
Empty Drums. = sell to reclaimer scrap metal — 150 drums.
Storage
Trans. S+M scrap metal
Rec. S+M scrap metal Tifton

6 extruder presses

Trash: 55 gal drums + 1 yd³ tip containers.

① Get ph # of Chuck Ramsey USDOT

② Will Cr^{+6} reduction treatment be regulated under NPDES permit or RCRA permit?

③ Send Tifton A1 updated copy of State Rules.

Manifest: 50 drums of solvent since 10/30/80
21 " of oil

1. spent Solv. RCRA Part A

Al saw fines

→ Methylene chloride contam Resin
waste Paint -
waste Oil -
→ cold stripper F001.

dust from cast hose milling
dust from polishing
mixed dry F001
Oil Drums
empty
Drum Stripper

~~wet~~ urthane resin from milling is bagged in collectors
+ shipped to Co L.F. = maybe hazardous — check

WWTP
90% sludge is from anodizing → Al_2OH_3 sludge
10% sludge from Cr^{+6} reduction to Cr^{+3}

equalization [paint line] Cr^{+6} reduction anodizing line + recycle s
1st stage - ~~neutralization of acid from chromate reduction~~
2nd stage - 1st neutralization (6-8 pH) virgin acid + cause for neutral.
3rd stage - final neut 6.2-6.4 pH
4th stage - recorder + adding polymer (flocc.)

overflow from clarifier
3 polishing ponds
5 sludge settling ponds - unlined
underflow.

* empty drum storage
sludge ponds have abundant plant growth in pit

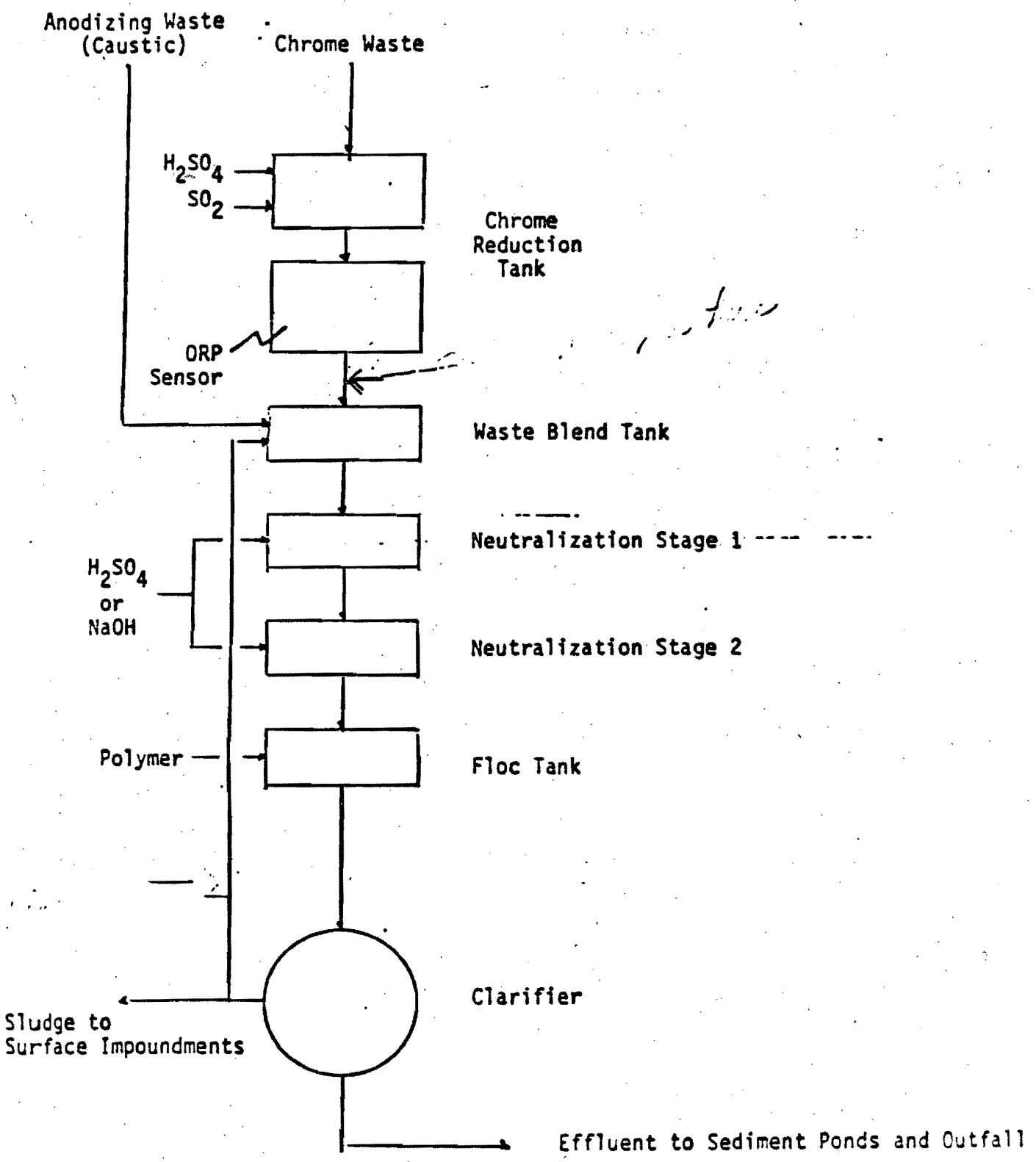
Smelter
2 smelting scrap.
adding alloy magnesium, silicone
dross sold to ~~[illegible]~~ Peach tree trading 6.5 Tenness

pig - pure al.
billet - alloy al

pile brick from refrubishing smelter
used as fill on property.
milling chips - bright line ind. Summerville

WASTEWATER TREATMENT SYSTEM

Tifton Aluminum Company



Reference No. 9

Department of Natural Resources

ENVIRONMENTAL PROTECTION DIVISION
270 WASHINGTON STREET, S.W.
ATLANTA, GEORGIA 30334

JOE D. TANNER
Commissioner

J. LEONARD LEDBETTER
Division Director

GAD003484607

February 18, 1982

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Hugh Chandler
Plant Manager
Tifton Aluminum Company
P. O. Box 88
Southwell boulevard
Tifton, GA 31793

RE: Notice of Violation

Dear Mr. Chandler:

Reference the inspection of Tifton Aluminum by Edward Cook of the Industrial and Hazardous Waste Management Program to determine the compliance status of the hazardous waste storage and treatment facilities pursuant to the requirements of Section 391-3-11-.08 and 391-3-11-.10 of the Georgia Rules for Hazardous Waste Management. The hazardous waste facilities inspected are listed as follows:

1) spent solvent drum storage (F001, F003, & F005)
2) paint residue drum storage (D001)
3) wastewater treatment sludge (F019) surface impoundments
4) dichromate reduction treatment tank (D007).

Each of these facilities was noted to be in violation of Georgia's Rules for Hazardous Waste Management, Chapter 391-3-11. As Georgia's Rules adopt and incorporate by reference the Federal Regulations found in Section 40 CFR, the following violations are called to your attention:

40 CFR 265.13 "General Waste Analysis" - facility had not prepared a written waste analysis plan.

40 CFR 265.15 "General Inspection Requirements" - facility did not conduct inspections per a written inspection schedule.

40 CFR 265.16 "Personnel Training" - facility did not have any records of special training for employees who work with hazardous waste.

40 CFR 265.51 "Purpose and Implementation of Contingency Plan" - facility did not have a written emergency spill plan.

40 CFR 265.71 "Use of Manifest System" - facility did not have written procedures for handling manifests.

Since these requirements have been effective since November 19, 1980, we feel that thirty (30) days from the date of receipt of this notice of violation is sufficient time to comply with these requirements. A follow-up compliance schedule inspection of the plant is planned at that time.

Please find enclosed a copy of the referenced Georgia Rules for Hazardous Waste Management, and per your request, a copy of the inspection report. Should you have questions, please feel free to call 404/656-2833.

Sincerely,

Moses N. McCall, III, Chief
Land Protection Branch

MNMccck

Enclosures

cc: James Scarbrough

WESTON • SPER
100 Atlanta Technology Center, Suite 120, 1575 Northside Drive, NW,
Atlanta, GA 30318 • (404) 352-4147

TECHNICAL ASSISTANCE TEAM FOR EMERGENCY RESPONSE REMOVAL AND PREVENTION
EPA CONTRACT 68-01-7367

MEMORANDUM

TO: Ned Jessup, OSC
EPA, Region IV

FROM: David J. Wingerd
TAT, Region IV

THRU: Conley B. Phifer
TATL, Region IV

SUBJECT: Thompson Hayward Co. Sodium Chlorite Spill,
Kennesaw, Cobb County, Georgia
TDD #04-8803-05-1514
TAT #04-F-01278

DATE: 21 March 1988

SITUATION

On Thursday 03 March, 1988, Region IV Environmental Protection Agency (EPA) Emergency Response Branch (ERB) received a report of a burning tractor-trailer fire on Cobb Parkway in Kennesaw, Cobb County, Georgia. The tractor-trailer was alleged to contain sodium chlorite, a salt which is a very strong oxidizer. The thermal decomposition products of sodium chlorite are hazardous and/or toxic.

OSC Ned Jessup contacted Region IV Technical Assistance Team (TAT) at approximately 1300 hours and tasked TAT to respond and provide support to the OSC. TAT member David J. Wingerd departed at 1310 hours for the site on Cobb Parkway.

SUMMARY

On 03 March, TAT member Wingerd responded to the spill and met OSC Jessup en route. Upon their arrival at 1330 hours, OSC Jessup and TAT Wingerd were stopped by Kennesaw Police, who directed them about the hot zone which had been established by Cobb County Fire Department. Kennesaw police were directing the north bound traffic from Cobb Parkway to detour routes via secondary roads. OSC Jessup and TAT Wingerd made a peripheral inspection and assessment as they travelled from the barricade

area the south of the spill site to the north end of the spill site where Cobb County Fire Department had established a command post.

OSC Jessup was briefed upon his arrival at the command post area by Assistant Fire Chief H. K. Nixon. The driver of the tractor-trailer, Keith Harris, had picked up a load if twenty (20) 100 pound drums of sodium chlorite at North Chemical Company in Marietta, Georgia. The Thompson Hayward Chemical Company truck was delivering the sodium chlorite to the Wycoff Water treatment Plant in Kennesaw. At approximately 1100 hours while driving north on Cobb Parkway, Harris noticed smoke coming out of the trailer through the view in his mirrors. There were three separate explosions heard by Harris, who walked to the Winkenhofer Funeral Home to notify the fire department.

The Cobb County Fire Department arrived and dowsed the fire with 500 gallons of water. The run-off from the fire was contained in a ditch. The fire department personnel fighting the fire made entry in Level "A" suits. Three Kennesaw policemen and one firefighter were exposed to the smoke and fumes and they were taken to the Kennestase Hospital. The Winkenhofer Funeral Home had been also evacuated of all personnel. At the time of OSC and TAT arrival, the situation had stabilized. OSC Jessup met immediately with Jack Booker, the plant manager of the Thompson Hayward Chemical plant in Powder Springs, Georgia, to discuss cleanup of the spill.

OSC Jessup inquired as to whether Thompson Hayward would prefer to conduct the cleanup through an emergency cleanup contractor retained by themselves or have EPA and their contractor conduct the emergency cleanup and removal. After consultation with Thompson Hayward management, Booker stated that they would conduct the cleanup and removal as a responsible party. Upon request, OSC Jessup gave several suggestion for potential contractors. Booker then forwarded these suggestions to his offices. Thompson Hayward contracted OH Materials to conduct the cleanup and removal.

At 1430 hours, OH Materials representatives Bob Glassen and Paul Sawyer arrived onsite. After confirmation of the situation, the company dispatched two emergency response vehicles from their offices. The vehicles arrived at 1750 hours.

OH Materials unloaded drums to overpack wastes and prepared to enter the trailer in Level "B". Entry was made 1815 hours. Residue was shoveled into drums and original packaging of the drums removed and set on visqueen plastic lining along the roads berm. At the same time other cleanup crew members were shoveling soil contaminated by run-off into drums after the dirt had been moved into piles with a backhoe. Three (3) 55-gallon drums of soil were collected.

At 1930 hours, the backhoe was used to open an access area to remove the salvage drums from the trailer at the front of the

truck. Although the fire had burned through the trailers' shell, structural supports were obstructing access to the floor level of the trailer. After the ribs were removed, salvage drums were unloaded into the bucket of the backhoe. Four (4) drums containing debris and slag-like material were collected.

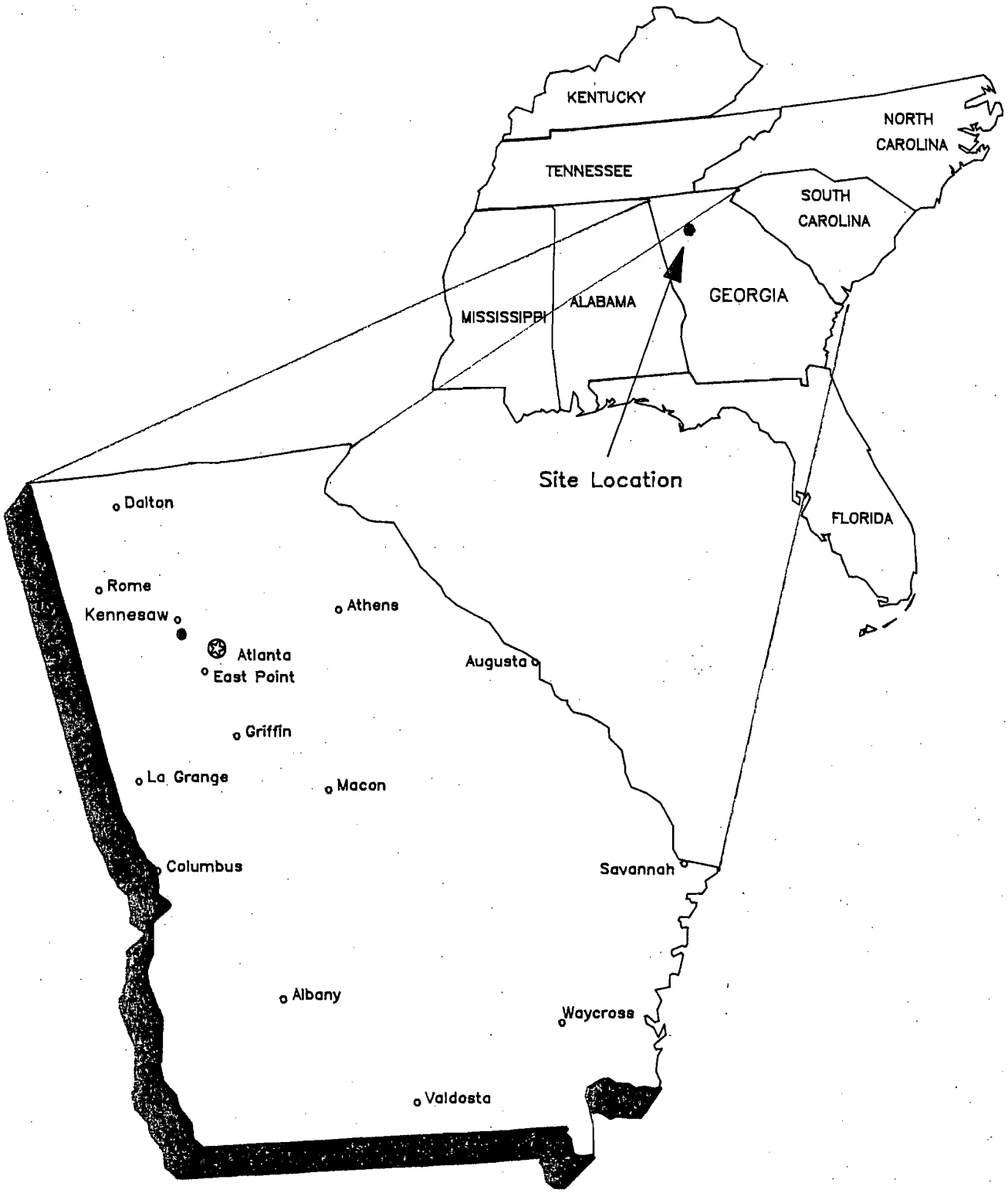
The burned trailer was moved forward approximately 60 feet so that residue that had collected on the berm could be shoveled and collected. By 2200 hours the tractor and trailer were connected to wreckers and removed. Two drums were filled with the crushed original packaging drums and the material shoveled from the berm.

OH Material collected soil samples for analysis for total chlorides and pH at the direction of OSC Jessup.

Wastes were manifested and loaded into a vehicle provided by MKC Enterprises, the company accepting the wastes. TAT and OSC Jessup demobilized from the site at 2310 hours.

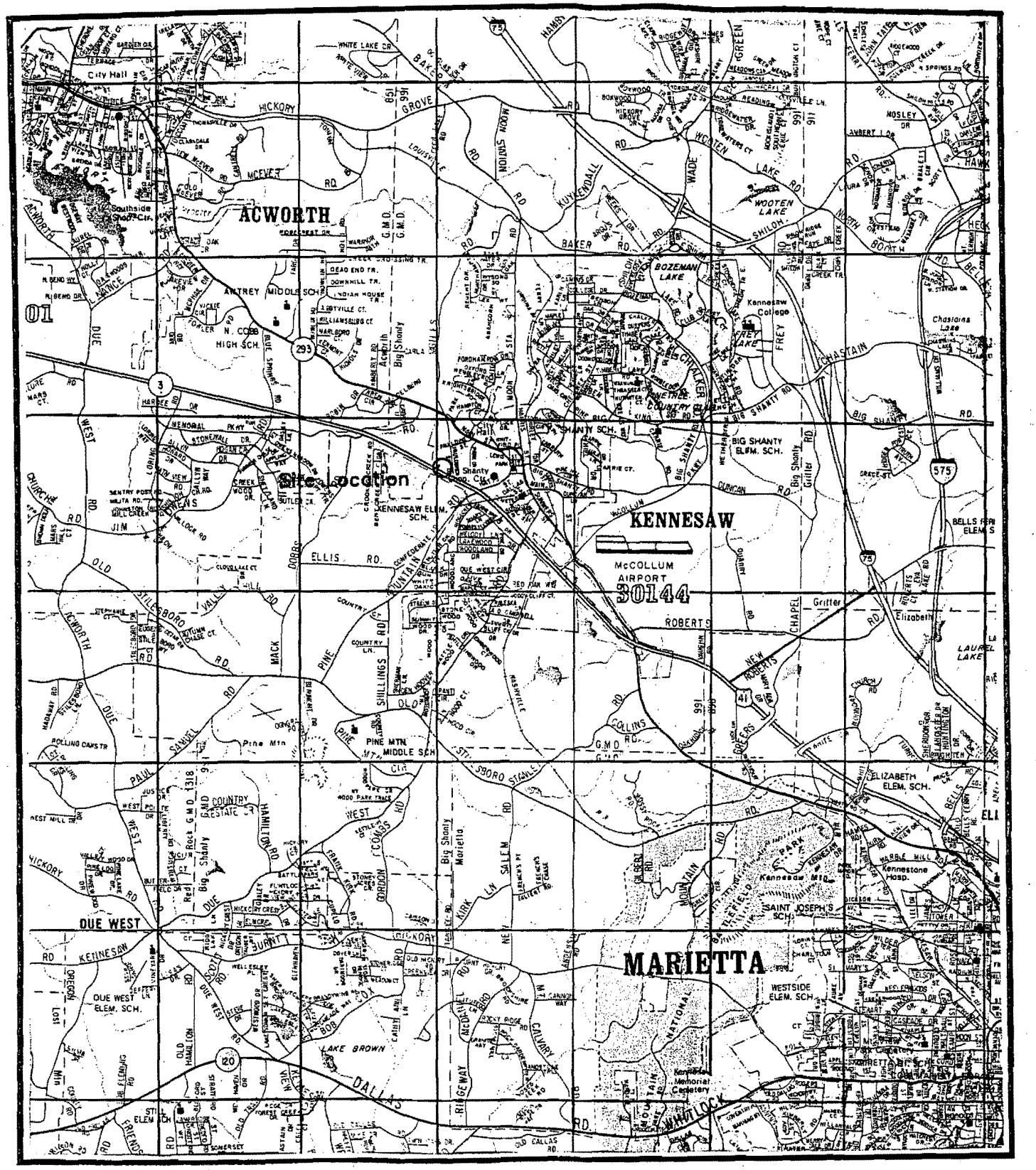
FIGURE 1

Site Location Map



E.P.A. Region IV
Weston T.A.T. Activity Location
TDD 04-8803-05-1514
Thompson Hayward Sodium Chlorite Fire
Kennesaw, Cobb County, Georgia

EPA



WESTON TAT ACTIVITY: Site Location Map

SITE: Thompson Hayward Sodium Chlorite Fire

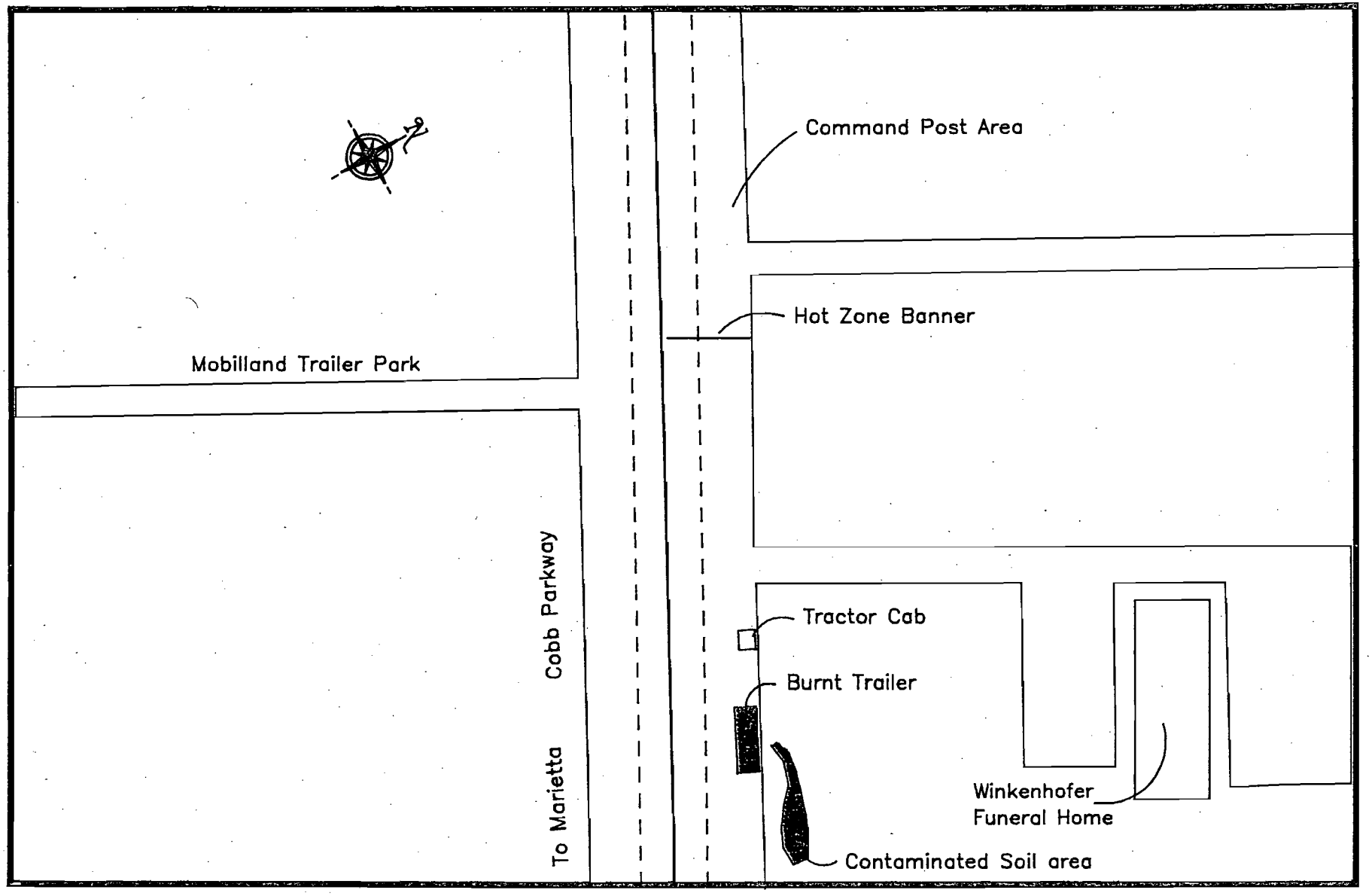
Kennesaw, Cobb County, Georgia

TDD NUMBER: 04-8803-05-1514

DATE: 03 March 1988

FIGURE 2

Site Diagram



WESTON SPER Region IV TAT

TAT Activity Description: Site Diagram of Fire scene along Cobb Parkway

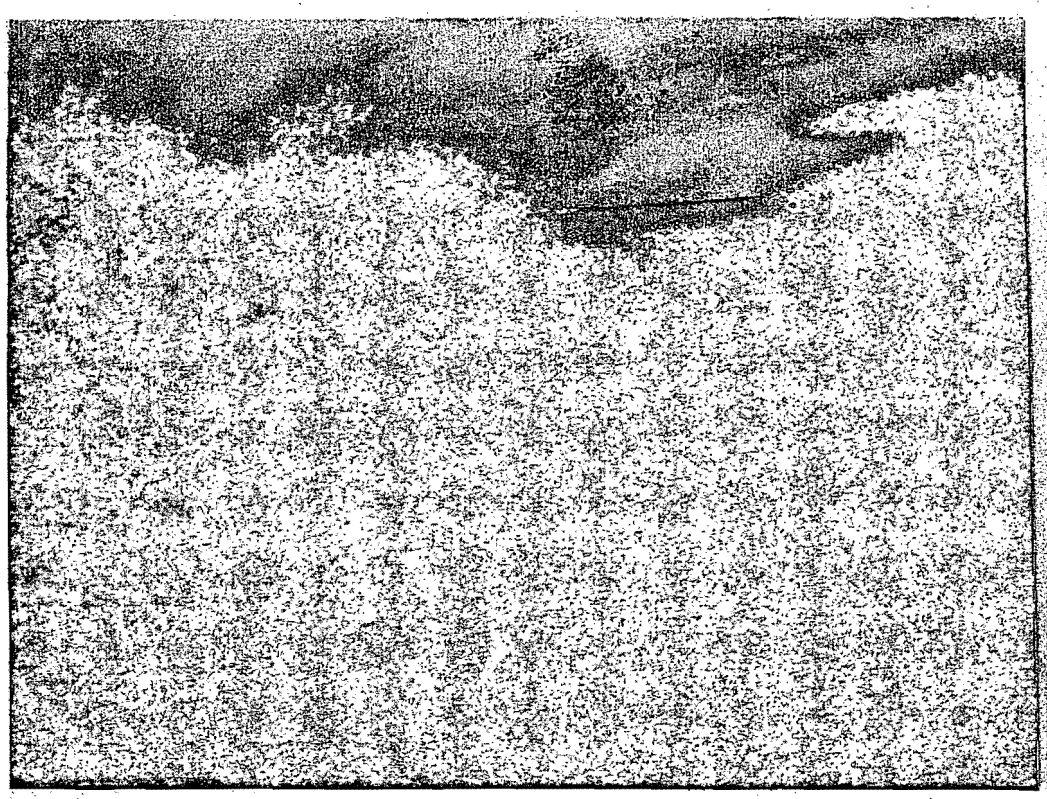
SITE: Thompson Hayward Sodium Chlorite Fire

TDD NO.: 04-8802-05

DATE: 03 March 1988

ATTACHMENT A

Photographs



PHOTO# 1

OFFICIAL PHOTOGRAPH

ENVIRONMENTAL PROTECTION AGENCY

Subject: View of site from the south-bound lane of Cobb Parkway looking north. At left center is burnt trailer and further to North, tractor-truck. Cobb County Fire trucks at distance in far left center.

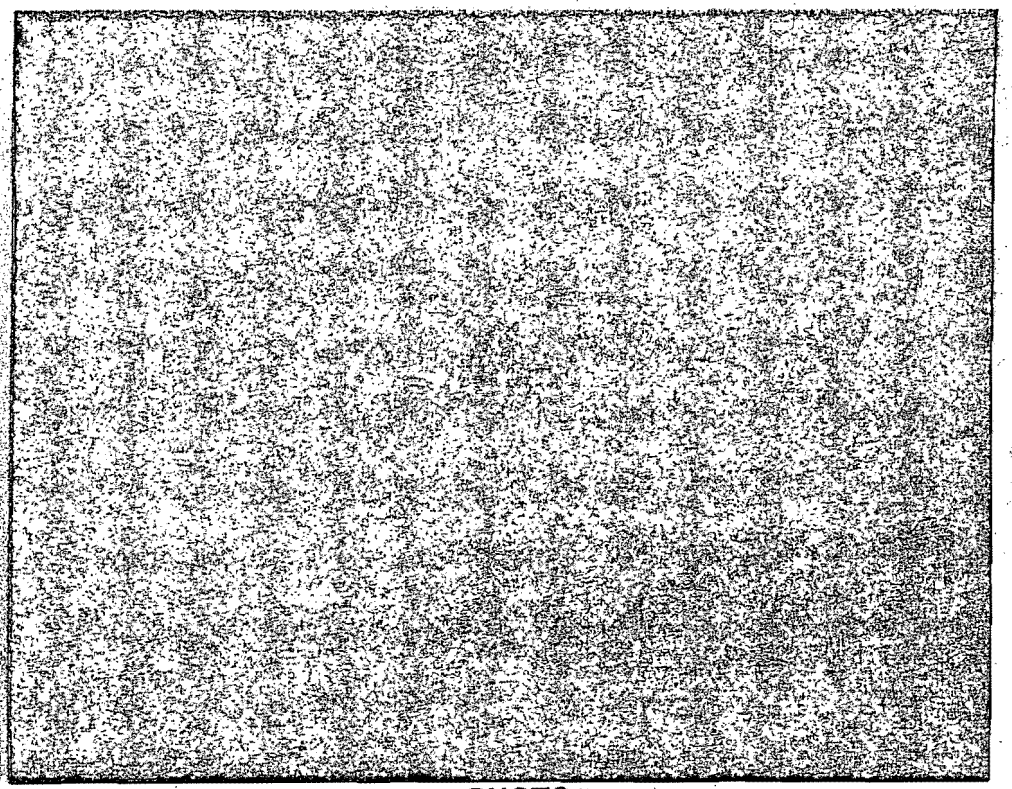
Location: Thompson-Hayward Co. Sodium Chlorite Spill and Removal, Cobb Parkway, Kennesaw, Georgia

Date: 03 March 1988 **Time:** 1318 hours

Photographer: D. Wingerd **Witness:** N. Jessup

Film: 135 **ASA:** 100 **Location of Negative:**

TDD#: 04-8803-05-1514 TAT Office



PHOTO# 2

OFFICIAL PHOTOGRAPH

ENVIRONMENTAL PROTECTION AGENCY

Subject: OSC Jessup receives briefing from assistant fire Chief H.K. Nixon. Behind is command post established by Cobb County Fire/Hazardous Material Department.

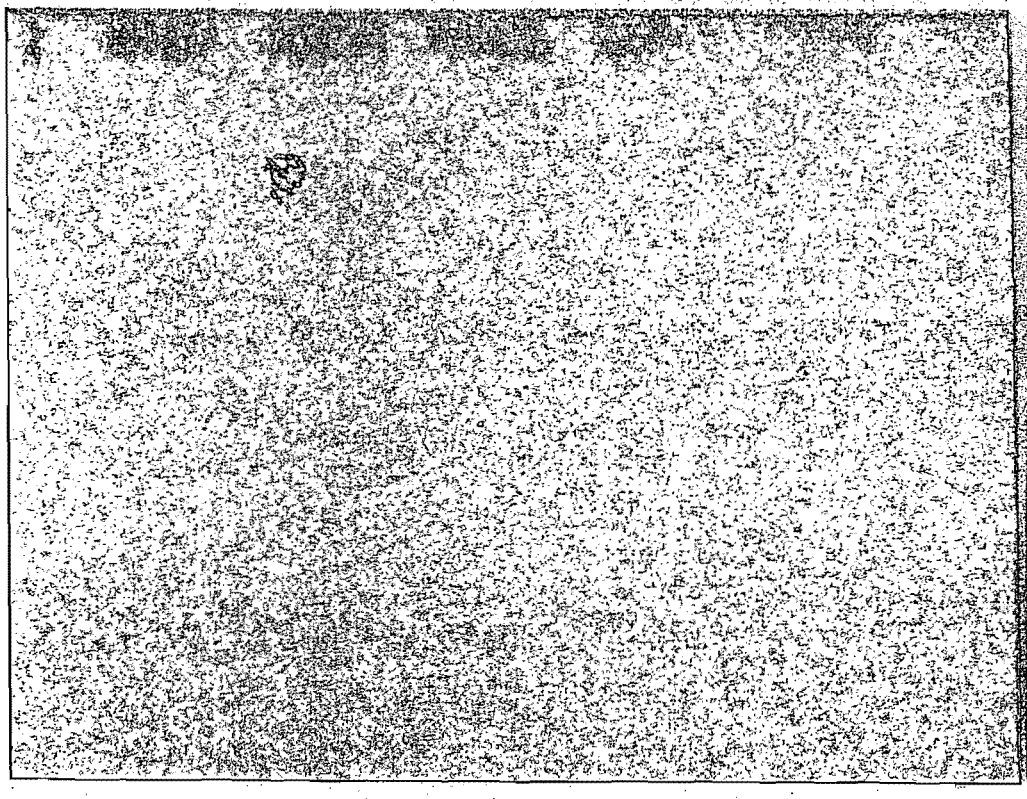
Location: Thompson-Hayward Co. Sodium Chlorite Spill and Removal, Cobb Parkway, Kennesaw, Georgia

Date: 03 March 1988 **Time:** 1315 hours

Photographer: D. Wingerd **Witness:** N. Jessup

Film: 135 **ASA:** 100 **Location of Negative:**

TDD#: 04-8803-05-1514 TAT Office



PHOTO# 16
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: Some of the original packaging drums which had contained sodium chlorite.

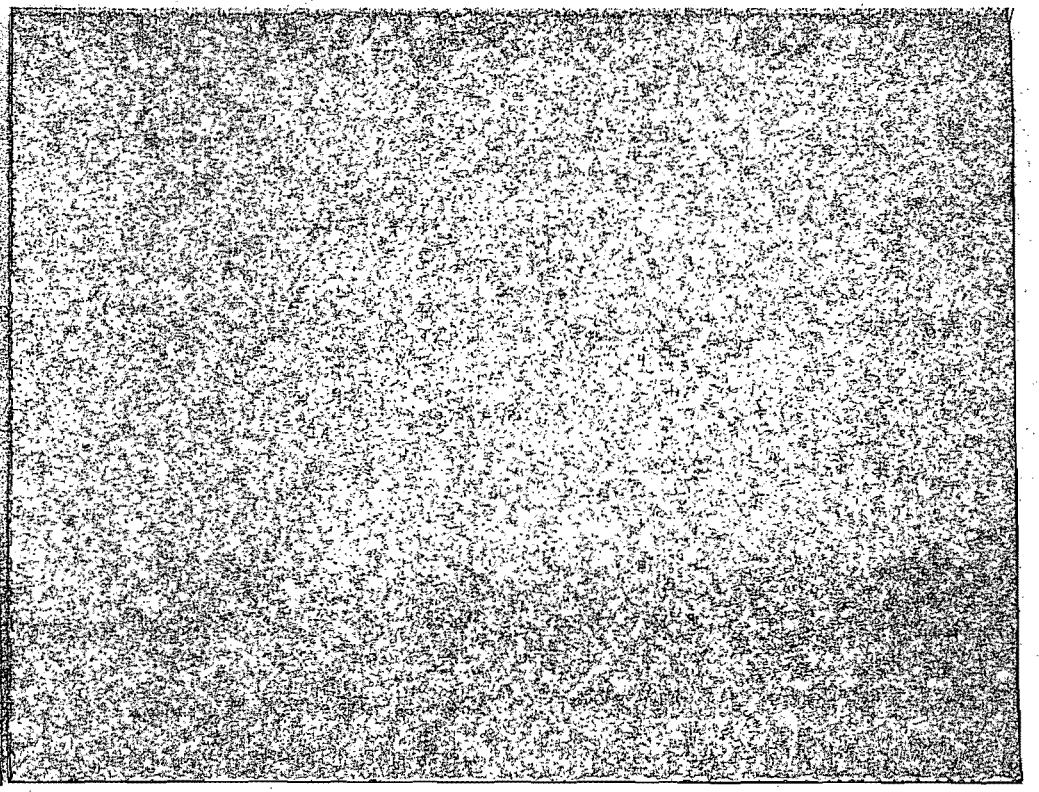
Location: Thompson-Hayward Co. Sodium Chlorite Spill and Removal, Cobb Parkway, Kennesaw, Georgia

Date: 03 March 1988 **Time:** 1930 hours

Photographer: D. Wingerd **Witness:** N. Jessup

Film: 135 **ASA:** 100 **Location of Negative:**

TDD#: 04-8803-05-1514 TAT Office



PHOTO# 17
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: Emergency Response Clean-up Crew crushing the drums.

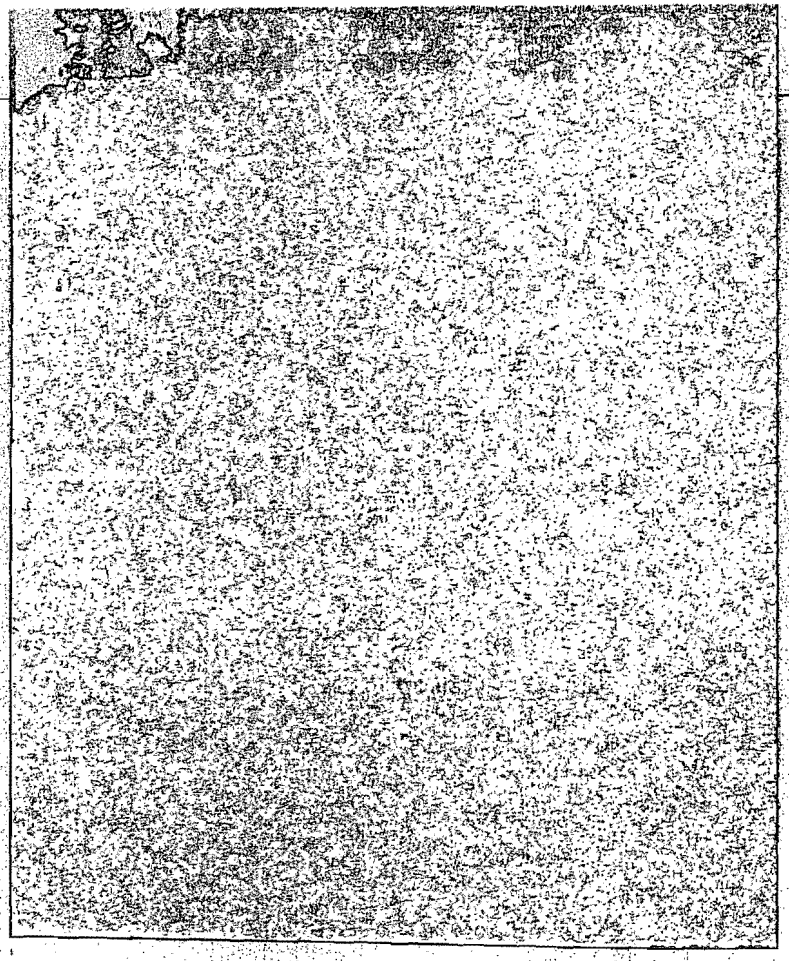
Location: Thompson-Hayward Co. Sodium Chlorite Spill and Removal, Cobb Parkway, Kennesaw, Georgia

Date: 03 March 1988 **Time:** 2106 hours

Photographer: D. Wingerd **Witness:** N. Jessup

Film: 135 **ASA:** 100 **Location of Negative:**

TDD#: 04-8803-05-1514 TAT Office



PHOTO# 14
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: View looking north diked drainage ditch containing effluent resulting from fighting the fire.

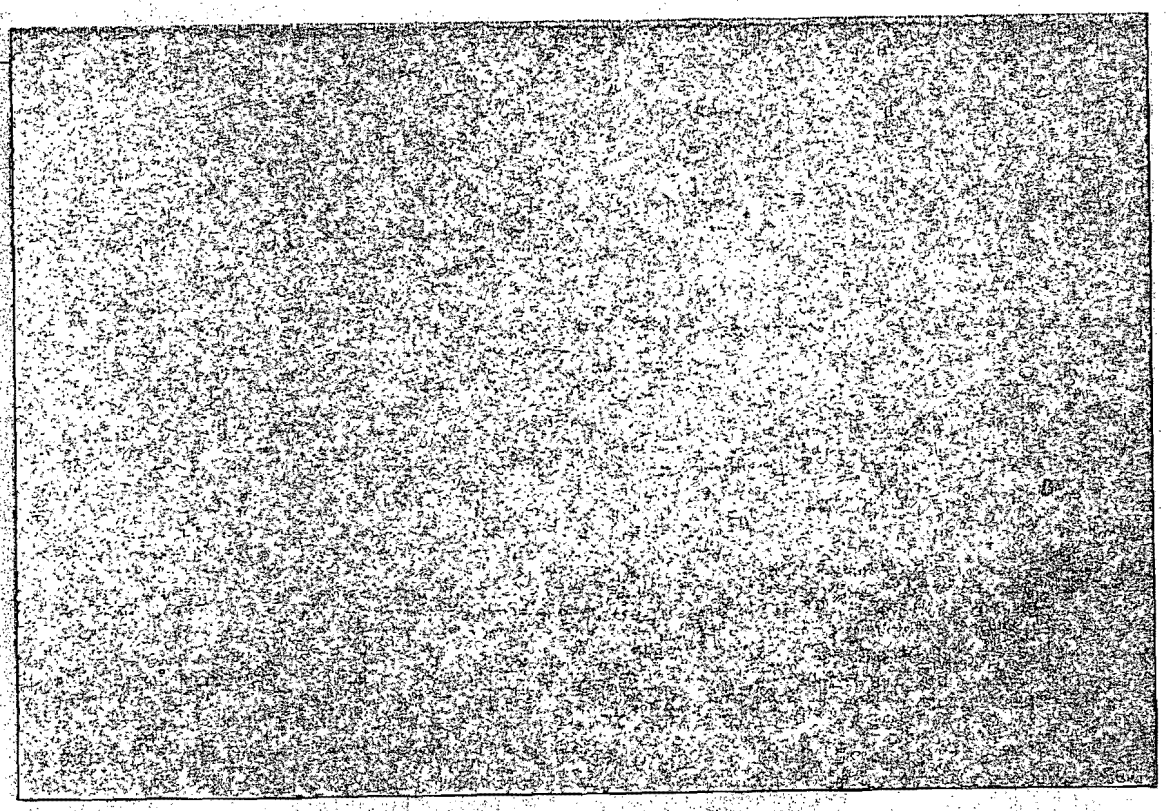
Location: Thompson-Hayward Co. Sodium Chlorite Spill and Removal, Cobb Parkway, Kennesaw, Georgia

Date: 03 March 1988 Time: 1606 hours

Photographer: D. Wingerd Witness: N. Jessup

Film: 135 ASA: 100 Location of Negative:

TDD#: 04-8803-05-1514 TAT Office



PHOTO# 15
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: Northern end of drainage ditch containing effluent.

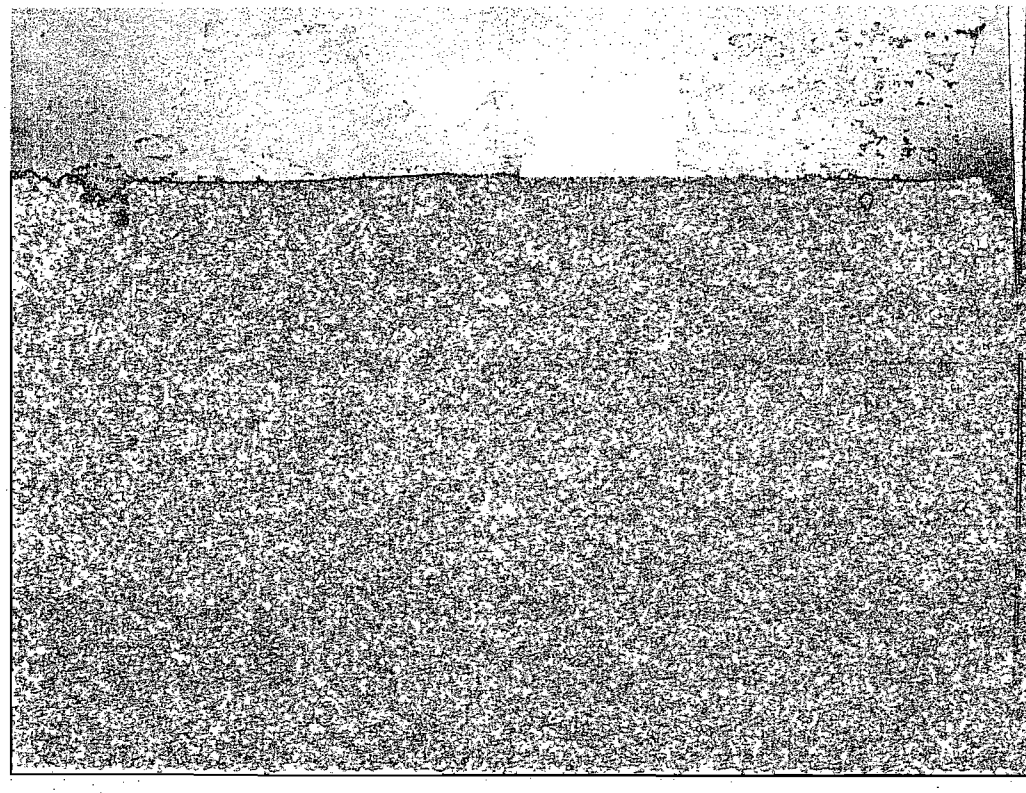
Location: Thompson-Hayward Co. Sodium Chlorite Spill and Removal, Cobb Parkway, Kennesaw, Georgia

Date: 03 March 1988 Time: 1606 hours

Photographer: D. Wingerd Witness: N. Jessup

Film: 135 ASA: 100 Location of Negative:

TDD#: 04-8803-05-1514 TAT Office



PHOTO# 12
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: View looking west at trailer. Note burnt and deflated tires on rear side wheels.

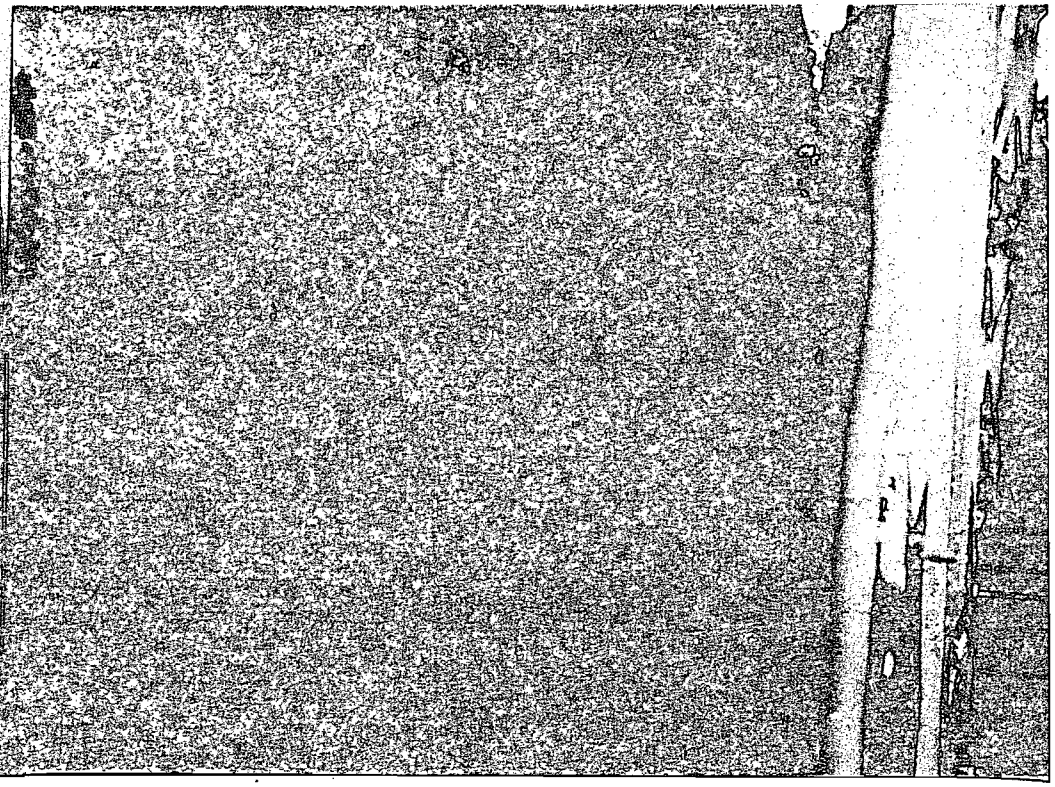
Location: Thompson-Hayward Co. Sodium Chlorite Spill and Removal, Cobb Parkway, Kennesaw, Georgia

Date: 03 March 1988 **Time:** 1605 hours

Photographer: D. Wingerd **Witness:** N. Jessup

Film: 135 **ASA:** 100 **Location of Negative:**

TDD#: 04-8803-05-1514 TAT Office



PHOTO# 13
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: View of the front of trailer interior. Sodium chlorire drums scattered about.

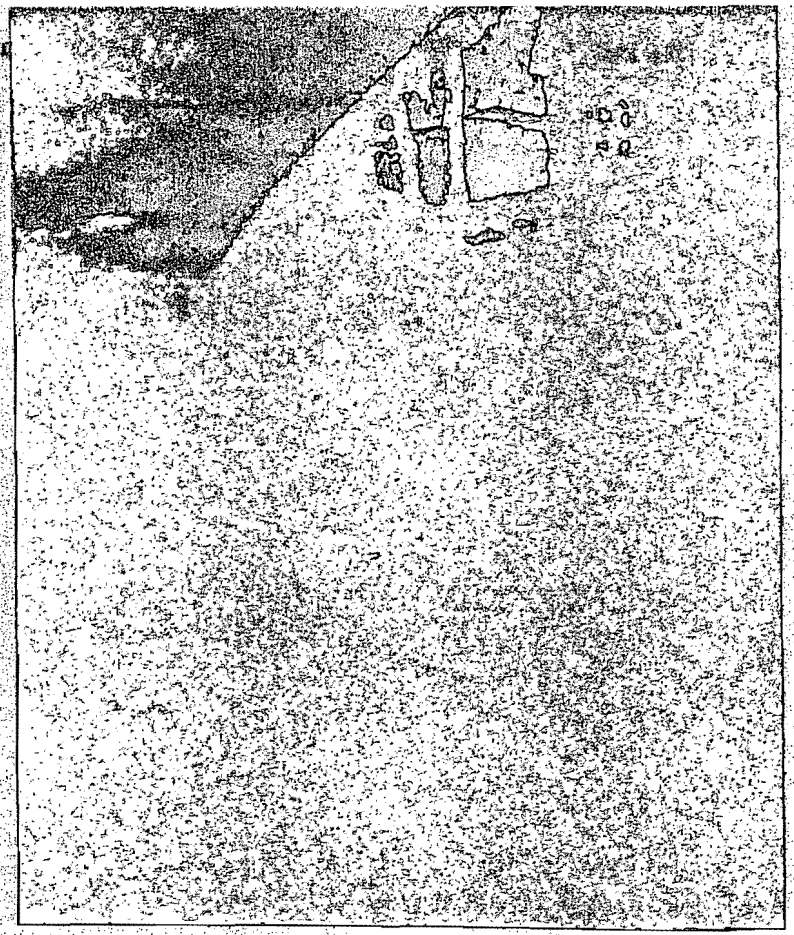
Location: Thompson-Hayward Co. Sodium Chlorite Spill and Removal, Cobb Parkway, Kennesaw, Georgia

Date: 03 March 1988 **Time:** 1607 hours

Photographer: D. Wingerd **Witness:** N. Jessup

Film: 135 **ASA:** 100 **Location of Negative:**

TDD#: 04-8803-05-1514 TAT Office



PHOTO# 10
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: View looking southeast at burnt trailer.

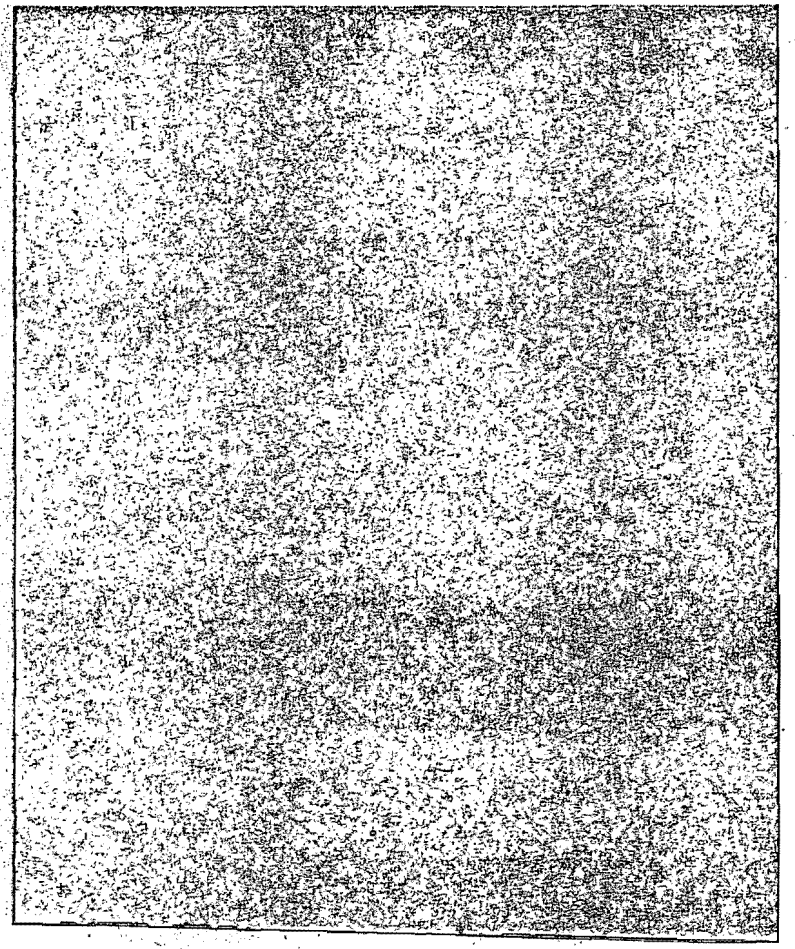
Location: Thompson-Hayward Co. Sodium Chlorite Spill and Removal, Cobb Parkway, Kennesaw, Georgia

Date: 03 March 1988 **Time:** 1604 hours

Photographer: D. Wingerd **Witness:** N. Jessup

Film: 135 **ASA:** 100 **Location of Negative:**

TDD#: 04-8803-05-1514 TAT Office



PHOTO# 11
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: View looking southwest of burnt trailer.

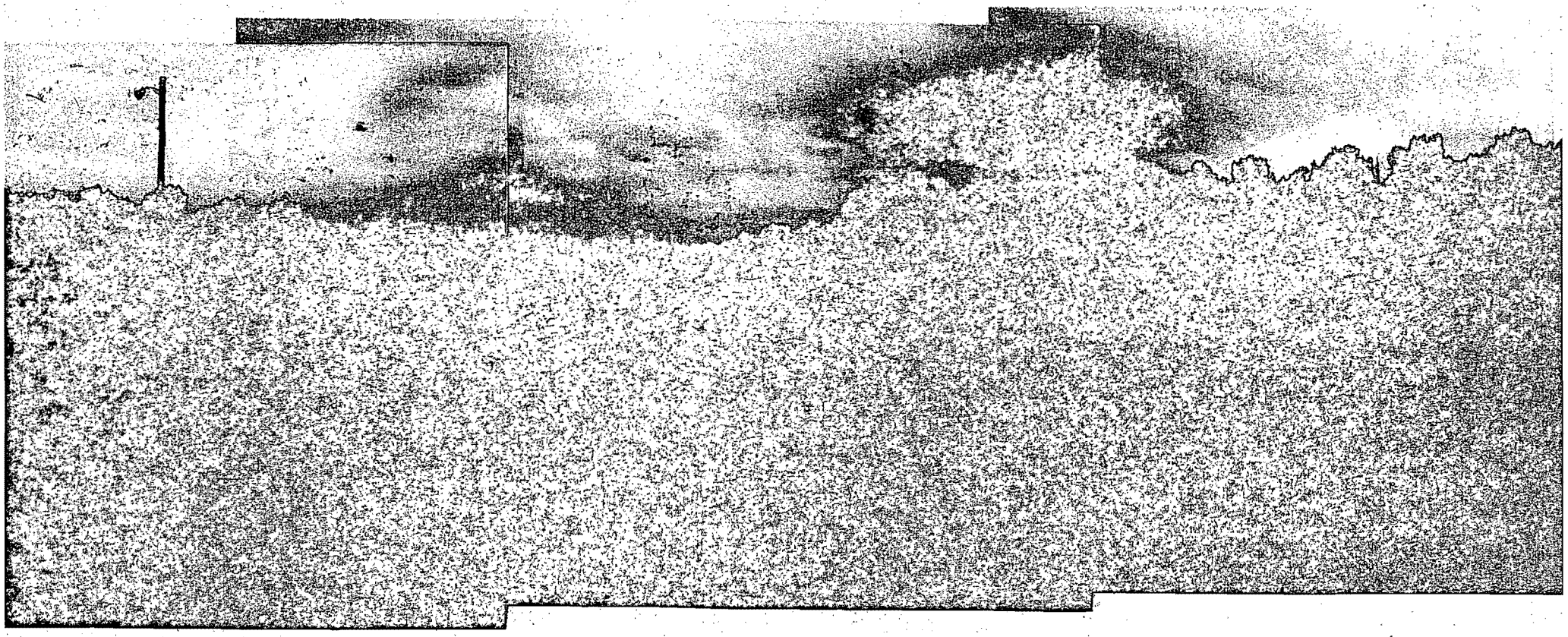
Location: Thompson-Hayward Co. Sodium Chlorite Spill and Removal, Cobb Parkway, Kennesaw, Georgia

Date: 03 March 1988 **Time:** 1604 hours

Photographer: D. Wingerd **Witness:** N. Jessup

Film: 135 **ASA:** 100 **Location of Negative:**

TDD#: 04-8803-05-1514 TAT Office



PHOTO# 7, 8, 9
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: Pan view of site looking from south to west (left to right). Winkenhofer Furneral home at left.

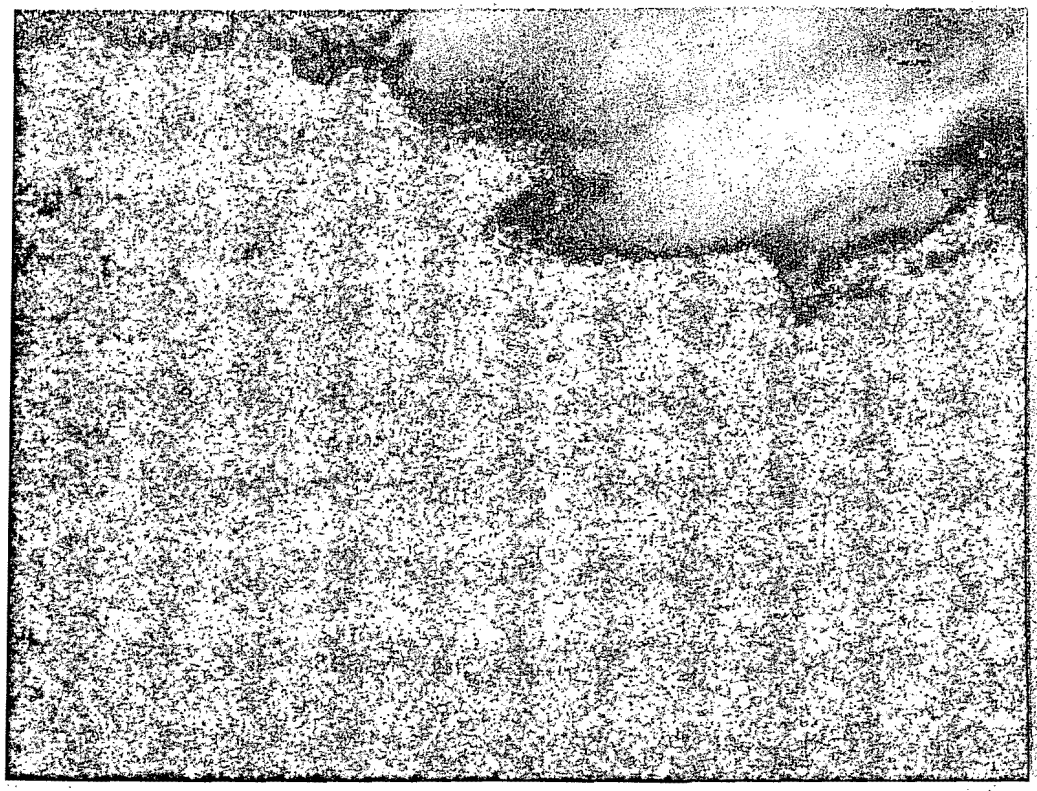
Location: Thompson-Hayward Co. Sodium Chlorite Spill and Removal, Cobb Parkway, Kennesaw, Georgia

Date: 03 March 1988 **Time:** 1352-1353 hours

Photographer: D. Wingerd **Witness:** N. Jessup

Film: 135 **ASA:** 100 **Location of Negative:** TAT Office

TDD#: 04-8803-05-1514



PHOTO# 5
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: View looking past at truck trailer

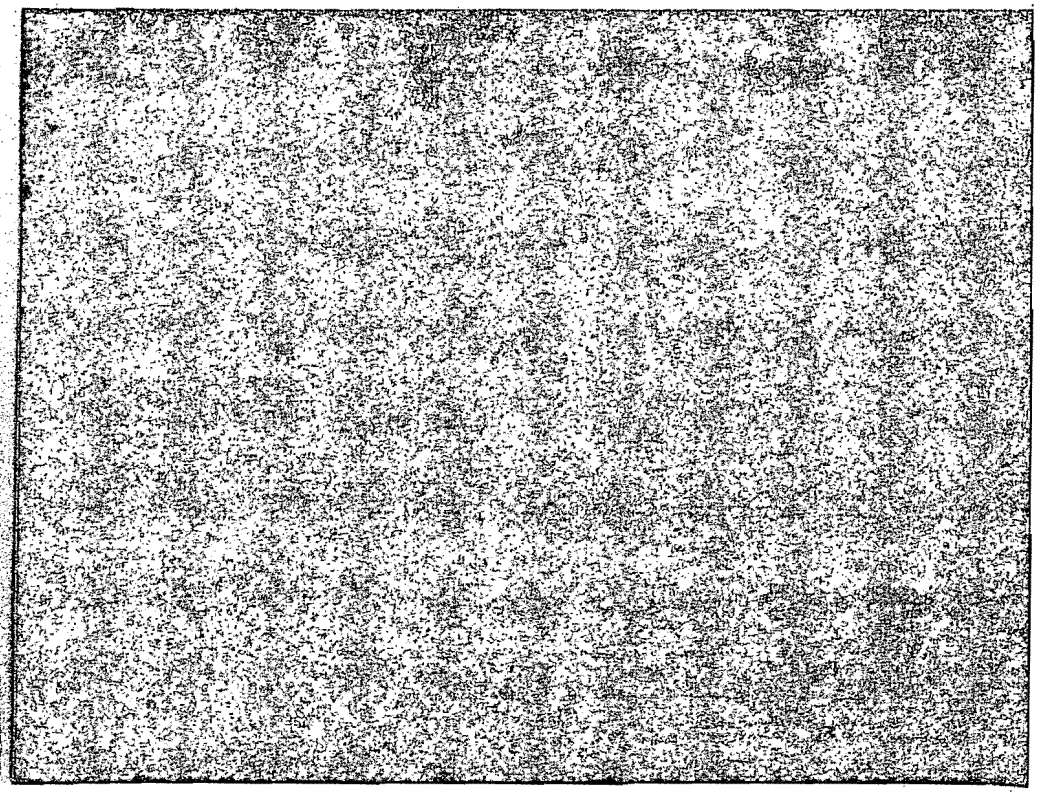
Location: Thompson-Hayward Co. Sodium Chlorite Spill and Removal, Cobb Parkway, Kennesaw, Georgia

Date: 03 March 1988 **Time:** 1508 hours

Photographer: D. Wingard **Witness:** N. Jessup

Film: 135 **ASA:** 100 **Location of Negative:**

TDD#: 04-8803-03-1514 TAT Office



PHOTO# 6
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: View looking southeast of front of trailer. Note trailer roof burnt away.

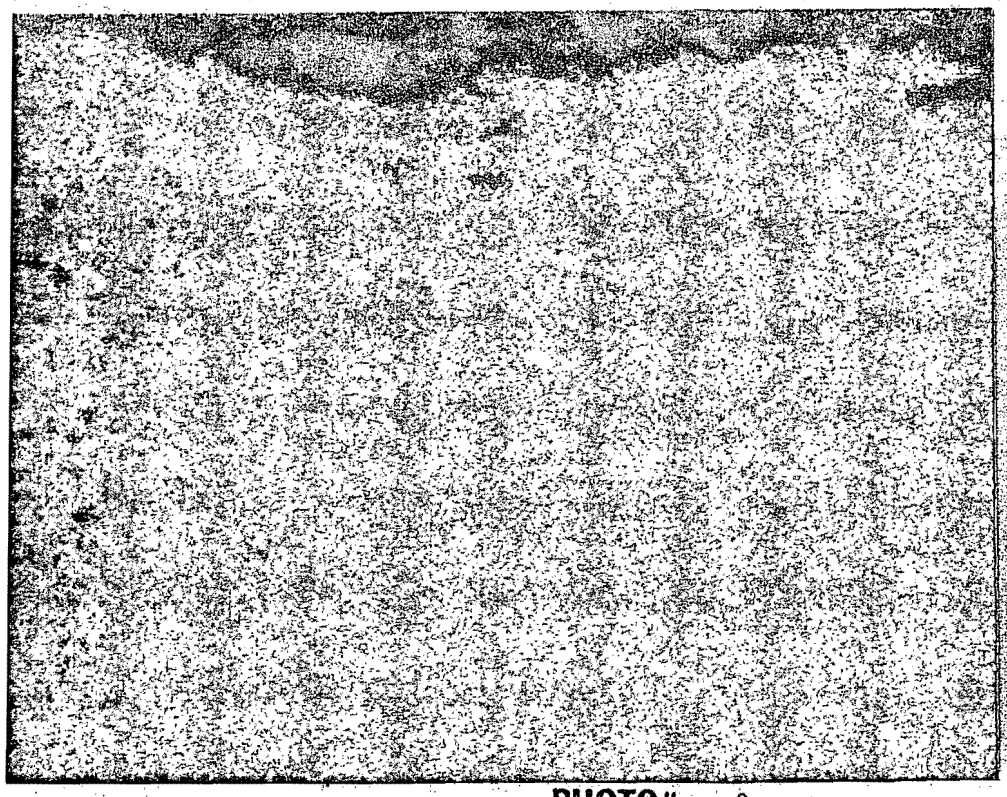
Location: Thompson-Hayward Co. Sodium Chlorite Spill and Removal, Cobb Parkway, Kennesaw, Georgia

Date: 03 March 1988 **Time:** 1604 hours

Photographer: D. Wingard **Witness:** N. Jessup

Film: 135 **ASA:** 100 **Location of Negative:**

TDD#: 04-8803-03-1514 TAT Office



PHOTO# 3
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: Photo looking south to from command post to burnt truck.

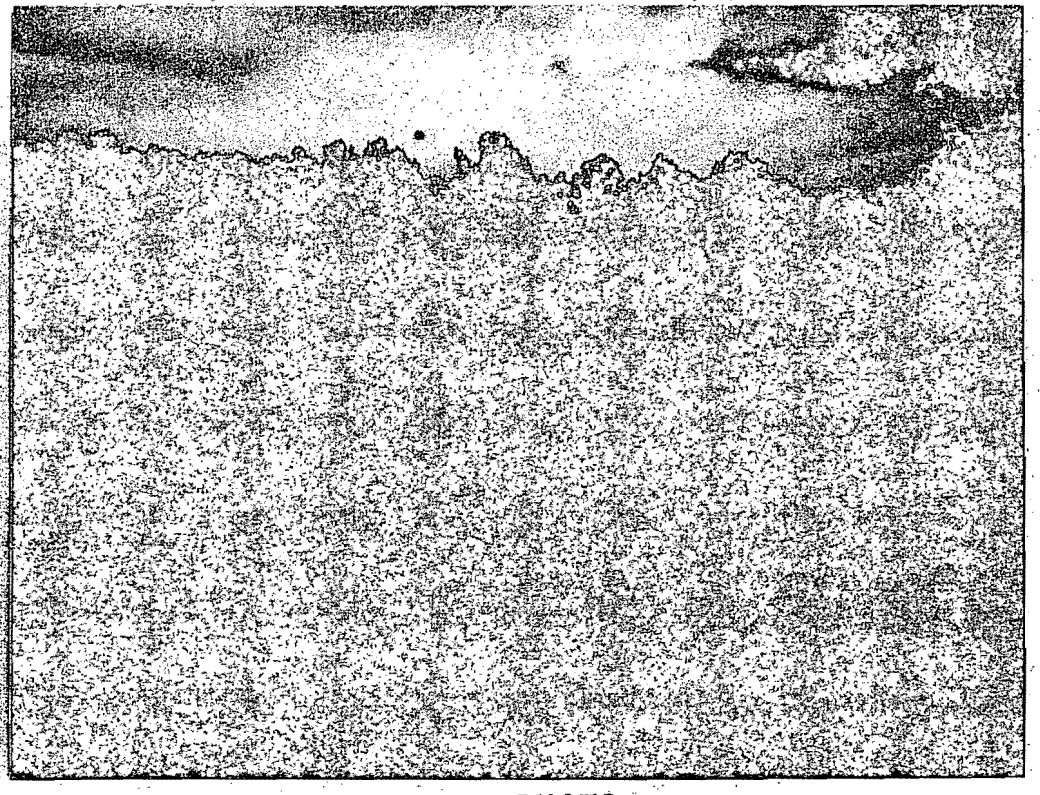
Location: Thompson-Hayward Co. Sodium Chlorite Spill and Removal, Cobb Parkway, Kennesaw, Georgia

Date: 03 March 1988 **Time:** 1315 hours

Photographer: D. Wingerd **Witness:** N. Jessup

Film: 135 **ASA:** 100 **Location of Negative:**

TDD#: 04-8803-05-1514 TAT Office



PHOTO# 4
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: Burnt truck trailer which contained sodium chlorite.

Location: Thompson-Hayward Co. Sodium Chlorite Spill and Removal, Cobb Parkway, Kennesaw, Georgia

Date: 03 March 1988 **Time:** 1507 hours

Photographer: D. Wingerd **Witness:** N. Jessup

Film: 135 **ASA:** 100 **Location of Negative:**

TDD#: 04-8803-05-1514 TAT Office

ATTACHMENT B

Log Notes

Cameo (206) 526-6317

Thompson-Hayward Sodium Chlorite
Spill, Kennesaw, GA

Date: 03 March 1988

TDD #8803-05 PCS #1514

Location: Go north 2 - 3 miles
north of I-285 on Cobb Pkwy.
In northbound lane

$NaClO_2$ UN 1496
Sodium Chlorite
Wednesday 03 March 88

1305 (w) OSC Jessup on scene (w) WARD
Thompson Hay ~~wood~~ Chemical Co.
would call in Haztech if office
would like. Jack Booker calling
office, Keith Harris was driving,
truck was smoking, though
it was only NaCl. Marked as
oxidizer, but presently placards
have shifted to flammable. Started
at North Chemical in Marietta.
NaCl in 100 lb drums ~15 gal
13:40 Norm Spafford w/ Cobb County F.D.
approaches Jessup. Cobb still on lead.
Jessup states that material ~~is~~ (w)
leaked that has been contained
may need to be collected. Granulated
salt was the contents 20 quantity
Proceeding to Kennesaw Water Treatment
plant. Talking w/ Asst Chief H.K.
Nixon.
1345 Over hit reporter; wind
blown.
1347 Booker still on phone, asks
OH. Material location/name.
Cobb County F.D. Gisfon scene.
13:48 off phone, Booker states that
his company will get OH Material
on-scene.
(Wycoff Water Plant) F.D. pumped ~500
gallons of H_2O to extinguish.
1405 Cobb Co. F.D. has Deere Dozer
on-site in Turner Pond lot

Conditions: Cloudy, overcast
Windy varying direction. Warm
<70° F. @ 14:05 looking as
rain could be possible.
Four people - possibly six evacuated
from Winkenhofer Pine Ridge
Funeral Home
Booker is plant manager, Powder
Springs GA
Distributor chemicals
Three were exposed @ Winkenhofer
Funeral Home
Incident occurred @ 11:30, one
firefighter to hospital for inhalation
14:20 Wrecker service wants to know
when to move tractor.
1430 OHM on-site
Cannot tell if any drums still intact.
Driver states doors had blown off.
1440 Call to ATAL Barry @ office
W/ water Sodium chlorite - shock sensitive,
sensitive when heated.

produces Oxides of chlorine
soluble in H_2O

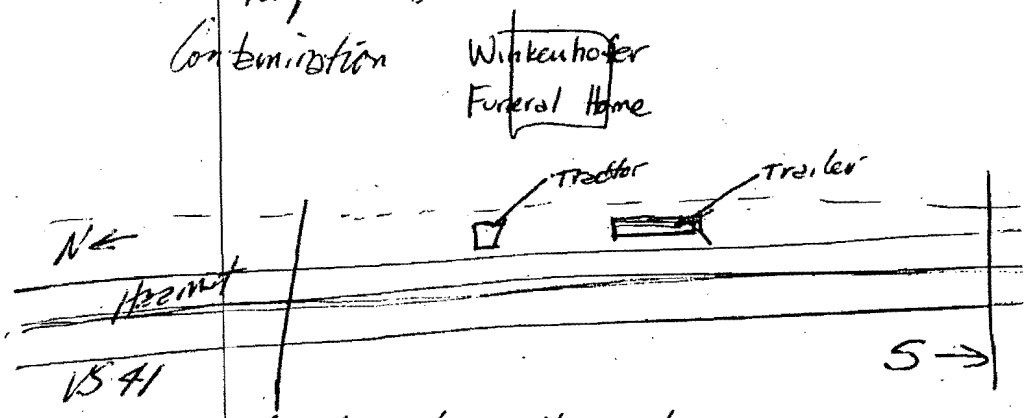
Chlorine Dioxide
Explosion hazard. Asphault roadway
Apply water @ distance

Not
corrosive @ base - pH.
Hypochlorides

5-6 g/kg oral

free oxygen on decomp
In or around - strong protection for
skin
Temperatures -

Contamination



16:30 Backhoe from OH onsite
Three P.O. & one fireman exposed
to fumes, in Kennestone Hospital
D.O.T facility down road two
miles for temp storage. F.D. to
leave two engines.
1700 Waiting on OHM Response Truck. Look
over site, downstream of truck. Ose
Jessup tests effluent for pH, = ten.
1710 Jeff Cloot-nik (sp?) on-site
1730 Paul Sawyer w/ OH excavating discharge
area
17:35 TAT offsite to make phone call. Site
status - waiting on Response Truck
17:50 TAT onsite. OHM Response trucks
onsite upon arrival, been here
~10 minutes

1800 OHM unloading drums for soil & truck.
1815 OHM crew making entry for truck access. Not having luck w/ gate.
18:20 OHM in truck
18:45 OHM continues in truck trailer, shovelling $NaClO_2$ into overpacks & overpacking the packaging drums. Also continue to backhoe & shovel contaminated drums into overpacks
OSC Jessup beeped by OSC Stroud @ 1846
1850 Jessup departs site to respond to beeper.
19:30 Unload original packaging drums from rear of trailer.
19:40 Unload overpack drums after having ripped side of trailer open for access
19:45 Begins to sprinkle (rain)
Road access street to "Mobiland" is Hickory Trail
2000 OHM continues to shovel dirt contaminated by run off from fire fighting. The Thomson Hayward Co management onsite. Bob Glassen consults w/ them.
Transport truck here

Three (3) 55 gal drums of soil collected. Jessup instructs that ERCS is to be sure to collect sample from ditch.
Thompson-Hayward
Raining fairly heavy
20:30 - OH says they are done unloading. Begin to move trailer forward so that they can clean up residue beneath trailer
20:45 - After having attempted to move ~~tractor~~ w/ backhoe, OH (w) trailer
waiting on wrecker. Asst Fire Chief Nixon suggests using his 4W-D Response vehicle for forward momentum of moving trailer
Waiting for decision.
Wait for Wreckers
2100 - Wreckers on site, prepare to move trailer. Wrecker operator says that wheels/tires must be replaced. OHM compacting drums w/ backhoe. Also Bob Glassen gives two sample jars to TAT from area where dirt was excavated. TAT did not witness sampling.
2108 Winterhofer owner of funeral home, returns to site.

2112 Demob OHM tractor
trailer. Move the burnt
trailer to clean up underneath.
Wrecker is Mill Irons Inc @
~~972~~ @ 761-8803
~~@~~ 2140 - OHM shovelling the
debris on the ground.
Drum Count: 3 soil
4 w/ trailer contents
from shovelling
2 w/ crushed drums
2 w/ road shovelling
scraping recovery
2200 Burnt trailer & malfunction tractor
offsite. OHM moving overpacked drums.

2245 Fire Department leaves
all ten drums loaded.
Completing Haz waste Manifests
~~and~~ @ MHC Enterprises taking
the wastes. Completing Chain-of-
Custody for two soil samples.
2300 Prepare to depart site
Summary for US March - Hayward Chemical
Sodium Chlorite Fire & Spill Cobb Parkway,
Cobb County (Kennesaw) GA.
Ned Jessup to get TDD over next Monday.
David J Wyand

ATTACHMENT C

Table of Witnesses

Table of Witnesses

Ned Jessup, OSC
U. S. Environmental Protection Agency, Region IV
345 Courtland Street, N. E.
Atlanta, Georgia 30365
(404) 347-3931

David J. Wingerd, TAT
Roy F. Weston, Inc./SPER Division
100 Atlanta Technology Center, Suite 120
1575 Northside Drive, N. W.
Atlanta, Georgia 30318
(404) 352-4147

Bob Glassen
Paul Sawyer
O H Materials Corp.
1000 Holcomb Woods Pkwy., Suite 112
Roswell, Georgia 30076
(404) 641-1066

Jack W. Booker, Plant Manager
Mike Stringer, Branch Manager
Thompson-Hayward Chemical Company
2675 Cumberland Pkwy., suite 280
Atlanta, Georgia 30339
(404) 435-6676

H. K. Nixon, Assistant Fire Chief
Cobb County Fire Department
1596 County Farm Road
Marietta, Georgia 30060-4008
(404) 427-8159

Michael J. Hodgson
MKC Enterprises, Inc.
Environmental Specialists
5856 New Peachtree Road
Atlanta, Georgia 30362
(404) 451-1100 (emergency response)
(404) 457-1341 (administrative)

William "Wink" Winkenhofer
Winkenhofer Pine Ridge Funeral Home
2950 Cobb Parkway N.W.
Kennesaw, Georgia 30144
(404) 422-7299

ATTACHMENT D

Site Safety Plan

WESTON SPER DIVISION
HAZARDOUS WASTE SITE INVESTIGATION AND EMERGENCY RESPONSE
HEALTH AND SAFETY PLAN

U.S. EPA CONTACT: Ned Jessup
Date of Inspection: 03 March 1985 Time: 1300 TDD No. 8803-05
Original Safety Plan: Yes ✓ No ✓ PCS No. 1515
Admendment/Modification No. #1

SITE SAFETY COORDINATOR: David J. Wingerd

Site Name: Thompson-Hayward Sodium Chlorite Spill, Cobb Pkwy, Kennesaw GA

Site Address: Street No. Cobb Parkway - Highway 41
City Kennesaw
County Cobb Co.
State GA Zip Code

Site Contact: H.K. Nixon Phone (404) 427 8157

Directions to Site: (Attach Map) Exit I-285 @ 1st exit west of I-75 Travel north 8.2 miles Site on Northbound lane in front of Winkenhofer Funeral Home.

SITE HISTORY: Emergency Response/Removal. Tractor-trailer carrying sodium chloride spilled. (Sodium Chlorite - NA Cl O2) caught fire, burnt trailer severely. Four people have been ~~evacuated~~ taken to hospital, nearby ~~people~~ businesses evacuated.

INCIDENT DESCRIPTION

TYPE: A) Spill ✓ Air Release ___ Fire ✓ (extinguished @ Time of Arrival.) HW Site ___ Other ___
B) Assessment ___ Sampling ___ Emergency Response ✓
Clean-up/Removal ✓ Other (specify) ___
C) Urban/Residential ✓ Commercial ✓ Industrial ___
Rural ___ Remote ___

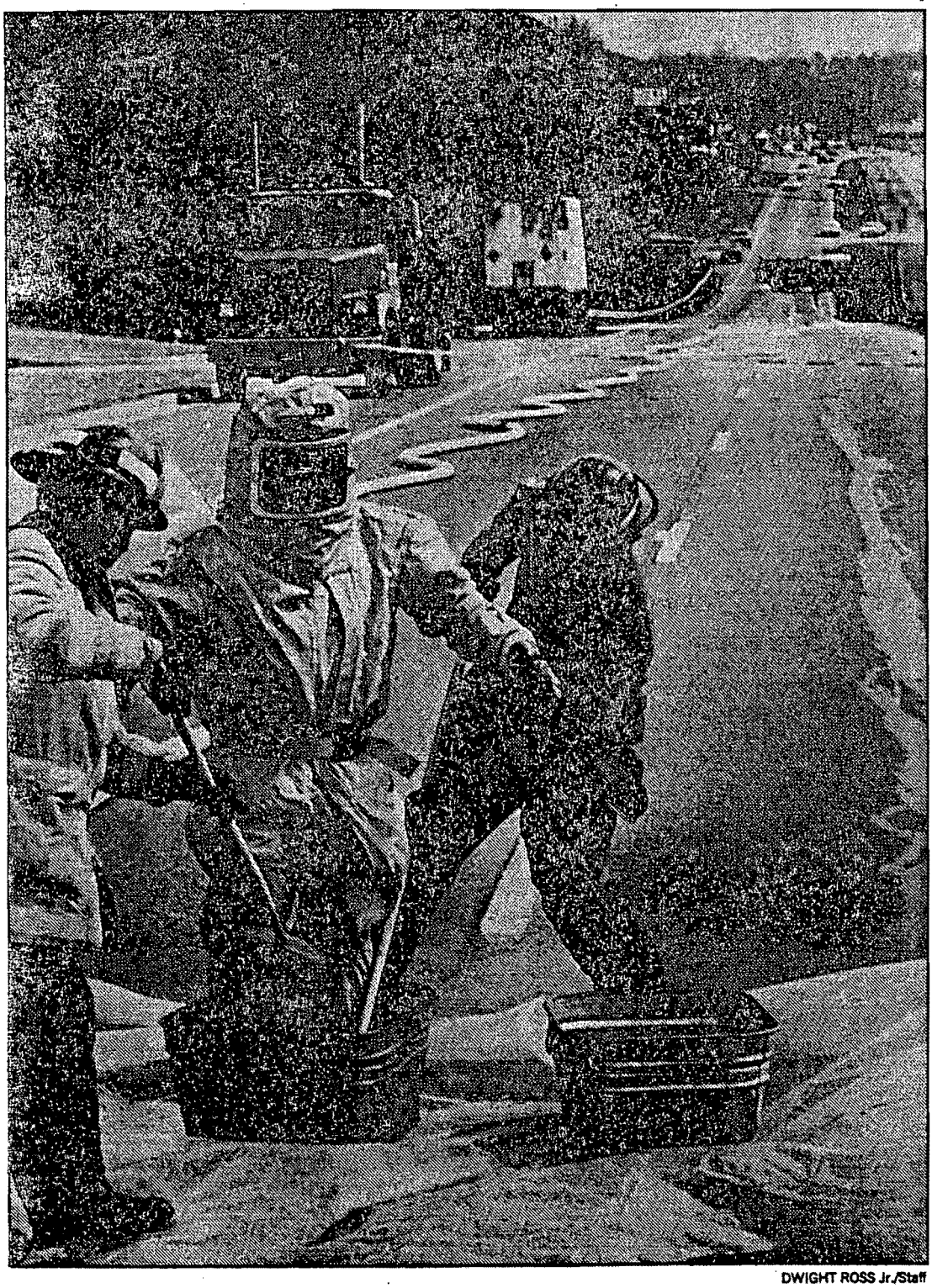
PERSONNEL PHYSICAL SAFETY HAZARDS:

Heat ___ Cold ___ Noise ___ Underground Utilities ___
Overhead Utilities ___ Heavy Equipment ___ Slip, Trip, Fall ___
Confined Spaces ___ Pressurized Airlines ___ Explosive ___
Ladders ___ Scaffolds ___ Unguarded Openings-Wall, Floor ___
Liquids in Open Containers, Ponds/Lagoons ___
Other Highway Traffic, gulley, fire hoses
Wet grass & mud

ATTACHMENT E

Media Coverage

THE ATLANTA CONSTITUTION Friday, March 4, 1988



DWIGHT ROSS Jr./Staff

Truck's cargo explodes on Cobb Parkway

Containers of sodium chlorite on a tractor-trailer going north on Cobb Parkway Thursday morning exploded, spreading noxious fumes but causing no injuries. Lt. Doyle Bramlett of the Cobb County Fire Department's Hazardous Materials Team gets his protective suit washed down after helping extinguish a fire in the rig, which had been detached from the cab. Firefighters Joel Slack (left) and Sam Impellizzeri assist Bramlett.

Cobb working on code of ethics

By Katie Long
Staff Writer

A written code of ethics for the Cobb County Commission, recommended by a 1981 grand jury and promised by a successful commission candidate in 1986, is still at least six months away from approval.

Such a code might have prevented questions that arose in February when Commission Chairman Earl Smith, on his own motion, voted to approve the route of a major road that could significantly raise the value of an adjacent 9.9-acre tract of land owned by his daughter.

A code of ethics "certainly couldn't hurt," said Commissioner Thea Powell. "It might clarify some points that might be fuzzy, such as if land is in a family member's name."

Codes of ethics in neighboring jurisdictions give differing guidance as to what action Smith should have taken.

Under Fulton County's code, adopted in October 1985, a commissioner should abstain when an immediate family member has an interest that may be affected by the vote.

The code adopted by the DeKalb County Commission in September 1985 does not address the issue of voting when a family member is involved. Billie Izard, administrator of the commission office, said commissioners on several occasions had abstained from votes involving the interests of family members.

Smith said he believes a code of ethics for Cobb's five-member Board of Commissioners would be appropriate.

"A code of ethics would have demonstrated the action I took was proper," Smith said Thursday, defending his Feb. 9 vote on the West Cobb Loop. "It wouldn't have changed the way I handled myself.

Cost Center IV	ACKNOWLEDGEMENT OF COMPLETION PERFORMANCE OBSERVATION REPORT: PART I	
Contract No: 68-01-7367	Contractor: Roy F. Weston, Inc.	TDD No. 04-8705-10

Reporting Element: IV	Date(s) of Reported Observation June 23, 1987	Approx. No. of Hours 107	☐ Format Report ☐ Letter Report ☐ Formal Briefing ☒ Other (Specify) EE/CA

Performance Evaluation Category: 51-Engineering Evaluation/Cost Analysis

Description of Contractor Observation By: NEAL B STRICKLAND ATATL

Name/Title Neal B. Strickland

TAT member Johnny S. Udo was tasked by OSC Ned Jessup to prepare Engineering Evaluation/Cost Analysis for Aberdeen Pesticides Site, Aberdeen, North Carolina. The TAT developed and identified Cost-effective removal action alternatives for the clean-up of hazardous pesticide wastes. The TAT worked diligently to encourage timely completion and maintained frequent contact with the OSC to ensure that the report progress was on-course.

Rating: 5,4,3,2,1 4	Signature of Contractor: Neal B. Strickland ATATL	Date: 10 July 87

Description of EPA Observation By: _____

Name/Title

Rating: 5,4,3,2,1	Signature of EPA:	Date:
Signature of Regional POR Coordinator:		Date:

HQ Coordinator's Evaluation By: _____

Name/Title

Rating: 5,4,3,2,1	Signature of HQ:	Date:

DPO Action: ☐ Accepted ☐ Accepted with Exceptions ☐ Rejected

Cost To Date: -0- Date: 7/10/87

Total Cost To Closure: _____

Actual Total Hours: 107

I certify that the attached materials meet and comply with all requirements of the subject TDD.

Neal B. Strickland ATATL — TATL Signature (Interim)

_____ — TATL Signature (Final)

Date: 10 July 87 Interim

_____ Final

I acknowledge that I have been provided with the materials and services specified in the subject TDD within its original or revised time frames.

_____ — DPO Signature (Interim)

_____ — DPO Signature (Final)

Date: _____ Interim

_____ Final

Sheet 1 White - TATL Copy (FINAL)
Sheet 2 Green - DPO Copy (FINAL)
Sheet 3 Canary - ZPMO Copy (FINAL)
Sheet 4 Pink - Project Officer Copy (FINAL)

Xerox 1 - PO (POR)
Xerox 2 - ZPM (POR)
Xerox 3 - DPO (POR)
Xerox 4 - DPO (INTERIM)

Interim or as required by PEB schedule.

JOE D. TANNER
Commissioner

J. LEONARD LEDBETTER
Division Director

Department of Natural Resources

ENVIRONMENTAL PROTECTION DIVISION
270 WASHINGTON STREET, S.W.
ATLANTA, GEORGIA 30334

RECEIVED
JAN 27 1984
MUNICIPAL SOLID WASTE

January 20, 1984

Dear Sir:

The Environmental Protection Division has been given the responsibility for inventorying all hazardous waste sites in the state. Of primary interest in our inventory are past waste handling practices, especially prior to November 19, 1980 (Effective date of the Resource Conservation and Recovery Act).

We have developed the enclosed form ("Waste Management Data Sheet") in an effort to gain the minimum amount of information necessary to decide if a facility needs further investigation. We believe this form will save time and needless interruption of your scheduled workday which telephone calls often cause. Please complete the enclosed form and return it to:

Remedial Actions Unit
Environmental Protection Division
3420 Norman Berry Drive
7th Floor - Scott Hudgens Bldg.
Hapeville, Georgia 30354

Upon receipt of your completed form an evaluation will be made and if necessary, you will be contacted. Please reply by February 15, 1984.

If you have any questions, please contact me at 404 656-7404. I appreciate your cooperation.

Sincerely,

Joseph T. Surowiec
Unit Coordinator
Remedial Actions Unit

JTS:cpl

Attachment

AN AFFIRMATIVE ACTION/EQUAL EMPLOYMENT OPPORTUNITY EMPLOYER

DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

WASTE MANAGEMENT DATA SHEET

NAME AND LOCATION OF FACILITY

Thompson-Hayward Chemical Company
Florence Rd.
Powder Springs, Georgia 30073

PERSON TO CONTACT
(ENTER THE NAME, ADDRESS, TITLE AND BUSINESS TELEPHONE NUMBER OF THE PERSON TO CONTACT REGARDING INFORMATION SUBMITTED ON THIS FORM).

Mr. Jack Booker - Plant Supervisor
Thompson-Hayward Chemical Company
Florence Rd.
Powder Springs, Georgia 943-5384

DATES OF WASTE HANDLING
(ENTER THE YEARS THAT YOU ESTIMATE WASTE TREATMENT, STORAGE OR DISPOSAL BEGAN AND ENDED AT THE SITE. IF YOU SELECTED A FACILITY OFF-SITE PLEASE NOTE AND EXPLAIN IN "COMMENTS" SECTION.

None

GENERAL TYPE OF WASTE

1- ( ) ORGANICS
2- ( ) INORGANICS
3- ( ) SOLVENTS
4- ( ) PESTICIDES
5- ( ) HEAVY METALS
6- ( ) ACIDS
7- ( ) BASES
8- ( ) PCB's
9- ( ) MIXED MUNICIPAL WASTE
10- ( ) UNKNOWN
11- ( ) OTHER (SPECIFY)

WASTE QUANTITY (ESTIMATED)

None

HAS THERE EVER BEEN A SPILL OR DISCHARGE OF A HAZARDOUS SUBSTANCE FROM YOUR FACILITY? (BRIEFLY EXPLAIN THE NATURE OF THE RELEASE).

No

COMMENTS

(IF THERE IS ANY COMMENTS THAT YOU BELIEVE WOULD CLARIFY THE PAST WASTE HANDLING PRACTICES OF YOUR FACILITY OR OF FACILITIES YOU SELECTED TO HANDLE YOUR WASTE, PLEASE ELABORATE IN THE SPACE PROVIDED).

See Attached letters to and from US EPA.

SIGNATURE AND TITLE

Harold J. Vandiver	351-0654
NAME	TELEPHONE
1294 Logan Circle, N.W.	
STREET	
Atlanta, Georgia	30318
CITY / STATE	ZIP CODE
H J Vandiver	1/24/84
SIGNATURE	DATE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

JUN 1 1 1981

REF: 4E-CP

Mr. Harold Vandiver
Thompson-Hayward Chemical Co.
P. O. Box 20178, Station N
Atlanta, Georgia 30325

Dear Mr. Vandiver:

In response to your letter of June 4, 1981, your company, Thompson-Hayward Chemical, may retain their Environmental Protection Agency (EPA) hazardous waste identification number (GA0087515417) even though the facility is a non-handler of hazardous waste.

In the event of a spill your facility would be considered a generator of hazardous waste and subject to regulation under 40 C.F.R. Parts 261 and 262, Identification and Listing of Hazardous Waste and Standards Applicable to Generators of Hazardous Waste, respectively. However, in order to treat, store, and dispose of the waste on site, an emergency permit under 40 C.F.R. Part 122.27 would be required.

If I can be of further assistance please do not hesitate to call me at 404/881-2328.

Sincerely,

Daniel P. Thoman
Environmental Engineer
Consolidated Permits Branch

cc: Land Protection Branch
Environmental Protection Division
Atlanta, Ga.

Thompson-Hayward Chemical Company

June 4, 1981

EPA Region IV
Consolidated Permits Branch
345 Courtland St.
Atlanta, Georgia 30365

ATTENTION: Mr. Dan Thoman

RE: EPA ID# GAD087515417

Dear Mr. Thoman:

Confirming our telephone conversation of today, the reason we filed for a hazardous waste permit was precautionary. We are not normal generators of processors of hazardous waste.

We would want to retain our EPA ID number just in case we would have an accidental spill which we would want to treat

Please let us hear from you.

Very truly yours,

Thompson-Hayward Chemical Company

Harold Vandiver
Branch Manager

HV/cc

cc: Willis Hart - Kansas City

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region IV, Atlanta, Georgia

DATE: February 25, 1980

SUBJECT: Industrial Waste Site

FEB 26 1980

FROM: Deputy, Environmental Emergency Branch

TO: Jim Scarbrough
Chief, Residuals Management Branch

THROUGH: Sanford W. Harvey, Jr.
Director, Enforcement Division

On February 22, 1980, a local contractor (name unknown) notified our office that Thompson-Hayward Chemical Company has been disposing of hazardous substances underground. The plant is located on Highway 278 in Powder Springs, Georgia. According to this person, they have been disposing of chemicals in drums and cylinders at this site for many years. Drainage from this site enters a small creek and a pond.

The contractor was injured at this plant about six months ago while operating a bulldozer. The accident occurred when the blade of the dozer struck an underground cylinder of chlorine. The chlorine was sprayed into his face.

He was also told by some of the company employees that some of the drums of chemicals are buried under the pond.

R.D. Stonebraker

Richard Stonebraker

EPA Form 1320-6 (Rev. 3-76)

EPA

POTENTIAL HAZARDOUS WASTE SITE LOG

SITE NUMBER: GA00001001

NOTE: The initial identification of a potential site or incident should not be interpreted as a finding of illegal activity or confirmation that an actual health or environmental threat exists. All identified sites will be assessed under the EPA's Hazardous Waste Site Enforcement and Response System to determine if a hazardous waste problem actually exists.

SITE NAME AND STREET ADDRESS (or other identifier): Thompson - Hayward Chemical Company

CITY: Powder Springs | STATE: GA | ZIP CODE:

SUMMARY OF POTENTIAL OR KNOWN PROBLEM: citizen complaint concerning possibility of buried glinders of liquid chlorine coming in contact with workers

ITEM	DATE OF DETERMINATION OR COMPLETION	RESPONSIBLE ORGANIZATION OR INDIVIDUAL (EPA, State, Contractor, Other)	PERSON MAKING ENTRY TO LOG FORM	DATE ENTERED ON LOG (mo, day, yr)
1. IDENTIFICATION OF POTENTIAL PROBLEM	2/22/80	EPA, FEB	Fenazzuolo	6/23/80
2. PRELIMINARY ASSESSMENT				
APPARENT SERIOUSNESS OF PROBLEM: ☐ HIGH ☐ MEDIUM ☐ LOW ☐ NONE ☐ UNKNOWN				
3. SITE INSPECTION	6/2/80	EPA, Fenazzuolo	Fenazzuolo	6/23/80
4. EPA TENTATIVE DISPOSITION (check appropriate item(s) below)				
☐ a. NO ACTION NEEDED				
☐ b. INVESTIGATIVE ACTION NEEDED				
☐ c. REMEDIAL ACTION NEEDED				
☐ d. ENFORCEMENT ACTION NEEDED				
5. EPA FINAL STRATEGY DETERMINATION (check appropriate item(s) below)				
☐ a. NO ACTION NEEDED				
☐ b. REMEDIAL ACTION NEEDED				
☐ c. REMEDIAL ACTION NEEDED BUT, NO RESOURCES AVAILABLE				
☐ d. ENFORCEMENT ACTION NEEDED				
☐ (1) CASE DEVELOPMENT PLAN PREPARED				
☐ (2) ENFORCEMENT CASE FILED OR ADMINISTRATIVE ORDER ISSUED				
6. STRATEGY COMPLETED				

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

REGION	SITE NUMBER (to be assigned by Hq)
IV	GA 000010001

GENERAL INSTRUCTIONS: Complete Sections I and III through XV of this form as completely as possible. Then use the information on this form to develop a Tentative Disposition (*Section II*). File this form in its entirety in the regional Hazardous Waste Log File. Be sure to include all appropriate Supplemental Reports in the file. Submit a copy of the forms to: U.S. Environmental Protection Agency; Site Tracking System; Hazardous Waste Enforcement Tack Force (*EN-335*); 401 M St., SW; Washington, DC 20460.

I. SITE IDENTIFICATION

A. SITE NAME: Thompson-Hayward Chemical Co.
B. STREET (or other identifier): U.S. Highway 278
C. CITY: Powder Springs
D. STATE: GA
E. ZIP CODE:
F. COUNTY NAME: Cobb

G. SITE OPERATOR INFORMATION
1. NAME: Jack Booker, Plant Mgr
2. TELEPHONE NUMBER:
3. STREET:
4. CITY:
5. STATE:
6. ZIP CODE:

H. REALTY OWNER INFORMATION (*If different from operator of site*)
1. NAME:
2. TELEPHONE NUMBER:
3. CITY:
4. STATE:
5. ZIP CODE:

I. SITE DESCRIPTION: Past burial of cylinders of liquid chlorine, none currently present, however. Surface impoundment which contains runoff from dock, RR tracks and street

J. TYPE OF OWNERSHIP
☐ 1. FEDERAL ☐ 2. STATE ☐ 3. COUNTY ☐ 4. MUNICIPAL ☒ 5. PRIVATE

II. TENTATIVE DISPOSITION (*complete this section last*)

A. ESTIMATE DATE OF TENTATIVE DISPOSITION (*mo., day, & yr.*): 7/15/80
B. APPARENT SERIOUSNESS OF PROBLEM
☐ 1. HIGH ☒ 2. MEDIUM ☐ 3. LOW ☐ 4. NONE

C. PREPARER INFORMATION
1. NAME: R. Ferazzuolo
2. TELEPHONE NUMBER: FTS 257-2234
3. DATE (*mo., day, & yr.*): 6/23/80

III. INSPECTION INFORMATION

A. PRINCIPAL INSPECTOR INFORMATION
1. NAME: R. Ferazzuolo
2. TITLE: Chemical Engineer
3. ORGANIZATION: EPA - Region IV
4. TELEPHONE NO. (*area code & no.*): 404/881-2234

B. INSPECTION PARTICIPANTS

1. NAME	2. ORGANIZATION	3. TELEPHONE NO.
R. Ferazzuolo	EPA - Region IV	404/881-2234
J. Kaduck	GA EPD, Atlanta	404/656-2833

C. SITE REPRESENTATIVES INTERVIEWED (*corporate officials, workers, residents*)

1. NAME	2. TITLE & TELEPHONE NO.	3. ADDRESS
Jack Booker	Plant Mgr 943-5452	(see above)

Continued From Front

III. INSPECTION INFORMATION *(continued)*

D. GENERATOR INFORMATION *(sources of waste)*

1. NAME	2. TELEPHONE NO.	3. ADDRESS	4. WASTE TYPE GENERATED
Thompson-Hayward	943-5452	Highway 278, Powder Spro.	chlorine, caustics are raw materials

E. TRANSPORTER/HAULER INFORMATION

1. NAME	2. TELEPHONE NO.	3. ADDRESS	4. WASTE TYPE TRANSPORTED

F. IF WASTE IS PROCESSED ON SITE AND ALSO SHIPPED TO OTHER SITES, IDENTIFY OFF-SITE FACILITIES USED FOR DISPOSAL.

1. NAME	2. TELEPHONE NO.	3. ADDRESS

G. DATE OF INSPECTION *(mo., day, & yr.)*	H. TIME OF INSPECTION	I. ACCESS GAINED BY: *(credentials must be shown in all cases)* ☐ 1. PERMISSION ☐ 2. WARRANT

J. WEATHER *(describe)* Clear and warm, temp. in mid 70's

IV. SAMPLING INFORMATION

A. Mark 'X' for the types of samples taken and indicate where they have been sent e.g., regional lab, other EPA lab, contractor, etc. and estimate when the results will be available.

1. SAMPLE TYPE	2. SAMPLE TAKEN *(mark 'X')*	3. SAMPLE SENT TO:	4. DATE RESULTS AVAILABLE
a. GROUNDWATER			
b. SURFACE WATER			
c. WASTE			
d. AIR			
e. RUNOFF			
f. SPILL			
g. SOIL			
h. VEGETATION			
i. OTHER *(specify)*			

B. FIELD MEASUREMENTS TAKEN *(e.g., radioactivity, explosivity, PH, etc.)*

1. TYPE	2. LOCATION OF MEASUREMENTS	3. RESULTS

Continue On Page 3

Continued From Page 2

IV. SAMPLING INFORMATION *(continued)*

C. PHOTOS

1. TYPE OF PHOTOS NONE

☐ a. GROUND ☐ b. AERIAL

2. PHOTOS IN CUSTODY OF:

D. SITE MAPPED?

☐ YES. SPECIFY LOCATION OF MAPS:

E. COORDINATES

1. LATITUDE *(deg.-min.-sec.)*

2. LONGITUDE *(deg.-min.-sec.)*

V. SITE INFORMATION

A. SITE STATUS

☒ 1. ACTIVE *(Those inductrial or municipal sites which are being used for waste treatment, storage, or disposal on a continuing basis, even if infrequently.)*

☐ 2. INACTIVE *(Those sites which no longer receive wastes.)*

☐ 3. OTHER *(specify)*: _____ *(Those sites that include such incidents like "midnight dumping" where no regular or continuing use of the site for waste disposal has occurred.)*

B. IS GENERATOR ON SITE?

☐ 1. NO ☒ 2. YES *(specify generator's four-digit SIC Code)*: 2819

C. AREA OF SITE *(in acres)*

20

D. ARE THERE BUILDINGS ON THE SITE?

☐ 1. NO ☒ 2. YES *(specify)*:

VI. CHARACTERIZATION OF SITE ACTIVITY

Indicate the major site activity*(ies)* and details relating to each activity by marking 'X' in the appropriate boxes.

'X'	A. TRANSPORTER	'X'	B. STORER	'X'	C. TREATER	'X'	D. DISPOSER
	1. RAIL		1. PILE		1. FILTRATION		1. LANDFILL
	2. SHIP		2. SURFACE IMPOUNDMENT		2. INCINERATION		2. LANDFARM
	3. BARGE		3. DRUMS		3. VOLUME REDUCTION		3. OPEN DUMP
	4. TRUCK		4. TANK, ABOVE GROUND		4. RECYCLING/RECOVERY	X	4. SURFACE IMPOUNDMENT
	5. PIPELINE		5. TANK, BELOW GROUND		5. CHEM./PHYS./TREATMENT		5. MIDNIGHT DUMPING
	6. OTHER *(specify)*:		6. OTHER *(specify)*:		6. BIOLOGICAL TREATMENT		6. INCINERATION
					7. WASTE OIL REPROCESSING		7. UNDERGROUND INJECTION
					8. SOLVENT RECOVERY		8. OTHER *(specify)*:
					9. OTHER *(specify)*:		

E. SUPPLEMENTAL REPORTS: If the site falls within any of the categories listed below, Supplemental Reports must be completed. Indicate which Supplemental Reports you have filled out and attached to this for..

☐ 1. STORAGE ☐ 2. INCINERATION ☐ 3. LANDFILL ☒ 4. SURFACE IMPOUNDMENT ☐ 5. DEEP WELL

☐ 6. CHEM/BIO/PHYS TREATMENT ☐ 7. LANDFARM ☐ 8. OPEN DUMP ☐ 9. TRANSPORTER ☐ 10. RECYCLOR/RECLAIMER

VII. WASTE RELATED INFORMATION

A. WASTE TYPE

☒ 1. LIQUID ☐ 2. SOLID ☐ 3. SLUDGE ☐ 4. GAS

B. WASTE CHARACTERISTICS

☒ 1. CORROSIVE ☐ 2. IGNITABLE ☐ 3. RADIOACTIVE ☐ 4. HIGHLY VOLATILE

☐ 5. TOXIC ☐ 6. REACTIVE ☐ 7. INERT ☐ 8. FLAMMABLE

☐ 9. OTHER *(specify)*:

C. WASTE CATEGORIES

1. Are records of wastes available? Specify items such as manifests, inventories, etc. below.

 Continue On Reverse

Continued From Page 4

VIII. HAZARD DESCRIPTION *(continued)*

☐ B. NON-WORKER INJURY/EXPOSURE

☐ C. WORKER INJURY/EXPOSURE

☐ D. CONTAMINATION OF WATER SUPPLY

☐ E. CONTAMINATION OF FOOD CHAIN

☐ F. CONTAMINATION OF GROUND WATER

☒ G. CONTAMINATION OF SURFACE WATER

~~Potential for erosion of banks for surface impoundment may cause overflow into swale leading to a Creek~~

VIII. HAZARD DESCRIPTION *(continued)*

☐ T. MIDNIGHT DUMPING

☐ U. OTHER *(specify)*:

IX. POPULATION DIRECTLY AFFECTED BY SITE

A. LOCATION OF POPULATION	B. APPROX. NO. OF PEOPLE AFFECTED	C. APPROX. NO. OF PEOPLE AFFECTED WITHIN UNIT AREA	D. APPROX. NO. OF BUILDINGS AFFECTED	E. DISTANCE TO SITE *(specify units)*
1. IN RESIDENTIAL AREAS				
2. IN COMMERCIAL OR INDUSTRIAL AREAS	5 - 10			
3. IN PUBLICLY TRAVELLED AREAS				
4. PUBLIC USE AREAS *(parks, schools, etc.)*				

X. WATER AND HYDROLOGICAL DATA

A. DEPTH TO GROUNDWATER *(specify unit)*	B. DIRECTION OF FLOW	C. GROUNDWATER USE IN VICINITY
D. POTENTIAL YIELD OF AQUIFER	E. DISTANCE TO DRINKING WATER SUPPLY *(specify unit of measure)*	F. DIRECTION TO DRINKING WATER SUPPLY

G. TYPE OF DRINKING WATER SUPPLY

☐ 1. NON-COMMUNITY < 15 CONNECTIONS* ☐ 2. COMMUNITY *(specify town)*: > 15 CONNECTIONS

☐ 3. SURFACE WATER ☐ 4. WELL

 Continue On Page 9

Continued From Page 8

X. WATER AND HYDROLOGICAL DATA *(continued)*

H. LIST ALL DRINKING WATER WELLS WITHIN A 1/4 MILE RADIUS OF SITE

1. WELL	2. DEPTH *(specify unit)*	3. LOCATION *(proximity to population/buildings)*	4. NON-COMMUNITY *(mark 'X')*	5. COMMUNITY *(mark 'X')*

I. RECEIVING WATER

1. NAME

☐ 2. SEWERS ☐ 3. STREAMS/RIVERS

☐ 4. LAKES/RESERVOIRS ☐ 5. OTHER *(specify)*:

6. SPECIFY USE AND CLASSIFICATION OF RECEIVING WATERS

XI. SOIL AND VEGITATION DATA

LOCATION OF SITE IS IN:

☐ A. KNOWN FAULT ZONE ☐ B. KARST ZONE ☐ C. 100 YEAR FLOOD PLAIN ☐ D. WETLAND

☐ E. A REGULATED FLOODWAY ☐ F. CRITICAL HABITAT ☐ G. RECHARGE ZONE OR SOLE SOURCE AQUIFER

XII. TYPE OF GEOLOGICAL MATERIAL OBSERVED

Mark 'X' to indicate the type*(s)* of geological material observed and specify where necessary, the component parts.

'X'	A. OVERBURDEN	'X'	B. BEDROCK *(specify below)*	'X'	C. OTHER *(specify below)*
	1. SAND				
	2. CLAY				
	3. GRAVEL				

XIII. SOIL PERMEABILITY

☐ A. UNKNOWN ☐ B. VERY HIGH *(100,000 to 1000 cm/sec.)* ☐ C. HIGH *(1000 to 10 cm/sec.)*

☐ D. MODERATE *(10 to .1 cm/sec.)* ☐ E. LOW *(.1 to .001 cm/sec.)* ☐ F. VERY LOW *(.001 to .00001 cm/sec.)*

G. RECHARGE AREA

☐ 1. YES ☐ 2. NO 3. COMMENTS:

H. DISCHARGE AREA

☐ 1. YES ☐ 2. NO 3. COMMENTS:

I. SLOPE

1. ESTIMATE % OF SLOPE

2. SPECIFY DIRECTION OF SLOPE, CONDITION OF SLOPE, ETC.

J. OTHER GEOLOGICAL DATA

 Continue On Reverse

SURFACE IMPOUNDMENTS SITE INSPECTION REPORT
(Supplemental Report)

INSTRUCTION
Answer and Explain as Necessary.

1. TYPE OF IMPOUNDMENT
Holding pond

2. STABILITY/CONDITION OF EMBANKMENTS
Poor, erosion evident on west side towards gully

3. EVIDENCE OF SITE INSTABILITY *(Erosion, Settling, Sink Holes, etc.)*
☒ YES ☐ NO erosion

4. EVIDENCE OF DISPOSAL OF IGNITABLE OR REACTIVE WASTE
☐ YES ☒ NO

5. ONLY COMPATIBLE WASTES ARE STORED OR DISPOSED OF IN THE IMPOUNDMENT
☐ YES ☒ NO unknown

6. RECORDS CHECKED FOR CONTENTS AND LOCATION OF EACH SURFACE IMPOUNDMENT
☐ YES ☐ NO

7. IMPOUNDMENT HAS LINER SYSTEM
☐ YES ☒ NO natural impervious clay

7a. INTEGRITY OF LINER SYSTEM CHECKED
☐ YES ☐ NO

7b. FINDINGS

8. SOIL STRUCTURE AND SUBSTRUCTURE
mostly clay

9. MONITORING WELLS
☐ YES ☒ NO

10. LENGTH, WIDTH, AND DEPTH
LENGTH 50 WIDTH 50 DEPTH 4 ft.

11. CALCULATED VOLUMETRIC CAPACITY
10000 ft^3

12. PERCENT OF CAPACITY REMAINING
25 %

13. ESTIMATE FREEBOARD
3-4 ft.

14. SOLIDS DEPOSITION
☐ YES ☐ NO

15. DREDGING DISPOSAL METHOD

16. OTHER EQUIPMENT

NUMBER 91

U.S. ENVIRONMENTAL PROTECTION AGENCY

REGION IV

HAZARDOUS MATERIAL ENFORCEMENT AND RESPONSE PROGRAM

SITE NAME Thompson Hayward Chemical Company

SITE ADDRESS Hwy 278 Powder Spring

Phone # 943-5922 or 943-3180

HOW/DATE IDENTIFIED 2/22/80 citizen complaint

SITE DESCRIPTION suspected of disposing of chemicals in drums and glenders underground; drainage from site enters small creek and pond, some drums of chemicals buried under pond

WASTE RELATED INFORMATION underground glenders of chlorine

HAZARD IDENTIFICATION contractor bulldozing site struck glender of chlorine spraying it into his face

NAME OF CALLER unknown

ADDRESS OF CALLER unknown

TELEPHONE NUMBER N/A

HAS THIS BEEN REPORTED TO ANY STATE OR LOCAL AUTHORITY? How, When?

FOLLOW-UP: Schedule site inspection

Call Howard Barefoot AM 5/21/80 and arranged site inspection for AM June 2

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
GA	D087751547

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. 10^{-6} – 10^{-8} cm/sec ☐ B. 10^{-4} – 10^{-6} cm/sec ☐ C. 10^{-4} – 10^{-3} cm/sec ☐ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☐ B. RELATIVELY IMPERMEABLE (10^{-4} – 10^{-6} cm/sec) ☐ C. RELATIVELY PERMEABLE (10^{-2} – 10^{-4} cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
6 (ft)	(ft)	

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
8.0 (in)	3.3 (in)	2 %		4 %

09 FLOOD POTENTIAL

SITE IS IN _____ YEAR FLOODPLAIN.

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

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE: A. _____ (mi)

OTHER: B. 4 (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

_____ (mi) None

ENDANGERED SPECIES: _____

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AGRICULTURAL LANDS: AG LAND
A. .15 (mi)	B. .5 (mi)	C. _____ (mi)	D. _____ (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

Facility area has a mild slope

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

State + EPA Files

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
GA	D087515417

II. SAMPLES TAKEN

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

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☐ GROUND ☐ AERIAL

02 IN CUSTODY OF NVS corp.
Name of organization or individual

03 MAPS ☑ YES ☐ NO

04 LOCATION OF MAPS NVS corp.

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

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

EPA + State Files

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
GA	D087515417

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
Harrison Crossfield Thompson Hayward (Harcros)		Florence Rd. + US 278		Powder Springs	GA	30073

PARENT COMPANY (If applicable)

08 NAME	09 D+B NUMBER	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE	12 CITY	13 STATE	14 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE

IV. REALTY OWNER(S) (If applicable; list most recent first)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE

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

EPA + state files

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
GA	D087515417

II. CURRENT OPERATOR (Provide if different from owner)				OPERATOR'S PARENT COMPANY (If applicable)			
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		14 CITY	15 STATE	16 ZIP CODE	
08 YEARS OF OPERATION	09 NAME OF OWNER						

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)				PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)			
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		14 CITY	15 STATE	16 ZIP CODE	
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD						
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		14 CITY	15 STATE	16 ZIP CODE	
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD						
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		14 CITY	15 STATE	16 ZIP CODE	
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD						

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

EPA + State Files

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
GA	D087515417

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER		01 NAME	02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
01 NAME	02 D+B NUMBER		01 NAME	02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER		01 NAME	02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
01 NAME	02 D+B NUMBER		01 NAME	02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

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

EPA State files

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
GA	D087515417

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: None Documented

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: N. D.

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: N.D

01 ☐ D. SPILLED MATERIAL REMOVED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: N. D.

01 ☐ E. CONTAMINATED SOIL REMOVED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: N.D.

01 ☐ F. WASTE REPACKAGED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: N. D.

01 ☐ G. WASTE DISPOSED ELSEWHERE — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: N. D.

01 ☑ H. ON SITE BURIAL — 02 DATE 2-25-80 — 03 AGENCY ____
04 DESCRIPTION: Buried cylinders of chlorine liquid was reported by a contractor

01 ☐ I. IN SITU CHEMICAL TREATMENT — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: N. D.

01 ☐ J. IN SITU BIOLOGICAL TREATMENT — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: N.D

01 ☐ K. IN SITU PHYSICAL TREATMENT — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: N.D

01 ☐ L. ENCAPSULATION — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: N.D.

01 ☐ M. EMERGENCY WASTE TREATMENT — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: N. D.

01 ☐ N. CUTOFF WALLS — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: N. D

01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: N.D

01 ☐ P. CUTOFF TRENCHES/SUMP — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: N. D.

01 ☐ Q. SUBSURFACE CUTOFF WALL — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: N.D

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
GA	D087515417

II PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N.D.

01 ☐ S. CAPPING/COVERING — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N.D

01 ☐ T. BULK TANKAGE REPAIRED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N.D.

01 ☐ U. GROUT CURTAIN CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N.D.

01 ☐ V. BOTTOM SEALED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N.D.

01 ☐ W. GAS CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N.D.

01 ☐ X. FIRE CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N.D

01 ☐ Y. LEACHATE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N.D

01 ☐ Z. AREA EVACUATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N.D

01 ☐ 1. ACCESS TO SITE RESTRICTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N.D

01 ☐ 2. POPULATION RELOCATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N.D.

01 ☐ 3. OTHER REMEDIAL ACTIVITIES — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N.D.

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

EPA + State files

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
GA	D087515417

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY ENFORCEMENT ACTION YES / NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY ENFORCEMENT ACTION

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

EPA + state files

CHEMICAL NAME
SODIUM CHLORITE

FORMULA
CLNAO2

SYNONYMS
UN 1496
TEXTONE
CHLOROUS ACID, SODIUM SALT
OHS21110

PERMISSIBLE EXPOSURE LIMIT
NONE ESTABLISHED
CERCLA HAZARD RATINGS - TOXICITY 2 - IGNITABILITY 1 - REACTIVITY 2 - PERSISTENCE 0

IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONCENTRATION
NONE SPECIFIED

PHYSICAL DESCRIPTION
WHITE CRYSTALLINE,HYGROSCOPIC

CHEMICAL AND PHYSICAL PROPERTIES
MOLECULAR WEIGHT: 90.44G
BOILING POINT AT 1 ATM, F: DECOMPOSES
SOLUBILITY IN WATER, G/100 G WATER AT 20C: 39 G AT 63 F
FLASH POINT, CLOSED CUP, F (OR OPEN CUP IF 0C): NA
VAPOR PRESSURE @ 20 C, MMHG: NA
MELTING POINT, F: DECOMPOSES 356-392 F
SPECIFIC GRAVITY: NA

INCOMPATIBILITIES
THERMAL DECOMPOSITION PRODUCTS ARE HAZARDOUS AND/OR TOXIC
ACIDS
ORGANIC MATTER
OXALIC ACID
PHOSPHOROUS
SULFUR

PERSONAL PROTECTIVE EQUIPMENT
EMPLOYERS SHALL PROVIDE AND ENSURE THAT EMPLOYEES USE APPROPRIATE PROTECTIVE CLOTHING AND EQUIPMENT NECESSARY TO PREVENT ANY POSSIBLITY OF SKIN CONTACT WITH THIS SUBSTANCE. FACE SHIELDS SHALL COMPLY WITH 29CFR1910.133(A)(2), (A)(4), (A)(5), AND (A)(6).

EMPLOYERS SHALL ENSURE THAT CLOTHING WHICH HAS HAD ANY POSSIBILITY OF BEING CONTAMINATED WITH THIS SUBSTANCE IS PLACED IN CLOSED CONTAINERS FOR STORAGE UNTIL IT CAN BE DISCARDED OR UNTIL THE EMPLOYER PROVIDES F THE REMOVAL OF THE CONTAMINANT FROM THE CLOTHING. IF THE CLOTHING IS T BE LAUNDERED OR OTHERWISE CLEANED TO REMOVE THE CONTAMINANT, THE EMPLOYER SHALL INFORM THE PERSON PERFORMING THE OPERATION OF THE HAZARDOUS PROPERTIES OF THE SUBSTANCE.

GOGGLES

EMPLOYERS SHALL PROVIDE AND ENSURE THAT EMPLOYEES USE DUST-RESISTANT SAFETY GOGGLES WHICH COMPLY WITH 29CFR1910.133(A)(2)-(A)(6) WHERE THER IS ANY POSSIBILTY OF THIS SOLID CONTACTING THE EYES.

WASHING CHEMICALS FROM THE SKIN

EMPLOYERS SHALL ENSURE THAT EMPLOYEES WHOSE SKIN BECOMES CONTAMINATED WITH THIS SUBSTANCE IMMEDIATELY WASH OR SHOWER TO REMOVE ANY CONTAMINA FROM THE SKIN.

EMPLOYERS SHALL ENSURE THAT ALL EMPOLYEES SUBJECT TO SKIN CONTACT WITH THIS SUBSTANCE WASH ANY AREAS OF THE BODY WHICH MAY HAVE CONTACTED THE SUBSTANCE AT THE END OF EACH WORK DAY.

EMPLOYERS SHALL ENSURE THAT EMPLOYEES WHO HANDLE THIS SUBSTANCE WASH THEIR HANDS THOROUGHLY BEFORE EATING, SMOKING, OR USING TOILET FACILITIES.

ROUTINE CHANGING OF WORK CLOTHING

EMPLOYERS SHALL ENSURE THAT EMPLOYEES WHOSE CLOTHING HAS HAD ANY POSSIBILITY OF BEING CONTAMINATED WITH THIS SUBSTANCE CHANGE INTO UNCONTAMINATED CLOTHING BEFORE LEAVING THE WORK PREMISES.

CLOTHING REMOVAL FOLLOWING ACCIDENTAL CONTAMINATION

EMPLOYERS SHALL ENSURE THAT NON-IMPERVIOUS CLOTHING WHICH BECOMES CONTAMINATED WITH THIS SUBSTANCE BE REMOVED IMMEDIATELY AND NOT REWORN UNTIL THE SUBSTANCE IS REMOVED FROM THE CLOTHING.

SPECIFIC EMERGENCY PROVISIONS

WHERE THERE IS ANY POSSIBILITY OF EXPOSURE OF AN EMPLOYEE'S BODY TO TH SUBSTANCE, EMPLOYERS SHALL PROVIDE FACILITIES FOR QUICK DRENCHING OF T BODY WITHIN THE IMMEDIATE WORK AREA FOR EMERGENCY USE.

WHERE THERE IS ANY POSSIBILITY THAT AN EMPLOYEE'S EYES MAY BE EXPOSED TO THIS SUBSTANCE, EMPLOYERS SHALL PROVIDE AN EYE-WASH FOUNTAIN WITHIN THE IMMEDIATE WORK AREA FOR EMERGENCY USE.

RESPIRATOR SELECTION (UPPER LIMIT DEVICES PERMITTED)

NO SPEC ADVISE

- CHEMICAL CARTRIDGE RESPIRATOR
  PROVIDING PROTECTION AGAINST SPECIFIC COMPOUND OF CONCERN

HIGH LEVELS

- SELF-CONTAINED BREATHING APPARATUS
  WITH A FULL FACE-PIECE

FIREFIGHTING

- SELF-CONTAINED BREATHING APPARATUS
  WITH A FULL FACE-PIECE
  OPERATED IN PRESSURE-DEMAND OR POSITIVE-PRESSURE MODE

ROUTE OF ENTRY INTO BODY
INGESTION

SYMPTOMS
EYE IRRITATION
SKIN IRRITATION
PHARYNGITIS
COUGHING
RESPIRATORY DISTRESS
SKIN BURNS
BLURRED VISION
ABDOMINAL PAIN
VOMITING
DIARRHEA
DERMATITIS

FIRST AID PROCEDURES FOLLOWING EXPOSURE

IF THIS CHEMICAL GETS INTO THE EYES, IMMEDIATELY WASH THE EYES WITH LARGE AMOUNTS OF WATER, OCCASIONALLY LIFTING THE LOWER AND UPPER LIDS. GET MEDICAL ATTENTION IMMEDIATELY. CONTACT LENSES SHOULD NOT BE WORN WHEN WORKING WITH THIS CHEMICAL.

IF THIS CHEMICAL GETS ON THE SKIN, IMMEDIATELY WASH CONTAMINATED SKIN WITH SOAP OR MILD DETERGENT & WATER. IF THIS CHEMICAL SOAKS CLOTHING, IMMEDIATELY REMOVE CLOTHING & WASH SKIN WITH SOAP OR MILD DETERGENT & WATER. GET MEDICAL ATTENTION PROMPTLY.

IF THIS CHEMICAL GETS ON SKIN, IMMEDIATELY FLUSH CONTAMINATED SKIN WITH WATER. IF THIS CHEMICAL PENETRATES CLOTHING, IMMEDIATELY REMOVE THE CLOTHING AND FLUSH THE SKIN WITH WATER. GET MEDICAL ATTENTION PROMPTLY.

IF THIS CHEMICAL HAS BEEN SWALLOWED AND THE PERSON IS CONSCIOUS, IMMEDIATELY GIVE HIM LARGE QUANTITIES OF WATER TO DILUTE THE CHEMICAL. DO NOT ATTEMPT TO MAKE THE EXPOSED PERSON VOMIT. GET MEDICAL ATTENTION IMMEDIATELY.

ORGANS
EYES
GASTROINTESTINAL
LUNGS
RESPIRATORY SYSTEM
SKIN

STATUS OF REGULATORY ENFORCEMENT

TOXIC SUBSTANCE CONTROL ACT (TSCA) SECTION 8(E) INITIAL EVALUATION OF SUBSTANTIAL RISK SUBMITTED TO EPA, 1983

OSHA STANDARD 29CFR1910.94 VENTILATION

OSHA STANDARD 29CFR1910.134 RESPIRATORY PROTECTION

OSHA STANDARD 29CFR1910.20 ACCESS TO EMPLOYEE EXPOSURE AND MEDICAL RECORDS

OSHA STANDARD 29CFR1910.132 PERSONAL PROTECTIVE EQUIPMENT

OSHA STANDARD 29CFR1910.141 SANITATION

OSHA STANDARD 29CFR1910.151 MEDICAL SERVICES AND FIRST AID

40CFR717 RECORDS AND REPORTS OF ALLEGATIONS THAT CHEMICAL SUBSTANCES CAUSE SIGNIFICANT ADVERSE REACTIONS TO HEALTH OR THE ENVIRONMENT
REQUIRES MANUFACTURERS AND CERTAIN PROCESSORS OF CHEMICAL SUBSTANCES AND MIXTURES TO KEEP RECORDS OF SIGNIFICANT ADVERSE REACTIONS TO HEALT OR THE ENVIRONMENT ALLEGED TO HAVE BEEN CAUSED BY A SUBSTANCE OR MIXTURE. EPA MAY INSPECT AND REQUIRE REPORTING OF SUCH RECORDS.
48FR38178 08/22/83

49CFR172.101 TABLES OF HAZARDOUS MATERIALS, THEIR DESCRIPTION, PROPER SHIPPING NAME, CLASS, LABEL, PACKAGING, AND OTHER REQUIREMENTS
DESIGNATED IN HAZARDOUS MATERIALS TABLE AS HAZARDOUS MATERIAL FOR THE PURPOSE OF TRANSPORTATION.
41FR15996 04/15/76
45FR34588 05/22/80 (AMENDMENT)
45FR46420 07/10/80 (AMENDMENT)
45FR62080 09/18/80 (AMENDMENT)
45FR74649 11/10/80 (AMENDMENT)
46FR17739 03/19/81 (AMENDMENT)
46FR19235 03/30/81 (AMENDMENT)

49CFR172.102 TABLES OF HAZARDOUS MATERIALS, THEIR DESCRIPTION, PROPER SHIPPING NAME, CLASS, LABEL, PACKAGING, AND OTHER REQUIREMENTS
DESIGNATED IN OPTIONAL HAZARDOUS MATERIALS TABLE WITH ALTERNATIVES TO CORRESPONDING REQUIREMENTS IN 49CFR172.101 FOR INTERNATIONAL SHIPMENTS AS AUTHORIZED BY 49CFR171.12
41FR15996 04/15/76
46FR29393 06/01/81 (AMENDMENT)
46FR32250 06/22/81 (AMENDMENT)

SUBSTANCE LISTED HAZARDOUS
STATE OF CALIFORNIA ADMINISTRATIVE CODE
TITLE 22. SOCIAL SECURITY
DIVISION 4. ENVIRONMENTAL HEALTH
CHAPTER 30. MINIMUM STANDARDS FOR MANAGEMENT OF HAZARDOUS AND EXTREMELY HAZARDOUS WASTES

REGULATION PROPOSED TOXIC SUBSTANCES CONTROL ACT (TSCA)
SECTION 8(A)

EPISODE REPORT IN DEVELOPMENT/PROGRESS CLEAN WATER ACT (CWA)

SUBSTANCE LISTED UNDER THE STATE OF FLORIDA TOXIC SUBSTANCES IN THE WORKPLACE RIGHT TO KNOW LAW, CHAPTER 442 OF THE FLORIDA STATUTES.

SUBSTANCE LISTED UNDER THE STATE OF PENNSYLVANIA WORKER AND COMMUNITY RIGHT TO KNOW ACT, P.L. 734, NO. 159.

MEDICAL SURVEILLANCE REQUIRED
NO NIOSH/OSHA DATA; ADVISE:
EKG RECOMMENDED IF EMPLOYEE TO WEAR FULL-FACE RESPIRATOR
GENERAL MEDICAL HISTORY
40CFR717 RECORDS AND REPORTS OF ALLEGATIONS THAT CHEMICAL SUBSTANCES CAUSE SIGNIFICANT ADVERSE REACTIONS TO HEALTH OR THE ENVIRONMENT
TOXIC SUBSTANCES CONTROL ACT (TSCA) SECTION 8(C) RULE REQUIRES MANUFACTURERS AND CERTAIN PROCESSORS OF CHEMICAL SUBSTANCES AND MIXTUR TO KEEP RECORDS OF SIGNIFICANT ADVERSE REACTIONS TO EMPLOYEE HEALTH FO 30 YEARS
48FR38187 08/22/83
48FR39225 08/30/83 (EFFECTIVE DATE CORRECTION)
PHYSICIAN EXAMINATION
INDUSTRIAL EXPOSURE HISTORY
PRE-PLACEMENT AND ANNUAL EXAMS
MEDICAL WARNING FOR REFUSAL OF MEDICAL EXAMINATION
PULMONARY FUNCTIONS
RESPIRATORY HISTORY
SKIN EXAM
VISION TEST
GASTROINTESTINAL

CERTIFICATIONS
NO FEDERAL AGENCY REQUIREMENT, BUT DUE TO HAZARDOUS NATURE OF SUBSTANCE, ADVISE FOLLOWING:

HEALTH STATUS CLASSIFICATION

OSHA RESPIRATOR CERTIFICATION 29CFR1910.134

DEPARTMENT OF TRANSPORTATION IF OPERATES HEAVY EQUIPMENT

EMPLOYEE HAZARDOUS MATERIALS EDUCATION RECEIPT

EMPLOYEE MEDICAL RECORDS RECEIPT

TOXIC SUBSTANCES CONTROL ACT (TSCA) SECTION 8(C) RULE REQUIRES MANUFACTURERS AND CERTAIN PROCESSORS OF CHEMICAL SUBSTANCES AND MIXTURES TO KEEP RECORDS OF SIGNIFICANT ADVERSE REACTIONS TO EMPLOYEE HEALTH FOR 30 YEARS.
CONTACT: JACK P. MCCARTHY, OFFICE OF TOXIC SUBSTANCES, EPA (800)424-1404. 48FR38178 8/22/83

MEDICAL WARNING REQUIRED FOR MEDICAL EXAM REFUSAL SIGNED

BY EMPLOYEE

SPECIAL DIAGNOSTIC TESTS
PULMONARY FUNCTION

LEAKS AND SPILL PROCEDURES

A REPORTABLE QUANTITY OF ONE HUNDRED POUNDS APPLIES TO THIS SUBSTANCE ADJUSTED UNDER SECTION 102(A) OF THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT OF 1980 (CERCLA) BY EXHIBITI ONE OR MORE OF THE CHARACTERISTICS OF IGNITABILITY, CORROSIVITY, OR REACTIVITY IDENTIFIED IN 40CFR261.21 THROUGH 261.23. SECTIONS 103(A) AND 103(B) REQUIRE THAT PERSONS IN CHARGE OF A VESSEL OR FACILITY FROM WHICH A HAZARDOUS SUBSTANCE HAS BEEN RELEASED IN A QUANTITY EQUAL TO O GREATER THAN THE REPORTABLE QUANTITY FOR THAT SUBSTANCE IMMEDIATELY NOTIFY THE NATIONAL RESPONSE CENTER (800) 424-8802; IN THE WASHINGTON, D.C. METROPOLITAN AREA (202) 426-2675
50FR13456 04/04/85

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DEPARTMENT OF TRANSPORTATION HAZARD CLASS
49CFR172.101 HAZARDOUS MATERIALS TABLE

OXIDIZER

DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS
49CFR172.101 (SUBJECT TO ADDITIONAL LABELING REQUIREMENTS OF 49CFR172.402)

OXIDIZER

****

INTERGOVERNMENTAL MARITIME ORGANIZATION HAZARD CLASS
49CFR172.102 OPTIONAL HAZARDOUS MATERIALS TABLE

CLASS 5.1-OXIDIZING AGENTS

INTERGOVERNMENTAL MARITIME ORGANIZATION LABELING SPECIFICATIONS FOR DOMESTIC AND EXPORT SHIPMENTS
49CFR172.102

OXIDIZER

****

FOLLOWING INFORMATION RECOMMENDED FOR THE EMERGENCY HANDLING OF HAZARDOUS MATERIALS

IF MATERIAL ON FIRE OR INVOLVED IN FIRE:
* FLOOD WITH WATER

* COOL ALL AFFECTED CONTAINERS WITH FLOODING QUANTITIES OF WATER
* APPLY WATER FROM AS FAR A DISTANCE AS POSSIBLE

IF MATERIAL IS NOT ON FIRE AND IS NOT INVOLVED IN FIRE:
* KEEP SPARKS, FLAMES AND OTHER IGNITION SOURCES AWAY
* KEEP MATERIAL OUT OF WATER SOURCES AND SEWERS

PERSONNEL PROTECTION:
* WEAR BOOTS, PROTECTIVE GLOVES AND GAS TIGHT GOGGLES
* DO NOT HANDLE BROKEN PACKAGES WITHOUT PROTECTIVE EQUIPMENT
* WASH AWAY ANY MATERIALS WHICH MAY HAVE CONTACTED THE BODY WITH COPIOUS AMOUNTS OF WATER OR SOAP AND WATER
* WEAR SELF-CONTAINED BREATHING APPARATUS WHEN FIGHTING FIRES INVOLVI THIS MATERIAL
* APPROACH FIRE WITH CAUTION

EVACUATION PROCEDURE:
* IF FIRE UNCONTROLLABLE OR CONTAINER EXPOSED TO DIRECT FLAME, EVACUA FOR A RADIUS OF 2500 FEET

WASTE

THIS MATERIAL LISTED AS HAZARDOUS SUBSTANCE, AS DEFINED IN SECTION 101(14) OF THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA) OF 1980, PURSUANT TO ONE OR MORE OF THE FOLLOWING:

* FEDERAL WATER POLLUTION CONTROL ACT (FWPCA) SECTION 311(B)(2)(A)
* SOLID WASTE DISPOSAL ACT SECTION 3001
* CLEAN WATER ACT (CWA) SECTION 307(A)
* CLEAN AIR ACT (CAA) SECTION 112
* TOXIC SUBSTANCES CONTROL ACT (TSCA) SECTION 7
* COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA) SECTION 102

GENERATORS OF THIS HAZARDOUS WASTE ARE ALSO SUBJECT TO THE FOLLOWING STANDARDS. (52FR35898 SEPT. 23,1987)

1). A GENERATOR OF GREATER THAN 1000 KILOGRAMS OF HAZARDOUS WASTE I A CALENDAR MONTH MUST SUBMIT AN "EXCEPTION REPORT" TO THE ENVIRONMENTAL PROTECTION AGENCY REGIONAL ADMINISTRATOR (FOR THE REGION IN WHICH THE GENERATION IS LOCATED) IF HE HAS NOT RECEIVED A COPY OF THE MANIFEST WITH THE HANDWRITTEN SIGNATURE OF THE OWNER OR OPERATOR OF THE DESIGNATED FACILITY WITHIN 45 DAYS OF THE DATE THE WASTE WAS ACCEPTED BY THE INITIAL TRANSPORTER.

2). A GENERATOR OF GREATER THAN 100 KILOGRMAS BUT LESS THAN 1000 KILOGRAMS OF HAZARDOUS WASTE IN A MONTH WHO DOES NOT RECEIVE A COPY OF THE MANIFEST WITH THE HANDWRITTEN SIGNATURE OF THE OWNE OR OPERATOR OF THE DESIGNATED FACILITY WITHIN 60 DAYS OF THE DA THE WASTE WAS ACCEPTED BY THE INITIAL TRANSPORTER MUST SUBMIT A LEGIBLE COPY OF THE MANIFEST, WITH SOME INDICATION THAT THE GENERATOR HAS NOT RECEIVED CONFIRMATION OF DELIVERY, TO THE EPA REGIONAL ADMINISTRATOR FOR THE REGION IN WHICH THE GENERATO IS LOCATED.

EPA HAZARDOUS WASTE NUMBER D001

WASTE WHICH EXHIBITS THE CHARACTERISTIC OF IGNITABILITY 40CFR261.21

40CFR260 HAZARDOUS WASTE MANAGEMENT SYSTEM: GENERAL

PROVIDES DEFINITIONS OF TERMS, GENERAL STANDARDS, AND OVERVIEW INFORMATION APPLICABLE TO 40CFR PARTS 260-265

40CFR261 IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

IDENTIFIES THOSE SOLID WASTES WHICH ARE SUBJECT TO REGULATION AS HAZARDOUS WASTES UNDER 40CFR PARTS 262-265, 270, 271, AND 124 AND WHIC ARE SUBJECT TO THE NOTIFICATION REQUIREMENTS OF SECTION 3010 OF THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) AND IDENTIFIES ONLY SOME OF THE MATERIALS WHICH ARE HAZARDOUS WASTES UNDER SECTIONS 3007 AND 70 OF RCRA

40CFR262 STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE

ESTABLISHES STANDARDS FOR GENERATORS OF HAZARDOUS WASTE

40CFR263 STANDARDS APPLICABLE TO TRANSPORTERS OF HAZARDOUS WASTE

ESTABLISHES STANDARDS WHICH APPLY TO PERSONS TRANSPORTING HAZARDOUS WASTE WITHIN THE UNITED STATES IF THE TRANSPORTATION REQUIRES A MANIFE UNDER 40CFR262

40CFR264 STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES

ESTABLISHES MINIMUM NATIONAL STANDARDS WHICH DEFINE THE ACCEPTABLE MANAGEMENT OF HAZARDOUS WASTE

40CFR265 INTERIM STATUS STANDARDS FOR OWNERS AND OPERATORS OF HAZARDO WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES

ESTABLISHES MINIMUM NATIONAL STANDARDS WHICH DEFINE THE ACCEPTABLE MANAGEMENT OF HAZARDOUS WASTE DURING THE PERIOD OF INTERIM STATUS

40CFR267 INTERIM STANDARDS FOR OWNERS AND OPERATORS OF NEW HAZARDOUS WASTE LAND DISPOSAL FACILITIES

ESTABLISHES MINIMUM NATIONAL STANDARDS THAT DEFINE THE ACCEPTABLE MANAGEMENT OF HAZARDOUS WASTE FOR NEW LAND DISPOSAL FACILITIES

40CFR270 EPA ADMINISTERED PERMIT PROGRAMS: THE HAZARDOUS WASTE PERMIT PROGRAM

ESTABLISHES PROVISIONS FOR THE HAZARDOUS WASTE PERMIT PROGRAM UNDER SUBTITLE C OF THE SOLID WASTE DISPOSAL ACT, AS AMENDED BY THE RESOURCE

CONSERVATION AND RECOVERY ACT

CAS NUMBER
7758-19-2

REGISTRY TOXIC CHEMICALS NUMBER
VZ4800000

BULLETINS

SPECIAL INFORMATION
MAY FORM EXPLOSIVE MIXTURES WITH AMMONIUM COMPOUNDS, CYANIDES, COMBUSTIBLE MATERIAL OR FINELY POWDERED METALS.
MIXTURES WITH COMBUSTIBLE MATERIAL ARE SENSITIVE TO FRICTION AND ARE LIABLE TO IGNITE OR EXPLODE ON CONTACT WITH SULFURIC ACID.

CHEMICAL CONTAMINANTS OF CONCERN

CONTAMINANT	TLV PEL	IDLH	PHYSICAL CHARACTERISTICS	ROUTE OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE	FIRST AID	INSTRUMENTS TO DETECT
Diesel Fuel	N/A	N/A	Petroleum odor				HNu
Sodium Chloride	N/A	N/A	White crystalline excellent cleavage 39.3% Na 60.0% CL dissolves in H_2O Commonly contains impurities Ca-Mg	ingest eyes skin/open		Rinse w/ H_2O	
Sodium Chlorite $NaClO_2$	Not Specified	Not Specified	White crystalline hygroscopic M.W. = 90.44 B.P @ 1 atm - decomposes decomposes 356°-392° F OXIDIZER Soluble in H_2O FLAMMABLE EXPLOSION RISK anhydrous salt, explodes on impact	Contact - skin eyes Ingestion	Irritant Eye Irritant	Drench any skin exposure w/ H_2O Eye Wash - No Contacts If swallowed give H_2O DO NOT INDUCE VOMMITING	SCBA in High Levels No detection ability Known. Incompatabilities - acids - organic matter - phosphorus - sulfur

Description of Decontamination To Be Used:

No Entry by TAT

ERCS - USE DISPOSABLES AND DISPOSE w/ WASTES

SPECIFY PPE TYPE

TASK TO BE PERFORMED	ANTIC. LEVEL OF PROTECT.	COVERALL	GLOVE IN/OUT.	AIR PURIF. RESPIRATOR CART/CANN
Monitor and assist OSC to provide log of photo documentation and support	D			

Anticipated Monitoring

Radiation Meter [ ] CGI [✓] HNU [✓] 11.7 eV Probe OVA [ ]

Detector Tube [ ] _____ Other _____

EMERGENCY PHONE NUMBERS:	LOCATION	PHONE	NOTIFIED
FIRE Onscene	Cobb County	427-8159	Yes
POLICE On Scene	Kennesaw	911!	Yes
AMBULANCE Onscene	Cobb County EMS	911!	Yes
HOSPITAL	Kennestone	~~951-3353~~ 426-3111	Yes 3 policemen, 1 fireman taken to Kennestone

CHEMICAL TRAUMA CAPABILITY? No/ General → 4 people evacuated to hospital

DIRECTIONS TO HOSPITAL: (ATTACH MAP) RTE. VERIFIED BY____ DATE_____

Take Hwy 41 South to ~~Church Street~~ Bells Ferry, turn right, on Bell's Ferry

(a) get onto Church Street - Highway 5, turn right, go past overhead bridge on left. At first ~~right~~ hospital is

ADDITIONAL EMERGENCY PHONE CONTACTS:

CHEMTREC	(800) 424-9300
TSCA HOTLINE	(800) 424-9065, (202) 544-1404
ATSDR	(DAY) (404) 329-2888
	(NIGHT) (404) 566-7777
AT & F (EXPLOSIVES INFO.)	(800) 424-9555
NATIONAL RESPONSE CENTER	(800) 424-8802
WESTON MEDICAL EMERGENCY SERVICE	(513) 421-3063
WESTON 24 HOUR HOTLINE	(215) 524-1925, 1926
PESTICIDE INFORMATION SERVICE	(800) 845-7633
EPA ERT EMERGENCY	(201) 321-6660
RCRA HOTLINE	(800) 424-9346
CMA CHEMICAL REFERRAL CENTER	(800) 262-8200
NATIONAL POISON CONTROL CENTER	(800) 942-5969
U.S. DOT	(202) 366-0656 (Day only)

Prepared by: [signature] Date: 03 March 1988

Pre-Response Approval by: Verbal Approval by Burt McCullough Date: 03 March 88

TDD# 8803-05 PCS# 1514

OBSERVED CONDITIONS/ACTIVITIES

Describe Initial Conditions (Source/Type/Quantity): Twenty 100 lb drums (approximately 20 gal in volume) in front of burned trailer. Fire extinguished by firemen in Level "A" firemen ready with hoses. At time of arrival by TAT & OSC, nearby funeral home

DOCUMENTATION PERFORMED BY: D. Wingard

Type: Photo ✓ Log Book ✓ Recorder N/A Video N/A

PHYSICAL DESCRIPTION

Size of Site: Hot Zone 175 ft Topography Terrain: Hill Weather overcast windy

Distance to Nearest: Residence____ School____ Hospital ____

Public Building____ Other Funeral home - 200 ft

Evacuation: Yes ✓ No___ Number 4 By Whom Cobb County Fire Dept.

Nearest Waterway: ditch leading to creek Distance: 20 ft

Condition	Observed	Potential	None
Surface Water Contamination		✓	
Ground Water Contamination		✓	
Drinking Water Contamination			✓
Air Contamination	✓		
Soil Contamination	✓		
Stressed Vegetation		✓	
Dead Fish, Other Animals			✓ observed

ACTIONS TAKEN ON SITE: (Attach Map of Site Control Zones)

Was Entry Made by TAT: YES____ NO ✓

TASK CONDUCTED: Describe Specific PPE Used and Why

Monitoring R.P. Cleanup — D - TAT response based on reported diesel & na Cl spill Did not prepare for Level 'B' response

SAMPLING: CONDUCTED? YES_____ NO ✓ (by Clean-up Contractor w/ Chain of Custody)

If Yes, Describe Sampling Method_____

Has Lab Been Notified of Potential Hazard Level? Yes___ No___ NA ✓

Note: This Health and Safety Plan was prepared for work to be conducted under the Technical Assistance Team (TAT) Contract 68-01-7367 Zone 1. Use of this plan by WESTON and its subcontractors on the TAT contract is intended to fulfill the OSHA requirements found in 29 CFR 1910.120. Items not specifically covered in this plan are included by reference to 29 CFR 1910 and 1926.

I have read and understand this safety plan.

NAME (PRINTED)	SIGNATURE	AFFILIATION	DATE
David J. Wingard	David J Wingard	TAT	14 March 88

Final Submission of Plan by David J Wingard Date 14 March 88

Post Response Approval David Ray Vance Date 18 MAR 88

Copy to ZPMO_____ Date_____

SPER HSO Reviewed by:_____ Date:_____

Followup Required: Yes___ No___

Followup Performed: Date: _____ With:_____

Comments:

AIR MONITORING LOG

OVA Calibration ~~56 @ 57 ppm 10.2~~
HNU Calibration 56 @ 57 ppm w/10.2
CGI Calibration _____

Background O_2 _____
Organics _____
Radiation _____

CGI _____

(ATTACH CALIBRATION DATA TO LOG)

S I T E N A M E

STATION/ LOCATION	DATE	TIME	NAME OF AIR MONITOR	TYPE OF EQUIPMENT (HNU(PROBE/SPAN), CGI, OVA, RAD MTR	READING	SUMMARY/COMMENTS

AIR MONITORING LOG

OVA Calibration _____
HNU Calibration _____
CGI Calibration _____

Background O_2 _____
Organics _____
Radiation _____

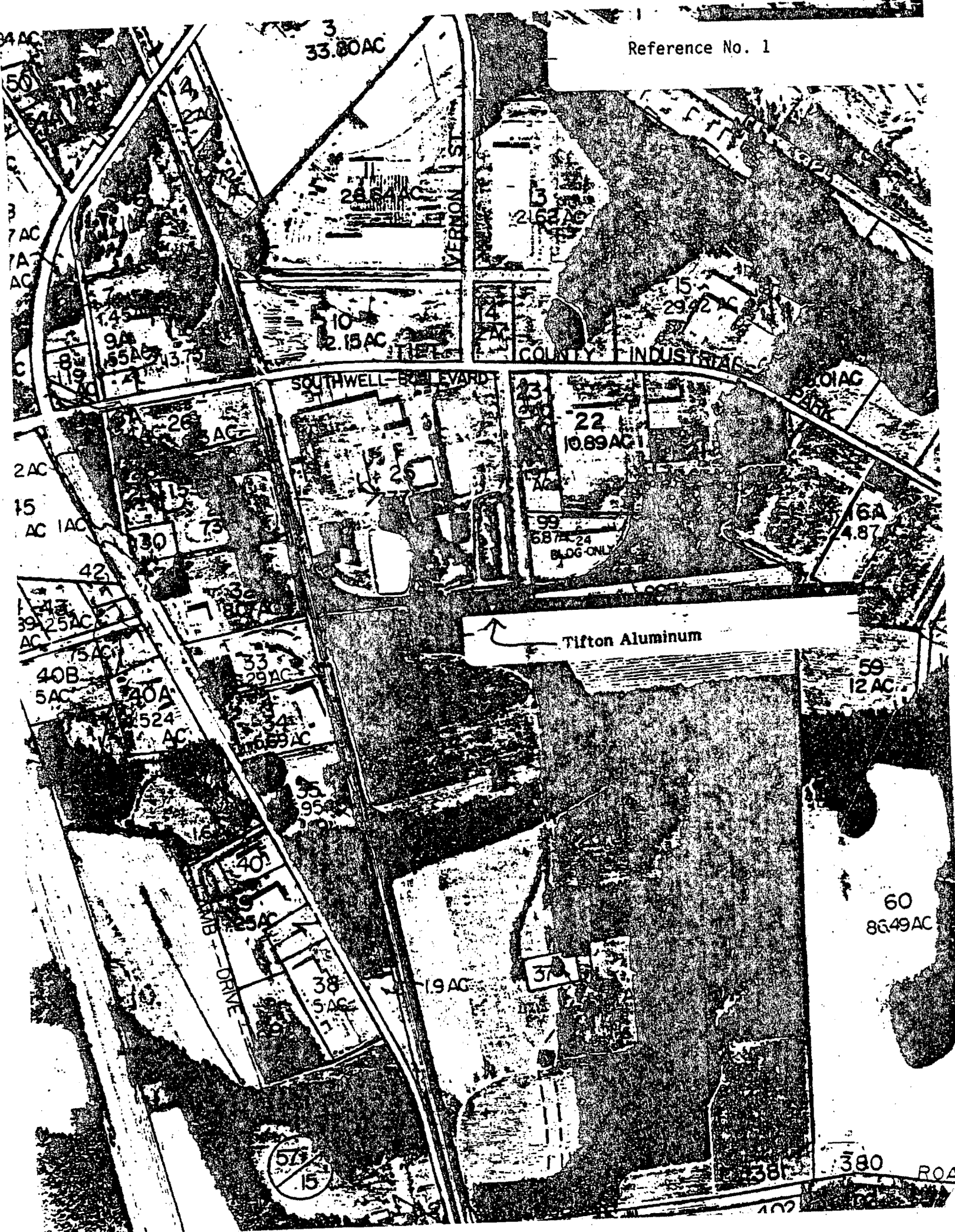
CGI _____

(ATTACH CALIBRATION DATA TO LOG)

S I T E N A M E

STATION/ LOCATION	DATE	TIME	NAME OF AIR MONITOR	TYPE OF EQUIPMENT (HNU(PROBE/SPAN), CGI, OVA, RAD MTR	READING	SUMMARY/COMMENTS

Reference No. 1



PRELIMINARY ASSESSMENT COVER SHEET
TIFTON ALUMINUM CO., INC.
GAD003484607

I. HISTORY OF SITE

The Tifton Aluminum Co., Inc. is located on Southwell Boulevard (P. O. Box 88) in Tifton, GA 31793. It has been in operation and under the same ownership since 1966. The facility is primarily engaged in the manufacturing and sales of aluminum extrusions. Secondary operations include extrusion die manufacturing; ingot casting by the direct chill method; and anodizing, painting and fabrication of aluminum extrusions. Non-hazardous sludge from anodizing and paint waste water treatment are stored and dewatered on site in surface impoundments. Solvents are reclaimed by Ramsey Chemical Co., in Valdosta, GA. The mixed municipal waste is disposed of at Tifton-Tift County Landfill. The facility has withdrawn its Part A Application and it is currently classified as a hazardous waste generator.

II. NATURE OF HAZARDOUS MATERIALS

Hazardous materials present at this facility include spent halogenated and non-halogenated solvents (2,300 gal./yr.) stored in 55 gallon drums and non-hazardous waste water treatment sludge (33,012 tons/yr.) stored in surface impoundments.

III. DESCRIPTION OF HAZARDOUS CONDITIONS, INCIDENTS, PERMIT VIOLATIONS

According to information supplied by Mr. Warren Housworth, Superintendent - Anodizing-Paint of Tifton Aluminum Co., Inc., there have been no on-site spills. However, on-site disposal of non-hazardous sludge waste into surface impoundments is a current practice.

IV. ROUTES OF CONTAMINATION

On-site disposal may result in wastes leaving the site via surface run-off and infiltration into the soil due to unlined impoundments.

V. POSSIBLE AFFECTED POPULATION AND RESOURCES

There is a shallow drinking water well in the area, as well as a water tank.

VI. RECOMMENDATIONS AND JUSTIFICATIONS

Information concerning the past on-site disposal practices of sludge wastes is incomplete. A priority for a site inspection of "Low" is assigned to this site.

VII. REFERENCE TO SUPPORTING DATA SOURCES

1. EPA 3510-1, 3510-3 (6/80) Form, 11/17/80.
2. Notification of Hazardous Waste Activity, 6/25/82.
3. Environmental Control Laboratory, Leachate Results, 5/20/82.
4. GA EPD Facility Information Form, 7/8/81.
5. GA EPD Facility Information Report (Inspection) 7/8/81.
6. GA EPD Action Report, 7/8/81.
7. Letter, 9/26/83, acknowledgement of withdrawal and warranted status change to generator, GA EPD.
8. Waste Management Data Sheet, 2/1/84.
9. Georgia Annual Hazardous Waste Report, 3/12/84.
10. Letter, 4/18/85, from Tifton Aluminum Co., Inc., regarding sludge impoundments.
11. Letter, 7/9.85, sludge regarded as non-hazardous waste - GA EPD.

GAK/mcw054
File - Tifton Aluminum Co., Inc. (8)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
GA	D003484607

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER				
Tifton Aluminum Co., Inc.	Southwell Blvd., P. O. Box 88				
03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CC DIS
Tifton	GA	31793	Tift	277	02

09 COORDINATES LATITUDE	LONGITUDE
31° 24' 56.0"	083° 29' 52.0"

10 DIRECTIONS TO SITE (Starting from nearest public road)

From the intersection of State Route 125 and Southwell Blvd., proceed east 1.5 miles. Facility is on the left (south).

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)		
Aluminum Company of America	1501 Alcoa Building		
03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
Pittsburgh	PA	15219	(412) 553-4545
07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)		
Tifton Aluminum co., Inc.	Southwell Blvd., P. O. Box 88		
09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER
Tifton	GA	31793	(912) 382-7330

13 TYPE OF OWNERSHIP (Check one)

☒ A. PRIVATE ☐ B. FEDERAL: _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL

☐ F. OTHER: _____ (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)

☒ A. RCRA 3001 DATE RECEIVED: 11/17/80 (MONTH DAY YEAR) ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: / / (MONTH DAY YEAR) ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION

☒ YES DATE 7/8/81 (MONTH DAY YEAR)
☐ NO

BY (Check all that apply)

☐ A. EPA ☐ B. EPA CONTRACTOR ☒ C. STATE ☐ D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: _____ (Specify)

CONTRACTOR NAME(S): _____

02 SITE STATUS (Check one)

☒ A. ACTIVE ☐ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION

1966 (BEGINNING YEAR) | present (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

Dichromate, spent solvents (MEK), oil based paint wastes, sludge (containing metals).

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

On-site disopsal may result in soil, surface water and ground water contamination.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)

☐ A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) ☒ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)			03 TELEPHONE NUMBER
Warren Housworth	Tifton Aluminum Co., Inc.			(912) 382-7330
04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Gilda A. Knowles G.A.K.	DNR-EPD	RAU	(404) 656-7404	09 16 85 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

J. Surowiec

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
GA	0003484607

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

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

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

TONS 330,663T

CUBIC YARDS _____

NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

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

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	33,012	tons/year	annual volume
OLW	OILY WASTE			
SOL	SOLVENTS	2,300	gal/year	annual volume
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS	unknown	-------	-------
BAS	BASES			
MES	HEAVY METALS			

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

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
SLU	unknown (paint & aluminum wastes)	-----	surface impoundment	-----	-----
SOL	unknown (contains MEK & other cleaning agents)	-----	drums/landfill	-----	-----
ACD	chromic acid	7738-94-5	unknown	-----	-----

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)

GA EPD State Files.
Tifton Aluminum Co., Inc., Tifton, GA.

EPA

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

I. IDENTIFICATION

01 STATE: GA | 02 SITE NUMBER: 0003484607

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] A. GROUNDWATER CONTAMINATION — 02 [ ] OBSERVED (DATE: _____) — [X] POTENTIAL — [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: unknown — 04 NARRATIVE DESCRIPTION
Sludge waste have been disposed of in surface impoundments on site. Unlined ponds were observed on 7/8/81.

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

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

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

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

01 [X] F. CONTAMINATION OF SOIL — 02 [ ] OBSERVED (DATE: _____) — [X] POTENTIAL — [ ] ALLEGED
03 AREA POTENTIALLY AFFECTED: unknown — 04 NARRATIVE DESCRIPTION
Possible over flow or leachate from impoundments.

01 [X] G. DRINKING WATER CONTAMINATION — 02 [ ] OBSERVED (DATE: _____) — [X] POTENTIAL — [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: unknown — 04 NARRATIVE DESCRIPTION
Possible overflow or leachate into soil from impoundment. Drinking water well in area.

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

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

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
GA	D003484607

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

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

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

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

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES (Spills, runoff, standing liquids, leaking drums) — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

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

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

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

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

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

None

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

GA EPD State Files.
Tifton Aluminum Co., Inc., Tifton, GA.

Reference No. 3

LOGBOOK REQUIREMENTS
REVISED - NOVEMBER 29, 1988

NOTE: ALL LANGUAGE SHOULD BE FACTUAL AND OBJECTIVE

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

All entries in this logbook will be made by myself, Eric Corlin Project Manager. Each page will be signed and dated. Any and all corrections will be properly initiated (EJC)

Signature Eric J. Corlin

All notes and observations made during this investigation will be included in this logbook.

01/09/15 Eric J. Corlin

The following NUS personnel herein listed, have read and understood the following NUS/E&A documents listed

Health & Safety Plan
Study Plan & Work Plan

As confirmation of having read and understanding the above listed documents, we the undersigned place our signatures.

Steve Cash Stephen D. Cash
Mark Hitchcock [illegible]
Murray Warner Murray Warner

0600 Trip blank is pulled and iced down to 4°C. Station # TA-TB-01.

0630 Crew meets at office in preparation to leave

01/09/89 S. Cash

for Tifton Aluminum Company in Tifton, Georgia.

Weather forecast calls for highs in the low to mid fifties (50's) with a slight chance of rain

The Case Number for this study is 11209 and the Project Number for this study is 89-227

0700 Leave for Tifton Aluminum Company, light rain has begun to fall

1100 Arrive at the site and meet with Mr Dick Reeves, Engineering Manager for Tifton Aluminum Company. We discussed sample locations with Mr. Reeves and he explained

01/09/89 S. Cash

various drainage paths
and areas of concern. He stated
that the some of the
sludge lagoons were still
soft and expressed concern
about us sampling these
areas for safety reasons
and I told him that we would
follow our safety plan
and try to stay out of those
areas for our own safety
if possible. Mr. Reeves
asked us where we were
going to sample and I
told him that the actual
location would be decided
upon during visual onsite
evaluations. He suggested
some locations to use I
showed us some on site drainage
patterns. Mr. Reeves had
expressed concern about us
taking pictures on site & we
agreed that I would take

all pictures and provide
them with a copy of
each of them and he
agreed to that. We
discussed split samples &
I told Mr. Reeves that we
were prepared to take and
relinquish samples to their
representative for their
own laboratory analysis.
Mr. Reeves wanted to
know if we were planning
to install any permanent
monitoring wells of any
type and I explained to him
that we would install only
temporary wells which
would be drilled with a
hand auger and filled
in with bentonite and
closed out. We also explained
our following of the
E/A/G SOP in our sample
collection. He further

stated that surface run off from surrounding areas comes onto the plant property, which was not a result of plant operations which might show up in the laboratory analyses.

The facility boundary is fenced with a chain link fence approximately 6 feet high with barbed wire on top. The only site access available is through the front office or through the guard gate on the northeast side of the property. Six sludge drying impoundments & a 3 lagoon wastewater pond treatment system exist on site, none have a liner, all are fairly devoid of vegetation. Six sludge drying impoundments are dry, the wastewater lagoons contain water. A white-gray substance exists on the sludge drying impoundments.

TA-SS-03 - Sample Time - 1450 - A background surface soil sample was collected from the eastern side of the facility adjacent to the parking lot in a grassy area where a former ball field was located. According to Mr. Reeves, this is not close to a naturally occurring area

as we may find on this property. The sample was primarily light brown with varying amounts of sand & a little clay. The auger was advanced to 2 feet below land surface (HS) and the sample was collected at that depth. Samplers were Mark Hitchcock and Eric Corbin. Splits were provided to Mark Nance of Savannah Laboratories who is accepting splits for Tetra Tech. See field sheets for logs.

1540 - Sample time - TA-SD-04 - A Composite sediment sample was collected from the former surface impoundments located along the eastern

01/09/89 E Corbin

edge of the property. The material was collected from three of these former impoundments and it had a characteristic white & chalky appearance which was chronologically similar in all three. The sample was collected by Mark Hitchcock and Eric Corbin. The sample was collected with a spoon & bowl near the surface of each impoundment. Splits were provided to Mark Nance of Savannah Laboratories. See field sheets for logs. All three (3) of the surface impoundments sampled were unlined. Additionally the some of the material was dry revealing a potential air release hazard.

1635 - Sample time - TA-SD-05 A composite sediment sample

01/09/89 E Corbin

was collected from the two (2) former surface impoundments located in the southwest corner and portion of the property. These former impoundments were primarilly dry with the white material which has precipitated out of solution left remaining in the bottom of the impoundments. Natural grasses have also established themselves in the impoundments. The sample collected was primarilly a white chalky substance with small amount of sediment intermixed. These impoundments are unlined. The surface material was scraped away and sample was collected immediately below to a maximum depth of 2' bls. Samplers were Mark Hitchcock

 01/09/89 E.J. Corbin

& Eric Corbin. Splits were provided to Mike Nance of Savannah Labs. See field sheets for tag info.

1710 - Sample time - 8A-SD-02

A grab sediment sample was collected from the southern edge of the former farm pond (which is now used as the facilities final finish pond for the surface impoundment) at a point immediately adjacent to and above the discharge point in the pond. The sample had a large amount of leaves and other organic material and was dark brown to black in color. Samplers were Mark Hitchcock and

01/09/89 E.J. Corbin

Eric Corbin. Split samples were provided to Mike Rance of Savough Laboratories. See field sheets for tag info. The natural impoundment is said by Mr. Reeves to most likely have been a farm pond for unknown uses due to the fact that there were farms in the local area. Cattails and other wet water plants seemed to be flourishing in the pond as well as some small fish which could be seen at the pond's edge.

Mr. Reeves was interested in obtaining a copy of the substances the EPA NLS's labs analyze for and a complete list of all the parameters that

we scan for because they have intentions of analyzing for all the parameters that our C.L.P. labs analyze for. We called and spoke with Doug Chatham Chemist of NLS and Doug stated that he would send the information that he had pertaining to the request by a FAX machine to Tifton Aluminum Company's Office.

0700 - Awake for breakfast
Weather forecast calls
for highs in the mid 50's to
low 60's with a slight
chance of rain

0815 - Arrive at site and sign
in at the guard house.
Cloudy weather currently.

0835 Mr. Reeves and I discussed collecting a
background groundwater sample and I
told him that we would collect one
from the grassy area where TASS-03 was
collected, however, he felt that this location
may not be hydraulically upgradient, but I
pointed out to him that our information
indicates otherwise, that just as the
surficial aquifer is a subdued reflection of the
surface topography and that the area was
the highest naturally occurring topographic area onsite.

0830 - Sample time - TA-SD-01
A grab sediment sample

01/10/89 E S Corbin

was collected at an upgradient
location in the onsite drainage
ditch (a point where the
water leaves the culvert
which drains upgradient
areas of the property) where the
water exits the drainage pipe.
There are two 4-8" pipes which
according to Mr. Reeves picks
up water from drainage
which enters culverts onsite
and a drainage ditch along
the northern property lines
drainage ditch and enters
the culverts & discharges
at the point where we collected
the sample. The sediment
sample was sandy & light
brown in color. Organic
material was present on the
surface of the sediment.
Sample was collected by
Eric Corbin & Mark Hitchcock
Splits were provided to

01/10/89 E S Corbin

Mike Nance of Savannah Laboratories. See field sheets for log info

0920 - Mr. Reeves stated that they had received a copy of the parameters and compounds we analyze for from Doug Chatham NUS.

0930 Located a location to collect a temporary ground water sample from one location adjacent to a water drainage area from the second downstream finishing pond and as previously stated adjacent to the pond drainage ditch.

0945 - Installed casing for temp well, water encountered at approximately 3 feet b/s. 10 feet of casing was installed.

1000 HNU calibrated, serial number 41549, Decal # - 33644, Probe # 41549, 10.2 probe on span 9.8, ppm = 38

1010 - HNU used to scan borehole. No reading recorded on either the breathing zone or in the borehole

1030 - attempted to collect a ground water sample however, were unable to due to the screen clogging up. We attempted time and time again to adjust the set up but the fine grained material encountered kept time and time again clogging up the screen on the casing. The subsurface material is extremely fine grained and does not allow water to pass through the

 01/04/89 E L Corbin

 01/04/89 E L Corbin

screen casing very well.

1100 Called and spoke to Phil Blackwell at MLS and he suggested we try to install another hole nearby to try and try to drill only about 2 to 4 feet into the water table & work out as much of the mud as possible, then allow it to settle for a period of time and then try again to collect a sample.

1115 - Installed new temp well

1130 - Began to decon some of our equipment.

1200 - Broke sampling for dinner.

1340 ~~1315~~ - Sample time - TA-TW-06 a grab groundwater

sample was collected from a temporary well located approximately 125 feet south of the second downstream (onsite) finishing pond. The samples collected were muddy for approximately 15 to 20 minutes then began to gradually clear up. Splits were provided to Mike Nance of Savannah Labs. Aliquots were poured into each container. See field sheets for tag info. Samplers were Mark Hitchcock & Eric Corbin. Water was first encountered in the borehole at approximately 4.5 feet bls. Holes were filled with bentonite and soil. Ph-6.6 Temp-23°C Cond-102, Ph-Cond. meter serial # A8974688 Water samples were preserved.

1410 - Deconning equipment.

1500 - Have located a location for the installation of another temporary well near the same location as TA-SS-03.

1520 - Have installed fifteen feet of auger flights and have advanced the borehole to twelve feet in depth and have yet to encounter water. The subsurface soil is brownish red in color and appears to be high in clay content. At twelve feet the hydraulic leaver has become hard to move any deeper so we have changed the auger bit to try to drill deeper. No groundwater has yet been encountered. Unable to advance the borehole any further than 13 ft.

1530 - Hole has been abandoned we have drilled to maximum depth of approximately thirteen (13) feet bls and no water was encountered. The only material we encountered as we advanced the borehole was sandy loam soil with a more denser quantity of clay as we advanced the borehole down. The clay encountered was very dense.

1540 - Have loaded the equipment and are preparing to collect a private well sample from a well located on Hobby-Perry Road which is located west of the facility on Hobby-Perry Rd.

1555 Reconnoiter the site with Mr. Reeves and take pictures of disposal areas, ponds, water discharge outfalls, etc.

We provided Mr. Reeves with a duplicate picture of every picture we have taken.

1750- Sample time - TA-PW-07
A grab groundwater sample was collected from the residence of Bobby L. Hobby of Rt. 2, Box 568, Tipton, GA. 31794. The pump was allowed to purge water from the well for approximately 15 minutes until ph, cond, & temp had stabilized. Splits were provided to Mike Nance of Savannah Laboratories, Samples were Mark Hitchcock and Steve Cook. There are three (3) people currently using the well for potable water. The well is approximately 45 ft & the sand is coarse. ph. 6.6, temp. 23°c, cond. 110 Samples were preserved and iced to 4°c. All samples have remained iced down to 4°c

immediately after collection. A receipt for samples form was signed by the well owner and by the representative for Tipton Aluminum Company, Mike Nance of Savannah Labs. Custody seals have been placed on all coolers containing samples and wrapped in strapping tape.

1930- Loaded up equipment and left site.

Chain of Custody Record numbers 4-11193, 4-11193, 4-11211, ESP Blanks + Spike # 4-8917, Receipt for Sample # 5 4 1946, 4 2470, - Tipton Aluminum Co., 4 1749 - Bobby Hobby

Richard B. Reeves
Engineering Manager

Tifton Aluminum Company, Inc.
P. O. Box 88, Southwell Blvd.
Tifton, Georgia 31793

Tel. (912) 382-7330

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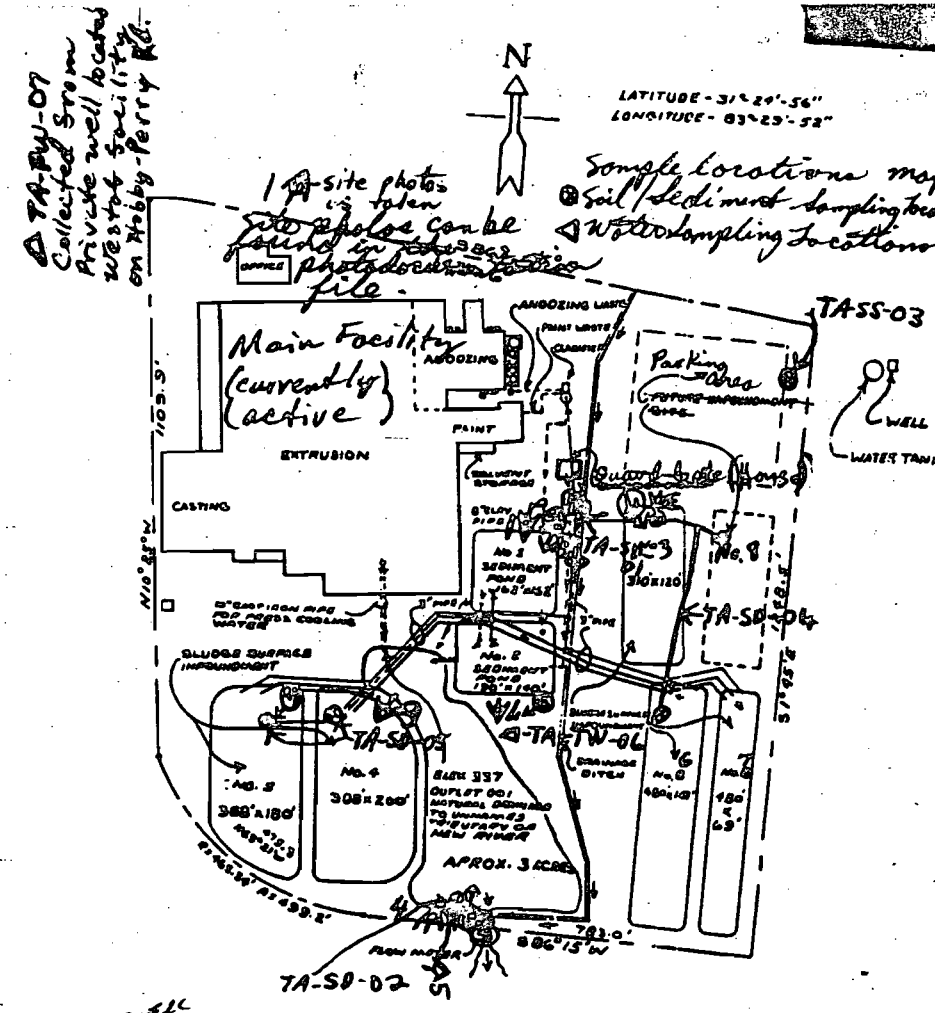

- numbers on map correspond to pictures as taken.
Arrows indicate direction

Site layout obtained from PAR

TIFTON ALUMINUM CO.
TIFTON, GA.

NUS CORPORATION — **TELECON NOTE**

CONTROL NO:	DATE:	TIME:
	5/23/88	2:15 p.m.

DISTRIBUTION:

File (Tifton Aluminum)

[redacted] Reference 33

BETWEEN:	OF:	PHONE:
Connie Boardman	Tifton, GA Chamber of Commerce	(912) 382-6200

AND:

Richard Mc Kenna (RM) (NUS)

DISCUSSION:

Ms. Boardman stated that the population of Tifton is approx. 18,000 and the population of Tift County is approx. 34,000. The area of Tift County is 58,464 acres; she did not know the area of the City of Tifton. The following businesses are located in the Tifton-Tift County Industrial Park:

Bold Corp.	100 employees
Tifton Textiles, Inc.	138
Union Camp Corp.	227
Kelley Manufacturing Co.	100
Larkin Colies, Inc.	122
Master Craft Engineering Co.	60
Prestolite Wire Corp.	225
Queen Carpet Corp.	213
Tifton Aluminum Co.	500

ACTION ITEMS:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

4WM-GP

MAY 23 1989

FILE w/
TIFTON ALUMINUM CO. INC
GAD003489607, GA

Mr. Bobby Hobby
Route 2, Box 568
Tifton, Georgia 31794

RE: Results of Analyses of Private Drinking Water Well Samples

Dear Mr. Hobby:

In January, 1989, your well was sampled by EPA as part of an investigation into possible ground-water contamination in your area. The samples were analyzed for a wide variety of potential contaminants, including metals, organic chemicals, pesticides and PCBs. The results of the analyses are now available, and a copy of these results is attached.

The only contaminant identified in the samples from your well that might be of concern is lead, which was identified at a concentration of 6 parts per billion (ppb). This concentration is well below the current drinking water standard of 50 ppb, but EPA has proposed that this standard should be lowered to 5 ppb. Children are especially sensitive to lead contamination.

It is possible that the lead levels found in your drinking water are coming from the lines in your well or house plumbing, where lead pipes and solders were sometimes used. Enclosed is a pamphlet entitled "Lead and Your Drinking Water" published by EPA. As stated in this pamphlet, the level of lead in your drinking water does not pose a significant health risk; it may be advisable, however, to periodically have your water tested for lead in the future.

If you have any questions, please contact Bernie Hayes of my staff at (404) 347-3866.

Sincerely yours,

James S. Kutzman

James S. Kutzman, Chief
Ground-water Protection Branch

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

PESTICIDES/PCB'S DATA REPORT 02/28/89

PROJECT NO. 89-227 SAMPLE NO. 32756 SAMPLE TYPE: GROUNDWA
SOURCE: TIFTON ALUMINUM
STATION ID: PW-07
CASE NUMBER: 11209 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: S CASH
CITY: TIFTON ST: GA
COLLECTION START: 01/10/89 STOP: 00/00/00
D. NUMBER: L409

UG/L	ANALYTICAL RESULTS
.050U	ALPHA-BHC
.050U	BETA-BHC
.050U	DELTA-BHC
.050U	GAMMA-BHC (LINDANE)
.050U	HEPTACHLOR
.050U	ALDRIN
.050U	HEPTACHLOR EPOXIDE
.050U	ENDOSULFAN I (ALPHA)
.10U	DIELDRIN
.10U	4,4'-DDE (P,P'-DDE)
.10U	ENDRIN
.10U	ENDOSULFAN II (BETA)
.10U	4,4'-DDD (P,P'-DDD)
.10U	ENDOSULFAN SULFATE
.10U	4,4'-DDT (P,P'-DDT)

UG/L	ANALYTICAL RESULTS
.50U	METHOXYCHLOR
.10U	ENDRIN KETONE
--	CHLORDANE (TECH. MIXTURE) /1
.50U	GAMMA-CHLORDANE /2
.50U	ALPHA-CHLORDANE /2
1.0U	TOXAPHENE
.50U	PCB-1016 (AROCLOR 1016)
.50U	PCB-1221 (AROCLOR 1221)
.50U	PCB-1232 (AROCLOR 1232)
.50U	PCB-1242 (AROCLOR 1242)
.50U	PCB-1248 (AROCLOR 1248)
1.0U	PCB-1254 (AROCLOR 1254)
1.0U	PCB-1260 (AROCLOR 1260)

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.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.
*C-CONFIRMED BY GCMS 1. WHEN NO VALUE IS REPORTED, SEE CHLORDANE CONSTITUENTS.

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

EXTRACTABLE ORGANICS DATA REPORT 02/28/89

** PROJECT NO. 89-227 SAMPLE NO. 32756 SAMPLE TYPE: GROUNDWA PROG ELEM: NSF COLLECTED BY: S CASH
** SOURCE: TIFTON ALUMINUM CITY: TIFTON ST: GA
** STATION ID: PW-07 COLLECTION START: 01/10/89 STOP: 00/00/00
** CASE NO.: 11209 SAS NO.: D. NO.: L409

UG/L	ANALYTICAL RESULTS
10U	PHENOL
10U	BIS(2-CHLOROETHYL) ETHER
10U	2-CHLOROPHENOL
10U	1,3-DICHLOROBENZENE
10U	1,4-DICHLOROBENZENE
10U	BENZYL ALCOHOL
10U	1,2-DICHLOROBENZENE
10U	2-METHYLPHENOL
10U	BIS(2-CHLOROISOPROPYL) ETHER
10U	(3-AND/OR 4-)METHYLPHENOL
10U	N-NITROSODI-N-PROPYLAMINE
10U	HEXACHLOROETHANE
10U	NITROBENZENE
10U	ISOPHORONE
10U	2-NITROPHENOL
10U	2,4-DIMETHYLPHENOL
50U	BENZOIC ACID
10U	BIS(2-CHLOROETHOXY) METHANE
10U	2,4-DICHLOROPHENOL
10U	1,2,4-TRICHLOROBENZENE
10U	NAPHTHALENE
10U	4-CHLOROANILINE
10U	HEXACHLOROBUTADIENE
10U	4-CHLORO-3-METHYLPHENOL
10U	2-METHYLNAPHTHALENE
10U	HEXACHLOROCYCLOPENTADIENE (HCCP)
10U	2,4,6-TRICHLOROPHENOL
50U	2,4,5-TRICHLOROPHENOL
10U	2-CHLORONAPHTHALENE
50U	2-NITROANILINE
10U	DIMETHYL PHTHALATE
10U	ACENAPHTHYLENE
10U	2,6-DINITROTOLUENE

UG/L	ANALYTICAL RESULTS
50U	3-NITROANILINE
10U	ACENAPHTHENE
50UJ	2,4-DINITROPHENOL
50U	4-NITROPHENOL
10U	DIBENZOFURAN
10U	2,4-DINITROTOLUENE
10U	DIETHYL PHTHALATE
10U	4-CHLOROPHENYL PHENYL ETHER
10U	FLUORENE
50U	4-NITROANILINE
50U	2-METHYL-4,6-DINITROPHENOL
10U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
10U	4-BROMOPHENYL PHENYL ETHER
10U	HEXACHLOROBENZENE (HCB)
50U	PENTACHLOROPHENOL
10U	PHENANTHRENE
10U	ANTHRACENE
10U	DI-N-BUTYLPHTHALATE
10U	FLUORANTHENE
10U	PYRENE
10U	BENZYL BUTYL PHTHALATE
20U	3,3'-DICHLOROBENZIDINE
10U	BENZO(A)ANTHRACENE
10U	CHRYSENE
10UJ	BIS(2-ETHYLHEXYL) PHTHALATE
10U	DI-N-OCTYLPHTHALATE
10U	BENZO(B AND/OR K)FLUORANTHENE
10U	BENZO-A-PYRENE
10U	INDENO (1,2,3-CD) PYRENE
10U	DIBENZO(A,H)ANTHRACENE
10U	BENZO(GHI)PERYLENE

REMARKS ***REMARKS***

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NA1-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.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

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

PURGEABLE ORGANICS DATA REPORT 02/28/89

PROJECT NO. 89-227 SAMPLE NO. 32756 SAMPLE TYPE: GROUNDWA PROG ELEM: NSF COLLECTED BY: S CASH
SOURCE: TIFTON ALUMINUM CITY: TIFTON ST: GA
STATION ID: PW-07 COLLECTION START: 01/10/89 STOP: 00/00/00

CASE NO.: 11209 SAS NO.: D. NO.: L409

UG/L	ANALYTICAL RESULTS
10U	CHLOROMETHANE
10U	BROMOMETHANE
10U	VINYL CHLORIDE
10U	CHLOROETHANE
5U	METHYLENE CHLORIDE
10UJ	ACETONE
5U	CARBON DISULFIDE
5U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
5U	1,1-DICHLOROETHANE
5U	1,2-DICHLOROETHENE (TOTAL)
5U	CHLOROFORM
5U	1,2-DICHLOROETHANE
20UJ	METHYL ETHYL KETONE
5U	1,1,1-TRICHLOROETHANE
5U	CARBON TETRACHLORIDE
10U	VINYL ACETATE
5U	BROMODICHLOROMETHANE

UG/L	ANALYTICAL RESULTS
5U	1,2-DICHLOROPROPANE
5U	CIS-1,3-DICHLOROPROPENE
5U	TRICHLOROETHENE(TRICHLOROETHYLENE)
5U	DIBROMOCHLOROMETHANE
5U	1,1,2-TRICHLOROETHANE
5U	BENZENE
5U	TRANS-1,3-DICHLOROPROPENE
5U	BROMOFORM
10U	METHYL ISOBUTYL KETONE
10U	METHYL BUTYL KETONE
5U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
5U	1,1,2,2-TETRACHLOROETHANE
5U	TOLUENE
5U	CHLOROBENZENE
5U	ETHYL BENZENE
5U	STYRENE
5U	TOTAL XYLENES

REMARKS

REMARKS

FOOTNOTES
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*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

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

METALS DATA REPORT 02/24/89

** PROJECT NO. 89-227 SAMPLE NO. 32744 SAMPLE TYPE: GROUNDWA PROG ELEM: NSF COLLECTED BY: S CASH **
** SOURCE: TIFTON ALUMINUM CITY: TIFTON ST: GA **
** STATION ID: PW-07 COLLECTION START: 01/10/89 STOP: 00/00/00 **
** CASE NUMBER: 11209 SAS NUMBER: MD NUMBER: L409 **

UG/L	ANALYTICAL RESULTS	UG/L	ANALYTICAL RESULTS
820U	ALUMINUM	50	MANGANESE
45U	ANTIMONY	0.20UJ	MERCURY
2U	ARSENIC	16U	NICKEL
630J	BARIUM	4500	POTASSIUM
1U	BERYLLIUM	2U	SELENIUM
5U	CADMIUM	3U	SILVER
7400	CALCIUM	21000	SODIUM
8U	CHROMIUM	3UJ	THALLIUM
12	COBALT	NA	TIN
20U	COPPER	6U	VANADIUM
90U	IRON	40U	ZINC
6	LEAD		
11000	MAGNESIUM		

REMARKS ***REMARKS***

FOOTNOTES*
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*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

M.2 - SITE MAINTENANCE FORM

* ACTION: _

EPA ID : GAD087515417

SITE NAME: THOMPSON-HAYWARD CHEMICAL CO SOURCE: X

STREET : US HWY 278 & FLORENCE RD CONG DIST: 07

CITY : POWDER SPRINGS ZIP: 30073

CNTY NAME: COBB CNTY CODE : 067

LATITUDE : 33/51/30.0 LONGITUDE : 084/40/30.0

LL-SOURCE: R LL-ACCURACY:

SMSA : 0520 HYDRO UNIT: 03130002

INVENTORY IND: Y REMEDIAL IND: Y REMOVAL IND: N FED FAC IND: N

NPL IND: N NPL LISTING DATE: NPL DELISTING DATE:

SITE/SPILL IDS:

RPM NAME: RAY WILKERSON RPM PHONE: 404-347-2234

SITE CLASSIFICATION: SITE APPROACH:

DIOXIN TIER: REG FLD1: REG FLD2: 6

RESP TERM: PENDING ( ) NO FURTHER ACTION (X)

ENF DISP: NO VIABLE RESP PARTY ( ) VOLUNTARY RESPONSE ( )
ENFORCED RESPONSE ( ) COST RECOVERY ( )

SITE DESCRIPTION:

* PENDING (_) NO FURTHER ACTION (_)

M.2 - PROGRAM MAINTENANCE FORM

ACTION: _

SITE: THOMPSON-HAYWARD CHEMICAL CO

EPA ID: GAD087515417 PROGRAM CODE: H01 PROGRAM TYPE: _

PROGRAM QUALIFIER: ALIAS LINK :

PROGRAM NAME: SITE EVALUATION

DESCRIPTION:

M.2 - EVENT MAINTENANCE FORM

* ACTION: _ *

SITE: THOMPSON-HAYWARD CHEMICAL CO
PROGRAM: SITE EVALUATION

EPA ID: GAD087515417 PROGRAM CODE: H01 EVENT TYPE: DS1

FMS CODE: EVENT QUALIFIER : EVENT LEAD: E * _ ___ _ *

EVENT NAME: DISCOVERY STATUS: * _____ _ *

DESCRIPTION:

* _____ *
* _____ *
* _____ *
* _____ *

ORIGINAL	CURRENT	ACTUAL			
START:	START:	START:	__/__/__	__/__/__	__/__/__
COMP :	COMP :	COMP : 02/01/80	__/__/__	__/__/__	__/__/__

HQ COMMENT:

* _____ *

RG COMMENT:

* _____ *

COOP AGR #	AMENDMENT #	STATUS	STATE %				
			0	_____	_____	__	___

M.2 - EVENT MAINTENANCE FORM

* ACTION: _ *

SITE: THOMPSON-HAYWARD CHEMICAL CO
PROGRAM: SITE EVALUATION

EPA ID: GAD087515417 PROGRAM CODE: H01 EVENT TYPE: PA1

FMS CODE: EVENT QUALIFIER : EVENT LEAD: * _ ___ _ *

EVENT NAME: PRELIMINARY ASSESSMENT STATUS: * _____ _ *

DESCRIPTION:

* _____ *
* _____ *
* _____ *
* _____ *

ORIGINAL	CURRENT	ACTUAL			
START:	START:	START: 06/01/80	__/__/__	__/__/__	__/__/__
COMP :	COMP :	COMP : 06/01/80	__/__/__	__/__/__	__/__/__

HQ COMMENT:

* _____ *

RG COMMENT:

* _____ *

COOP AGR #	AMENDMENT #	STATUS	STATE %				
			0	_____	_____	__	___

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

NOTIFICATION OF HAZARDOUS WASTE ACTIVITY

INSTALLATION'S EPA I.D. NO.

I. NAME OF INSTALLATION

II. INSTALLATION MAILING ADDRESS

III. LOCATION OF INSTALLATION

000026

PLEASE PLACE LABEL IN THIS SPACE

RECEIVED EPA/REGION IV

SEP 23 2 47 PM '80

ENFORCEMENT DIVISION

INSTRUCTIONS: If you received a preprinted label, affix it in the space at left. If any of the information on the label is incorrect, draw a line through it and supply the correct information in the appropriate section below. If the label is complete and correct, leave Items I, II, and III below blank. If you did not receive a preprinted label, complete all items. "Installation" means a single site where hazardous waste is generated, treated, stored and/or disposed of, or a transporter's principal place of business. Please refer to the INSTRUCTIONS FOR FILING NOTIFICATION before completing this form. The information requested herein is required by law *(Section 3010 of the Resource Conservation and Recovery Act).*

FOR OFFICIAL USE ONLY

COMMENTS

C

INSTALLATION'S EPA I.D. NUMBER: F GAD087515417 21

APPROVED:

DATE RECEIVED (yr., mo., & day): 800818

I. NAME OF INSTALLATION

THOMPSON-HAYWARD CHEMICAL COMPANY

II. INSTALLATION MAILING ADDRESS

STREET OR P.O. BOX: 3 P O BOX 20178

CITY OR TOWN: 4 ATLANTA

ST.: GA

ZIP CODE: 30325

III. LOCATION OF INSTALLATION

STREET OR ROUTE NUMBER: 5 HWY 278 AND FLORENCE RD

CITY OR TOWN: 6 PROVIDENCE SPRINGS

ST.: GA

ZIP CODE: 30073

IV. INSTALLATION CONTACT

NAME AND TITLE (last, first, & job title): 7 SMITH J.L BRANCH MANAGER

PHONE NO. (area code & no.): 351 0654 ext 404

V. OWNERSHIP

A. NAME OF INSTALLATION'S LEGAL OWNER: 8 THOMPSON-HAYWARD CHEMICAL COMPANY

B. TYPE OF OWNERSHIP (enter the appropriate letter into box): M

F = FEDERAL
M = NON-FEDERAL

VI. TYPE OF HAZARDOUS WASTE ACTIVITY (enter "X" in the appropriate box(es))

- [X] A. GENERATION
- [ ] B. TRANSPORTATION (complete Item VII)
- [ ] C. TREAT/STORE/DISPOSE
- [ ] D. UNDERGROUND INJECTION

VII. MODE OF TRANSPORTATION (transporters only – enter "X" in the appropriate box(es))

- [ ] A. AIR
- [ ] B. RAIL
- [ ] C. HIGHWAY
- [ ] D. WATER
- [ ] E. OTHER (specify):

VIII. FIRST OR SUBSEQUENT NOTIFICATION

Mark "X" in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your Installation's EPA I.D. Number in the space provided below.

D.K.

- [X] A. FIRST NOTIFICATION
- [X] B. SUBSEQUENT NOTIFICATION (complete item C) — N/A

C. INSTALLATION'S EPA I.D. NO.: ~~0 0 14 8 GA 0 5~~

IX. DESCRIPTION OF HAZARDOUS WASTES

I.D. – FOR OFFICIAL USE ONLY

W GAD087515417 2

IX. DESCRIPTION OF HAZARDOUS WASTES *(continued from front)*

A. HAZARDOUS WASTES FROM NON–SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.31 for each listed hazardous waste from non–specific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
7	8	9	10	11	12

B. HAZARDOUS WASTES FROM SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.32 for each listed hazardous waste from specific industrial sources your installation handles. Use additional sheets if necessary.

13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30

C. COMMERCIAL CHEMICAL PRODUCT HAZARDOUS WASTES. Enter the four–digit number from 40 CFR Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31 P029	32 P030	33 P090	34 P106	35 P121	36
37	38	39	40	41	42
43	44	45	46	47	48

D. LISTED INFECTIOUS WASTES. Enter the four–digit number from 40 CFR Part 261.34 for each listed hazardous waste from hospitals, veterinary hospitals, medical and research laboratories your installation handles. Use additional sheets if necessary.

49	50	51	52	53	54

E. CHARACTERISTICS OF NON–LISTED HAZARDOUS WASTES. Mark "X" in the boxes corresponding to the characteristics of non–listed hazardous wastes your installation handles. *(See 40 CFR Parts 261.21 – 261.24.)*

- [X] 1. IGNITABLE (D001)
- [X] 2. CORROSIVE (D002)
- [X] 3. REACTIVE (D003)
- [X] 4. TOXIC (D000)

X. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

SIGNATURE	NAME & OFFICIAL TITLE *(type or print)*	DATE SIGNED
J. L. Smith	J. L. Smith Branch Manager	8-18-80

EPA Form 5700-12 (6-80) REVERSE

J.L. Smith/ Atlanta

WITHDRAW / NO GSA

Part A, Permit Process --- Internal Checklist

ID Number GAD 087 515417 Inst Name THOMPSON-HAYWARD CHEM

Refer to Form No:	PHASE ONE Interim Regulatory Requirements	Indicate by your initials: Yes	No	Valid Prmlg Date?
1	T/S/D Facility? (If No, return to respondent.)	DK		
3	Form 1 received?	DK		
1	Form 3 received?	DK		
1 & 3	Postmarked on or before November 19, 1980?	DK		
3	Date of operation entered?	DK		
3	Date of operation on or before November 19, 1980?	DK		
Notif. record	Notifier?	DK		
"	Notified on or before August 18, 1980?	DK		
1	Form 1, XIII B signed?	DK		
3	Form 3, IX B Signed?	DK		

(If all ten items above are initialed in the Yes column, generate Interim Status Acknowledgement and indicate the trigger date here: 12/19/80)

PHASE TWO

1	Unsure if regulated or non-regulated?		
3	New facility?		

1 & 3 Core items missing? If Yes, indicate which items:

Facility name___; location___; mail address___; operator info___;

certification ___; process info___; waste info ___; owner ___ sigs ___.

PHASE THREE ✓

1 & 3 Non-core items missing? If Yes, indicate which items:

Maps___; photos___; drawings___; lat/long___.

Other observations and comments:

RECEIVED EPA/REGION IV NOV 19 ENFORCEMENT DIVISION

001598

Received Date Stamp

Log out/Log in

6/17
4

RCRA MAINTENANCE FORM

FACILITY NAME Thompson-Hayward ID # CAD 087 515 417

F1 Notif. approval _____
Date notified _____
Permit app. approved _____
Date Part A r'cd #
Facility name _____
Notif. confidential _____
Part A confidential _____
Closure date _____

F2 Contact name & pos. _____
Contact tele. # _____
Modif. under const. _____
Commercial fac. indic. _____
Non-reg. fac. indicator _____

F3 Mailing address _____
F4 Mailing city _____ State _____ Zip _____

F5 Facility address _____
County name _____

F6 Facility city _____ State _____ Zip _____
County code _____ Drawings # Photos #
District code _____ River Basin code _____
Latitude _____ Longitude _____

F7 SIC _____ NEW SIC _____
_____ _____
_____ _____
_____ _____

F8 Facility operator name _____ Owner type _____
Activity codes: Gen _____ Trans _____ TSD # UIC _____
Transport mode: Air _____ Rail _____ Hwy _____ Water _____ Other _____
Owner/Oper ind. _____ Facility status _____ RCRA permit stat _____
Existance date _____

F9

Type	Permit number	Type	New permit number

F0 Date acknowledgement sent: Notification_____
Int. status_____Int. status 2_____

FA Operator tele.#_____Street_____
FB City_____State_____Zip_____Indian land____

FC Comment #____ Comment_____

FE Facility owner _____Tele #_____
FF Owner street_____
FG Owner city_____State_____Zip_____

C1	Process code	Amount	Unit	New Code	Amount	Unit
	504			~~14~~		

W1	Waste Seq #	Waste Code	Waste Amount	Unit	New Waste	New Amount	New Unit

W2	Waste Seq #	Waste Code	Process	Change Process

RESPONDENT CONTACT RECORD (RCR)

FACILITY ID NUMBER	COMPANY NAME
GAD087515417	THOMPSON-HAYWARD CHEMICAL CO.

COMPANY ADDRESS	CITY	STATE ABBREV.	ZIP CODE
P.O. BOX 20178	ATLANTA	GA	30325

CONTACT PERSON'S NAME/TITLE	TELEPHONE NUMBER (INCLUDE AREA CODE)
J.L. SMITH, BRANCH MGR.	404 351-0654

CONTACT RECORD

DATE	CONTRACTOR'S INITIALS	ITEMS DISCUSSED/RESOLUTION
9-25-80	P.C.K.	ITEM VIII-B. DOES NOT APPLY. THIS IS A FIRST NOTIFICATION.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

JUN 1 1 1981

REF: 4E-CP

Delete VI A,C
add 6 71 NH
Merge Part A to File

Mr. Harold Vandiver
Thompson-Hayward Chemical Co.
P. O. Box 20178, Station N
Atlanta, Georgia 30325

Dear Mr. Vandiver:

In response to your letter of June 4, 1981, your company, Thompson-Hayward Chemical, may retain their Environmental Protection Agency (EPA) hazardous waste identification number (GAD087515417) even though the facility is a non-handler of hazardous waste.

In the event of a spill your facility would be considered a generator of hazardous waste and subject to regulation under 40 C.F.R. Parts 261 and 262, Identification and Listing of Hazardous Waste and Standards Applicable to Generators of Hazardous Waste, respectively. However, in order to treat, store, and dispose of the waste on site, an emergency permit under 40 C.F.R. Part 122.27 would be required.

If I can be of further assistance please do not hesitate to call me at 404/881-2328.

Sincerely,

Daniel Thoman

Daniel P. Thoman
Environmental Engineer
Consolidated Permits Branch

cc: Land Protection Branch
Environmental Protection Division
Atlanta, Ga.

Please print or type with ELITE type *(12 characters/inch)* in the unshaded areas only.

Form Approved OMB No. 158-S79016
GSA No. 0246-EPA-OT

EPA — U.S. ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF HAZARDOUS WASTE ACTIVITY

INSTALLATION'S EPA I.D. NO.	000099 SUB
I. NAME OF INSTALLATION	
II. INSTALLATION MAILING ADDRESS	PLEASE PLACE LABEL IN THIS SPACE
III. LOCATION OF INSTALLATION	

RECEIVED EPA/REGION IV JUN 3 4 57 PM '81 ENFORCEMENT DIVISION

INSTRUCTIONS: If you received a preprinted label, affix it in the space at left. If any of the information on the label is incorrect, draw a line through it and supply the correct information in the appropriate section below. If the label is complete and correct, leave Items I, II, and III below blank. If you did not receive a preprinted label, complete all items. "Installation" means a single site where hazardous waste is generated, treated, stored and/or disposed of, or a transporter's principal place of business. Please refer to the INSTRUCTIONS FOR FILING NOTIFICATION before completing this form. The information requested herein is required by law *(Section 3010 of the Resource Conservation and Recovery Act).*

DETACH

FOR OFFICIAL USE ONLY

COMMENTS: C

INSTALLATION'S EPA I.D. NUMBER	APPROVED	DATE RECEIVED (yr., mo., & day)
F GAD087515417 T/A C 1		

I. NAME OF INSTALLATION

II. INSTALLATION MAILING ADDRESS

STREET OR P.O. BOX: 3

CITY OR TOWN: 4 | ST. | ZIP CODE

III. LOCATION OF INSTALLATION

STREET OR ROUTE NUMBER: 5

CITY OR TOWN: 6 | ST. | ZIP CODE

IV. INSTALLATION CONTACT

NAME AND TITLE *(last, first, & job title)*: 2 DELETE | PHONE NO. *(area code & no.)*

V. OWNERSHIP

A. NAME OF INSTALLATION'S LEGAL OWNER: 8 DELETE

B. TYPE OF OWNERSHIP *(enter the appropriate letter into box)*

F = FEDERAL
M = NON-FEDERAL

VI. TYPE OF HAZARDOUS WASTE ACTIVITY *(enter "X" in the appropriate box(es))*

- [ ] A. GENERATION
- [ ] B. TRANSPORTATION *(complete item VII)*
- [ ] C. TREAT/STORE/DISPOSE
- [ ] D. UNDERGROUND INJECTION

VII. MODE OF TRANSPORTATION *(transporters only – enter "X" in the appropriate box(es))*

- [ ] A. AIR
- [ ] B. RAIL
- [ ] C. HIGHWAY
- [ ] D. WATER
- [ ] E. OTHER *(specify)*: 6 NH

VIII. FIRST OR SUBSEQUENT NOTIFICATION

Mark "X" in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your Installation's EPA I.D. Number in the space provided below.

- [ ] A. FIRST NOTIFICATION
- [ ] B. SUBSEQUENT NOTIFICATION *(complete item C)*

C. INSTALLATION'S EPA I.D. NO.

IX. DESCRIPTION OF HAZARDOUS WASTES

Please go to the reverse of this form and provide the requested information.

CONTINUE ON REVERSE

I.D. – FOR OFFICIAL USE ONLY			
S		T/A	C
W			1
1	2 - 13	14	15

IX. DESCRIPTION OF HAZARDOUS WASTES *(continued from front)*

A. HAZARDOUS WASTES FROM NON–SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.31 for each listed hazardous waste from non–specific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
7	8	9	10	11	12

B. HAZARDOUS WASTES FROM SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.32 for each listed hazardous waste from specific industrial sources your installation handles. Use additional sheets if necessary.

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25	26	27	28	29	30

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37	38	39	40	41	42
43	44	45	46	47	48

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49	50	51	52	53	54

E. CHARACTERISTICS OF NON–LISTED HAZARDOUS WASTES. Mark "X" in the boxes corresponding to the characteristics of non–listed hazardous wastes your installation handles. *(See 40 CFR Parts 261.21 – 261.24.)*

☐ 1. IGNITABLE (D001) ☐ 2. CORROSIVE (D002) ☐ 3. REACTIVE (D003) ☐ 4. TOXIC (D000)

X. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

SIGNATURE	NAME & OFFICIAL TITLE *(type or print)*	DATE SIGNED

Please print or type in the unshaded areas only
(fill—in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-R0175

FORM 1 GENERAL

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER: F G A D 0 8 7 5 1 5 4 1 7 D

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

RECEIVED
EPA REGION IV

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill—in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill—in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold—faced terms.

SPECIFIC QUESTIONS	MARK "X" YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	MARK "X" YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X		B. Does or will this facility *(either existing or proposed)* include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)		X		D. Is this a proposed facility *(other than those described in A or B above)* which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X			F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X		J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SHIP: T H O M P S O N - H A Y W A R D C H E M I C A L C O M P A N Y

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)	B. PHONE (area code & no.)
2 S M I T H J L B R A N C H M A N A G E R	4 0 4 3 5 1 0 6 5 4

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 P O B O X, 2 0 1 7 8

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 A T L A N T A	G A	3 0 3 2 5

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 H W Y 2 7 8 A N D F L O R E N C E R O A D

B. COUNTY NAME

C O B B

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
6 P O W D E R S P R I N G S	G A	3 0 0 7 3	

CONTINUED FROM THE FRONT

VII. SIC CODES (4 digits, in order of priority)

A. FIRST		B. SECOND	
2869	(specify) INDUSTRIAL CHEMICAL	2899	(specify) WATER PURIFICATION CHEMICAL
C. THIRD		D. FOURTH	
	(specify)		(specify)

VIII. OPERATOR INFORMATION

A. NAME: THOMPSON-HAYWARD CHEMICAL COMPANY

B. Is the name listed in Item VIII-A also the owner? X YES ☐ NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)
F = FEDERAL M = PUBLIC (other than federal or state) S = STATE O = OTHER (specify) P = PRIVATE

P (specify)

D. PHONE NO. (area code & no.): A 404 351 0654

E. STREET OR P.O. BOX: 1294 LOGAN CIRCLE

F. CITY OR TOWN: ATLANTA

G. STATE: GA

H. ZIP CODE: 30325

I. INDIAN LAND: Is the facility located on Indian land? ☐ YES X NO

IX. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to surface water)	B. UIC (Underground injection of fluids)	C. PSD (Air emissions from proposed sources)
9 N	9 U	9 P

D. OTHER (Specify)	E. OTHER (Specify)
9 O (specify)	9 O (specify)

X. MAP

Attach to this application a topographic map of the area extending at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects underground fluids. Include all springs, rivers and other surface water bodies in the map area. See instructions for specific requirements.

XI. NATURE OF BUSINESS (Provide a brief description)

Distribution of Industrial and Water Treatment Chemicals to Industry and Municipalities.

Drumming of various Solvents from Bulk Storage to Drums.

XII. CERTIFICATION (See instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
Harold Vandiver V.P. Regional Mgr. J. L. SMITH BRANCH MANAGER	Harold Vandiver J. L. Smith	NOVEMBER 18, 1980

XIII. FOR OFFICIAL USE ONLY

Please print or type in the unshaded areas only
(fill–in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-S80004

FORM 3 RCRA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER

S													T/A	C
F	G	A	D	0	8	7	5	1	5	4	1	7	S	1

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

[X] 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

[ ] 2. NEW FACILITY *(Complete item below.)*

C 8

FOR EXISTING FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

YR.	MO.	DAY
7 8	0 3	0 1

FOR NEW FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR IS EXPECTED TO BEGIN

YR.	MO.	DAY

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

[ ] 1. FACILITY HAS INTERIM STATUS

[ ] 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.

1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G	LITERS PER DAY	V	ACRE-FEET	A
LITERS	L	TONS PER HOUR	D	HECTARE-METER	F
CUBIC YARDS	Y	METRIC TONS PER HOUR	W	ACRES	B
CUBIC METERS	C	GALLONS PER HOUR	E	HECTARES	Q
GALLONS PER DAY	U	LITERS PER HOUR	H		

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

S		T/A	C
C	DUP		1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S 0 2	600	G		5				
X-2	T 0 3	20	E		6				
1	S 0 4	200000	G		7				
2					8				
3					9				
4					10				

Continued from the front.

III. PROCESSES *(continued)*

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES *(code "T04")*. FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

IV. DESCRIPTION OF HAZARDOUS WASTES

A. **EPA HAZARDOUS WASTE NUMBER** — Enter the four-digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number*(s)* from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. **ESTIMATED ANNUAL QUANTITY** — For each **listed waste** entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each **characteristic** or **toxic contaminant** entered in column A estimate the total annual quantity of all the non-listed waste*(s)* that will be handled which possess that characteristic or contaminant.

C. **UNIT OF MEASURE** — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. **PROCESSES**

1. PROCESS CODES:
   For listed hazardous waste: For each **listed** hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non-listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.
2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above," and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (If no code is not entered in D(1))
X-1	K054	900	P	T03 D80	
X-2	D002	400	P	T03 D80	
X-3	D001	100	P	T03 D80	
X-4	D002				included with above

Continued from page 2.
NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)															FOR OFFICIAL USE ONLY			
S.												T/A	C.	S.		T/A	C.	
W	G	A	D	0	8	7	5	1	5	4	1	7	3	1	W	DUP	2	DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)			D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	U002	50000 ✓	P ✓	T02	D80		
2	U226	50000 ✓	P ✓	T02	D80		
3	U159	50000 ✓	P ✓	T02	D80		
4	U210	50000 ✓	P ✓	T02	D80		
5	U239	50000 ✓	P ✓	T02	D80		
6	U220	50000 ✓	P ✓	T02	D80		
7	U154	50000 ✓	P ✓	T02	D80		
8	U161	50000 ✓	P ✓	T02	D80		
9							
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26							

Continued from the front.

IV. DESCRIPTION OF HAZARDOUS WASTES *(continued)*

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

THOMPSON-HAYWARD POWDER SPRINGS OPERATES AS A CHEMICAL DISTRIBUTOR AND REPACKAGER OF INDUSTRIAL AND WATER TREATMENT CHEMICALS. OUR RETENTION POND WAS DESIGNED AND BUILT TO COLLECT ALL WASTEWATER, SPILLS, AND ANY POSSIBLY CONTAMINATED RAINWATER.

EPA I.D. NO. *(enter from page 1)*

F G A D 0 8 7 5 1 5 4 1 7 T/A 3 C 6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail)*.

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground—level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail)*.

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE *(degrees, minutes, & seconds)*	LONGITUDE *(degrees, minutes, & seconds)*
33 52 010	084 42 008

VIII. FACILITY OWNER

☒ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. *(area code & no.)*

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
Harold Vandiver, V.P. Reg. Mgr. J. L. SMITH	Harold Vandiver J. L. Smith	NOVEMBER 18, 1980

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
J. L. SMITH	J. L. Smith	NOVEMBER 18, 1980

CONTINUE ON PAGE 5

Please print or type in the unshaded areas only
(fill—in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-R0175

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program
(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER: G A D 0 8 7 5 1 5 4 1 7

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS: If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill—in area below. Also, if any of the preprinted data is absent (*the area to the left of the label space lists the information that should appear*), please provide it in the proper fill—in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI (*except VI-B which must be completed regardless*). Complete all Items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold—faced terms.

SPECIFIC QUESTIONS	MARK "X" YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X	
B. Does or will this facility (*either existing or proposed*) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)		X	
D. Is this a proposed facility (*other than those described in A or B above*) which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	
J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 THOMPSON-HAYWARD CHEMICAL COMPANY

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)	B. PHONE (area code & no.)
2 SMITH J L BRANCH MANAGER	4 0 4 3 5 1 0 6 5 4

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 P O BOX 20178

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 ATLANTA	G A	3 0 3 2 5

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 HWY 278 AND FLORENCE ROAD

B. COUNTY NAME

COBB

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
6 POWDER SPRINGS	G A	3 0 0 7 3	

CONTINUED FROM THE FRONT

VII. SIC CODES (4-digit, in order of priority)

A. FIRST: 2869 (specify) INDUSTRIAL CHEMICAL

B. SECOND: 2899 (specify) WATER PURIFICATION CHEMICAL

C. THIRD: (specify)

D. FOURTH: (specify)

VIII. OPERATOR INFORMATION

A. NAME: THOMPSON-HAYWARD CHEMICAL COMPANY

B. Is the name listed in Item VIII-A also the owner? X YES ☐ NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)
F = FEDERAL
S = STATE
M = PUBLIC (other than federal or state)
O = OTHER (specify)
P = PRIVATE
P (specify)

D. PHONE (area code & no.): 404 351 0654

E. STREET OR P.O. BOX: 1294 LOGAN CIRCLE

F. CITY OR TOWN: ATLANTA

G. STATE: GA

H. ZIP CODE: 30325

IX. INDIAN LAND: Is the facility located on Indian land? ☐ YES X NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water): N

B. PSD (Air Emissions from Proposed Sources): P

C. UIC (Underground Injection of Fluids): U

D. OTHER (specify): (specify)

E. RCRA (Hazardous Wastes): R

F. OTHER (specify): (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

A

XII. NATURE OF BUSINESS (provide a brief description)

Distribution of Industrial and Water Treatment Chemicals to Industry and Municipalities.

Drumming of various Solvents from Bulk Storage to Drums.

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print): V.P. Harold Vandiver Regional Mgr: J. L. SMITH BRANCH MANAGER

B. SIGNATURE: H. Vandiver J. L. Smith

C. DATE SIGNED: NOVEMBER 18, 1980

COMMENTS FOR OFFICIAL USE ONLY

Please print or type in the unshaded areas only
(fill—in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-S80004

FORM 3 RCRA

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER

S.													T/A
F	G	A	D	0	8	7	5	1	5	4	1	7	

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

[X] 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

FOR EXISTING FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

C.	YR.	MO.	DAY
8	7 8	0 3	0 1

[ ] 2. NEW FACILITY *(Complete item below.)*

FOR NEW FACILITIES PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR IS EXPECTED TO BEGIN

YR.	MO.	DAY

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

[ ] 1. FACILITY HAS INTERIM STATUS

[ ] 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES — CODES AND DESIGN CAPACITIES

A. PROCESS CODE — Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY — For each code entered in column A, enter the capacity of the process.

1. AMOUNT — Enter the amount.
2. UNIT OF MEASURE — For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTEPILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G	LITERS PER DAY	V	ACRE-FEET	A
LITERS	L	TONS PER HOUR	D	HECTARE-METER	F
CUBIC YARDS	Y	METRIC TONS PER HOUR	W	ACRES	B
CUBIC METERS	C	GALLONS PER HOUR	E	HECTARES	Q
GALLONS PER DAY	U	LITERS PER HOUR	H		

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

S.		T/A	C.
C	DUP		1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S 0 2	600	G		5				
X-2	T 0 3	20	E		6				
1	S 0 4	200000	G		7				
2					8				
3					9				
4					10				

Continued from the front.

III. PROCESSES *(continued)*

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES *(code "T04")*. FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

IV. DESCRIPTION OF HAZARDOUS WASTES

A. **EPA HAZARDOUS WASTE NUMBER** — Enter the four-digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number*(s)* from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. **ESTIMATED ANNUAL QUANTITY** — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste*(s)* that will be handled which possess that characteristic or contaminant.

C. **UNIT OF MEASURE** — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. **PROCESSES**

1. **PROCESS CODES**
   For listed hazardous wastes. For each listed hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non-listed hazardous wastes. For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.
   Notes: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.

2. **PROCESS DESCRIPTION.** If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above," and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 E	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				included with above

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE ONLY
W G A D 0 8 7 5 1 5 4 1 7 7 1	W DUP 2 DUP

IV DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	U002	50000 ✓	P ✓	T02 D80	
2	U226	50000 ✓	P ✓	T02 D80	
3	U159	50000 ✓	P ✓	T02 D80	
4	U210	50000 ✓	P ✓	T02 D80	
5	U239	50000 ✓	P ✓	T02 D80	
6	U220	50000 ✓	P ✓	T02 D80	
7	U154	50000 ✓	P ✓	T02 D80	
8	U161	50000 ✓	P ✓	T02 D80	
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Continued from the front.

V. DESCRIPTION OF HAZARDOUS WASTES *(continued)*

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

THOMPSON-HAYWARD POWDER SPRINGS OPERATES AS A CHEMICAL DISTRIBUTOR AND REPACKAGER OF INDUSTRIAL AND WATER TREATMENT CHEMICALS. OUR RETENTION POND WAS DESIGNED AND BUILT TO COLLECT ALL WASTEWATER, SPILLS, AND ANY POSSIBLY CONTAMINATED RAINWATER.

EPA I.D. NO. *(enter from page 1)*

G A D 0 8 7 5 1 5 4 1 7 T/A 2 C 6

VI. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail)*.

VII. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground—level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail)*.

VIII. FACILITY GEOGRAPHIC LOCATION

LATITUDE *(degrees, minutes, & seconds)*	LONGITUDE *(degrees, minutes, & seconds)*
3 3 5 2 0 1 0	0 8 4 4 2 0 0 8

IX. FACILITY OWNER

[X] A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. *(area code & no.)*

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
	G		

X. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
Harold Vandiver, V.P. Reg. Mgr. J. L. SMITH	Harold Vandiver J. L. Smith	NOVEMBER 18, 1980

XI. OPERATOR CERTIFICATION

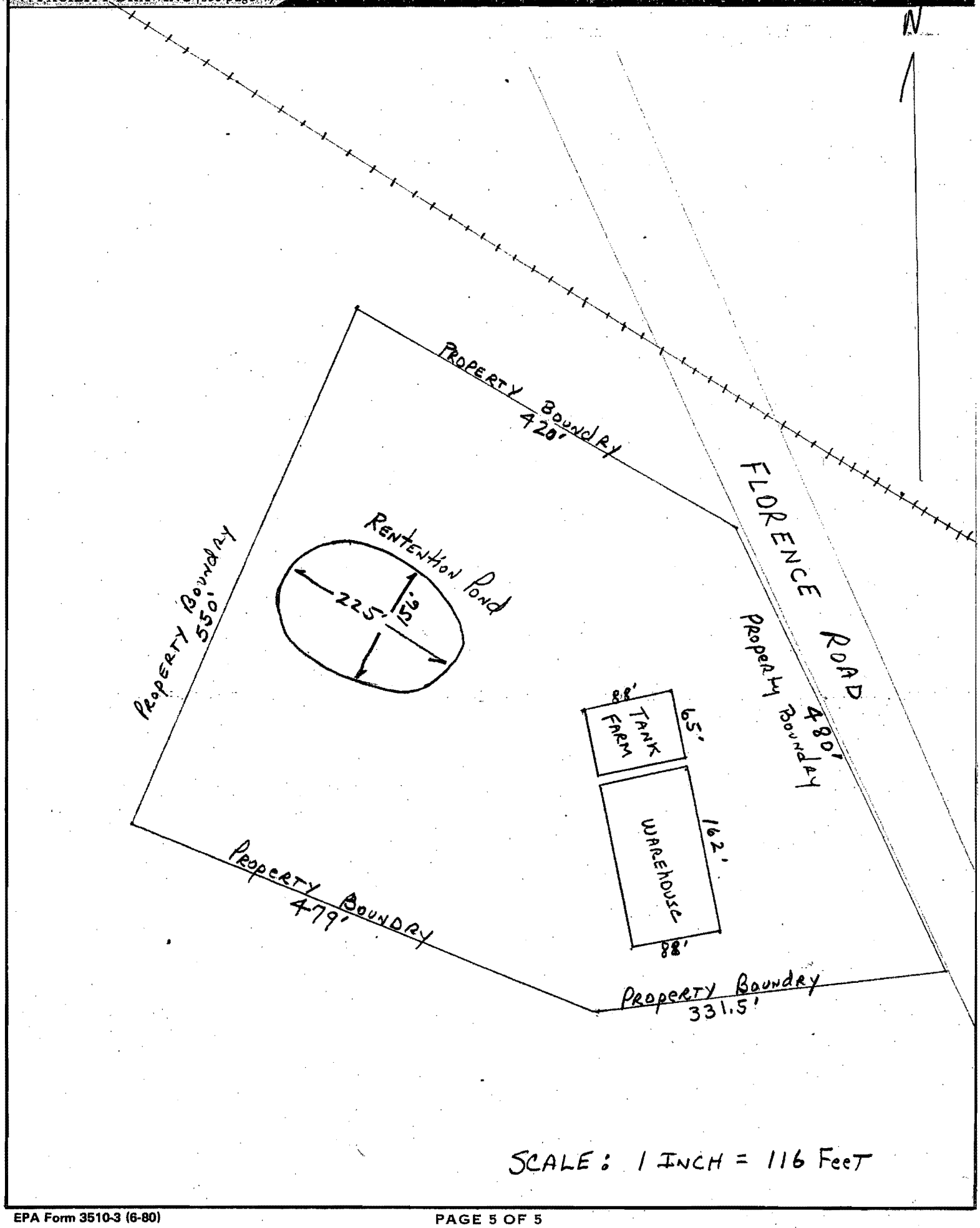
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
J. L. SMITH	J. L. Smith	NOVEMBER 18, 1980

CONTINUE ON PAGE 5

Continued from page 4.

V. FACILITY DRAWING (see page 4)



EPA

ACKNOWLEDGEMENT OF NOTIFICATION OF HAZARDOUS WASTE ACTIVITY
(VERIFICATION)

This is to acknowledge that you have filed a Notification of Hazardous Waste Activity for the installation located at the address shown in the box below to comply with Section 3010 of the Resource Conservation and Recovery Act *(RCRA)*. Your EPA Identification Number for that installation appears in the box below. The EPA Identification Number must be included on all shipping manifests for transporting hazardous wastes; on all Annual Reports that generators of hazardous waste, and owners and operators of hazardous waste treatment, storage and disposal facilities must file with EPA; on all applications for a Federal Hazardous Waste Permit; and other hazardous waste management reports and documents required under Subtitle C of RCRA.

EPA I.D. NUMBER → GAD087515417

THOMPSON-HAYWARD CHEMICAL COMPANY
PO BOX 20178
ATLANTA GA 30325

INSTALLATION ADDRESS → HWY 278 AND FLORENCE RD
POWDER SPRINGS GA 30073

EPA Form 8700-12B (4-80) 10/24/80

Please print or type with ELITE type *(12 characters/inch)* in the unshaded areas only.

Form Approved OMB No. 158-S79016
GSA No. 0246-EPA-OT

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

NOTIFICATION OF HAZARDOUS WASTE ACTIVITY

INSTALLATION'S EPA I.D. NO. 001582

I. NAME OF INSTALLATION

II. INSTALLATION MAILING ADDRESS

III. LOCATION OF INSTALLATION

PLEASE PLACE LABEL IN THIS SPACE

RECEIVED EPA/REGION IV Nov 19 3 42 PM '80 ENFORCEMENT DIVISION

INSTRUCTIONS: If you received a preprinted label, affix it in the space at left. If any of the information on the label is incorrect, draw a line through it and supply the correct information in the appropriate section below. If the label is complete and correct, leave Items I, II, and III below blank. If you did not receive a preprinted label, complete all items. "Installation" means a single site where hazardous waste is generated, treated, stored and/or disposed of, or a transporter's principal place of business. Please refer to the INSTRUCTIONS FOR FILING NOTIFICATION before completing this form. The information requested herein is required by law *(Section 3010 of the Resource Conservation and Recovery Act).*

DETACH

FOR OFFICIAL USE ONLY

COMMENTS: C

INSTALLATION'S EPA I.D. NUMBER: F GAD087515417 T/A 1

APPROVED:

DATE RECEIVED *(yr., mo., & day)*:

I. NAME OF INSTALLATION

THOMPSON-HAYWARD CHEMICAL COMPANY

II. INSTALLATION MAILING ADDRESS

STREET OR P.O. BOX: 3 P O BOX 20178

CITY OR TOWN: 4 ATLANTA ST. GA ZIP CODE 30325

III. LOCATION OF INSTALLATION

STREET OR ROUTE NUMBER: 5 HWY 278 AND FLORENCE RD

CITY OR TOWN: 6 POWDER SPRINGS ST. GA ZIP CODE 30073

IV. INSTALLATION CONTACT

NAME AND TITLE *(last, first, & job title)*: 2 SMITH JL BRANCH MANAGER

PHONE NO. *(area code & no.)*: 404-351-0654

V. OWNERSHIP

A. NAME OF INSTALLATION'S LEGAL OWNER: 8 THOMPSON-HAYWARD CHEMICAL COMPANY

B. TYPE OF OWNERSHIP *(enter the appropriate letter into box)*

F = FEDERAL
M = NON-FEDERAL

M

VI. TYPE OF HAZARDOUS WASTE ACTIVITY *(enter "X" in the appropriate box(es))*

- [X] A. GENERATION
- [ ] B. TRANSPORTATION *(complete item VII)*
- [X] C. TREAT/STORE/DISPOSE
- [ ] D. UNDERGROUND INJECTION

VII. MODE OF TRANSPORTATION *(transporters only – enter "X" in the appropriate box(es))*

- [ ] A. AIR
- [ ] B. RAIL
- [ ] C. HIGHWAY
- [ ] D. WATER
- [ ] E. OTHER *(specify)*:

VIII. FIRST OR SUBSEQUENT NOTIFICATION

Mark "X" in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your Installation's EPA I.D. Number in the space provided below.

AMMENDMENT

- [ ] A. FIRST NOTIFICATION
- [X] B. SUBSEQUENT NOTIFICATION *(complete item C)*

C. INSTALLATION'S EPA I.D. NO. GAD087515417

IX. DESCRIPTION OF HAZARDOUS WASTES

Please go to the reverse of this form and provide the requested information.

I.D. – FOR OFFICIAL USE ONLY

S												T/A	C
W													1
1	2									12		14	15

IX. DESCRIPTION OF HAZARDOUS WASTES *(continued from front)*

A. HAZARDOUS WASTES FROM NON–SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.31 for each listed hazardous waste from non–specific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
7	8	9	10	11	12

B. HAZARDOUS WASTES FROM SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.32 for each listed hazardous waste from specific industrial sources your installation handles. Use additional sheets if necessary.

13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30

C. COMMERCIAL CHEMICAL PRODUCT HAZARDOUS WASTES. Enter the four–digit number from 40 CFR Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31: P029	32: P030	33: U161	34: P106	35: P121	36: U002
37: U226	38: U159	39: U210	40: U239	41: U220	42: U154
43	44	45	46	47	48

D. LISTED INFECTIOUS WASTES. Enter the four–digit number from 40 CFR Part 261.34 for each listed hazardous waste from hospitals, veterinary hospitals, medical and research laboratories your installation handles. Use additional sheets if necessary.

49	50	51	52	53	54

E. CHARACTERISTICS OF NON–LISTED HAZARDOUS WASTES. Mark "X" in the boxes corresponding to the characteristics of non–listed hazardous wastes your installation handles. *(See 40 CFR Parts 261.21 – 261.24.)*

[X] 1. IGNITABLE (D001) [X] 2. CORROSIVE (D002) [X] 3. REACTIVE (D003) [X] 4. TOXIC (D000)

X. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

SIGNATURE	NAME & OFFICIAL TITLE *(type or print)*	DATE SIGNED
J. L. Smith	J. L. Smith Branch Manager	11-18-80