UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

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

#27005

Site Inspection Narrative

Georgia Metals
Poweder Springs, Cobb County, Georgia
GAD984306605/5832

The Georgia Metals site occupies an area of approximately 6.4 acres. Georgia Metals is an active site that specializes in the fabrication and repair of steel tank assemblies. The Georgia Environmental Protection Division conducted two site inspections and collected soil **sampels**. Analysis of the samples showed high levels of lead. EPD requested that Georgia Metals submit a plan for remediation of contaminated soil and groundwater. The plan was submitted and revised once, but no further action was taken. No lead waste has been sampled at the site. No lead waste was seen stored at the site during the site inspection.

There are approximately 1,566 people that obtain water from wells that located within the four-mile radius target. However, there are no identifiable primarey groundwater targets. There are no drinking water intakes along the surface water pathway, however, recreational fishing are known to occur. No surface water samples have been collected from the site.

Access to the site is limited by a fence and by a creek and tributary. There is a threat to the worker population for soil exposure. However, there is only a potential for air pathway threat.

Based on the information available, [lack of groundwater, surface water contamination] I recommend no further remedial action planned (NFRAP) for Georgia Metals.

Gerald Foree

DATE REPORT ACCEPTED 11-8-94
DISPOSITION NFRAP
SAM SIGNATURE Janice P Thomas
SAM NAME (TYPED/PRINTED) Janice P Thomas

Printed on Recycled Paper

SITE INVESTIGATION

GEORGIA METALS, INC.
EPA ID No. GAD984306605
INDUSTRY ROAD
POWDER SPRINGS, COBB COUNTY, GEORGIA

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
HAZARDOUS WASTE MANAGEMENT BRANCH

September 30, 1994

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Georgia Metals Site
Powder Springs, Georgia

1.0 INTRODUCTION

Under authority of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA), the U.S. Environmental Protection Agency (EPA), Waste Management Division, Region IV has authorized the Georgia Environmental Protection Division to conduct a Site Investigation (SI) at the Georgia Metals site, Cobb County, Georgia. The purpose of this investigation was to collect information concerning conditions at the Georgia Metals site sufficient to assess the immediate or potential threat posed to human health and the environment and to determine the need for additional investigation under CERCLA/SARA or other authority, and if appropriate, support site evaluation using the Hazardous Ranking System (HRS) for proposal to the National Priorities List (NPL). The scope of the investigation included review of available file information, a comprehensive target survey and an on-site and off-site reconnaissance.

2.0 SITE DESCRIPTION, OPERATIONAL HISTORY AND WASTE CHARACTERISTICS

2.1 Location

The Georgia Metals site is located in Cobb County approximately two (2) miles east-southeast of Powder Springs, Georgia (Figure 1). The geographical coordinates are 33° 51' 17" North latitude and 84° 38' " West longitude as can be seen on the United States Geological Survey (U.S.G.S.) Austell 7.5 minute Topographic Quadrangle Map (Ref. 7b).

The site is located on approximately 6.4 acres and is owned by Mr. William F. Kelly of Marietta, Georgia.

The site is approximately two (2) miles east of Powder Springs, approximately 1/4 mile south of Flint Hill Road on the west side of Industry Road.

The climate of the area of the site is generally mild to hot with humid summers and cool winters. A review of thirty year average temperature data (Ref. 1) yields an average temperature of 78 degrees Fahrenheit during the summer months and 44 degrees Fahrenheit during the winter months. Extreme high temperatures during the summer months can reach above 100 degrees while extreme low temperatures during the winter months can reach below 0 degrees. The normal annual precipitation is 48.61 inches (Ref. 1).

2.2 Site Description

The Georgia Metals site occupies an area of approximately 6.4 acres to the west of Industry Road. The site is bordered to the north by a Seaboard Coastal Railroad main track, and to the south by a former Seaboard Coastal spur and Phibro-Tech (formerly C.P. Chemicals, Inc.) The site is bordered to the west by Ajay Chemicals, Inc. The property slopes gently toward the south and Noses Creek which borders Phibro-Tech on the south. The site has three structures on it. The largest structure, the main fabrication building, occupies the center of the site. The larger of the two smaller structures is the melting building which occupies the southern edge of the site. The

smallest structure which is used for the fabrication of lead lined containers is located between the two larger buildings. The two latter buildings were enclosed by a chain link fence (Figure 2).

The property has a dry surface impoundment which is located southwest of the largest building. The northern half of the property is well covered with vegetation but the southern half has little ground cover and is etched with gullies. A large quantity of plastic battery casing chips (now covered by woodchips) are scattered on the southern corner of the property near Industry Road.

2.3 Operational History and Waste Characteristics

Georgia Metals, Inc., formerly Southern Lead Burning, is an active site owned and operated by William F. Kelly.

Georgia Metals now specializes in the fabrication and repair of steel tank assemblies but for over thirty years operations have included the fabrication of a variety of lead products. These included lead sheets and pipes.

Scrap lead from a variety of sources including scrap lead piping, pieces of metallic lead and batteries was used in the facility's fabrication operations. The scrap lead was remelted in two gas heated units housed in the lead melting building adjacent to the former Seacoast Railroad spur. Scrap lead was stored in drums by the southeast end of the lead melting building.

In response to a Phibro-Tech (formerly C.P. Chemicals) report that elevated lead levels had been detected in monitoring wells (MW-3(POC) at 0.054 mg/l, the highest concentration reported, with MW-1 (background) at 0.004 mg/l and the detection limit at <0.003 mg/l) located down-or side gradient from Georgia Metals, the Georgia Environmental Protection Division (EPD) conducted several site inspections and collected soil samples on October 21, 1986 and March 5, 1987. Analysis of the samples showed high levels of lead. EPD requested that Georgia Metals submit a plan for further investigation and remediation of contaminated soil and groundwater on January 8, 1987. A surface soil sampling and analysis plan was submitted by Georgia Metals' consultant to EPD. The plan was revised once at the request of EPD but no further action was taken (Ref. 2).

EPA Region IV files indicated that a former Georgia Metals employee reported that large pieces of lead and metal shavings were buried in numerous locations at the site. The former employee provided EPA with a map indicating where these burial areas were. The former employee added that he was forced to leave his job because of high blood lead levels.

3.0 WASTE/SOURCE SAMPLING

3.1 Sampling Locations

No lead waste has been sampled at the site. No lead waste was seen stored at the site. According to Georgia Metals, up to 50 drums of lead containing material were previously stored outside (east) of the lead melting building. There is no remaining evidence of any drums in this area. The dry surface impoundment used to collect run-off according to Georgia Metals did not contain any sludge or stained soil at the time of the SI (Ref. 10). Plastic battery case chips are strewn over many areas of the southern part of the site and off-site to the east of Industry Road. Some slag was also seen on the ground especially near the lead melting building. Neither the chips nor the slag was sampled (Figure 3).

3.2 Analytical Results

There are no waste samples or analytical results. See Section 6 for source (soil) results.

4.0 GROUNDWATER PATHWAY

4.1 Hydrogeologic Setting

Cobb County is in the Central Uplands District of the Piedmont Province in the Appalachian Highlands Division. This District consists of a series of low, linear ridges, 1300-1500 feet above sea level, and separated by broad, open valleys. Streams flowing through this district are generally transverse to the structure and occupy valleys 15-200 feet below the ridge crests (Ref. 3).

Most of the area is covered by saprolite, a clayey residual produced by the weathering of rocks, and soils derived from this material. Depending on the properties of the parent rock and the topographic setting, The saprolite in this area can range from 1 to 200 feet. On uplands where slope is less than 15 percent, saprolite generally is thicker than in areas having steeper slopes (Ref. 9).

Groundwater in this area occupies joints, fractures and other secondary openings in the bedrock and pore spaces of the overlying soil and saprolite (regolith). The largest volume of water is stored in the regolith. Water recharges the underground openings in exposed rock. Unweathered and unfractured bedrock has very low porosity. Thus, the quantity of water that a rock unit can store and transmit to wells is determined by the number, capacity and interconnection of the secondary openings (Ref. 9).

Well yields in the area range from 20 to 275 gallons per minute, averaging 56 gallons per minute. Water quality is generally good. In the nearest well where data is available dissolved solids are 139 mg/l and hardness is 73 (Ref. 9).

General groundwater flow direction in the vicinity of the site is shown on Figure 4. Depth to groundwater in the vicinity of the site is about 7 feet and near Noses Creek, 4 feet.

4.2 Groundwater Targets

There are approximately 1566 people within a four mile radius of the site who rely on wells for their drinking water. Approximately nine of these people live within 1/2 mile of the site (Ref. 4). Powder Springs has a well 1.7 miles west of the site that supplies water to 280 connections in the old central part of the city. Powder Springs buys drinking water from the Cobb County-Marietta Surface Water System that supplies water to about 4,764 connections (Ref. 11).

4.3 Groundwater Sample Locations

There is one supply well which is 500 feet deep and is located on the northern part of the site (Ref. 12 & 20). This part of the site is the upgradient area, is wooded, and is not used for industrial purposes. Georgia Metals leases the use of this well to Ajay Chemicals, Inc. which is located on the west side of Georgia Metals. Ajay manufactures and blends iodine chemicals for other industries (Ref. 12). Files of the Georgia Hazardous Waste Management Branch, Generator

Program, indicate that an old unlined retention pond was constructed in 1974. The EP Toxicity results for a July 1987 sludge sample collected from the new, lined pond detected concentrations (mg/l) of arsenic (0.15), cadmium (0.03), lead (0.27), and selenium (0.75) (Ref. 13). A lined impoundment has since been constructed.

The Powder Springs City well, approximately 1.7 miles west of Georgia Metals, has been sampled in accordance with the Georgia Safe Drinking Water Act (Ref. 6).

There are also groundwater sample locations (RCRA monitoring wells) at Phibro-Tech which is down-and/or side gradient of Georgia Metals (Ref. 14). Phibro-Tech formerly manufactured and blended copper chemicals for other industries. (Lead can be a contaminant of copper.)

4.4 Groundwater Analytical Results

Analytical results (totals) for groundwater sample, GM-94-1, collected from the supply well during the SI inspection indicated concentrations (mg/l) of barium (0.034), chromium (0.033), selenium (0.1), and zinc (0.18). Barium, chromium, and zinc results are not significantly above average background levels for the Georgia Piedmont. No lead, arsenic, cadmium, copper, nickel, or silver was detected (Ref. 10).

Lead and selenium results for groundwater samples collected on the Phibro-Tech facility from July 1989 through June 1994 indicate that the upgradient well, MW-1, has not detected selenium and has detected lead only once at 0.004 mg/l (with a detection limit of < 0.003 mg/l). The highest lead result (0.054 mg/l) occurred in point of compliance well MW-3 and the highest selenium result (0.124 mg/l) occurred in point of compliance well MW-2. Point of compliance wells are located at the downgradient boundary of the closed RCRA regulated unit. Results from the most downgradient on-site monitoring wells indicate lead concentrations are below the groundwater protection standards in the plume. In the most downgradient on-site monitoring wells selenium was detected below the groundwater protection standard from July 1989 through June 1994 accept once at 0.028 mg/l.

No selenium has been detected in the Powder Springs well. Lead has been detected below the Georgia Safe Drinking Water Action Level of 0.015 mg/l.

4.5 Groundwater Conclusions

Contaminants have been detected in the supply well on the Georgia Metals site. This well is not used as a drinking water supply but only as a process supply by Ajay Chemicals. Pumping of the well draws contaminants toward the well reducing migration of contaminants away from the industrial area. Offsite groundwater analyses at Phibro-Tech which is side-and/or down-gradient of the Georgia Metals site do not indicate a release from the site. Groundwater in the area discharges to rivers and creeks. The groundwater flow direction is generally to the west-southwest. Noses Creek is the west and south boundary of the industrial park in which Georgia Metals is located. The Powder Springs city well has not been impacted. Based on this data, there are not identifiable primary groundwater targets.

5.0 SURFACE WATER PATHWAY

5.1 Hydrologic Setting

The site slopes gently to the south. Drainage ditches exist along the west, south and east borders of the site and empty into Noses Creek approximately 750 feet to the south of the site. The southern portion of the site has little vegetation and is etched with gullies and channels from erosion. The site is outside the 500 year flood area (Ref. 21).

Surface water flow is to the south, southeast and southwest.

The drainage ditch along the west side of Georgia Metals is approximately the site boundary with Ajay Chemicals and continues across the Phibro-Tech facility to Noses Creek. Drainage ditches along both sides of Industry Road (Georgia Metals east site boundary) continue across the Phibro-Tech facility to Noses Creek.

5.2 Surface Water Targets

Neither Noses Creek nor Sweetwater Creek are designated as drinking water sources, recreation areas, or fishing or trout streams in the Georgia Rules and Regulations for Water Quality Control (Ref. 25). There are no known drinking water intakes on the surface water pathway for a distance of fifteen (15) miles downstream of the site (Ref. 6). However, these waters are used for fishing and include Sweetwater Creek State Park. Powder Springs purchases drinking water from the Cobb County-Marietta System which obtains surface water from the Chattahoochee and Coosa Basins.

Wetland areas occur downstream from the site and along Noses Creek (Ref. 7). Sweetwater Creek State Park in Douglas County is within the 15 mile downstream area. Six plants that occur in Cobb and/or Douglas Counties are protected by the State of Georgia. Only two species', Schisandra glabra and Waldsternia lobata, habitats are similar to the habitats found on the site or downstream. These species were not observed during the SI inspection. Only two federally protected plants occur in Cobb and Douglas Counties: (Rhus michauxii - Sargent - endangered (Cobb) and Amphianthus pusillus - threatened (Douglas)). Neither of the habitats are similar to the habitats found on the site or downstream. These two species were not observed on-site and would not be expected to occur in the area (Ref. 8).

5.3 Surface Water Sample Locations

No surface water samples have been collected from the site. During the SI inspection no surface water was seen. Off-site, downstream surface water samples have been collected from the east ditch as it cross the Phibro-Tech facility and from Noses Creek. In the past, Phibro-Tech discharged "non-contact cooling water" to both ditches.

5.4 Surface Water Analytical Results

An October 1986 Phibro-Tech cooling water stream analysis indicated 0.05 mg/l lead (Ref. 17). The highest lead concentrations (mg/l) in the east ditch surface water samples (from upstream to downstream) has been 0.043 (SW-6), 1.28 (SW-7), 0.75(SW-8), and 0.02(SW-9). (Selenium was not analyzed.) The highest lead and selenium concentrations (mg/l) in Noses Creek have been (1) 0.02 and 0.02 at SW-1 (just downstream of the west ditch); (2) 0.02 and non-detect at SW-2 (just downstream of the east ditch); and (3) at SW-3 (at the east facility boundary) eight samples (January 1990 to June 1994) have been non-detect for selenium and lead except for 0.006 mg/l lead on June 1991 (Ref. 14 & 18).

5.5 Surface Water Conclusions

The surface water samples from the east ditch on the Phibro-Tech facility does not confirm that there has been a release from the Georgia Metals site. Phibro-Tech's consultant reported in an exposure information report that vertical groundwater flow gradients measured during the groundwater assessment indicate that groundwater from the Phibro-Tech facility is discharging to Noses Creek. Whether groundwater or surface water discharge from either or both sites to Noses Creek at sample locations SW-1 and SW-2, the selenium and lead contaminants are basically non-detect at downstream SW-3 at Phibro-Tech's east boundary. There are no identifiable primary surface water targets.

6.0 SOIL EXPOSURE AND AIR PATHWAY

6.1 Physical Condition

The Georgia Metals Site is located in an urban setting in a small industrial park. Noses Creek and a tributary to the east form the east, south, and west boundaries of the park. Flint Hill Road forms the north boundary. Georgia Metals is surrounded by other industries on the north, south, and west. From ¼ to ½ mile from Georgia Metals is residential land use. Access to the site is limited by a fence around part of the site and the creek and tributary.

Deposits of black plastic chips from crushed battery cases are visible both inside and outside of the chain link fence on the southern tip of the site, on the north side of the melting building, on the south side of the melting building and off-site east of Industry Road. The owner responded that the battery chips were obtained from off-site sources and spread over the outside of the fenced area to provide erosion control. In addition to the plastic chips, the south side of the melting building had deposits of ash and burned material deposited on the ground. Two rusted drums were observed in this area during the PA inspection but not during the SI inspection.

An EPD trip report documents a July 1, 1987 inspection of an old drum storage area next to the southeast end of the lead melting building. Scrap lead for melting into lead pipes and sheets was stored in the drums. EPD representatives observed that the ground in this area was littered with lead scrap and battery chips (Ref. 2).

A surface soil sampling and analysis plan from the Georgia Metals' consultant refer to an EPD sampling inspection in which EPD representatives observed a spill area near the southwest warehouse door of the main fabrication building. The spilled material was believed to be a lead-bearing material, but according to this document "sampling and analysis data obtained by EPD indicated that negligible waste constituents existed in the area". Soil Samples from the battery chip area on the southeastern tip of the property, the area next to the east end of the melting building and the south side of the main fabrication building were taken on October 21, 1986 and again on March 5, 1987. Analysis for EP toxicity showed levels of lead from 136 to 175 mg/l (1986) and 2.3 to 55 mg/l (1987) in the three areas (Ref. 2).

In February 1994, US EPA collected 27 surface soil samples at Georgia Metals that were analyzed for total lead, zinc, and copper. Lead (total) concentrations detected in the two background samples were 22 and 55 mg/kg. Lead (total) concentrations detected in on-site soil and on-and off-site drainage ditches samples ranged from 8.1(GM-27) to 280,000 mg/kg (GM-21) (Ref. 19).

6.2 Soil and Air Targets

A house count, conducted at the time of the site reconnaissance, along with analysis of 1990 census data indicates that approximately 47,795 people reside within a four mile radius of the site (Ref. 4). The population within one-quarter mile of the site is 145. A breakdown of the population distribution within a four mile radius of the site is presented in table 1.

6.3 Soil Sampling Locations

Seven soil samples were collected by GA EPD during the SI inspection (March 24, 1994). One sample was collected off-site (east of Industry Road). The other six samples were collected on-site on the southern area where manufacturing and fabrication occur. The samples were analyzed for total metals (Au, As, Ba, Cd, Cu, Cr, Ni, Pb, Se, and Zn) and TCLP where warranted.

6.4 Soil Analytical Results

For metals listed in 40 CFR §261.24 toxicity characteristic only lead and selenium warranted the TCLP analysis. The lead is probably from the lead fabrication at the Georgia Metals site. An on-site source of the selenium is not evident.

6.5 Air Monitoring

There was no air monitoring performed during this investigation.

6.6 Soil Exposure and Air Pathway Conclusions

The soil exposure pathway could be a threat to the worker population (<10) if they come in contact with the soil. In regard to air releases, no odors or dust were noticed during the SI inspection. The southern part of the site is barren so there may be the possibility of blowing dust during high wind events. The site has a potential rather than an active air pathway threat.

7.0 SUMMARY AND CONCLUSIONS

The Georgia Metals Site has fabricated lead items for over 30 years and before that was known as Southern Lead Burning. The observed waste source is the contaminated soil. During the SI inspection there were no obvious stained soil observed. There are past reports of spills and outdoor storage of lead containing material. No surficial evidence remains from these events. Battery case plastic chips are strewn on the south part of the site and off-site east of Industry Road. Slag is also evident around the melting building. Lead is the constituent of concern in the soil and selenium has been detected at significant levels above background. No lead was detected in the process well on the north end of the site. No surface water has been sampled at the site. Groundwater and surface water samples at the off-site facility to the SW has not confirmed releases from Georgia Metals. The location of off-site surface soil samples at Phibro-Tech are not well defined and, therefore, have not been used to assess a possible release from Georgia Metals. High levels of lead (and selenium at significant levels above background) remaining in the soil at the site is potential threat in the soil and air pathways.

Selenium was detected in the groundwater (0.1 mg/l) at the supply well in a sample collected on March 24, 1994. No lead was detected in the well. The possible interpretations are that (1) lead has not migrated to the groundwater, (2) lead is not in a preferred flow zone while selenium is,

(3) selenium is more mobile at this specific site and aquifer, (4) selenium and lead are from two different sources. Selenium is significantly above background (up to 25 mg/kg, total and 0.011 mg/l, TCLP) in the soil samples collected at the Georgia Metals site. Also the Ajay Chemical facility file indicates that the EP toxicity of selenium was detected in a sludge sample at 0.75 mg/kg. There are no identifiable primary groundwater targets but the source should be identified.

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DISTANCE FROM SITE (MILES)	POPULATION
0 TO 1/4	145
1/4 TO 1/2	505
1/2 TO 1	2238
1 TO 2	9054
2 TO 3	15948
3 TO 4	19905

POPULATION DISTRIBUTION WITHIN A FOUR MILE RADIUS

DISTANCE FROM SITE (MILES)	POPULATION
0 TO 1/4	2
1/4 TO 1/2	7
1/2 TO 1	31
1 TO 2	916*
2 TO 3	294
3 TO 4	316

POPULATION SERVED BY WELLS WITHIN A FOUR MILE RADIUS

Table 1.

DISTRIBUTION AND POPULATION SERVED BY
GROUND WATER WITHIN A FOUR MILE RADIUS OF THE SITE

* this number includes the estimated population served by the City of Powder Springs well which is located approximately 1.7 miles west-northwest of the site (based on 280 households and 2.73 people per household)

Groundwater Sample #	Lead (mg/l) Total	Selenium (mg/l) Total
GM-94-1	ND	0.1

Soil Sample #	Lead (mg/l) Total/TCLP	Selenium (mg/l) Total/TCLP
GM-94-2	2100/44	ND/ND
GM-94-3	40/NA	14/ND
GM-94-4	ND/NA	17/NA
GM-94-5	550/2.6	NR/0.011
GM-94-6	3900/76	16/ND
GM-94-7	4500/490	11/ND
GM-94-8	570/18	25/ND

ND - non detect
NA - not analyzed
NR - not reported

Table 2.

LEAD AND SELENIUM ANALYTICAL RESULTS
GA EPD, MARCH 24, 1994

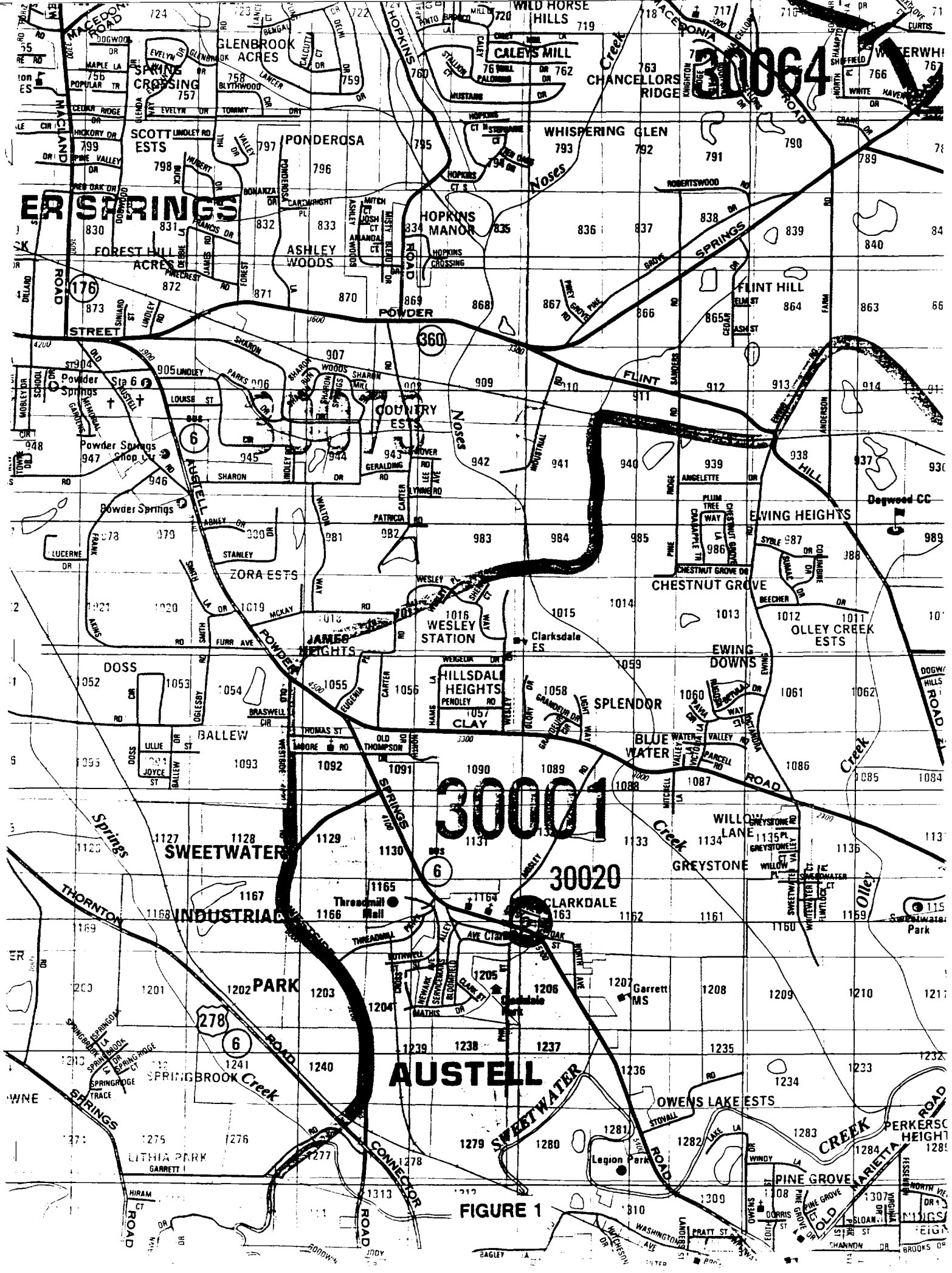
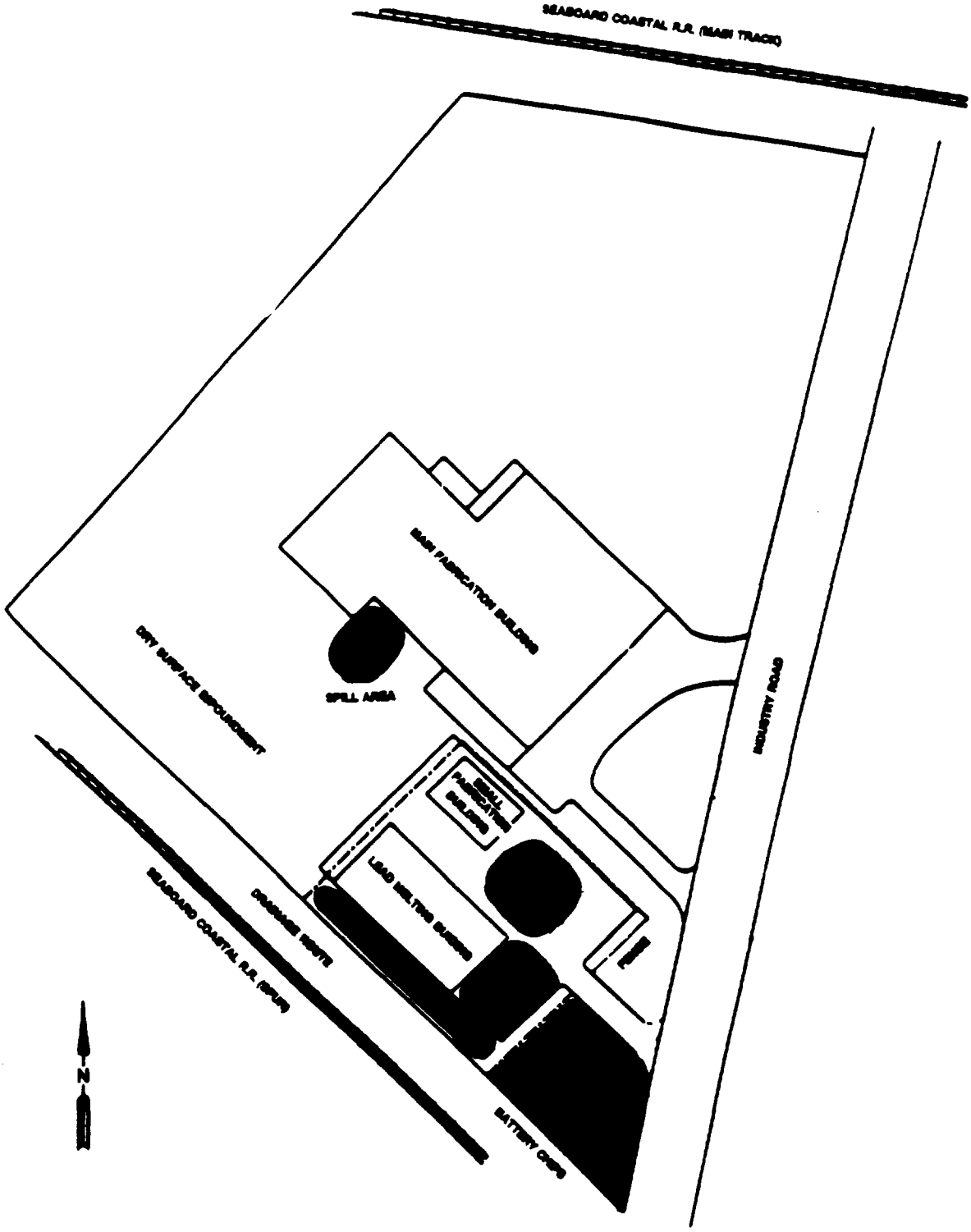

30064
30001
30020
WILD HORSE HILLS
CALEYS MILL
CHANCELLORS RIDGE
WHISPERING GLEN
GLENBROOK ACRES
SPRING CROSSING
SCOTT ESTS
PONDEROSA
HOPKINS MANOR
FOREST HILL ACRES
ASHLEY WOODS
FLINT HILL
COUNTRY ESTS
Powder Springs
Powder Springs Shop Ctr
ZORA ESTS
EWING HEIGHTS
CHESTNUT GROVE
OLLEY CREEK ESTS
WESLEY STATION
JAMES HEIGHTS
Clarksdale ES
EWING DOWNS
DOSS
HILLSDALE HEIGHTS
SPLENDOR
BALLEW
BLUE WATER
WILLOW LANE
GREYSTONE
SWEETWATER INDUSTRIAL PARK
Threadmill Mall
CLARKDALE
Garrett MS
AUSTELL
SPRINGBROOK
OWENS LAKE ESTS
LITHIA PARK
Legion Park
PINE GROVE
PERKERSON HEIGHTS
Sweetwater Park
Dogwood CC
Noses Creek
Olley Creek
Sweetwater Creek
Springs Creek
Clarksdale Park
Clarksdale Park
Powder Springs
Sta 6
MACEDONIA ROAD
HOPKINS ROAD
POWDER SPRINGS ROAD
AUSTELL ROAD
THORNTON ROAD
SWEETWATER CONNECTOR ROAD
OLD MARIETTA ROAD
FLINT HILL ROAD
SPRINGS ROAD
176
360
6
278

FIGURE 1

Adapted from illustration from surface soil sampling and analysis plan submitted by Lane Engineering and Development, Inc.

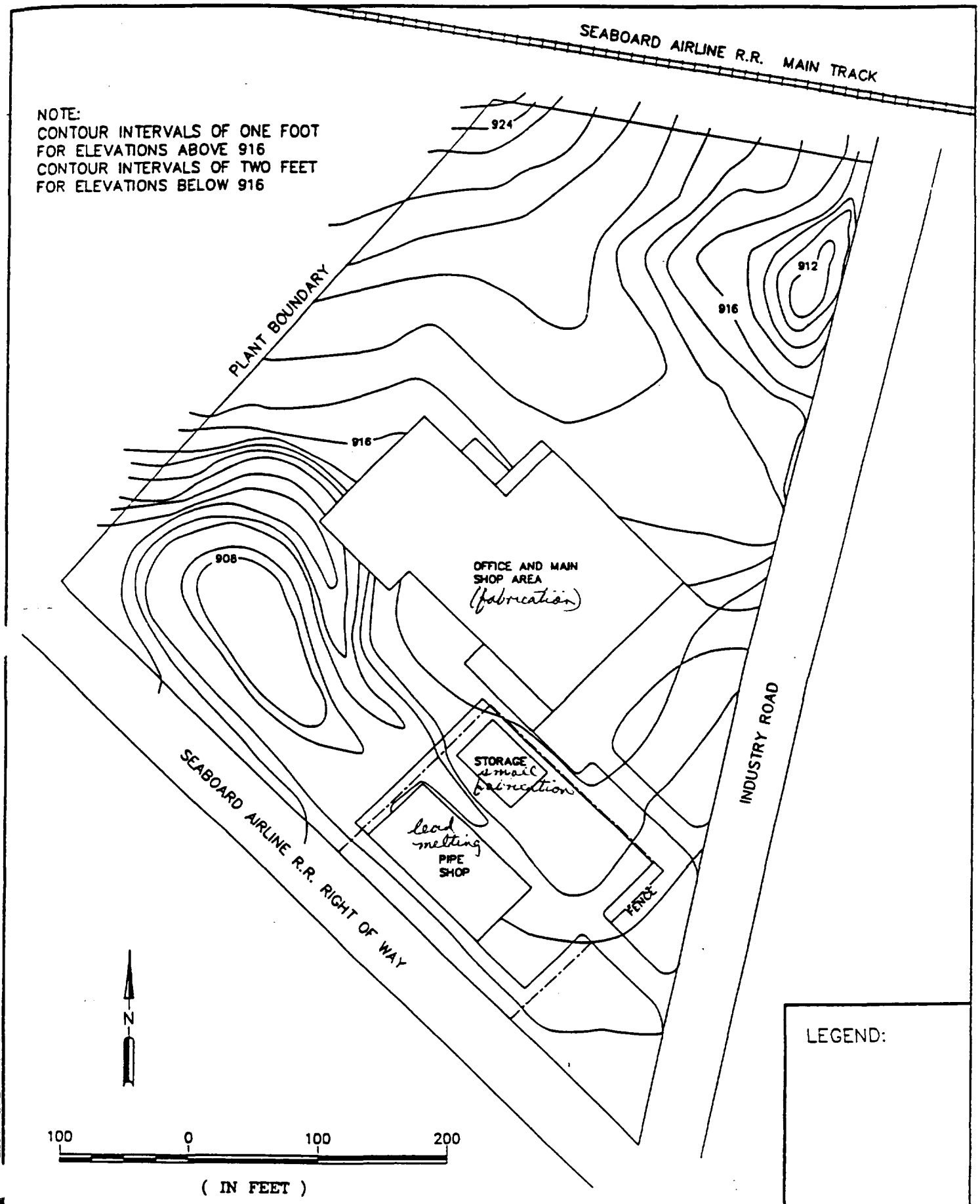
FIGURE 2



GEORGIA METALS, INC. SITE

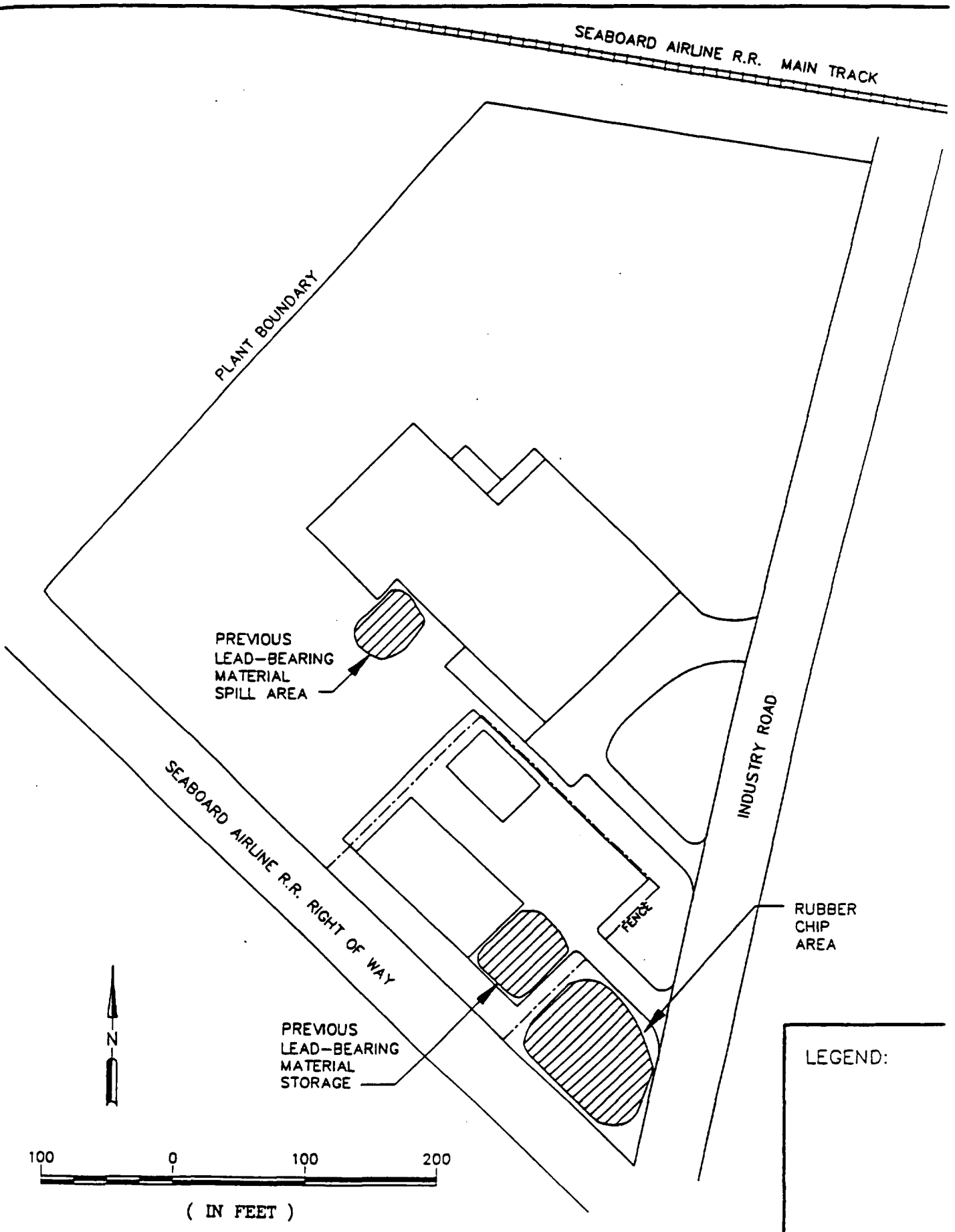
Adapted from illustration from surface soil sampling and analysis plan submitted by Lake Engineering and Development, Inc.

FIGURE 3

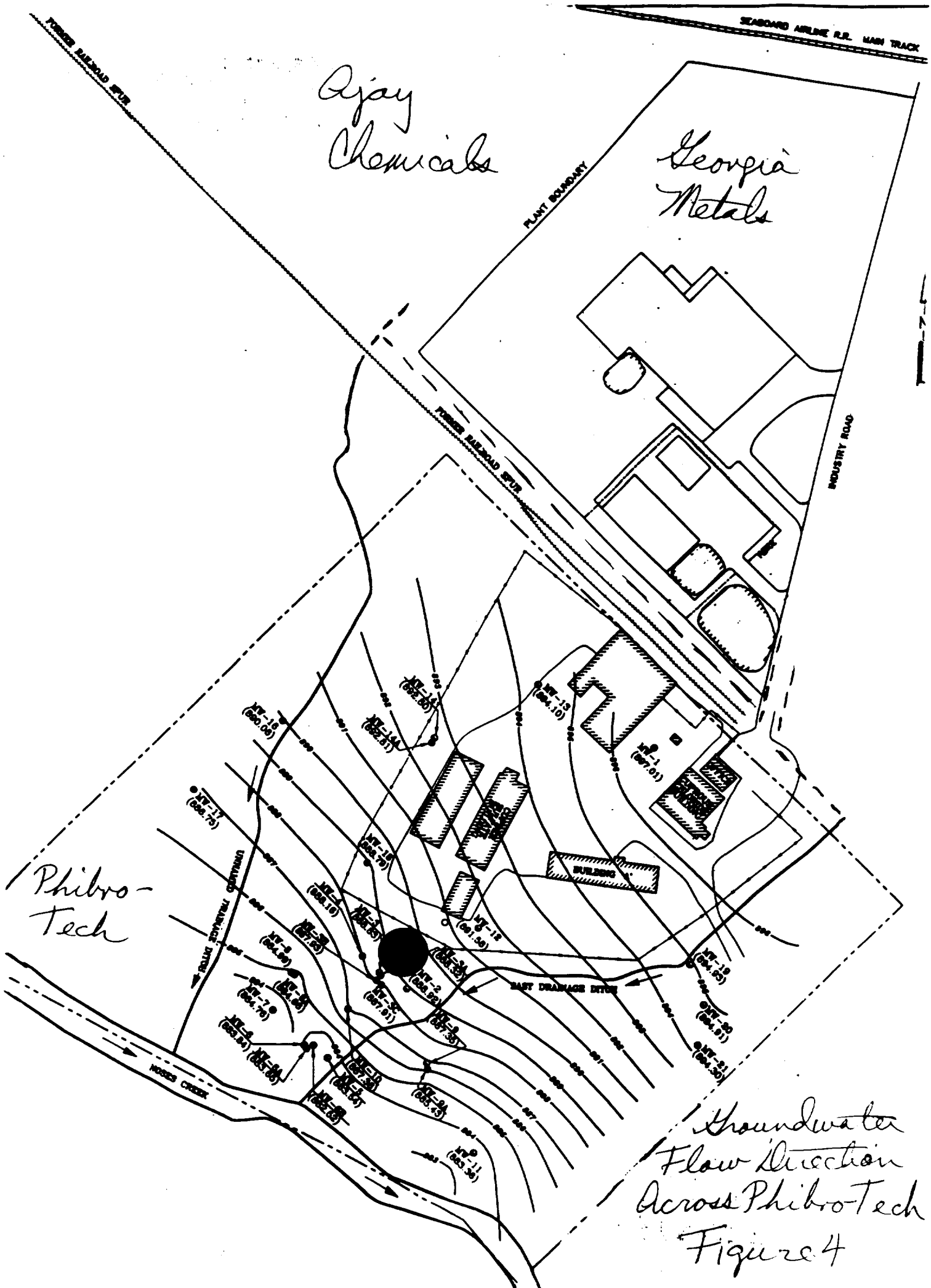


LEGEND:

PROJECT: GA. METALS	SITE MAP	FIGURE 3-b
DRAWING NO.: 520-002		



PROJECT: GA. METALS	PREVIOUS STORAGE AREAS	FIGUR
DRAWING NO.: 620-003		3-6



Groundwater Flow Direction Across Phibro-Tech

Figure 4

DISTANCE FROM SITE (MILES)	POPULATION
0 TO 1/4	145
1/4 TO 1/2	505
1/2 TO 1	2238
1 TO 2	9054
2 TO 3	15948
3 TO 4	19905

POPULATION DISTRIBUTION WITHIN A FOUR MILE RADIUS

DISTANCE FROM SITE (MILES)	POPULATION
0 TO 1/4	2
1/4 TO 1/2	7
1/2 TO 1	31
1 TO 2	916*
2 TO 3	294
3 TO 4	316

POPULATION SERVED BY WELLS WITHIN A FOUR MILE RADIUS

Table 1.

DISTRIBUTION AND POPULATION SERVED BY
GROUND WATER WITHIN A FOUR MILE RADIUS OF THE SITE

* this number includes the estimated population served by the City of Powder Springs well which is located approximately 1.7 miles west-northwest of the site (based on 280 households and 2.73 people per household)

Groundwater Sample #	Lead (mg/l) Total	Selenium (mg/l) Total
GM-94-1	ND	0.1

Soil Sample #	Lead (mg/l) Total/TCLP	Selenium (mg/l) Total/TCLP
GM-94-2	2100/44	ND/ND
GM-94-3	40/NA	14/ND
GM-94-4	ND/NA	17/NA
GM-94-5	550/2.6	NR/0.011
GM-94-6	3900/76	16/ND
GM-94-7	4500/490	11/ND
GM-94-8	570/18	25/ND

ND - non detect
NA - not analyzed
NR - not reported

Table 2.

LEAD AND SELENIUM ANALYTICAL RESULTS
GA EPD, MARCH 24, 1994

APPENDIX A

Reference Excepts

"LESS THAN THIS NOTICE, IT IS DUE TO THE QUALITY OF THE DOCUMENT BEING FILMED."

Georgia Department of Natural Resources
205 Butler Street, S.E., Floyd Towers East, Atlanta, Georgia 30334
J. Leonard Ledbetter, Commissioner
Harold F. Reheis, Assistant Director
Environmental Protection Division
(404) 656-4713

October 8, 1986

Mr. Kelly, Owner
Georgia Metals Company
1400 Industry Road, SW
Powder Springs, Georgia 30073

RE: Site Inspection of 8/29/86

Dear Mr. Kelly:

Please reference the inspection of your facility on August 29, 1986, by a representative of this Division, to evaluate your facility's compliance with the Georgia Rules for Hazardous Waste Management. The inspection indicated that lead melting operations have been conducted on your property for about twenty years. Lead has been reported in the upgradient well of the C.P. Chemicals Company, which is adjacent to your property.

Accordingly, this Division plans to conduct a sampling inspection of your property on October 15, 1986, in accordance with Section 391-3-11-.12 of the Georgia Rules, to evaluate whether soils at your property contain lead and other hazardous constituents which have contaminated the groundwater on the adjacent property. A copy of the Georgia Rules is enclosed for your reference.

You will be contacted by Ms. Frances Hallahan to arrange a mutually agreeable time for this sampling. If you have any questions, you may contact her at 404-656-7802.

Sincerely,

Bert Langley for

Bill Mundy
Unit Coordinator
Hazardous Waste Materials Program

BM:lsh:0510R

Enclosure

cc: Frances Hallahan

File: Georgia Metals Co.,(R)
C.P. Chemicals, Inc.,(R)

Reference #1

D#1

"NOTICE: IF THE FILM IMAGE IS LESS CLEAR THAN THIS NOTICE, IT IS DUE TO THE QUALITY OF THE DOCUMENT BEING FILMED."

Georgia Department of Natural Resources
205 Butler Street, S.E., Floyd Towers East, Atlanta, Georgia 30334
J. Leonard Ledbetter, Commissioner
Harold F. Reheis, Assistant Director
Environmental Protection Division

January 8, 1987

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

FILE COPY

Mr. William F. Kelly, Sr.
Georgia Metals Company
1400 Industry Road, S.W.
Powder Springs, Georgia 30073

RE: Sampling Results

Dear Mr. Kelly:

Enclosed are the results of the analyses of the soil samples taken from your property on September 21, 1986 by Ms. Frances Hallahan of this Office. Concentrations of lead above 5mg/l are considered hazardous by the Rules for Hazardous Waste Management. All three soil samples were above this concentration and the second sample, which was taken from the mainyard, contained 1430 mg/l.

Although it is unknown if the contaminated soil on your property has affected the ground water in the immediate area, it does in this present state pose a serious threat to the environment. Therefore, in accordance with the Georgia Hazardous Waste Management Act, as amended, O.C.G.A. Section 12-8-71 et seq, we request that you submit a plan to further investigate the contamination found at your facility. The plan should specify that soil containing more than 5mg/l of lead will be removed and disposed of and that the ground water in the area of the facility will be investigated. The plan should also include what remedial measures will be taken if contaminated ground water exists as a result of the soil contamination at your facility.

Because of the urgency of this matter, please submit the requested information within 30 days of receipt of this letter. Should you have any questions, please call Don McHugh at (404) 656-7802.

Sincerely,

Bill Mundy

Bill Mundy
Unit Coordinator
Hazardous Waste Management Program

BM:dmm:0302T
cc: Randy Reynolds
Don McHugh
File: Georgia Metals Company
C.P. Chemicals

D#1 b

TO THE QUALITY OF THE DOCUMENT
BEING FILMED."

LAND PROTECTION BRANCH

HAZARDOUS WASTE ANALYSIS REQUEST

DATE: 10/21/86 PROJECT: Georgia Metals COLLECTOR: Mallahan

NO. SAMPLES: 3 LOG NOS. 2152, 2153, 2154 LIQUID ____ SOLID ____ SOIL X

CAUSTIC ____ ACID ____ SOLVENT ____ UNKNOWN ____ SLUDGE ____

INFORMATION FOUND: Soil composites lead melting/battery processing facility
Plant also uses MEK

HAZARDOUS WASTE NOS. D008.

HAZARDOUS HANDLING:

WORK PRIORITY (CRITICAL NEED) normal

METALS ANALYSES

	TOT	DIS			
METALS (DW NO Hg)	☐	☐	EP METALS (DW NO Hg) ☒	100X ☐	30X ☐
METALS (DW WITH Hg)	☐	☐	EP METALS (DW WITH Hg) ☐		

	TOT	DIS		TOT	DIS				
NICKEL	☐	☐	CADMIUM	☐	☐	EP NICKEL	☐	EP CADMIUM	☐
ARSENIC	☐	☐	LEAD	☐	☐	EP ARSENIC	☐	EP LEAD	☐
CHROMIUM	☐	☐	MERCURY	☐	☐	EP CHROMIUM	☐	EP MERCURY	☐
CHROM-HEX	☐	☐	SELENIUM	☐	☐	EP CHROM-HEX	☐	EP SELENIUM	☐
____	☐	☐	____	☐	☐	____	☐	____	☐

SPECIFIC ANALYSES

pH	☒	SULFIDE	☐	% SOLIDS	☐	____	☐
FLASH PT	☐	SP.COND.	☐	TOT. PHENOLS	☐	____	☐
CYANIDE TOT.	☐	TOC	☐	CHLORIDE	☐	____	☐
CYANIDE AM.	☐	TOH	☐	FLUORIDE	☐	____	☐

ORGANIC ANALYSES

PESTICIDE SCREEN (EC)	☐	GC-MS ACID EXTRACTABLES	☐
PCB	☐	GC-MS BASE/NEUTRALS	☐
VOLATILE ORGANICS (VOA)	☒		

SPECIFIC ORGANICS:

MEK

APPROVED: ____ AUTHORIZED: ____

(previously approved)

HW/0089F

D#1a

GEORGIA ENVIRONMENTAL PROTECTION DIVISION
LABORATORY REPORT

SAMPLE DATE: 10/21/86 PROJECT: Georgia Metals Co COLLECTOR: F. Hallahan

DATE REC'D 10-22-86
TIME REC'D 8:14
REC'D BY: Harold Langford
DEL BY: F Hallahan
Harold Langford
LABORATORY MANAGER
DATE: 11-2-86

HW LOG NO.	2152	2153	2154		
LABEL I.D.	Composite Soil #1 [illegible]	Composite Soil #2 [illegible]	Composite Soil #3 [illegible]		
PARAMETERS LAB NO.	H 2152	H 2153	H 2154		
Methyl Ethyl Ketone mg/kg	< 10	< 10	< 10		
EP Ag µg/L	< 20	< 100	< 20		
" As "	< 100	< 2000	< 100		
" Ba "	420	< 200	210		
" Cd "	< 20	< 100	< 20		
" Cr "	< 20	< 100	< 20		
" Pb "	175000	1430000	136000		
" Se "	< 100	< 1000	< 100		
pH (10%)	5.6	5.7	5.4		

REMARKS:

TO THE QUALITY OF THE DOCUMENT
BEING FILMED."

...NEERING AND DEVELOPMENT, INC.
6000 LAKE FORREST DRIVE
SUITE 350
ATLANTA, GEORGIA 30328

RECEIVED
FEB 16 1987
Environmental Protection Di...
Land Protection Branch

February 11, 1987

Mr. Bill Mundy
Hazardous Waste Management Program
Georgia Environmental Protection Division
205 Butler Street, S.E.
Floyd Towers East
Atlanta, GA 30334

Dear Mr. Mundy:

Georgia Metals Company has requested that I respond to your letter dated January 8, 1987 and received by Georgia Metals on January 23, 1987. I personally accompanied Ms. Hallahan on October 21, 1986, and I am familiar with the sampling protocols that she used.

The samples collected by Ms. Hallahan were not representative samples of soil-like material as specified by 40 CFR Part 261, Appendix I. The specified sampling protocol is ASTM Standard D 1452-80 which calls for soil investigation and sampling by auger borings (copy enclosed). The samples collected by Ms. Hallahan were surface scrappings rather than auger borings. I discussed the auger boring protocol versus the surface scrapping technique with Ms. Hallahan prior to sampling. However, she indicated that surface scrappings would be collected. Therefore, the samples she collected can not be considered to be representative samples. Also the sampling results can not be considered to demonstrate the presence or absence of hazardous constituent contamination at the property of Georgia Metals. Also, the samples and analyses results can not be considered to give any indication of the potential of elevated levels of waste constituents in the groundwater at the facility.

Clearly, additional soil investigation and sampling using ASTM Standard D 1452-80 or equivalent method is needed. Georgia Metals will cooperate fully as soon as EPD demonstrates by representative sampling and analyses that elevated levels of constituents exist at their facility and that a serious threat to the environment is or may be occurring. Georgia Metals intends to take appropriate action within reasonable time frames at the time such a demonstration by EPD is made.

[illegible] INSPECTION
3/3/87 [illegible]

TELEPHONE: (404) 257-9634 TELEX: 4931284LAKE UI

D#2

I recommend that Georgia Metals personnel and I meet with members of your staff to discuss these issues. As stated above, Georgia Metals will cooperate fully to resolve any concerns EPD may have about the Powder Springs facility. However, only by collecting and analyzing representative samples can meaningful solutions be reached.

Sincerely,

LAKE ENGINEERING & DEVELOPMENT, INC.

Randy Reynolds

Randal M. Reynolds, P.E.
Project Manager

RMR:mhm

Enclosure

620.1.0

CLEAR THAN THIS NOTICE, IT IS DUE
TO THE QUALITY OF THE DOCUMENT
BEING FILMED."

Georgia Department of Natural Resources
205 Butler Street, S.E., Floyd Towers East, Atlanta, Georgia 30334
J. Leonard Ledbetter, Commissioner
Harold F. Reheis, Assistant Director
Environmental Protection Division

March 11, 1987

TRIP REPORT

SITE NAME AND LOCATION:..... Georgia Metals Company
Powder Springs, Georgia

TRIP BY: ..... Don McHugh Dm

ACCOMPANIED BY: ..... Steve Woodall

DATE OF TRIP: ..... March 5, 1987

OFFICIALS CONTACTED:..... William Kelly, Georgia Metals
Randy Reynolds, Lake Engineering and Development

REFERENCE: ..... Sampling Inspection

COMMENTS:

The purpose of the trip was to resample the soil at Georgia Metals for the presence of lead. Results of the sampling conducted October 21, 1986 indicated lead contamination at 3 different locations; however, the Division agreed to a resampling to reduce any of the complications which may arise in the future. The samples were taken from the same areas at the facility as before and were those denoted on the attached drawing as the battery chip area, the main yard and battery chips.

One composite sample of soil to a depth of 4" was taken at the battery chip area and main yard. Georgia Metals did not wish to split samples. At the location of the battery chips it appeared that the materials had been removed. The soil had been disturbed but it was not possible to determine the amount, if any, removed. One sample was taken from the location of the previous sample and another was taken from undisturbed soil downgradient from the original site. Mr. Reynolds said that soil was moved to correct a drainage problem.

After completing the sampling I met with Mr. Kelly and Mr. Reynolds and told them I should have my results within 3 weeks.

CONCLUSIONS:

Facility is removing (disturbing) soil which probably has a hazardous level of lead.

D#3

DOCUMENT
BEING FILMED.

RECOMMENDATION AND FOLLOW-UP REQUIRED:

Have the facility stop moving or disturbing the soil immediately. Proceed with clean-up of facility if EP toxic levels are found.

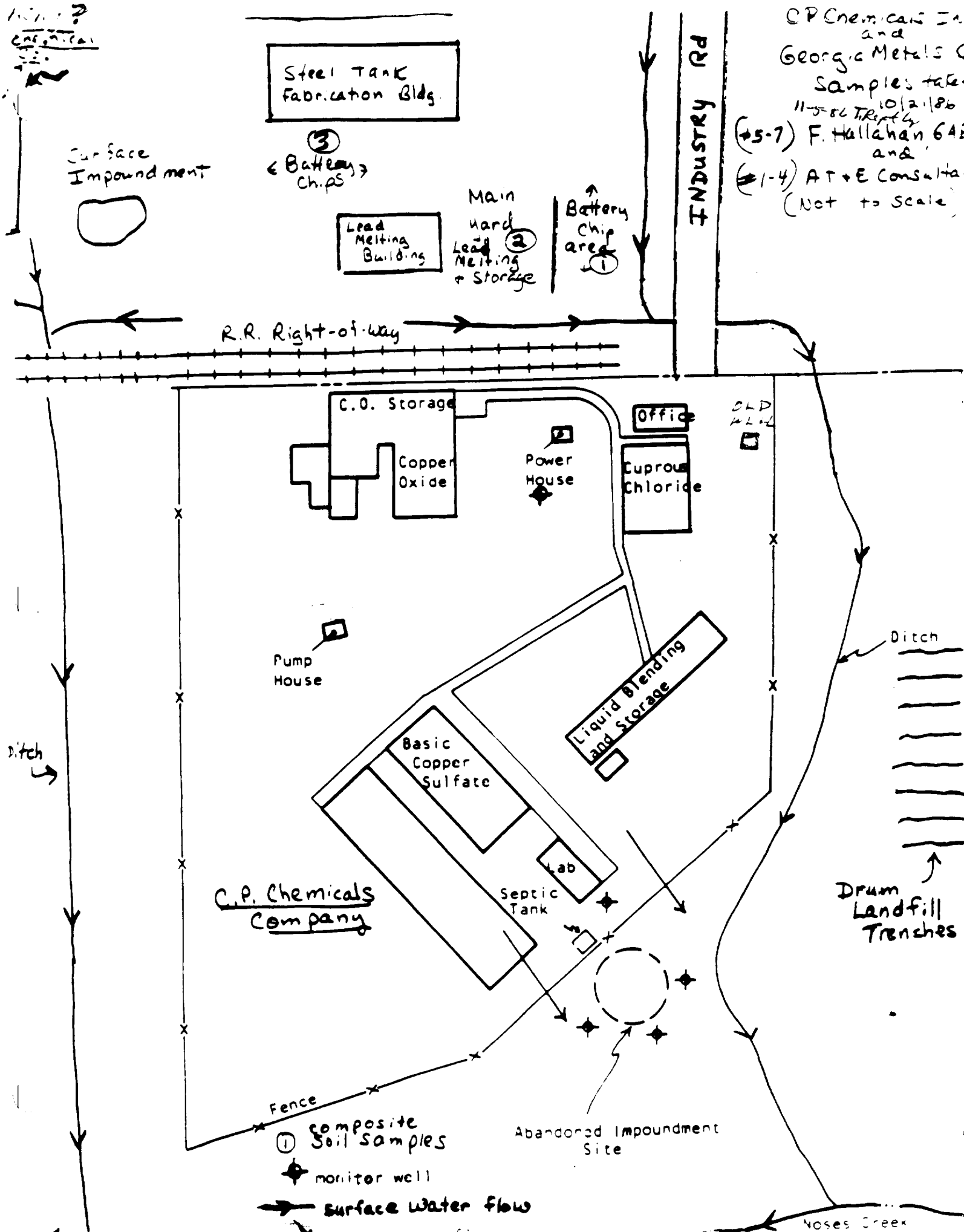
PHOTOGRAPHS:.....

REVIEWED BY:..... JJC

ATTACHMENTS:..... one

SAMPLES:..... four

DM:kaw:1086X
File: Georgia Metals (R)



CP Chemicals In
and
Georgia Metals C
Samples take
10/21/86
11-5-86 T. Reptly
(#5-7) F. Hallahan 6A
and
(#1-4) AT+E Consulta
(Not to Scale)
Steel Tank Fabrication Bldg
3
Battery Chips
Surface Impoundment
Lead Melting Building
Main yard
2
Lead Melting + Storage
Battery Chip area
1
INDUSTRY Rd
R.R. Right-of-way
C.O. Storage
Copper Oxide
Power House
Office
Cuprous Chloride
OLD WELL
Pump House
Liquid Blending and Storage
Basic Copper Sulfate
Lab
Septic Tank
C.P. Chemicals Company
Ditch
Ditch
Drum Landfill Trenches
Fence
Abandoned Impoundment Site
1 composite Soil Samples
monitor well
surface water flow
Noses Creek

HAZARDOUS WASTE ANALYSIS REQUEST

DATE: 3/5/87 PROJECT: SA. METALS COLLECTOR: McLuck

NO. SAMPLES: _____ LOG NOS. 2290-2293 LIQUID ____ SOLID ____ SOIL ✓

CAUSTIC ____ ACID ____ SOLVENT ____ UNKNOWN ____ SLUDGE ____

INFORMATION FOUND: SOIL SAMPLES FROM LEAD MELTER

HAZARDOUS WASTE NOS. D008

HAZARDOUS HANDLING:

WORK PRIORITY (CRITICAL NEED)

METALS ANALYSES

	TOT	DIS		
METALS (IN/ ND Hg)	☐	☐	EP METALS (IN ND Hg) ☐	100X ☐ 30X ☐
METALS (IN/ WITH Hg)	☐	☐	EP METALS (IN WITH Hg) ☐	

	TOT	DIS		TOT	DIS				
NICKEL	☐	☐	CADMIUM	☐	☐	EP NICKEL	☐	EP CADMIUM	☐
ARSENIC	☐	☐	LEAD	☐	☐	EP ARSENIC	☐	EP LEAD	☑
CHROMIUM	☐	☐	MERCURY	☐	☐	EP CHROMIUM	☐	EP MERCURY	☐
CHROM-HEX	☐	☐	SELENIUM	☐	☐	EP CHROM-HEX	☐	EP SELENIUM	☐
_____	☐	☐	_____	☐	☐	_____	☐	_____	☐

SPECIFIC ANALYSES

pH	☐	SULFIDE	☐	% SOLIDS	☐	_____	☐
FLASH PT	☐	SP.COND.	☐	TOT. PHENOLS	☐	_____	☐
CYANIDE TOT.	☐	TOC	☐	CHLORIDE	☐	_____	☐
CYANIDE AM.	☐	TOX	☐	FLUORIDE	☐	_____	☐

ORGANIC ANALYSES

PESTICIDE SCREEN (EC)	☐	GC-MS ACID EXTRACTABLES	☐
PCB	☐	GC-MS BASE/NEUTRALS	☐
VOLATILE ORGANICS (VOA)	☐		

SPECIFIC ORGANICS:

APPROVED: [signature] AUTHORIZED: M

EM/0089F

CLEAR THAN THIS NOTICE, IT IS DUE
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LABORATORY REPORT

DATE: 3/5/87 PROJECT: Ga. Metals COLLECTOR: McHugh

HW LOG NO.	2290	2291	2292	2293	
DATE REC'D 5-MAR-87 LABEL I.D.	Battery Chip Area (5) G-1	Main Yard G-2	Battery Chips (7) G-3	Battery Chip G-4	
TIME REC'D 15:30					
REC'D BY: [signature]					
DEL BY: McHugh					
Harold Lanford LABORATORY MANAGER					
DATE: 3-19-87					
PARAMETERS LAB NO.	HW 2290	HW 2291	HW 2292	HW 2293	
EP Pb mg/L	9500	55,000	2300	7300	

REMARKS:

P. 142 858 401

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Mr. William F. Kelly Jr. Georgia Metals Co	
Street and No. 1300 Industry Rd SW	
P.O., State and ZIP Code Powder Springs GA 30073	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date	

PS Form 3800, Feb. 1982 * U.S.G.P.O. 1984-446-014

1413 30073

Georgia Department of Natural Resources

205 Butler Street, S.E., Floyd Towers East, Atlanta, Georgia 30334
J. Leonard Ledbetter, Commissioner
Harold F. Reheis, Assistant Director
Environmental Protection Division
(404) 656-4713

April 1, 1987

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

RE: Sampling Results

e analyses of the soil samples taken from
he samples were taken from the same
ber 21, 1986. (Samples G-3 and G-4 were
e samples indicated concentrations of lead
a Rules for Hazardous Waste Management.

, 1987 letter to your facility, your first action should be to submit a plan to further investigate the lead contamination at your facility. The plan should specify that soil containing more than 5 mg/l of lead determined by the EP Toxicity test will be removed and disposed of in a secure landfill. No soil at the facility is to be disturbed until the extent of surface contamination has been determined.

The requested information should be submitted to this office within 30 days of receipt of this letter. Should you have any questions, please call Don McHugh at 656-7802.

Sincerely,

Bill Mundy

Bill Mundy
Unit Coordinator
Hazardous Waste Management Program

BM:dmh:1010R

cc: Randy Reynolds

File: Georgia Metals
C. P. Chemicals

D#4

"NOTICE: IF THE FILM IMAGE IS LESS CLEAR THAN THIS NOTICE, IT IS DUE TO THE QUALITY OF THE DOCUMENT BEING FILMED."

LAKE ENGINEERING AND DEVELOPMENT, INC.
6000 LAKE FORREST DRIVE
SUITE 350
ATLANTA, GEORGIA 30328

April 21, 1987

RECEIVED
APR 22 1987
Environmental Protection Division
Land Protection Branch

Mr. Bill Mundy
Hazardous Waste Management Program
Georgia Department of Natural Resources
205 Butler Street, S.E.
Floyd Towers East
Atlanta, GA 30334

Dear Mr. Mundy:

Georgia Metals has received the soil sampling results obtained by your staff during the sampling inspection conducted on March 5, 1987. Your letter dated April 1, 1987 was not received by Georgia Metals until April 10, 1987. Lake Engineering waited for a copy of your letter, however none was received. The Georgia Metals personnel forwarded a copy of the letter to us but it was not received until April 17, 1987. Due to the mix-up in correspondence, we respectfully request an extension of time by 15 days to submit the surface soils investigation plan required by your letter. This extension would require that the plan be submitted by May 26, 1987.

The soil sampling results obtained by your staff indicated that samples G-3 and G-4 were collected from the same location. The average of these results indicates that soil from this area contains less than 5 mg/l of lead determined by the EP Toxicity test. Therefore, we believe that the area where samples G-3 and G-4 were taken is not subject to regulation by the Georgia Rules for Hazardous Waste Management and will not be included in the surface soils investigation plan.

Sincerely,

LAKE ENGINEERING & DEVELOPMENT, INC.

Randy Reynolds

Randal M. Reynolds, P.E.
Project Manager

RMR:sas

TELEPHONE: (404) 257-9634 TELEX: 4931284LAKE UI

D#5

Georgia Department of Natural Resources
205 Butler Street, S.E., Floyd Towers East, Atlanta, Georgia 30334
J. Leonard Ledbetter, Commissioner
Harold F. Reheis, Assistant Director
Environmental Protection Division

May 15, 1987

FILE COPY

Mr. William F. Kelly, Sr.
Georgia Metals Company
1400 Industry Road, S.W.
Powder Springs, Georgia 30073

Dear Mr. Kelly:

This letter is to acknowledge the telephone call between Mr. Randal Reynolds, Lake Engineering & Development and Don McHugh, Georgia Environmental Protection Division on May 5, 1987. Mr. Reynolds' letter of April 21, 1987 had requested an extension of 15 days for the submittal of your facility's surface soils investigation plan. The Division is willing to allow any extension until May 26, 1987; however, the facility should be prepared to implement the plan immediately upon approval by the Division.

Also discussed in the letter was the need to investigate at the location where samples G-3 and G-4 were taken. Your conclusion regarding the samples G-3 and G-4 is erroneous, samples G-3 and G-4 are separate and distinct. Sample G-3 was taken from the disturbed soil at the original sampling site and sample G-4 was taken from undisturbed soil downgradient from the original sampling site. Because hazardous levels of lead in the soil were found to be present, the immediate area surrounding the original sample site must be investigated.

Samples G-1, G-2 and G-4 confirm that lead contamination exists at your facility. Therefore, no soil or debris is to be excavated at your facility until laboratory results of the samples are determined and any soil or debris found to be hazardous must be disposed of at an approved disposal facility. If you have any questions regarding this matter, please call Wayne Fuller at 656-2833.

Sincerely,

Bill Mundy

Bill Mundy
Unit Coordinator
Hazardous Waste Management Program

BM:dmm:0586T
cc: Randy Reynolds
File: Ga. Metals

D# 6

"NOTICE: IF THE FILM IMAGE IS LESS CLEAR THAN THIS NOTICE, IT IS DUE TO THE QUALITY OF THE DOCUMENT BEING FILMED."

...ERING AND DEVELOPMENT, INC.
... LAKE FORREST DRIVE
SUITE 350
ATLANTA, GEORGIA 30328

May 21, 1987

RECEIVED
MAY 26 1987
Environmental Protection Division
Land Protection Branch

Mr. Bill Mundy
Hazardous Waste Management Program
Georgia Environmental Protection Division
205 Butler Street, S.E.
Floyd Towers East
Atlanta, GA 30334

Dear Mr. Mundy:

Enclosed is a soil sampling and analysis plan for Georgia Metals, Inc. according to your letter dated April 1, 1987. If you or your staff have any questions, please contact me at your convenience.

Sincerely,

LAKE ENGINEERING & DEVELOPMENT, INC.

Randy Reynolds

Randal M. Reynolds, P.E.
Project Manager

RMR:sas

Enclosure

cc: Mr. William Kelly

Wayne,
Please review this S's A plan. You may want to use SW846 (on top of file cabinets where Part B's are kept) to ensure that their sampling analysis program is consistent with those methods. Lets plan on going out there to field verify their locations in the next two weeks, (by 7/2) We will also plan on paying a visit to Ajay chemicals on the same day. We need to comments on the plan or our approval by 7/4/87. -LC 6/18

TELEPHONE: (404) ... TELEX: 4931284LAKE UI

D#7

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BEING FILMED."

Georgia Department of Natural Resources
205 Butler Street, S.E., Floyd Towers East, Atlanta, Georgia 30334
J. Leonard Ledbetter, Commissioner
Harold F. Reheis, Assistant Director
Environmental Protection Division

September 17, 1987

Mr. William F. Kelly, Sr.
Georgia Metals Company
1400 Industry Road, SW
Powder Springs, Georgia 30073

RE: Inspection, July 1, 1987

Dear Mr. Kelly:

This letter is to confirm the inspection of Georgia Metals Company at Powder Springs, Georgia, by Wayne Fuller and Tim Cash of the Georgia Environmental Protection Division (EPD) on July 1, 1987. The purpose of the inspection was to field verify the sampling points within the sampling areas proposed in the Surface Soil Sample and Analysis Plan (SSSAP), dated May, 1987 and submitted to EPD on your behalf by Lake Engineering and Development, Inc.

The SSSAP is an independent study to determine the amount of lead contamination in the soil within the proposed sampling areas at your plant site. Analysis of soil samples collected by EPD officials on September 21, 1986 and on March 5, 1987 revealed lead concentrations above the 5mg/l level in all samples collected. Lead concentrations above 5 mg/l are considered to be hazardous based on EP Toxicity by the Georgia Rules for Hazardous Waste Management. EPD notified you of the results and requested that you submit a plan to EPD to correct the situation.

During the inspection, Tim Cash and I toured your facility with your consultant, Randal Reynolds of Lake Engineering and Development, Inc. According to the SSSAP, area 1 is the battery chip area in the south corner of the property adjacent to Industry Road and the Seaboard Airline Railroad property. A fifty foot square will be measured and the sampling points will be at the corners of the square. Area 2 is the old storage location between the battery chip area and the lead melting building. At this location a square was measured, thirty feet on each side and it was explained to the EPD officials that the sampling points will be each corner of the square. The third sample area is located in the west yard, on the southside of the fabrication building. At this location, a twenty foot square will be measured and the sample points will be each corner of the square.

D#8

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Other parts of your facility were examined including the old melting building, the old retention pond and the area adjacent to the railroad tracks. A leaking Methyl Ethyl Ketone drum was observed at the entrance to the old melting building and an unknown liquid was leaking from one of the melting units inside the old melting building. At the conclusion of the inspection we asked Mr. Reynolds to repair the leaking drum of Methyl Ethyl Ketone and to investigate the liquid leaking from the melting unit.

In summary, the inspection field verified the soil sampling areas and the sampling points within each of the three sampling areas that were outlined in the SSSAP.

If you have any questions or need further assistance in this matter, please contact Wayne Fuller at (404) 656-2833.

Sincerely,

Bill Mundy

Bill Mundy
Unit Coordinator
Hazardous Waste Management Program

BM:wfh:1434R

cc: Randal Reynolds, Lake Engineering & Development, Inc.
Atlanta, GA

File: Georgia Metals Company (R)

Georgia Department of Natural Resources
205 Butler Street, S.E., Floyd Towers East, Atlanta, Georgia 30334
J. Leonard Ledbetter, Commissioner
Harold F. Reheis, Assistant Director
Environmental Protection Division

September 22, 1987

FILE COPY

TRIP REPORT

SITE NAME & LOCATION:	Georgia Metals, Inc. Powder Springs, Georgia
TRIP BY:	Wayne Fuller
ACCOMPANIED BY:	Tim Cash
DATE OF TRIP:	July 1, 1987
OFFICIALS CONTACTED:	Mr. William F. Kelly, Sr. Georgia Metals, Inc. Mr. Randal M. Reynolds Lake Engineering & Development, Inc.
REFERENCE:	Trip Report dated November 5, 1986 Sampling Results dated January 8, 1987 Sampling Results dated April 1, 1987 Revised Ground-Water Quality Assessment Plan for C. P. Chemicals dated April 20, 1987 Surface Soil Sampling and Analysis Plan dated May, 1987

COMMENTS:

1. The purpose of the trip was to field verify the locations of soil samples proposed in the Surface Soil Sampling and Analysis Plan (SSSAP) dated May, 1987. The SSSAP was prepared by Lake Engineering and Development, Inc. (LED) of Atlanta, Georgia Metals' consultant. The SSSAP was submitted to EPD by Georgia Metals at the request of EPD because analyses of soil samples from Georgia Metals' property taken on September 21, 1986 and March 5, 1987 revealed concentrations of lead considered hazardous by the Georgia Rules for Hazardous Waste Management. The soil samples were taken by EPD in order to help determine the source of lead contamination observed in ground-water samples collected from monitoring wells at C. P. Chemicals. The C. P. Chemicals plant site is located adjacent to and south of the Georgia Metals' property.

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According to the revised Ground-Water Quality Assessment Plan for C. P. Chemicals dated April 20, 1987 surface water run-off is from the north to the south (from Georgia Metals' property to C.P. Chemicals' property) via drainage ditches into Noses Creek. The direction of surface water flow is indicative of the direction of ground-water flow.

2. At the time of the inspection, Tim Cash and I met with Mr. William F. Kelly, Sr. of Georgia Metals, Inc., and Mr. Randal M. Reynolds of Lake Engineering and Development, Inc. Mr. Kelly discussed production processes that his company had used in the past claiming that his plant is now a fabrication facility rather than a smelting facility, that Georgia Metals is now lining tanks with plastic liners instead of lead liners, and that plastic chips from used battery casings are used for erosion control. Plastic chips have been scattered over the southeast corner of the plant site to control erosion caused by surface water run-off. The subject area is barren of grass. Mr. Kelly also explained that his plant did not generate any air emissions, and did not use any caustic scrubbers.

3. We inspected the facility with the Lake Engineering representatives. Mr. Reynolds stated that Georgia Metals had been implicated in the past as a possible source for the lead contamination observed in C. P. Chemicals ground-water monitoring wells and he disagreed with the sampling locations of the EPD studies (mentioned in paragraph 1) claiming they were selected in a random fashion. Mr. Reynolds stated that the sampling locations outlined in the SSSAP were less random and will establish if lead is present at the surface and if it has migrated below the surface.

   We first inspected the old drum storage area next to the lead melting building at the southeast part of the property where scrap lead was stored in drums for melting into lead pipes and lead sheets. The area had not been used for storage since August, 1986. The EPD representatives observed battery chips and lead scrap littered over the ground. The Lake Engineering representatives measured a 30' square, as depicted in Figure 1, and explained that samples will be collected at the corners of the square.

   The next area discussed was the battery chip area where a square with 50' sides will be measured and samples taken at the corners of the square (Figure 1). It was evident that the battery chip area was experiencing considerable erosion evidenced by the number of deep gullies that have developed.

   We entered the old lead melting building and observed a leaking Methyl Ethyl Ketone drum at the entrance. The building stored many lead pipes and the main melting area was inactive at the time of the visit. A tank attached to one of the melters was dripping liquid that was exiting the south wall of the building.

   We then proceeded to the third sampling area located in the west yard where the Lake Engineering representatives explained that they intend to measure a 20' square and collect samples at the corners of the square.

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We then examined the old pond area and observed the AJAY Chemicals plant site that included a surface impoundment located at the south end of the property. We concluded the inspection by walking to the south end of Georgia Metals' property and noticed several stressed trees.

Returning to the main office the EPD representatives instructed the Lake Engineering representatives that Georgia Metals is required to repair the leaking tank of Methyl Ethyl Ketone immediately. The EPD representatives asked the Lake Engineering representatives to research the liquid leaking in the old lead fabricating building and to research if any plant discharge had gone into the old pond. Several days after the inspection, Randy Reynolds contacted me by telephone and informed me that the old pond was a retention pond to control erosion and the liquid leaking from the tank in the old fabricating building was water used during the lead melting process to cool the metal.

CONCLUSIONS:

The sampling locations proposed in the SSSAP have been field verified. The sampling locations are situated next to the old fabricating building, in the battery chip area and in the area where lead bearing material had been spilled.

RECOMMENDATIONS & FOLLOW UP REQUIRED:

1. Review the SSSAP and supply comments to Georgia Metals.

2. Conduct inspection at AJAY Chemicals to investigate the surface impoundment observed from Georgia Metals.

3. Send Georgia Metals a letter confirming the inspection.

PHOTOGRAPHS: None

REVIEWED BY: JLR

ATTACHMENTS: Figure 1

WF:lsh:1429R

FILE: Georgia Metals

BEING FILMED."

Georgia Department of Natural Resources
205 Butler Street, S.E., Floyd Towers East, Atlanta, Georgia 30334
J. Leonard Ledbetter, Commissioner
Harold F. Reheis, Assistant Director
Environmental Protection Division

October 2, 1987

Mr. William F. Kelly, Sr.
Georgia Metals, Inc.
1400 Industry Road, S.W.
Powder Springs, GA 30073

RE: Comments on the Surface Soil Sampling and Analysis Plan
Dated May, 1987

Dear Mr. Kelly:

The Georgia Environmental Protection Division (EPD) has collected soil samples from Georgia Metals' property on two occasions, September 21, 1986 and March 5, 1987, in order to determine the concentrations of lead (by the Extraction Procedure Toxicity Test - EP Toxic) in your soil. The analytical results revealed that the samples contained lead concentrations considered to be hazardous by the Georgia Rules for Hazardous Waste Management. EPD requested that you submit a plan to the Division outlining the action you would take to further investigate the lead contamination at your facility. The plan is to specify that soil containing more than the EP Toxic level, 5 mg/l of lead, determined by the EP Toxicity test, will be removed and disposed of in a secure landfill, but no soil at the facility is to be disturbed until the extent of surface contamination has been determined.

EPD has reviewed the Surface Soil Sampling and Analysis Plan (SSSAP) dated May, 1987, submitted in response to the Division's request. The purpose of this letter is to point out where improvements need to be made in the SSSAP.

1. The SSSAP was to identify soil containing more than EP Toxic levels of lead on your facility. The plan that was submitted to EPD can only identify soil containing 5 mg/l of lead in three locations where lead has already been identified above toxic levels. In order to correct this, a more comprehensive soil sampling, including more sampling points providing greater coverage of your property, is required.

2. The SSSAP does not include any discussion concerning remedial action. On page 1-1 of the introduction it is stated that remedial action will be considered if any soil exhibits the characteristics of EP toxicity. The studies conducted by EPD, mentioned above, have already determined that lead concentrations exceeding EP Toxic levels exist at your facility. Proposal of a remedial action plan in a revised submittal to EPD is appropriate.

DF10

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LAKE ENGINEERING AND DEVELOPMENT, INC.
6400 LAKE FORREST DRIVE
SUITE 350
ATLANTA, GEORGIA 30328

RECEIVED
OCT 16 1987
Environmental Protection Division
Land Protection Branch

October 13, 1987

Mr. Bill Mundy
Hazardous Waste Mgmt. Program
Georgia Environmental Protection Division
205 Butler Street, S.E.
Floyd Towers East
Atlanta, GA 30334

Dear Mr. Mundy:

Georgia Metals, Inc. has received your letter dated October 2, 1987. At their request, we are responding to your letter. Georgia Metals did not receive your letter until Thursday October 8, 1987. Therefore, it will not be possible to submit a modified surface soil sampling and analysis (SSSAP) by October 15, 1987 as requested by your letter. We propose an alternate schedule as described below.

Within the next two weeks, Lake Engineering will visit the Georgia Metals facility and review the specific comments included for revision in your letter. Mr. David E. Lawton, P.G. has recently joined our company and will be developing those points of agreement concerning revising the SSSAP.

Following the site visit, we propose that EPD personnel meet with Georgia Metals and Lake Engineering representatives to finalize all issues concerning the SSSAP. Following this meeting a final SSSAP can be submitted and the soil sampling work can proceed.

In the future please forward copies of all correspondence to Mr. David E. Lawton, P.G. This will expedite required responses in the future.

Sincerely,

LAKE ENGINEERING & DEVELOPMENT, INC.

Randy Reynolds

Randal M. Reynolds, P.E.
Project Manager

RMR:mhm

620.1.0

TELEPHONE: (404) 257 9634 TELEX: 4931284LAKE UI FAX: (404) 847-9496

D#11

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Georgia Department of Natural Resources
205 Butler Street, S.E., Floyd Towers East, Atlanta, Georgia 30334
J. Leonard Ledbetter, Commissioner
Harold F. Reheis, Assistant Director
Environmental Protection Division

November 9, 1987

FILE COPY

Mr. William F. Kelly, Sr.
Georgia Metals, Inc.
1400 Industry Road, S.W.
Powder Springs, Ga. 30073

RE: Extension of Deadline for Submittal of Surface Soil Sampling and Analysis Plan, Georgia Metals, Inc., Powder Springs, Ga.

Dear Mr. Kelly:

This letter is to acknowledge receipt of the correspondence dated October 13, 1987, requesting additional time to respond to the Georgia Environmental Protection Division's (EPD) comments pertaining to your Surface Soil Sampling and Analysis Plan (SSSAP), dated May 1987. In order to allow you a sufficient amount of time to develop a revised SSSAP, addressing all of the topics discussed in the EPD's comments, the EPD requests that the revised SSSAP be submitted to the EPD by November 21, 1987.

If you need further assistance in the matter, please contact Wayne Fuller at (404) 656-7802.

Sincerely,

Bill Mundy

Bill Mundy
Unit Coordinator
Hazardous Waste Management Program

BM:wfm:1052T

cc: Mr. David E. Lawton

File: Georgia Metals (R)

D#12

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LAKE ENGINEERING AND DEVELOPMENT, INC.
6000 LAKE FORREST DRIVE
SUITE 350
ATLANTA, GEORGIA 30328

November 13, 1987

RECEIVED
NOV 16 1987
Environmental Protection Division
Land Protection Branch

Mr. Wayne R. Fuller
Hazardous Waste Management Program
Environmental Protection Division
Floyd Tower East, Suite 1154
205 Butler Street, S.E.
Atlanta, GA 30334

Dear Mr. Fuller:

On behalf of Georgia Metals, Inc. of Powder Springs, Georgia, we are pleased to submit for you approval the revised Surface Soil Sampling and Analysis Plan. Enclosed as requested, are four copies of the plan.

If you have any questions or need additional information, please call.

Sincerely,

LAKE ENGINEERING & DEVELOPMENT, INC.

Kristen L. Cramer

Kristen L. Cramer
Civil Engineering Technologist

KLC:mhm

Enclosures

cc: Mr. William Kelly

620.4.2

TELEPHONE: (404) 257-9634 TELEX: 4931284LAKE UI FAX: (404) 847-9496

D#13

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3. The described sampling methods include collection of a surface sample from 0 to 6 inches and collection of a shallow subsurface sample from 18 to 24 inches or 24 to 30 inches. This procedure will result in a sample gap of 12 to 18 inches and will not enable the determination of a continuous lead profile of the upper 24 or 30 inches in the sample areas.

4. The proposed sampling depths for the three areas are inconsistent because the shallow subsurface boring in the Main Yard Area is 18 to 24 inches in contrast to the East Yard and West Yard which are 24 to 30 inches. Please provide an explanation for the difference in depths in a revised submittal.

5. On page 4-3 of the SSSAP it is stated that you will enter date and time of boring, identifying number of boring, reference datum for future relocation of sampling points, depth of changes in strata, description of soil, and conditions of auger hole upon removal of the auger into the field log book. Please enter, in addition to the information described above, the purpose of the sampling, name of the facility, suspected hazardous constitinent, volume of sample, mode of transportation to laboratory, a map of the sampling points and the signature of the personnel collecting the samples.

6. The discussion of the sampling procedures did not address the protection of the shallow borehole prior to collection of the shallow subsurface sample. It is possible that soil may collapse into the borehole if the borehole is not protected by a casing. If the borehole collapses, filling with soil, analytical results from deeper samples may not be truly representative of the sampling depth.

The Division concurs with all other aspects of the SSSAP but, in order to address the concerns of EPD, a revised document will be required. Please submit to EPD a modified SSSAP that corrects the above mentioned topics by October 15, 1987.

If you have any questions or need assistance please contact Wayne Fuller at (404) 656-2833.

Sincerely,

Bill Mundy

Bill Mundy
Unit Coordinator
Hazardous Waste Management Program

cc: Mr. Randal M. Reynolds
Lake Engineering and Development, Inc.
600 Lake Forest Drive, Suite 350
Atlanta, Georgia 30328

File: Georgia Metals (R)

BM:jkd:5113B

GaEPD Lead & Copper Sample History for G Oller
0670006 Facility: Powder Springs County: Cobb

LAB NUMBER	COLLECT DATE	EXAM DATE	LOCATION	PARAMETER DESCRIPTION	C M	RE MK	RESULT	COMP YR/MTH
00741966	12/23/93	1/ 4/94	003	Copper			41.00	199301
				Lead			2.50	
00741972	12/23/93	1/ 4/94	009	Copper			54.00	199301
				Lead			0.00	
00741964	12/22/93	1/ 4/94	001	Copper			69.00	199301
				Lead			0.00	
00741965	12/22/93	1/ 4/94	002	Copper			74.00	199301
				Lead			2.50	
00741986	12/22/93	1/ 4/94	026	Copper			0.00	199301
				Lead			0.00	
00741990	12/22/93	1/ 4/94	031	Copper			0.00	199301
				Lead			0.00	
00741998	12/22/93	1/ 4/94	040	Copper			52.00	199301
				Lead			0.00	
00741967	12/21/93	1/ 4/94	004	Copper			66.00	199301
				Lead			0.00	
00741968	12/21/93	1/ 4/94	025	Copper			82.00	199301
				Lead			0.00	
00741969	12/21/93	1/ 4/94	006	Copper			0.00	199301
				Lead			0.00	
00741970	12/21/93	1/ 4/94	007	Copper			59.00	199301
				Lead			0.00	
00741971	12/21/93	1/ 4/94	008	Copper			210.00	199301
				Lead			14.00	
00741973	12/21/93	1/ 4/94	010	Copper			45.00	199301
				Lead			0.00	
00741974	12/21/93	1/ 4/94	011	Copper			0.00	199301
				Lead			0.00	
00741975	12/21/93	1/ 4/94	022	Copper			25.00	199301
				Lead			0.00	
00741976	12/21/93	1/ 4/94	013	Copper			0.00	199301
				Lead			0.00	
00741977	12/21/93	1/ 4/94	024	Copper			52.00	199301
				Lead			0.00	

GaEPD Lead & Copper Sample History for G Oller
0670006 Facility: Powder Springs County: Cobb

Reference #6

LAB NUMBER	COLLECT DATE	EXAM DATE	LOCATION ----------	PARAMETER DESCRIPTION	C M	RE MK	RESULT --------	COMP YR/MTH
00741978	12/21/93	1/ 4/94	015	Copper			91.00	199301
				Lead			0.00	
00741979	12/21/93	1/ 4/94	016	Copper			150.00	199301
				Lead			0.00	
00741980	12/21/93	1/ 4/94	017	Copper			160.00	199301
				Lead			0.00	
00741981	12/21/93	1/ 4/94	018	Copper			25.00	199301
				Lead			0.00	
00741982	12/21/93	1/ 4/94	029	Copper			61.00	199301
				Lead			0.00	
00741983	12/21/93	1/ 4/94	039	Copper			99.00	199301
				Lead			0.00	
00741984	12/21/93	1/ 4/94	021	Copper			67.00	199301
				Lead			0.00	
00741985	12/21/93	1/ 4/94	023	Copper			85.00	199301
				Lead			0.00	
00741987	12/21/93	1/ 4/94	027	Copper			0.00	199301
				Lead			0.00	
00741989	12/21/93	1/ 4/94	030	Copper			97.00	199301
				Lead			0.00	
)741991	12/21/93	1/ 4/94	032	Copper			0.00	199301
				Lead			2.50	
00741992	12/21/93	1/ 4/94	033	Copper			0.00	199301
				Lead			0.00	
00741993	12/21/93	1/ 4/94	034	Copper			42.00	199301
				Lead			0.00	
00741994	12/21/93	1/ 4/94	035	Copper			42.00	199301
				Lead			0.00	
00741995	12/21/93	1/ 4/94	036	Copper			42.00	199301
				Lead			0.00	
00741997	12/21/93	1/ 4/94	038	Copper			52.00	199301
				Lead			0.00	
00741988	12/20/93	1/ 4/94	028	Copper			88.00	199301
				Lead			2.50	

GaEPD Lead & Copper Sample History for G Oller
0670006 Facility: Powder Springs County: Cobb

LAB NUMBER	COLLECT DATE	EXAM DATE	LOCATION ----------	PARAMETER DESCRIPTION	C M	RE MK	RESULT --------	COMP YR/MTH
00741996	12/20/93	1/ 4/94	037	Copper			52.00	199301
				Lead			0.00	
00704755	1/ 8/93	1/13/93	001	Copper			150.00	199207

				Lead		6.40	
00704756	1/ 8/93	1/13/93	002	Copper		170.00	199207
				Lead		6.40	
00704757	1/ 8/93	1/13/93	003	Copper		170.00	199207
				Lead		6.50	
00704758	1/ 8/93	1/13/93	004	Copper		160.00	199207
				Lead		6.50	
00704759	1/ 8/93	1/13/93	005	Copper		140.00	199207
				Lead		3.60	
00704760	1/ 8/93	1/13/93	006	Copper		150.00	199207
				Lead		3.60	
00704761	1/ 8/93	1/13/93	007	Copper		400.00	199207
				Lead		13.00	
00704762	1/ 8/93	1/13/93	008	Copper		55.00	199207
				Lead		2.50	
00704763	1/ 8/93	1/13/93	009	Copper		160.00	199207
				Lead		7.10	
00704764	1/ 8/93	1/13/93	010	Copper		69.00	199207
				Lead		7.10	
00704765	1/ 8/93	1/13/93	011	Copper		150.00	199207
				Lead		4.50	
00704766	1/ 8/93	1/13/93	012	Copper		60.00	199207
				Lead		4.50	
00704767	1/ 8/93	1/13/93	013	Copper		25.00	199207
				Lead		6.00	
00704768	1/ 8/93	1/13/93	014	Copper		68.00	199207
				Lead		6.00	
00704769	1/ 8/93	1/13/93	015	Copper		28.00	199207
				Lead		2.50	
00704770	1/ 8/93	1/13/93	016	Copper		170.00	199207
				Lead		2.50	

GaEPD Lead & Copper Sample History for G Oller
0670006 Facility: Powder Springs County: Cobb

LAB NUMBER	COLLECT DATE	EXAM DATE	LOCATION	PARAMETER DESCRIPTION	C M	RE MK	RESULT	COMP YR/MTH
00704771	1/ 8/93	1/13/93	017	Copper			170.00	199207
				Lead			5.40	
00704772	1/ 8/93	1/13/93	018	Copper			270.00	199207
				Lead			5.40	
00704773	1/ 8/93	1/13/93	019	Copper			30.00	199207
				Lead			2.50	
00704774	1/ 8/93	1/13/93	020	Copper			93.00	199207
				Lead			2.50	

00704775	1/ 8/93	1/13/93	021	Copper	260.00	199207
				Lead	2.50	
00704776	1/ 8/93	1/13/93	022	Copper	250.00	199207
				Lead	2.50	
00704777	1/ 8/93	1/13/93	023	Copper	140.00	199207
				Lead	2.50	
00704778	1/ 8/93	1/13/93	024	Copper	47.00	199207
				Lead	2.50	
00704779	1/ 8/93	1/13/93	025	Copper	97.00	199207
				Lead	2.50	
00704780	1/ 8/93	1/13/93	026	Copper	120.00	199207
				Lead	2.50	
00704781	1/ 8/93	1/13/93	027	Copper	41.00	199207
				Lead	4.70	
00704782	1/ 8/93	1/13/93	028	Copper	25.00	199207
				Lead	4.70	
00704783	1/ 8/93	1/13/93	029	Copper	75.00	199207
				Lead	2.50	
00704784	1/ 8/93	1/13/93	030	Copper	0.00	199207
				Lead	2.50	
00704785	1/ 8/93	1/13/93	031	Copper	60.00	199207
				Lead	3.80	
00704786	1/ 8/93	1/13/93	032	Copper	99.00	199207
				Lead	3.80	
00704787	1/ 8/93	1/13/93	033	Copper	30.00	199207
				Lead	5.30	

GaEPD Lead & Copper Sample History for G Oller
0670006 Facility: Powder Springs County: Cobb

LAB NUMBER	COLLECT DATE	EXAM DATE	LOCATION ----------	PARAMETER DESCRIPTION	C M	RE MK	RESULT --------	COMP YR/MTH
00704788	1/ 8/93	1/13/93	034	Copper			29.00	199207
				Lead			5.30	
00704789	1/ 8/93	1/13/93	035	Copper			93.00	199207
				Lead			2.50	
00704790	1/ 8/93	1/13/93	036	Copper			69.00	199207
				Lead			2.50	
00704791	1/ 8/93	1/13/93	037	Copper			110.00	199207
				Lead			5.50	
00704792	1/ 8/93	1/13/93	038	Copper			110.00	199207
				Lead			5.50	
00704793	1/ 8/93	1/13/93	039	Copper			96.00	199207
				Lead			2.50	

00704794	1/ 8/93	1/13/93	040	Copper	130.00	199207
				Lead	2.50	
00704795	1/ 8/93	1/14/93	041	Copper	75.00	199207
				Lead	2.50	
00704796	1/ 8/93	1/14/93	042	Copper	27.00	199207
				Lead	2.50	
00704797	1/ 8/93	1/14/93	043	Copper	32.00	199207
				Lead	2.50	
00704798	1/ 8/93	1/14/93	044	Copper	27.00	199207
				Lead	2.50	
00704799	1/ 8/93	1/14/93	045	Copper	25.00	199207
				Lead	2.50	
00704800	1/ 8/93	1/14/93	046	Copper	27.00	199207
				Lead	2.50	
00704801	1/ 8/93	1/14/93	047	Copper	0.00	199207
				Lead	2.50	
00704802	1/ 8/93	1/14/93	048	Copper	110.00	199207
				Lead	2.50	
00704803	1/ 8/93	1/14/93	049	Copper	360.00	199207
				Lead	2.50	
00704804	1/ 8/93	1/14/93	050	Copper	180.00	199207
				Lead	2.50	

GaEPD Lead & Copper Sample History for G Oller
0670006 Facility: Powder Springs County: Cobb

LAB NUMBER	COLLECT DATE	EXAM DATE	LOCATION ----------	PARAMETER DESCRIPTION	C M	RE MK	RESULT --------	COMP YR/MTH
00704805	1/ 8/93	1/14/93	051	Copper			320.00	199207
				Lead			2.90	
00704806	1/ 8/93	1/14/93	052	Copper			160.00	199207
				Lead			2.90	
00704807	1/ 8/93	1/14/93	053	Copper			220.00	199207
				Lead			0.00	
00704808	1/ 8/93	1/14/93	054	Copper			270.00	199207
				Lead			0.00	
00704809	1/ 8/93	1/14/93	055	Copper			360.00	199207
				Lead			2.50	
00704810	1/ 8/93	1/14/93	056	Copper			270.00	199207
				Lead			2.50	
00704811	1/ 8/93	1/14/93	057	Copper			230.00	199207
				Lead			5.20	
00704812	1/ 8/93	1/14/93	058	Copper			230.00	199207
				Lead			5.20	
00704813	1/ 8/93	1/14/93	059	Copper			150.00	199207

			Lead	4.00	
00704814	1/ 8/93	1/14/93 060	Copper	270.00	199207
			Lead	4.00	

CHEMICAL TEST HISTORY Date: 9/27/1994 Requested by: G Oller

ID:0670006 NAME:Powder Springs COUNTY:Cobb

B JM	SAMPLE NUMBER	COLLECT DATE	PARM CODE	PARAMETER DESCRIPTION	T Y	R K	ACTUAL RESULT	Unit ----
006	00603041	8/11/92	32104	Bromoform [Tribromomethane]	T	<	1	ug/L
SAMPLE LOCATION: 000 EPA Blank								
			32105	Dibromochloromethane	T	<	1	ug/L
			32106	Chloroform [Trichloromethane]	T	<	1	ug/L
004	00400251	9/14/89	00095	Specific Conductance	I		180	umho/
SAMPLE LOCATION: 000 OLD PUBLIC WORKS OUTSIDE SPIGO								
			00403	pH Lab	I		6.9	Std U
			00630	Nitrite & Nitrate	I		1.2	mg/L
			00929	Sodium	I		11	mg/L
			00951	Fluoride	I		0.5	mg/L
			01002	Arsenic	I	<	45	ug/L
			01007	Barium	I	<	50	ug/L
			01027	Cadmium	I	<	8	ug/L
			01034	Chromium	I	<	25	ug/L
			01042	Copper	I	<	50	ug/L
			01045	Iron	I	<	50	ug/L
			01051	Lead	I	<	25	ug/L
			01055	Manganese	I	<	25	ug/L
			01077	Silver	I	<	30	ug/L
			01092	Zinc	I		63	ug/L
			01147	Selenium	I	<	5	ug/L
			71900	Mercury	I	<	0.2	ug/L
04	00400358	8/21/85	00095	Specific Conductance	I		180	umho/
SAMPLE LOCATION: 000 City Hall								
			00403	pH Lab	I		8.4	Std U
			00630	Nitrite & Nitrate	I	<	0.5	mg/L
			00929	Sodium	I		10.3	mg/L
			00951	Fluoride	I	<	0.1	mg/L
			01002	Arsenic	I	<	25	ug/L
			01007	Barium	I	<	50	ug/L
			01027	Cadmium	I	<	5	ug/L
			01034	Chromium	I	<	25	ug/L
			01042	Copper	I		440	ug/L
			01045	Iron	I	<	50	ug/L
			01051	Lead	I	<	25	ug/L
			01055	Manganese	I	<	25	ug/L
			01077	Silver	I	<	25	ug/L
			01092	Zinc	I	<	50	ug/L
			01147	Selenium	I	<	3	ug/L
			71900	Mercury	I	<	0.5	ug/L

CHEMICAL TEST HISTORY Date: 9/27/1994 Requested by: G Oller

ID:0670006 NAME:Powder Springs COUNTY:Cobb

LAB NUM	SAMPLE NUMBER	COLLECT DATE	PARM CODE	PARAMETER DESCRIPTION	T Y	R K	ACTUAL RESULT	Unit ----
006	00629315	5/11/94	32104	Bromoform [Tribromomethane]	T	<	1.00	ug/L
SAMPLE LOCATION: 000 3006 SPRINGS INDUSTRIAL								
			32106	Chloroform [Trichloromethane]	T		104.00	ug/L
			32105	Dibromochloromethane	T		1.70	ug/L
			32101	Dichlorobromomethane	T		9.90	ug/L
006	00629316	5/11/94	32104	Bromoform [Tribromomethane]	T	<	1.00	ug/L
SAMPLE LOCATION: 000 4448 PINEVIEW DR								
			32106	Chloroform [Trichloromethane]	T		86.00	ug/L
			32105	Dibromochloromethane	T	<	1.00	ug/L
			32101	Dichlorobromomethane	T		9.00	ug/L
006	00629317	5/11/94	32104	Bromoform [Tribromomethane]	T	<	1.00	ug/L
SAMPLE LOCATION: 000 4345 PINEVIEW DR								
			32106	Chloroform [Trichloromethane]	T		39.00	ug/L
			32105	Dibromochloromethane	T		1.90	ug/L
			32101	Dichlorobromomethane	T		6.30	ug/L
006	00629318	5/11/94	32104	Bromoform [Tribromomethane]	T	<	1.00	ug/L
SAMPLE LOCATION: 000 3705 ACORN DR								
			32106	Chloroform [Trichloromethane]	T		90.00	ug/L
			32105	Dibromochloromethane	T		2.60	ug/L
			32101	Dichlorobromomethane	T		8.60	ug/L
006	00629313	5/ 6/94	32104	Bromoform [Tribromomethane]	T		1.20	ug/L
SAMPLE LOCATION: 000 BLANK								
			32106	Chloroform [Trichloromethane]	T		1.70	ug/L
			32105	Dibromochloromethane	T	<	1.00	ug/L
			32101	Dichlorobromomethane	T	<	1.00	ug/L
004	00421249	3/23/94	01007	Barium	I	<	50.00	ug/L
SAMPLE LOCATION: 301 Well Plant								
			01105	Aluminum	I	<	50.00	ug/L
			01034	Chromium	I	<	25.00	ug/L
			01092	Zinc	I	<	50.00	ug/L
			01045	Iron	I		690.00	ug/L
			71900	Mercury	I		0.20	ug/L
			01012	Beryllium	I	<	2.00	ug/L
			01067	Nickel	I	<	40.00	ug/L
			01097	Antimony	I	<	3.00	ug/L
			00929	Sodium	I		3.4	mg/L
			01147	Selenium	I	<	25.00	ug/L
			01055	Manganese	I	<	25.00	ug/L

CHEMICAL TEST HISTORY Date: 9/27/1994 Requested by: G Oller

ID:0670006 NAME:Powder Springs COUNTY:Cobb

LAB NUM	SAMPLE NUMBER	COLLECT DATE	PARM CODE	PARAMETER DESCRIPTION	T Y	R K	ACTUAL RESULT	Unit ----
4	00421249	3/23/94	00951	Fluoride	I		1.00	mg/L
SAMPLE LOCATION: 301 Well Plant								
			01059	Thallium	I	<	1.00	ug/L
006	00601499	3/22/94	32106	Chloroform [Trichloromethane]	T		71	ug/L
SAMPLE LOCATION: 000 3006 SPRINGS IND DR								
			32101	Dichlorobromomethane	T		13	ug/L
			32105	Dibromochloromethane	T		7.4	ug/L
			32104	Bromoform [Tribromomethane]	T	<	1.0	ug/L
			50060	Chlorine Total Residual	T		NA	mg/L
006	00601500	3/22/94	32106	Chloroform [Trichloromethane]	T		68	ug/L
SAMPLE LOCATION: 000 4488 PINEVIEW DR								
			32101	Dichlorobromomethane	T		13	ug/L
			32105	Dibromochloromethane	T		7.5	ug/L
			32104	Bromoform [Tribromomethane]	T	<	1.0	ug/L
			50060	Chlorine Total Residual	T		NA	mg/L
006	00601501	3/22/94	32106	Chloroform [Trichloromethane]	T		15	ug/L
SAMPLE LOCATION: 000 4345 PINEVIEW DR								
			32101	Dichlorobromomethane	T		5.2	ug/L
			32105	Dibromochloromethane	T	<	1.0	ug/L
			32104	Bromoform [Tribromomethane]	T	<	1.0	ug/L
			50060	Chlorine Total Residual	T		NA	mg/L
06	00601502	3/22/94	32106	Chloroform [Trichloromethane]	T		66	ug/L
SAMPLE LOCATION: 000 3705 ACORN DR								
			32101	Dichlorobromomethane	T		13	ug/L
			32105	Dibromochloromethane	T		7.5	ug/L
			32104	Bromoform [Tribromomethane]	T	<	1.0	ug/L
			50060	Chlorine Total Residual	T		NA	mg/L
004	00419463	3/10/94	00630	Nitrite & Nitrate	N		0.20	mg/L
SAMPLE LOCATION: 301								
			00620	Nitrate	N		0.20	mg/L
			00615	Nitrite	N	<	0.20	mg/L
004	00419464	3/10/94	00630	Nitrite & Nitrate	N		0.20	mg/L
SAMPLE LOCATION: 302								
			00620	Nitrate	N		0.20	mg/L
			00615	Nitrite	N	<	0.20	mg/L

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ID:0670006 NAME:Powder Springs COUNTY:Cobb

LAB JM	SAMPLE NUMBER	COLLECT DATE	PARM CODE	PARAMETER DESCRIPTION	T Y	R K	ACTUAL RESULT	Unit ----
006	00601498	3/ 9/94	32106	Chloroform [Trichloromethane]	T	<	1.0	ug/L
SAMPLE LOCATION: 000 EPA Blank								

		32101	Dichlorobromomethane	T	<	1.0	ug/L
		32105	Dibromochloromethane	T	<	1.0	ug/L
		32104	Bromoform [Tribromomethane]	T	<	1.0	ug/L
		50060	Chlorine Total Residual	T		NA	mg/L
005 00514058	2/18/94	34292	N-Butyl Benzyl Phthalate	S	<	2.00	ug/L
SAMPLE LOCATION: 301 Well Plant							
		39110	Di-N-Butyl Phthalate	S	<	2.00	ug/L
		34596	Di-N-Octyl Phthalate	S	<	2.00	ug/L
		34336	Diethyl Phthalate	S	<	2.00	ug/L
		34341	Dimethyl Phthalate	S	<	2.00	ug/L
		77903	bis(2-Ethylhexyl)Adipate	S	<	2.00	ug/L
		39100	bis(2-Ethylhexyl)Phthalate	S	<	2.00	ug/L
		77825	Alachlor [Lasso]	S	<	0.40	ug/L
		39033	Atrazine	S	<	0.40	ug/L
		04029	Bromacil	S	<	0.40	ug/L
		77860	Butachlor [Machete]	S	<	0.40	ug/L
		39356	Metolachlor [Dual]	S	<	0.40	ug/L
		81408	Metribuzin [Sencor]	S	<	0.40	ug/L
		39056	Prometone	S	<	0.40	ug/L
		30295	Propachlor [Ramrod]	S	<	0.40	ug/L
		39055	Simazine	S	<	0.40	ug/L
		39330	Aldrin	S	<	0.04	ug/L
		39340	g-BHC [Lindane]	S	<	0.04	ug/L
		39380	Dieldrin	S	<	0.04	ug/L
		39390	Endrin	S	<	0.04	ug/L
		39410	Heptachlor	S	<	0.04	ug/L
		39420	Heptachlor Epoxide	S	<	0.04	ug/L
		39700	Hexachlorobenzene	S	<	0.10	ug/L
		34386	Hexachlorocyclopentadiene	S	<	0.40	ug/L
		39480	Methoxychlor	S	<	0.40	ug/L
		81284	Trifluralin [Treflan]	S	<	0.04	ug/L
		82584	3-Hydroxycarbofuran	S	<	2.00	ug/L
		39053	Aldicarb [Temik]	S	<	2.00	ug/L
		82587	Aldicarb Sulfone	S	<	2.00	ug/L
		82586	Aldicarb Sulfoxide	S	<	2.00	ug/L
		38537	Propoxur [Baygon]	S	<	2.00	ug/L
		77700	Carbaryl [Sevin]	S	<	2.00	ug/L
		81405	Carbofuran [Euradan]	S	<	2.00	ug/L
		38500	Methiocarb	S	<	2.00	ug/L
		39051	Methomyl	S	<	2.00	ug/L
		38865	Oxamyl [Vydate]	S	<	2.00	ug/L
		34205	Acenaphthene	S	<	5.00	ug/L
		34200	Acenaphthylene	S	<	5.00	ug/L
		34220	Anthracene	S	<	0.20	ug/L

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CHEMICAL TEST HISTORY Date: 9/27/1994 Requested by: G Oller

ID:0670006 NAME:Powder Springs COUNTY:Cobb

LAB NUM	SAMPLE NUMBER	COLLECT DATE	PARM CODE	PARAMETER DESCRIPTION	TY	RK	ACTUAL RESULT	Unit ----
005	00514058	2/18/94	34526	Benzo(A)Anthracene	S	<	0.01	ug/L
SAMPLE LOCATION: 301 Well Plant								
			34247	Benzo(A)Pyrene	S	<	0.06	ug/L
			34230	Benzo(B)Fluoranthene	S	<	0.01	ug/L
			34521	Benzo(GHI)Perylene	S	<	0.03	ug/L
			34242	Benzo(K)Fluoranthene	S	<	0.01	ug/L
			34320	Chrysene	S	<	0.30	ug/L
			34556	Dibenzo(AH)Anthracene	S	<	0.04	ug/L
			34376	Fluoranthene	S	<	0.06	ug/L

	34381	Fluorene	S	<	0.50	ug/L
	34403	Indeno(1,2,3-CD)Pyrene	S	<	0.04	ug/L
	34461	Phenanthrene	S	<	0.40	ug/L
	34469	Pyrene	S	<	0.30	ug/L
	39350	Chlordane(Mix & Metabs)	S	<	0.40	ug/L
	34671	PCB-1016	S	<	0.50	ug/L
	39488	PCB-1221	S	<	0.50	ug/L
	39492	PCB-1232	S	<	0.50	ug/L
	39496	PCB-1242	S	<	0.50	ug/L
	39500	PCB-1248	S	<	0.50	ug/L
	39504	PCB-1254	S	<	0.50	ug/L
	39508	PCB-1260	S	<	0.50	ug/L
	39400	Toxaphene	S	<	0.60	ug/L
004 00409358 1/ 3/94	00615	Nitrite	N	<	0.2	mg/L
SAMPLE LOCATION: 301 Well Plant						
	00620	Nitrate	N		0.30	mg/L
	00630	Nitrite & Nitrate	N		0.3	mg/L
004 00409359 1/ 3/94	00615	Nitrite	N	<	0.2	mg/L
SAMPLE LOCATION: 302 Cobb County-Marietta						
	00620	Nitrate	N	<	0.2	mg/L
	00630	Nitrite & Nitrate	N	<	0.2	mg/L
006 00601199 12/ 7/93	32106	Chloroform [Trichloromethane]	T		57	ug/L
SAMPLE LOCATION: 000 3006 SPRINGS INDUSTRIAL DR.						
	32101	Dichlorobromomethane	T		11	ug/L
	32105	Dibromochloromethane	T		6.1	ug/L
	32104	Bromoform [Tribromomethane]	T	<	1.0	ug/L
	50060	Chlorine Total Residual	T		NA	mg/L
006 00601200 12/ 7/93	32106	Chloroform [Trichloromethane]	T	<	1.0	ug/L
SAMPLE LOCATION: 000 4488 PINEVIEW DR.						
	32101	Dichlorobromomethane	T		2.1	ug/L
	32105	Dibromochloromethane	T	<	1.0	ug/L

LAB NUM	SAMPLE NUMBER	COLLECT DATE	PARM CODE	PARAMETER DESCRIPTION	TY	RK	ACTUAL RESULT	Unit ----
006 00601200 12/ 7/93			32104	Bromoform [Tribromomethane]	T	<	1.0	ug/L
SAMPLE LOCATION: 000 4488 PINEVIEW DR.								
			50060	Chlorine Total Residual	T		NA	mg/L
006 00601201 12/ 7/93			32106	Chloroform [Trichloromethane]	T		38	ug/L
SAMPLE LOCATION: 000 4345 PINEVIEW DR.								
			32101	Dichlorobromomethane	T		5.9	ug/L
			32105	Dibromochloromethane	T		2.2	ug/L
			32104	Bromoform [Tribromomethane]	T	<	1.0	ug/L
			50060	Chlorine Total Residual	T		NA	mg/L
006 00601202 12/ 7/93			32106	Chloroform [Trichloromethane]	T		7.1	ug/L
SAMPLE LOCATION: 000 3705 ACORN DR.								
			32101	Dichlorobromomethane	T		1.3	ug/L

			32105	Dibromochloromethane	T	2.3	ug/L
			32104	Bromoform [Tribromomethane]	T	3.2	ug/L
			50060	Chlorine Total Residual	T	NA	mg/L
'6	00601198	11/22/93	32106	Chloroform [Trichloromethane]	T	< 1.0	ug/L
SAMPLE LOCATION: 000 EPA Blank							
			32101	Dichlorobromomethane	T	< 1.0	ug/L
			32105	Dibromochloromethane	T	< 1.0	ug/L
			32104	Bromoform [Tribromomethane]	T	< 1.0	ug/L
			50060	Chlorine Total Residual	T	NA	mg/L
005	00500678	9/28/93	77903	bis(2-Ethylhexyl)Adipate	S	< 2.0	ug/L
SAMPLE LOCATION: 301 Well							
			39100	bis(2-Ethylhexyl)Phthalate	S	< 2.0	ug/L
			34292	N-Butyl Benzyl Phthalate	S	< 2.0	ug/L
			39110	Di-N-Butyl Phthalate	S	< 2.0	ug/L
			34596	Di-N-Octyl Phthalate	S	< 2.0	ug/L
			34336	Diethyl Phthalate	S	< 2.0	ug/L
			34341	Dimethyl Phthalate	S	< 2.0	ug/L
			77825	Alachlor [Lasso]	S	< 0.4	ug/L
			39033	Atrazine	S	< 0.4	ug/L
			04029	Bromacil	S	< 0.4	ug/L
			77860	Butachlor [Machete]	S	< 0.4	ug/L
			39356	Metolachlor [Dual]	S	< 0.4	ug/L
			81408	Metribuzin [Sencor]	S	< 0.4	ug/L
			39056	Prometone	S	< 0.4	ug/L
			30295	Propachlor [Ramrod]	S	< 0.4	ug/L
			39055	Simazine	S	< 0.4	ug/L
			39330	Aldrin	S	< 0.04	ug/L
			39350	Chlordane(Mix & Metabs)	S	< 0.4	ug/L

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LAB NUM	SAMPLE NUMBER	COLLECT DATE	PARM CODE	PARAMETER DESCRIPTION	TY	RK	ACTUAL RESULT	Unit ----
005	00500678	9/28/93	39380	Dieldrin	S	<	0.04	ug/L
SAMPLE LOCATION: 301 Well								
			39390	Endrin	S	<	0.04	ug/L
			39340	g-BHC [Lindane]	S	<	0.04	ug/L
			39410	Heptachlor	S	<	0.04	ug/L
			39420	Heptachlor Epoxide	S	<	0.04	ug/L
			39700	Hexachlorobenzene	S	<	0.1	ug/L
			34386	Hexachlorocyclopentadiene	S	<	0.4	ug/L
			39480	Methoxychlor	S	<	0.4	ug/L
			39516	PCBs	S		NA	ug/L
			39400	Toxaphene	S	<	0.6	ug/L
			81284	Trifluralin [Treflan]	S	<	0.04	ug/L
			82584	3-Hydroxycarbofuran	S	<	2.0	ug/L
			39053	Aldicarb [Temik]	S	<	2.0	ug/L
			82587	Aldicarb Sulfone	S	<	2.0	ug/L
			82586	Aldicarb Sulfoxide	S	<	2.0	ug/L
			38537	Propoxur [Baygon]	S	<	2.0	ug/L
			77700	Carbaryl [Sevin]	S	<	2.0	ug/L
			81405	Carbofuran [Euradan]	S	<	2.0	ug/L
			38500	Methiocarb	S	<	2.0	ug/L
			39051	Methomyl	S	<	2.0	ug/L
			38865	Oxamyl [Vydate]	S	<	2.0	ug/L
			34205	Acenaphthene	S	<	5.0	ug/L

		34200	Acenaphthylene	S	< 5.0	ug/L
		34220	Anthracene	S	< 0.2	ug/L
		34526	Benzo(A)Anthracene	S	< 0.01	ug/L
		34247	Benzo(A)Pyrene	S	< 0.06	ug/L
		34230	Benzo(B)Fluoranthene	S	< 0.01	ug/L
		34521	Benzo(GHI)Perylene	S	< 0.03	ug/L
		34242	Benzo(K)Fluoranthene	S	< 0.01	ug/L
		34320	Chrysene	S	< 0.3	ug/L
		34556	Dibenzo(AH)Anthracene	S	< 0.04	ug/L
		34376	Fluoranthene	S	< 0.06	ug/L
		34381	Fluorene	S	< 0.5	ug/L
		34403	Indeno(1,2,3-CD)Pyrene	S	< 0.04	ug/L
		34461	Phenanthrene	S	< 0.4	ug/L
		34469	Pyrene	S	< 0.3	ug/L
		39488	PCB-1221	S	< 0.5	ug/L
		39492	PCB-1232	S	< 0.5	ug/L
		39496	PCB-1242	S	< 0.5	ug/L
		34671	PCB-1016	S	< 0.5	ug/L
		39500	PCB-1248	S	< 0.5	ug/L
006	00600800 8/27/93	32106	Chloroform [Trichloromethane]	T	82	ug/L
SAMPLE LOCATION: 000 3006 SPRINGS INDUSTRIAL DRIVE						
		32101	Dichlorobromomethane	T	12	ug/L
		32105	Dibromochloromethane	T	1.2	ug/L

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ID:0670006 NAME:Powder Springs COUNTY:Cobb

\B JM	SAMPLE NUMBER	COLLECT DATE	PARM CODE	PARAMETER DESCRIPTION	T Y	R K	ACTUAL RESULT	Unit ----
006	00600800	8/27/93	32104	Bromoform [Tribromomethane]	T	<	1.0	ug/L
SAMPLE LOCATION: 000 3006 SPRINGS INDUSTRIAL DRIVE								
			50060	Chlorine Total Residual	T		0.28	mg/L
006	00600801	8/27/93	32106	Chloroform [Trichloromethane]	T		6.4	ug/L
SAMPLE LOCATION: 000 4488 PINEVIEW DRIVE								
			32101	Dichlorobromomethane	T	<	1.0	ug/L
			32105	Dibromochloromethane	T	<	1.0	ug/L
			32104	Bromoform [Tribromomethane]	T	<	1.0	ug/L
			50060	Chlorine Total Residual	T		0.07	mg/L
006	00600802	8/27/93	32106	Chloroform [Trichloromethane]	T		4.9	ug/L
SAMPLE LOCATION: 000 4345 PINEVIEW DRIVE								
			32101	Dichlorobromomethane	T	<	1.0	ug/L
			32105	Dibromochloromethane	T	<	1.0	ug/L
			32104	Bromoform [Tribromomethane]	T	<	1.0	ug/L
			50060	Chlorine Total Residual	T		0.27	mg/L
006	00600803	8/27/93	32106	Chloroform [Trichloromethane]	T		80	ug/L
SAMPLE LOCATION: 000 3705 ACORN DRIVE								
			32101	Dichlorobromomethane	T		12	ug/L
			32105	Dibromochloromethane	T	<	1.0	ug/L
			32104	Bromoform [Tribromomethane]	T	<	1.0	ug/L
			50060	Chlorine Total Residual	T		0.71	mg/L
006	00600799	8/26/93	32106	Chloroform [Trichloromethane]	T	<	1.0	ug/L
SAMPLE LOCATION: 000 EPA Blank								

		32101	Dichlorobromomethane	T	< 1.0	ug/L
		32105	Dibromochloromethane	T	< 1.0	ug/L
		32104	Bromoform [Tribromomethane]	T	< 1.0	ug/L
		50060	Chlorine Total Residual	T	0	mg/L
006 00600559	5/18/93	32101	Dichlorobromomethane	T	4	ug/L
SAMPLE LOCATION: 000 4488 PINEVIEW DRIVE						
		32104	Bromoform [Tribromomethane]	T	< 1	ug/L
		32105	Dibromochloromethane	T	1	ug/L
		32106	Chloroform [Trichloromethane]	T	19	ug/L
		50060	Chlorine Total Residual	T	0.22	mg/L
006 00600560	5/18/93	32101	Dichlorobromomethane	T	8	ug/L
SAMPLE LOCATION: 000 4345 PINEVIEW DRIVE						
		32104	Bromoform [Tribromomethane]	T	< 1	ug/L

CHEMICAL TEST HISTORY Date: 9/27/1994 Requested by: G Oller

ID:0670006 NAME:Powder Springs COUNTY:Cobb

LAB NUM	SAMPLE NUMBER	COLLECT DATE	PARM CODE	PARAMETER DESCRIPTION	T Y	R K	ACTUAL RESULT	Unit ----
006 00600560		5/18/93	32105	Dibromochloromethane	T		1	ug/L
SAMPLE LOCATION: 000 4345 PINEVIEW DRIVE								
			32106	Chloroform [Trichloromethane]	T		70	ug/L
			50060	Chlorine Total Residual	T		0.36	mg/L
006 00600561		5/18/93	32101	Dichlorobromomethane	T		1	ug/L
SAMPLE LOCATION: 000 3705 ACORN DRIVE								
			32104	Bromoform [Tribromomethane]	T	<	1	ug/L
			32105	Dibromochloromethane	T		1	ug/L
			32106	Chloroform [Trichloromethane]	T		69	ug/L
			50060	Chlorine Total Residual	T		0.63	mg/L
006 00600558		5/17/93	32101	Dichlorobromomethane	T		8	ug/L
SAMPLE LOCATION: 000 3006 SPRINGS INDUSTRIAL DRIVE								
			32104	Bromoform [Tribromomethane]	T	<	1	ug/L
			32105	Dibromochloromethane	T		2	ug/L
			32106	Chloroform [Trichloromethane]	T		3.4	ug/L
			50060	Chlorine Total Residual	T		0.571	mg/L
006 00600557		5/11/93	32101	Dichlorobromomethane	T	<	1	ug/L
SAMPLE LOCATION: 000 EPD BLANK								
			32104	Bromoform [Tribromomethane]	T	<	1	ug/L
			32105	Dibromochloromethane	T	<	1	ug/L
			32106	Chloroform [Trichloromethane]	T	<	1	ug/L
006 00600262		2/ 2/93	32101	Dichlorobromomethane	T		4	ug/L
SAMPLE LOCATION: 000 3006 SPRINGS INDUSTRIAL DRIVE								
			32104	Bromoform [Tribromomethane]	T	<	1	ug/L
			32105	Dibromochloromethane	T		2	ug/L
			32106	Chloroform [Trichloromethane]	T		49	ug/L
			50060	Chlorine Total Residual	T		0.93	mg/L
006 00600263		2/ 2/93	32101	Dichlorobromomethane	T		4	ug/L

SAMPLE LOCATION: 000 4488 PINEVIEW DRIVE

	32104	Bromoform [Tribromomethane]	T	2	ug/L
	32105	Dibromochloromethane	T	2	ug/L
	32106	Chloroform [Trichloromethane]	T	23	ug/L
	50060	Chlorine Total Residual	T	0.6	mg/L
006 00600264 2/ 2/93	32101	Dichlorobromomethane	T	3	ug/L

SAMPLE LOCATION: 000 4345 PINEVIEW DRIVE

	32104	Bromoform [Tribromomethane]	T	< 1	ug/L

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CHEMICAL TEST HISTORY Date: 9/27/1994 Requested by: G Oller

ID:0670006 NAME:Powder Springs COUNTY:Cobb

LAB NUM	SAMPLE NUMBER	COLLECT DATE	PARM CODE	PARAMETER DESCRIPTION	T Y	R K	ACTUAL RESULT	Unit ----
006	00600264	2/ 2/93	32105	Dibromochloromethane	T		3	ug/L
SAMPLE LOCATION: 000 4345 PINEVIEW DRIVE								
			32106	Chloroform [Trichloromethane]	T		16	ug/L
			50060	Chlorine Total Residual	T		0.90	mg/L
006	00600265	2/ 2/93	32101	Dichlorobromomethane	T		5	ug/L
SAMPLE LOCATION: 000 3705 ACORN DRIVE								
			32104	Bromoform [Tribromomethane]	T	<	1	ug/L
			32105	Dibromochloromethane	T		2	ug/L
			32106	Chloroform [Trichloromethane]	T		54	ug/L
			50060	Chlorine Total Residual	T		0.6	mg/L
006	00600261	1/19/93	32101	Dichlorobromomethane	T	<	1	ug/L
SAMPLE LOCATION: 000 EPA Blank								
			32104	Bromoform [Tribromomethane]	T	<	1	ug/L
			32105	Dibromochloromethane	T	<	1	ug/L
			32106	Chloroform [Trichloromethane]	T	<	1	ug/L
006	00603235	10/ 6/92	32106	Chloroform [Trichloromethane]	T		119	ug/L
SAMPLE LOCATION: 000 3006 SPRINGS INDUSTRIAL DRIVE								
			32101	Dichlorobromomethane	T		13	ug/L
			32105	Dibromochloromethane	T		2	ug/L
			32104	Bromoform [Tribromomethane]	T	<	1	ug/L
			50060	Chlorine Total Residual	T		0.05	mg/L
006	00603236	10/ 6/92	32101	Dichlorobromomethane	T		9	ug/L
SAMPLE LOCATION: 000 4488 PINEVIEW DRIVE (CITY HALL								
			32104	Bromoform [Tribromomethane]	T	<	1	ug/L
			32105	Dibromochloromethane	T		2	ug/L
			32106	Chloroform [Trichloromethane]	T		72	ug/L
			50060	Chlorine Total Residual	T		0.00	mg/L
006	00603237	10/ 6/92	32101	Dichlorobromomethane	T		10	ug/L
SAMPLE LOCATION: 000 4345 PINEVIEW DRIVE								
			32104	Bromoform [Tribromomethane]	T	<	1	ug/L
			32105	Dibromochloromethane	T		3	ug/L
			32106	Chloroform [Trichloromethane]	T		60	ug/L
			50060	Chlorine Total Residual	T		0.76	mg/L

006	00603238	10/ 6/92	32101	Dichlorobromomethane	T		12	ug/L
SAMPLE LOCATION: 000 4705 ACORN DRIVE								
			32104	Bromoform [Tribromomethane]	T	<	1	ug/L

CHEMICAL TEST HISTORY Date: 9/27/1994 Requested by: G Oller

ID:0670006 NAME:Powder Springs COUNTY:Cobb

LAB NUM	SAMPLE NUMBER	COLLECT DATE	PARM CODE	PARAMETER DESCRIPTION	T Y	R K	ACTUAL RESULT	Unit ----
006	00603238	10/ 6/92	32105	Dibromochloromethane	T		3	ug/L
SAMPLE LOCATION: 000 4705 ACORN DRIVE								
			32106	Chloroform [Trichloromethane]	T		107	ug/L
			50060	Chlorine Total Residual	T		0.01	mg/L
006	00608235	10/ 6/92	32101	Dichlorobromomethane	T		13	ug/L
SAMPLE LOCATION: 000 3006 SPRINGS INDUSTRIAL DRIVE								
			32104	Bromoform [Tribromomethane]	T	<	1	ug/L
			32105	Dibromochloromethane	T		2	ug/L
			32106	Chloroform [Trichloromethane]	T		119	ug/L
			50060	Chlorine Total Residual	T		0.05	mg/L
006	00603045	8/19/92	32101	Dichlorobromomethane	T		98	ug/L
SAMPLE LOCATION: 000 3716 ACORN DRIVE								
			32104	Bromoform [Tribromomethane]	T		6	ug/L
			32105	Dibromochloromethane	T		10	ug/L
			50060	Chlorine Total Residual	T		0.1	mg/L
			32106	Chloroform [Trichloromethane]	T		98	ug/L
006	00603042	8/18/92	32101	Dichlorobromomethane	T		9	ug/L
SAMPLE LOCATION: 000 3006 SPRINGS INDUSTRIAL DRIVE								
			32104	Bromoform [Tribromomethane]	T	<	1	ug/L
			32105	Dibromochloromethane	T		1	ug/L
			32106	Chloroform [Trichloromethane]	T		119	ug/L
			50060	Chlorine Total Residual	T		0.1	mg/L
006	00603043	8/18/92	32101	Dichlorobromomethane	T		10	ug/L
SAMPLE LOCATION: 000 4488 PINEVIEW DRIVE								
			32104	Bromoform [Tribromomethane]	T	<	1	ug/L
			32105	Dibromochloromethane	T		6	ug/L
			32106	Chloroform [Trichloromethane]	T		72	ug/L
			50060	Chlorine Total Residual	T		0.2	mg/L
006	00603044	8/18/92	32101	Dichlorobromomethane	T		1	ug/L
SAMPLE LOCATION: 000 4345 PINEVIEW DRIVE								
			32104	Bromoform [Tribromomethane]	T	<	1	ug/L
			32105	Dibromochloromethane	T	<	1	ug/L
			32106	Chloroform [Trichloromethane]	T		7	ug/L
			50060	Chlorine Total Residual	T		2.5	mg/L
006	00603041	8/11/92	32101	Dichlorobromomethane	T	<	1	ug/L
SAMPLE LOCATION: 000 EPA Blank								

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GaEPD Bacteriological Sample History for G Oller

WSID: 0670006 Facility: Powder Springs County: Cobb

Required: 10 10 10 10 10 10 10 10 10 10 10 10 Open: ********** Baseline: 10

Actual: 10 10 10 10 10 10 10 10 12 10 Population: 10400

Positive: Comm/Non-Comm: C Class: 1

Lab Number	Collect Date	Comply Yr Mth	MMO Colif	MMO Fecal	MFM Colif	MFM Fecal	MPN Colif	MPN Fecal	Ty pe	Cm mt	Re C1	pt C2
00000000	/ /	000000					0.00	0.00	0			

Location: 0 Prev Pos: 00000000

VOC TEST HISTORY Date: 9/27/1994 Requested by: G Oller

ID:0670006 NAME:Powder Springs COUNTY:Cobb

LAB NUM	SAMPLE NUMBER	COLLECT DATE	PARM CODE	PARAMETER DESCRIPTION	TY	RK	ACTUAL RESULT	Unit
005	00514058	2/18/94	77562	1,1,1,2-Tetrachloroethane	V	<	0.50	ug/L
SAMPLE LOCATION: 301 Well Plant								
			34506	1,1,1-Trichloroethane	V	<	0.50	ug/L
			34516	1,1,2,2-Tetrachloroethane	V	<	0.50	ug/L
			34511	1,1,2-Trichloroethane	V	<	0.50	ug/L
			34496	1,1-Dichloroethane	V	<	0.50	ug/L
			34501	1,1-Dichloroethylene	V	<	0.50	ug/L
			77168	1,1-Dichloropropene	V	<	0.50	ug/L
			77613	1,2,3-Trichlorobenzene	V	<	0.50	ug/L
			77443	1,2,3-Trichloropropane	V	<	0.50	ug/L
			34551	1,2,4-Trichlorobenzene	V	<	0.50	ug/L
			77222	1,2,4-Trimethylbenzene	V	<	0.50	ug/L
			38760	Dibromochloropropane [DBCP]	V	<	0.50	ug/L
			81522	Ethylene Dibromide [EDB]	V	<	0.50	ug/L
			32103	1,2-Dichloroethane	V	<	0.50	ug/L
			34541	1,2-Dichloropropane	V	<	0.50	ug/L
			77226	1,3,5-Trimethylbenzene	V	<	0.50	ug/L
			77173	1,3-Dichloropropane	V	<	0.50	ug/L
			77170	2,2-Dichloropropane	V	<	0.50	ug/L
			34030	Benzene	V	<	0.50	ug/L
			81555	Bromobenzene	V	<	0.50	ug/L
			77297	Bromochloromethane	V	<	0.50	ug/L
			32101	Dichlorobromomethane	V		5.51	ug/L
			32104	Bromoform [Tribromomethane]	V	<	0.50	ug/L
			34413	Methyl Bromide	V	<	0.50	ug/L
			32102	Carbon Tetrachloride	V	<	0.50	ug/L
			34301	Chlorobenzene	V	<	0.50	ug/L
			34306	Dibromochloromethane	V		1.03	ug/L
			34311	Chloroethane	V	<	0.50	ug/L
			32106	Chloroform [Trichloromethane]	V		20.10	ug/L
			34418	Methyl Chloride	V	<	0.50	ug/L
			77596	Methylene Bromide	V	<	0.50	ug/L
			34668	Dichlorodifluoromethane	V	<	0.50	ug/L
			34423	Dichloromethane	V	<	0.50	ug/L
			34371	Ethylbenzene	V	<	0.50	ug/L
			34488	Trichlorofluoromethane	V	<	0.50	ug/L
			38702	Hexachlorobutadiene	V	<	0.50	ug/L
			77223	Isopropylbenzene	V	<	0.50	ug/L
			34696	Naphthalene	V	<	0.50	ug/L
			77128	Styrene	V	<	0.50	ug/L
			34475	Tetrachloroethylene	V	<	0.50	ug/L
			34010	Toluene	V	<	0.50	ug/L
			34020	Xylenes	V	<	0.50	ug/L
			39180	Trichloroethylene	V	<	0.50	ug/L
			39175	Vinyl Chloride	V	<	0.50	ug/L
			77093	cis-1,2-Dichloroethene	V	<	0.50	ug/L
			34704	cis-1,3-Dichloropropene	V	<	0.50	ug/L
			34566	1,3-Dichlorobenzene	V	<	0.50	ug/L

VOC TEST HISTORY Date: 9/27/1994 Requested by: G Oller

ID:0670006 NAME:Powder Springs COUNTY:Cobb

LAB NUM	SAMPLE NUMBER	COLLECT DATE	PARM CODE	PARAMETER DESCRIPTION	T Y	R K	ACTUAL RESULT	Unit ----
05	00514058	2/18/94	77342	N-Butylbenzene	V	<	0.50	ug/L
SAMPLE LOCATION: 301 Well Plant								
			77224	N-Propylbenzene	V	<	0.50	ug/L
			77275	o-Chlorotoluene	V	<	0.50	ug/L
			34536	1,2-Dichlorobenzene	V	<	0.50	ug/L
			77277	p-Chlorotoluene	V	<	0.50	ug/L
			34571	1,4-Dichlorobenzene	V	<	0.50	ug/L
			77356	p-Isopropyltoluene [p-Cymene]	V	<	0.50	ug/L
			77350	sec-Butylbenzene	V	<	0.50	ug/L
			77353	tert-Butylbenzene	V	<	0.50	ug/L
			34546	trans-1,2-Dichloroethene	V	<	0.50	ug/L
			34699	trans-1,3-Dichloropropene	V	<	0.50	ug/L
005	00500678	9/28/93	34030	Benzene	V		ND	ug/L
SAMPLE LOCATION: 301 Well								
			81555	Bromobenzene	V		ND	ug/L
			77297	Bromochloromethane	V		ND	ug/L
			32101	Dichlorobromomethane	V		6	ug/L
			32104	Bromoform [Tribromomethane]	V		ND	ug/L
			34413	Methyl Bromide	V		ND	ug/L
			77342	N-Butylbenzene	V		ND	ug/L
			77350	sec-Butylbenzene	V		ND	ug/L
			77353	tert-Butylbenzene	V		ND	ug/L
			32102	Carbon Tetrachloride	V		ND	ug/L
			34301	Chlorobenzene	V		ND	ug/L
			34306	Dibromochloromethane	V		0.85	ug/L
			34311	Chloroethane	V		ND	ug/L
			32106	Chloroform [Trichloromethane]	V		20	ug/L
			34418	Methyl Chloride	V		ND	ug/L
			77275	o-Chlorotoluene	V		ND	ug/L
			77277	p-Chlorotoluene	V		ND	ug/L
			77596	Methylene Bromide	V		ND	ug/L
			34536	1,2-Dichlorobenzene	V		ND	ug/L
			34566	1,3-Dichlorobenzene	V		ND	ug/L
			34571	1,4-Dichlorobenzene	V		ND	ug/L
			34668	Dichlorodifluoromethane	V		ND	ug/L
			34496	1,1-Dichloroethane	V		ND	ug/L
			32103	1,2-Dichloroethane	V		ND	ug/L
			34501	1,1-Dichloroethylene	V		ND	ug/L
			77093	cis-1,2-Dichloroethene	V		ND	ug/L
			34546	trans-1,2-Dichloroethene	V		ND	ug/L
			34423	Dichloromethane	V		ND	ug/L
			34541	1,2-Dichloropropane	V		ND	ug/L
			77173	1,3-Dichloropropane	V		ND	ug/L
			77170	2,2-Dichloropropane	V		ND	ug/L
			77168	1,1-Dichloropropene	V		ND	ug/L
			34561	1,3-Dichloropropene	V		ND	ug/L

VOC TEST HISTORY Date: 9/27/1994 Requested by: G Oller

ID:0670006 NAME:Powder Springs COUNTY:Cobb

LAB NUM	SAMPLE NUMBER	COLLECT DATE	PARM CODE	PARAMETER DESCRIPTION	T Y	R K	ACTUAL RESULT	Unit ----
005	00500678	9/28/93	34371	Ethylbenzene	V		ND	ug/L
SAMPLE LOCATION: 301 Well								

		34488	Trichlorofluoromethane	V	ND	ug/L
		38702	Hexachlorobutadiene	V	ND	ug/L
		77223	Isopropylbenzene	V	ND	ug/L
		77356	p-Isopropyltoluene [p-Cymene]	V	ND	ug/L
		34696	Naphthalene	V	ND	ug/L
		77224	N-Propylbenzene	V	ND	ug/L
		77128	Styrene	V	ND	ug/L
		77562	1,1,1,2-Tetrachloroethane	V	ND	ug/L
		34516	1,1,2,2-Tetrachloroethane	V	ND	ug/L
		34475	Tetrachloroethylene	V	ND	ug/L
		34506	1,1,1-Trichloroethane	V	ND	ug/L
		39180	Trichloroethylene	V	ND	ug/L
		34010	Toluene	V	ND	ug/L
		77613	1,2,3-Trichlorobenzene	V	ND	ug/L
		34551	1,2,4-Trichlorobenzene	V	ND	ug/L
		34511	1,1,2-Trichloroethane	V	ND	ug/L
		77443	1,2,3-Trichloropropane	V	ND	ug/L
		77222	1,2,4-Trimethylbenzene	V	ND	ug/L
		77226	1,3,5-Trimethylbenzene	V	ND	ug/L
		39175	Vinyl Chloride	V	ND	ug/L
		34020	Xylenes	V	ND	ug/L
005	00500220 10/21/91	32101	Dichlorobromomethane	V	ND	ug/L
SAMPLE LOCATION: 000 Well House						
		32102	Carbon Tetrachloride	V	ND	ug/L
		32103	1,2-Dichloroethane	V	ND	ug/L
		32104	Bromoform [Tribromomethane]	V	ND	ug/L
		32106	Chloroform [Trichloromethane]	V	ND	ug/L
		34010	Toluene	V	ND	ug/L
		34030	Benzene	V	ND	ug/L
		34301	Chlorobenzene	V	ND	ug/L
		34306	Dibromochloromethane	V	ND	ug/L
		34311	Chloroethane	V	ND	ug/L
		34371	Ethylbenzene	V	ND	ug/L
		34413	Methyl Bromide	V	ND	ug/L
		34418	Methyl Chloride	V	ND	ug/L
		34423	Dichloromethane	V	*	ug/L
		34475	Tetrachloroethylene	V	ND	ug/L
		34488	Trichlorofluoromethane	V	ND	ug/L
		34496	1,1-Dichloroethane	V	ND	ug/L
		34501	1,1-Dichloroethylene	V	ND	ug/L
		34506	1,1,1-Trichloroethane	V	ND	ug/L
		34511	1,1,2-Trichloroethane	V	ND	ug/L
		34516	1,1,2,2-Tetrachloroethane	V	ND	ug/L
		34536	1,2-Dichlorobenzene	V	ND	ug/L

VOC TEST HISTORY Date: 9/27/1994 Requested by: G Oller

ID:0670006 NAME:Powder Springs COUNTY:Cobb

LAB NUM	SAMPLE NUMBER	COLLECT DATE	PARM CODE	PARAMETER DESCRIPTION	T Y	R K	ACTUAL RESULT	Unit ----
005	00500220	10/21/91	34541	1,2-Dichloropropane	V		ND	ug/L
SAMPLE LOCATION: 000 Well House								
			34546	trans-1,2-Dichloroethene	V		ND	ug/L
			34551	1,2,4-Trichlorobenzene	V		ND	ug/L
			34566	1,3-Dichlorobenzene	V		ND	ug/L
			34571	1,4-Dichlorobenzene	V		ND	ug/L
			34668	Dichlorodifluoromethane	V		*	ug/L
			34696	Naphthalene	V		ND	ug/L
			34699	trans-1,3-Dichloropropene	V		ND	ug/L

38702	Hexachlorobutadiene	V	ND	ug/L
38760	Dibromochloropropane [DBCP]	V	ND	ug/L
39175	Vinyl Chloride	V	ND	ug/L
39180	Trichloroethylene	V	ND	ug/L
77093	cis-1,2-Dichloroethene	V	ND	ug/L
77133	p-Xylene	V	ND	ug/L
77134	m-Xylene	V	ND	ug/L
77168	1,1-Dichloropropene	V	ND	ug/L
77170	2,2-Dichloropropane	V	ND	ug/L
77173	1,3-Dichloropropane	V	ND	ug/L
77222	1,2,4-Trimethylbenzene	V	ND	ug/L
77223	Isopropylbenzene	V	ND	ug/L
77224	N-Propylbenzene	V	ND	ug/L
77226	1,3,5-Trimethylbenzene	V	ND	ug/L
77275	o-Chlorotoluene	V	ND	ug/L
77277	p-Chlorotoluene	V	ND	ug/L
77297	Bromochloromethane	V	ND	ug/L
77342	N-Butylbenzene	V	ND	ug/L
77350	sec-Butylbenzene	V	ND	ug/L
77353	tert-Butylbenzene	V	ND	ug/L
77356	p-Isopropyltoluene [p-Cymene]	V	ND	ug/L
77443	1,2,3-Trichloropropane	V	ND	ug/L
77562	1,1,1,2-Tetrachloroethane	V	ND	ug/L
77596	Methylene Bromide	V	ND	ug/L
77613	1,2,3-Trichlorobenzene	V	ND	ug/L
81522	Ethylene Dibromide [EDB]	V	ND	ug/L
81555	Bromobenzene	V	ND	ug/L
81708	Styrene	V	ND	mg/L
81711	o-Xylene	V	ND	mg/L

GROUND WATER

IN THE GREATER ATLANTA REGION,

GEORGIA

By

C. W. Cressler, C. J. Thurmond, and W. G. Hester

Georgia Department of Natural Resources

Joe D. Tanner, Commissioner

Environmental Protection Division

J. Leonard Ledbetter, Director

Georgia Geologic Survey

William H. McLemore, State Geologist

Prepared in cooperation with the

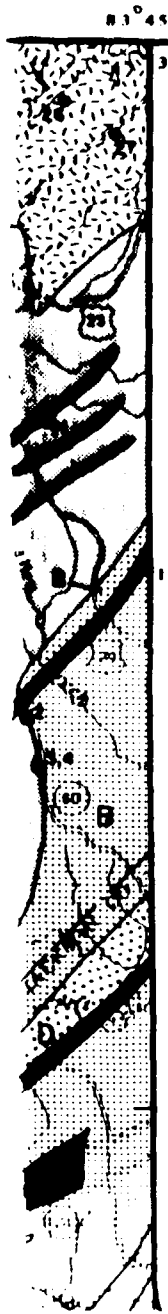
U.S. Geological Survey

Atlanta

1983

Reference #9

INFORMATION
CIRCULAR 63



EXPLANATION

Principal Water-Bearing Units

A

YIELD—Well yields range from 20 to 275 gal/min, averaging 56 gal/min.

DEPTH—Wells range in depth from 35 to 2,175 ft, averaging 294 ft. Casing depths range from 0 to 200 ft, averaging 60 ft.

TOPOGRAPHIC SETTINGS—Twenty-two percent of the wells occupy slopes, 35 percent are in broad lowlands, 22 percent are on uplands-ridge crests, and 4 percent are in draws and hollows.

METHODS—Effective methods for selecting high-yielding well sites are (1) contact zones within multilayered rock units, (2) small-scale structures that localize drainage development, (3) zones of fracture concentration, (4) topography and soil thickness, and (5) stress relief fractures in settings similar to the one shown in figure 28. In the area of dendritic drainage, the methods are effective mainly in headwaters areas, especially where the strike of the rock layers and drainage courses are parallel.

ROCK TYPE—Unit A is a complex aquifer consisting of interlayered amphibolite, gneiss, and schist in varying proportions and thicknesses. In some areas the unit is predominantly amphibolite containing thin layers of gneiss. In others, the dominant rock type is gneiss interlayered with amphibolite or schist, or both. Also common are areas of gneiss interlayered with schist and schist interlayered with gneiss. Interlayering of two different lithologies, and commonly three, is highly significant because the contact zones between the contrasting layers have the potential for developing increased permeability. Wells in the unit may penetrate several permeable contact zones that contribute to the total yield.

B

YIELD—Well yields in Unit B range from 20 to 348 gal/min, averaging 72 gal/min.

DEPTH—Wells range in depth from 40 to 825 ft, averaging 271 ft. Casing depths range from 3 to 266 ft, averaging 54 ft.

TOPOGRAPHIC SETTINGS—Thirty-three percent of the wells occupy slopes, 45 percent are in broad lowlands, 2 percent are on uplands-ridge crests, and 14 percent are in draws and hollows.

METHODS—Effective methods for well site selection are (1) stress relief fractures in topographic settings similar to those shown in figures 12-14 and 28, (2) shear zones, (3) contact zones with Units A, C, E, and possibly G, (4) small-scale structures that localize drainage development, and (5) fault zones. In the area of dendritic drainage, the last

Table 7.—Chemical analyses of well water, Greater Atlanta Region

Well number	County	Water-bearing unit[1]	Name or owner	Depth of well (feet)	Date of collection	Silica (SiO_2), milligrams per liter	Micrograms per liter: Iron (Fe)	Micrograms per liter: Manganese (Mn)	Milligrams per liter: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (N)	Dissolved solids: Residue at 180°C	Dissolved solids: Sum of constituents	Hardness[2]: Calcium-magnesium	Hardness[2]: Noncarbonate	Specific conductance, micromhos at 25°C	pH
	Environmental Protection Agency (1976) Drinking Water Standards						300	50						250	250	[3]1.2	10	500					
15FF1	Barrow	B	J. Adams	158	01-18-65	27	--	--	4.4	0.5	6.5	2.0	18	0.8	3.0	0.1	9.9	--	63	13	0	64	6.6
15GG1		C	City of Auburn	418	10-08-58	25	--	--	20	5.1	5.2	2.3	63	21	9.5	.1	.8	134	120	71	20	184	6.9
16FF1		A	Harrison Poultry Co.	800	08-28-62	30	--	--	8.8	1.9	6.0	2.1	49	0	.0	.2	.2	82	73	30	0	89	6.9
17PF2		A	W. Perkins & Son	256	02-15-67	28	--	--	5.8	1.5	4.1	1.3	35	.0	.8	.1	.4	59	59	20	0	62	6.6
8HH7	Bartow	B	Ga. DNR, Red Top Mountain	338	09-30-58	26	--	--	6.8	1.2	3.3	2.4	36	.4	1.0	.1	.7	65	60	22	0	65	6.4
13AA2	Butts	A	F. Childs	99	01-22-65	26	--	--	8.4	2.2	6.1	3.1	48	4.0	1.6	.1	.0	84	76	30	0	85	6.9
14AA11		A	A. C. Freeman	109	10-20-60	25	--	--	2.4	.4	4.4	1.5	16	.8	2.3	.2	1.9	62	46	8	0	37	6.3
14AA15		D	City of Flovilla	335	04-23-71	46	20	0	14	2.8	12	1.6	56	2.8	8.0	.4	13	132	128	47	1	150	7.1
3CC4	Carroll	C	L. Sherrill	102	03-02-66	33	--	--	5.6	1.8	5.3	1.1	43	.0	1.0	.0	.0	--	69	22	0	69	6.7
4CC72		F	Ga. DNR, John Tanner Prk.	135	02-22-62	37	--	--	6.0	3.2	5.9	2.0	46	7.2	1.0	.0	.1	92	85	28	0	91	6.9
5BB8		C	G. W. Hannah	91	11-19-64	7.1	--	--	2.8	.7	6.0	1.0	6	.4	6.4	.0	15	--	42	10	5	62	6.0
6BB15		G	City of Whiteburg	150	10-07-58	36	--	--	16	3.6	12	1.4	35	.8	24	.0	6.2	174	117	55	26	206	6.1
14	Cherokee[4]	C	C. Fowler Trailer Prk.	--	11-13-75	34	0	40	8.5	2.0	6.5	1.5	53	.3	1.2	.1	.01	78	81	30	0	97	6.9
30		C	J. Jordan	147	01-21-74	5.8	100	33	.4	.4	3.1	.3	2	.9	3.8	0	1.4	16	22	3	1	34	4.8
47		C	V. O. Poss	142	01-21-74	9.4	250	67	.7	.6	4.2	.4	2	3.6	4.1	0	.50	20	27	3	3	36	4.8
9JJ18		H	Lake Arrowhead, 16[5]	252	04-16-73	32	100	200	1.0	.05	.5	.95	6.3	0	1.8	.3	--	45	--	4	1	--	5.3
9JJ37		H	do., 17	309	04-27-73	4	100	10	1.2	.5	.53	.97	6.0	1	.1	.3	--	69.3	--	3.5	0	--	5.7
57		H	do., 24	288	05-29-73	5	230	90	36	10.5	2.2	3.3	136	7	.1	.3	--	144	--	142	136	--	7.2
58		H	do., 26	248	05-29-73	3.6	1,000	210	16	.21	.74	3.4	88	8.0	.1	.3	--	79	--	98	88	--	6.8
59		H	do., 27	330	05-04-73	2.4	100	50	.9	.40	.55	.53	3.6	.1	.1	.3	--	25	--	4.2	0	--	5.5
9JJ16		H	do., 31	248	05-29-73	1.5	50	10	1.4	.35	.6	1.6	3	.1	.1	.3	--	8	--	40	0	--	5.9
65		A	Gilbert Reeves	--	11-12-75	34	0	50	7.8	1.8	6.1	1	20	.5	5.2	.2	3.3	94	81	27	11	83	6.3
9GG1		D	City of Woodstock	500	11-04-63	41	--	--	22	3.9	10	2.4	86	3.2	10	.2	--	152	135	71	0	200	6.9
9HH5		A	Little River Landing, 2	525	01-21-74	22	0	17	22	9.5	2.5	3.3	164	14	3.4	.2	.01	168	180	94	0	288	7.9
9JJ12		C	E. W. Owen	--	08-20-62	24	--	--	7.2	1.3	4.6	.9	22	13	1.5	.8	--	107	104	43	0	137	7.0
11JJ2		J	City of Ball Ground	400	06-14-72	12	0	0	36	3.7	1.4	1.2	130	1.6	2.0	.2	--	124	120	110	0	225	8.0
11BB17	Clayton	A	H. J. Schneider	506	03-13-63	21	--	--	16	3.9	13	3.1	61	5.6	6.0	.1	25	136	124	56	6	170	7.1
11CC1		A	H. Smith	110	05-17-66	31	--	--	15	3.0	7.5	3.5	72	6.4	1.5	.3	.2	--	103	50	0	132	7.0
11CC6		A,E	City of Jonesboro	306	09-24-21	22	4,900	--	29	7	6.8	.66	--	15	16	--	--	--	--	--	--	--	--
11CC12		B	R. Chambers	125	03-13-63	39	--	--	22	5.1	7.7	3.6	98	9.6	3.0	.3	.1	144	138	76	0	185	7.4
8EE6	Cobb	B	City of Powder Springs	280	09-30-58	37	--	--	20	5.6	6.6	3.2	98	6.4	5.5	.3	6.5	137	139	73	0	191	7.5
8EE7		A	Louch (Austell)	80	1901	12	--	--	276	44	2,690	77	--	582	3,130	--	--	6,100	--	--	--	--	--
8EE8		A	Medlock (Austell)	65	01-22-48	19	150	--	340	58	2,320	--	136	598	3,820	.1	0	7,230	--	1,090	--	--	7.5
8EE9		A	Sulpho-Magnesium Well	750	01-22-48	19	200	--	19	60	350	133	141	48	450	0	0	610	--	77	--	--	7.2
8GG7		D	City of Acworth	500	10-01-46	18	400	--	66	17	1	--	82	5	69	--	--	480	--	253	--	--	7.0
8GG14		D	B. L. Woodall, Sr.	184	02-28-66	39	--	--	7.5	1.4	6.8	1.9	36	.4	4.2	.0	12	--	91	25	0	86	7.2
8GG15		D	City of Acworth	500	12-06-38	45	0	--	22	6.4	12	3.5	91	6.9	12	--	16	166	--	81	--	--	--
9FF8		C	Elizabeth School	382	04-22-38	27	500	--	10	3.3	5.4	2.2	40	16	1.8	0	.2	88	--	39	--	--	--
9FF9		A	City of Marietta	297	04-22-38	22	430	--	9.8	3.9	12	1.8	33	3.4	15	0	20	119	--	40	--	--	--
9FF10		A	do.	413	04-22-38	38	80	--	14	6.4	6.9	2.0	56	1.9	9.2	0	19	144	--	61	--	--	--
9FF11		A	do.	272	04-22-38	19	100	--	6	3.6	3.1	1.5	31	3	4	0	2.5	59	--	30	--	--	--
9FF12		A	do.	910	04-22-38	34	90	--	32	10	15	3.1	103	25	16	0	28	226	--	121	--	--	--
9FF13		A	do.	500	04-22-38	27	80	--	7.3	5.4	4.0	1.4	58	2.3	1.5	0	.10	74	--	40	--	--	--
9GG7		A	E. Barron	186	08-20-62	25	--	--	4.8	2.1	1.6	.1	27	.4	1.0	.1	1.7	64	50	20	0	53	7.0
6BB1	Coweta	A	A. L. Allen	132	11-20-64	36	--	--	3.2	.2	6.4	1.3	37	.0	1.4	.0	5.4	--	72	9	0	76	6.7
7BB24		E,A	Newnan Country Club	500	02-23-62	34	--	--	5.6	1.5	5.0	1.8	36	.4	1.5	.0	1.4	68	69	20	0	61	7.0
8CC4		A,F	W. H. Johnson	125	03-03-66	9.9	--	--	1.6	.6	1.5	1.2	13	.0	1.2	.0	1.6	--	24	6	0	30	6.4
9AA5		A	City of Senoia	459	10-21-58	32	--	--	24	4.4	11	2.8	44	13	25	.1	19	182	153	78	42	236	6.5
9	Dawson[4]	C	G. Harbin	--	02-09-55	1	800	--	1.8	.8	--	--	--	.2	5.4	--	--	26	--	5	--	--	6.7
11		E	L. R. Sams	--	12-11-59	21	130	--	4.4	1.7	3	1.5	28	2.4	.8	.1	.0	--	--	18	0	52	6.4
54		C	Lumpkin School	--	11-25-55	4	200	--	20	2.6	tr.	tr.	--	2.4	10.5	--	--	96	-	42	--	--	7.4
48		E	U.S. Air Force	--	10-18-56	21	310	--	10	3.6	2.7	.6	56	.2	1.3	.1	.0	66	--	40	0	90	6.8
36		C	do.	--	07-31-58	12	780	--	10	2.7	4.8	4.5	60	2	2.8	.1	.2	76	--	36	0	110	6.8

See footnotes at end of table.

Table 8.—High-yielding wells in the Greater Atlanta Region that currently (1980) are unused and could provide emergency water supplies

County	Well number	Water-bearing unit	Owner	Yield (gal/min)	Year drilled	Remarks
Cherokee	8GG8	C	Harold Harriman	80	1970	Sediment in water
	9JJ2	C	Reinhardt College	32	1962	Flows
	9JJ3	C	do.	63	1962	
	10HH1	A	Hickory Flat School	50	1957	
Clayton	10DD35	B	Atlanta Terrace Motel	77	1958	
	11CC11	A	Spiveys Lake Subdivision (Jonesboro)	40	1959	
	11CC17	A	N. W. Barrenton	40	1957	
Cobb	8GG6	D	City of Acworth	60	—	
	9FF3	C	Lockheed Corp.	72	—	
	9FF4	C	do.	68	—	
	9FF5	C	do.	73	—	
Coweta	7AA8	A	City of Newnan	90	1910	Not used since 1973
	7AA9	A	do.	75	1941	Do.
	7AA10	A	do.	100	1914	Do.
	7AA11	A	do.	100	1914	Do.
	7AA14	A	Airport Spur Serv.	75	1972	
	7BB8	A	Arnco Mills	50	1932	
	7BB24	E,A	Newnan Country Club	60	1948	
	7Z5	A	City of Grantville	27	1962	
	8BB11	F	R. A. Higgins (Motel)	57	1957	

Table 8.—High-yielding wells in the Greater Atlanta Region that currently (1980) are unused and could provide emergency water supplies—Continued

County	Well number	Water-bearing unit	Owner	Yield (gal/min)	Year drilled	Remarks
DeKalb	11EE3	A	Georgia Mental Health Institute	225	1932	
	12DD8	A	Dekalb Co. Line Sch.	28	1957	
	12EE8	B	Crowe Manufacturing Company	60	1964	
Douglas	7CC6	C	Capps Ferry Training Center	20	1960	
Fayette	9CC18	A	Landmark Mobile Home Park	30	1975	High iron
Fulton	8DD10	G	Fulton Co. Sewage Treatment Plant	55	1960	
	9CC26	A	City of Union City	25	1954	
	10CC17	A,F	W. P. Burns	20	1962	High iron
	10DD2	A	Fort McPherson	20	—	
	10DD9	F,A	City of East Point	40	1928	
	10DD29	B	City of Hapeville	75	—	
	10DD30	B	do.	80	—	
	10DD31	B	do.	35	1937	
	10DD33	B	do.	55	1938	
	10DD34	B	do.	55	1914	
	10DD37	F	Motor Convoy Co.	50	1948	
	10DD39	A	Fort McPherson	32	—	
	10DD40	A	do.	35	—	
	10DD42	A	do.	21	1882	

Table 9.—Record of wells in the Greater Atlanta Region—Continued

Well No.	Owner	Water-bearing unit	Latitude and longitude	Yield (gal/min)	Depth (ft)	Casing depth (ft)	Casing diam. (in.)	Date drilled	Driller	Elevation (ft)	Water level below land surface: Static head (ft)	Water level below land surface: Pumping head (ft)
Cobb County												
8EE3	V. H. Allen 4907 Mosley Rd. Austell	A	33°50'03" 84°38'52"	125	150	55	6	3/67	Virginia	920	—	—
8EE4	C. P. Chem. Corp. (Kerr McGee orig.) 4080 Indus. Rd. Powder Springs	A	33°51'10" 84°38'58"	55	395	—	—	10/64	do.	910	15	210
8EE5	Ga. Metals, Inc. 1400 Indus. Rd. Powder Springs	A	33°51'16" 84°38'59"	40	500	81	6	4/66	do.	920	25	200
8EE6	City of Powder Springs Powder Springs	B	33°51'31" 84°40'48"	200	170	—	—	1935	Helms	970	25	—
8FF1	Durr Hatchery Roy M. Durr Moon Rd. Powder Springs	A	33°53'12" 84°42'29"	34	225	115	6	1/56	Virginia	990	—	—
8FF2	Jerry Hood Wright Rd. Powder Springs	B	33°54'48" 84°43'07"	50	185	53	6	9/76	do.	970	—	—
8FF3	Harold R. Adams Owens Ave. Marietta	A	33°53'17" 84°37'45"	40	126	64	6	1971	Ward	940	—	—
8FF4	Ray Ward 1331 Lost Mountain Rd. Marietta	A	33°55'17" 84°41'34"	60	155	60	6	1957	do.	1,060	—	—
8FF5	Robert L. Peck 540 Holland Rd., NW Powder Springs	A	33°56'30" 84°42'56"	60	110	15	6	1972	do.	1,090	—	—
8FF6	H. J. Lavender Antioch Rd. Powder Springs	E,B	33°57'47" 84°43'28"	36	210	80	6	8/58	Virginia	1,075	—	—
8FF7	C. P. Bull, III Burnt Hickory Rd. Kennesaw	B	33°59'28" 84°41'44"	150	306	31	6	1972	Ward	900	—	—
8FF8	Harold C. Greenway 2125 Midway Rd. Marietta	A	33°57'15" 84°40'45"	200	164	46	6	11964	do.	1,120	—	—
8FF9	Frank Denney, Jr. Rte. 4, Trail Rd. Marietta	A	33°51'14" 84°41'05"	60	305	22	6	1971	do.	1,190	—	—
8FF10	Richard R. Anderson 1837 Schilling Rd. Kennesaw	A	33°59'58" 84°38'16"	45	146	95	6	1973	do.	1,160	—	—
8GG1	Paul Finger Rte. 2, County Line Rd. Acworth	E	34°01'16" 84°42'39"	100	375	80	6	11964	do.	900	—	—

Table 9.—Record of wells in the Greater Atlanta Region—Continued

Well No.	Owner	Water-bearing unit	Latitude and longitude	Yield (gal/min)	Depth (ft)	Casing depth (ft)	Casing diam. (in.)	Date drilled	Driller	Elevation (ft)	Water level below land surface: Static head (ft)	Water level below land surface: Pumping head (ft)
Cobb County												
8GG2	Johnny R. Davidson 6216 Cedar Crest Rd. Acworth	D	34°03'35" 84°43'54"	100	185	141	6	7/72	Virginia	900	—	--
8GG3	Fairway Mobile Home Park 4715 Cobb Prkway, N. Acworth	D	34°34'00" 84°43'34"	110	374	65	6	1973	Ward	910	—	--
8GG5	W. L. Singletary Ellis Rd. Kennesaw	A	34°00'47" 84°38'12"	30	106	52	6	1970	do.	1,120	—	—
8GG6	City of Acworth Seminole Dr. Acworth	D	34°03'44" 84°40'45"	60	500	70	8	—	Virginia	870	—	—
8GG7	do.	D	34°03'55" 84°40'45"	49	500	—	8	—	do.	900	33	134
9EE2	John R. Boggs 571 Boggs Rd. Mableton	C	33°48'13" 84°34'15"	32	222	89	6	6/63	do.	1,025	15	209
9FF1	City of Smyrna Spring St. Smyrna	C	33°52'59" 84°30'40"	110	131	—	8	Before 1949	do.	1,045	—	—
9FF2	Cobb County Airport Dobbins AFB Marietta	C	33°54'55" 84°30'06"	75	235	80	8	Before 1949	do.	1,000	—	--
9FF3	Lockheed Corp. Marietta	C	33°55'11" 84°30'49"	72	131	44	—	1951	do.	980	—	—
9FF4	do.	C	33°55'20" 84°31'01"	68	513	21	—	1951	do.	980	—	—
9FF5	do.	C	33°55'23" 84°31'14"	73	550	49	—	1951	do.	1,010	—	--
9FF6	Town & County Investmt. Co. 1106 Mossy Rock Rd.,NW Kennesaw	A	33°58'51" 84°35'55"	43	155	42	6	1977	Ward	930	—	--
9FF7	David B. Field 1389 Bells Ferry Rd. Marietta	C	33°59'06" 84°33'31"	30	180	40	6	1976	do.	1,170	—	—
9GG1	Charles Hutson Rte. 6, Ebenezer Rd. Marietta	A	34°02'03" 84°30'09"	35	104	22	6	1969	do.	1,065	—	—
10FF1	Richard Ardell 15601 Old Canton Rd.,NE Marietta	C	33°59'18" 84°27'54"	35	205	54	6	5/74	Virginia	1,000	—	--
10FF2	Riverbend Apts. 6640 Akers Mill Rd.,NW Atlanta	C,H	33°53'48" 84°26'42"	42	95	70	6	12/67	do.	780	16	84

Table 9.—Record of wells in the Greater Atlanta Region—Continued

Well No.	Owner	Water-bearing unit	Latitude and longitude	Yield (gal/min)	Depth (ft)	Casing depth (ft)	Casing diam. (in.)	Date drilled	Driller	Elevation (ft)	Water level below land surface: Static head (ft)	Water level below land surface: Pumping head (ft)
Cobb County												
10FF3	J. B. Smith (2 mi east of Hwy. 3, near Chattahoochee R.)	C	33°53'28" 84°26'44"	50	90	—	6	1947	J.A.Wood	950	15	—
10FF4	Rust Cheese Co. Highway 41 Smyrna	C,H	33°52'48" 84°27'50"	50	117	—	6	—	O.V.Helms	1,020	38	—
10GG1	J. P. Wolbert 3660 Oak Lane, NE Marietta	C	34°00'10" 84°26'36"	60	327	99	6	4/71	Virginia	1,020	—	—
10GG2	Karl A. Kandell 2535 Johnson Ferry Rd. Marietta	C	34°00'45" 84°26'02"	33	600	86	6	4/77	do.	1,070	—	--
10GG3	W. Brad Denman 4195 Indian Twn.Rd.,NE Marietta	A	34°03'09" 84°28'04"	75	70	50	6	1977	Ward	1,035	—	—
10GG5	Harold R. Ingle 2665 Jamerson Rd.,NE Marietta	A	34°03'59" 84°28'20"	30	403	—	6	1973	do.	1,040	—	—

Table 9.—Record of wells in the Greater Atlanta Region—Continued

Well No.	Owner	Water-bearing unit	Latitude and longitude	Yield (gal/min)	Depth (ft)	Casing depth (ft)	Casing diam. (in.)	Date drilled	Driller	Elevation (ft)	Water level below land surface: Static head (ft)	Water level below land surface: Pumping head (ft)
Douglas County												
6DD11	J. R. Hembree Flat Rock Rd. Ephesus Church, Box 252 Villa Rica	F	33°40'24" 84°54'10"	32	170	48	6	2/61	Virginia	1,085	40	70
6DD12	J. C. Gordon Conners Rd. Villa Rica	A	33°43'54" 84°53'46"	35	159	56	6	10/66	do.	1,140	—	—
7CC4	Dalton Fountain Rte. 1, Winston (Gary Gaston, now 8760 Fountain Dr.)	C	33°37'22" 84°51'45"	60	200	40	6	2/63	do.	1,170	10	20
7CC5	T. W. Fridell 8142 Highway 166 Douglasville	C	33°36'58" 84°50'28"	57	150	64	6	8/56	do.	1,060	—	—
7CC6	Roy C. Camp Capps Ferry Training Center	C	33°36'44" 84°49'38"	20	120	49	6	2/60	do.	1,080	30	120
7CC7	C. L. Cheatham 7382 Highway 166 Douglasville	C	33°37'03" 84°49'00"	48	158	—	—	6/66	do.	1,000	19	30
7CC8	Doug Daniels (his daughter) 5781 S. River Rd. Douglas	G,C	33°37'28" 84°45'45"	40	205	—	—	1978	P.T.Price	780	—	—
7DD1	Dr. John Anagnostakis Highway 5 Douglasville	C	33°38'32" 84°50'03"	50	—	—	—	12/78	Adams-Massey	980	—	—
7DD2	Roy Hamrick (now B. E. Turner) 4020 Union Hill Rd. Douglasville	C	33°41'42" 84°51'14"	54	115	53	6	6/57	Virginia	1,140	—	—
7DD3	Frank H. King, Jr. 4704 Post Rd. Winston	C	33°40'42" 84°51'45"	30	200	83	6	10/64	do.	1,140	—	—
7DD4	Grady F. Duren 3925 Kings Way Douglasville	C	33°41'42" 84°46'28"	36	200	75	6	1/59	do.	1,190	—	—
8DD1	Jim Thomas Adams 2030 Arlis Lane Douglasville	C,H	33°39'14" 84°44'17"	20	225	—	—	1978	Price	960	—	—
8DD2	Vernon C. Camp 4014 Chapel Hill Rd. Douglasville	D,C	33°41'44" 84°42'57"	20	202	101	6	8/58	Virginia	1,020	—	—
8DD3	Jay Camp Rte. 4, Chapel Hill Rd. (fire sta. now) Douglasville	F,C	33°41'54" 84°43'02"	36	143	99	6	7/56	do.	1,030	45	—
8DD4	F. E. Clark Highway 166 Douglasville	C	33°41'23" 84°39'48"	50	205	45	6	8/72	do.	950	—	—

Table 9.—Record of wells in the Greater Atlanta Region—Continued

Well No.	Owner	Water-bearing unit	Latitude and Longitude	Yield (gal/min)	Depth (ft)	Casing depth (ft)	Casing diam. (in.)	Date drilled	Driller	Elevation (ft)	Water level below land surface: Static head (ft)	Water level below land surface: Pumping head (ft)
Douglas County												
8DD5	H. E. Brown 3199 Fairburn Rd. Douglasville	C	33°43'06" 84°39'41"	36	190	20	6	12/57	Virginia	1,060	—	—
8DD6	Lawrence Hennesy 3044 Fairburn Rd. (well at 3014 Lake Monroe Rd.) Douglasville	C	33°43'21" 84°40'26"	41	100	42	6	6/56	do.	1,000	49	49
8EE1	Eastwood Mobile Home Park 5621 Fairburn Rd. Douglasville	F	33°45'18" 84°43'07"	30	300	—	—	1978	P.T.Price	1,084	—	—
8EE2	James D. Ward 4268 Old Douglasville Rd. Lithia Springs	F	33°48'15" 84°40'43"	43	112	50	6	10/58	Virginia	985	—	—
9DD1	USGS Test well 3	G	33°44'35" 84°35'02"	40	248	12	6	1978	Adams-Massey	850	4.5	60
9EE1	Standard Oil Co. I-20 & Ga. Hwy. 6 Austell	C	33°46'40" 84°36'24"	30	430	73	6	8/67	Virginia	920	—	—

Georgia Department of Natural Resources
205 Butler Street, S.E., Suite 1252, Atlanta, Georgia 30334
Joe D. Tanner, Commissioner
Harold F. Reheis, Director
Environmental Protection Division

July 12, 1994

TRIP REPORT

SITE NAME AND LOCATION: Georgia Metals, Inc.
1400 Industry Road, S.W.
Cobb County
Powder Springs, Georgia 30073
(404) 943-5980

TRIP BY: Martha Pierce MLP

ACCOMPANIED BY: Derrick Williams

DATE OF TRIP: March 22 and 24, 1994

OFFICIALS CONTACTED: William F. Kelly, Owner/Operator
Chuck Anglin, Employee

REFERENCE: September 23, 1993 Preliminary Assessment and Site Investigation Sampling

COMMENTS:

March 22, 1994

The purpose of this visit was to inspect the site and identify possible sampling locations for the Site Investigation Report. It was explained to Mr. Kelly that the Preliminary Assessment of his company recommended additional investigation and collection of samples. Mr. Kelly did not deny access to the site. The office area of the main fabrication building was the only building entered during the inspection.

Approximately eight samples were to be collected (one from the on-site well and seven soil samples). Mr. Kelly said he had not used the well for many years. He lets Ajay Chemicals, Inc., just west of Georgia Metals, use it. Mr. Kelly said permission from Ajay would be needed to sample the well. (Mr. Charles Prittard of Ajay was contacted

Reference #10

later and gave permission for the sampling.)

The north end of the site (north of the main fabricating and office building) is wooded. The northeast corner is the highest area with the land sloping down to the east and south. A locked cinder block well house is located in the north area.

The main plant area (southern two-thirds of the site) is mainly barren land. Pieces of slag-like material can be found in the fenced area south of the main fabrication and office building. The two buildings within the fence are identified as the small fabrication and the lead melting buildings on site maps. Black chips of battery cases have been used as erosion control especially at the southeast corner of the property. This area is now also covered with wood chips. Between the main fabrication building and the southwest corner of the property is a low, dry area that is identified as an old surface impoundment on site maps.

The area east of Industry Road (off-site) is wooded with some barren areas strewn with black plastic battery chips near the road.

March 24, 1994

Samples were collected from about 9:00 a.m. to 11:00 a.m. The day was cool, overcast, and damp but warmed as the sampling progressed. Attached are the sample location map, analytical results, and log book pages.

For the first sample GM-94-1/HW5030 (well on the Georgia Metals site), Mr. Prittard was met at the Ajay Chemicals office. After walking to the well site, Mr. Prittard turned on the pump to allow some purging of the well while the sample bottles were collected. The glass water sample bottle had been acidified to a pH of 2 for total metal analyses. When the clear water sample from the hose was poured into the bottle, it immediately turned an orange-brown (pictures 1 & 2 of the pump house, hose, and pipe). Mr. Prittard was unsure of the total depth of the well. He provided information from the last well repair which indicates a drop pipe of 294 feet (attached).

Next, Mr. Kelly was met at his office at Georgia Metals. He decided to have an employee, Chuck Anglin, watch the sample collection but declined to split samples. Mr. Anglin was given a receipt for each sample.

The second sample GM-94-2/HW/5031 was an off-site soil sample collected across (east) Industry Road from Georgia Metals in a barren area in the woods. The sample depth was approximately 12 to 24 inches deep. Black chips of battery cases were scattered on the ground (pictures 3 & 4).

The third sample GM-94-3/HW5032A was a soil collected from a southwest on-site location identified as an old surface impoundment on a site map (pictures 5, 6, & 7).

The fourth sample GM-94-4/HW5032B was a soil collected between the former

railroad tracks (south property line) and a berm south of the old surface impoundment (pictures 8, 9, & 10).

The fifth sample GM-94-5/HW5033 was a soil collected at the back part (south corner) of the main fabrication and office building. The sample location was along a surface water drainage pathway (pictures 11, 12, & 13).

The sixth sample GM-94-6/HW5034A was a soil collected along the southwest outside wall of the lead melting building. The sample location was covered with cinder and gravel over an orange-yellow clay (picture 14).

The seventh sample GM-94-7/HW5034B was a soil collected along the northwest outside wall of the lead melting building (picture 15). This surface sample was a brown-grey sand. Pieces of a slag-like material were seen on the ground in this area.

The eighth sample GM-94-8/HW5035 was a soil collected along the northwest outside wall of the lead melting building and north of sample GM-94-7 (pictures 16). This surface sample was a orange-grey clay/sand. Pieces of a slag-like material were seen on the ground in this area.

CONCLUSIONS:

Use groundwater and soil analytical results in the Site Investigation Report.

PHOTOGRAPHS: 16

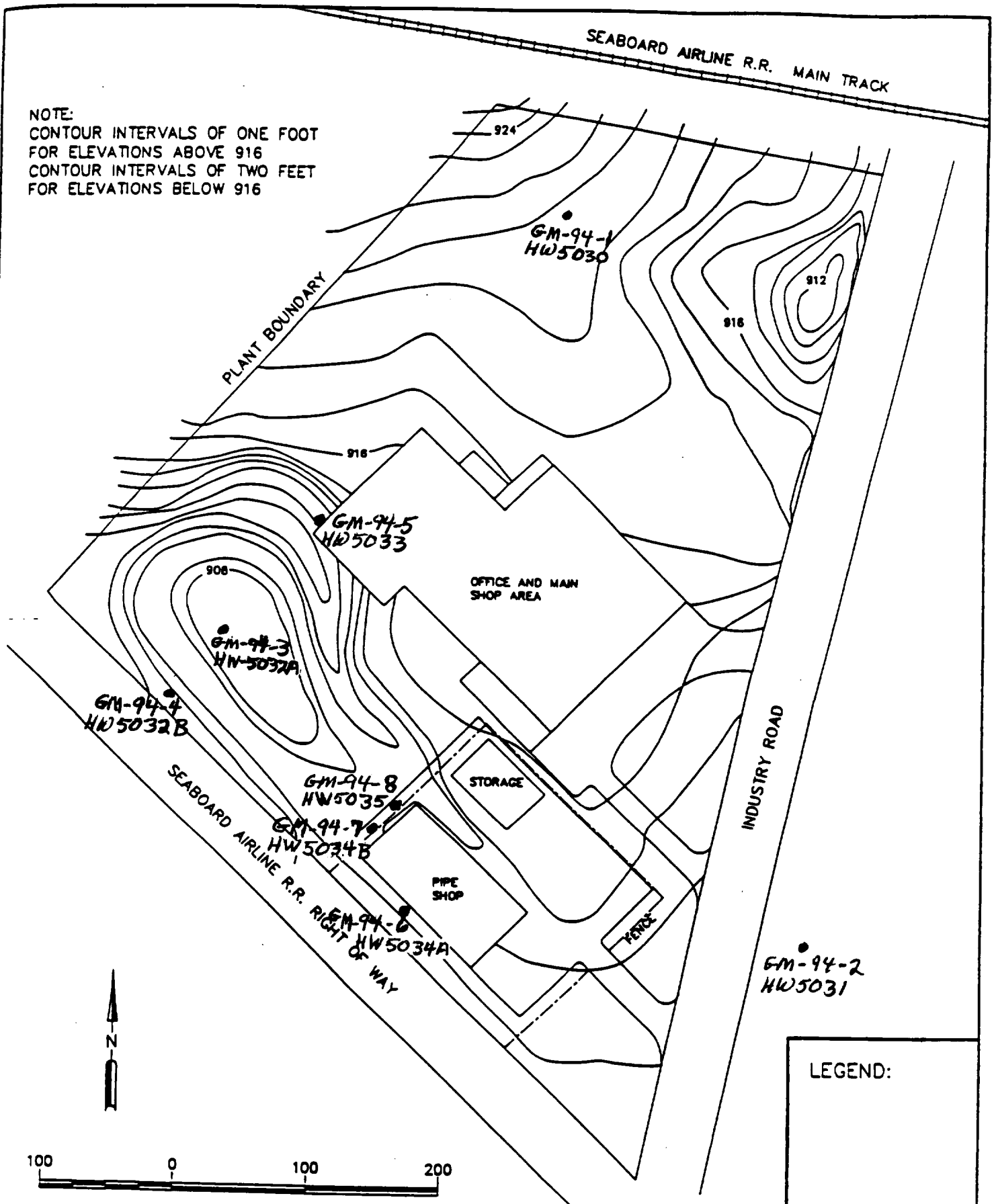
SAMPLES: 8

REVIEWED BY:

ATTACHMENTS: Sample location map, analytical results, log book pages, well repair record, 16 pictures.

MP/kjb

File: SI - GA Metals
r:\martha\various\gametal.rpt



Approx. locations of samples collected at Georgia Metals by Ga. EPD

MGP

UNSCANNABLE

MEDIA

(PHOTOGRAPHS)

Georgia Metals Site
Powder Springs, Georgia
Site Investigation Sampling Plan

The Georgia Metals Site is located approximately 2 miles east-southeast of Powder Springs in Cobb County, Georgia. The site has fabricated lead products for over 30 years. Steel tank assemblies are also fabricated at the site. Soil samples collected by EPD in 1986 and 1987 for EP Toxicity Analysis showed lead concentrations greater than 5 mg/l. Soil samples collected by EPA in 1994 showed highly elevated total lead concentrations. Surface run-off from the Georgia Metals Site flows to ditches that ultimately trend southward across the CP Chemicals (Phibro-Tech) facility to Noses Creek. Surface water samples collected from the two drainage ditches (on CP Chemicals property) and from Noses Creek by CP Chemicals indicate lead concentrations greater than Georgia water quality standards. Groundwater analytical results from one monitoring well at the CP Chemicals facility has shown lead concentrations greater than 0.05 mg/l. Nine monitoring wells have shown groundwater concentrations of lead greater than 0.015 mg/l. No source of lead is known to exist at the CP Chemicals facility. The Georgia Metals site is upgradient of the CP Chemicals facility. EPD has no analytical results from the production well on the north (upgradient) end of the Georgia Metals Site.

No more than eight samples will be collected during the Site Investigation field activities to help document groundwater, surface water, soil, and sediment contamination. Sampling locations are shown on the attached SI Sampling Location Map. Field activities are scheduled for March 24, 1994.

r:\martha\si

Post-it™ Fax Note 7671	Date 3-10-94	# of pages ▶ 4
To Otis Woods	From Derrick Williams	
Co./Dept. EPD Lab	Co. EPD-HWMB	
Phone # 853-7979	Phone # 656-7802	
Fax # 853-7978	Fax # 651-9425	

HAZARDOUS WASTE MANAGEMENT BRANCH (HWMB)
REQUEST FOR LABORATORY ANALYSIS

Facility Name/Location: GEORGIA METALS, INDUSTRY RD, POWDER SPRINGS, COBB CO.

Sample Collected By/Phone: MARTHA PIERCE, 656-7802

Collection Date: 3-24-94

Date Submitted To Lab: 3-24-94

HWMB LOG NUMBER: HW-5030

(File a separate Request Sheet for each sample point)

Georgia Dept. of Natural Resources
AA21164 Due date: 04/21/94
Date submitted: 03/24/94
SourceID: ADACD GEORGIA METALS HW5030

Analysis Needed By: Routine ✓ Other (specify): ____

Sample Description (check one)

Waste		Soil/Sediment		Sludge	
Ground Water	✓	Surface Water		Drinking Water Well	

Conncentration of Organics Requested (estimated): High ____ Low ____ Other (e.g., rinse blank - specify) ____

Describe Sample Including Source And Known Properties (e.g., pH, concentration):
Groundwater downgradient of site has had non-detect to 54 ug/l lead.

Applicable Hazardous Waste Codes (if known) ____ ____ ____

Special Precautions: ____

ANALYSIS REQUIRED

(Note: Totals will always be run first. A TCLP will subsequently be run only if the total value indicates a positive TCLP could result.)

1. TOTAL ORGANICS

Semi-Volatiles (Acid & Base/Neutral)	
Volatiles	
Pesticides	
Herbicides	
Organophosphorous Pesticides	
PCB	
BETX	
Total Petroleum Hydrocarbon	

Organics Special Request: ____

2. TOTAL METALS

ICP Metals Scan (Ag, As, Ba, Cd, Cr, Ni, Pb, Se)	✓
Mercury	✓
Metals Special Request:	✓
Zn, Cu	

3. TCLP ORGANICS

Volatiles		Pesticides	
Semi-Volatiles (Acid & Base/Neutral)		Herbicides	

Additional Specific Organics For TCLP: ____

4. TCLP METALS ANALYSIS

TCLP Metals (Ag, As, Ba, Cd, Cr, Ni, Pb, Se)	✓	Additional Metals For TCLP:	
Mercury	✓		

5. ADDITIONAL ANALYSIS REQUESTED (see list on back): pH

Reviewed By (HWMB): Charles Williams Date: 3/14 Received By (EPD Lab): LBZ

Approved By (HWMB): ____ Date: ____ Date (EPD Lab): 3-24-94

From: Georgia Dept. of Natural Resources
Environmental Protection Div. Laboratory
455 14th Street NW
Atlanta, GA 30318

May 3, 1994

To: Marth Pierce
HWMB
656-7802

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. AA21164 Source ID#: ADHOC
Agency Code: 1 DNR project: HW
sample description: GEORGIA METALS HW5030
Sample Collector: MARTHA PIERCE
Sample collection date: 03/24/94 Time: 12:00
Lab submittal date: 03/24/94 Time: 15:38
DNR Lab reference: HW5030 LABORATORY: METALS

Parameter		**Result**	**Units**	**MDL**
Mercury	71900	<0.2	ug/l	0.2
Metals TCLP Warranted?		No	y/n	REG.LEV.
Mercury TCLP Warranted?		No	y/n	
pH	00403	Not Analyzed		1.0
ICP METALS FOR HAZARDOUS WASTE		see below	ug/l	

Data for ICP METALS FOR HAZARDOUS WASTE ug/l:

Component Name		**Result**	**Component MDL**
Silver	01077	Not detected	30
Arsenic	01002	Not detected	25
Barium	01007	34	10
Cadmium	01027	Not detected	5
Copper	01042	Not detected	20
Chromium	01034	33	10
Nickel	01067	Not detected	20
Lead	01051	Not detected	50
Selenium	01147	100	60
Zinc	01092	180	20

Sample comments:

ADD CU AND ZN TO LIST OF HW ICP METALS TO BE ANALYZED.

If there are any questions regarding this data, please call.

Harold Langford
SUPERVISOR

HAZARDOUS WASTE MANAGEMENT BRANCH (HWMB)

2

REQUEST FOR LABORATORY ANALYSIS

Facility Name/Location: GEORGIA METALS, INDUSTRY RD, POWDER SPRINGS, COBB CO.

Sample Collected By/Phone: MARTHA PIERCE 656-7802

Collection Date: 3-24-94

Date Submitted To Lab: 3-24-94

HWMB LOG NUMBER: HW-5031

(File a separate Request Sheet for each sample point)

Georgia Dept. of Natural Resources

AA21165

Date Submitted: 03/24/94

Analysis Needed By: Routine ✓ Other (specify): _____

Sample Description (check one)

Waste	___	Soil/Sediment	✓	Sludge	___
Ground Water	___	Surface Water	___	Drinking Water Well	___

Concentration of Organics Requested (estimated): High ___ Low ___ Other (e.g., rinse blank - specify) _____

Describe Sample Including Source And Known Properties (e.g., pH, concentration):

Previous soil samples contained 6.1-280,000 mg/kg total lead + 2.3-1430 mg/kg EP Tox lead. Other significant metals - Cu + Zn, Other metals - As, Cd, Cr.

Applicable Hazardous Waste Codes (if known) D008

Special Precautions: _____

ANALYSIS REQUIRED

(Note: Totals will always be run first. A TCLP will subsequently be run only if the total value indicates a positive TCLP could result.)

1. TOTAL ORGANICS

Semi-Volatiles (Acid & Base/Neutral)	___
Volatiles	___
Pesticides	___
Herbicides	___
Organophosphorous Pesticides	___
PCB	___
BETX	___
[illegible] Hydrocarbon	___

Organics Special Request: _____

2. TOTAL METALS

ICP Metals Scan (Ag, As, Ba, Cd, Cr, Ni, Pb, Se)	✓
Mercury	✓
Metals Special Request:	___

Zn, Cu

3. TCLP ORGANICS

Volatiles	___	Pesticides	___
Semi-Volatiles (Acid & Base/Neutral)	___	Herbicides	___

Additional Specific Organics For TCLP: _____

4. TCLP METALS ANALYSIS

TCLP Metals (Ag, As, Ba, Cd, Cr, Ni, Pb, Se)	✓	Additional Metals For TCLP:	___
Mercury	✓		

5. ADDITIONAL ANALYSIS REQUESTED (see list on back): pH

Reviewed By (HWMB):	___	Date:	___	Received By (EPD Lab):	LBZ
Approved By (HWMB):	___	Date:	___	Date (EPD Lab):	3-24-94

From: Georgia Dept. of Natural Resources
Environmental Protection Div. Laboratory
455 14th Street NW
Atlanta, GA 30318

May 3, 1994

To: Martha Pierce
HWMB
656-7802

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. AA21165 Source ID#: ADHOC
Agency Code: 1 DNR project: HW
sample description: GEORGIA METALS HW5031
Sample Collector: MARTHA PIERCE
Sample collection date: 03/24/94 Time: 12:00
Lab submittal date: 03/24/94 Time: 16:03
DNR Lab reference: HW5031 LABORATORY: METALS

Parameter		Result	Units	MDL
ICP METALS FOR HW SOLIDS		see below	mg/kg	
pH	00403	5.2		1.0
Mercury TCLP Warranted?		No	y/n	
Mercury	71921	Below det lim	ug/g	0.1
ICP METALS FOR HW TCLP EXTRACTS		see below	ug/l	
Metals TCLP Warranted?		Yes	y/n	

Data for ICP METALS FOR HW SOLIDS mg/kg:

Component Name		Result	Component MDL
SILVER	01078	Not detected	3
ARSENIC	01003	Not detected	4
BARIUM	01008	16	1
CADMIUM	01028	Not detected	1
CHROMIUM	01029	3.9	1
LEAD	01052	2100	6
NICKEL	01068	Not detected	2
SELENIUM	01148	Not detected	6
COPPER	01043	180	2
ZINC	01093	10	2

Data for ICP METALS FOR HW TCLP EXTRACTS ug/l:

Component Name		Result	Component MDL
SILVER	01077	Not detected	30
ARSENIC	01002	Not detected	15
BARIUM	01007	270	10
CADMIUM	01027	Not detected	5

Data for ICP METALS FOR HW TCLP EXTRACTS (continued):

Component Name		Result	Component MDL
CHROMIUM	01034	Not detected	10
NICKEL	01067	Not detected	25
LEAD	01051	44000	50
SELENIUM	01147	Not detected	65
COPPER	01042	870	20
ZINC	01092	120	20

Sample comments:

ADD CU,ZN TO LIST OF HW ICP METALS TO BE ANALYZED.

If there are any questions regarding this data, please call.

Harold Langford
SUPERVISOR

HAZARDOUS WASTE MANAGEMENT BRANCH (HWMB)
REQUEST FOR LABORATORY ANALYSIS

3

Facility Name/Location: GEORGIA METALS, INDUSTRY RD, POWDER SPRINGS, COBB CO.

mple Collected By/Phone: MARTHA PIERCE 656-7802

Collection Date: 3-24-94

Date Submitted To Lab: 3-24-94

HWMB LOG NUMBER: HW-5032A

(File a separate Reqest Sheet for each sample point)

Analysis Needed By: Routine ✓ Other (specify): ___

Sample Description (check one)

Waste	___	Soil/Sediment	✓	Sludge	___
Ground Water	___	Surface Water	___	Drinking Water Well	___

Concentration of Organics Requested (estimated): High ___ Low ___ Other (e.g., rinse blank - specify) ___

Describe Sample Including Source And Known Properties (e.g., pH, concentration):

Previous soil samples contained 6.1-280,000 mg/kg total lead + 2.3-1430 mg/kg EP Tox lead. Other significant metals - Cu + Zn. Other metals - As, Cd, Cr.

Applicable Hazardous Waste Codes (if known) D008

Special Precautions: ___

ANALYSIS REQUIRED

(Note: Totals will always be run first. A TCLP will subsequently be run only if the total value indicates a positive TCLP could result.)

TOTAL ORGANICS

Semi-Volatiles (Acid & Base/Neutral)	___
Volatiles	___
Pesticides	___
Herbicides	___
Organophosphorous Pesticides	___
PCB	___
BETX	___

2. TOTAL METALS

ICP Metals Scan (Ag, As, Ba, Cd, Cr, Ni, Pb, Se)	✓
Mercury	✓
Metals Special Request:	___

Zn, Cu

Organics Special Request: ___

3. TCLP ORGANICS

Volatiles	___	Pesticides	___
Semi-Volatiles (Acid & Base/Neutral)	___	Herbicides	___

Additional Specific Organics For TCLP: ___

4. TCLP METALS ANALYSIS

TCLP Metals (Ag, As, Ba, Cd, Cr, Ni, Pb, Se)	✓	Additional Metals For TCLP:	___
Mercury	✓		

5 ADDITIONAL ANALYSIS REQUESTED (see list on back): pH

Reviewed By (HWMB):	___	Date:	___	Received By (EPD Lab):	LBZ
Approved By (HWMB):	___	Date:	___	Date (EPD Lab):	3-24-94

From: Georgia Dept. of Natural Resources
Environmental Protection Div. Laboratory
455 14th Street NW
Atlanta, GA 30318

April 12, 1994

To: Martha Pierce
HWMB
656-7802

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. AA21168 Source ID#: ADHOC
Agency Code: 1 DNR project: HW
sample description: GEORGIA METALS HW5032
Sample Collector: MARTHA PIERCE
Sample collection date: 03/24/94 Time: 12:00
Lab submittal date: 03/24/94 Time: 16:03
DNR Lab reference: HW5032A LABORATORY: METALS

Parameter		Result	Units	MDL
pH	00403	4.7		1.0
Mercury	71921	Below det lim	ug/g	0.1
ICP METALS FOR HW SOLIDS		see below	mg/kg	

Data for ICP METALS FOR HW SOLIDS mg/kg:

Component Name		Result	Component MDL
SILVER	01078	Not detected	3
ARSENIC	01003	Not detected	4
BARIUM	01008	22	1
CADMIUM	01028	Not detected	1
CHROMIUM	01029	27	1
LEAD	01052	40	6
NICKEL	01068	Trace <2	2
SELENIUM	01148	14	6

Sample comments:

ADD CU,ZN TO LIST OF HW ICP METALS TO BE ANALYZED.
TCLP Metals not warranted based on Total Metals values.

If there are any questions regarding this data, please call.

Harold Lanford
SUPERVISOR

REQUEST FOR LABORATORY ANALYSIS

4

Facility Name/Location: GEORGIA METALS, INDUSTRY RD, POWDER SPRINGS, COBB CO.

Sample Collected By/Phone: MARTHA PIERCE 656-[illegible]

Collection Date: 3-24-94

Date Submitted To Lab: 3-24-94

HWMB LOG NUMBER: HW-5032B

(File a separate Reqest Sheet for each sample point)

AA21172

Analysis Needed By: Routine ✓ Other (specify): ___

Sample Description (check one)

Waste ___ Soil/Sediment ✓ Sludge ___

Ground Water ___ Surface Water ___ Drinking Water Well ___

Conncentration of Organics Requested (estimated): High ___ Low ___ Other (e.g., rinse - blank - specify) ___

Describe Sample Including Source And Known Properties (e.g., pH, concentration):

Previous soil samples contained 6.1-280,000 mg/kg total lead + 2.3-1430 mg/kg EP Tox lead. Other significant metals - Cu + Zn. Other metals - As, Cd, Cr.

Applicable Hazardous Waste Codes (if known) D008 ___ ___

Special Precautions: ___

ANALYSIS REQUIRED

(Note: Totals will always be run first. A TCLP will subsequently be run only if the total value indicates a positive TCLP could result.)

1. TOTAL ORGANICS

Semi-Volatiles (Acid & Base/Neutral) ___

Volatiles ___

Pesticides ___

Herbicides ___

Organophosphorous Pesticides ___

PCB ___

BETX ___

Total Petroleum Hydrocarbon ___

Organics Special Request: ___

2. TOTAL METALS

ICP Metals Scan (Ag, As, Ba, Cd, Cr, Ni, Pb, Se) ✓

Mercury ✓

Metals Special Request: Zn, Cu

3. TCLP ORGANICS

Volatiles ___ Pesticides ___

Semi-Volatiles (Acid & Base/Neutral) ___ Herbicides ___

Additional Specific Organics For TCLP: ___

4. TCLP METALS ANALYSIS

TCLP Metals (Ag, As, Ba, Cd, Cr, Ni, Pb, Se) ✓ Additional Metals For TCLP: ___

Mercury ✓

5. ADDITIONAL ANALYSIS REQUESTED (see list on back): pH

Reviewed By (HWMB): ___ Date: ___ Received By (EPD Lab): UBZ

Approved By (HWMB): ___ Date: ___ Date (EPD Lab): 3-24-94

From: Georgia Dept. of Natural Resources
Environmental Protection Div. Laboratory
455 14th Street NW
Atlanta, GA 30318

April 12, 1994

To: Martha Pierce
HWMB
656-7802

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. AA21172 Source ID#: ADHOC
Agency Code: 1 DNR project: HW
sample description: GEORGIA METALS HW5033
Sample Collector: MARTHA PIERCE
Sample collection date: 03/24/94 Time: 12:00
Lab submittal date: 03/24/94 Time: 16:03
DNR Lab reference: HW5032B LABORATORY: METALS

Parameter		Result	Units	MDL
ICP METALS FOR HW SOLIDS		see below	mg/kg	
pH	00403	6.7		1.0
Mercury	71921	Below det lim	ug/g	0.1

Data for ICP METALS FOR HW SOLIDS mg/kg:

Component Name		Result	Component MDL
SILVER	01078	Not detected	3
ARSENIC	01003	Not detected	4
BARIUM	01008	51	1
CADMIUM	01028	Not detected	1
CHROMIUM	01029	21	1
LEAD	01052	Trace <6	6
NICKEL	01068	4.7	2
SELENIUM	01148	17	6

Sample comments:

ADD CU,ZN TO LIST OF ICP HW METALS TO BE ANALYZED.
TCLP Metals not warranted based on Total Metals values.

If there are any questions regarding this data, please call.

Harold Langford
SUPERVISOR

Facility Name/Location: GEORGIA METALS, INDUSTRY RD, POWDER SPRINGS, COBB CO

Sample Collected By/Phone: MARTHA PIERCE 656-7802

Collection Date: 3-24-94

Date Submitted To Lab: 3-24-94

HWMB LOG NUMBER: HW-5033

(File a separate Report Sheet for each sample point)

Georgia Dept. of Natural Resources

AA21175

Analysis Needed By: Routine ✓ Other (specify): ____

Sample Description (check one)

Waste ____ Soil/Sediment ✓

Ground Water ____ Surface Water ____

LAB#: AA24943
PWSID# ADHOC
FROM: Georgia Metals, Ind. Rd, P S
DUE: 05/12/94

Concentration of Organics Requested (estimated): High ____ Low ____ Ot

Describe Sample Including Source And Known Properties (e.g., pH, concen

Previous soil samples contained 61-280, [illegible] 2.3-1430 mg/kg EP Tox lead. Other significant metals - Cu + Zn, Other metals - As, Cd, Cr.

Applicable Hazardous Waste Codes (if known) D008

Special Precautions: ____

ANALYSIS REQUIRED

(Note: Totals will always be run first. A TCLP will subsequently be run only if the total value indicates a positive TCLP could result.)

1. TOTAL ORGANICS

Semi-Volatiles (Acid & Base/Neutral) ____

Volatiles ____

Pesticides ____

Herbicides ____

Organophosphorous Pesticides ____

PCB ____

BETX ____

[illegible]

2. TOTAL METALS

ICP Metals Scan (Ag, As, Ba, Cd, Cr, Ni, Pb, Se) ✓

Mercury ✓

Metals Special Request: ____

Zn, Cu

3. TCLP ORGANICS

Volatiles ____ Pesticides ____

Semi-Volatiles (Acid & Base/Neutral) ____ Herbicides ____

Additional Specific Organics For TCLP: ____

4. TCLP METALS ANALYSIS

TCLP Metals (Ag, As, Ba, Cd, Cr, Ni, Pb, Se) ✓ Additional Metals For TCLP: ____

Mercury ✓

5. ADDITIONAL ANALYSIS REQUESTED (see list on back): pH

Reviewed By (HWMB): ____ Date: ____ Received By (EPD Lab): UBZ

Approved By (HWMB): ____ Date: ____ Date (EPD Lab): 3-24-94

From: Georgia Dept. of Natural Resources
Environmental Protection Div. Laboratory
455 14th Street NW
Atlanta, GA 30318

May 3, 1994

To: Martha Pierce
HWMB
1170 East Towers

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. AA24943 Source ID#: ADHOC
Agency Code: 1 DNR project: HW
sample description: Georgia Metals, Ind. Rd, P S
Sample Collector: MARTHA PIERCE
Sample collection date: 03/24/94 Time: 12:00
Lab submittal date: 04/14/94 Time: 08:51
DNR Lab reference: HW5033 LABORATORY: metals

Parameter		Result	Units	MDL
ICP METALS FOR HW SOLIDS		see below	mg/kg	
Metals TCLP Warranted?		yes	y/n	
Mercury	71921	Below det lim	ug/g	0.1
Mercury TCLP Warranted?		NO	y/n	
pH	00403	6.7		1.0
ICP METALS FOR HW TCLP EXTRACTS		see below	ug/l	

Data for ICP METALS FOR HW SOLIDS mg/kg:

Component Name		Result	Component MDL
SILVER	01078	Not detected	3
ARSENIC	01003	Not detected	3
BARIUM	01008	26	1
CADMIUM	01028	1.9	1
COPPER	01042	190	2
CHROMIUM	01029	130	2
LEAD	01052	550	5
NICKEL	01068	15	2
ZINC	01093	130	2

Data for ICP METALS FOR HW TCLP EXTRACTS ug/l:

Component Name		Result	Component MDL
SILVER	01077	Not detected	30
ARSENIC	01002	Not detected	15
BARIUM	01007	350	10
CADMIUM	01027	41	5
CHROMIUM	01034	170	10

Data for ICP METALS FOR HW TCLP EXTRACTS (continued):

Component Name		**Result**	**Component MDL**
NICKEL	01067	27	25
LEAD	01051	2600	50
SELENIUM	01147	11	65
COPPER	01042	400	20
ZINC	01087	1600	20

Sample comments:

LAB NUMBER AA21175
WAS DELETED BY HAROLD LANFORD, AND RE-ENTERED AS AA24943.

If there are any questions regarding this data, please call.

Harold Lanford
SUPERVISOR

HAZARDOUS WASTE MANAGEMENT BRANCH (HWMB)
REQUEST FOR LABORATORY ANALYSIS

Facility Name/Location: GEORGIA METALS, INDUSTRY RD, POWDER SPRINGS, COBB CO.

Sample Collected By/Phone: MARTHA PIERCE 656-7802

Collection Date: 3-24-94

Date Submitted To Lab: 3-24-94

HWMB LOG NUMBER: HW-5034A

(File a separate Request Sheet for each sample point)

Georgia Dept. of Natural Resources

AA21180

Date submitted: 03/24/94

Sampled By: ADMIN GEORGIA METALS, WASTE

Analysis Needed By: Routine ✓ Other (specify): _____

Sample Description (check one)

Waste	___	Soil/Sediment	✓	Sludge	___
Ground Water	___	Surface Water	___	Drinking Water Well	___

Concentration of Organics Requested (estimated): High ___ Low ___ Other (e.g., rinse blank - specify) _____

Describe Sample Including Source And Known Properties (e.g., pH, concentration):

Previous soil samples contained 6.1-280,000 mg/kg total lead + 2.3-1430 mg/kg EP Tox lead. Other significant metals - Cu + Zn. Other metals - As, Cd, Cr.

Applicable Hazardous Waste Codes (if known) D008

Special Precautions: _____

ANALYSIS REQUIRED

(Note: Totals will always be run first. A TCLP will subsequently be run only if the total value indicates a positive TCLP could result.)

1. TOTAL ORGANICS

Semi-Volatiles (Acid & Base/Neutral)	___
Volatiles	___
Pesticides	___
Herbicides	___
Organophosphorous Pesticides	___
PCB	___
[redacted]	

Organics Special Request: _____

2. TOTAL METALS

ICP Metals Scan (Ag, As, Ba, Cd, Cr, Ni, Pb, Se)	✓
Mercury	✓
Metals Special Request:	✓
Zn, Cu	

3. TCLP ORGANICS

Volatiles	___	Pesticides	___
Semi-Volatiles (Acid & Base/Neutral)	___	Herbicides	___

Additional Specific Organics For TCLP: _____

4. TCLP METALS ANALYSIS

TCLP Metals (Ag, As, Ba, Cd, Cr, Ni, Pb, Se)	✓	Additional Metals For TCLP:	
Mercury	✓		

5. ADDITIONAL ANALYSIS REQUESTED (see list on back): pH

Reviewed By (HWMB): [signature] **Date:** 3/14/94 **Received By (EPD Lab):** LIAZ

Approved By (HWMB): _____ **Date:** _____ **Date (EPD Lab):** ~~3-44~~ 3-24-94

From: Georgia Dept. of Natural Resources
Environmental Protection Div. Laboratory
455 14th Street NW
Atlanta, GA 30318

May 3, 1994

To: Martha Pierce
HWMB
656-7802

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. AA21180 Source ID#: ADHOC
Agency Code: 1 DNR project: HW
sample description: GEORGIA METALS, HW5035
Sample Collector: MARTHA PIERCE
Sample collection date: 03/24/94 Time: 12:00
Lab submittal date: 03/24/94 Time: 16:23
DNR Lab reference: HW5034A LABORATORY: METALS

Parameter		Result	Units	MDL
ICP METALS FOR HW SOLIDS		see below	mg/kg	
pH	00403	6.5		1.0
Mercury	71921	0.20	ug/g	0.1
Mercury TCLP Warranted?		No	y/n	
ICP METALS FOR HW TCLP EXTRACTS		see below	ug/l	
Metals TCLP Warranted?		Yes	y/n	

Data for ICP METALS FOR HW SOLIDS mg/kg:

Component Name		Result	Component MDL
SILVER	01078	Not detected	3
ARSENIC	01003	Not detected	4
BARIUM	01008	27	1
CADMIUM	01028	Trace	1
CHROMIUM	01029	18	1
LEAD	01052	3900	6
NICKEL	01068	3.8	2
SELENIUM	01148	16	6

Data for ICP METALS FOR HW TCLP EXTRACTS ug/l:

Component Name		Result	Component MDL
SILVER	01077	Not detected	30
ARSENIC	01002	Not detected	15
BARIUM	01007	470	10
CADMIUM	01027	12	5
CHROMIUM	01034	Not detected	10
NICKEL	01067	Not detected	25

Data for ICP METALS FOR HW TCLP EXTRACTS (continued):

Component Name		Result	Component MDL
LEAD	01051	76000	50
SELENIUM	01147	Not detected	65

Sample comments:

ADD CU,ZN TO LIST OF HW ICP METALS TO BE ANALYZED.

If there are any questions regarding this data, please call.

Harold Lanford
SUPERVISOR

HAZARDOUS WASTE MANAGEMENT BRANCH (HWMB)
REQUEST FOR LABORATORY ANALYSIS

Facility Name/Location: GEORGIA METALS, INDUSTRY RD, POWDER SPRINGS, COBB CO.

Sample Collected By/Phone: MARTHA PIERCE 656-7807

Collection Date: 3-24-94

Date Submitted To Lab: 3-24-94

HWMB LOG NUMBER: HW-5034B

(File a separate Request Sheet for each sample point)

Georgia Dept. of Natural Resources

AA21181

Analysis Needed By: Routine ✓ Other (specify): ____

Sample Description (check one)

Waste	____	Soil/Sediment	✓	Sludge	____
Ground Water	____	Surface Water	____	Drinking Water Well	____

Concentration of Organics Requested (estimated): High ____ Low ____ Other (e.g., rinse blank - specify) ____

Describe Sample Including Source And Known Properties (e.g., pH, concentration):

Previous soil samples contained 6.1-280,000 mg/kg total lead + 2.3-1430 mg/kg EP Tox lead. Other significant metals - Cu + Zn. Other metals - As, Cd, Cr.

Applicable Hazardous Waste Codes (if known) D008

Special Precautions: ____

ANALYSIS REQUIRED

(Note: Totals will always be run first. A TCLP will subsequently be run only if the total value indicates a positive TCLP could result.)

1. TOTAL ORGANICS

Semi-Volatiles (Acid & Base/Neutral)	____
Volatiles	____
Pesticides	____
Herbicides	____
Organophosphorous Pesticides	____
PCB	____

Organics Special Request: ____

2. TOTAL METALS

ICP Metals Scan (Ag, As, Ba, Cd, Cr, Ni, Pb, Se)	✓
Mercury	✓
Metals Special Request:	✓
Zn, Cu	

3. TCLP ORGANICS

Volatiles	____	Pesticides	____
Semi-Volatiles (Acid & Base/Neutral)	____	Herbicides	____

Additional Specific Organics For TCLP: ____

4. TCLP METALS ANALYSIS

TCLP Metals (Ag, As, Ba, Cd, Cr, Ni, Pb, Se)	✓	Additional Metals For TCLP:	____
Mercury	✓		

5. ADDITIONAL ANALYSIS REQUESTED (see list on back): pH

Reviewed By (HWMB): [signature] **Date:** 3/14/94 **Received By (EPD Lab):** LMZ

Approved By (HWMB): ____ **Date:** ____ **Date (EPD Lab):** ~~3-44~~ 3-24-94

From: Georgia Dept. of Natural Resources
Environmental Protection Div. Laboratory
455 14th Street NW
Atlanta, GA 30318

May 3, 1994

To: Martha Pierce
HWMB
656-7802

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. AA21181 Source ID#: ADHOC
Agency Code: 1 DNR project: HW
sample description: GEORGIA METALS, HW5036
Sample Collector: MARTHA PIERCE
Sample collection date: 03/24/94 Time: 12:00
Lab submittal date: 03/24/94 Time: 16:23
DNR Lab reference: HW5034B LABORATORY: METALS

Parameter		Result	Units	MDL
ICP METALS FOR HW SOLIDS		see below	mg/kg	
pH	00403	6.3		1.0
Mercury	71921	Below det lim	ug/g	0.1
Mercury TCLP Warranted?		No	y/n	
ICP METALS FOR HW TCLP EXTRACTS		see below	ug/l	
Metals TCLP Warranted?		Yes	y/n	

Data for ICP METALS FOR HW SOLIDS mg/kg:

Component Name		Result	Component MDL
SILVER	01078	Not detected	3
ARSENIC	01003	Trace	4
BARIUM	01008	27	1
CADMIUM	01028	1.2	1
CHROMIUM	01029	15	1
LEAD	01052	4500	6
NICKEL	01068	4.7	2
SELENIUM	01148	11	6

Data for ICP METALS FOR HW TCLP EXTRACTS ug/l:

Component Name		Result	Component MDL
SILVER	01077	Not detected	30
ARSENIC	01002	Not detected	20
BARIUM	01007	430	10
CADMIUM	01027	60	5
CHROMIUM	01034	Not detected	10
NICKEL	01067	Not detected	25

Data for ICP METALS FOR HW TCLP EXTRACTS (continued):

Component Name		Result	Component MDL
LEAD	01051	490000	150
SELENIUM	01147	Not detected	65

Sample comments:

ADD CU,ZN TO LIST OF ICP HW METALS TO BE ANALYZED.

If there are any questions regarding this data, please call.

Harold Lafford
SUPERVISOR

HAZARDOUS WASTE MANAGEMENT BRANCH (HWMB)
REQUEST FOR LABORATORY ANALYSIS

Facility Name/Location: GEORGIA METALS, INDUSTRY RD, POWDER SPRINGS, COBB CO
Sample Collected By/Phone: MARTHA PIERCE 656-7802
Collection Date: 3-24-94
Date Submitted To Lab: 3-24-94
HWMB LOG NUMBER: HW-5035
(File a separate Request Sheet for each sample point)

Georgia Dept. of Natural Resources

AA21182

Analysis Needed By: Routine ✓ Other (specify): _____

Sample Description (check one)

Waste ___ Soil/Sediment ✓ ___

Ground Water ___ Surface Water ___ Drinking Water Well ___

Concentration of Organics Requested (estimated): High ___ Low ___ Other (e.g., rinse blank - specify) _____

Describe Sample Including Source And Known Properties (e.g., pH, concentration):
Previous soil samples contained 6.1-280,000 mg/kg total lead + 2.3-1430 mg/kg EP Tox lead. Other significant metals - Cu + Zn, Other metals - As, Cd, Cr.

Applicable Hazardous Waste Codes (if known) D008

Special Precautions: _____

ANALYSIS REQUIRED

(Note: Totals will always be run first. A TCLP will subsequently be run only if the total value indicates a positive TCLP could result.)

1. TOTAL ORGANICS

Semi-Volatiles (Acid & Base/Neutral) ___
Volatiles ___
Pesticides ___
Herbicides ___
Organophosphorous Pesticides ___
PCB ___
BETX ___
Total Petroleum Hydrocarbons ___
Organics Special Request: _____

2. TOTAL METALS

ICP Metals Scan (Ag, As, Ba, Cd, Cr, Ni, Pb, Se) ✓
Mercury ✓
Metals Special Request: ✓
Zn, Cu

3. TCLP ORGANICS

Volatiles ___ Pesticides ___
Semi-Volatiles (Acid & Base/Neutral) ___ Herbicides ___
Additional Specific Organics For TCLP: _____

4. TCLP METALS ANALYSIS

TCLP Metals (Ag, As, Ba, Cd, Cr, Ni, Pb, Se) ✓ Additional Metals For TCLP: _____
Mercury ✓

5. ADDITIONAL ANALYSIS REQUESTED (see list on back): pH

Reviewed By (HWMB): Charles Williams Date: 3/14/94 Received By (EPD Lab): LMZ
Approved By (HWMB): _____ Date: _____ Date (EPD Lab): ~~3-94~~ 3-24-94

From: Georgia Dept. of Natural Resources
Environmental Protection Div. Laboratory
455 14th Street NW
Atlanta, GA 30318

May 3, 1994

To: Martha Pierce
HWMB
656-7802

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. AA21182 Source ID#: ADHOC
Agency Code: 1 DNR project: HW
sample description: GEORGIA METALS, HW5037
Sample Collector: MARTHA PIERCE
Sample collection date: 03/24/94 Time: 12:00
Lab submittal date: 03/24/94 Time: 16:23
DNR Lab reference: HW5035 LABORATORY: METALS

Parameter		**Result**	**Units**	**MDL**
ICP METALS FOR HW SOLIDS		see below	mg/kg	
pH	00403	4.7		1.0
Mercury	71921	0.25	ug/g	0.1
Mercury TCLP Warranted?		No	y/n	
ICP METALS FOR HW TCLP EXTRACTS		see below	ug/l	
Metals TCLP Warranted?		Yes	y/n	

Data for ICP METALS FOR HW SOLIDS mg/kg:

Component Name		**Result**	**Component MDL**
SILVER	01078	Not detected	3
ARSENIC	01003	Not detected	4
BARIUM	01008	14	1
CADMIUM	01028	1.9	1
CHROMIUM	01029	29	1
LEAD	01052	570	6
NICKEL	01068	4.0	2
SELENIUM	01148	25	6

Data for ICP METALS FOR HW TCLP EXTRACTS ug/l:

Component Name		**Result**	**Component MDL**
SILVER	01077	Not detected	30
ARSENIC	01002	Not detected	15
BARIUM	01007	150	10
CADMIUM	01027	67	5
CHROMIUM	01034	Not detected	10
NICKEL	01067	Not detected	25

Data for ICP METALS FOR HW TCLP EXTRACTS (continued):

Component Name		Result	Component MDL
LEAD	01051	18000	50
SELENIUM	01147	Not detected	65

Sample comments:

ADD CU,ZN TO LIST OF HW ICP METALS TO BE ANALYZED.

If there are any questions regarding this data, please call.

Harold Lanford
SUPERVISOR

OVERSIZED

DOCUMENT

Equipment Name Pump (Well) Location:

GrundFos 80575-8 7½ H.P. 230 V. 3 phase - 45 gpm

Model # Serial #

Manufactured By Grundfos Pumps Corp Purchased From - Ward Well Drilling Co. Inc.

Address 2555 Clouse Blvd Address P.O. Box 545

Clovis CA 93612 Marietta GA 30061

Phone # Phone # (404) 422-9500

Purchased (X) New ( ) Used Purchase Date 3-5-91 Purchase Price 2635.93 (see back for breakdown)

Parts Purchased From

Repairs:

Pump

Drop Pipe - 294' galv. @ 2.50 ft	$ 1317.90
Fittings	735.00
Sales Tax	10.50
Cost to Pull + Replace Old Pump + Pipe	82.53
	490.00

Georgia Department of Natural Resources
205 Butler Street, S.E., Floyd Towers East, Atlanta, Georgia 30334
J. Leonard Ledbetter, Commissioner
Harold F. Reheis, Assistant Director
Environmental Protection Division

September 22, 1987

TRIP REPORT

SITE NAME & LOCATION: AJAY Chemicals, Inc.
Powder Springs, GA

TRIP BY: Wayne Fuller W. R. F.

ACCOMPANIED BY: Tim Cash TRC

DATE OF TRIP: July 1, 1987

OFFICIALS CONTACTED: Alan Shipp, Vice President
AJAY Chemicals, Inc.

REFERENCE: Georgia Biennial Hazardous Waste Report dated January 21, 1986

EPD Public Advisory, April 25, 1986

Georgia Metals Trip Report dated November 5, 1986

Notes from Air Quality File dated March, 1987

EPD Public Advisory, March 20, 1987

Air Quality Permit No. 2819-033-9566 dated March 24, 1987

Pond Sludge Chemical Analysis, dated July 21, 1987

Georgia Metals Trip Report dated September 22, 1987

COMMENTS:

1. The purpose of the inspection was to verify the presence of a surface impoundment on the plant site and to establish if any hazardous waste is being discharged into the surface impoundment.

2. Inspections of a nearby facility in the recent past (Georgia Metals, trip reports dated November 5, 1986, and September 22, 1987) have revealed that AJAY Chemicals, Inc. has a surface impoundment on their property. Also, the Air Quality Branch alerted Land Protection that AJAY Chemicals had contaminated soil on site.

Reference 13

D #8

3. Research of the Georgia Environmental Protection Division's Air Quality Branch files revealed that AJAY Chemicals, a producer of inorganic chemicals, has over a period of years, discharged calcium and potassium iodates into an unlined retention pond resulting in approximately 52 tons of soil contaminated with iodate salts. AJAY Chemicals is now recovering iodine from the contaminated soil. This process includes the use of a caustic scrubber circulating caustic at a minimum pH of 13. Also, AJAY Chemicals utilizes sodium selenite to produce zinc selenite resulting in selenium waste evidenced by AJAY Chemicals' classification as a small quantity generator of hazardous waste. EPD received a Georgia Biennial Waste Report dated January 21, 1986 where the waste was described as spent polypropylene filter cartridges, soiled gloves, and miscellaneous debris contaminated with selenious acid, selenite or selenium.

4. The inspection initiated in the offices of AJAY Chemicals where Tim Cash and Wayne Fuller of EPD were present as well as Alan Shipp, Vice President of AJAY Chemicals, and Charles Pittard, AJAY Chemicals Plant Manager, Powder Springs. Mr. Shipp explained that AJAY Chemicals produced chemicals for both agricultural and industrial uses including cuprous iodide for military batteries, potassium iodate, an oxydizer used in the textile industry, sodium selenite, a nutrition supplement, and zinc selenite, a glass coloring. In order to manufacture the selenite products it is necessary to produce selenious acid from selenite metal which is mixed with other compounds including water, and calcium or sodium to make a salt. The dust from this process enters a scrubber which produces a liquor that is reused in the selenite manufacturing process. Mr. Shipp explained further that AJAY Chemicals has recently added a new caustic scrubber to the above described process that reduces chlorine emissions. The process generates salt water with a pH of 11.9 that is discharged to a holding pond. Also discharged to a holding pond are floor washings from the room where the selenium products are manufactured. Mr. Shipp claimed the selenium is totally consumed because two scrubbers are used for the selenium manufacturing process and the floor washings are pumped through a filter system that recovers any unused selenium.

   Mr. Shipp then revealed that AJAY Chemicals has two surface impoundments on the property, an old retention pond and a new lined impoundment. The old retention pond, in existence since 1974, is dirt lined while the new impoundment is lined with a 5 year plastic liner recommended by the EPA. The old retention pond held the discharge from the iodine manufacturing processes resulting in the accumulation of approximately 52 tons of iodine contaminated soils (see 3 above). The excavation of the iodine contaminated soil, beginning in 1985, will include mining a two foot deep surface layer prior to constructing a new building on the site. Mr. Shipp explained that soil samples had been collected down to 24 inches and analyzed revealing that the samples had a pH of approximately 9.0 and an iodine concentration of approximately 2-3% by weight.

   At this time we toured the plant inspecting the rooms where the selenite, potassium iodate, and cuprous iodide are produced and finishing the inspection at the surface impoundments. In the room where the selenite products are manufactured, the ventilation system used to draw transient selenite dust into the scrubber system was in use, drums of selenite metal were stored in the room as well as drums of selenite contaminated materials.

At the surface impoundments, the EPD representatives were informed that the discharge from the iodine process was now emptied into the lined surface impoundment. The EPD representatives dropped litmus paper into the lined impoundment, the litmus paper indicated a pH of approximately 11.0. The lined impoundment had 2 feet of freeboard. At this time, only carbon from carbon filters is discharged into the unlined pond, this has continued for approximately 5 years. Both impoundments had earthen dikes and there was no standing liquid in the old unlined pond. Tim Cash informed Mr. Shipp and Mr. Pittard that a chemical analysis was needed on the sludge in the lined surface impoundment in order to make a hazardous waste determination (40 CFR §262.11).

EPD received the chemical analysis from the pond sludge on July 23, 1987. The analysis revealed that the analyzed constituents did not exceed the maximum allowable concentrations established in Table 1 of 40 CFR §261.24. For a comparison of the AJAY Chemicals pond sludge analysis and Table 1 of 40 CFR §261.24, see Figure 1. The anlayzing laboratory, Southeast Laboratories, Inc., experienced difficulty when testing for mercury and were unable to generate an accurate result for this constituent.

CONCLUSIONS:

The inspection verified the presence of two surface impoundments on AJAY Chemicals' property. The chemical analysis of the pond sludge revealed that AJAY Chemicals is discharging toxic constituents into the lined surface impoundment, but not in hazardous concentrations.

RECOMMENDATIONS & FOLLOW UP REQUIRED:

1. Send letter to AJAY Chemicals confirming the inspection and receipt of the pond sludge chemical analysis.

PHOTOGRAPHS: 2

REVIEWED BY: JLC

ATTACHMENTS: 3-2 photos, 1 Figure

WF:lsh:1430R

File: AJAY Chemicals

1. pH of leachate = 9.40, between 2 and 12.5.

2. CONTAMINANT	TEST RESULTS in Mg/l	MAX CONCENTRATION Allowable (Mg/l)	AMOUNT UNDER Max. Conc. Allowed
Arsenic	0.15	5.0	4.85
Barium	<5.0	100.0	95.0
Cadmium	0.03	1.0	0.97
Total Chromium	<0.02	5.0	4.98
Lead	0.27	5.0	4.73
Mercury	<0.2*	0.2	------
Selenium	0.75	1.0	0.25
Silver	<0.05	5.0	4.95

*Southeast Laboratories, Inc., had difficulty analyzing for mercury due to interference.

Figure 1 - Comparison of AJAY Chemicals' Pond Sludge Analysis to Table 1 of 40 CFR §261.24

RECEIVED
JUL 23 1987
Environmental Protection Division
Land Protection Branch

Ajay Chemicals, Inc.
1400 Industry Road • Post Office Box 127
Powder Springs, Georgia 30073-0127
Telephone 404 943-6202 or 404 943-3525
Telex ATL 804 468

July 21, 1987

Mr. Wayne Fuller
Facilities Compliance Unit
Hazardous Waste Management Program
Environmental Protection Division
Georgia Dept. of Natural Resources
Floyd Tower East, Suite 1154
205 Butler Street, SE
Atlanta, GA 30334

Dear Mr. Fuller:

Here is the information on our pond sludge that you requested.

Please let me know if you require anything further.

Sincerely,

Alan R. Shipp
Vice President

ARS/pb

encls.

D#7

Southeast Laboratories Inc. 1490 Mecaslin St N W Atlanta Ga 30309 (404) 873-1896 (404) 873-1880

- SINCE 1971

JULY 20, 1987

LABORATORY REPORT

AJAY CHEMICALS, INC.
1400 INDUSTRY ROAD
P. O. BOX 127
POWDER SPRINGS, GA. 30073-0127

REPORT NO. 24737

ATTN: MR. ALAN R. SHIPP

SAMPLE MARKING: ONE COMPOSITE SLUDGE SAMPLE - HOLDING POND, RECEIVED 7-13-87.

TEST METHOD: CHARACTERISTIC OF EXTRACTION PROCEDURE TOXICITY AS SET FORTH IN TEST METHODS FOR EVALUATING SOLID WASTES, SW-846. METAL TESTS WERE PERFORMED ON A PERKIN-ELMER MODEL 460 ATOMIC ABSORPTION SPECTROPHOTOMETER BY THE METHOD OF STANDARD ADDITIONS.

EXTRACTION PROCEDURE:

WEIGHT OF SOLID RESIDUE	102.25 G
INITIAL pH OF LEACHATE	9.40
0.5N ACETIC ACID ADDED	409.5 ML
FINAL pH OF LEACHATE	6.35

CONTAMINANT	LEACHATE TEST RESULTS MG/L
ARSENIC	0.15
BARIUM	<5.0
CADMIUM	0.03
TOTAL CHROMIUM	<0.02
LEAD	0.27
MERCURY	<0.2 *
SELENIUM	0.75
SILVER	<0.05

* EXTREME DIFFICULTY WITH INTERFERENCE OCCURRED WHEN THE LEACHATE WAS ANALYZED FOR MERCURY.

RESPECTFULLY SUBMITTED,

SOUTHEAST LABORATORIES, INC.

Randy Brown

RANDY BROWN

RB:DB

SEMI-ANNUAL GROUNDWATER REPORT

Prepared for

PHIBRO-TECH, INC.

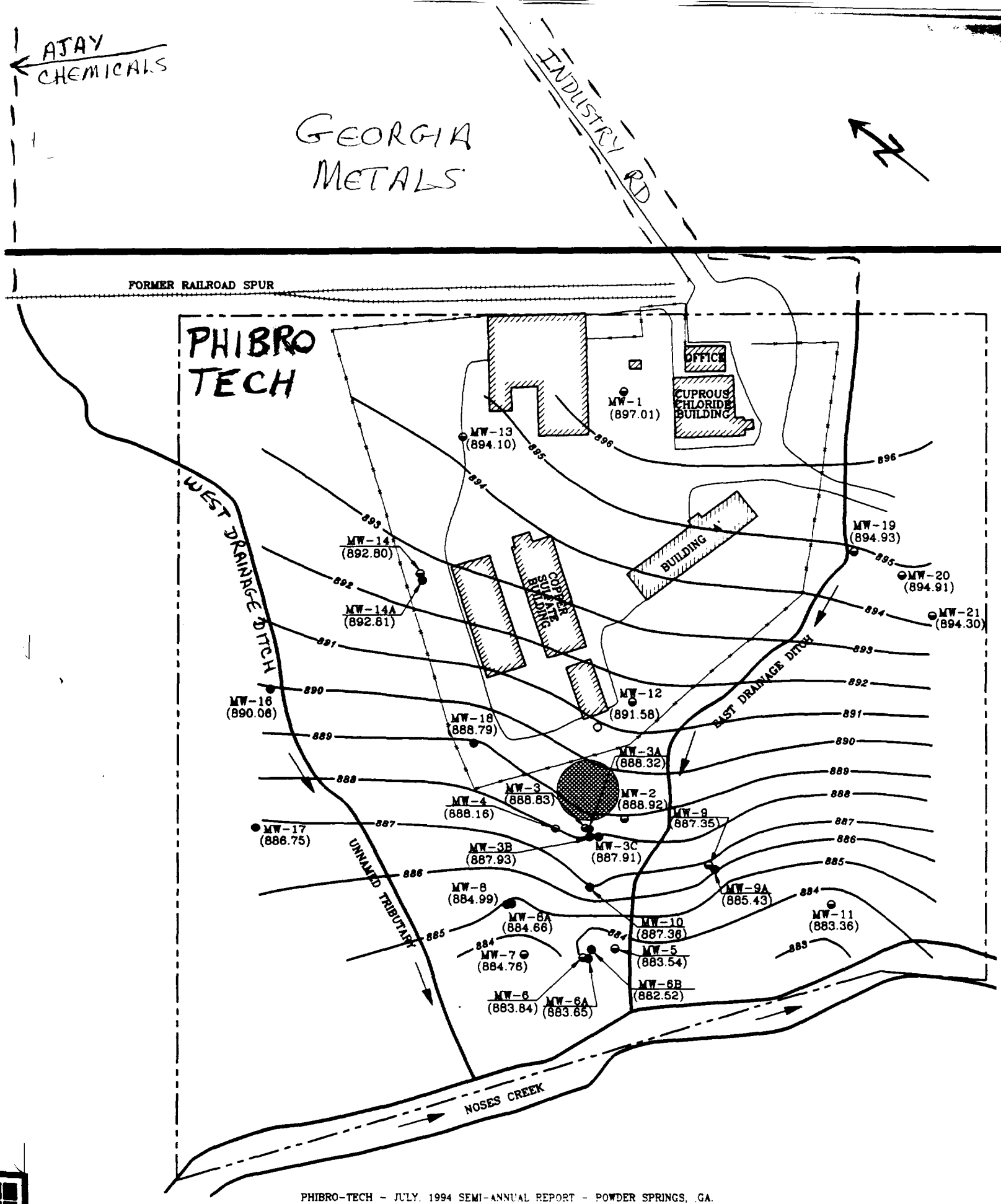
(formerly CP Chemicals)
Powder Springs, Georgia

For Submittal to
Georgia Department of Natural Resources
Environmental Protection Division
July, 1994
1480.00001

Reference 14a

LAKE Engineering, Inc. ▮ 35 Glenlake Parkway ▮ Atlanta, Georgia 30328

LAKE



PHIBRO-TECH - JULY, 1994 SEMI-ANNUAL REPORT - POWDER SPRINGS, GA.

FIRST QUARTER GROUND WATER CONTOUR MAP-FEBRUARY 24, 1994

TABLE 6
SUMMARY OF GROUNDWATER/SURFACE WATER ANALYSES
February 1994

PHIBRO-TECH, INC.
Powder Springs, Georgia
(Micrograms/Liter)

PARAMETER	MW-8	MW-8A	MW-9	MW-9A	MW-10	MW-11	MW-12	MW-13	MW-14	MW-14A	MW-16	MW-17
Indicator Parameters												
Specific Conductance	3420	1790	199	1200	NR	42	2870	1710	1384	784	660	392
(umhos/cm @ 25 C)	12.6	15.7	13.8	14.1	11.2	12	13.7	11.6	12.3	15.9	14	12
Temperature_C	5.6	6.34	6.21	7.03	8	6.82	10.45	6.62	4.48	5.92	6.6	6.9
pH (Standard Units)							272	111	191	163	64	60
Chloride (mg/l)												
Inorganic Constituents												
Total Hardness (mg/l)												
Total Arsenic	<5	<5	<5	<5	23		30					
Total Barium	<30	<30	79	72	<30		56	35	<30	40	95	
Total Cadmium								0.6	2.4	0.3	0.1	
Total Chromium	<5	<5	<5	<5	18		<5					
Dissolved Copper	3490	<10	<10	<10	6770	23						
Total Copper	3500	<10	<10	<10	6630	64	61	257	7350	122	29	34
Total Lead	<3	<3	<3	<3	25		<3					
Total Mercury	<0.2	0.6	0.2	<0.2	1.2		0.2					
Total Selenium	<5	9	<5	<5	<5		<5					
Total Tin												
Total Vanadium	<30	<30	<30	<30	1650		658					
Total Zinc	454	36	<30	52	62		122					
Organic Compounds												
Acetone	<1000	<10	<10	<10	<10	<10	<100	<10	<10	<10	<10	<10
Benzene	5700	<5	<5	<5	3	<5	<50	<5	<5	<5	<5	<5

CPCHEMT3.WB1

TABLE 6
SUMMARY OF GROUNDWATER/SURFACE WATER ANALYSES
February 1994

PHIBRO-TECH, INC.
Powder Springs, Georgia
(Micrograms/Liter)

PARAMETER	MW-18	MW-19	MW-20	MW-21	SW-1	SW-2	SW-3	SW-7	SW-8	BLANK	DUP (MW-1)
Indicator Parameters											
Specific Conductance (umhos/cm @ 25 C)	646	445	554	162	NR	82	NR	36	161		
Temperature_C	12.2	13.3	14.9	14.8	10.5	10.2	9.5	12.2	12		
pH (Standard Units)	4.8	6.27	3.99	4.69	4.5	6.5	NR	5.68	6.1		
Chloride (mg/l)	112										
Inorganic Constituents											
Total Hardness (mg/l)					54.3	23.9	22.6	13.1	18		
Total Arsenic					<5	<5	<5			<5	<5
Total Barium		402	494	116	37	32	31	49	59	<30	41
Total Cadmium		<0.1	1.5	0.2	<0.1	<0.1	<0.1	0.2	0.4	<0.1	<0.1
Total Chromium		<5		<5	11	<5	<5	<5	<5	<5	11
Dissolved Copper											10
Total Copper	32	36	4800	49	31	<10	<10	405	690	<10	20
Total Lead		<3	13	9	<3	<3	<3	70	58	<3	<3
Total Mercury					<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total Selenium					15	<5	<5			<5	<5
Total Tin											<100
Total Vanadium					<30	<30	<30			<30	<30
Total Zinc					<30	<30	<30			<30	32
Organic Compounds											
Acetone	<10		<10	<10	<10	<10	<10			<10	<10
Benzene	<5		<5	<5	<5	<5	<5			<5	<5

CPCHEMT5.WB1

TABLE 7
SUMMARY OF GROUNDWATER/SURFACE WATER ANALYSES
June 1994

PHIBRO-TECH, INC.
Powder Springs, Georgia
(Micrograms/Liter)

PARAMETER	MW-8	MW-8A	MW-9	MW-9A	MW-10	MW-11	MW-12	MW-13	MW-14	MW-14A	MW-16	MW-17
Indicator Parameters												
Specific Conductance (umhos/cm @ 25 C)	3140	1402	227	1060	2770	54	1180	600	1810	861	294	463
Temperature_C	19	20	17.6	19	19.2	17.6	20	19	18.5	19.2	18.9	18.8
pH (Standard Units)	5.66	6.16	5.91	6.75	11.33	5.61	7.06	6.46	5.32	6.03	7.54	4.65
Chloride (mg/l)							304	54	270	162	27	95
Inorganic Constituents												
Total Hardness (mg/l)												
Total Arsenic							24					
Total Barium							78	53	<30	42	46	
Total Cadmium								0.1	1.3	0.4	0.1	
Total Chromium							<5					
Dissolved Copper	2280	<10	<10	<10	3890	<10	26					
Total Copper	2690	<10	<10	<10	4280	19	48	947	2540	113	30	18
Total Lead							<3					
Total Mercury							<0.2					
Total Selenium							<5					
Total Tin												
Total Vanadium							691					
Total Zinc							<30					
Organic Compounds												
Acetone	<1000	<10	<10	<10	<10	<10	<10	<10	<10			
Benzene	8200	<5	<5	<5	25	<5	6	<5	<5	5	<5	<5

CPCHEMT3.WB1

TABLE 7
SUMMARY OF GROUNDWATER/SURFACE WATER ANALYSES
June 1994

PHIBRO-TECH, INC.
Powder Springs, Georgia
(Micrograms/Liter)

PARAMETER	MW-18	MW-19	MW-20	MW-21	SW-1	SW-2	SW-3	SW-7	SW-8	BLANK	DUP (MW-1)
Indicator Parameters											
Specific Conductance (umhos/cm @ 25 C)	914	596	503	180	213	130	109	221	708		
Temperature_C	17.5	17.2	17.4	17.1	24.9	22.5	25	28	32.3		
pH (Standard Units)	5.08	6.2	3.86	4.41	7.05	6.55	6.98	5.33	5.73		
Chloride (mg/l)	200										<5
Inorganic Constituents											
Total Hardness (mg/l)											
Total Arsenic										<5	<5
Total Barium		663	3840	188				212	987	<30	33
Total Cadmium		0.2	0.9	0.1	<0.1	<0.1	<0.1	2.0	4.8	<0.1	0.1
Total Chromium		<5		<5				6	51	<5	8
Dissolved Copper											<10
Total Copper	26	111	479	11				18600	78700	<10	18
Total Lead		8	4	<3				1280	4900	<3	<3
Total Mercury								<0.2	0.6	<0.2	<0.2
Total Selenium										<5	<5
Total Tin										<100	<100
Total Vanadium										<30	<30
Total Zinc										<30	<30
Organic Compounds											
Acetone			<10	<10	<10	<10	<10			<10	<10
Benzene	<5		<5	<5	<5	<5	<5			<5	<5

CPCHEMT3.WB1

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-1)
PHIBRO-TECH, INC.
Powder Springs, Georgia

	FEB 92	MAY 92	AUG 92	DEC 92	FEB 93	JUN 93	AUG 93	DEC 93	FEB 94	JUN 94
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)	74	150	71	89	64	73.5	NR	76	77	96
Temperature (C)	14.1	17.3	14.4	17.8	12.4	26.4	22	18.5	13.9	18.3
pH (Standard Units)	7.3	7.4	7.0	6.65	6.8	NR	NR	6.18	6.13	6.24
Chloride (mg/l)	<1	2	4	2	7	5	5	6	<5	<25
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic	<5	<5	<5	<5	<5	<5	<5	20	<5	<5
Total Barium	40	20	60	20	<30	23	237	58	44	37
Total Cadmium	<5	<5	<5	<5	0.9	<5	0.3	<10	<0.1	<0.1
Total Chromium	<10	<10	10	<10	<5	<10	24	<10	8	7
Dissolved Copper	10	<10	<10	<10	10	<10	<10	<10	<10	<10
Total Copper	10	20	50	20	54	<10	161	23	25	12
Total Lead	<3	<3	<3	<3	<5	<5	4	4	4	3
Total Mercury	<0.2	3.6	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total Selenium	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Total Tin				<20	<100	<100	<100	<100	<100	<100
Total Vanadium	10	10	20	10	<30	<10	53	<30	<30	<30
Total Zinc	5	30	50	30	<30	41	112	97	45	78
Organic Compounds										
Acetone	<5	<5	<5	<5	<10	<10	<10	<10	<10	<10
Benzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

ND = None Detected
NR = Not Analyzed

CPCHEM1.WB1

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-2)
(Micrograms/Liter)
PHIBRO-TECH, INC.

	FEB 92	MAY 92	AUG 92	DEC 92	FEB 93	JUN 93	AUG 93	DEC 93	FEB 94	JUN 94
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)	7300	6810	7020	7070	6100	6050	7070	6730	6500	6730
Temperature (C)	11.1	16.5	15.6	15.6	9.83	24.3	24.2	16.1	11.5	20.8
pH (Standard Units)	9.5	9.9	9.5	9.75	9.88	NR	9.62	9.8	9.79	9.89
Chloride (mg/l)		1200	1320	1480	1078	1003	1190	1220	1160	1220
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic	40	42	<5	77	91	102	70	69	67	59
Total Barium	50	30	70	50	31	28	41	43	40	42
Total Cadmium		<5		<5	1.7	<5	0.1	<10	<0.1	0.2
Total Chromium	10	<10	<20	20	10	<10	18	10	13	11
Dissolved Copper	9600	6100	12000	9000	5560	6000	8100	7500	6360	7220
Total Copper	9700	6300	12000	10000	7860	6870	9340	8510	7260	7280
Total Lead	<3	3.6	3.4	<3	<5	<5	<3	<3	<3	<3
Total Mercury	<0.2	5.8	3.9	43	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total Selenium	11	16	84	18	48	45	45	59	37	28
Total Tin				<20	<100	<100	<100	<100	<100	<100
Total Vanadium	3500	3200	2700	3400	3340	3840	3280	3280	2870	2650
Total Zinc	70	50	90	60	34	25	76	43	34	49
Organic Compounds										
Acetone	140	<5	<5	266	184	22	43	61	98.7	37
Benzene	<5	<5	12	<5	1.9	<5	1	<5	<5	<5

ND = None Detected
NR = Not Analyzed

CPCHEM1.WB1

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-3)
(Micrograms/Liter)
PHIBRO-TECH, INC.
Powder Springs, Georgia

	FEB 92	MAY 92	AUG 92	DEC 92	FEB 93	JUN 93	AUG 93	DEC 93	FEB 94	JUN 94
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)	6210	5610	5580	5250	3200	3410	5560	3760	1732	3180
Temperature (C)	11.7	17.3	15.6	16.7	NR	21.3	23.4	17	11.3	19.1
pH (Standard Units)	11.8	11.8	11.6	11.85	11.70	NR	11.63	12.17	11.79	12.12
Chloride (mg/l)	450	320	375	355	137	133	321	198	45	142
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic	102	34	100	140	59	82	159	141	19	47
Total Barium	20	10	30	30	83	77	88	69	65	100
Total Cadmium								<10		
Total Chromium	10	<10	10	20	32	28	37	32	19	35
Dissolved Copper	4000	1200	5700	3900	5530	5190	3800	4340	2300	4340
Total Copper	4000	1700	5700	3900	6540	6780	7760	8880	3840	6970
Total Lead	12	2.5	8.6	14.6	54	39	31	30	35	33
Total Mercury	3	13.2	9.7	31	8.8	8.6	6.8	8.4	2.1	6.0
Total Selenium	14	13	<5	9	<5	<5	15	20	<5	<5
Total Tin				30	<100	<100	<100	<100	<100	<100
Total Vanadium	1200	410	1000	1200	259	483	1360	1520	135	365
Total Zinc	30	20	30	50	41	40	132	79	59	64
Organic Compounds										
Acetone	<5	<5	<5	<5	<10	<10	30	31	<10	<10
Benzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

ND = None Detected
NR = Not Analyzed

CPCHEM1.WB1

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-3A)
(Micrograms/Liter)
PHIBRO-TECH, INC.
Powder Springs, Georgia

	FEB 92	MAY 92	AUG 92	DEC 92	FEB 93	JUN 93	AUG 93	DEC 93	FEB 94	JUN 94
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)	3250	2740	2500	2470	2700	2050	2560	2300	2460	2480
Temperature (C)	16.3	18.1	12.8	16.7	11.94	21.2	19.8	16.6	15.4	19.9
pH (Standard Units)	11.9	11.7	11.3	11.45	11.29	NR	11.34	11.25	11.49	11.64
Chloride (mg/l)										
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic	12		6.9		21		9		12	
Total Barium	<10		<10		<30		<30		<30	
Total Cadmium										
Total Chromium	<10		<10		<5		<5		<5	
Dissolved Copper	90	50	40	40	69	54	33	31	38	28
Total Copper	90	50	40	40	124	69	35	32	40	39
Total Lead	<3		<3		<5		<3		<3	
Total Mercury	<0.2		1.4		<0.2		<0.3		<0.2	
Total Selenium	6		5.3		<5		<5		<5	
Total Tin										
Total Vanadium	540		510		558		461		485	
Total Zinc	20		60		<30		126		77	
Organic Compounds										
Acetone	<5	<5	<5	<5	<10	<10	<10	<10	<10	<10
Benzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

ND = None Detected
NR = Not Analyzed

CPCHEM1.WB1

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-3B)
(Micrograms/Liter)
PHIBRO-TECH, INC.
Powder Springs, Georgia

	FEB 92	MAY 92	AUG 92	DEC 92	FEB 93	JUN 93	AUG 93	DEC 93	FEB 94	JUN 94
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)	8060	6930	5660	4210	7300	6600	7400	6580	6760	6810
Temperature (C)	16.8	18.4	12.8	16.1	10.17	22.3	19.3	16.4	17.1	18.9
pH (Standard Units)	6.9	6.6	6.2	6.25	6.25	6.97	5.74	6.33	6.04	5.94
Chloride (mg/l)	885	1070	1100	895	755	888	687	646	660	665
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic	<5	<5	<5	<5	7	<5	<5	<5	<5	<5
Total Barium	20	30	30	20	<30	26	<30	<30	<30	<30
Total Cadmium										
Total Chromium	<10	<10	<10	<10	<5	<10	<5	<10	<5	<5
Dissolved Copper	2500	1200	1100	970	1540	792	1400	1270	1180	966
Total Copper	2500	1200	1100	1000	1740	948	1690	1580	1300	1100
Total Lead	<3	<3	<3	<3	<5	<5	<3	<3	<3	<3
Total Mercury	<0.2	14.7	1.9	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total Selenium	<5	<5	<5	<5	17	<5	9	36	17	14
Total Tin					<100	<100	<100	<100	<100	<100
Total Vanadium	<10	<10	<10	<10	<30	<10	<30	<30	<30	<30
Total Zinc	150	110	80	90	85	73	104	94	78	72
Organic Compounds										
Acetone	<5	<5	<5	<5	<10	<10	<10	<10	<10	<10
Benzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

ND = None Detected
NR = Not Analyzed

CPCHEM1.WB1

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-3C)
(Micrograms/Liter)
PHIBRO-TECH, INC.
Powder Springs, Georgia

	FEB 92	MAY 92	AUG 92	DEC 92	FEB 93	JUN 93	AUG 93	DEC 93	FEB 94	JUN 94
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)	1941	1800	1470	1268	1600	NR	1575	1237	1408	1550
Temperature (C)	15.3	17.6	13.9	16.7	10.28	21.7	19.8	16.4	15.4	19.0
pH (Standard Units)	7	7.3	6.7	6.7	6.93	6.78	6.26	6.64	7.1	6.63
Chloride (mg/l)										
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic	<5		<5		<5		<5		<5	
Total Barium	20		10		<30		<30		<30	
Total Cadmium										
Total Chromium	<10		<10		<5		<5		<5	
Dissolved Copper	60	40	30	30	32	40	27	25	24	26
Total Copper	60	40	30	30	67	35	31	23	34	33
Total Lead	<3		<3		<5		<3		<3	
Total Mercury	<0.2		3		<0.2		<0.2		<0.2	
Total Selenium	<5		<5		<5		<5		<5	
Total Tin										
Total Vanadium	<10		<10		<30		<30		<30	
Total Zinc	10		20		<30		53		76	
Organic Compounds										
Acetone	<5	<5	<5	<5	<10	<10	<10	<10	<10	<10
Benzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

ND = None Detected
NR = Not Analyzed

CPCHEMI WB1

TABLE 10

CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-4)

(Micrograms/Liter)

PHIBRO-TECH, INC.

Powder Springs, Georgia

	FEB 92	MAY 92	AUG 92	DEC 92	FEB 93	JUN 93	AUG 93	DEC 93	FEB 94	JUN 94
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)	4100	4120	3000	2950	4500	3560	3220	2660	2940	4040
Temperature (C)	12.4	16.7	15.6	17.2	10.72	21.9	22	17.9	12.5	20.2
pH (Standard Units)	9.3	9	9.2	9.45	9.15	NR	9.25	9.22	9.51	9.23
Chloride (mg/l)	490	460	370	295	637	5030	337	284	322	539
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic	<5	<5	<5	<5	9	<5	<5	<5	<5	<5
Total Barium	20	20	10	10	<30	17	<30	<30	<30	<30
Total Cadmium		<5								
Total Chromium	<10	<10	<10	<10	<5	<5	<5	<10	<5	<5
Dissolved Copper	250	210	150	150	280	209	127	83	86	196
Total Copper	260	220	150	150	347	261	170	108	118	233
Total Lead	<3	<3	<3	<3	<5	<5	<5	15	<3	<3
Total Mercury	<0.2	1.9	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total Selenium	7	<5	<5	<5	13	8	<5	<5	<5	6
Total Tin					<100	<100	<100	<100	<100	<100
Total Vanadium	50	40	70	70	42	36	63	71	46	44
Total Zinc	20	20	20	40	<30	<30	<30	<30	<30	75
Organic Compounds										
Acetone	2600	<100	<100	1200	<10	<10	<10	<10	<100	<100
Benzene	560	565	506	220	270	560	410	530	400	630

ND = None Detected

NR = Not Analyzed

CPCHEM1.WB1

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-5)
(Micrograms/Liter)

PHIBRO-TECH, INC.
Powder Springs, Georgia

	JUL 89	MAY 92	AUG 92	DEC 92	FEB 93	JUN 93	AUG 93	DEC 93	FEB 94	JUN 94
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)	2320	1840	1692	1681	2100	35	1850	1923	1928	1844
Temperature (C)	14.1	16.4	13.3	15.6	12.89	19.9	20.8	16.6	12.7	18
pH (Standard Units)	10.0	9.9	9.7	9.75	9.55	NR	9.58	9.52	9.91	9.89
Chloride (mg/l)	100									
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic	11		13		19		18		16	
Total Barium	40		10		<30		85		<30	
Total Cadmium										
Total Chromium	20		<10		6		48		8	
Dissolved Copper	240	380	400	280	196	331	188	299	178	188
Total Copper	350	420	410	350	200	349	1240	712	244	487
Total Lead	<3		<3		<5		7		<3	
Total Mercury	<0.2		1.1		<0.2		0.6		<0.2	
Total Selenium	6		9		6		8		6	
Total Tin										
Total Vanadium	1400		1800		1700		2270		1990	
Total Zinc	20		20		<30		53		<30	
Organic Compounds										
Acetone	4000	<125	<125	<50	<10	<10	11	16	<10	<50
Benzene	255	263	275	140	250	490	310	500	240	220

ND = Not Detected
NR = Not Analyzed

CPCHEM2.WB1

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-6)
(Micrograms/Liter)

PHIBRO-TECH, INC.
Powder Springs, Georgia

	JUL 89	MAY 92	AUG 92	DEC 92	FEB 93	JUN 93	AUG 93	DEC 93	FEB 94	JUN 94
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)	7540	7880	9610	6030	8300	6030	6510	8100	6960	6160
Temperature (C)	13.9	17.8	14.4	15.6	NR	20.8	20.2	15.6	13.3	17.5
pH (Standard Units)	9.5	8.9	7.9	9.15	8.66	NR	8.82	8.51	8.9	9.15
Chloride (mg/l)	1700									
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic	23		11		60		27		33	
Total Barium	120		360		210		173		242	
Total Cadmium										
Total Chromium	50		120		54		51		57	
Dissolved Copper	270	180	620	380	579	176	574	313	358	354
Total Copper	320	180	620	500	503	459	864	334	1100	438
Total Lead	5		5.4		5		15		35	
Total Mercury	<0.2		3.1		<0.2		<0.2		<0.2	
Total Selenium	<5		<5		20		28		12	
Total Tin										
Total Vanadium	1200		1100		1160		1530		1040	
Total Zinc	240		30		<30		109		102	
Organic Compounds										
Acetone	2000	<50	<100	<50	18	<10	<10	<10	<100	<100
Benzene	670	770	270	700	460	610	480	620	310	500

ND = Not Detected
NR = Not Analyzed

CPCHEM2.WB1

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-6A)
(Micrograms/Liter)

PHIBRO-TECH, INC.
Powder Springs, Georgia

	JUL 89	MAY 92	AUG 92	DEC 92	FEB 93	JUN 93	AUG 93	DEC 93	FEB 94	JUN 94
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)	3580	3360	2740	2030	2900	2100	3280	3030	2880	3010
Temperature (C)	15.9	17.8	11.1	15.6	11.0	20.9	18.9	13.7	15	19.2
pH (Standard Units)	7.1	6.1	6.4	6.5	6.58	6.9	5.97	6.29	6.18	6.12
Chloride (mg/l)	600									
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic	<5		<5		<5		<5		<5	
Total Barium	30		30		<30		<30		<30	
Total Cadmium										
Total Chromium	<10		<10		<5		<5		<5	
Dissolved Copper	1700	1500	1500	1200	950	732	1300	1090	1080	1010
Total Copper	2200	1500	1500	1300	1070	790	1330	1290	1300	1330
Total Lead	<3		<3		<5		<3		<3	
Total Mercury	<0.2		2.2		<0.2		<0.2		<0.2	
Total Selenium	<5		<5		<5		<5		<5	
Total Tin										
Total Vanadium	<10		<10		<30		<30		<30	
Total Zinc	90		60		46		139		66	
Organic Compounds										
Acetone	<5	<5	<5	<5	<10	<10	<10	<10	<10	<10
Benzene	<5	<5	<5	<5	<5	2	6	5	4	2

ND = Not Detected
NR = Not Analyzed

CPCHEM2.WB1

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-7)
(Micrograms/Liter)

PHIBRO-TECH, INC.
Powder Springs, Georgia

	JUL 89	MAY 92	AUG 92	DEC 92	FEB 93	JUN 93	AUG 93	DEC 93	FEB 94	JUN 94
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)	1320	2150	2030	1263	560	550	5100	2270	1510	3230
Temperature (C)	12.1	17.4	15.6	14.4	NR	21.8	22.8	15	11.6	19.2
pH (Standard Units)	7.3	6.2	6.0	5.75	4.49	7.3	6.49	5.99	5.81	6.28
Chloride (mg/l)										
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic	<5		<5		<5		<5		<5	
Total Barium	50		60		44		74		54	
Total Cadmium										
Total Chromium	10		30		<5		17		12	
Dissolved Copper	2200	1700	550	1800	1990	1920	203	254	755	200
Total Copper	3600	1900	550	2100	2350	2290	723	1190	1300	952
Total Lead	27		7.5		21		9		17	
Total Mercury	<0.2		0.8		<0.2		<0.2		<0.2	
Total Selenium	<5		<5		<5		<5		<5	
Total Tin										
Total Vanadium	20		40		<30		51		<30	
Total Zinc	960		230		867		199		518	
Organic Compounds										
Acetone	4100	<50	<50	<250	<10	<10	<10	<10	<100	<100
Benzene	2250	170	858	500	2	<5	1700	1200	520	840

ND = Not Detected
NR = Not Analyzed

CPCHEM2.WB1

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-8)
(Micrograms/Liter)

PHIBRO-TECH, INC.
Powder Springs, Georgia

	JUL 89	MAY 92	AUG 92	DEC 92	FEB 93	JUN 93	AUG 93	DEC 93	FEB 94	JUN 94
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)	4210	3610	3490	3090	3300	2430	4000	3720	3420	3140
Temperature (C)	13.4	18.1	15.6	15.6	NR	22.3	21.2	18	12.6	19
pH (Standard Units)	6.8	5.6	5.6	5.65	5.75	6.0	5.75	5.44	5.6	5.66
Chloride (mg/l)										
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic	<5		<5		<5		<5		<5	
Total Barium	40		40		<30		<30		<30	
Total Cadmium										
Total Chromium	<10		<10		<5		<5		<5	
Dissolved Copper	5500	4100	5200	4700	3200	1200	1890	2280	3490	2280
Total Copper	6500	4100	5200	4700	3670	725	2300	2690	3500	2430
Total Lead	<3		<3		<5		<3		<3	
Total Mercury	<0.2		2.3		<0.2		0.2		<0.2	
Total Selenium	<5		<5		<5		<5		<5	
Total Tin										
Total Vanadium	<10		<10		<30		<30		<30	
Total Zinc	590		450		387		306		454	
Organic Compounds										
Acetone	11000	<1250	<500	<1000	<1000	<10	<10	<1000	<1000	<1000
Benzene	13400	11000	8630	9200	8500	4000	7400	8200	5700	4100

ND = Not Detected
NR = Not Analyzed

CPCHEM2.WB1

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-8A)
(Micrograms/Liter)

PHIBRO-TECH, INC.
Powder Springs, Georgia

	FEB 92	MAY 92	AUG 92	DEC 92	FEB 93	JUN 93	AUG 93	DEC 93	FEB 94	JUN 94
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)	2250	1820	1810	1299	1700	2840	NR	1711	1790	1402
Temperature (C)	15.4	18	12.8	15.6	NR	17.1	22	15.6	15.7	20
pH (Standard Units)	7.1	6.6	6.6	6.65	6.74	NR	NR	7.1	6.34	6.16
Chloride (mg/l)										
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic	<5		<5		<5		<5		<5	
Total Barium	20		20		<30		<30		<30	
Total Cadmium										
Total Chromium	<10		<10		<5		<5		<5	
Dissolved Copper		<10	10	<10	<10	<10	<10	<10	<10	<10
Total Copper	10	<10	20	<10	<10	<10	<10	<10	<10	<10
Total Lead	<3		<3		<5		<3		<3	
Total Mercury	0.2		1.8		0.3		0.2		0.6	
Total Selenium	<5		<5		5		<5		9	
Total Tin										
Total Vanadium	<10		20		<30		<30		<30	
Total Zinc	10		30		<30		<30		36	
Organic Compounds										
Acetone	<5	<5	<5	<5	<10	<10	<10	<10	<10	<10
Benzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

ND = Not Detected
NR = Not Analyzed

CPCHEM3.WB1

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-9)
(Micrograms/Liter)

PHIBRO-TECH, INC.
Powder Springs, Georgia

	FEB 92	MAY 92	AUG 92	DEC 92	FEB 93	JUN 93	AUG 93	DEC 93	FEB 94	JUN 94
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)	302	289	252	208	180	182	NR	174	199	227
Temperature (C)	14.1	15.6	11.9	15.6	12.72	25.7	21	16	13.8	17.6
pH (Standard Units)	5.7	6.3	6.2	5.8	NR	NR	NR	6.32	6.21	5.91
Chloride (mg/l)										
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic	<5		<5		<5		6		<5	
Total Barium	140		120		77		896		79	
Total Cadmium										
Total Chromium	10		30		<5		181		<5	
Dissolved Copper	10	<10	10	<10	27	<10	<10	<10	<10	<10
Total Copper	20	<10	20	10	34	<10	143	88	<10	<10
Total Lead	4		<3		<5		16		<3	
Total Mercury	<0.2		1.8		<0.2		0.5		0.2	
Total Selenium	<5		<5		<5		<5		<5	
Total Tin										
Total Vanadium	30		20		<30		295		<30	
Total Zinc	30		30		<30		233		<30	
Organic Compounds										
Acetone	<5	<5	<5	<5	<10	12	<10	<10	<10	<10
Benzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

ND = Not Detected
NR = Not Analyzed

CPCHEM3 WB1

TABLE 10
CUMULATIVE SUMMARY OF SURFACE WATER ANALYSES (SW-8)
(Micrograms/Liter)
PHIBRO-TECH, INC.
Powder Springs, Georgia

PARAMETER	FEB 92	MAY 92	AUG 92	DEC 92	FEB 93	JUN 93	AUG 93	DEC 93	FEB 94	JUN 94
Specific Conductance										
(umhos/cm @ 25 C)	254	800	1000	339	73		NR	538	161	708
Temperature (C)	15.6	23.3	25	10			NR	5.5	12	32.3
pH (Standard Units)	7.3	6.6	6.6	6.95	6.53		NR	5.9	6.1	5.73
Chloride (mg/l)										
Inorganic Constituents										
Total Hardness (mg/l)	28	76	80	36			41	35.3	18	
Total Arsenic										
Total Barium	60	110	90	80	33	104	122	90	59	987
Total Cadmium	<5	<5	<5	<5	0.7	<5	1.9	<10	0.4	4.8
Total Chromium	<10	<10	10	<10	<5	<10	12	<10	<5	51
Dissolved Copper										
Total Copper	770	3500	1600	1100	240	1660	6080	1880	690	78700
Total Lead	74	220	188	125	332	72	540	93	58	4900
Total Mercury	<0.2	0.4	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	0.6
Total Selenium										
Total Vanadium										
Total Zinc										
Organic Compounds										
Acetone		<5								
Benzene		<5								

ND = Not Detected
NR = Not Analyzed

CPCHEM3.WB1

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-6B)
(Micrograms/Liter)

PHIBRO-TECH, INC.
Powder Springs, Georgia

	JUL 89	MAY 92	AUG 92	DEC 92	FEB 93	JUN 93	AUG 93	DEC 93	FEB 94	JUN 94
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)	2780	2380	2160	1615	2400	2210	2520	2340	2400	2590
Temperature (C)	12.0	17	10	14.4	11.61	21.4	18.7	15.5	15.4	18.6
pH (Standard Units)	7.3	7.9	7.6	7.55	7.71	7.4	6.65	5.33	6.45	6.78
Chloride (mg/l)										
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic										
Total Barium										
Total Cadmium										
Total Chromium										
Dissolved Copper	10	<10	<10	10	19	11	<10	<10	<10	<10
Total Copper	10	<10	<10	10	31	11	35	11	13	<10
Total Lead										
Total Mercury										
Total Selenium										
Total Tin										
Total Vanadium										
Total Zinc										
Organic Compounds										
Acetone	<5	<5		<5	<10	<10	<10	<10	<10	<10
Benzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

ND = Not Detected
NR = Not Analyzed

CPCHEM2.WB1

no lead or selenium analyses

SEMI-ANNUAL GROUNDWATER

MONITORING REPORT

JANUARY 1994

Prepared for

(CP CHEMICALS, INC.)
PHIBRO-TECH, INC.

VOLUME 1 OF 2
SEMI-ANNUAL REPORT, FIGURES, AND TABLES

LAKE ENGINEERING, INC.

35 Glenlake Parkway
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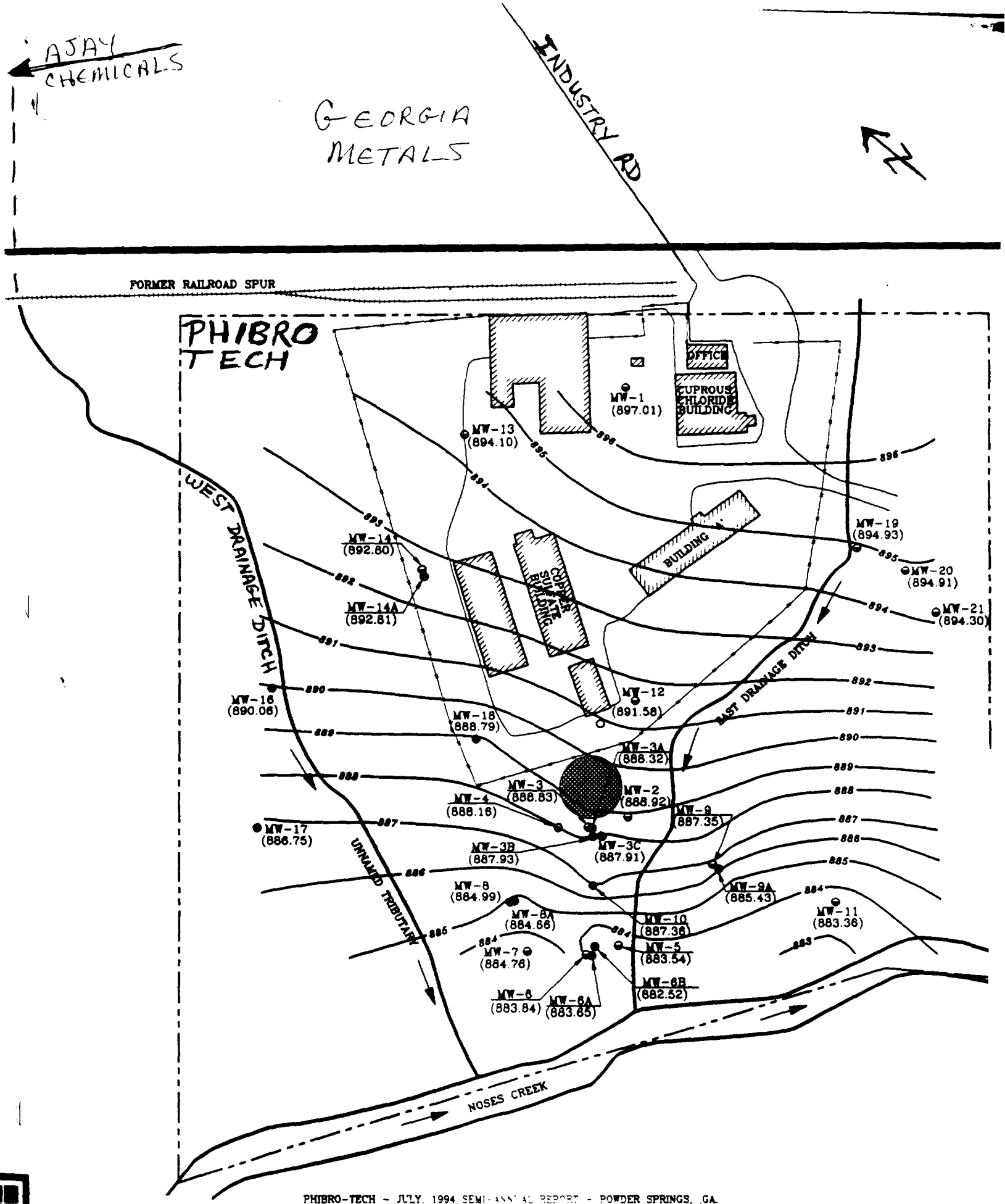
Atlanta, GA 30328

Reference 14b

1480.1



PHIBRO-TECH - JULY, 1994 SEMI-ANNUAL REPORT - POWDER SPRINGS, GA.

FIRST QUARTER GROUND WATER CONTOUR MAP-FEBRUARY 24, 1994

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-1)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)	50	70	65	64	70	70	67	66	70	145
Temperature (C)	23	22	16	17	25	25	15	20	21	20
pH (Standard Units)	6.6	6.6	7.3	6.8	6.3	7	6.9	6.9	6.6	6.4
Chloride (mg/l)	4.4	2.1	3.2	ND	4	5.4	3.7	24	5	7
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic	ND	ND	ND	ND	ND	ND	<3	<5	<5	<5
Total Barium	35	150	70	ND	ND	160	50	30	30	50
Total Cadmium	2	3.4			0.3	3.2	<0.3	<5	<5	<5
Total Chromium	8	13	9	8	8	16	7	<10	10	<10
Dissolved Copper	20	ND	ND	ND	ND		<20	10	<10	20
Total Copper	60	150	100	20	20	120	<20	30	10	30
Total Lead	5	5	ND	3	ND	ND	3	3	<20	<20
Total Mercury	ND	ND	ND	ND	ND	ND	<0.2	<0.2	<0.2	<0.2
Total Selenium	ND	ND	ND	ND	ND	ND	<3	<5	<5	<5
Total Vanadium	ND	40	ND	ND	ND	60	<50	10	10	10
Total Zinc	30	70	50	20	ND	60	<20	<10	10	110
Organic Compounds										
Acetone	ND	ND	ND	ND	ND	ND	<10	<5	<5	<5
Benzene	ND	ND	ND	ND	ND	ND	2.2	<5	<5	<5

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-2)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)	7700	8320	6280	5960	7140	7800	6167	5325	6200	6740
Temperature (C)	20	23	13	15	24	23	12	21	23	18
pH (Standard Units)	10.0	10.1	10.1	10.2	9.9	9.7	9.8	9.9	9.8	9.9
Chloride (mg/l)	1900	1700	1600	1300	1700	1900	1700	632	1370	1700
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic	55	75	74	73	94	72	58	50	60	<5
Total Barium	49	49	ND	ND	60	ND	60	10	40	50
Total Cadmium								<5	<5	<5
Total Chromium	21	19	15	13	21	18	16	<10	20	<10
Dissolved Copper	6900	8400	6300	5700	8500		10000	7600	9200	10000
Total Copper	8100	9300	7100	5600	8400	12000	11000	7900	11000	12000
Total Lead	8	9	ND	ND	ND	ND	4	5	<20	<20
Total Mercury	ND	ND	ND	ND	ND	1.1	8.8	<0.2	<0.2	<0.2
Total Selenium	84	95	74	72	88	93	110	124	<5	<5
Total Vanadium	3300	2900	3400	4000	4600	3700	3300	4600	5600	4800
Total Zinc	30	70	ND	30	30	ND	40	<10	<10	50
Organic Compounds										
Acetone	200	240	160	180	220	210	170	127	107	<5
Benzene	ND	1.5	1.5	1.3	1.4	ND	1.3	<5	<5	<5

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-3)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)	8160	7800	6520	6900	6120	7280	4667	.4400	5700	5800
Temperature (C)	24	23	13	18	24	23	13	20	23	19
pH (Standard Units)	11.9	12.1	11.8	12.1	11.9	11.9	12.2	11.8	11.8	11.9
Chloride (mg/l)	650	570	550	510	640	460	460	500	480	395
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic	140	170	170	140	190	150	130	70	80	<5
Total Barium	21	21	ND	ND	ND	ND	<50	10	20	<10
Total Cadmium										
Total Chromium	12	14	11	8	10	6	13	<10	<10	<10
Dissolved Copper	3300	4100	2700	2700	4000		4500	4800	4700	4100
Total Copper	3900	4600	3000	3000	3800	2800	4200	4900	4800	4300
Total Lead	9	12	6	4	4	ND	12	10	40	<20
Total Mercury	6	7.5	4.4	4.7	4.3	3.5	6	5.6	5.2	<0.2
Total Selenium	26	33	26	20	28	29	29	62	<5	<5
Total Vanadium	820	900	1000	950	1500	1400	1100	1400	1600	810
Total Zinc	30	40	ND	20	20	ND	20	<10	<10	40
Organic Compounds										
Acetone	160	210	130	120	170	190	140	91	<5	113
Benzene	3.2	1	ND	ND	ND	ND	<1	<5	<5	<5

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-3B)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)	10080	9120	8700	8050	7700	7150	7000	6300	6600	8470
Temperature (C)	19	18	17	18	20	20	15	19	21	19
pH (Standard Units)	6.3	6.3	6.2	6.1	6.2	6.5	6.4	6.3	6.0	6.3
Chloride (mg/l)	800	1900	1700	1500	1700		1200	1210	1200	1040
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic	ND	ND	ND	ND	4	ND	<3	<5	<5	<5
Total Barium	18	30	ND	ND	ND	ND	<50	20	<10	10
Total Cadmium										
Total Chromium	1	ND	ND	4	ND	3	<2	<10	90	<10
Dissolved Copper	2200	1600	2200	2500	1600		2700	2900	2500	2100
Total Copper	1900	1800	2400	2200	1600	2500	3100	2900	2700	2200
Total Lead	ND	ND	ND	ND	ND	ND	<3	<3	30	<20
Total Mercury	ND	ND	ND	0.3	ND	0.3	<0.2	<0.3	<0.2	<0.2
Total Selenium	49	33	30	27	24	23	19	<5	<5	<5
Total Vanadium	ND	ND	ND	ND	ND	50	<50	<10	<10	<10
Total Zinc	70	100	110	120	90	100	130	110	100	140
Organic Compounds										
Acetone	ND	ND	ND	ND	ND	ND	<10	<5	<5	<5
Benzene	3.2	2.1	1.2	1.7	ND	1.3	1.2	<5	<5	<5

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-4)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)	4840	4320	4530	4640	4980	3380	3117	4575	3100	3180
Temperature (C)	20	21	15	16	22	23	13	20	23	19
pH (Standard Units)	9.4	9.9	9.6	9.4	9.5	9.7	9.7	9.2	9.5	9.7
Chloride (mg/l)	840	450	590	600	660	470	360	760	420	390
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic	5	6	4	4	7	6	<3	<5	<5	<5
Total Barium	23	20	ND	ND	ND	ND	<50	10	10	<10
Total Cadmium										
Total Chromium	3	2	ND	ND	2	ND	4	<10	<10	<10
Dissolved Copper	540	360	210	250	430		200	480	360	280
Total Copper	540	430	250	300	40	360	340	480	410	320
Total Lead	ND	5	ND	3	ND	ND	4	<3	<10	40
Total Mercury	0.4	0.3	ND	0.3	ND	0.2	<0.2	<0.2	<0.2	<0.2
Total Selenium	37	24	19	22	17	15	11	<5	<5	<5
Total Vanadium	150	180	110	90	120	140	150	80	120	130
Total Zinc	30	20	ND	40	ND	ND	<20	<10	<10	<10
Organic Compounds										
Acetone	49	21	20	ND	ND	14	<500	11	<50	**3000
Benzene	*380	43	ND	ND	750	720	640	574	590	547

**Resampling on 14 January 1992 yielded an acetone concentration of 12 ug/L.

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-12)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)			4190	5340	5200	4350	4510	4000	4600	4590
Temperature (C)			14	17	23	22	15	21	22	20
pH (Standard Units)			11.3	10.8	10.6	10.5	10.7	11.4	10.1	10.1
Chloride (mg/l)				940	1000	140	970	565	880	745
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic			15	17	18	22	17	<30	<5	<5
Total Barium			80	80	120	80	90	360	30	70
Total Cadmium										
Total Chromium			8	7	4	9	5	<10	<10	<10
Dissolved Copper			50	ND						
Total Copper			60	50	40	50	20	40	30	160
Total Lead			ND	ND	ND	ND	<3	<2	<20	<20
Total Mercury			0.9	0.4	ND	0.4	0.3	<0.2	<0.2	<0.2
Total Selenium			12	9	7	10	11	<40	<5	<5
Total Vanadium			480	520	490	640	550	430	500	460
Total Zinc			20	30	ND	ND	<20	<10	<10	20
Organic Compounds										
Acetone			39	ND	23	ND	43	<5	<5	<5
Benzene			13	2.3	2.2	8.6	12	<5	<5	<5

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-19)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)			340	400	530	540	408	380	450	563
Temperature (C)			13	15	22	21	14	19	22	20
pH (Standard Units)			6.1	6.4	6.2	6.4	5.5	6.5	6.9	6.8
Chloride (mg/l)										
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic										
Total Barium			240	320	550	590	420	260	290	450
Total Cadmium					ND	0.5	<0.3	<5	<5	<5
Total Chromium				2	ND	4	<2	<10	<10	<10
Dissolved Copper										
Total Copper			70	80	80	230	70	20	90	70
Total Lead				5	3	7	4	4.4	<20	<20
Total Mercury										
Total Selenium										
Total Vanadium										
Total Zinc										
Organic Compounds										
Acetone										
Benzene										

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-20)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)			380	270	320	270	290	414	300	203
Temperature (C)			15	15	22	21	15	19	22	20
pH (Standard Units)			4.0	4.5	4.6	4.8	4.3	4.1	4.4	5.0
Chloride (mg/l)										
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic										
Total Barium			670	320	460		700	620	480	310
Total Cadmium					1.2		1.5	<5	<5	<5
Total Chromium										
Dissolved Copper										
Total Copper			2700	1500	2100	950	2900	5200	4700	2200
Total Lead					7		11	6	<20	<20
Total Mercury										
Total Selenium										
Total Vanadium										
Total Zinc										
Organic Compounds										
Acetone					ND			<5	<5	<10
Benzene			ND	ND	ND	ND	<1.0	<5	<5	<5

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-21)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)			200	240	180	165	143	194	180	148
Temperature (C)			15	16	22	20	16	20	21	20
pH (Standard Units)			4.3	4.6	4.6	4.8	4.8	4.7	4.7	4.9
Chloride (mg/l)										
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic			200	210	510	240	690	230	200	230
Total Barium					ND	0.5	<0.3	<5	<5	<5
Total Cadmium			ND	4	4	ND	4	<10	<10	<10
Total Chromium										
Dissolved Copper			ND	ND	70	ND	60	<10	<10	10
Total Copper			ND	ND	4	ND	3	4.5	30	<20
Total Lead										
Total Mercury										
Total Selenium										
Total Vanadium										
Total Zinc										
Organic Compounds					ND			<5	<5	<5
Acetone				ND	ND	ND	<1.0	<5	<5	<5
Benzene										

TABLE 10
CUMULATIVE SUMMARY OF SURFACE WATER ANALYSES (SW-1)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhoe/cm @ 25 C)			64	62	80	60		70	175	105
Temperature (C)			11	13	24	23		23	26	15
pH (Standard Units)			6.7	6.9	7.4	7.4		7.4	7.3	6.6
Chloride (mg/l)										
Inorganic Constituents										
Total Hardness (mg/l)					35	52		50	51	40
Total Arsenic			ND	ND	ND	ND		<5	<5	<5
Total Barium			ND	ND	ND	ND		40	20	70
Total Cadmium				ND	ND			<5	<5	<5
Total Chromium			ND	ND	ND	ND		<10	<10	<10
Dissolved Copper			ND	ND	ND					
Total Copper			ND	ND	ND	ND		50	<10	30
Total Lead			ND	ND	ND	3		4	20	<20
Total Mercury			ND	ND	ND	ND		<0.2	<0.2	<0.2
Total Selenium			ND	ND	ND	ND		<5	<5	<5
Total Vanadium			ND	ND	ND	ND		<10	<10	<10
Total Zinc			ND	ND	ND	ND		<10	<10	30
Organic Compounds										
Acetone			ND	ND	ND	ND		<5	<5	<5
Benzene			ND	ND	ND	ND		<5	<5	<5

TABLE 10
CUMULATIVE SUMMARY OF SURFACE WATER ANALYSES (SW-2)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)			65	50	100	60		100	115	82
Temperature (C)			10	13	23	23		23	26	15
pH (Standard Units)			6.7	6.9	7.4	7.4		7.4	7.2	6.4
Chloride (mg/l)										
Inorganic Constituents										
Total Hardness (mg/l)					39	24		36	39	34
Total Arsenic			ND	ND	ND	ND		<5	<5	<5
Total Barium			ND	ND	ND	ND		20	20	20
Total Cadmium				ND	ND			<5	<5	<5
Total Chromium			ND	ND	ND	ND		<10	<10	<10
Dissolved Copper			ND							
Total Copper			ND	ND	ND	ND		80	<10	20
Total Lead			ND	ND	ND	ND		14	20	<20
Total Mercury			ND	ND	ND	ND		<0.2	<0.2	<0.2
Total Selenium			ND	ND	ND	ND		<5	<5	<5
Total Vanadium			ND	ND	ND	ND		<10	<10	<10
Total Zinc			ND	20	ND	ND				
Organic Compounds										
Acetone			ND	ND	ND	ND		<5	<5	<5
Benzene			ND	ND	ND	ND		<5	<5	<5

TABLE 10
CUMULATIVE SUMMARY OF SURFACE WATER ANALYSES (SW-3)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)			65	70	90	65		65	97	79
Temperature (C)			11	13	24	23		23	26	15
pH (Standard Units)			6.5	6.9	7.6	7.5		7.5	6.9	6.3
Chloride (mg/l)										
Inorganic Constituents										
Total Hardness (mg/l)					36	28		34	52	30
Total Arsenic			ND	ND	ND	ND		<5	<5	<5
Total Barium			ND	ND	ND	ND		20	20	70
Total Cadmium				ND	ND			<5	<5	<5
Total Chromium			ND	ND	ND	2		<10	<10	<10
Dissolved Copper			ND	ND						
Total Copper			ND	ND	ND	ND		<10	<10	20
Total Lead			ND	ND	ND	ND		6	<20	<20
Total Mercury			ND	ND	ND	ND		<0.2	<0.2	<0.2
Total Selenium			ND	ND	ND	ND		<5	<5	<5
Total Vanadium			ND	ND	ND	ND		<10	<10	<10
Total Zinc			ND	20	ND	ND		<10	<10	20
Organic Compounds										
Acetone			ND	ND	ND	ND		<5	<5	<5
Benzene			ND	ND	ND	ND		<5	<5	<5

TABLE 10
CUMULATIVE SUMMARY OF SURFACE WATER ANALYSES (SW-7)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)				450	570			510	620	62
Temperature (C)				14	28			25	26	15
pH (Standard Units)				6.0	6.0			6.0	5.5	6.2
Chloride (mg/l)										
Inorganic Constituents										
Total Hardness (mg/l)					120			68	70	30
Total Arsenic										
Total Barium				230	290			140	23	60
Total Cadmium					3.9			<5	<5	<5
Total Chromium				ND	24			<10	<10	<10
Dissolved Copper										
Total Copper				3900	16000			8500	12000	520
Total Lead				200	660			740	900	80
Total Mercury				ND	ND			<0.2	<0.2	<0.2
Total Selenium										
Total Vanadium										
Total Zinc										
Organic Compounds										
Acetone				ND						
Benzene				ND						

TABLE 10
CUMULATIVE SUMMARY OF SURFACE WATER ANALYSES (SW-8)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)				730	110			120	1000	78
Temperature (C)				14	27			25	26	15
pH (Standard Units)				6.4	6.7			6.6	6.7	6.4
Chloride (mg/l)										
Inorganic Constituents										
Total Hardness (mg/l)					160			114	100	150
Total Arsenic								<5		
Total Barium				220	250			180	190	70
Total Cadmium					4.6			<5	<5	<5
Total Chromium				ND	ND			<10	<10	<10
Dissolved Copper										
Total Copper				3900	5800			5900	6500	770
Total Lead				130	82			340	750	100
Total Mercury				ND	ND			<0.2	<0.2	<0.2
Total Selenium										
Total Vanadium										
Total Zinc										
Organic Compounds										
Acetone				ND						
Benzene				ND						

TABLE 10

CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-3A)

(Micrograms/Liter)

CP CHEMICALS

Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)			3780	3680	3640	3470	2467	2425	2600	2790
Temperature (C)			16	17	19	19	13	19	20	18
pH (Standard Units)			11.9	12	11.7	11.8	12	11.7	11.5	11.6
Chloride (mg/l)										
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic										13
Total Barium										<10
Total Cadmium										
Total Chromium										<10
Dissolved Copper			80	80	70		70	80	50	90
Total Copper			80	50	70	80	70	80	60	90
Total Lead										<3
Total Mercury										0.2
Total Selenium										6
Total Vanadium										660
Total Zinc										20
Organic Compounds										
Acetone			ND	ND	ND	ND	<10	17	<5	<5
Benzene			2.6	3.1	2.2	1.7	2.2	<5	<5	<5

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-3C)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)			1820	2030	1650	1570	1360	1588	1700	1780
Temperature (C)			14	17	20	19	17	18	21	17
pH (Standard Units)			6.7	6.8	6.4	7.3	6.9	6.7	6.8	7.6
Chloride (mg/l)										
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic										
Total Barium										
Total Cadmium										
Total Chromium										
Dissolved Copper			40	40	40		40	60	40	40
Total Copper			60	30	30	60	40	60	40	40
Total Lead										<3
Total Mercury										<0.2
Total Selenium										<5
Total Vanadium										<10
Total Zinc										10
Organic Compounds										
Acetone			ND	ND	ND	ND	<10	<5	<5	<5
Benzene			ND	ND	ND	ND	<1.0	<5	<5	<5

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-5)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)			4520	4210	2970	2860	2267	2750	2100	1627
Temperature (C)			12	17	23	22	15	19	19	19
pH (Standard Units)			9.3	9.4	9.4	9.4	9.6	9.5	9.5	9.9
Chloride (mg/l)										100
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic										<5
Total Barium										20
Total Cadmium										
Total Chromium										10
Dissolved Copper			550	450	480		350	360	410	450
Total Copper			720	660	1400	2000	680	430	550	930
Total Lead										<3
Total Mercury										<0.2
Total Selenium										<5
Total Vanadium										1600
Total Zinc										<10
Organic Compounds										
Acetone			21	15	ND	34	<100	230	304	<20
Benzene			290	290	470	43	580	19	282	366

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-6)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)			4600	6960	4320	6360	8067	8200	7100	4930
Temperature (C)			14	17	21	22	11	20	22	19
pH (Standard Units)			9.9	9.6	9.8	9.4	8.9	9.0	9.0	10.0
Chloride (mg/l)										
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic										8
Total Barium										50
Total Cadmium										
Total Chromium										20
Dissolved Copper			300	430	260	ND	90	190	540	730
Total Copper			530	590	1300	1400	180	230	700	840
Total Lead										9
Total Mercury										<0.2
Total Selenium										<5
Total Vanadium										3100
Total Zinc										<10
Organic Compounds										
Acetone			ND	33	ND		<100	839	<50	<50
Benzene			1200	1400	1300	970	860	<10	540	1180

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-6A)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)			3660	3810	3420	3080	2650	2675	3050	3410
Temperature (C)			16	18	18	18	16	19	19	18
pH (Standard Units)			6.2	6.4	6.4	6.8	6.5	6.5	6.2	7.0
Chloride (mg/l)										
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic										<5
Total Barium										30
Total Cadmium										
Total Chromium										<10
Dissolved Copper			2200	2500	2400		1800	2300	2100	2000
Total Copper			2300	970	2400	1900	1700	2000	2300	2100
Total Lead										<3
Total Mercury										<0.2
Total Selenium										<5
Total Vanadium										<10
Total Zinc										50
Organic Compounds										
Acetone			ND	ND	ND	ND	<10	<5	<5	<5
Benzene			ND	ND	ND	7.2	<1.0	<5	<5	<5

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-6B)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)			2250	2450	2000	2320	1917	2125	2000	1830
Temperature (C)			13	18	17	17	15	18	20	18
pH (Standard Units)			6.8	7.6	7.2	6.2	7.8	7.7	7.1	6.5
Chloride (mg/l)										
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic										
Total Barium										
Total Cadmium										
Total Chromium										
Dissolved Copper			ND	ND	ND	ND	<20	10	<10	<10
Total Copper			ND	ND	ND	220	<20	30	<10	<10
Total Lead										
Total Mercury										
Total Selenium										
Total Vanadium										
Total Zinc										
Organic Compounds										
Acetone			ND	ND	ND	ND	<10	<5	<5	<5
Benzene			ND	ND	ND	ND	<1.0	<5	<5	<5

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-7)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)			1650	2180	4240	4070	1483	2400	2900	4930
Temperature (C)			11	16	22	23	12	22	22	19
pH (Standard Units)			6.1	6.0	6.7		5.1	5.8	6.5	6.8
Chloride (mg/l)										
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic										<5
Total Barium										60
Total Cadmium										
Total Chromium										30
Dissolved Copper			1500	980	560	780	1900	2900	420	970
Total Copper			1600	2700	2200	1800	2500	1300	980	1500
Total Lead										12
Total Mercury										<0.2
Total Selenium										<5
Total Vanadium										60
Total Zinc										190
Organic Compounds										
Acetone			ND	ND	ND	ND	<100	1640	110	<500
Benzene			ND	ND	3500	1900	860	<100	2680	6960

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-8)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)			3420	3210	3850	4620	3350	3075	3500	3300
Temperature (C)			15	16	23	20	13	22	22	20
pH (Standard Units)			5.2	5.3	5.4	5.5	5.3	5.3	5.4	6.2
Chloride (mg/l)										
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic										<5
Total Barium										60
Total Cadmium										
Total Chromium										<10
Dissolved Copper			8000	5900	6000	11000	10000	6300	5300	6400
Total Copper			8900	4600	6300	10000	11000	6500	6000	6800
Total Lead										<3
Total Mercury										<0.2
Total Selenium										<5
Total Vanadium										<10
Total Zinc										750
Organic Compounds										
Acetone			ND	ND	ND	ND	<10	<100	<500	<500
Benzene			11000	9600	14000	14000	14000	11300	11000	15860

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-8A)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)			2340	2090	2110	2150	1867	1900	1650	1370
Temperature (C)			17	17	18	17	16	19	20	17
pH (Standard Units)			6.5	6.6	6.4	6.5	6.8	6.6	6.6	6.7
Chloride (mg/l)										
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic										<5
Total Barium										20
Total Cadmium										
Total Chromium										<10
Dissolved Copper			40	ND	ND	210	<20	<10	<10	<10
Total Copper			110	ND	40	70	<20	<10	<60	<10
Total Lead										<3
Total Mercury										<0.2
Total Selenium										<5
Total Vanadium										<10
Total Zinc										<10
Organic Compounds										
Acetone			ND	ND	ND	ND	<10	<5	<5	<5
Benzene			ND	ND	ND		<1.0	<5	<5	<5

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-9)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)			360	430	410	400	333	563	410	487
Temperature (C)			15	15	20	19	13	18	20	18
pH (Standard Units)			5.4	5.9	6.3	5.9	5.9	5.9	6.1	6.9
Chloride (mg/l)										
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic										<5
Total Barium										90
Total Cadmium										
Total Chromium										10
Dissolved Copper			ND	ND	ND	ND	<20	<10	<10	<10
Total Copper			60	ND	40	90	<20	<10	10	<10
Total Lead										<3
Total Mercury										<0.2
Total Selenium										<5
Total Vanadium										20
Total Zinc										20
Organic Compounds										
Acetone			ND	ND	ND	ND	<10	<5	<5	<5
Benzene			ND	ND	ND	ND	<1.0	<5	<5	<5

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-9A)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)			2650	2240	2240	2170	1643	1525	1425	1285
Temperature (C)			17	19	19	18	14	18	18	17
pH (Standard Units)			6.9	6.8	6.7	5.9	6.9	7	6.9	7.1
Chloride (mg/l)										
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic										<5
Total Barium										70
Total Cadmium										
Total Chromium										<10
Dissolved Copper			ND	ND	ND	ND	<20	<10	<10	<10
Total Copper			ND	ND	ND	ND	<20	<10	<10	<10
Total Lead										<3
Total Mercury										<0.2
Total Selenium										<5
Total Vanadium										<10
Total Zinc										<10
Organic Compounds										
Acetone			ND	ND	ND	ND	<10	<5	<5	<5
Benzene			ND	ND	ND	ND	<1.0	<5	<5	26

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-10)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)			3270	3200	3540	3820	2433	2625	2600	3750
Temperature (C)			13	17	23	22	13	24	24	19
pH (Standard Units)			11.2	11.3	11.2	11.1	11.2	10.7	11.0	11.6
Chloride (mg/l)										
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic										<5
Total Barium										10
Total Cadmium										
Total Chromium										30
Dissolved Copper			3000	3100	4200	14000	5900	2500	3500	3200
Total Copper			3700	3400	4900	13000	5300	2500	3800	3650
Total Lead										8
Total Mercury										<0.2
Total Selenium										5
Total Vanadium										2200
Total Zinc										<10
Organic Compounds										
Acetone			160	170	150	220	96	45	<10	<10
Benzene			260	230	170	120	140	87	71	84

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-11)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)			40	110	115	140	40	40	78	113
Temperature (C)			16	16	18	18	14	17	20	17
pH (Standard Units)			5.8	5.8	5.7	5.5	5.7	5.7	5.7	5.7
Chloride (mg/l)										
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic										
Total Barium										
Total Cadmium										
Total Chromium										
Dissolved Copper			30	ND	ND	ND	<20	<10	<10	<10
Total Copper				ND	ND	ND	<20	<10	<10	<10
Total Lead										
Total Mercury										
Total Selenium										
Total Vanadium										
Total Zinc										
Organic Compounds										
Acetone			ND	ND	ND	ND	<10	<5	30	<5
Benzene			ND	ND	ND	ND	<1.0	<5	<5	<5

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-13)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)			1120	1000	610	380	600	940	740	634
Temperature (C)			14	15	24	23	14	21	23	21
pH (Standard Units)			6.7	6.6	7	6.8	6.9	6.9	6.9	7.3
Chloride (mg/l)			170	150	62	40	130	260	90	35
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic										
Total Barium			260	80	120	100	120	290	60	30
Total Cadmium					0.3	0.5	<0.3	<5	<5	<5
Total Chromium										
Dissolved Copper										
Total Copper			2500	920	1600	2400	1100	120	820	440
Total Lead										
Total Mercury										
Total Selenium										
Total Vanadium										
Total Zinc										
Organic Compounds										
Acetone					ND	ND	<10	<5	<5	<5
Benzene			ND	ND	ND	ND	<1.0	<5	<5	<5

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-14)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)			1930	1900	1980	1980	1283	1738	1775	2090
Temperature (C)			14	15	23	24	13	20	23	20
pH (Standard Units)			6	5.8	6	5.9	5.3	5.9	5.9	6.1
Chloride (mg/l)			290	270	300	300	340	210	370	295
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic										
Total Barium			ND	ND	ND	ND	<50	20	10	20
Total Cadmium					ND	0.6	4.3	<5	<5	<5
Total Chromium										
Dissolved Copper										
Total Copper			1600	530	360	1200	9300	430	350	480
Total Lead										
Total Mercury										
Total Selenium										
Total Vanadium										
Total Zinc										
Organic Compounds										
Acetone					ND	ND	<10		<5	<5
Benzene			ND	ND	ND	8.6	<1.0	<5	<5	<5

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-14A)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)			830	810	720	770	580	740	650	848
Temperature (C)			16	17	20	20	16	20	19	19
pH (Standard Units)			6.7	6.4	6.7	6.4	6.6	6.7	6.5	6.6
Chloride (mg/l)			160	150	150	140	120	125	160	140
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic										
Total Barium			60	60	80	100	50	40	40	50
Total Cadmium					1	2.2	4.2	<5	<5	<5
Total Chromium										
Dissolved Copper										
Total Copper			220	190	220	230	160	160	140	150
Total Lead										
Total Mercury										
Total Selenium										
Total Vanadium										
Total Zinc										
Organic Compounds										
Acetone										
Benzene			ND	ND	ND	ND	1.2	<5	<5	<5

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-16)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)			340	370	430	700	302	207	440	384
Temperature (C)			15	14	21	21	13	19	21	16
pH (Standard Units)			6.9	7.1	6.3	6.1	6.0	6.5	6.1	6.2
Chloride (mg/l)			50	45	65	1800	43	41	30	23
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic										
Total Barium			190	150	190	280	150	40	100	170
Total Cadmium					ND	0.5	<0.3	<5	<5	<5
Total Chromium										
Dissolved Copper										
Total Copper			100	70	40	110	50	30	30	70
Total Lead										
Total Mercury										
Total Selenium										
Total Vanadium										
Total Zinc										
Organic Compounds										
Acetone										
Benzene			ND	ND	1.5	ND	<1.0	<5	<5	<5

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-17)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhos/cm @ 25 C)			690	380	530	440	325	329	460	549
Temperature (C)			14	14	21	20	13	21	22	17
pH (Standard Units)			4.9	5.1	5.1	4.9	5	5.1	4.9	5.0
Chloride (mg/l)			210	92	160	140	91	127	130	135
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic										
Total Barium										
Total Cadmium										
Total Chromium										
Dissolved Copper										
Total Copper			60	20	120	90	<20	<10	50	40
Total Lead										
Total Mercury										
Total Selenium										
Total Vanadium										
Total Zinc										
Organic Compounds										
Acetone										
Benzene			ND	ND	ND	ND	<1.0	<5	<5	<5

TABLE 10
CUMULATIVE SUMMARY OF GROUNDWATER ANALYSES (MW-18)
(Micrograms/Liter)

CP CHEMICALS
Powder Springs, Georgia

PARAMETER	JULY 89	OCT 89	JAN 90	APR 90	JUL 90	OCT 90	FEB 91	JUN 91	SEP 91	NOV 91
Indicator Parameters										
Specific Conductance (umhoe/cm @ 25 C)			530	430	1170	1210	368	428	780	1252
Temperature (C)			14	14	22	20	14	18	22	19
pH (Standard Units)			5.6	5.3	5.5	5.5	5.5	5.3	5.3	5.4
Chloride (mg/l)			140	120	290	270	120	157	600	205
Inorganic Constituents										
Total Hardness (mg/l)										
Total Arsenic										
Total Barium										
Total Cadmium										
Total Chromium										
Dissolved Copper										
Total Copper			120	240	30	140	180	120	30	20
Total Lead										
Total Mercury										
Total Selenium										
Total Vanadium										
Total Zinc										
Organic Compounds										
Acetone										
Benzene			ND	ND	ND	ND	<1.0	<5	<5	<5

CP CHEMICALS, Inc.
4080 Industry Road
Powder Springs, Georgia 30073

PHIBRO-TECH

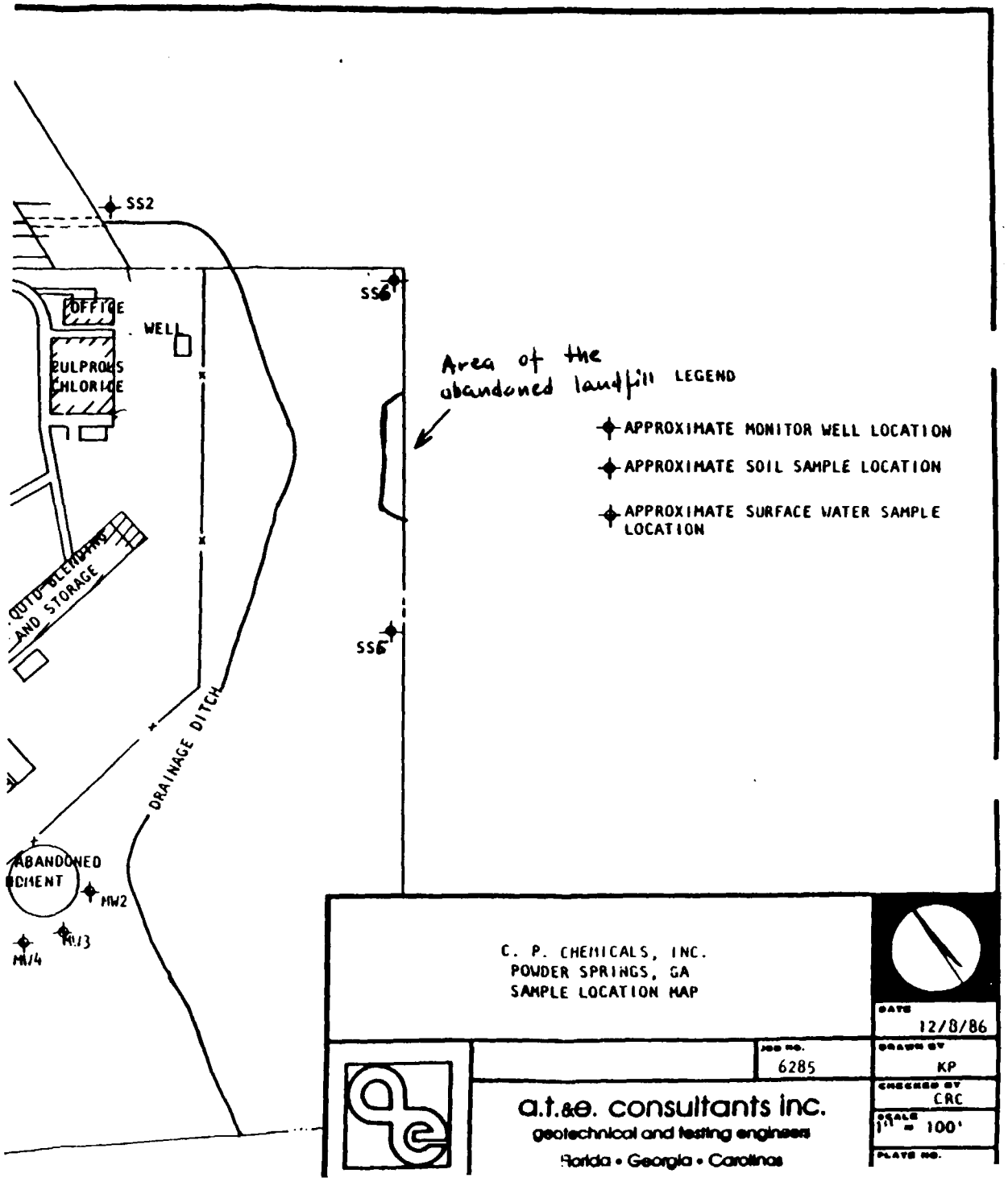
RCRA POST-CLOSURE PART B PERMIT APPLICATION

APPENDICES

APRIL 1988

RMT INC.
11 Regency Hills Drive
P.O. Box 16778
Greenville, SC 29606
(803) 292-1921

Reference 17


SS2
SS5
SS6
OFFICE
WELL
PULPROUS CHLORIDE
AUTO CLEANING AND STORAGE
DRAINAGE DITCH
ABANDONED CEMENT
MW2
MW3
MW4
Area of the abandoned landfill
LEGEND
APPROXIMATE MONITOR WELL LOCATION
APPROXIMATE SOIL SAMPLE LOCATION
APPROXIMATE SURFACE WATER SAMPLE LOCATION
C. P. CHEMICALS, INC.
POWDER SPRINGS, GA
SAMPLE LOCATION MAP
DATE 12/8/86
JOB NO. 6285
DRAWN BY KP
CHECKED BY CRC
SCALE 1" = 100'
PLATE NO.
a.t.&e. consultants inc.
geotechnical and testing engineers
Florida • Georgia • Carolinas

James W. Andrews, Ph.D.
President

Janette M. Davis
Vice-President

SAVANNAH LABORATORIES AND ENVIRONMENTAL SERVICES, INC.

P. O. Box 13548 • Savannah, GA 31416-0548
Whitfield Avenue at Shipyard Road (31406)
(912) 354-7858

LOG NO: 86-2685

Received: 22 OCT 86

Mr. Gary Hamilton
A. T. & E. Consultants
105 Technology Parkway
Norcross, GA 30092

Project: C.P.Chemicals,Inc.

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION , SOIL SAMPLES	SAMPLED BY
2685-5	Composite soil sample #1	Client
2685-6	Composite soil sample #2	
2685-7	Composite soil sample #3	
2685-8	Composite soil sample #4	

PARAMETER	2685-5	2685-6	2685-7	2685-8
EP Toxicity				
% that passes 9.5 mm sieve,	100	100	100	100
% Solids @ 105 C,	92	91	93	98
EP Extract Initial pH,	5.6	5.9	7.5	8.9
EP Extract final pH,	5.0	5.0	5.2	5.2
ml 0.5N acetic acid/liter extract,	1.3	1.2	2.5	77.4
Arsenic, mg/kg dw	35	32	23	40
Barium, mg/kg dw	30	33	37	120
Cadmium, mg kg dw	<0.5	<0.2	<0.3	4.4
Chromium, mg/kg dw	8.1	35	52	4.2
Lead, mg/kg dw	70	200	6500	220
Selenium, mg/kg dw	13	11	8.0	6.4
Silver, mg/kg dw	<3	<2	<2	19
Arsenic (EP Tox), mg/l	<0.1	<0.1	<0.1	<0.1
Barium (EP Tox), mg/l	<0.05	0.05	0.31	0.27
Cadmium (EP-Tox), mg/l	<0.01	<0.01	<0.01	0.22
Chromium (EP Tox), mg/l	<0.05	<0.05	<0.05	<0.05
Lead (EP Tox), mg/l	0.2	2.2	92	0.86
Selenium (EP Tox), mg/l	<0.5	<0.5	<0.5	<0.5
Silver (EP Tox), mg/l	<0.05	<0.05	<0.05	<0.05

Methods: EPA SW-846

Janette M. Davis

Janette M. Davis

App F-5

James W. Andrews, Ph.D.
President

Janette M. Davis
Vice-President

SAVANNAH LABORATORIES AND ENVIRONMENTAL SERVICES, INC.

P. O. Box 13548 • Savannah, GA 31416-05-3
Whitfield Avenue at Shipyard Road (31406)
(912) 354-7858

LOG NO: 86-2733

Received: 28 OCT 86

Mr. Gary Hamilton
A. T. & E. Consultants
105 Technology Parkway
Norcross, GA 30092

Project: C.P.Chem/Powder Springs

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION , SOIL SAMPLES	SAMPLED BY
2733-2	SS-5 DRUM L.F.	Client

PARAMETER	2733-2
Purgeable Halocarbons	
Bromodichloromethane, ug/kg dw	<5
Bromoform, ug/kg dw	<5
Bromomethane, ug/kg dw	<5
Carbon Tetrachloride, ug/kg dw	<5
Chlorobenzene, ug/kg dw	<5
Chloroethane, ug/kg dw	<5
2-Chloroethylvinyl Ether, ug/kg dw	<5
Chloroform, ug/kg dw	<5
Chloromethane, ug/kg dw	<5
Dibromochloromethane, ug/kg dw	<5
1,2-Dichlorobenzene, ug/kg dw	<5
1,3-Dichlorobenzene, ug/kg dw	<5
1,4-Dichlorobenzene, ug/kg dw	<5
Dichlorodifluoromethane, ug/kg dw	<5
1,1-Dichloroethane, ug/kg dw	<5
1,2-Dichloroethane, ug/kg dw	<5
1,1-Dichloroethylene, ug/kg dw	<5
trans-1,2-Dichloroethene, ug/kg dw	<5
1,2-Dichloropropane, ug/kg dw	<5
cis-1,3-Dichloropropene, ug/kg dw	<5
trans-1,3-Dichloropropene, ug/kg dw	<5
Methylene Chloride, ug/kg dw	<5

App E-5

James W. Andrews, Ph.D.
President

Janette M. Davis
Vice-President

SAVANNAH LABORATORIES AND ENVIRONMENTAL SERVICES, INC.

P. O. Box 13548 • Savannah, GA 31416-0548
Whitfield Avenue at Shipyard Road (31406)
(912) 354-7858

LOG NO: 86-2733

Received: 28 OCT 86

Mr. Gary Hamilton
A. T. & E. Consultants
105 Technology Parkway
Norcross, GA 30092

Project: C.P.Chem/Powder Springs

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION . SOIL SAMPLES	SAMPLED BY
2733-2	SS-5	Client

PARAMETER	2733-2
1,1,2,2-Tetrachloroethane, ug/kg dw	<5
Tetrachloroethylene, ug/kg dw	<5
1,1,1-Trichloroethane, ug/kg dw	<5
1,1,2-Trichloroethane, ug/kg dw	<5
Trichloroethylene, ug/kg dw	<5
Trichlorofluoromethane, ug/kg dw	<5
Vinyl Chloride, ug/kg dw	<5

Methods: EPA SW-846

James W. Andrews, Ph.D.
President

Janette M. Davis
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SAVANNAH LABORATORIES AND ENVIRONMENTAL SERVICES, INC.

P. O. Box 13548 • Savannah, GA 31416-0548
Whitfield Avenue at Shipyard Road (31406)
(912) 354-7858

LOG NO: 86-2733

Received: 28 OCT 86

Mr. Gary Hamilton
A. T. & E. Consultants
105 Technology Parkway
Norcross, GA 30092

Project: C.P.Chem/Powder Springs

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION , SOIL SAMPLES	SAMPLED BY
2733-3	SS-6	Client

PARAMETER	2733-3
EP Toxicity	
% that passes 9.5 mm sieve,	100
% Solids @ 105 C,	77
EP Extract Initial pH,	5.6
EP Extract final pH,	4.8
ml 0.5N acetic acid/liter extract,	2.5
Arsenic (EP Tox), mg/l	<0.1
Barium (EP Tox), mg/l	<0.05
Cadmium (EP-Tox), mg/l	<0.01
Chromium (EP Tox), mg/l	<0.05
Lead (EP Tox), mg/l	<0.2
Selenium (EP Tox), mg/l	<0.5
Silver (EP Tox), mg/l	<0.05

Methods: EPA SW-846

Janette M. Davis

Janette M. Davis

App E-5

J. L. ROGERS & CALLCOTT ENGINEERS, INC.

718 Lowndes Hill Rd.
Greenville, S.C. 29607
(803) 232-1556

Consulting Engineers

- Water & Sewer Design
- Industrial Wastes
- Grants & Permits
- Hazardous Wastes
- Subdivisions
- Recreational Facilities

Laboratory Service

- NPDES Monitoring
- Water Analysis
- Monitoring Well Analysis
- Treatability Studies
- Leachate Analysis
- Sampling & Pick-up

LABORATORY SERVICES

CLIENT: RMT/EDI
GREENVILLE, S.C.

DATE RECEIVED: 09/17/1987 DATE REPORTED: 09/29/1987

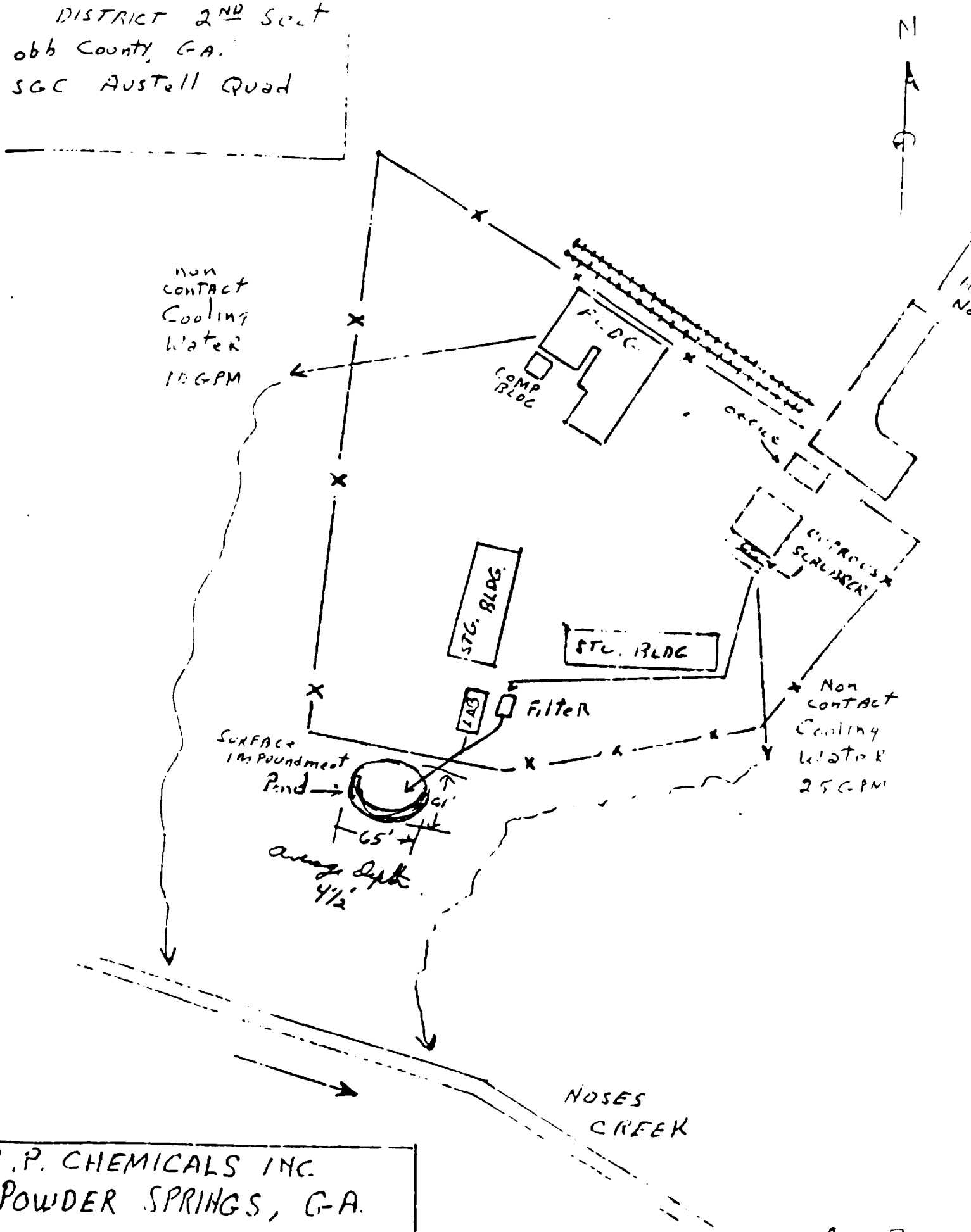
SAMPLE NUMBER	SAMPLE DESCRIPTION
49589	SS 1 ON 9/17
49590	SS 2 ON 9/17

PARAMETER	RESULT 49589	RESULT 49590
TOTAL ARSENIC, ug/l	<5.0	<5.0
TOTAL BARIUM	<.05	<.05
TOTAL CADMIUM	<.005	<.005
TOTAL CHROMIUM	<.025	<.025
TOTAL COPPER	.01	.025
TOTAL LEAD, ug/l	<5.0	<5.0
TOTAL MERCURY, ug/l	<0.5	1.8
TOTAL SELENIUM, ug/l	<5.0	<5.0
TOTAL SILVER	.015	<.005
TOTAL SODIUM	3.0	23
SOL ARSENIC, ug/l	<5.0	<5.0
SOL BARIUM	<.05	<.05
SOL CADMIUM	<.005	<.005
SOL CHROMIUM	<.025	<.025
SOL COPPER	<.01	<.01
SOL LEAD, ug/l	<5.0	<5.0
SOL MERCURY, ug/l	<0.5	1.25
SOL SELENIUM, ug/l	<5.0	<5.0
SOL SILVER	.005	<.005
SOL SODIUM	2.5	15.5
TOX, ug/l	11	<10
NITRATE	0.2	0.2
NITRITE	<.01	<.01
CHLORIDE	5.0	4.0

RESULTS IN MILLIGRAMS PER LITER (mg/l) UNLESS OTHERWISE NOTED.

REPORTED BY: Anne Norris
SAM W. AVERY, LABORATORY MANAGER

41-942
DISTRICT 2ND Sect
obb County, GA.
SGC Austell Quad



C.P. CHEMICALS INC.
POWDER SPRINGS, GA.

James W. Andrews, Ph.D.
President

Janette M. Davis
Vice-President

SAVANNAH LABORATORIES AND ENVIRONMENTAL SERVICES, INC.

P. O. Box 1354 • Savannah, GA 31416-0548
Whitfield Avenue at Shipyard Road (31406)
(912) 354-7858

RECEIVED
DEC 12 1986
Environmental Protection Division
Land Protection Branch

LOG NO: 86-2733
Received: 28 OCT 86

C-62

Mr. Gary Hamilton
A. T. & E. Consultants
105 Technology Parkway
Norcross, GA 30092

Project: C.P.Chem/Powder Springs

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION , WATER SAMPLES	SAMPLED BY
2733-1	Cooling water stream	Client

PARAMETER	2733-1
Nitrate-N, mg/l	13
Barium, mg/l	0.16
Cadmium, mg/l	<0.01
Copper, mg/l	0.12
Lead, mg/l	0.05
Nickel, mg/l	<0.1
Silver, mg/l	<0.05

Methods: EPA 40 CFR Part 136

App E-5

TABLE 1

JAN 6 1987

WATER QUALITY AND HYDROGEOLOGIC DATA FROM C.P. CHEMICALS, INC

POWDER SPRINGS, GEORGIA

WELL	SAMPLE DATE	BARIUM mg/l	CADMIUM mg/l	LEAD mg/l	NICKEL mg/l	SILVER mg/l	COPPER mg/l	NITRATE mg/l	FECAL COLI	pH UNITS	SPECIFIC CONDUCTANCE umhos/cm	WATER LEVELS ELEV. (ft-msl)
MW-1	5/2/86	0.083	<0.05	0.325	<0.01	<0.005	-	-	-	8.4	140	896.33
Pb	6/9/86	1.44	-	0.44	-	-	-	-	-	9.6	290	897.55
	7/24/86	0.28	<0.005	0.26	0.07	<0.001	1.4	0.3	-	6.4	98	896.25
	9/10/86	<0.05	<0.002	<0.01	<0.05	<0.001	<0.05	0.2	-	6.4	98	897.48
	10/21/86	1.1	<0.002	<0.01	<0.1	<0.005	<0.05	0.18	<1	6.3	64	898.27
MW-2	5/2/86	0.028	<0.05	<0.025	<0.01	<0.005	-	-	-	9.2	>10,000	890.59
	6/9/86	0.02	-	0.06	-	-	-	-	-	8.0	9,050	890.49
	7/24/86	<0.05	<0.005	0.01	<0.01	<0.001	5.2	34	-	10.0	8,600	889.31
	9/10/86	<0.05	<0.002	0.02	<0.05	<0.001	5.6	6.0	-	9.5	6,750	890.09
	10/21/86	<0.05	<0.002	0.03	<0.1	<0.005	5.7	5.5	<1	9.5	5,300	890.69
MW-3	5/6/86	0.40	<0.05	0.207	<0.01	<0.005	-	-	-	9.5	66,000	889.52
Pb	6/9/86	0.01	-	0.24	-	-	-	-	-	12.0	64,000	890.04
	7/24/86	<0.05	<0.005	0.22	<0.01	0.054	1.9	24	-	12.0	12,500	888.7[illegible]
	9/10/86	<0.05	<0.002	0.03	<0.05	0.034	1.7	8.2	-	12.0	9,500	889.[illegible]
	10/21/86	<0.05	<0.002	0.03	<0.1	<0.005	1.5	1.7	<1	11.8	8,350	890.39
MW-4	5/6/86	0.3	<0.05	0.063	<0.01	<0.005	-	-	-	8.0	5,400	889.43
Pb	6/9/86	0.02	-	<0.01	-	-	-	-	-	11.0	5,300	889.76
	7/24/86	<0.05	<0.005	0.05	<0.01	<0.001	0.38	15	-	10.6	6,000	888.44
	9/10/86	<0.05	<0.002	0.03	<0.05	<0.001	0.30	15	-	10.6	4,600	889.43
	10/21/86	<0.05	<0.002	0.05	<0.01	<0.005	0.26	8.8	<1	10.2	4,350	890.15
BEDROCK WELL	7/24/86	<0.05	<0.005	<0.01	<0.01	<0.001	<0.05	0.4	-	6.1	130	-
SW-1	10/27/86	0.16	<0.01	0.05	<0.1	<0.05	0.12	13	-	-	-	-

App C-5

Cover - 6-23-89

RMT INC.

100 Verdae Boulevard
P.O. Box 16778
Greenville, SC 29606
Phone: 803-281-0030
FAX: 803-281-0288

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JUN 26 1989

Environmental Protection Division
Land Protection Branch

Phibro-Tech

CP CHEMICALS, INC.
REMEDIAL INVESTIGATION REPORT

June 1989

FILE COPY

Mark A. Miesfeldt
Hydrogeologist

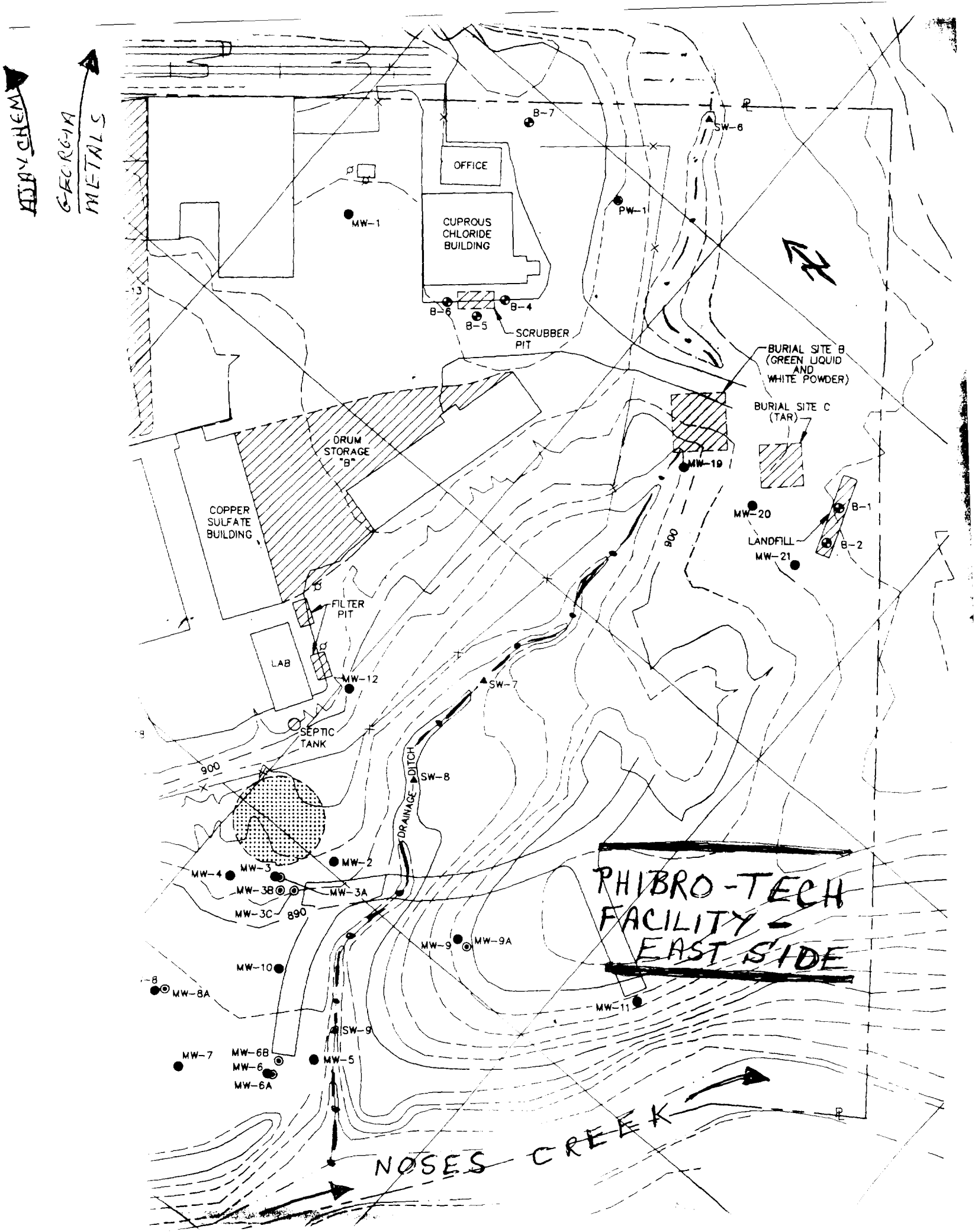
Larry Schutts
Senior Geophysicist

Mark A. Petermann
Senior Hydrogeologist

Joyce E. Peterson
Project Manager

Reference 18

60723.R1/68/89



AJAY CHEM
GEORGIA METALS
OFFICE
CUPROUS CHLORIDE BUILDING
MW-1
B-7
SW-6
PW-1
B-6
B-5
B-4
SCRUBBER PIT
BURIAL SITE B (GREEN LIQUID AND WHITE POWDER)
BURIAL SITE C (TAR)
DRUM STORAGE "B"
COPPER SULFATE BUILDING
MW-19
MW-20
B-1
B-2
LANDFILL
MW-21
900
FILTER PIT
LAB
MW-12
SW-7
SEPTIC TANK
900
DRAINAGE DITCH
SW-8
MW-2
MW-4
MW-3
MW-3B
MW-3A
MW-3C
890
MW-9
MW-9A
MW-10
MW-8A
MW-11
SW-9
MW-7
MW-6B
MW-6
MW-6A
MW-5
PHIBRO-TECH FACILITY - EAST SIDE
NOSES CREEK

RMT INC.
LABORATORIES

CLIENT: CP CHEMICALS PS
SAMPLE #: 38430
PROJECT #: 00607.14
WORK ORDER #: 042189-0060714

REPORT DATE: 05/18/89
COLLECTION DATE: 04/19/89
STATION ID: SW 6
SAMPLE COLLECTOR: EMJ

GROUND WATER ANALYSIS REPORT

PARAMETER	RESULT	UNITS
Barium, Total	0.049	mg/l
Cadmium, Total	<0.0003	mg/l
Chromium, Total	<0.001	mg/l
Copper, Total	0.11	mg/l
Lead, Total	0.034	mg/l
Mercury, Total	<0.0002	mg/l

Alan Doughty, Ph.D., Laboratory Director

Appendix D

RMT INC.
LABORATORIES

CLIENT: CP CHEMICALS PS
SAMPLE #: 38429
PROJECT #: 00607.14
WORK ORDER #: 042189-0060714

REPORT DATE: 05/18/89
COLLECTION DATE: 04/19/89
STATION ID: SW 7
SAMPLE COLLECTOR: EMJ

GROUND WATER ANALYSIS REPORT

PARAMETER	RESULT	UNITS
Barium, Total	0.088	mg/1
Cadmium, Total	0.0036	mg/1
Chromium, Total	<0.001	mg/1
Copper, Total	7.6	mg/1
Lead, Total	0.17	mg/1
Mercury, Total	<0.0002	mg/1

Alan Doughty, Ph.D., Laboratory Director

RMT INC.

LABORATORIES

CLIENT: CP CHEMICALS PS
SAMPLE #: 38428
PROJECT #: 00607.14
WORK ORDER #: 042189-0060714

REPORT DATE: 05/18/89
COLLECTION DATE: 04/19/89
STATION ID: SW 8
SAMPLE COLLECTOR: EMJ

GROUND WATER ANALYSIS REPORT

PARAMETER	RESULT	UNITS
Barium, Total	0.38	mg/l
Cadmium, Total	0.018	mg/l
Chromium, Total	<0.001	mg/l
Copper, Total	11	mg/l
Lead, Total	0.26	mg/l
Mercury, Total	<0.0002	mg/l

Alan Doughty, Ph.D., Laboratory Director

RMT INC.
LABORATORIES

CLIENT: CP CHEMICALS PS
SAMPLE #: 38427
PROJECT #: 00607.14
WORK ORDER #: 042189-0060714

REPORT DATE: 05/18/89
COLLECTION DATE: 04/19/89
STATION ID: SW 9
SAMPLE COLLECTOR: EMJ

GROUND WATER ANALYSIS REPORT

PARAMETER	RESULT	UNITS
Barium, Total	0.33	mg/1
Cadmium, Total	0.015	mg/1
Chromium, Total	0.002	mg/1
Copper, Total	8.8	mg/1
Lead, Total	0.20	mg/1
Mercury, Total	0.0003	mg/1

Alan Doughty, Ph.D., Laboratory Director

RMT INC
LABORATORIES

CLIENT: CP CHEMICALS PS
PROJECT #: 607.14
WORK ORDER #: 042189-0060714

REPORT DATE: 05/18/89
SAMPLE COLLECTOR: EMJ

GROUND WATER ANALYSIS REPORT

METHOD OF STANDARD ADDITIONS

SAMPLE	DATE	STATION ID	CADMIUM	UNITS
38427	04/19/89	SW 9	0.012	mg/1
38428	04/19/89	SW 8	0.016	mg/1
38429	04/19/89	SW 7	0.0027	mg/1

Alan Doughty, Ph.D., Laboratory Director

RMT INC.
LABORATORIES

CLIENT: CP CHEMICALS PS
PROJECT #: 607.14
WORK ORDER #: 042189-0060714

REPORT DATE: 05/18/89
SAMPLE COLLECTOR: EMJ

GROUND WATER ANALYSIS REPORT

METHOD OF STANDARD ADDITIONS

SAMPLE	DATE	STATION ID	LEAD	UNITS
38427	04/19/89	SW 9	0.24	mg/1
38428	04/19/89	SW 8	0.32	mg/1
38429	04/19/89	SW 7	0.21	mg/1
38430	04/19/89	SW 6	0.043	mg/1

Alan Doughty, Ph.D., Laboratory Director

RMT INC.
LABORATORIES

CLIENT: CP CHEMICALS PS
SAMPLE #: 38430
PROJECT #: 00607.14
WORK ORDER #: 042189-0060714

REPORT DATE: 05/08/89
COLLECTION DATE: 04/19/89
STATION ID: SW 6
SAMPLE COLLECTOR: EMJ

VOLATILE ORGANIC COMPOUNDS ANALYSIS REPORT

PARAMETER	RESULT	UNITS
ACETONE	14	ug/l
BENZENE	<1.0	ug/l
TETRACHLOROETHYLENE	<1.0	ug/l

Alan Doughty, Ph.D., Laboratory Director

RMT INC.
LABORATORIES

CLIENT: CP CHEMICALS PS
SAMPLE #: 38429
PROJECT #: 00607.14
WORK ORDER #: 042189-0060714

REPORT DATE: 05/08/89
COLLECTION DATE: 04/19/89
STATION ID: SW 7
SAMPLE COLLECTOR: EMJ

VOLATILE ORGANIC COMPOUNDS ANALYSIS REPORT

PARAMETER	RESULT	UNITS
ACETONE	<10	ug/l
BENZENE	<1.0	ug/l
TETRACHLOROETHYLENE	<1.0	ug/l

Alan Doughty, Ph.D., Laboratory Director

RMT INC.
LABORATORIES

CLIENT: CP CHEMICALS PS
SAMPLE #: 38428
PROJECT #: 00607.14
WORK ORDER #: 042189-0060714
REPORT DATE: 05/08/89
COLLECTION DATE: 04/19/89
STATION ID: SW 8
SAMPLE COLLECTOR: EMJ

VOLATILE ORGANIC COMPOUNDS ANALYSIS REPORT

PARAMETER	RESULT	UNITS
ACETONE	<10	ug/l
BENZENE	<1.0	ug/l
TETRACHLOROETHYLENE	<1.0	ug/l

Alan Doughty, Ph.D., Laboratory Director

RMT INC.
LABORATORIES

CLIENT: CP CHEMICALS PS
SAMPLE #: 38427
PROJECT #: 00607.14
WORK ORDER #: 042189-0060714

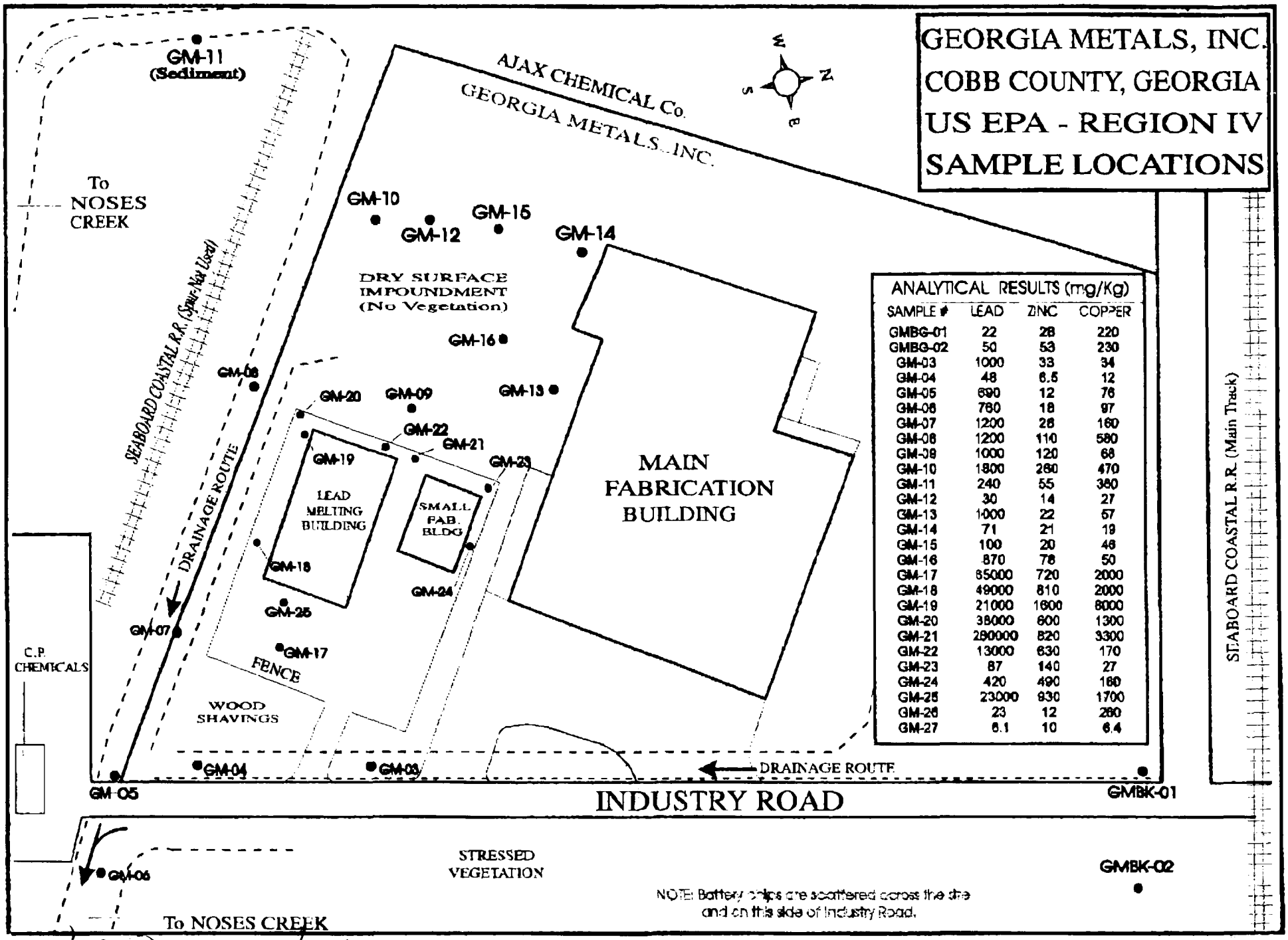
REPORT DATE: 05/08/89
COLLECTION DATE: 04/19/89
STATION ID: SW 9
SAMPLE COLLECTOR: EMJ

VOLATILE ORGANIC COMPOUNDS ANALYSIS REPORT

PARAMETER	RESULT	UNITS
ACETONE	66	ug/l
BENZENE	<1.0	ug/l
TETRACHLOROETHYLENE	<1.0	ug/l

Alan Doughty, Ph.D., Laboratory Director

GEORGIA METALS, INC.
COBB COUNTY, GEORGIA
US EPA - REGION IV
SAMPLE LOCATIONS



NOTE: Battery chips are scattered across the site and on this side of Industry Road.

ANALYTICAL RESULTS (mg/Kg)

SAMPLE #	LEAD	ZINC	COPPER
GMBG-01	22	28	220
GMBG-02	50	53	230
GM-03	1000	33	34
GM-04	48	6.5	12
GM-05	690	12	76
GM-06	760	18	97
GM-07	1200	28	160
GM-08	1200	110	580
GM-09	1000	120	68
GM-10	1800	260	470
GM-11	240	55	360
GM-12	30	14	27
GM-13	1000	22	57
GM-14	71	21	19
GM-15	100	20	46
GM-16	870	76	50
GM-17	65000	720	2000
GM-18	49000	810	2000
GM-19	21000	1600	8000
GM-20	38000	600	1300
GM-21	290000	820	3300
GM-22	13000	630	170
GM-23	87	140	27
GM-24	420	490	160
GM-25	23000	930	1700
GM-26	23	12	260
GM-27	6.1	10	6.4

Reference 10

GEORG... METALS SITE
ANALYTICAL DATA SUMMARY

SAMPLE ID	ANALYTE												
	Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
GMBG-01	<DL	2.2 E	0.41 E	<DL	22	220	22	<DL	4.0	<DL	1.2 E	3.9 E	28
GMBG-02	<DL	7.5 E	0.66 E	0.65 E	44	230	50	<DL	4.8 E	<DL	3.8	19	53
GM-03	<DL	5.4 E	<DL	0.42 E	21	34	1,000	<DL	3.2 E	<DL	0.90 E	<DL	33
GM-04	2.4 E	7.8 E	0.46 E	1.7 E	29	12	48	<DL	1.8 E	<DL	3.4	12 E	6.5
GM-05	2.0 E	<DL	<DL	<DL	12	76	690	<DL	2.1 E	<DL	0.85 E	<DL	12
GM-06	3.0 E	5.3 E	<DL	<DL	14	97	760	<DL	4.3 E	<DL	1.0 E	4.4 E	18
GM-07	2.0 E	<DL	<DL	<DL	12	160	1,200	<DL	4.0 E	<DL	0.59 E	<DL	28
GM-08	2.2 E	<DL	<DL	0.60 E	10	580	1,200	<DL	3.9 E	<DL	0.70 E	<DL	110
GM-09	<DL	4.2 E	<DL	<DL	24	68	1,000	<DL	6.9	<DL	1.4 E	4.7 E	120
GM-10	<DL	5.1 E	<DL	0.86 E	12	470	1,800	<DL	7.2	<DL	0.96 E	<DL	260
GM-11	<DL	2.9 E	<DL	<DL	44	360	240	<DL	10	21	0.98 E	4.2 E	55
GM-12	<DL	2.4 E	<DL	<DL	23	27	30	<DL	1.7 E	<DL	1.2 E	7.0 E	14
GM-13	<DL	<DL	0.28 E	<DL	14	57	1,000	<DL	4.0	<DL	0.75 E	<DL	22
GM-14	<DL	5.0 E	0.31 E	<DL	79	19	71	<DL	4.2	<DL	1.7	8.1 E	21
GM-15	<DL	7.9	0.45 E	<DL	28	46	100	<DL	3.9 E	3.8 E	2.6	15	20
GM-16	<DL	<DL	<DL	<DL	22	50	870	<DL	4.7	<DL	0.85 E	<DL	78
GM-17	59	42	<DL	5.6	160	2,000	65,000	0.79 E	78	7.1 E	11	19 E	720
GM-18	27	58	<DL	2.9	48	2,000	49,000	1.0	32	17	3.1	12	810
GM-19	12	32	<DL	2.0	51	8,000	21,000	0.32 E	23	7.7 E	3.4	7.1 E	1,600
GM-20	78	140	<DL	9.4	25	1,300	38,000	0.47 E	13	7.6 E	2.0	8.6 E	600
GM-21	290	140	<DL	22	330	3,300	280,000	0.33 E	180	12 E	6.2	44	820
GM-22	14	16	<DL	5.3	41	170	13,000	<DL	66	<DL	1.5	4.6 E	630
GM-23	<DL	<DL	<DL	<DL	23	27	87	<dll	2.9 E	<DL	0.50 E	<DL	140
GM-24	<DL	7.1 E	0.57 E	<DL	32	160	420	<DL	6.3	<DL	2.2	12 E	490
GM-25	26	49	0.38 E	2.3	49	1,700	23,000	<DL	56	9.3 E	3.9	19	930
GM-26	<DL	<DL	<DL	<DL	11	260	23	<DL	2.4 E	<DL	<DL	<DL	12
GM-27	<DL	<DL	<DL	<DL	22	6.4	6.1 E	<DL	3.9 E	<DL	0.97 E	<DL	10

E - Estimated value; concentration is below Practical Quantitation Limit (PQL).
<DL - concentration is below Detection Limit (DL).

OPTIONAL FORM 99 (7-90)

FAX TRANSMITTAL # of pages ▶ 2

To Martha Pierce	From Don Rigger
Dept./Agency	Phone #
Fax # 651-9425	Fax #

NSN 7540-01 317-7368 5099-101 GENERAL SERVICES ADMINISTRATION

RMT INC.

11 Regency Hills Drive
P. O. Box 16778
Greenville, SC 29606
Phone: 803-292-1921

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Environmental Protection Division
Land Protection Branch

EXPOSURE INFORMATION REPORT

CP CHEMICALS, INC.
POWDER SPRINGS, GEORGIA

February 1, 1988

Joyce E. Peterson, P.E.
Project Manager

Steve W. Webb, Ph.D.
Department Head
Environmental Process
Engineering Group

Reference 20

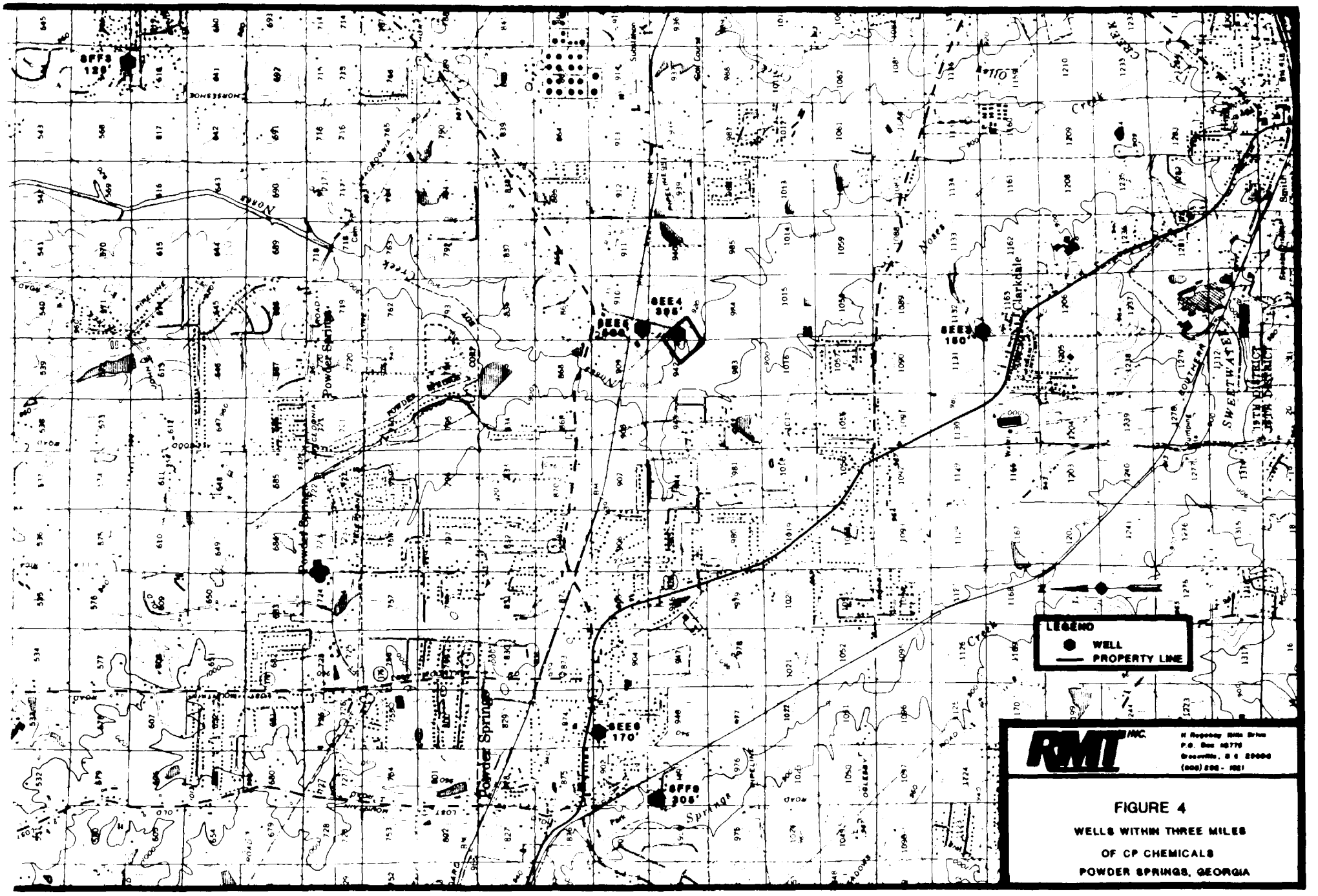

LEGEND
WELL
PROPERTY LINE
RMT INC.
FIGURE 4
WELLS WITHIN THREE MILES
OF CP CHEMICALS
POWDER SPRINGS, GEORGIA

Table 1. Withdrawal Well Information

Well Number	Owner	Yield (gal/min)	Depth (feet)	Elevation (feet)	Distance from Site
8EE3	Residential	125	150	920	1.3 miles
8EE4	CP Chemicals	55	395	910	0 miles
8EE5	Georgia Metals	40	500	920	0.2 miles
8EE6	City of Powder Springs	200	170	970	1.7 miles
8FF3	Residential	40	126	940	2.7 miles
8FF9	Residential	60	305	1190	2.0 miles

Information obtained from "Ground Water in the Greater Atlanta Region, Georgia," Cressler, Thurmond and Hester, 1983.

Well 8EE4 is located at the CP Chemicals facility. The well is currently inoperable. Well 8EE5 is located next the CP Chemicals property and is leased by Ajay Chemical for process water. Well 8EE6 is a back-up water supply well for the City of Powder Springs. The other three wells are assumed to be residential wells.

Regional Ground Water Recharge and Discharge Areas

No information has been identified which comprehensively discusses ground water recharge and discharge areas near the CP Chemicals facility. However, vertical ground water flow gradients measured during the ground water assessment at the site indicate that ground water from the site is discharging to Noses Creek.

Net Precipitation Information

Climatic data for Atlanta, Georgia, (Atlanta-Hartsfield International Airport) was provided by the National Climatic Data Center. The weather station is about 20 miles from the facility. Normal annual precipitation for Atlanta is 48.61 inches (water equivalent) for the

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

COBB COUNTY, GEORGIA
(UNINCORPORATED AREAS)

PANEL 75 OF 150
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
130052 0075 A

EFFECTIVE DATE:
JANUARY 3, 1979

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

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

COBB COUNTY, GEORGIA
(UNINCORPORATED AREAS)

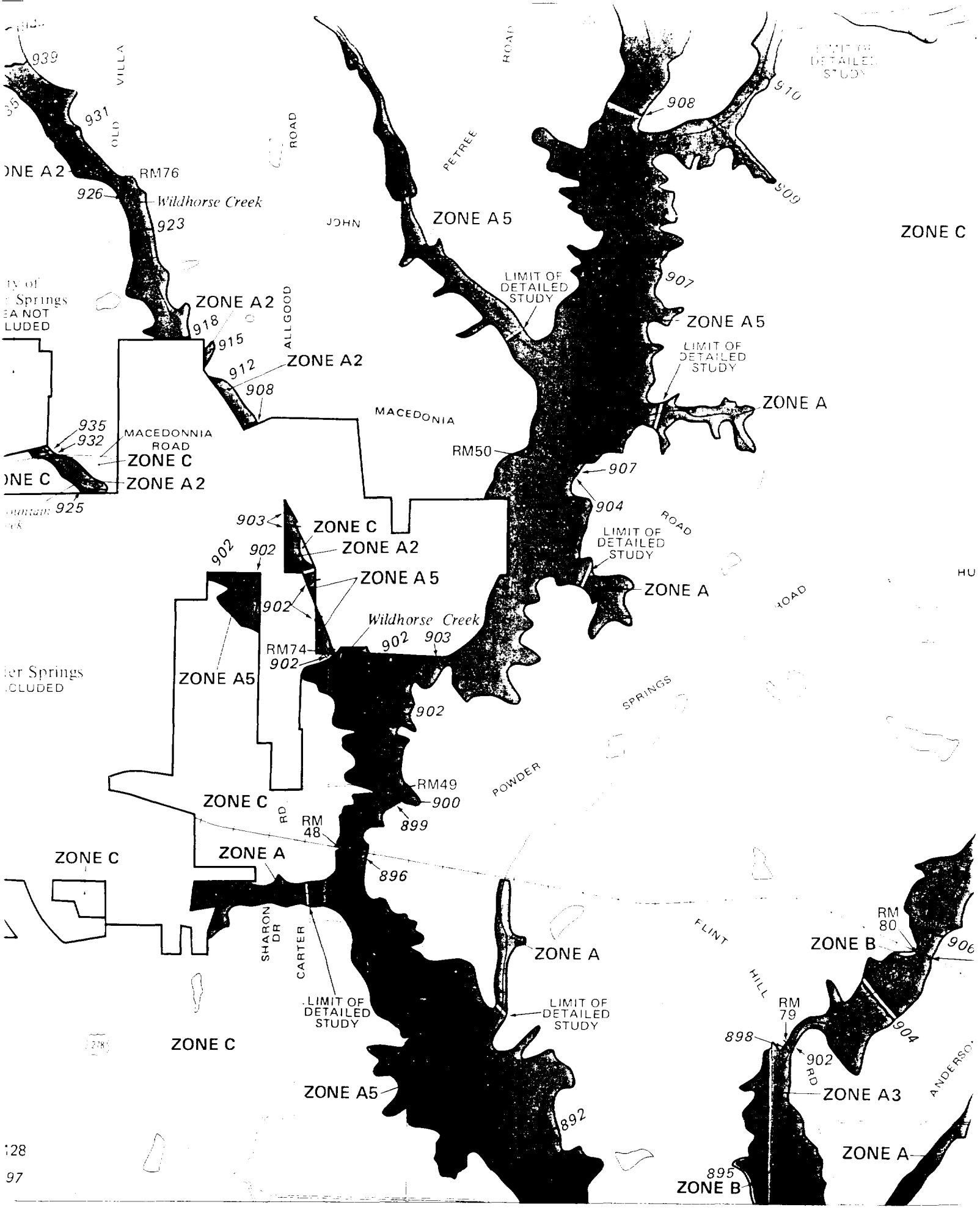
MAP INDEX
PANELS PRINTED: 25, 50, 75, 100, 125, 150

COMMUNITY-PANEL NUMBERS
130052 0001- 0150

EFFECTIVE DATE:
JANUARY 3, 1979

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

Reference


939
931
OLD VILLA
ROAD
ONE A2
RM76
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Wildhorse Creek
923
JOHN
PETREE
ROAD
ZONE A5
908
910
909
ZONE C
907
LIMIT OF DETAILED STUDY
ZONE A5
LIMIT OF DETAILED STUDY
ZONE A
ZONE A2
918
915
912
908
ALLGOOD
ZONE A2
MACEDONIA
935
932
MACEDONNIA ROAD
ZONE C
ZONE A2
ONE C
925
RM50
907
904
ROAD
LIMIT OF DETAILED STUDY
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ZONE C
ZONE A2
902
902
ZONE A5
902
Wildhorse Creek
RM74
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902
903
ZONE A5
902
SPRINGS
POWDER
RM49
900
899
ZONE C
RD
RM 48
ZONE C
ZONE A
896
SHARON DR
CARTER
ZONE A
LIMIT OF DETAILED STUDY
LIMIT OF DETAILED STUDY
ZONE C
ZONE A5
892
FLINT
HILL
RM 80
ZONE B
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RM 79
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904
RD
ZONE A3
ANDERSO
ZONE A
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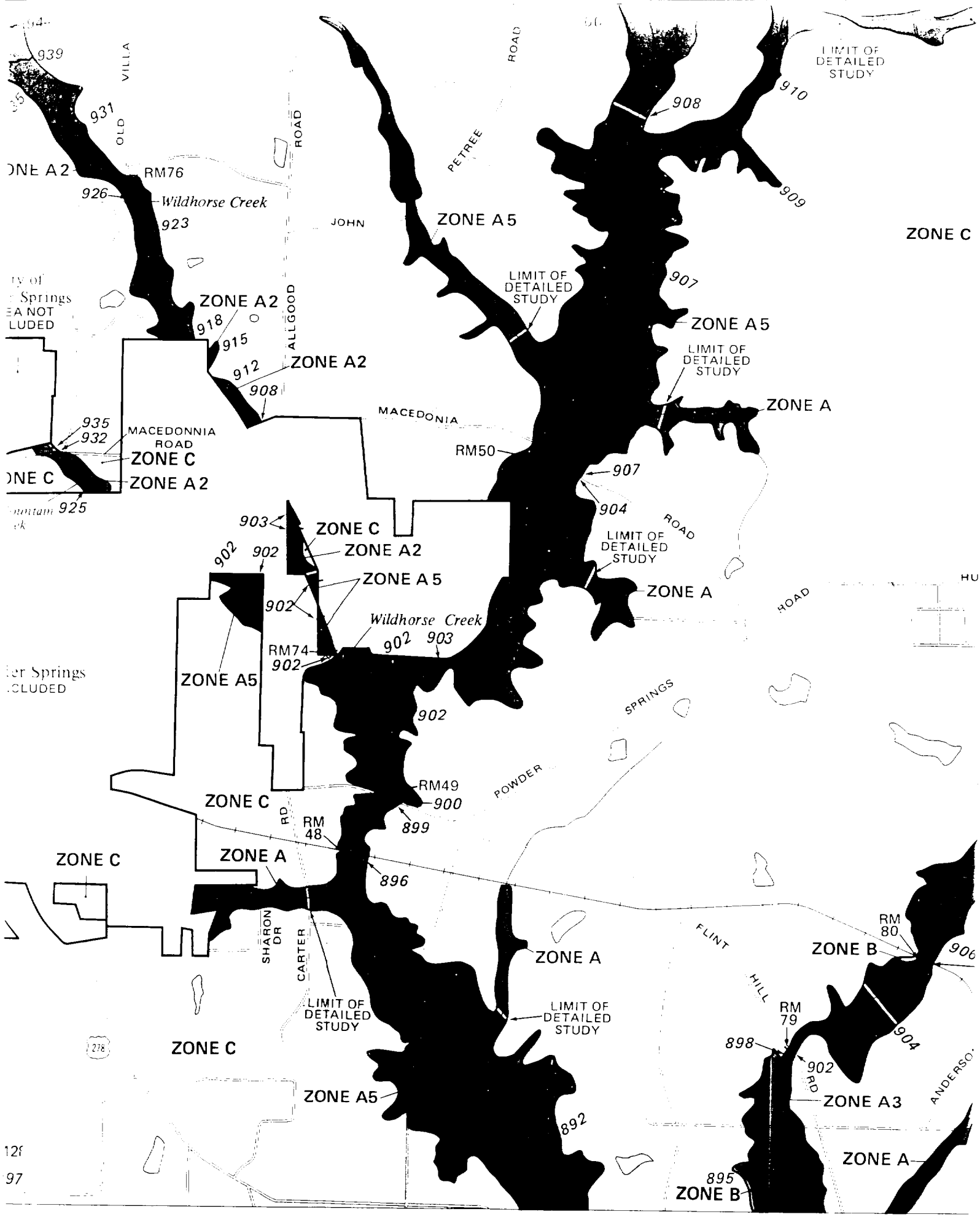
ZONE B
128
97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Wildhorse Creek
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JOHN
ZONE A5
PETREE
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LIMIT OF DETAILED STUDY
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ALLGOOD
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LIMIT OF DETAILED STUDY
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LIMIT OF DETAILED STUDY
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ZONE A5
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Wildhorse Creek
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903
ZONE A5
ROAD
SPRINGS
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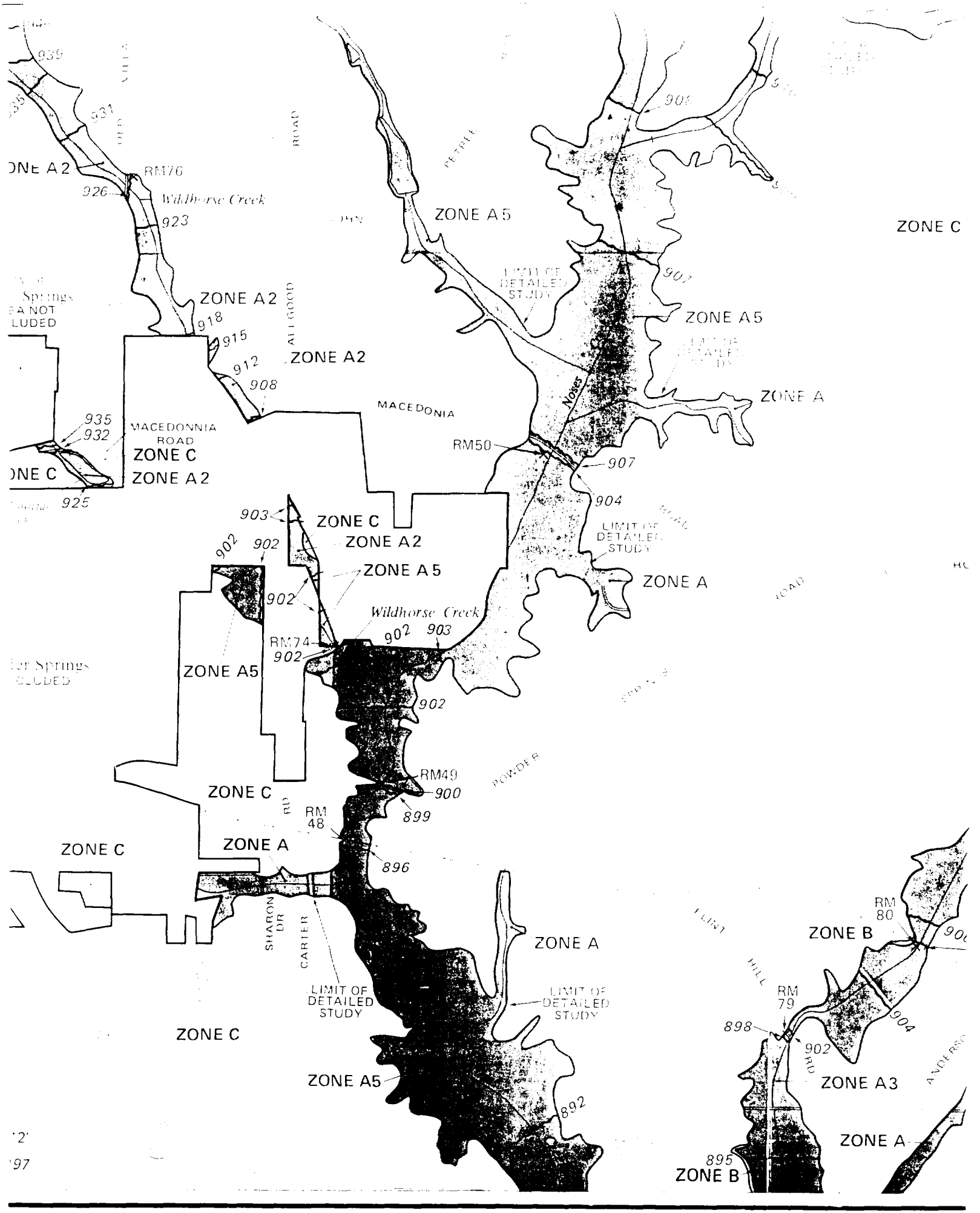
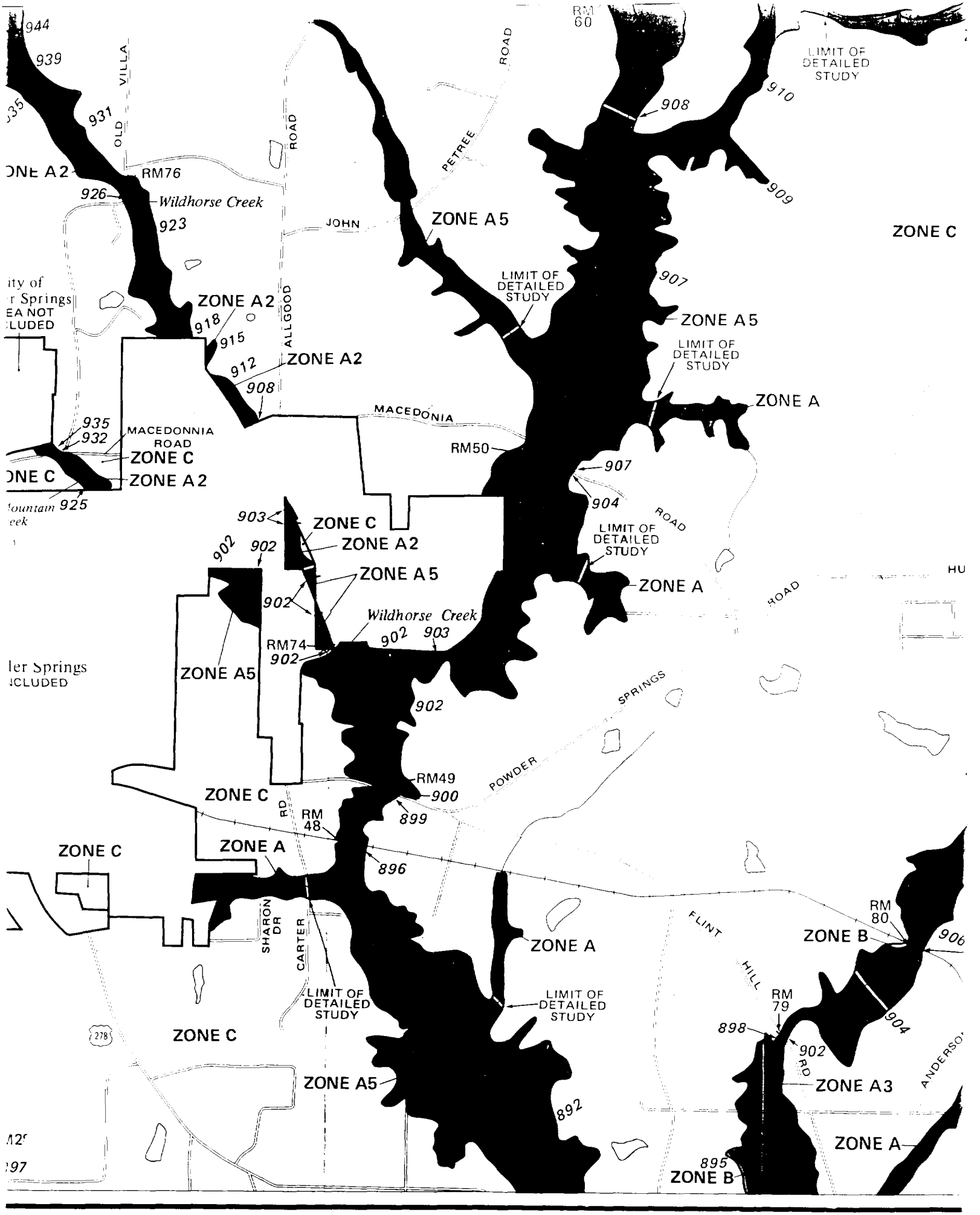
POWDER
RM49
900
899
ZONE C
RD
RM 48
ZONE C
ZONE A
896
SHARON DR
CARTER
ZONE A
FLINT
HILL
RM 80
ZONE B
906
LIMIT OF DETAILED STUDY
LIMIT OF DETAILED STUDY
RM 79
898
904
902
RD
ZONE C
278
ZONE A5
ZONE A3
892
ZONE A
895
ZONE B


ZONE A2
RM76
Wildhorse Creek
ZONE A2
ZONE A2
MACEDONIA
MACEDONNIA ROAD
ZONE C
ZONE A2
ZONE A5
ZONE C
ZONE A5
LIMIT OF DETAILED STUDY
ZONE A5
ZONE A
RM50
ZONE C
ZONE A2
ZONE A5
LIMIT OF DETAILED STUDY
ZONE A
Wildhorse Creek
RM74
ZONE A5
ZONE C
RM49
RM 48
ZONE C
ZONE A
SHARON DR
CARTER
LIMIT OF DETAILED STUDY
ZONE A
LIMIT OF DETAILED STUDY
ZONE C
ZONE A5
ZONE B
RM 80
RM 79
ZONE A3
ZONE A
ZONE B



944
939
931
OLD VILLA
ROAD
RM76
926
Wildhorse Creek
923
ZONE A2
ZONE A2
918
915
912
ZONE A2
908
ALLGOOD
JOHN
PETREE
ROAD
ZONE A5
LIMIT OF DETAILED STUDY
RM 60
908
910
909
LIMIT OF DETAILED STUDY
ZONE C
907
ZONE A5
LIMIT OF DETAILED STUDY
ZONE A
MACEDONIA
RM50
907
904
ROAD
LIMIT OF DETAILED STUDY
ZONE A
ROAD
HU
935
932
MACEDONNIA ROAD
ZONE C
ZONE A2
ZONE C
925
903
ZONE C
ZONE A2
902
902
ZONE A5
902
Wildhorse Creek
RM74
902
902
903
ZONE A5
902
SPRINGS
POWDER
RM49
900
899
ZONE C
RD
RM 48
ZONE A
896
ZONE C
SHARON DR
CARTER
LIMIT OF DETAILED STUDY
ZONE A
LIMIT OF DETAILED STUDY
FLINT
HILL
RM 80
ZONE B
906
RM 79
898
902
RD
904
ANDERSO
ZONE A3
ZONE C
278
ZONE A5
892
ZONE A
895
ZONE B

APPENDIX B

Site Inspection Worksheets

SITE INSPECTION WORKSHEETS

CERCLIS IDENTIFICATION NUMBER
GAD 984306605

SITE LOCATION			
SITE NAME: LEGAL, COMMON, OR DESCRIPTIVE NAME OF SITE GEORGIA METALS INC.			
STREET ADDRESS, ROUTE, OR SPECIFIC LOCATION IDENTIFIER 1400 INDUSTRY ROAD			
CITY POWDER SPRINGS	STATE GA	ZIP CODE 30073	TELEPHONE (404)
COORDINATES: LATITUDE and LONGITUDE 33°51'17" N AND 84°38' W	TOWNSHIP, RANGE, AND SECTION COBB COUNTY		

OWNER/OPERATOR IDENTIFICATION					
OWNER WILLIAM F. KELLY			OPERATOR WILLIAM F. KELLY		
OWNER ADDRESS 1400 INDUSTRY ROAD			OPERATOR ADDRESS 1400 INDUSTRY ROAD		
CITY POWDER SPRINGS			CITY POWDER SPRINGS		
STATE GA	ZIP CODE 30073	TELEPHONE (404)	STATE GA	ZIP CODE 30073	TELEPHONE (404)

SITE EVALUATION		
AGENCY/ORGANIZATION GA EPD		
INVESTIGATOR MARTHA PIERCE		
CONTACT JENNIFER KADUCK		
ADDRESS 205 Butler St, SE, 1154-E Floyd Tower		
CITY ATLANTA	STATE GA	ZIP CODE 30334
TELEPHONE (404) 656-7802		

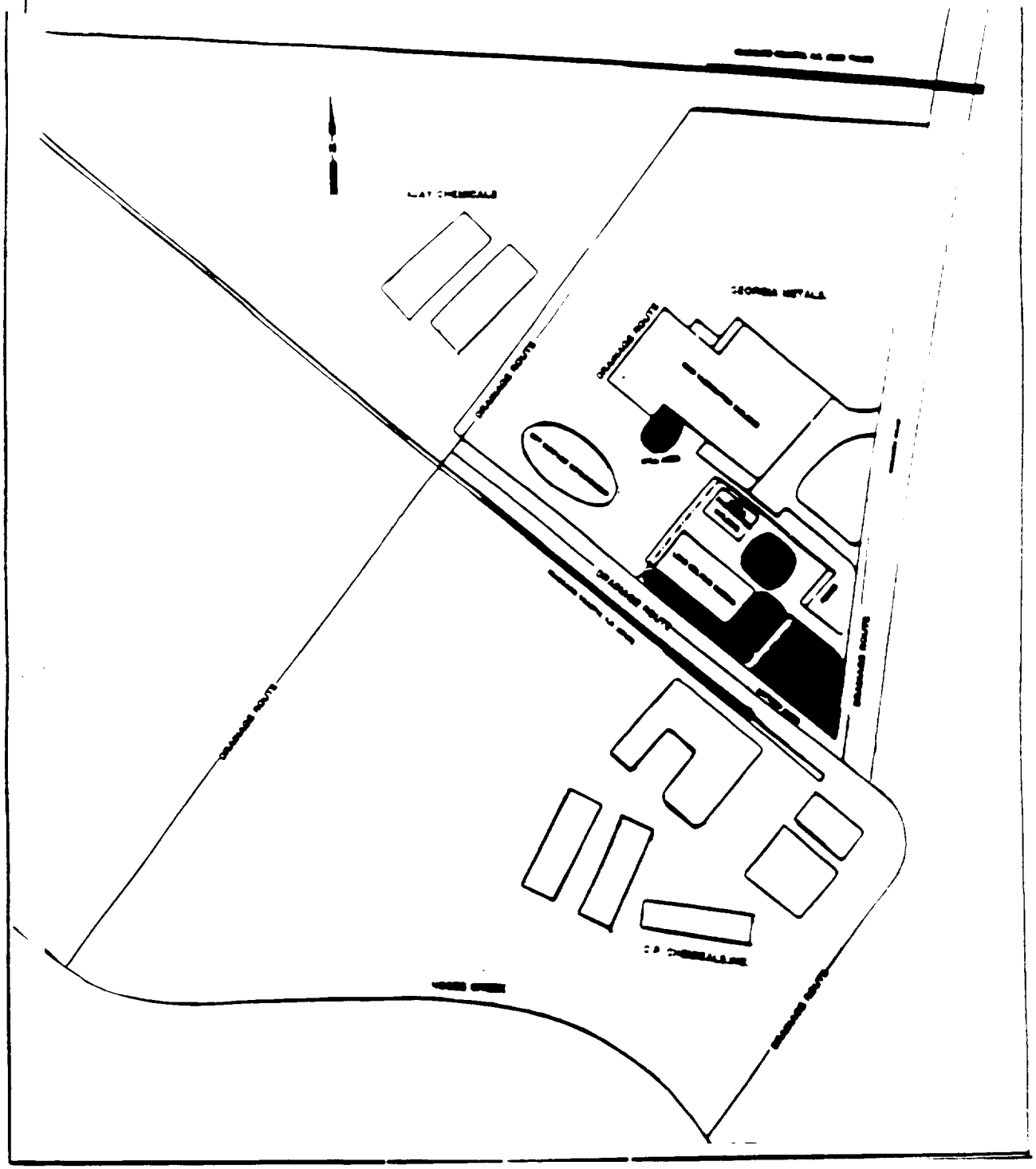
GENERAL INFORMATION

Site Description and Operational History: Provide a brief description of the site and its operational history. State the site name, owner, operator, type of facility and operations, size of property, active or inactive status, and years of waste generation. Summarize waste treatment, storage, or disposal activities that have or may have occurred at the site; note whether these activities are documented or alleged. Identify all source types and prior spills, floods, or fires. Summarize highlights of the PA and other investigations. Cite references.

Georgia Metals, Inc. (formerly Southern Lead Burning) is an active site owned and operated by William F. Kelly. The site is approximately 6.4 acres and has three structures on it. The largest structure is the main fabrication building and office. The lead melting building is a smaller structure. The smallest structure is used for the fabrication of lead lined containers. The two smaller structures are enclosed by a chain link fence. There is a dry surface impoundment in the southwest area of the site. The northern part is covered with vegetation but the southern part has little vegetation and is etched with gullies. The site slopes south with Noses Creek approximately 900 feet to the south. For over 30 years a variety of lead products have been fabricated. The company now specializes in the fabrication and repair of steel tank assemblies. A former employee has alleged that waste has been buried at the site. Reportedly up to 50 drums of lead bearing material were stored outside, east of melting building in the past. A spill of lead bearing material also occurred southwest of the main fabricating building in the past. On and off site soil samples collected by GA EPD and US EPA indicate high levels of lead. Plastic battery case chips are on the ground on and off site.

GENERAL INFORMATION (continued)

Site Sketch: Provide a sketch of the site. Indicate all pertinent features of the site and nearby environments including sources of wastes, areas of visible and buried wastes, buildings, residences, access roads, parking areas, fences, fields, drainage patterns, water bodies, vegetation, wells, sensitive environments, and other features.



GENERAL INFORMATION (continued)

Source Descriptions: Describe all sources at the site. Identify source type and relate to waste disposal operations. Provide source dimensions and the best available waste quantity information. Describe the condition of sources and all containment structures. Cite references.

SOURCE TYPES

Landfill: A man-made (by excavation or construction) or natural hole in the ground into which wastes have come to be disposed by backfilling, or by contemporaneous soil deposition with waste disposal.

Surface Impoundment: A natural topographic depression, man-made excavation, or diked area, primarily formed from earthen materials (lined or unlined) and designed to hold an accumulation of liquid wastes, wastes containing free liquids, or sludges not backfilled or otherwise covered; depression may be wet with exposed liquid or dry if deposited liquid has evaporated, volatilized or leached; structures that may be described as lagoon, pond, aeration pit, settling pond, tailings pond, sludge pit; also a surface impoundment that has been covered with soil after the final deposition of waste materials (i.e., buried or backfilled).

Drum: A portable container designed to hold a standard 55-gallon volume of wastes.

Tank and Non-Drum Container: Any device, other than a drum, designed to contain an accumulation of waste that provides structural support and is constructed primarily of fabricated materials (such as wood, concrete, steel, or plastic); any portable or mobile device in which waste is stored or otherwise handled.

Contaminated Soil: An area or volume of soil onto which hazardous substances have been spilled, spread, disposed, or deposited.

Pile: Any non-containerized accumulation above the ground surface of solid, non-flowing wastes; includes open dumps. Some types of waste piles are:

- Chemical Waste Pile: A pile consisting primarily of discarded chemical products, by-products, radioactive wastes, or used or unused feedstocks.
- Scrap Metal or Junk Pile: A pile consisting primarily of scrap metal or discarded durable goods (such as appliances, automobiles, auto parts, batteries, etc.) composed of materials containing hazardous substances.
- Tailings Pile: A pile consisting primarily of any combination of overburden from a mining operation and tailings from a mineral mining, beneficiation, or processing operation.
- Trash Pile: A pile consisting primarily of paper, garbage, or discarded non-durable goods containing hazardous substances.

Land Treatment: Landfarming or other method of waste management in which liquid wastes or sludges are spread over land and tilled, or liquids are injected at shallow depths into soils.

Other: Sources not in categories listed above.

GENERAL INFORMATION (continued)

Source Description: Include description of containment per pathway for ground water (see HRS Table 3-2), surface water (see HRS Table 4-2), and air (see HRS Tables 6-3 and 6-9).

In and off site contaminated soil with high levels of lead. Two units not considered as sources: (1) dry surface impoundment with no sludge or contamination evident and with lead analytical results less than background and (2) past drum storage area because no drums were seen during the PA or SI inspection and the soil is highly contaminated with lead. Groundwater value = 0, Surface Water value = 0, Gas value = 0, Particulate = 10

Hazardous Waste Quantity (HWQ) Calculation: SI Tables 1 and 2 (See HRS Tables 2-5, 2-6, and 5-2).

Approximately 45,124 ft³ contaminated soil confirmed by soil sample results or areas with plastic battery case chips.

Tier D.

Attach additional pages, if necessary

HWQ = 10

SI TABLE 1: HAZARDOUS WASTE QUANTITY (HWQ) SCORES FOR SINGLE SOURCE SITES AND FORMULAS FOR MULTIPLE SOURCE SITES

		Single Source Sites (assigned HWQ scores)	
(Column 1) TIER	(Column 2) Source Type	(Column 3) HWQ = 10	(Column 4) HWQ = 100
A Hazardous Constituent Quantity	N/A	HWQ = 1 if Hazardous Constituent Quantity data are complete HWQ = 10 if Hazardous Constituent Quantity data are not complete	>100 to 10,000 lbs
B Hazardous Wastestream Quantity	N/A	≤ 500,000 lbs	>500,000 to 50 million lbs
C Volume	Landfill	≤ 6.75 million ft^3 ≤ 250,000 yd^3	>6.75 million to 675 million ft^3 >250,000 to 25 million yd^3
	Surface impoundment	≤6,750 ft^3 ≤250 yd^3	>6,750 to 675,000 ft^3 >250 to 25,000 yd^3
	Drums	≤1,000 drums	>1,000 to 100,000 drums
	Tanks and non-drum containers	≤50,000 gallons	>50,000 to 5 million gallons
	Contaminated soil	≤6.75 million ft^3 ≤250,000 yd^3	>6.75 million to 675 million ft^3 >250,000 to 25 million yd^3
	Pile	≤6,750 ft^3 ≤250 yd^3	>6,750 to 675,000 ft^3 >250 to 25,000 yd^3
	Other	≤6,750 ft^3 ≤250 yd^3	>6,750 to 675,000 ft^3 >250 to 25,000 yd^3
D Area	Landfill	≤340,000 ft^2 ≤7.8 acres	>340,000 to 34 million ft^2 >7.8 to 780 acres
	Surface impoundment	≤1,300 ft^2 ≤0.029 acres	>1,300 to 130,000 ft^2 >0.029 to 2.9 acres
	Contaminated soil	≤3.4 million ft^2 ≤78 acres	> 3.4 million to 340 million ft^2 > 78 to 7,800 acres
	Pile	≤1,300 ft^2 ≤0.029 acres	>1,300 to 130,000 ft^2 >0.029 to 2.9 acres
	Land treatment	≤27,000 ft^2 ≤0.62 acres	>27,000 to 2.7 million ft^2 >0.62 to 62 acres

TABLE 1 (CONTINUED)

Single Source Sites (assigned HWQ scores)		Multiple Source Sites		
(Column 5) HWQ = 10,000	(Column 6) HWQ = 1,000,000	(Column 7) Divisors for Assigning Source WQ Values	(Column 2) Source Type	(Column 1) TIER
>10,000 to 1 million lbs	> 1 million lbs	lbs ÷ 1	N/A	A Hazardous Constituent Quantity
>50 million to 5 billion lbs	> 5 billion lbs	lbs ÷ 5,000	N/A	B Hazardous Wastestream Quantity
>675 million to 67.5 billion ft^3 >25 million to 2.5 billion yd^3	> 67.5 billion ft^3 > 2.5 billion yd^3	ft^3 ÷ 67,500 yd^3 ÷ 2,500	Landfill	C Volume
>675,000 to 67.5 million ft^3 >25,000 to 2.5 million yd^3	> 67.5 million ft^3 > 2.5 million yd^3	ft^3 ÷ 67.5 yd^3 ÷ 2.5	Surface Impoundment	
>100,000 to 10 million drums	> 10 million drums	drums ÷ 10	Drums	
>5 million to 500 million gallons	> 500 million gallons	gallons ÷ 500	Tanks and non-drum containers	
>675 million to 67.5 billion ft^3 >25 million to 2.5 billion yd^3	> 67.5 billion ft^3 > 2.5 billion yd^3	ft^3 ÷ 67,500 yd^3 ÷ 2,500	Contaminated Soil	
>675,000 to 67.5 million ft^3 >25,000 to 2.5 million yd^3	> 67.5 million ft^3 > 2.5 million yd^3	ft^3 ÷ 67.5 yd^3 ÷ 2.5	Pile	
>675,000 to 67.5 million ft^3 >25,000 to 2.5 million yd^3	> 67.5 million ft^3 > 2.5 million yd^3	ft^3 ÷ 67.5 yd^3 ÷ 2.5	Other	
>34 million to 3.4 billion ft^2 >780 to 78,000 acres	> 3.4 billion ft^2 >78,000 acres	ft^2 ÷ 3,400 acres ÷ 0.078	Landfill	D Area
>130,000 to 13 million ft^2 >2.9 to 290 acres	> 13 million ft^2 > 290 acres	ft^2 ÷ 13 acres ÷ 0.00029	Surface Impoundment	
> 340 million to 34 billion ft^2 > 7,800 to 780,000 acres	> 34 billion ft^2 > 780,000 acres	ft^2 ÷ 34,000 acres ÷ 0.78	Contaminated Soil	
> 130,000 to 13 million ft^2 > 2.9 to 290 acres	> 13 million ft^2 > 290 acres	ft^2 ÷ 13 acres ÷ 0.00029	Pile	
>2.7 million to 270 million ft^2 >62 to 6,200 acres	> 270 million ft^2 > 6,200 acres	ft^2 ÷ 270 acres ÷ 0.0062	Land Treatment	

HAZARDOUS WASTE QUANTITY (HWQ) CALCULATION

For each migration pathway, evaluate HWQ associated with sources that are available (i.e., incompletely contained) to migrate to that pathway. (Note: If *Actual Contamination Targets* exist for ground water, surface water, or air migration pathways, assign the calculated HWQ score or 100, whichever is greater, as the HWQ score for that pathway.) For each source, evaluate HWQ for one or more of the four tiers (SI Table 1; HRS Table 2-5) for which data exist: constituent quantity, wastestream quantity, source volume, and source area. Select the tier that gives the highest value as the source HWQ. Select the source volume HWQ rather than source area HWQ if data for both tiers are available.

Column 1 of SI Table 1 indicates the quantity tier. Column 2 lists source types for the four tiers. Columns 3, 4, 5, and 6 provide ranges of waste amount for sites with only one source, corresponding to HWQ scores at the tops of the columns. Column 7 provides formulas to obtain source waste quantity values at sites with multiple sources.

1. Identify each source type.
2. Examine all waste quantity data available for each source. Record constituent quantity and waste stream mass or volume. Record dimensions of each source.
3. Convert source measurements to appropriate units for each tier to be evaluated.
4. For each source, use the formulas in the last column of SI Table 1 to determine the waste quantity value for each tier that can be evaluated. Use the waste quantity value obtained from the highest tier as the quantity value for the source.
5. Sum the values assigned to each source to determine the total site waste quantity.
6. Assign HWQ score from SI Table 2 (HRS Table 2-6).

Note these exceptions to evaluate soil exposure pathway HWQ (see HRS Table 5-2):

- The divisor for the area (square feet) of a landfill is 34,000.
- The divisor for the area (square feet) of a pile is 34.
- Wet surface impoundments and tanks and non-drum containers are the only sources for which volume measurements are evaluated for the soil exposure pathway.

SI TABLE 2: HWQ SCORES FOR SITES

Site WQ Total	HWQ Score
0	0
1[a] to 100	1[b]
> 100 to 10,000	100
> 10,000 to 1 million	10,000
> 1 million	1,000,000

[a] If the WQ total is between 0 and 1, round it to 1.
[b] If the hazardous constituent quantity data are not complete, assign the score of 10.

SI TABLE 3: WASTE CHARACTERIZATION WORKSHEET

Site Name: Georgia Metals, Inc

References SCDM

Sources:

1. SOIL
2. GROUNDWATER
3.
4.
5.
6.
7.
8.
9.

SOURCE	HAZARDOUS SUBSTANCE	TOXICITY	GROUND WATER PATHWAY		SURFACE WATER PATHWAY										
					OVERLAND/FLOOD MIGRATION							GROUND WATER TO SURFACE WATER			
			GW Mobility (HRS Table 3-8)	Tox/ Mobility Value (HRS Table 3-9)	Per (HRS Tables 4-10 and 4-11)	Tox/Per Value (HRS Table 4-12)	Bioac Pot. (HRS Table 4-15)	Tox/ Pers/ Bioac Value (HRS Table 4-16)	Ecotox (HRS Table 4-19)	Ecotox/ Pers (HRS Table 4-20)	Ecotox/ Pers/ Bioacc Value (HRS Table 4-21)	Tox/ Mob/ Pers Value (HRS Table 4-26)	Tox/ Mob/ Pers/ Bioacc Value (HRS Table 4-28)	Ecotox/ Mob/ Pers Value (HRS Table 4-29)	Ecotox/ Mob/ Per/ Bioacc Value (HRS Table 4-30)
1	Lead	10,000	0.002	20	1	10,000	5,000	5×10^7	1000	1000	5×10^6	10,000	5×10^7	20	1×10^6
1, 2	Selenium	100	1	100	1	100	5,000	5×10^5	100	100	5×10^5	100	5×10^5	100	5×10^5
1, 2	Barium	10	1	10	1	10	0.5	5	1	1	0.5	10	5	10	5
1, 2	Chromium	10,000	1	10,000	1	10,000	5	5×10^4	10,000	10,000	5×10^4	10,000	5×10^4	10,000	5×10^4
1	Copper	0	0.002	0	1	0	50,000	0	100	100	5×10^0	0	0	0	0
1	Nickel	10,000	0.002	20	1	10,000	500	5×10^6	10	10	5000	10,000	5×10^6	20	1×10^4
1, 2	Zinc	10	1	10	1	10	500	5000	10	10	5000	10	5000	10	5000
1	Cadmium	10,000	0.002	20	1	10,000	5000	5×10^7	1000	1000	5×10^6	10,000	5×10^7	20	1×10^5

Ground Water Observed Release Substances Summary Table

On SI Table 4, list the hazardous substances associated with the site detected in ground water samples for that aquifer. Include only those substances directly observed or with concentrations significantly greater than background levels. Obtain toxicity values from the Superfund Chemical Data Matrix (SCDM). Assign mobility a value of 1 for all observed release substances regardless of the aquifer being evaluated. For each substance, multiply the toxicity by the mobility to obtain the toxicity/mobility factor value; enter the highest toxicity/mobility value for the aquifer in the space provided.

Ground Water Actual Contamination Targets Summary Table

If there is an observed release at a drinking water well, enter each hazardous substance meeting the requirements for an observed release by well and sample ID on SI Table 5 and record the detected concentration. Obtain benchmark, cancer risk, and reference dose concentrations from SCDM. For MCL and MCLG benchmarks, determine the highest percentage of benchmark obtained for any substance. For cancer risk and reference dose, sum the percentages for the substances listed. If benchmark, cancer risk, or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage or the percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate the population using the well as a Level I target. If these percentages are less than 100% or all are N/A, evaluate the population using the well as a Level II target for that aquifer.

SI TABLE 4: GROUND WATER OBSERVED RELEASE SUBSTANCES (BY AQUIFER)

Sample ID	Hazardous Substance	Bckgrd. Conc.	Toxicity/ Mobility	References
GM-94-1	SELENIUM	<0.005	100	Hach
	Barium	0.060	10	
	Chromium	0.008	10,000	
	Zinc	0.041	10	
		mg/l		
	Highest Toxicity/Mobility		0.2	

Background monitoring well, MW-1, Rhubro-Tech (formerly CP Chemicals)

SI TABLE 5: GROUND WATER ACTUAL CONTAMINATION TARGETS

Well ID: _____ Level I _____ Level II _____ Population Served _____ References _____

Sample ID	Hazardous Substance	Conc. (µg/L)	Benchmark Conc. (MCL or MCLG)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
			Highest Percent		Sum of Percents		Sum of Percents	

Well ID: _____ Level I _____ Level II _____ Population Served _____ References _____

Sample ID	Hazardous Substance	Conc. (µg/L)	Benchmark Conc. (MCL or MCLG)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
			Highest Percent		Sum of Percents		Sum of Percents	

no observed releases to drinking water well

GROUND WATER PATHWAY
GROUND WATER USE DESCRIPTION

Describe Ground Water Use within 4 Miles of the Site:
Describe generalized stratigraphy, aquifers, municipal and private wells

Most of area is covered by saprolite, a clayey residual from weathered rock, and soils from this material. Groundwater occupied joints, fractures and other secondary openings in the bedrock and pore spaces of the overlying soil and saprolite (regolith. The largest volume of water is stored in the regolith. The City of Powder Springs has one municipal well about 1.7 miles west of Georgia Metals that serves about 916 people (280 connections). This well is regularly tested in accordance with the Georgia Safe Drinking Water Act. See Table 1, page 18 for information on private wells.

Show Calculations of Ground Water Drinking Water Populations for each Aquifer:
Provide apportionment calculations for blended supply systems.
County average number of persons per household: 2.73 Reference 4

See attached Contracts Data, Table 1, page 11.

GROUND WATER PATHWAY WORKSHEET

on-site production well not drinking water well

LIKELIHOOD OF RELEASE	Score	Data Type	Refs
1. OBSERVED RELEASE: If sampling data or direct observation support a release to the aquifer, assign a score of 550. Record observed release substances on SI Table 4.	550		10
2. POTENTIAL TO RELEASE: Depth to aquifer: _____feet. If sampling data do not support a release to the aquifer, and the site is in karst terrain or the depth to aquifer is 70 feet or less, assign a score of 500; otherwise, assign a score of 340. Optionally, evaluate potential to release according to HRS Section 3.			
LR =	550		

TARGETS			
Are any wells part of a blended system? Yes____ No ✓ If yes, attach a page to show apportionment calculations.			6
3. ACTUAL CONTAMINATION TARGETS: If analytical evidence indicates that any target drinking water well for the aquifer has been exposed to a hazardous substance from the site, evaluate the factor score for the number of people served (SI Table 5). Level I: _____ people x 10 = _____ Level II: _____ people x 1 = _____ Total =	0	municipal well results. No other analytical results	
4. POTENTIAL CONTAMINATION TARGETS: Determine the number of people served by drinking water wells for the aquifer or overlying aquifers that are not exposed to a hazardous substance from the site; record the population for each distance category in SI Table 6a or 6b. Sum the population values and multiply by 0.1.	39.9		4 +6
5. NEAREST WELL: Assign a score of 50 for any Level I Actual Contamination Targets for the aquifer or overlying aquifer. Assign a score of 45 if there are Level II targets but no Level I targets. If no Actual Contamination Targets exist, assign the Nearest Well score from SI Table 6a or 6b. If no drinking water wells exist within 4 miles, assign 0.	20		4
6. WELLHEAD PROTECTION AREA (WHPA): If any source lies within or above a WHPA for the aquifer, or if a ground water observed release has occurred within a WHPA, assign a score of 20; assign 5 if neither condition applies but a WHPA is within 4 miles; otherwise assign 0.	5		6
7. RESOURCES: Assign a score of 5 if one or more ground water resource applies; assign 0 if none applies. • Irrigation (5 acre minimum) of commercial food crops or commercial forage crops • Watering of commercial livestock • Ingredient in commercial food preparation • Supply for commercial aquaculture • Supply for a major or designated water recreation area, excluding drinking water use	5	The one municipal well may serve commercial food. Well is tested in accordance with Georgia Safe Drinking Water Act	6
Sum of Targets T=	69.9		

SI TABLE 6 (From HRS TABLE 3-12): VALUES FOR POTENTIAL CONTAMINATION GROUND WATER TARGET POPULATIONS

SI Table 6a: Other Than Karst Aquifers

Distance from Site	Pop.	Nearest Well (choose highest)	Population Served by Wells within Distance Category												Pop. Value	Ref.
			1 to 10	11 to 30	31 to 100	101 to 300	301 to 1000	1001 to 3000	3001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,000 to 3,000,000		
0 to $\frac{1}{4}$ mile	2	20	4	17	53	164	522	1,633	5,214	16,325	52,137	163,246	521,360	1,632,455	4	4
> $\frac{1}{4}$ to $\frac{1}{2}$ mile	7	18	2	11	33	102	324	1,013	3,233	10,122	32,325	101,213	323,243	1,012,122	7	4
> $\frac{1}{2}$ to 1 mile	31	9	1	5	17	52	167	523	1,669	5,224	16,684	52,239	166,835	522,385	31	4
> 1 to 2 miles	1339	5	0.7	3	10	30	94	294	939	2,939	9,385	29,384	93,845	293,842	294	4
> 2 to 3 miles	294	3	0.5	2	7	21	68	212	678	2,122	6,778	21,222	67,777	212,219	21	4
>3 to 4 miles	316	2	0.3	1	4	13	42	131	417	1,306	4,171	13,060	41,709	130,596	42	4

Nearest Well = 20

Sum = 399

SI TABLE 6 (From HRS TABLE 3-12): VALUES FOR POTENTIAL CONTAMINATION GROUND WATER TARGET POPULATIONS (continued)

SI Table 6b: Karst Aquifers

Distance from Site	Pop.	Nearest Well (choose highest)	Population Served by Wells within Distance Category												Pop. Value	Ref.
			1 to 10	11 to 30	31 to 100	101 to 300	301 to 1000	1001 to 3000	3001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,000 to 3,000,000		
0 to $\frac{1}{4}$ mile		20	4	17	53	164	522	1,633	5,214	16,325	52,137	163,246	521,360	1,632,455		
> $\frac{1}{4}$ to $\frac{1}{2}$ mile		20	2	11	33	102	324	1,013	3,233	10,122	32,325	101,213	323,243	1,012,122		
> $\frac{1}{2}$ to 1 mile		20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,680	816,227		
> 1 to 2 miles		20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,680	816,227		
> 2 to 3 miles		20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,680	816,227		
>3 to 4 miles		20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,680	816,227		

Nearest Well = [ ] **Sum =** [ ]

GROUND WATER PATHWAY WORKSHEET (concluded)

WASTE CHARACTERISTICS	Score	Data Type	Does not Apply
8. If any Actual Contamination Targets exist for the aquifer or overlying aquifers, assign the calculated hazardous waste quantity score or a score of 100, whichever is greater; if no Actual Contamination Targets exist, assign the hazardous waste quantity score calculated for sources available to migrate to ground water.	10		
9. Assign the highest ground water toxicity/mobility value from SI Table 3 or 4.	10,000		
10. Multiply the ground water toxicity/mobility and hazardous waste quantity scores. Assign the Waste Characteristics score from the table below: (from HRS Table 2-7)	1×10^5		

Product	WC Score
0	0
>0 to <10	1
10 to <100	2
100 to <1,000	3
1,000 to < 10,000	6
10,000 to <1E + 05	10
1E + 05 to <1E + 06	18
1E + 06 to <1E + 07	32
1E + 07 to <1E + 08	56
1E + 08 or greater	100

WC = 21.8

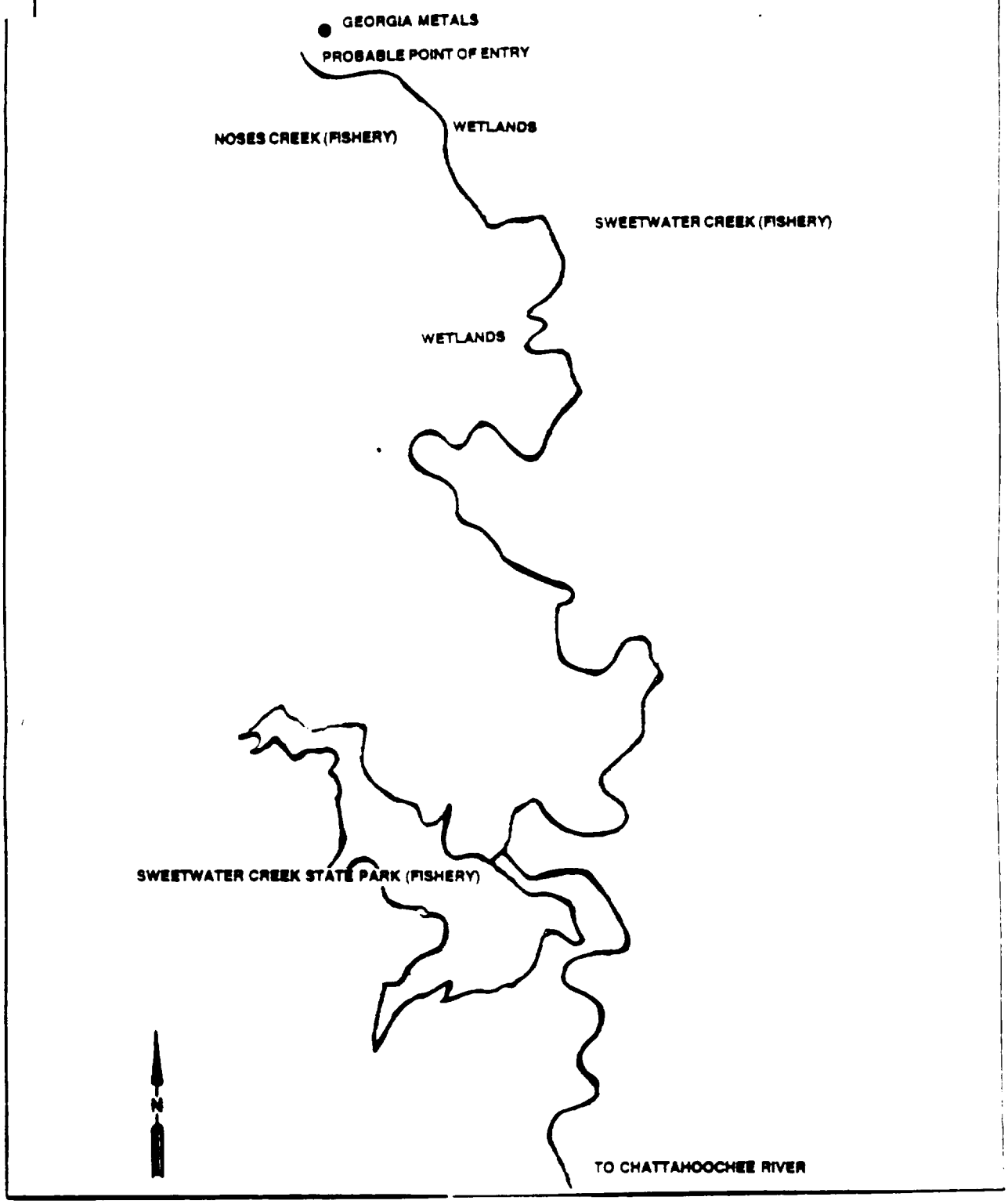
Multiply LR by T and by WC. Divide the product by 82,500 to obtain the ground water pathway score for each aquifer. Select the highest aquifer score. If the pathway score is greater than 100, assign 100.

GROUND WATER PATHWAY SCORE: $\frac{550 \times 69.9 \times 32}{82,500}$ **LR X T X WC**

14.9 (Maximum of 100)

SURFACE WATER PATHWAY

Sketch of the Surface Water Migration Route:
Label all surface water bodies. Include runoff route and drainage direction, probable point of entry, and 15-mile target distance limit. Mark sample locations, intakes, fisheries, and sensitive environments. Indicate flow directions, tidal influence, and rate.



SURFACE WATER PATHWAY

Surface Water Observed Release Substances Summary Table

On SI Table 7, list the hazardous substances detected in surface water samples for the watershed, which can be attributed to the site. Include only those substances in observed releases (direct observation) or with concentration levels significantly above background levels. Obtain toxicity, persistence, bioaccumulation potential, and ecotoxicity values from SCDM. Enter the highest toxicity/persistence, toxicity/persistence/bioaccumulation, and ecotoxicity/persistence/ecobioaccumulation values in the spaces provided.

- TP = Toxicity x Persistence
- TPB = TP x bioaccumulation
- ETPB = EP x bioaccumulation (EP = ecotoxicity x persistence)

Drinking Water Actual Contamination Targets Summary Table

For an observed release at or beyond a drinking water intake, on SI Table 8 enter each hazardous substance by sample ID and the detected concentration. For surface water sediment samples detecting a hazardous substance at or beyond an intake, evaluate the intake as Level II contamination. Obtain benchmark, cancer risk, and reference dose concentrations for each substance from SCDM. For MCL and MCLG benchmarks, determine the highest percentage of benchmark obtained for any substance. For cancer risk and reference dose, sum the percentages of the substances listed. If benchmark, cancer risk, or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage or the percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate the population served by the intake as a Level I target. If the percentages are less than 100% or all are N/A, evaluate the population served by the intake as a Level II target.

SURFACE WATER PATHWAY
LIKELIHOOD OF RELEASE AND DRINKING WATER THREAT WORKSHEET

LIKELIHOOD OF RELEASE- OVERLAND/FLOOD MIGRATION	Score	Data Type	Refs
1. OBSERVED RELEASE: If sampling data or direct observation support a release to surface water in the watershed, assign a score of 550. Record observed release substances on SI Table 7.			
2. POTENTIAL TO RELEASE: Distance to surface water: 750 (feet) If sampling data do not support a release to surface water in the watershed, use the table below to assign a score from the table below based on distance to surface water and flood frequency.			
Optionally, evaluate surface water potential to release according to HRS Section 4.1.2.1.2			21

Distance to surface water <2500 feet	500
Distance to surface water >2500 feet, and:	
Site in annual or 10-yr floodplain	500
Site in 100-yr floodplain	400
Site in 500-yr floodplain	300
Site outside 500-yr floodplain X	100

Overland = Contain. 10, Run-off 25, Dist. 16 = 10(25+16)
Flood = Contain. 10 X floodplain 0 = 0

LR = 410

LIKELIHOOD OF RELEASE GROUND WATER TO SURFACE WATER MIGRATION	Score	Data Type	Refs
1. OBSERVED RELEASE: If sampling data or direct observation support a release to surface water in the watershed, assign a score of 550. Record observed release substances on SI Table 7.			
NOTE: Evaluate ground water to surface water migration only for a surface water body that meets all of the following conditions: 1) A portion of the surface water is within 1 mile of site sources having a containment factor greater than 0. 2) No aquifer discontinuity is established between the source and the above portion of the surface water body. 3) The top of the uppermost aquifer is at or above the bottom of the surface water. Elevation of top of uppermost aquifer _____ Elevation of bottom of surface water body _____			
2. POTENTIAL TO RELEASE: Use the ground water potential to release. Optionally, evaluate surface water potential to release according to HRS Section 3.1.2.	430		

Contain = 10, Precip = 3, Depth = 5, Travel = 35
10(3+5+35)

LR = 430

No on-site surface water seen during SI inspection. No surface water samples collected on-site. No drinking water intake within 15 miles down-stream.

SI TABLE 7: SURFACE WATER OBSERVED RELEASE SUBSTANCES

Sample ID	Hazardous Substance	Bckgrd. Conc.	Toxicity/ Persistence	Toxicity/ Persis./ Bioaccum	Ecotoxicity/ Persis/ Ecobioaccum	References
		Highest Values				

SI TABLE 8: SURFACE WATER DRINKING WATER ACTUAL CONTAMINATION TARGETS

Intake ID: _____ Sample Type _____ Level I _____ Level II _____ Population Served _____ References _____

Sample ID	Hazardous Substance	Conc. (µg/L)	Benchmark Conc. (MCL or MCLG)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
			Highest Percent		Sum of Percents		Sum of Percents	

Intake ID: _____ Sample Type _____ Level I _____ Level II _____ Population Served _____ References _____

Sample ID	Hazardous Substance	Conc. (µg/L)	Benchmark Conc. (MCL or MCLG)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
			Highest Percent		Sum of Percents		Sum of Percents	

SURFACE WATER PATHWAY
LIKELIHOOD OF RELEASE AND DRINKING WATER THREAT WORKSHEET (CONTINUED)

DRINKING WATER THREAT TARGETS	Score	Data Type	Refs
Record the water body type, flow, and number of people served by each drinking water intake within the target distance limit in the watershed. If there is no drinking water intake within the target distance limit, assign 0 to factors 3, 4, and 5. Intake Name ____ Water Body Type ____ Flow ____ People Served ____ ____ ____ ____ ____ ____ ____ ____ ____ ____ ____ ____ ____ Are any intakes part of a blended system? Yes _____ No _____ If yes, attach a page to show apportionment calculations. 3. ACTUAL CONTAMINATION TARGETS: If analytical evidence indicates a drinking water intake has been exposed to a hazardous substance from the site, list the intake name and evaluate the factor score for the drinking water population (SI Table 8). _____ , _____ Level I: _____ people x 10 = _____ Level II: _____ people x 1 = _____ **Total =**	0		5 25
4. POTENTIAL CONTAMINATION TARGETS: Determine the number of people served by drinking water intakes for the watershed that have not been exposed to a hazardous substance from the site. Assign the population values from SI Table 9. Sum the values and multiply by 0.1.	0		5 25
5. NEAREST INTAKE: Assign a score of 50 for any Level I Actual Contamination Drinking Water Targets for the watershed. Assign a score of 45 if there are Level II targets for the watershed, but no Level I targets. If no Actual Contamination Drinking Water Targets exist, assign a score for the intake nearest the PPE from SI Table 9. If no drinking water intakes exist, assign 0.	0		5 25
6. RESOURCES: Assign a score of 5 if one or more surface water resource applies; assign 0 if none applies. • Irrigation (5 acre minimum) of commercial food crops or commercial forage crops • Watering of commercial livestock • Ingredient in commercial food preparation • Major or designated water recreation area, excluding drinking water use	0		5 25
SUM OF TARGETS T=	0		

No drinking water intakes within 15 miles downstream.

SI TABLE 9 (From HRS Table 4-14): DILUTION-WEIGHTED POPULATION VALUES FOR POTENTIAL CONTAMINATION FOR SURFACE WATER MIGRATION PATHWAY

Type of Surface Water Body	Pop.	Nearest Intake	Number of people									Pop. Value
			0	1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	
Minimal Stream (<10 cfs)		20	0	4	17	53	164	522	1,633	5,214	16,325	
Small to moderate stream (10 to 100 cfs)		2	0	0.4	2	5	16	52	163	521	1,633	
Moderate to large stream (> 100 to 1,000 cfs)		0	0	0.04	0.2	0.5	2	5	16	52	163	
Large Stream to river (>1,000 to 10,000 cfs)		0	0	0.004	0.02	0.05	0.2	0.5	2	5	16	
Large River (> 10,000 to 100,000 cfs)		0	0	0	0.002	0.005	0.02	0.05	0.2	0.5	16	
Very Large River (>100,000 cfs)		0	0	0	0	0.001	0.002	0.005	0.02	0.05	0.2	
Shallow ocean zone or Great Lake (depth < 20 feet)		0	0	0	0.002	0.005	0.02	0.05	0.2	0.5	2	
Moderate ocean zone or Great Lake (Depth 20 to 200 feet)		0	0	0	0	0.001	0.002	0.005	0.02	0.05	0.2	
Deep ocean zone or Great Lake (depth > 200 feet)		0	0	0	0	0	0.001	0.003	0.008	0.03	0.08	
3-mile mixing zone in quiet flowing river (≥ 10 cfs)		10	0	2	9	26	82	261	817	2,607	8,163	

Nearest Intake = 0

Sum = 0

No surface water intakes for drinking water

References 4, 25

SURFACE WATER PATHWAY

Human Food Chain Actual Contamination Targets Summary Table

On SI Table 10, list the hazardous substances detected in sediment, aqueous, sessile benthic organism tissue, or fish tissue samples (taken from fish caught within the boundaries of the observed release) by sample ID and concentration. Evaluate fisheries within the boundaries of observed releases detected by sediment or aqueous samples as Level II, if at least one observed release substance has a bioaccumulation potential factor value of 500 or greater (see SI Table 7). Obtain benchmark, cancer risk, and reference dose concentrations from SCDM. For FDAAL benchmarks, determine the highest percentage of benchmark obtained for any substance. For cancer risk and reference dose, sum the percentages for the substances listed. If benchmark, cancer risk, or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate this portion of the fishery as subject to Level I concentrations. If the percentages are less than 100% or all are N/A, evaluate the fishery as a Level II target.

Sensitive Environment Actual Contamination Targets Summary Table

On SI Table 11, list each hazardous substance detected in aqueous or sediment samples at or beyond wetlands or a surface water sensitive environment by sample ID. Record the concentration. If contaminated sediments or tissues are detected at or beyond a sensitive environment, evaluate the sensitive environment as Level II. Obtain benchmark concentrations from SCDM. For AWQC/AALAC benchmarks, determine the highest percentage of benchmark of the substances detected in aqueous samples. If benchmark concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage equals or exceeds 100%, evaluate that part of the sensitive environment subject to Level I concentrations. If the percentage is less than 100%, or all are N/A, evaluate the sensitive environment as Level II.

no samples, no direct observation

SI TABLE 10: HUMAN FOOD CHAIN ACTUAL CONTAMINATION TARGETS FOR WATERSHED

Fishery ID: _____ Sample Type _____ Level I _____ Level II _____ References _____

Sample ID	Hazardous Substance	Conc. (mg/kg)	Benchmark Concentration (FDAAL)	% of Benchmark	Cancer Risk Concentration.	% of Cancer Risk Concentration	RfD	% of RfD
			Highest Percent		Sum of Percents		Sum of Percents	

SI TABLE 11: SENSITIVE ENVIRONMENT ACTUAL CONTAMINATION TARGETS FOR WATERSHED

Environment ID: _____ Sample Type _____ Level I _____ Level II _____ Environment Value _____

Sample ID	Hazardous Substance	Conc.. (µg/L)	Benchmark Concentration (AWQC or AALAC)	% of Benchmark	References
			Highest Percent		

no sampling data or direct observation

Environment ID: _____ Sample Type _____ Level I _____ Level II _____ Environment Value _____

Sample ID	Hazardous Substance	Conc.. (µg/L)	Benchmark Concentration (AWQC or AALAC)	% of Benchmark	References
			Highest Percent		

SURFACE WATER PATHWAY (continued)
HUMAN FOOD CHAIN THREAT WORKSHEET

HUMAN FOOD CHAIN THREAT TARGETS	Score	Data Type	Refs
Record the water body type and flow for each fishery within the target distance limit. If there is no fishery within the target distance limit, assign a score of 0 at the bottom of this page.			
Fishery Name NOSES CREEK Water Body CREEK Flow 10-100 cfs Species _____ Production UNKNOWN lbs/yr Species _____ Production _____ lbs/yr			5
Fishery Name SWEET WATER CREEK Water Body CREEK Flow 100-1000 cfs Species _____ Production UNKNOWN lbs/yr Species _____ Production _____ lbs/yr			
Fishery Name SWEET WATER LAKE Water Body LAKE Flow N/A cfs Species _____ Production UNKNOWN lbs/yr Species _____ Production _____ lbs/yr			
FOOD CHAIN INDIVIDUAL			
7. ACTUAL CONTAMINATION FISHERIES:			
If analytical evidence indicates that a fishery has been exposed to a hazardous substance with a bioaccumulation factor greater than or equal to 500 (SI Table 10), assign a score of 50 if there is a Level I fishery. Assign 45 if there is a Level II fishery, but no Level I fishery.			
8. POTENTIAL CONTAMINATION FISHERIES:			
If there is a release of a substance with a bioaccumulation factor greater than or equal to 500 to a watershed containing fisheries within the target distance limit, but there are no Level I or Level II fisheries, assign a score of 20.			
If there is no observed release to the watershed, assign a value for potential contamination fisheries from the table below using the lowest flow at all fisheries within the target distance limit:			

Lowest Flow	FCI Value
<10 cfs	20
10 to 100 cfs	2
>100 cfs, coastal tidal waters, oceans, or Great Lakes	0
3-mile mixing zone in quiet flowing river	10

FCI Value = 2

SUM OF TARGETS T = 2

SURFACE WATER PATHWAY (continued)
ENVIRONMENTAL THREAT WORKSHEET

When measuring length of wetlands that are located on both sides of a surface water body, sum both frontage lengths. For a sensitive environment that is more than one type, assign a value for each type.

ENVIRONMENTAL THREAT TARGETS	Score	Data Type	Refs
Record the water body type and flow for each surface water sensitive environment within the target distance (see SI Table 12). If there is no sensitive environment within the target distance limit, assign a score of 0 at the bottom of the page.			

Environment Name	Water Body Type	Flow
NOSES CREEK	SM-MOD STREAM	10-100 cfs
SWEETWATER CK	MOD-LG STREAM	100-1000 cfs
		cfs
		cfs
		cfs

Score: 5

9. ACTUAL CONTAMINATION SENSITIVE ENVIRONMENTS: If sampling data or direct observation indicate any sensitive environment has been exposed to a hazardous substance from the site, record this information on SI Table 11, and assign a factor value for the environment (SI Tables 13 and 14).

Environment Name	Environment Type and Value (SI Tables 13 & 14)	Multiplier (10 for Level I, 1 for Level II)	Product
		x =	
		x =	
		x =	
		x =	
		Sum =	

no sampling or direct observation

Score: 0 Refs: 10

10. POTENTIAL CONTAMINATION SENSITIVE ENVIRONMENTS:

Flow	Dilution Weight (SI Table 12)	Environment Type and Value (SI Tables 13 & 14)	Pot. Cont.	Product
cfs	0.1 x	75 x	0.1 =	0.75
cfs	0.01 x	75+25 x	0.1 =	0.1
cfs	x	x	0.1 =	
cfs	x	x	0.1 =	
cfs	x	x	0.1 =	
			Sum =	0.85

T = 0.85

SI TABLE 12 (HRS Table 4-13): SURFACE WATER DILUTION WEIGHTS

Type of Surface Water Body		Assigned Dilution Weight
Descriptor	**Flow Characteristics**	
Minimal stream	< 10 cfs	1
Small to moderate stream	10 to 100 cfs	0.1
Moderate to large stream	> 100 to 1,000 cfs	0.01
Large stream to river	> 1,000 to 10,000 cfs	0.001
Large river	> 10,000 to 100,000 cfs	0.0001
Very large river	> 100,000 cfs	0.00001
Coastal tidal waters	Flow not applicable; depth not applicable	0.001
Shallow ocean zone or Great Lake	Flow not applicable; depth less than 20 feet	0.001
Moderate depth ocean zone or Great Lake	Flow not applicable; depth 20 to 200 feet	0.0001
Deep ocean zone or Great Lake	Flow not applicable; depth greater than 200 feet	0.000005
3-mile mixing zone in quiet flowing river	10 cfs or greater	0.5

SI TABLE 13 (HRS TABLE 4-23): SURFACE WATER AND AIR SENSITIVE ENVIRONMENTS VALUES

SENSITIVE ENVIRONMENT	*ASSIGNED VALUE*
Critical habitat for Federal designated endangered or threatened species Marine Sanctuary National Park Designated Federal Wilderness Area Ecologically important areas identified under the Coastal Zone Wilderness Act Sensitive Areas identified under the National Estuary Program or Near Coastal Water Program of the Clean Water Act Critical Areas identified under the Clean Lakes Program of the Clean Water Act (subareas in lakes or entire small lakes) National Monument (air pathway only) National Seashore Recreation Area National Lakeshore Recreation Area	100
Habitat known to be used by Federal designated or proposed endangered or threatened species National Preserve National or State Wildlife Refuge Unit of Coastal Barrier Resources System Coastal Barrier (undeveloped) Federal land designated for the protection of natural ecosystems Administratively Proposed Federal Wilderness Area Spawning areas critical for the maintenance of fish/shellfish species within a river system, bay, or estuary Migratory pathways and feeding areas critical for the maintenance of anadromous fish species within river reaches or areas in lakes or coastal tidal waters in which the fish spend extended periods of time Terrestrial areas utilized by large or dense aggregations of vertebrate animals (semi-aquatic foragers) for breeding National river reach designated as recreational	75
Habitat known to be used by State designated endangered or threatened species Habitat known to be used by a species under review as to its Federal endangered or threatened status Coastal Barrier (partially developed) Federally designated Scenic or Wild River	50
State land designated for wildlife or game management State designated Scenic or Wild River State designated Natural Area Particular areas, relatively small in size, important to maintenance of unique biotic communities	25
State designated areas for the protection of maintenance of aquatic life under the Clean Water Act	5
Wetlands See SI Table 14 (Surface Water Pathway) or SI Table 23 (Air Pathway)	250

SI TABLE 14 (HRS TABLE 4-24): SURFACE WATER WETLANDS FRONTAGE VALUES

Total Length of Wetlands	Assigned Value
Less than 0.1 mile	0
0.1 to 1 mile	25
Greater than 1 to 2 miles	50
Greater than 2 to 3 miles	75
Greater than 3 to 4 miles	100
Greater than 4 to 8 miles	150
Greater than 8 to 12 miles	250
Greater than 12 to 16 miles	350
Greater than 16 to 20 miles	450
Greater than 20 miles	500

SURFACE WATER PATHWAY (concluded)
WASTE CHARACTERISTICS, THREAT, AND PATHWAY SCORE SUMMARY

WASTE CHARACTERISTICS		Score
14.	If an Actual Contamination Target (drinking water, human food chain, or environmental threat) exists for the watershed, assign the calculated hazardous waste quantity score, or a score of 100, whichever is greater.	
15.	Assign the highest value from SI Table 7 (observed release) or SI Table 3 (no observed release) for the hazardous substance waste characterization factors below. Multiply each by the surface water hazardous waste quantity score and determine the waste characteristics score for each threat.	

	Substance Value		HWQ		Product	WC Score (From Table) (Maximum of 100)
Drinking Water Threat Toxicity/Persistence	10,000	x	10	=	100,000	10
Food Chain Threat Toxicity/Persistence/ Bioaccumulation	50,000	x	10	=	500,000	18
Environmental Threat Ecotoxicity/Persistence/ Ecobioaccumulation	50,000	x	10	=	500,000	18

Product	WC Score
0	0
>0 to <10	1
10 to <100	2
100 to <1,000	3
1,000 to < 10,000	6
10,000 to <1E + 05	10
1E + 05 to <1E + 06	18
1E + 06 to <1E + 07	32
1E + 07 to <1E + 08	56
1E + 08 to <1E + 09	100
1E + 09 ~~or greater~~ +10	~~1000~~ 180
10-11	320
~~11-12~~	~~560~~
12- greater	1000

SURFACE WATER PATHWAY THREAT SCORES

Threat	Likelihood of Release (LR) Score	Targets (T) Score	Pathway Waste Characteristics (WC) Score (determined above)	Threat Score $\frac{LR \times T \times WC}{82,500}$
Drinking Water	550	0	10	(maximum of 100) 0
Human Food Chain	550	2	18	(maximum of 100) 0.24
Environmental	550	0.85	18	(maximum of 60) 0.102

SURFACE WATER PATHWAY SCORE (Drinking Water Threat + Human Food Chain Threat + Environmental Threat) (maximum of 100) 0.342

SOIL EXPOSURE PATHWAY

If there is no observed contamination (e.g., ground water plume with no known surface source), do not evaluate the soil exposure pathway. Discuss evidence for no soil exposure pathway.

Soil Exposure Resident Population Targets Summary

For each property (duplicate page 35 as necessary):

* If there is an area of observed contamination on the property and within 200 feet of a residence, school, or day care center, enter on Table 15 each hazardous substance by sample ID. Record the detected concentration. Obtain cancer risk, and reference dose concentrations from SCDM. Sum the cancer risk and reference dose percentages for the substances listed. If cancer risk or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate the residents and students as Level I. If both percentages are less than 100% or all are N/A, evaluate the targets as Level II.

SI TABLE 15: SOIL EXPOSURE RESIDENT POPULATION TARGETS

Residence ID: GEORGIA METALS Level I ____ Level II ✓ Population ~40 workers within 200 feet

GM-94- Sample ID	Hazardous Substance	TOTAL Conc. (mg/kg)	Cancer Risk Concentration	% of Cancer Risk Conc.	RfD	mg/kg % of RfD	Toxicity Value	References
7	Lead	4500	—		—	—	10,000	10
5	Chromium	130	—		2.5×10^{-3}	4.483	10,000	
5	Nickel	15	—		1.2×10^{-4}	0.125	10,000	
5	Cadmium	1.9	—		2.9×10^{-2}	0.655	10,000	
8	Selenium	25	—		2.9×10^{-3}	0.862	100	
			Highest Percent		Sum of Percents		Sum of Percents	

Residence ID: ____ Level I ____ Level II ____ Population ____

Sample ID	Hazardous Substance	Conc. (mg/kg)	Cancer Risk Concentration	% of Cancer Risk Conc.	RfD	% of RfD	Toxicity Value	References
			Highest Percent		Sum of Percents		Sum of Percents	

Residence ID: ____ Level I ____ Level II ____ Population ____

Sample ID	Hazardous Substance	Conc. (mg/kg)	Cancer Risk Concentration	% of Cancer Risk Conc.	RfD	% of RfD	Toxicity Value	References
			Highest Percent		Sum of Percents		Sum of Percents	

SOIL EXPOSURE PATHWAY WORKSHEET
RESIDENT POPULATION THREAT

LIKELIHOOD OF EXPOSURE	Score	Data Type	Refs
1. OBSERVED CONTAMINATION: If evidence indicates presence of observed contamination (depth of 2 feet or less), assign a score of 550; otherwise, assign a 0. Note that a likelihood of exposure score of 0 results in a soil exposure pathway score of 0.	550		
LE =	550		

TARGETS

2. RESIDENT POPULATION: Determine the number of people occupying residences or attending school or day care on or within 200 feet of areas of observed contamination (HRS section 5.1.3). Level I: 40 people x 10 = 400 Level II: ____ people x 1 = ____ Sum =	400	Workers within 200 feet	
3. RESIDENT INDIVIDUAL: Assign a score of 50 if any Level I resident population exists. Assign a score of 45 if there are Level II targets but no Level I targets. If no resident population exists (*i.e.*, no Level I or Level II targets), assign 0 (HRS Section 5.1.3).	45		"
4. WORKERS: Assign a score from the table below for the total number of workers at the site and nearby facilities with areas of observed contamination associated with the site.	5		24 p. 51645 fig. 5-1
5. TERRESTRIAL SENSITIVE ENVIRONMENTS: Assign a value for each terrestrial sensitive environment (SI Table 16) in an area of observed contamination. Sum =	0		
6. RESOURCES: Assign a score of 5 if any one or more of the following resources is present on an area of observed contamination at the site; assign 0 if none applies. • Commercial agriculture • Commercial silviculture • Commercial livestock production or commercial livestock grazing	0		
Total of Targets T=	450		

Number of Workers	Score
0	0
1 to 100	5
101 to 1,000	10
>1,000	15

Terrestrial Sensitive Environment Type	Value

SI TABLE 16 (HRS TABLE 5-5): SOIL EXPOSURE PATHWAY TERRESTRIAL SENSITIVE ENVIRONMENT VALUES

TERRESTRIAL SENSITIVE ENVIRONMENT	*ASSIGNED VALUE*
Terrestrial critical habitat for Federal designated endangered or threatened species National Park Designated Federal Wilderness Area National Monument	100
Terrestrial habitat known to be used by Federal designated or proposed threatened or endangered species National Preserve (terrestrial) National or State terrestrial Wildlife Refuge Federal land designated for protection of natural ecosystems Administratively proposed Federal Wilderness Area Terrestrial areas utilized by large or dense aggregations of animals (vertebrate species) for breeding	75
Terrestrial habitat used by State designated endangered or threatened species Terrestrial habitat used by species under review for Federal designated endangered or threatened status	50
State lands designated for wildlife or game management State designated Natural Areas Particular areas, relatively small in size, important to maintenance of unique biotic communities	25

SOIL EXPOSURE PATHWAY WORKSHEET
NEARBY POPULATION THREAT

LIKELIHOOD OF EXPOSURE	Score	Data Type	Ref.
7. Attractiveness/Accessibility (from SI Table 17 or HRS Table 5-6) Value 10			
Area of Contamination (from SI Table 18 or HRS Table 5-7) Value 60			
Likelihood of Exposure (from SI Table 19 or HRS Table 5-8)			
LE =	25		

TARGETS	Score	Data Type	Ref.
8. Assign a score of 0 if Level I or Level II resident individual has been evaluated or if no individuals live within 1/4 mile travel distance of an area of observed contamination. Assign a score of 1 if nearby population is within 1/4 mile travel distance and no Level I or Level II resident population has been evaluated.	1		
9. Determine the population within 1 mile travel distance that is not exposed to a hazardous substance from the site (*i.e.*, properties that are not determined to be Level I or Level II); record the population for each distance category in SI Table 20 (HRS Table 5-10). Sum the population values and multiply by 0.1.	21		
T =	21		

SI TABLE 17 (HRS TABLE 5-6): ATTRACTIVENESS/ACCESSIBILITY VALUES

Area of Observed Contamination	Assigned Value
Designated recreational area	100
Regularly used for public recreation (for example, vacant lots in urban area)	75
Accessible and unique recreational area (for example, vacant lots in urban area)	75
Moderately accessible (may have some access improvements–for example, gravel road) with some public recreation use	50
Slightly accessible (for example, extremely rural area with no road improvement) with some public recreation use	25
Accessible with no public recreation use	10
Surrounded by maintained fence or combination of maintained fence and natural barriers	5
Physically inaccessible to public, with no evidence of public recreation use	0

SI TABLE 18 (HRS TABLE 5-7): AREA OF CONTAMINATION FACTOR VALUES

Total area of the areas of observed contamination (square feet)	Assigned Value
≤ to 5,000	5
> 5,000 to 125,000	20
> 125,000 to 250,000	40
> 250,000 to 375,000	60
> 375,000 to 500,000	80
> 500,000	100

SI TABLE 19 (HRS TABLE 5-8): NEARBY POPULATION LIKELIHOOD OF EXPOSURE FACTOR VALUES

AREA OF CONTAMINATION FACTOR VALUE	ATTRACTIVENESS/ACCESSIBILITY FACTOR VALUE						
	100	75	50	25	10	5	0
100	500	500	375	250	125	50	0
80	500	375	250	125	50	25	0
60	375	250	125	50	25	5	0
40	250	125	50	25	5	5	0
20	125	50	25	5	5	5	0
5	50	25	5	5	5	5	0

SI TABLE 20 (HRS TABLE 5-10): DISTANCE-WEIGHTED POPULATION VALUES FOR NEARBY POPULATION THREAT

Travel Distance Category (miles)	Pop.	Number of people within the travel distance category												Pop. Value
		0	1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,001	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	
Greater than 0 to $\frac{1}{4}$	145	0	0.1	0.4	1.0	4	13	41	130	408	1,303	4,081	13,034	4
Greater than $\frac{1}{4}$ to $\frac{1}{2}$	505	0	0.05	0.2	0.7	2	7	20	65	204	652	2,041	6,517	7
Greater than $\frac{1}{2}$ to 1	2238	0	0.02	0.1	0.3	1	3	10	33	102	326	1,020	3,258	10

Reference(s) 4

Sum = 21

SOIL EXPOSURE PATHWAY WORKSHEET (concluded)

WASTE CHARACTERISTICS

10.	Assign the hazardous waste quantity score calculated for soil exposure	10
11.	Assign the highest toxicity value from SI Table 16	10,000
12.	Multiply the toxicity and hazardous waste quantity scores. Assign the Waste Characteristics score from the table below:	WC = 10

Product	WC Score
0	0
>0 to <10	1
10 to <100	2
100 to <1,000	3
1,000 to < 10,000	6
10,000 to <1E + 05	10
1E + 05 to <1E + 06	18
1E + 06 to <1E + 07	32
1E + 07 to <1E + 08	56
1E + 08 or greater	100

RESIDENT POPULATION THREAT SCORE:

(Likelihood of Exposure, Question 1;
Targets = Sum of Questions 2, 3, 4, 5, 6)

$$\frac{LE \times T \times WC}{82,500}$$

30.00

NEARBY POPULATION THREAT SCORE:

(Likelihood of Exposure, Question 7;
Targets = Sum of Questions 8, 9)

$$\frac{LE \times T \times WC}{82,500}$$

0.006

SOIL EXPOSURE PATHWAY SCORE:
Resident Population Threat + Nearby Population Threat

30.006
(Maximum of 100)

AIR PATHWAY

Air Pathway Observed Substances Summary Table

On SI Table 21, list the hazardous substances detected in air samples of a release from the site. Include only those substances with concentrations significantly greater than background levels. Obtain benchmark, cancer risk, and reference dose concentrations from SCDM. For NAAQS/NESHAPS benchmarks, determine the highest percentage of benchmark obtained for any substance. For cancer risk and reference dose, sum the percentages for the substances listed. If benchmark, cancer risk, or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage or the percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate targets in the distance category from which the sample was taken and any closer distance categories as Level I. If the percentages are less than 100% or all are N/A, evaluate targets in that distance category and any closer distance categories that are not Level I as Level II.

No analytical results or observed release

SI TABLE 21: AIR PATHWAY OBSERVED RELEASE SUBSTANCES

Sample ID: _____ Level I _____ Level II _____ Distance from Sources (mi) ____ References _____

Hazardous Substance	Conc. (µg/m³)	Gaseous Particulate	Benchmark Conc. (NAAQS or NESHAPS)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
	Highest Toxicity/ Mobility		Highest Percent		Sum of Percents		Sum of Percents	

Sample ID: _____ Level I _____ Level II _____ Distance from Sources (mi) ____ References _____

Hazardous Substance	Conc. (µg/m³)	Toxicity/ Mobility	Benchmark Conc. (NAAQS or NESHAPS)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
	Highest Toxicity/ Mobility		Highest Percent		Sum of Percents		Sum of Percents	

Sample ID: _____ Level I _____ Level II _____ Distance from Sources (mi) ____ References _____

Hazardous Substance	Conc. (µg/m³)	Toxicity/ Mobility	Benchmark Conc. (NAAQS or NESHAPS)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
	Highest Toxicity/ Mobility		Highest Percent		Sum of Percents		Sum of Percents	

AIR PATHWAY WORKSHEET

No analytical results

LIKELIHOOD OF RELEASE	Score	Data Type	Refs
1. OBSERVED RELEASE: If sampling data or direct observation support a release to air, assign a score of 550. Record observed release substances on SI Table 21			
2. POTENTIAL TO RELEASE: If sampling data do not support a release to air, assign a score of 500. Optionally, evaluate air migration gaseous and particulate potential to release (HRS Section 6.1.2)	280		5 10
LR =	250		

TARGETS	Score	Data Type	Refs
3. ACTUAL CONTAMINATION POPULATION: Determine the number of people within the target distance limit subject to exposure from a release of a hazardous substance to the air. a) Level I: _____ people x 10 = _____ b) Level II: _____ people x 1 = _____ Total =	0		5 10
4. POTENTIAL TARGET POPULATION: Determine the number of people within the target distance limit not subject to exposure from a release of a hazardous substance to the air, and assign the total population score from SI Table 22. (*)	19.2		
5. NEAREST INDIVIDUAL: Assign a score of 50 if there are any Level I targets. Assign a score of 45 if there are Level II targets but no Level I targets. If no Actual Contamination Population exists, assign the Nearest Individual score from SI Table 22.	20		
6. ACTUAL CONTAMINATION SENSITIVE ENVIRONMENTS: Sum the sensitive environment values (SI Table 13) and wetland acreage values (SI Table 23) for environments subject to exposure from the release of a hazardous substance to the air.	0		
7. POTENTIAL CONTAMINATION SENSITIVE ENVIRONMENTS: Use SI Table 24 to evaluate sensitive environments not subject to exposure from a release.	0.88		
8. RESOURCES: Assign a score of 5 if one or more air resources applies within 1/2 mile of a source; assign a 0 if none applies • Commercial agriculture • Commercial silviculture • Major or designated recreation area			
T =	40.08		

Sensitive Environment Type	Value
_____	_____
_____	_____
_____	_____

Wetland Acreage	Value
_____	_____
_____	_____
_____	_____

SI TABLE 22 (From HRS TABLE 6-17): VALUES FOR POTENTIAL CONTAMINATION AIR TARGET POPULATIONS

Distance from Site	Pop.	Nearest Individual (choose highest)	Number of People within the Distance Category												Pop. Value
			1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,000 to 3,000,000	
On a source	10	20	4	17	53	164	522	1,633	5,214	16,325	52,137	163,246	521,360	1,632,455	4
0 to $\frac{1}{4}$ mile	145	20*	1	4	13	41	131	408	1,304	4,081	13,034	40,812	130,340	408,114	41
> $\frac{1}{4}$ to $\frac{1}{2}$ mile	505	2	0.2	0.9	3	9	28	88	282	882	2,815	8,815	28,153	88,153	28
> $\frac{1}{2}$ to 1 mile	2238	1	0.06	0.3	0.9	3	8	26	83	261	834	2,612	8,342	26,119	26
> 1 to 2 miles	9054	0	0.02	0.09	0.3	0.8	3	8	27	83	266	833	2,659	8,326	27
> 2 to 3 miles	15948	0	0.009	0.04	0.1	0.4	1	4	12	38	120	375	1,199	3,755	38
>3 to 4 miles	19905	0	0.005	0.02	0.07	0.2	0.7	2	7	28	73	229	730	2,285	28
	Nearest Individual =	20												Sum =	192

multiply by .1

References 4

* Score = 20 if the Nearest Individual is within $\frac{1}{8}$ mile of a source; score = 7 if the Nearest Individual is between $\frac{1}{8}$ and $\frac{1}{4}$ mile of a source.

SI TABLE 23 (HRS TABLE 6-18): AIR PATHWAY VALUES FOR WETLAND AREA

Wetland Area	Assigned Value
< 1 acre	0
1 to 50 acres	25
> 50 to 100 acres	75
> 100 to 150 acres	125
> 150 to 200 acres	175
> 200 to 300 acres	250
> 300 to 400 acres	350
> 400 to 500 acres	450
> 500 acres	500

SI TABLE 24: DISTANCE WEIGHTS AND CALCULATIONS FOR AIR PATHWAY POTENTIAL CONTAMINATION SENSITIVE ENVIRONMENTS

Distance	Distance Weight	Sensitive Environment Type and Value (from SI Tables 13 and 20)	Product
On a Source	0.10	x	
		x	
0 to 1/4 mile	0.025	x 25 Wetlands	0.63
		x	
		x	
1/4 to 1/2 mile	0.0054	x 25 Wetlands	0.14
		x	
		x	
1/2 to 1 mile	0.0016	x 35 Acres Wetlands	0.06
		x	
		x	
1 to 2 miles	0.0005	x 50 Acres Wetlands	0.03
		x	
		x	
2 to 3 miles	0.00023	x 55 Acres wetlands	0.01
		x	
		x	
3 to 4 miles	0.00014	x 60 Acres Wetlands	0.01
		x	
		x	
> 4 miles	0	x	

Total Environments Score = 0.88

AIR PATHWAY (concluded)

WASTE CHARACTERISTICS

9.	If any Actual Contamination Targets exist for the air pathway, assign the calculated hazardous waste quantity score or a score of 100, whichever is greater; if there are no Actual Contamination Targets for the air pathway, assign the calculated HWQ score for sources available to air migration.	10
10.	Assign the highest air toxicity/mobility value from SI Table 21.	0
11.	Multiply the air pathway toxicity/mobility and hazardous waste quantity scores. Assign the Waste Characteristics score from the table below:	WC = 0

Product	WC Score
0	0
>0 to <10	1
10 to <100	2
100 to <1,000	3
1,000 to < 10,000	6
10,000 to <1E + 05	10
1E + 05 to <1E + 06	18
1E + 06 to <1E + 07	32
1E + 07 to <1E + 08	56
1E + 08 or greater	100

AIR PATHWAY SCORE: $\frac{LE \times T \times WC}{82,500}$ 0 (maximum of 100)

SITE SCORE CALCULATION	S	S^2
GROUND WATER PATHWAY SCORE (S_{GW})	14.9	222.01
SURFACE WATER PATHWAY SCORE (S_{SW})	0.342	0.12
SOIL EXPOSURE (S_S)	30.006	900.36
AIR PATHWAY SCORE (S_A)	0	0
SITE SCORE $\sqrt{\frac{S_{GW}^2+S_{SW}^2+S_S^2+S_A^2}{4}}$ =		16.75

COMMENTS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

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

4WD-ERRB

Ms. Jennifer Kaduck, Chief
Hazardous Waste Management Branch
Georgia Environmental Protection Division
205 Butler Street
Suite 1154 - East Tower
Atlanta, Georgia 30334

SUBJ: Georgia Metals, Powder Springs, Georgia

Dear Ms. Kaduck:

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

On March 17, 1994, On-Scene Coordinators Dora Ann Johnson and Chuck Eger conducted a site investigation at the above mentioned site. The site is an operating metal plating facility whose owner has maintained owner/operator status for the past thirty years. The site is presently fenced off, limiting access and the direct contact threats. The area surrounding the site is covered by 1 1/2 feet of shredded wood further preventing migration of contaminants on-site. There are no residents that live within 1/4 mile of the facility, and the city water supply is utilized in this mainly industrial area.

After further investigation by EPA ERRB, EPA concludes that the Georgia Metals Site is an operating RCRA facility. The facility has been identified as having lead levels of concern surrounding the lead smelting unit and fabrication unit within the fenced area of the property. EPA ERRB would request that the site cleanup be addressed under a RCRA Order to address the proper removal and disposal of the contaminated soils within and surrounding these two identified units. At the present time, the units are within a security fence and access to the area is limited until remediation of the soils could be negotiated. This

determination does not preclude any other investigation activities or response actions by other parties which may still be appropriate for this site. Should site conditions change or additional information become available, ERRB will re-evaluate this site as necessary.

Should you have any questions concerning ERRB's determination, please contact Ms. Johnson, OSC, at (404) 347-3931 extension 6137 or Mr. Shane Hitchcock, Chief of Removal Operations Section, at (404) 347-3931 extension 6122.

Sincerely,

Michael A. Moore

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

cc: Narindar Kumar, Site Assessment Section, EPA

WESTON
1575 Northside Dr. NW, Suite 325
Atlanta, GA 30318
Phone: 404-352-4147
Fax: 404-352-0659

TECHNICAL ASSISTANCE TEAM FOR EMERGENCY RESPONSE REMOVAL AND PREVENTION
EPA CONTRACT 68-W0-0036

MEMORANDUM

TO: Leo Francendese
OSC, Region IV

FROM: Michael Collins
TAT, Region IV

THRU: William R. Doyle
TATL, Region IV

SUBJECT: Georgia Metals Site Investigation
Powder Springs, Cobb County, Georgia
TDD# 04-9401-0004-4745
TAT# 04-F-01225

DATE: 28 February 1994

SITUATION

This site investigation report has been prepared in accordance with the requirements of Technical Direction Document (TDD) #04-9401-0004, assigned to the Roy F. Weston, Incorporated, Technical Assistance Team (TAT) by the United States Environmental Protection Agency (EPA).

EPA On-Scene Coordinator (OSC) Leo Francendese requested that the TAT conduct a site investigation at Georgia Metals in Powder Springs, Georgia. The facility is currently occupied and being used in the manufacturing of steel tanks.

BACKGROUND

Georgia Metals, formally known as Southern Lead Burning, has operated for the last thirty years and now specializes in the fabrication of steel tanks. However, in past operations, the facility has manufactured a variety of lead products such as lead sheets and pipes. It has been reported to Georgia EPD and the U.S. EPA that the facility buried lead contaminated material in several locations onsite and soil samples taken by Georgia EPD showed significant lead levels were

found in the areas surrounding the facility. Also, elevated lead levels were detected in monitoring wells downgradient of the site. Based on this information, the Agency determined that a site investigation was warranted.

SUMMARY

On 7 January 1994, TAT members Collins and Kowalski accompanied OSC Don Rigger and OSC Leo Francendese to the site of Georgia Metals in Powder Springs, Georgia. Upon arrival, both Rigger and Francendese met with the owner/operator of the facility, William F. Kelly, while the TAT readied air monitoring and sampling equipment. After the meeting with Kelly, OSC Rigger began to identify sample locations while OSC Francendese assisted the TAT in setting up the equipment. Once the sample locations were selected, the OSCs and the TAT began to sample the chosen areas. TAT member Kowalski accompanied OSC Rigger in sampling the soil from the drainage ditch that ran along the frontage of the site (See Figure 3 - Site Diagram). The samples collected by Kowalski and Rigger were given the identification numbers of 01 through 16. These were surface soil grab samples; with the first two collected as background samples. The background samples were given the identification GMBG-01 and GMBG-02. These samples were analyzed for Priority Pollutant Metals and these results area presented in Attachment F - Analytical Summary.

TAT member Collins and OSC Francendese began sampling on the facility in the area around the building which housed the lead melting equipment. TAT member Collins screened selected areas with the X-MET 880 X-ray fluorescence (XRF) instrument to determine which areas contained the highest concentrations of lead. A table outlining the results of the XRF screening conducted at these locations and at selected locations sampled by Kowalski and Rigger in Attachment G - XRF Screening Data.

Collins and Francendese collected samples of the area surrounding the lead melting building and gave these the identification numbers 17 through 25. The locations of these samples are displayed in Figure 3 - Site Diagram.

Following the completion of sampling, the TAT and the OSCs collected and stored the equipment and departed the site. Unfortunately, no photographs were taken during the site investigation due to a camera malfunction.

CONCLUSION

The twenty-five samples collected from Georgia Metals and the surrounding areas were transported to the laboratory for Priority Pollutant Metals analysis. Several of the samples collected from the drainage ditch that ran along the eastern and southern edges of the site showed elevated levels of lead contamination, the highest among these being GM-10 which analysis indicated had lead levels of 1,800 parts per million (ppm). Samples collected from around the lead melting building onsite showed lead concentrations in the percent levels. The highest of these being GM-21, which was 28% lead. The results of the analysis has been forwarded to the OSC in the analytical report for the site.

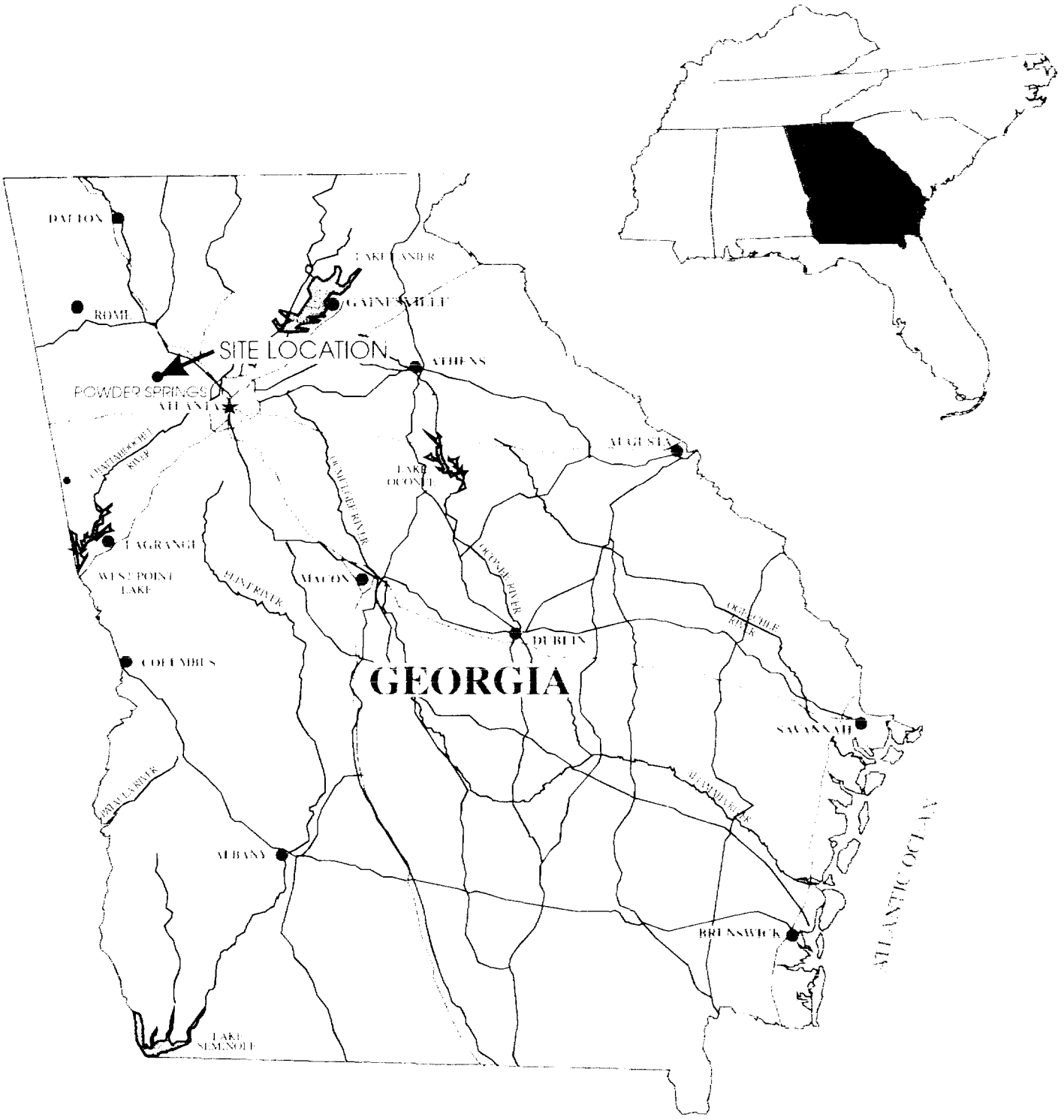
At the present time, the Agency is reviewing the results of the analysis in order to determine the course of future actions to be taken onsite.

ATTACHMENTS

Figures 1-3 Maps & Sketches
Attachment A - Preliminary Site Assessment
B - Photographs (Camera Broke)
C - Log Notes
D - Table of Witnesses
E - Site Safety Plan
F - Analytical Summary
G - XRF Screening Data

FIGURE 1

General Site Map



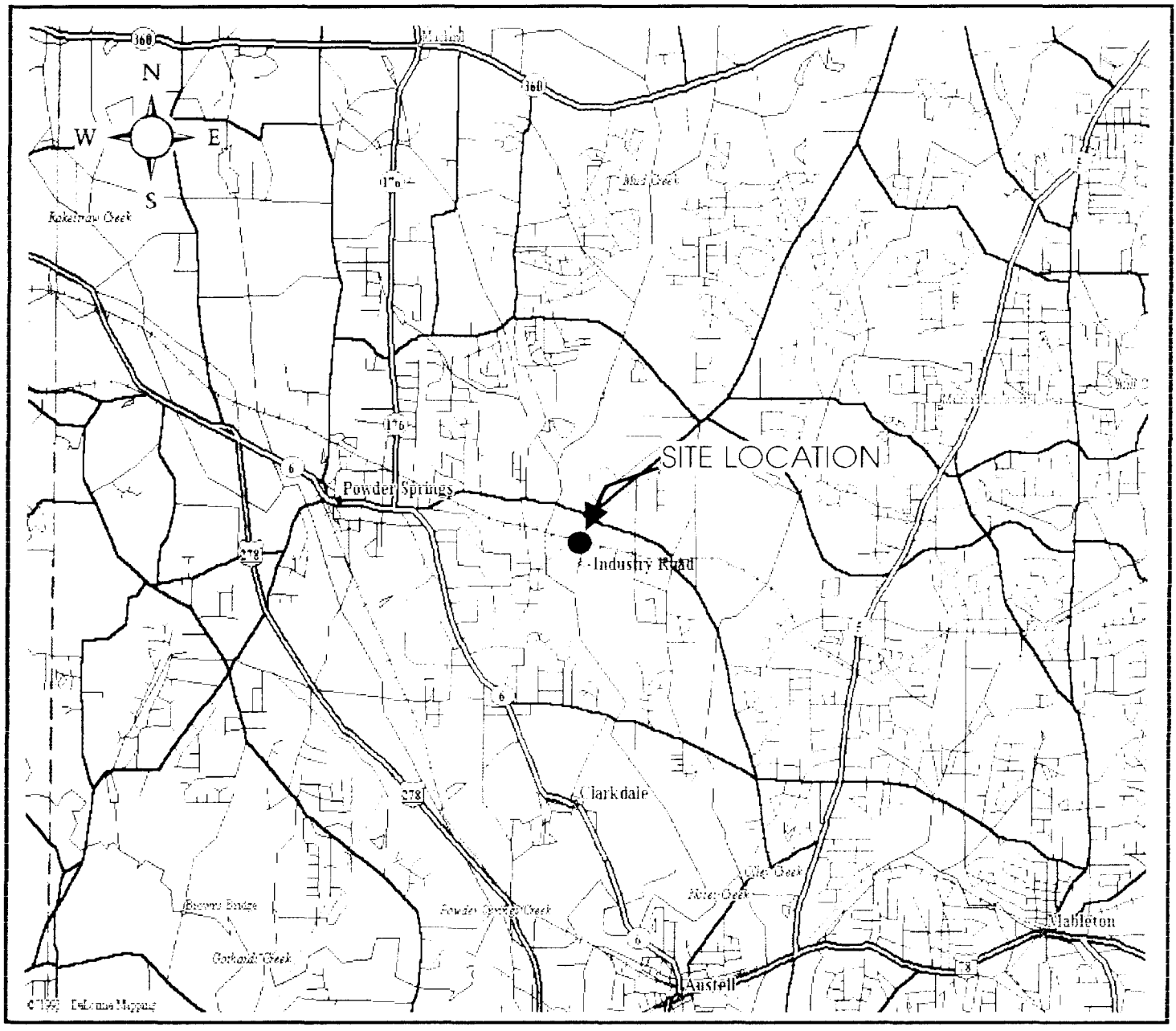
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
EPA
REGION IV
OIL AND HAZARDOUS SUBSTANCES
EMERGENCY RESPONSE AND REMOVAL BRANCH

GENERAL SITE LOCATION MAP
GEORGIA METALS
POWDER SPRINGS, COBB COUNTY, GEORGIA
TDD# 04-9401-0004

FIGURE 2

Area Location Map

SITE LOCATION



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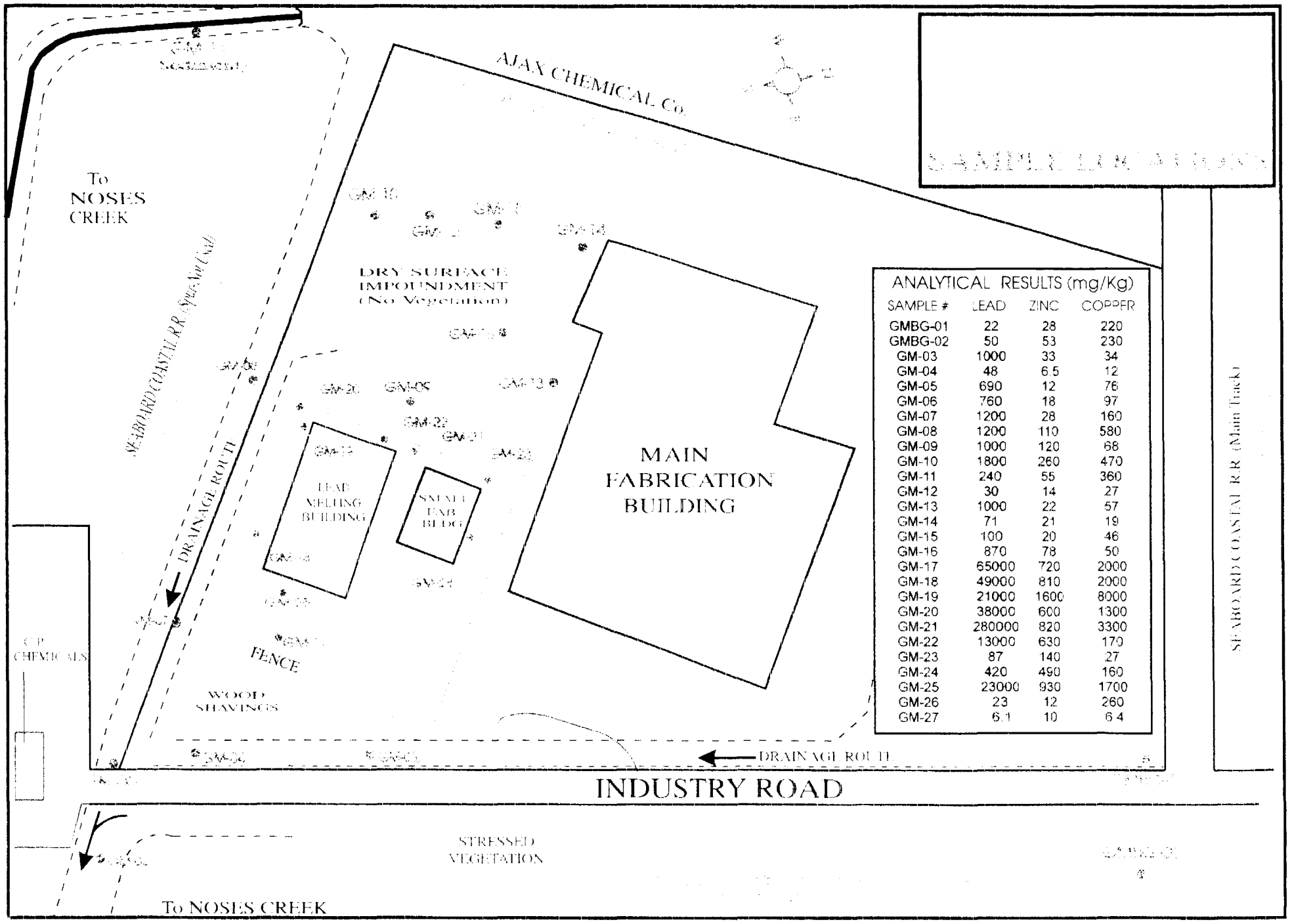
GEORGIA METALS
POWDER SPRINGS, COBB COUNTY, GEORGIA
TDD# 04-9401-0004

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
EPA
REGION IV
OIL AND HAZARDOUS SUBSTANCES
EMERGENCY RESPONSE AND REMOVAL BRANCH

FIGURE 3

Site Diagram



ANALYTICAL RESULTS (mg/Kg)

SAMPLE #	LEAD	ZINC	COPPER
GMBG-01	22	28	220
GMBG-02	50	53	230
GM-03	1000	33	34
GM-04	48	6.5	12
GM-05	690	12	76
GM-06	760	18	97
GM-07	1200	28	160
GM-08	1200	110	580
GM-09	1000	120	68
GM-10	1800	260	470
GM-11	240	55	360
GM-12	30	14	27
GM-13	1000	22	57
GM-14	71	21	19
GM-15	100	20	46
GM-16	870	78	50
GM-17	65000	720	2000
GM-18	49000	810	2000
GM-19	21000	1600	8000
GM-20	38000	600	1300
GM-21	280000	820	3300
GM-22	13000	630	170
GM-23	87	140	27
GM-24	420	490	160
GM-25	23000	930	1700
GM-26	23	12	260
GM-27	6.1	10	6.4

ATTACHMENT A

Preliminary Site Assessment

USEPA REGION 4 EMERGENCY RESPONSE BRANCH
SITE ASSESSMENT REFERRAL FORM

SITE NAME: GEORGIA METALS | **TDD No:** 04-9401-0004

SITE LOCATION: (ATTACH MAP) POWDER SPRINGS, COBB COUNTY, GEORGIA

DESCRIPTION OF TAT INCIDENT RESPONSE: (Include Dates) TAT PERFORMED A SITE INVESTIGATION ON THE SITE TO DETERMINE THE EXTENT OF CONTAMINATION FROM LEAD MANUFACTURING ACTIVITIES.

LONG TERM CLEAN-UP GOALS:

SITE DESCRIPTION (ATTACH SITE LAYOUT MAP)

TYPE OF FACILITY: METAL PRODUCT FACILITY

KNOWN OR SUSPECTED HAZARDOUS SUBSTANCES PRESENT ON SITE: LEAD CONTAMINATION IN THE SOIL

WASTE QUANTITY (Drums, Soils, Lagoons, etc...): UNKNOWN

REGULATORY STATUS: CERCLA, RCRA

OWNER/LESSEE-NAME: GEORGIA METALS

ADDRESS: 14 INDUSTRIAL WAY | **PHONE:** N/A
POWDER SPRINGS, GEORGIA

SITE CONTACT - NAME: N/A

ADDRESS: | **PHONE:**

USEPA CONTACT - NAME: LEO FRANCENDESE | **PHONE:** 404-347-3931

TAT CONTACT - NAME: MICHAEL COLLINS | **PHONE:** 404-352-4147

TARGET INFORMATION

OBSERVED RELEASE TO ENVIRONMENT (Attach Sampling Data) | **YES:** X | **NO:**

SURFACE WATER: HIGH POTENTIAL

GROUNDWATER: UNKNOWN

AIR: N/A

SURFACE WATER

LOCATION OF NEAREST DOWNGRADIENT SURFACE WATER BODY (Lake, Stream, Ocean, etc...) [Show On Map]: APPROX. 2 MILES

LOCATION OF SURFACE WATER INTAKE (Show On Map): UNKNOWN

NUMBER OF PEOPLE SERVED: N/A

CITY/COUNTY WATER SYSTEM CONTACTS: COBB COUNTY WATER DEPARTMENT

NAME:	PHONE:	NAME:	PHONE:
ADDRESS:		ADDRESS:	

RECREATIONAL USE (Boating, Fishing, Swimming,, etc...):

SITE ASSESSMENT REFERRAL FORM

SURFACE WATER (Cont...)

AGRICULTURAL USE:

SENSITIVE ENVIRONMENTS (Wetlands, Endangered Species):

THREAT TO HUMAN FOOD CHAIN:

GROUNDWATER

CITY/COUNTY WATER SYSTEM CONTACTS:

NAME:	PHONE:	NAME:	PHONE:
ADDRESS:		ADDRESS:	

LOCATION OF WELLS:

DEPTH OF WELLS:

NUMBER OF PEOPLE SERVED:

PRIVATE WELL USE SURVEY (Number of homes within 0.5 miles of site) [Attach survey forms]:

KARST AQUIFER AREA (LIMESTONE/SINKHOLES):

ONSITE EXPOSURE/DIRECT CONTACT

SITE ACCESS (Restricted, Unrestricted):RESTRICTED

OCCUPIED BUILDINGS ON SITE:FIVE WORKERS ON SITE:UNKNOWN

SCHOOLS/DAYCARE CENTERS WITHIN 0.5 MILES:N/A

EXPOSURE PATHWAYS (Contaminated Soils, Lagoons, Drums, etc...):CONTAMINATED SOILS

POTENTIAL FOR AIR RELEASE (Describe Known or Potential Sources of Air Emissions on Site):N/A

OTHER COMMENTS

ATTACHMENT B

Photographs
(Camera Not Operable)

ATTACHMENT C

Log Notes

January 7, 1994

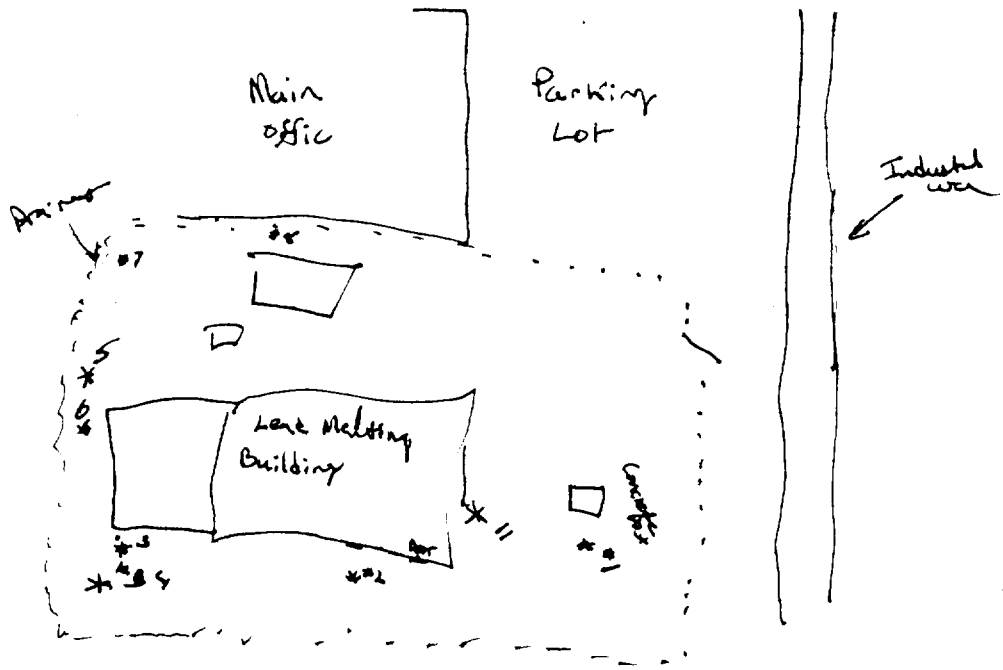
0830 Meet with OSC. Rigger + Francendese. Depart office with TATm Kowalski for Georgia Plating in Powder Springs, Ga

1005 Arrive on-site. OSC meet with facility owner. TAT begin preparing sampling equipment.

1015 OSC Rigger taking sample locations Flags + the areas of concern.

1040 OSC Rigger + TATm Kowalski begin sampling in ditch adjacent to site

1050 TATm Collins + OSC Francendese begin using XRF next to old lead melting building Locations given below



Note: Grand west.

Results on following page

(17) 1 - 9567 Pb
1805 Zn
**** CR+Ni

(18) 2 **** Pb, CR, Ni
4996 Zn

(19) 3 ZN 1206
Pb 5865
CR+Ni ****

(20) 4 Pb 4320
ZN 603.3
Cr 1471
Ni 2673

(21) 5 Pb ****
Zn 9403
CR-Ni: -****

(22) 6 Pb 4736
Zn 2273
Cr ****
Ni 0.00

(23) 7 Pb 1527
Zn —
Cr —
Ni —

(24) 8 Cr **** ZN 2354
Ni — Pb 1346

1100 Moving to Location # 2. Begin Screen.
TATm Kowalski + OSE Rigger sampling along ditch next to Industrial way.

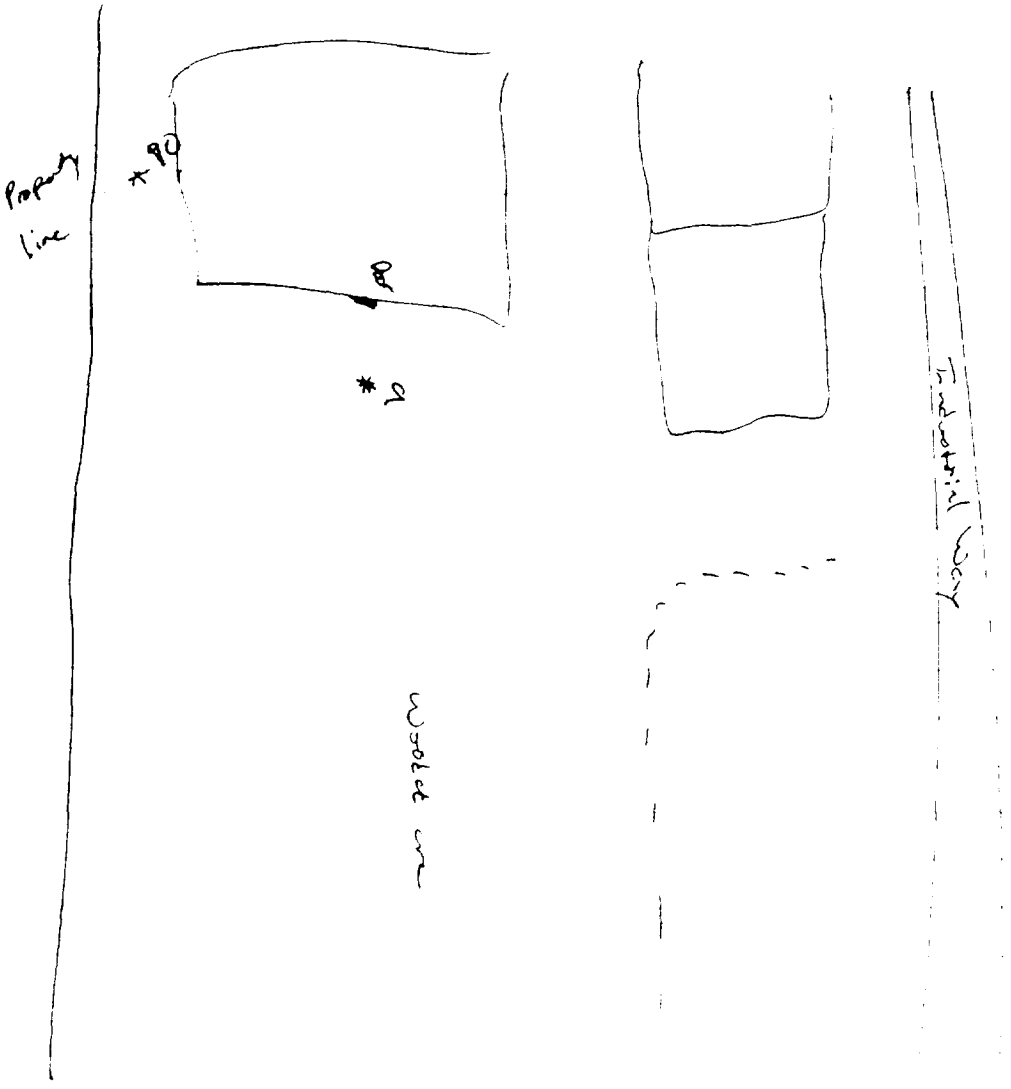
1155 Begin sample point 3 for XRF.
Rear corner of building

1120 Collecting screen dated from point 5.

1130 Screen pt. 6

1145 Screen pts 7 + 8

Location 9 - are illustrated below



9 Cr ****
Pb 1458
Zn 1583
Ni ——

10 Cr - 733.4
Ni - ——
Zn 501.3
Pb 1370

25 11 Cr ****
Zn 5482
Ni ——
Pb 6009

1250 TAT & Collins + OSC F. complete sampling inside fence area with lead melting area.

1255 OSC F. + TAT preparing to examine drum in shed believed to contain contaminates.

1305 Screen Samp #1 with XRF
Cr - 0.0 Pb 1398
Zn 496.0 Ni - 0.0

1315 Sample #2 Screen
Cr - **** Zn - 1720
Ni - —— Pb - 1351

1325 Sample point #3 Screen. ——
Cr — Zn —
Ni — Pb 1660

1330 Sample point #4 Screen
Cr **** Pb 1161
Ni —— Zn 1938

1335 SAMPLE POINT #5 SCREEN
CR —— Pb 1291
Ni 5333 ZN ——

1345 SAMPLE POINT #6 SCREEN
CR — Pb 1310
Ni — ZN —

ATTACHMENT D

Table of Witnesses

TABLE OF WITNESSES

Don Rigger, OSC
Leo Francedese, OSC
U.S. Environmental Protection Agency
Emergency Response and Removal Branch
345 Courtland Street, NE
Atlanta, GA 30365
(404)347-3931

Michael Collins, TAT
Gregory Kowalski, TAT
Roy F. Weston, Incorporated
1575 Northside Drive, NW
Bldg. 300, Suite 325
Atlanta, GA 30318
(404)352-4147

ATTACHMENT E

Safety Plan

WESTON MAJOR PROGRAMS DIVISION

HEALTH AND SAFETY PLAN

EMERGENCY RESPONSE / SITE INVESTIGATION

TDD No. 04-9401-0004 **Site Name:** Georgia Metals

Site Address: Street No. 1400 Industrial Way

City Powder Springs

County/State Cobb County, Georgia

Site Contact / Phone No.: Lee Francendese 347-3931

Directions to Site:(Att.Map) I-20 west to Hwy 6 to Forest Hill Road, turn right, go approx 1 mile Industry Way on right hand side. Site is at end of Industrial Way.

Historical/Current Site Information:

Site is an operational plating facility suspected of having lead contamination present in the soil around the site.

Incident Type:

( ) Air Release -

( ) Spill -

( ) Fire -

(X) HW Site -

Location Class : (X) Industrial ( ) Commercial ( ) Urban/Residential ( ) Rural

USEPA Contact: ~~M. Collins~~ L. Francendese **Date of Initial Site Activities:** 1 / 7 / 94

Original HASP: Yes X **Modification Number:** _____

Lead TAT: M. Collins **Site Health & Safety Coordinator:** Michael Collins

Response Activities/Duration (fill in as applicable and time duration)

Emergency Response:

( ) Documentation: _____

( ) Perimeter Recon: _____

( ) Site Entry: _____

( ) Multi-media Sampling: _____

( ) Hazard Categorization: _____

( ) Decontamination: _____

Assessment/PRP Monitoring:

(X) Documentation: 1 day

(X) Perimeter Recon. 1 day

(X) Site Entry 1 day

(X) Multi-media Sampling: 1 day

( ) Hazard Categorization: _____

(X) Decontamination: ~~Dry~~ 1 day

Physical Safety Hazards to Personnel

( ) Heat (X) Cold (X) Precipitation ( ) Confined Space (X) Terrain
(X) Walking/Working Surfaces ( ) Fire & Explosion ( ) Oxygen Deficiency
( ) Underground Utilities ( ) Overhead Utilities ( ) Heavy Equipment
( ) Unknowns in Drums, Tanks, Containers ( ) Ponds, Lagoons, Impoundments
( ) Rivers, Streams ( ) Pressurized Containers, Systems ( ) Noise
( ) Illumination ( ) Nonionizing Radiation ( ) Ionizing Radiation

Biological Hazards to Personnel

( ) Infectious/Medical/Hospital Waste ( ) Non-domesticated Animals ( ) Insects
( ) Poisonous Plants/Vegetation ( ) Raw Sewage

Training Requirements

(X) 40 Hour General Site Worker Course with three days supervised experience.
( ) 24 Hour Course for limited, specific tasks with one day supervised experience.
( ) 24 Hour Course for Level D Site with one day supervised experience.
(X) 8 Hour Annual Refresher Health and Safety Training.
(X) 8 Hour Management/Supervisor Training in addition to basic training course.
( ) Site Specific Health and Safety Training.
( ) Pre-entry training for emergency response skilled support personnel.

Medical Surveillance Requirements

(X) Baseline initial physical examination with physician certification.
(X) Annual medical examination with physician certification.
( ) Site Specific medical monitoring protocol (Radiation, Pesticide, PCB, Metals).
( ) Asbestos Worker medical protocol.
( ) Exempt from medical surveillance:_____.
(X) Examination required in event of chemical exposure or trauma.
(X) Heat Stress Monitoring (Ambient Temp above 70 degrees F).

Chemical Hazards To Personnel

Chemical Contaminent: Lead

PEL		0.100 PPM or Mg/M3
TLV		PPM or Mg/M3
IDLH		700 PPM or Mg/M3
Carcinogen		Yes
		No
Routes of Exposure	X	Inhalation
	X	Skin/Eye Contact
	X	Ingestion
		Skin Absorption
Symptoms of Acute Exposure		
		Confusion
		Convulsions
		Dizziness
		Drowsiness
		Giddiness
		Headache
		Irriation to
	X	Eyes, Nose, Throat
		Lightheadedness
		Nausea
	X	Respiratory Problems
		Seizure
		Sweating (excessive)
		Vision Disturbance
	X	Weakness
	X	Other
First Aid Treatment		
	X	Irrigate eyes w/water for 15 minutes
		Flush skin w/water for 15 minutes
		Remove contaminated clothing
	X	Get medical attention
		Move to fresh air
	X	Provide respiratory support
		Other

Physical Form	X	Solid
		Liquid
		Gas
Color	Soft Gray	
Odor	N/A	
Flashpoint	N/A	Degrees F or C
Flammable Limits	N/A	% LEL
		% UEL
Vapor Pressure	0	mm/Hg
Vapor Density	N/A	(air =1)
Specific Gravity	11.34	(water = 1)
Solubility	Insol.	
Incompatible Materials	Strong Oxidizers Hydrogen peroxide, acid	
Ion Potential	N/A	eV
Instrument for detection		
		PID w / Probe
		FID
		CGI
		Radiation Meter
		pH Meter or Paper
		Detector Tubes
	~~XRF~~	
		Mini-Ram / Ram
		Other: XRF
Other Information		
Data Source	X	NIOSH Pocket Guide
		HSDB
		CHRIS
		Sax
		RIDS
		Other

Site Control Measures

Field Sketch with work zones, access/egress points, decontamination station, and emergency meeting points:

See attached map

Site Communications:
(X) Buddy System ( ) Verbal ( ) Line of Sight/Visual ( ) Hand Held Radios ( ) Air Horn

Emergency Alarms:
1 Blast = Alert (exit through decon) 2 Blasts = Warning (exit through decon immediately) 3 Blasts = Evacuate (moving up wind, leaving equipment and PPE at the perimeter, and go to the designated meeting point)

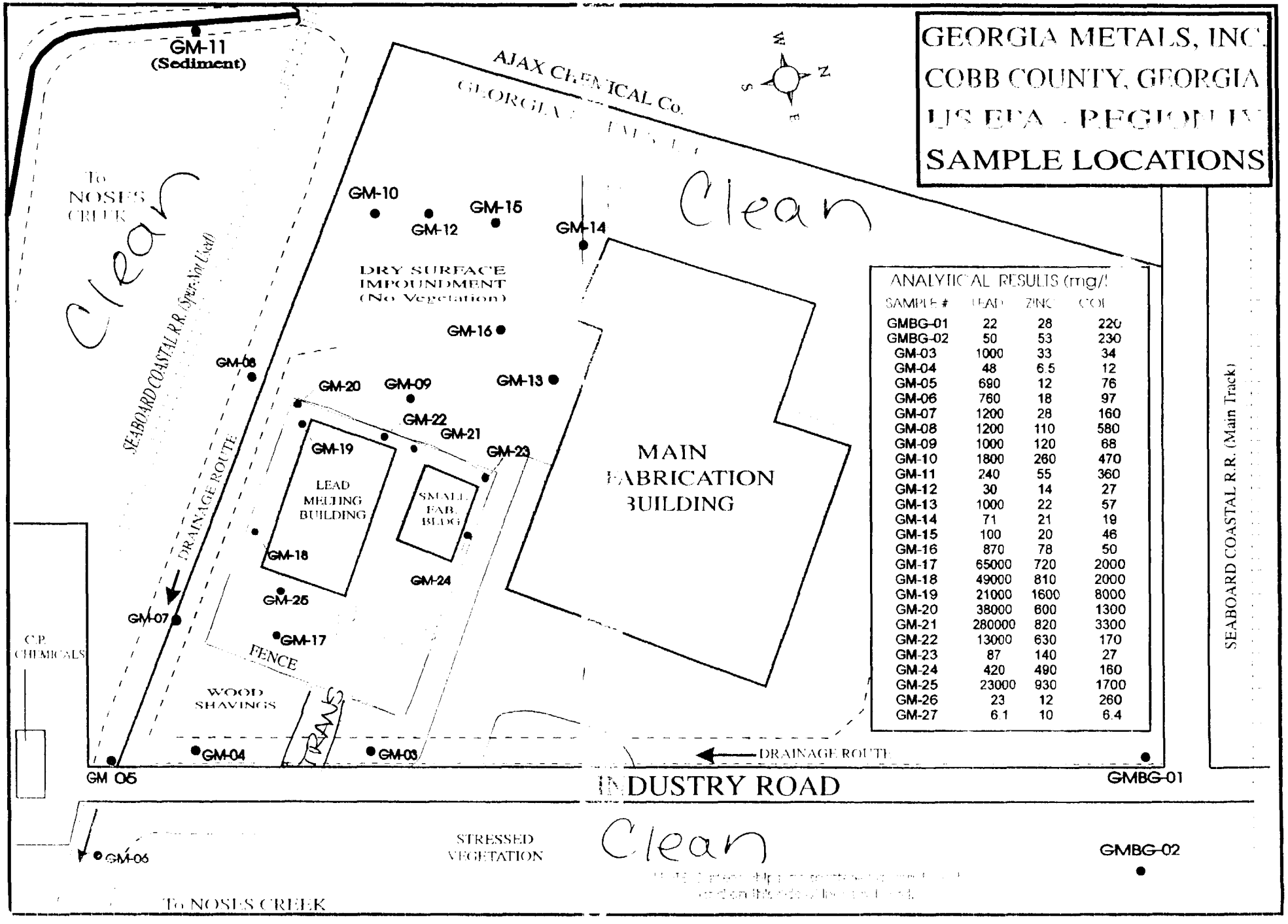
Decontamination Procedures:
( ) Emergency Wash Down: (10 gallons of water minimum)

(X) Dry Decontamination: Disposable PPE will be utilized, all soiled PPE shall be doffed in order of decreasing magnitude of contamination (i.e., Outer boots, outer gloves, outer chemical protective garment, inner garment if applicable, respiratory protective equipment, and inner gloves). The soiled PPE will be placed in an appropriate receptacle and will be disposed of with other site waste.

( ) Site Specific Decontamination Plan:
Personnel: _____

Equipment: _____

Adequacy of decontamination determined by: SSO



ANALYTICAL RESULTS (mg/l)

SAMPLE #	LEAD	ZINC	COD
GMBG-01	22	28	220
GMBG-02	50	53	230
GM-03	1000	33	34
GM-04	48	6.5	12
GM-05	690	12	76
GM-06	760	18	97
GM-07	1200	28	160
GM-08	1200	110	580
GM-09	1000	120	68
GM-10	1800	260	470
GM-11	240	55	360
GM-12	30	14	27
GM-13	1000	22	57
GM-14	71	21	19
GM-15	100	20	46
GM-16	870	78	50
GM-17	65000	720	2000
GM-18	49000	810	2000
GM-19	21000	1600	8000
GM-20	38000	600	1300
GM-21	280000	820	3300
GM-22	13000	630	170
GM-23	87	140	27
GM-24	420	490	160
GM-25	23000	930	1700
GM-26	23	12	260
GM-27	6.1	10	6.4

Personal Protective Equipment

TASK TO BE PERFORMED/AIR MONITORING REQUIRED	ANTICIPATED LEVEL OF PROTECTION	TYPE OF CHEMICAL PROTECTIVE COVERALL	INNER GLOVE OUTER GLOVE BOOT COVER	TYPE OF APR CARTRIDGE OR CANISTER
Perimeter Monitoring	Level D			
Site Entry + Investigation	Level D			
~~Sampling~~	~~Modified Level D~~	~~Tyvex (paper)~~	~~Latex gloves multiple pairs~~	~~V.T.M.~~
Sampling (Dusty Cond.)	Level C	Tyvex	Latex gloves multiple pairs	GMC-H

Frequency and Types of Air Monitoring: ( ) Continuous (✓) Routine - _____ ( ) Periodic - _____

DIRECT READING INSTRUMENTS	COMBUSTIBLE GAS/OXYGEN METER (1)	RADIATION SURVEY METER/PROBE (2)	PHOTOIONIZATION DETECTOR/PROBE (3)	FLAME IONIZATION DETECTOR (4)	CHEM. DETECTOR TUBE (5)
ID NUMBER	638184	668834	904835	313838	
CAL. DATE	1/6/94	1/6/94	1/6/94	1/6/94	
TAT MEMBER	Hornick	Hornick	Hornick	Hornick	
ACTION LEVEL	≥ 20%LEL ≤19.5%, ≥23% O_2 - LEAVE	3X BACKGRND -CAUTION: 1 MR/HR-LEAVE	UNKNOWNS 0-5 UNITS:"C" 5-500:"B"	UNKNOWNS 0-5 UNITS:"C" 5-500:"B"	PEL/TLV COMPARE W/PF

Emergency Phone Numbers

Emergency Contact	Location	Phone Number	Notified
Hospital	Kennestone Hospital 677 Church St.	404 / ~~426-2000~~ 793-5000	yes
Ambulance	Cobb Co. EMS	911	
Police	Cobb Co.	911	
Fire Dept.	Cobb Co.	911	

Chemical Trauma Capability? (X) Yes ( ) No If no, closest backup: _____ Phone: _____

Directions to Hospital (attach map) - Route verified by: Mike Collins Date: 1/7/94
Take I-75 to Exit 114B go straight when road splits (not Right onto 41) Go through one traffic light. When you get to the second traffic light the Hospital will be on the right.

Additional Emergency Phone Contacts

Contact	Phone Number
WESTON 24 hr. Hotline	215-524-1925 215-524-1926
WESTON Medical Emergency Service	800-229-3674 (Dr. Barnes)
Chemtrec	800-424-9300
ATSDR	404-639-0615
ATF (explosives information)	800-424-9555
National Response Center	800-424-8802
National Poison Control Center	800-942-5969
TAT Coordination Pager	404-280-3725

HASP prepared by: M. Collins Date: 1/6/94
Pre-Response/Entry Approval by: [illegible] Date: 1/6/94 ( )Verbal
Modification to Original HASP by: _____ Date: __/__/__

Physical Description of Site and Response Activities

Size of Site: ≥ 10 acres Terrain Sloped Weather Cloudy
Distance to Nearest: Residence ≥ .5 mi School ____ Hospital ____
Public Building ____ Other ____
Evacuation: ( ) Yes ( ) No By Whom: ____
Nearest Waterway: Moses Creek Distance from Site: 2 miles

Condition	Observed	Potential	None	Comments/Observations
Surface Water Contamination			X	
Ground Water Contamination		X		
Drinking Water Contamination			X	
Air Release			X	
Soil Contamination	X			
Stressed Vegetation		X		
Dead Animal Species			X	

Actions Taken On-Site:

Perimeter Monitoring: (X) Yes ( ) No
Site Entry by TAT: (X) Yes ( ) No

Tasks Conducted	Level of Protection/Specific PPE Used
Performed site perimeter recon, conducted air sampling, and used XRF to screen soils	Level D
Collected Soil Samples	Level C

Air Monitoring Summary Log

Date: 1 / 7 / 94

Data Collected by: M. Collins

Data to be summarized by a "Range of readings,i.e.,- Low to High" and/or "Average" by location.

Station/Location	CGI/O_2 Meter	Radiation Meter	PID/Probe	FID/OVA	Detector Tube
BACKGROUND	CGI - 0.0 O_2 - 21%	0.02 mrem	Not used due to moisture in air.	2 units	
Perimeter	No change over Background	No change over Background	Not used	No change over Background	
Onsite recon & sampling areas	No change above Background.				

Summary/Comments:

Hazardous Waste Site and Environmental Sampling Activities

Off Site: (X) Yes ( ) No
On Site: (X) Yes ( ) No

Describe types of samples and methods used to obtain samples: Collected surface + subsurface soil samples in Level C ppe following all EPA ESD guidelines

Was Laboratory notified of Potential Hazard Level Of Samples? (X) Yes ( ) No

Note: The nature of the work assignment may require the use of the following procedures/programs which will be included as Attachments to this HASP as applicable: Emergency Response Plan, Confined Space Entry Procedures, Spill Containment Program.

Disclaimer: This Health and Safety Plan (HASP) was prepared for work to be conducted under the Technical Assistance Team (TAT) Contract 68-WO-0036 for Zone I. Use of this HASP by WESTON and its subcontractors is intended to fulfill the OSHA requirements found in 29 CFR 1910.120. Items not specifically covered in this HASP are included by reference to 29 CFR 1910 and 1926.

The signatures below indicate that the individuals have read and understood this Health and Safety Plan.

PRINTED NAME	SIGNATURE	AFFILIATION	DATE
Michael Collins	Michael Collins	TAT	1/7/94
Greg Kowalski	Greg Kowalski	TAT	1/7/94

Final Submission of HASP by:	Michael Collins	Date
Post Response Review by:	Virginia T. Muller	3/1/94
Post Response Approval by:	Virginia T. Muller	3/1/94
TAT HSO Review by:		

COMMENTS/FOLLOWUP

JOB SAFETY & HEALTH PROTECTION

The Occupational Safety and Health Act of 1970 provides job safety and health protection for workers by promoting safe and healthful working conditions throughout the Nation. Provisions of the Act include the following:

Employers

All employers must furnish to employees employment and a place of employment free from recognized hazards that are causing or are likely to cause death or serious harm to employees. Employers must comply with occupational safety and health standards issued under the Act.

Employees

Employees must comply with all occupational safety and health standards, rules, regulations and orders issued under the Act that apply to their own actions and conduct on the job.

The Occupational Safety and Health Administration (OSHA) of the U.S. Department of Labor has the primary responsibility for administering the Act. OSHA issues occupational safety and health standards, and its Compliance Safety and Health Officers conduct jobsite inspections to help ensure compliance with the Act.

Inspection

The Act requires that a representative of the employer and a representative authorized by the employees be given an opportunity to accompany the OSHA inspector for the purpose of aiding the inspection.

Where there is no authorized employee representative, the OSHA Compliance Officer must consult with a reasonable number of employees concerning safety and health conditions in the workplace.

Complaint

Employees or their representatives have the right to file a complaint with the nearest OSHA office requesting an inspection if they believe unsafe or unhealthful conditions exist in their workplace. OSHA will withhold, on request, names of employees complaining.

The Act provides that employees may not be discharged or discriminated against in any way for filing safety and health complaints or for otherwise exercising their rights under the Act.

Employees who believe they have been discriminated against may file a complaint with their nearest OSHA office within 30 days of the alleged discriminatory action.

Citation

If upon inspection OSHA believes an employer has violated the Act, a citation alleging such violations will be issued to the employer. Each citation will specify a time period within which the alleged violation must be corrected.

The OSHA citation must be prominently displayed at or near the place of alleged violation for three days, or until it is corrected, whichever is later, to warn employees of dangers that may exist there.

Proposed Penalty

The Act provides for mandatory civil penalties against employers of up to $7,000 for each serious violation and for optional penalties of up to $7,000 for each nonserious violation. Penalties of up to $7,000 per day may be proposed for failure to correct violations within the proposed time period and for each day the violation continues beyond the prescribed abatement date. Also, any employer who willfully or repeatedly violates the Act may be assessed penalties of up to $70,000 for each such violation. A minimum penalty of $5,000 may be imposed for each willful violation. A violation of posting requirements can bring a penalty of up to $7,000.

There are also provisions for criminal penalties. Any willful violation resulting in the death of any employee, upon conviction, is punishable by a fine of up to $250,000 (or $500,000 if the employer is a corporation), or by imprisonment for up to six months, or both. A second conviction of an employer doubles the possible term of imprisonment. Falsifying records, reports, or applications is punishable by a fine of $10,000 or up to six months in jail or both.

Voluntary Activity

While providing penalties for violations, the Act also encourages efforts by labor and management, before an OSHA inspection, to reduce workplace hazards voluntarily and to develop and improve safety and health programs in all workplaces and industries. OSHA's Voluntary Protection Programs recognize outstanding efforts of this nature.

OSHA has published Safety and Health Program Management Guidelines to assist employers in establishing or perfecting programs to prevent or control employee exposure to workplace hazards. There are many public and private organizations that can provide information and assistance in this effort, if requested. Also, your local OSHA office can provide considerable help and advice on solving safety and health problems or can refer you to other sources for help such as training.

Consultation

Free assistance in identifying and correcting hazards and in improving safety and health management is available to employers, without citation or penalty, through OSHA-supported programs in each State. These programs are usually administered by the State Labor or Health department or a State university.

Posting Instructions

Employers in States operating OSHA approved State Plans should obtain and post the State's equivalent poster.

Under provisions of Title 29, Code of Federal Regulations, Part 1903.2(a)(1) employers must post this notice (or facsimile) in a conspicuous place where notices to employees are customarily posted.

More Information

Additional information and copies of the Act, specific OSHA safety and health standards, and other applicable regulations may be obtained from your employer or from the nearest OSHA Regional Office in the following locations:

Atlanta, GA	(404) 347-3573
Boston, MA	(617) 565-7164
Chicago, IL	(312) 353-2220
Dallas, TX	(214) 767-4731
Denver, CO	(303) 844-3061
Kansas City, MO	(816) 426-5861
New York, NY	(212) 337-2378
Philadelphia, PA	(215) 596-1201
San Francisco, CA	(415) 744-6670
Seattle, WA	(206) 442-5930

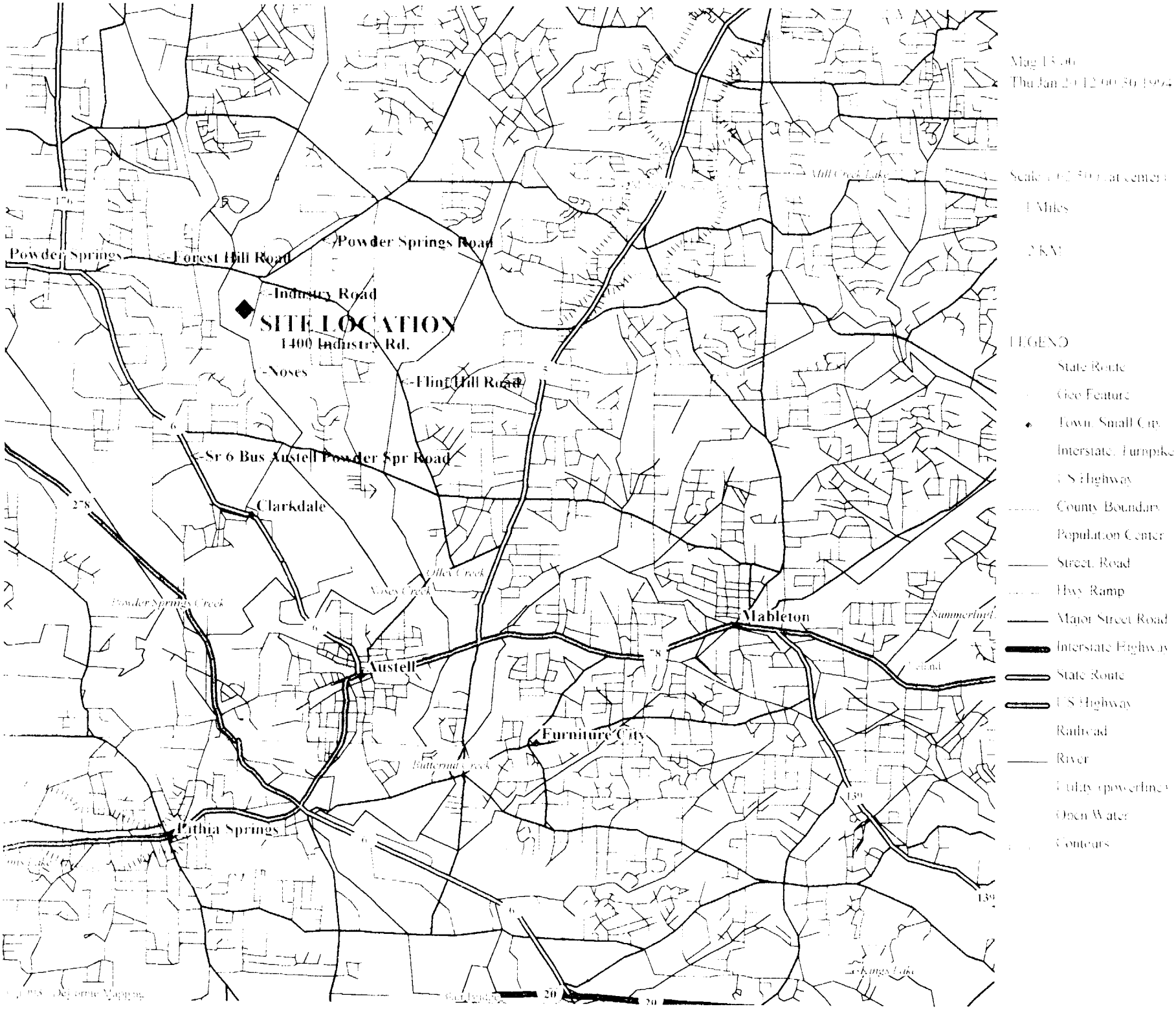
Lynn Martin

Lynn Martin, Secretary of Labor

U.S. Department of Labor

Occupational Safety and Health Administration

Washington, DC
1991 (Reprinted)
OSHA 2203


Mag 13.06
Thu Jan 20 12:00:30 1994
Scale 1:62,500 (at center)
1 Miles
2 KM
LEGEND
State Route
Geo Feature
Town, Small City
Interstate, Turnpike
US Highway
County Boundary
Population Center
Street, Road
Hwy Ramp
Major Street Road
Interstate Highway
State Route
US Highway
Railroad
River
Utility (powerline)
Open Water
Contours
Powder Springs
Forest Hill Road
Powder Springs Road
Industry Road
SITE LOCATION
1400 Industry Rd.
Noses
Flint Hill Road
Sr 6 Bus Austell Powder Spr Road
Clarkdale
Mill Creek Lake
Powder Springs Creek
Noses Creek
Mableton
Austell
Furniture City
Butternut Creek
Pithia Springs
Kings Lake
Summerlin
Leland
176
278
6
78
139
20

ATTACHMENT F

Analytical Summary

GEORGIA METALS SITE
ANALYTICAL DATA SUMMARY

SAMPLE ID	Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
GMBG-01	< DL	2.2E	0.41E	< DL	22	220	22	< DL	4.0	< DL	1.2E	3.9E	28
GMBG-02	< DL	7.5E	0.66E	0.65E	44	230	50	< DL	4.8E	< DL	3.8	19	53
GM-03	< DL	5.4E	< DL	0.42E	21	34	1,000	< DL	3.2E	< DL	0.90E	< DL	33
GM-04	2.4E	7.8E	0.46E	1.7E	29	12	48	< DL	1.8E	< DL	3.4	12E	6.5
GM-05	2.0E	< DL	< DL	< DL	12	76	690	< DL	2.1E	< DL	0.85E	< DL	12
GM-06	3.0E	5.3E	< DL	< DL	14	97	760	< DL	4.3E	< DL	1.0E	4.4E	18
GM-07	2.0E	< DL	< DL	< DL	12	160	1,200	< DL	4.0E	< DL	0.59E	< DL	28
GM-08	2.2E	< DL	< DL	0.60E	10	580	1,200	< DL	3.9E	< DL	0.70E	< DL	110
GM-09	< DL	4.2E	< DL	< DL	24	68	1,000	< DL	6.9	< DL	1.4E	4.7E	120
GM-10	< DL	5.1E	< DL	0.86E	12	470	1,800	< DL	7.2	< DL	0.96E	< DL	260
GM-11	< DL	2.9E	< DL	< DL	44	360	240	< DL	10	21	0.98E	4.2E	55
GM-12	< DL	2.4E	< DL	< DL	23	27	30	< DL	1.7E	< DL	1.2E	7.0E	14
GM-13	< DL	< DL	0.28E	< DL	14	57	1,000	< DL	4.0	< DL	0.75E	< DL	22
GM-14	< DL	5.0E	0.31E	< DL	79	19	71	< DL	4.2	< DL	1.7	8.1E	21
GM-15	< DL	7.9	0.45E	< DL	28	46	100	< DL	3.9E	3.8E	2.6	15	20
GM-16	< DL	< DL	< DL	< DL	22	50	870	< DL	4.7	< DL	0.85E	< DL	78
GM-17	59	42	< DL	5.6	160	2,000	65,000	0.79E	78	7.1E	11	19E	720
GM-18	27	58	< DL	2.9	48	2,000	49,000	1.0	32	17	3.1	12	810
GM-19	12	32	< DL	2.0	51	8,000	21,000	0.32E	23	7.7E	3.4	7.1E	1,600
GM-20	78	140	< DL	9.4	25	1,300	38,000	0.47E	13	7.6E	2.0	8.6E	600
GM-21	290	140	< DL	22	330	3,300	280,000	0.33E	180	12E	6.2	44	820
GM-22	14	16	< DL	5.3	41	170	13,000	< DL	66	< DL	1.5	4.6E	630
GM-23	< DL	< DL	< DL	< DL	23	27	87	< DL	2.9E	< DL	0.50E	< DL	140
GM-24	< DL	7.1E	< 0.57E	< DL	32	160	420	< DL	6.3	< DL	2.2	12E	490
GM-25	26	49	0.38E	2.3	49	1,700	23,000	< DL	56	9.3E	3.9	19	930
GM-26	< DL	< DL	< DL	< DL	11	260	23	< DL	2.4E	< DL	< DL	< DL	12
GM-27	< DL	< DL	< DL	< DL	22	6.4	6.1E	< DL	3.9E	< DL	0.97E	< DL	10

E - Estimated value; concentration is below Practical Quantitation Limit (PQL).
< DL - concentration is below Detection Limit (DL).

ATTACHMENT G

XRF Screening Data

GEORGIA METAL, INC.
XRF SCREENING DATA

SAMPLE #	SAMPLE LOCATION	Pb screen	Cr screen	Zn screen	Ni screen
GMBG-01	Surface soil in drainage ditch, up gradient from site. *Background*	1398	0.0	496.0	0.0
GMBG-02	Surface soil east of site. *Background*	1381	****	1720	0.0
GM-03	Bottom of drainage ditch adjacent to site	1660	0.0	0.0	0.0
GM-04	Side of drainage ditch adjacent of site	1161	****	1938	0.0
GM-05	Bottom of drainage ditch intersection	1291	0.0	0.0	5333
GM-06	Bottom of drainage ditch across road from site	1310	0.0	0.0	0.0
GM-17	Front of lead melting building area	9567	1805	****	****
GM-18	South side of lead melting building area	****	****	4996	****
GM-19	Rear of lead melting building area	5865	****	1206	****
GM-20	Southwest corner of lead melting building area, in drainage area.	4320	1471	603.3	7673
GM-21	Drainage northeast of lead melting bldg	****	****	9403	****
GM-22	North rear of lead melting building	4736	****	2273	0.0
GM-23	Northeast corner of lead melting area	1527	0.0	0.0	0.0
GM-24	Center north corner of lead melting area	1346	****	2354	0.0
GM-25	Front of lead melting building	6009	****	5482	0.0

****** - Readings off scale of instrument, >9999**
All readings should be compared with laboratory analytical data.

DRAFT

1. COST CENTER: 04

TAT - CONTRACT 68-WO-0036
TECHNICAL DIRECTION DOCUMENT (TDD)
OHM EMERGENCY RESPONSE AND
SPILL PREVENTION PROGRAM
Roy F. Weston
DRAFT

2A. NO: 04-9401-0020

2B. TYPE: 01
SITE INVESTIGATIONS CERC
LA 104(b)

3A. PRIORITY:
[ ] HIGH (1)
[X] MEDIUM (2)
[ ] LOW (3)

3B. EPA CONTACT:
FRANCENDESE, LEO
104

4. SOURCE OF FUNDS:
[X] CERCLA (1)
[ ] 311/AOPA (2)
[ ] UST (3)
[ ] FEMA (4)
[ ] CEPP (5)
[ ] N/A (6)
[ ] TAT/FIT (7)
[ ] ENFORCE (8)

5A. EPA SITE NAME:
GEORGIA METALS

5B. CITY COUNTY ST

5C. SSID #:

5D. CERCLIS ID:

6. COMPLETION DATE:
03/03/94

7. OVERTIME APPROVED
[ ] YES [X] NO

8. REFERENCE INFO:
[ ] YES [X] NO
[ ] ATTACHED
[ ] PICK UP

9A. GENERAL TASK DESCRIPTION: SITE INVESTIGATION

Mike Colling - meet him at 8:30

priority pollutant metals.

9B. ESTIMATED COST: $ 2585.00 ESTIMATED HOURS: 45

10. SPECIFIC ELEMENTS:

Conduct Sampling Surveys for Soil
Conduct Sampling Surveys for Surface Water
Conduct Sampling Surveys for Waste Materials
Document On-Site Activities
Document Site Conditions with Still Camera
Prepare Draft Report
Prepare Safety Plan
Prepare Sampling Plan
Prepare Site Sketch/Map

11. INTERIM DEADLINES:

. Blank
matrix spike
. ≈ 40 sample
sub / surface

12. DESIRED REPORT FORM: FORMAL REPORT [X] LETTER REPORT [ ] FORMAL BRIEF [ ]

OTHER (SPECIFY):

13. COMMENTS: WE WANT TO SCHEDULE THIS FOR FRIDAY THE 7TH OF JANUARY .... IT'S LOCAL IN POWDER SPRINGS .... WILL BE ABLE TO COMPLETE IN A DAY. PLEASE ARRANGE FOR THE ANALYTICAL WORK AT A TWO TO THREE WEEK TURNAROUND. MAYBE SOME TARGET COMPOUND VOLATILE/SEMIVOLATILE STUFF, BUT THE MAIN FOCUS IS ON PRIORITY POLLUTANT METALS ..... ESP. LEAD ..... PLEASE CALL ME TO ARRANGE FOR QA/QC METHODS.

14. AUTHORIZING DPO: GODFREY, ANNIE VERBAL DATE: 01/03/94

(SIGNATURE)

15. DATE: / /

16. RECEIVED BY:
[ ] ACCEPTED [ ] ACCEPTED WITH EXCEPTIONS [ ] REJECTED

(TATL SIGNATURE)

17. DATE: / /

18. DESCRIPTOR:

DRAFT

WESTON MANAGERS DESIGNERS/CONSULTANTS
1575 Northside Dr, NW, Suite 325
Atlanta, GA 30318
Phone: 404-352-4147
Fax: 404-352-0659

MEMORANDUM

TO: FILE

FROM: Paula C. MacLaren
Analytical Coordinator

THRU: William R. Doyle
TATL, Region IV

SUBJECT: Georgia Metals Site Analytical Data
TDD# 04-9401-L001-0803

DATE: 9 February 1994

Kiber Environmental Services, Incorporated laboratory performed Priority Pollutant metal analyses on twenty-seven soil samples collected at the Georgia Metals site on 07 January 1994. Matrix spike analyses were performed on samples GM-09, GM-18, and GM-27. The samples were received at the laboratory on 11 January 1994 on ice and in good condition with no further handling comments. The analytical report was received within the two week turnaround period.

All sample analysis hold times were met.

The instrument laboratory blank showed trace contamination of chromium, copper and zinc. Their effect on sample data has been evaluated with the results reported on the attached data summary.

The matrix spike percent recoveries on samples GM-09 and GM-27 were all within the QA/QC recommended limits of 80%-120% except for antimony and silver. The laboratory control sample also showed antimony and silver recoveries below acceptable ranges due to sample processing. This indicates that actual concentrations of these metals may be higher than the reported values and should be viewed as estimated data only.

Matrix spike percent recoveries on sample GM-18 were all within the QA/QC guidelines except for copper and lead. Sample GM-18 matrix spike percent recoveries for copper, lead and zinc exceeded the QA/QC upper guideline of 120% due to elevated sample concentrations. Chromium also slightly exceeded the 120% guideline at 133% recovery. All other metal percent recoveries were within the guidelines with again the exception of antimony and silver.

A summary of the analytical data can be found on the following pages.

cc: Don Rigger
Leo Francendese
Greg Kowalski

GEORGIA METALS SITE
ANALYTICAL DATA SUMMARY

SAMPLE ID	ANALYTE *												
	Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
GMBG-01	<DL	2.2 E	0.41 E	<DL	22 B	220 B	22	<DL	4.0	<DL	1.2 E	3.9 E	28 B
GMBG-02	<DL	7.5 E	0.66 E	0.65 E	44 B	230 B	50	<DL	4.8 E	<DL	3.8	19	53 B
GM-03	<DL	5.4 E	<DL	0.42 E	21 B	34 B	1,000	<DL	3.2 E	<DL	0.90 E	<DL	33 B
GM-04	2.4 E	7.8 E	0.46 E	1.7 E	29 B	12 B	48	<DL	1.8 E	<DL	3.4	12 E	6.5 B
GM-05	2.0 E	<DL	<DL	<DL	12 B	76 B	690	<DL	2.1 E	<DL	0.85 E	<DL	12 B
GM-06	3.0 E	5.3 E	<DL	<DL	14 B	97 B	760	<DL	4.3 E	<DL	1.0 E	4.4 E	18 B
GM-07	2.0 E	<DL	<DL	<DL	12 B	160 B	1,200	<DL	4.0 E	<DL	0.59 E	<DL	28 B
GM-08	2.2 E	<DL	<DL	0.60 E	10 B	580 B	1,200	<DL	3.9 E	<DL	0.70 E	<DL	110 B
GM-09	<DL	4.2 E	<DL	<DL	24 B	68 B	1,000	<DL	6.9	<DL	1.4 E	4.7 E	120 B
GM-10	<DL	5.1 E	<DL	0.86 E	12 B	470 B	1,800	<DL	7.2	<DL	0.96 E	<DL	260 B
GM-11	<DL	2.9 E	<DL	<DL	44 B	360 B	240	<DL	10	21	0.98 E	4.2 E	55 B
GM-12	<DL	2.4 E	<DL	<DL	23 B	27 B	30	<DL	1.7 E	<DL	1.2 E	7.0 E	14 B
GM-13	<DL	<DL	0.28 E	<DL	14 B	57 B	1,000	<DL	4.0	<DL	0.75 E	<DL	22 B
GM-14	<DL	5.0 E	0.31 E	<DL	79 B	19 B	71	<DL	4.2	<DL	1.7	8.1 E	21 B
GM-15	<DL	7.9	0.45 E	<DL	28 B	46 B	100	<DL	3.9 E	3.8 E	2.6	15	20 B
GM-16	<DL	<DL	<DL	<DL	22 B	50 B	870	<DL	4.7	<DL	0.85 E	<DL	78 B
GM-17	59	42	<DL	5.6	160 B	2,000 B	65,000	0.79 E	78	7.1 E	11	19 E	720 B
GM-18	27	58	<DL	2.9	48 B	2,000 B	49,000	1.0	32	17	3.1	12	810 B
GM-19	12	32	<DL	2.0	51 B	8,000 B	21,000	0.32 E	23	7.7 E	3.4	7.1 E	1,600 B
GM-20	78	140	<DL	9.4	25 B	1,300 B	38,000	0.47 E	13	7.6 E	2.0	8.6 E	600 B
GM-21	290	140	<DL	22	330 B	3,300 B	280,000	0.33 E	180	12 E	6.2	44	820 B
GM-22	14	16	<DL	5.3	41 B	170 B	13,000	<DL	66	<DL	1.5	4.6 E	630 B
GM-23	<DL	<DL	<DL	<DL	23 B	27 B	87	<DL	2.9 E	<DL	0.50 E	<DL	140 B
GM-24	<DL	7.1 E	0.57 E	<DL	32 B	160 B	420	<DL	6.3	<DL	2.2	12 E	490 B
GM-25	26	49	0.38 E	2.3	49 B	1,700 B	23,000	<DL	56	9.3 E	3.9	19	930 B
GM-26	<DL	<DL	<DL	<DL	11 B	260 B	23	<DL	2.4 E	<DL	<DL	<DL	12 B
GM-27	<DL	<DL	<DL	<DL	22 B	6.4 B	6.1 E	<DL	3.9 E	<DL	0.97 E	<DL	10 B
LAB BLANK					0.0007 E	0.002 E							0.01 E

E – Estimated value; concentration is below Practical Quantitation Limit (PQL)

<DL – concentration is below Detection Limit (DL).

* – all concentrations are in mg/Kg (ppm)

B – The analyte was present in the laboratory blank.

ANALYTICAL RESULTS FOR THE GEORGIA METALS SITE

KIBER PROJECT #821-40116

PRESENTED TO:

ROY F. WESTON
1575 Northside Dr.
Suite 325 Building 300
Atlanta, GA 30318
(404) 352-4147

JAN 25 1994

PRESENTED BY:

KIBER ENVIRONMENTAL SERVICES, INC.
3786 DEKALB TECHNOLOGY PARKWAY
ATLANTA, GEORGIA 30340
(404) 455-3944

DUPLICATE

January 25, 1994

KIBER ENVIRONMENTAL SERVICES, INC.

ANALYTICAL CASE NARRATIVE
FOR:

WESTON - Georgia Metals

Project No. 821-40116

JAN 25 1994

- Twenty seven solid samples were submitted to Kiber for analysis on 1/11/94 at 1010 hours by WESTON personnel. The samples arrived in good condition and on ice.

- The requested analysis and corresponding methods are as follows:

Analysis	*Method*	*Instrument*
Total Priority Pollutant Metals	SW-846 Methods - 6010 and 3051	Thermo Jarrell Ash ENVIRO 61E ICAP

- Two analytical batches were performed inconjunction with this project. The matrix spike was performed on 40116-9 for the batch containing samples 40116-1 through 40116-6 and 40116-9. The recoveries for the spikes were all within the ranges specified by the method except for silver and antimony. These may be low due to sample non-homogeneity.

  The analytical batch consisting of samples 40116-7,8,10 through 27 had the quality control performed on sample 40116-18. Most of the replicate recoveries fell outside the limits recommended by the method. This is thought to be due to sample non-homogeneity and the elevated levels in the sample. Also, the matrix spike failed for silver, chromium, copper, zinc, antimony, and lead. The copper and lead spike recoveries were unable to be calculated because the results were above the instrumental linear range. The remaining recoveries that were not within the method recommended ranges may be due to sample non-homogeneity and the elevated levels in the samples.

  The analytical spike was within acceptable limits for all elements.

  There were no further difficulties with the analysis.

KIBER ENVIRONMENTAL SERVICES

LAB SAMPLE # 40116-1
PROJECT # 821

PRIORITY POLLUTANT METALS RESULTS

GEORGIA METALS/ WESTON
SAMPLE # GMBG-01

SAMPLED (Date/Time/Init) : 1/7/94, 1030, MC/GK
ICP ANALYSIS (Date/Init) : 1/19/94, LD
CV ANALYSIS (Date/Init) : 1/17/94, KK

DATE REPORTED: 1/24/94

MATRIX : SOLID
Digestion Method : 3051
Quant Factor : 112

ANALYTE	EPA Method	MDL	PQL	Result mg/Kg	Blank* mg/L
Total Antimony (Sb)	6010	1.79	7.17	<DL	<DL
Total Arsenic (As)	6010	1.79	7.17	2.2 E	<DL
Total Beryllium (Be)	6010	0.336	1.34	0.41 E	<DL
Total Cadmium (Cd)	6010	0.448	1.79	<DL	<DL
Total Chromium (Cr)	6010	0.336	1.34	22	0.007 E
Total Copper (Cu)	6010	0.224	0.896	220	0.002 E
Total Lead (Pb)	6010	1.90	7.62	22	<DL
Total Mercury (Hg)	7471	0.200	0.800	<DL	<DL
Total Nickel (Ni)	6010	1.01	4.03	4.0	<DL
Total Selenium (Se)	6010	3.25	13.0	<DL	<DL
Total Silver (Ag)	6010	0.336	1.34	1.2 E	<DL
Total Thallium (Tl)	6010	3.25	13.0	3.9 E	<DL
Total Zinc (Zn)	6010	0.448	1.79	28	0.01 E

MDL : Method Detection Limit
PQL : Practical Quantitation Limit
E : Estimated
*Blank Values As Reported By Instrument

JAN 26 1994

Stacy Bergquist

KIBER ENVIRONMENTAL SERVICES

LAB SAMPLE # 40116-2
PROJECT # 821

PRIORITY POLLUTANT METALS RESULTS

GEORGIA METALS/ WESTON
SAMPLE # GMBG-02

SAMPLED (Date/Time/Init) : 1/7/94, 1035, MC/GK
ICP ANALYSIS (Date/Init) : 1/19/94, LD
CV ANALYSIS (Date/Init) : 1/17/94, KK

DATE REPORTED: 1/24/94

MATRIX : SOLID
Digestion Method : 3051
Quant Factor : 151

ANALYTE	EPA Method	MDL	PQL	Result mg/Kg	Blank* mg/L
Total Antimony (Sb)	6010	2.42	9.66	<DL	<DL
Total Arsenic (As)	6010	2.42	9.66	7.5 E	<DL
Total Beryllium (Be)	6010	0.453	1.81	0.66 E	<DL
Total Cadmium (Cd)	6010	0.604	2.42	0.65 E	<DL
Total Chromium (Cr)	6010	0.453	1.81	44	0.007 E
Total Copper (Cu)	6010	0.302	1.21	230	0.002 E
Total Lead (Pb)	6010	2.57	10.3	50	<DL
Total Mercury (Hg)	7471	0.200	0.800	<DL	<DL
Total Nickel (Ni)	6010	1.36	5.44	4.8 E	<DL
Total Selenium (Se)	6010	4.38	17.5	<DL	<DL
Total Silver (Ag)	6010	0.453	1.81	3.8	<DL
Total Thallium (Tl)	6010	4.38	17.5	19	<DL
Total Zinc (Zn)	6010	0.604	2.42	53	0.01 E

MDL : Method Detection Limit
PQL : Practical Quantitation Limit
E : Estimated
*Blank Values As Reported By Instrument

Gary Bergquist

KIBER ENVIRONMENTAL SERVICES

LAB SAMPLE # 40116-3
PROJECT # 821

PRIORITY POLLUTANT METALS RESULTS

GEORGIA METALS/ WESTON
SAMPLE # GM-03

SAMPLED (Date/Time/Init) : 1/7/94, 1040, MC/GK
ICP ANALYSIS (Date/Init) : 1/19/94, LD
CV ANALYSIS (Date/Init) : 1/17/94, KK

DATE REPORTED: 1/24/94

MATRIX : SOLID
Digestion Method : 3051
Quant Factor : 107

ANALYTE	EPA Method	MDL	PQL	Result mg/Kg	Blank* mg/L
Total Antimony (Sb)	6010	1.71	6.85	<DL	<DL
Total Arsenic (As)	6010	1.71	6.85	5.4 E	<DL
Total Beryllium (Be)	6010	0.321	1.28	<DL	<DL
Total Cadmium (Cd)	6010	0.428	1.71	0.42 E	<DL
Total Chromium (Cr)	6010	0.321	1.28	21	0.007 E
Total Copper (Cu)	6010	0.214	0.856	34	0.002 E
Total Lead (Pb)	6010	1.82	7.28	1,000	<DL
Total Mercury (Hg)	7471	0.200	0.800	<DL	<DL
Total Nickel (Ni)	6010	0.963	3.85	3.2 E	<DL
Total Selenium (Se)	6010	3.10	12.4	<DL	<DL
Total Silver (Ag)	6010	0.321	1.28	0.90 E	<DL
Total Thallium (Tl)	6010	3.10	12.4	<DL	<DL
Total Zinc (Zn)	6010	0.428	1.71	33	0.01 E

MDL : Method Detection Limit
PQL : Practical Quantitation Limit
E : Estimated
*Blank Values As Reported By Instrument

JAN 25 1994

Lacy Bergquist

KIBER ENVIRONMENTAL SERVICES

LAB SAMPLE # 40116-4
PROJECT # 821

PRIORITY POLLUTANT METALS RESULTS

GEORGIA METALS/ WESTON
SAMPLE # GM-04

SAMPLED (Date/Time/Init) : 1/7/94, 1045, MC/GK
ICP ANALYSIS (Date/Init) : 1/19/94, LD
CV ANALYSIS (Date/Init) : 1/17/94, KK

DATE REPORTED: 1/24/94

MATRIX : SOLID
Digestion Method : 3051
Quant Factor : 122

ANALYTE	EPA Method	MDL	PQL	Result mg/Kg	Blank* mg/L
Total Antimony (Sb)	6010	1.95	7.81	2.4 E	<DL
Total Arsenic (As)	6010	1.95	7.81	7.8 E	<DL
Total Beryllium (Be)	6010	0.366	1.46	0.46 E	<DL
Total Cadmium (Cd)	6010	0.488	1.95	1.7 E	<DL
Total Chromium (Cr)	6010	0.366	1.46	29	0.007 E
Total Copper (Cu)	6010	0.244	0.976	12	0.002 E
Total Lead (Pb)	6010	2.07	8.30	48	<DL
Total Mercury (Hg)	7471	0.200	0.800	<DL	<DL
Total Nickel (Ni)	6010	1.10	4.39	1.8 E	<DL
Total Selenium (Se)	6010	3.54	14.2	<DL	<DL
Total Silver (Ag)	6010	0.366	1.46	3.4	<DL
Total Thallium (Tl)	6010	3.54	14.2	12 E	<DL
Total Zinc (Zn)	6010	0.488	1.95	6.5	0.01 E

MDL : Method Detection Limit
PQL : Practical Quantitation Limit
E : Estimated
*Blank Values As Reported By Instrument

KIBER ENVIRONMENTAL SERVICES

LAB SAMPLE # 40116-5
PROJECT # 821

PRIORITY POLLUTANT METALS RESULTS

GEORGIA METALS/ WESTON
SAMPLE # GM-05

SAMPLED (Date/Time/Init) : 1/7/94, 1050, MC/GK
ICP ANALYSIS (Date/Init) : 1/20/94, LD
CV ANALYSIS (Date/Init) : 1/17/94, KK

DATE REPORTED: 1/24/94

MATRIX : SOLID
Digestion Method : 3051
Quant Factor : 111

ANALYTE	EPA Method	MDL	PQL	Result mg/Kg	Blank* mg/L
Total Antimony (Sb)	6010	1.78	7.10	2.0 E	<DL
Total Arsenic (As)	6010	1.78	7.10	<DL	<DL
Total Beryllium (Be)	6010	0.333	1.33	<DL	<DL
Total Cadmium (Cd)	6010	0.444	1.78	<DL	<DL
Total Chromium (Cr)	6010	0.333	1.33	12	0.007 E
Total Copper (Cu)	6010	0.222	0.888	76	0.002 E
Total Lead (Pb)	6010	1.89	7.55	690	<DL
Total Mercury (Hg)	7471	0.200	0.800	<DL	<DL
Total Nickel (Ni)	6010	0.999	4.00	2.1 E	<DL
Total Selenium (Se)	6010	3.22	12.9	<DL	<DL
Total Silver (Ag)	6010	0.333	1.33	0.85 E	<DL
Total Thallium (Tl)	6010	3.22	12.9	<DL	<DL
Total Zinc (Zn)	6010	0.444	1.78	12	0.01 E

MDL : Method Detection Limit
PQL : Practical Quantitation Limit
E : Estimated
*Blank Values As Reported By Instrument

KIBER ENVIRONMENTAL SERVICES

LAB SAMPLE # 40116-6
PROJECT # 821

PRIORITY POLLUTANT METALS RESULTS

GEORGIA METALS/ WESTON
SAMPLE # GM-06

SAMPLED (Date/Time/Init) : 1/7/94, 1055, MC/GK
ICP ANALYSIS (Date/Init) : 1/20/94, LD
CV ANALYSIS (Date/Init) : 1/17/94, KK

DATE REPORTED: 1/24/94

MATRIX : SOLID
Digestion Method : 3051
Quant Factor : 123

ANALYTE	EPA Method	MDL	PQL	Result mg/Kg	Blank* mg/L
Total Antimony (Sb)	6010	1.97	7.87	3.0 E	<DL
Total Arsenic (As)	6010	1.97	7.87	5.3 E	<DL
Total Beryllium (Be)	6010	0.369	1.48	<DL	<DL
Total Cadmium (Cd)	6010	0.492	1.97	<DL	<DL
Total Chromium (Cr)	6010	0.369	1.48	14	0.007 E
Total Copper (Cu)	6010	0.246	0.984	97	0.002 E
Total Lead (Pb)	6010	2.09	8.36	760	<DL
Total Mercury (Hg)	7471	0.200	0.800	<DL	<DL
Total Nickel (Ni)	6010	1.11	4.43	4.3 E	<DL
Total Selenium (Se)	6010	3.57	14.3	<DL	<DL
Total Silver (Ag)	6010	0.369	1.48	1.0 E	<DL
Total Thallium (Tl)	6010	3.57	14.3	4.4 E	<DL
Total Zinc (Zn)	6010	0.492	1.97	18	0.01 E

MDL : Method Detection Limit
PQL : Practical Quantitation Limit
E : Estimated
*Blank Values As Reported By Instrument

JAN 25 1994

Stacy Burgess

KIBER ENVIRONMENTAL SERVICES

LAB SAMPLE # 40116-7
PROJECT # 821

PRIORITY POLLUTANT METALS RESULTS

GEORGIA METALS/ WESTON
SAMPLE # GM-07

SAMPLED (Date/Time/Init) : 1/7/94, 1100, MC/GK
ICP ANALYSIS (Date/Init) : 1/20/94, LD
CV ANALYSIS (Date/Init) : 1/17/94, KK

DATE REPORTED: 1/24/94

MATRIX : SOLID
Digestion Method : 3051
Quant Factor : 118

ANALYTE	EPA Method	MDL	PQL	Result mg/Kg	Blank* mg/L
Total Antimony (Sb)	6010	1.89	7.55	2.0 E	<DL
Total Arsenic (As)	6010	1.89	7.55	<DL	<DL
Total Beryllium (Be)	6010	0.354	1.42	<DL	<DL
Total Cadmium (Cd)	6010	0.472	1.89	<DL	<DL
Total Chromium (Cr)	6010	0.354	1.42	12	0.007 E
Total Copper (Cu)	6010	0.236	0.944	160	0.002 E
Total Lead (Pb)	6010	2.01	8.02	1,200	<DL
Total Mercury (Hg)	7471	0.200	0.800	<DL	<DL
Total Nickel (Ni)	6010	1.06	4.25	4.0 E	<DL
Total Selenium (Se)	6010	3.42	13.7	<DL	<DL
Total Silver (Ag)	6010	0.354	1.42	0.59 E	<DL
Total Thallium (Tl)	6010	3.42	13.7	<DL	<DL
Total Zinc (Zn)	6010	0.472	1.89	28	0.01 E

MDL : Method Detection Limit
PQL : Practical Quantitation Limit
E : Estimated
*Blank Values As Reported By Instrument

Gary Bergquist

KIBER ENVIRONMENTAL SERVICES

LAB SAMPLE # 40116-8
PROJECT # 821

PRIORITY POLLUTANT METALS RESULTS

GEORGIA METALS/ WESTON
SAMPLE # GM-08

SAMPLED (Date/Time/Init) : 1/7/94, 1105, MC/GK
ICP ANALYSIS (Date/Init) : 1/20/94, LD
CV ANALYSIS (Date/Init) : 1/17/94, KK

DATE REPORTED: 1/24/94

MATRIX : SOLID
Digestion Method : 3051
Quant Factor : 110

ANALYTE	EPA Method	MDL	PQL	Result mg/Kg	Blank* mg/L
Total Antimony (Sb)	6010	1.76	7.04	2.2 E	<DL
Total Arsenic (As)	6010	1.76	7.04	<DL	<DL
Total Beryllium (Be)	6010	0.330	1.32	<DL	<DL
Total Cadmium (Cd)	6010	0.440	1.76	0.60 E	<DL
Total Chromium (Cr)	6010	0.330	1.32	10	0.007 E
Total Copper (Cu)	6010	0.220	0.880	580	0.002 E
Total Lead (Pb)	6010	1.87	7.48	1,200	<DL
Total Mercury (Hg)	7471	0.200	0.800	<DL	<DL
Total Nickel (Ni)	6010	0.990	3.96	3.9 E	<DL
Total Selenium (Se)	6010	3.19	12.8	<DL	<DL
Total Silver (Ag)	6010	0.330	1.32	0.70 E	<DL
Total Thallium (Tl)	6010	3.19	12.8	<DL	<DL
Total Zinc (Zn)	6010	0.440	1.76	110	0.01 E

MDL : Method Detection Limit
PQL : Practical Quantitation Limit
E : Estimated
*Blank Values As Reported By Instrument

Stacey Sergeant

KIBER ENVIRONMENTAL SERVICES

LAB SAMPLE # 40116-9
PROJECT # 821

PRIORITY POLLUTANT METALS RESULTS

GEORGIA METALS/ WESTON
SAMPLE # GM-09

SAMPLED (Date/Time/Init) : 1/7/94, 1110, MC/GK
ICP ANALYSIS (Date/Init) : 1/20/94, LD
CV ANALYSIS (Date/Init) : 1/17/94, KK

DATE REPORTED: 1/24/94

MATRIX : SOLID
Digestion Method : 3051
Quant Factor : 132

ANALYTE	EPA Method	MDL	PQL	Result mg/Kg	Blank* mg/L
Total Antimony (Sb)	6010	2.11	8.45	<DL	<DL
Total Arsenic (As)	6010	2.11	8.45	4.2 E	<DL
Total Beryllium (Be)	6010	0.396	1.58	<DL	<DL
Total Cadmium (Cd)	6010	0.528	2.11	<DL	<DL
Total Chromium (Cr)	6010	0.396	1.58	24	0.007 E
Total Copper (Cu)	6010	0.264	1.06	68	0.002 E
Total Lead (Pb)	6010	2.24	8.98	1,000	<DL
Total Mercury (Hg)	7471	0.200	0.800	<DL	<DL
Total Nickel (Ni)	6010	1.19	4.75	6.9	<DL
Total Selenium (Se)	6010	3.83	15.3	<DL	<DL
Total Silver (Ag)	6010	0.396	1.58	1.4 E	<DL
Total Thallium (Tl)	6010	3.83	15.3	4.7 E	<DL
Total Zinc (Zn)	6010	0.528	2.11	120	0.01 E

MDL : Method Detection Limit
PQL : Practical Quantitation Limit
E : Estimated
*Blank Values As Reported By Instrument

Stacy Burgess

KIBER ENVIRONMENTAL SERVICES

LAB SAMPLE # 40116-10
PROJECT # 821

PRIORITY POLLUTANT METALS RESULTS

GEORGIA METALS/ WESTON
SAMPLE # GM-10

SAMPLED (Date/Time/Init) : 1/7/94, 1115, MC/GK
ICP ANALYSIS (Date/Init) : 1/21/94, LD
CV ANALYSIS (Date/Init) : 1/17/94, KK

DATE REPORTED: 1/24/94

MATRIX : SOLID
Digestion Method : 3051
Quant Factor : 112

ANALYTE	EPA Method	MDL	PQL	Result mg/Kg	Blank* mg/L
Total Antimony (Sb)	6010	1.79	7.17	<DL	<DL
Total Arsenic (As)	6010	1.79	7.17	5.1 E	<DL
Total Beryllium (Be)	6010	0.336	1.34	<DL	<DL
Total Cadmium (Cd)	6010	0.448	1.79	0.86 E	<DL
Total Chromium (Cr)	6010	0.336	1.34	12	0.007 E
Total Copper (Cu)	6010	0.224	0.896	470	0.002 E
Total Lead (Pb)	6010	1.90	7.62	1,800	<DL
Total Mercury (Hg)	7471	0.200	0.800	<DL	<DL
Total Nickel (Ni)	6010	1.01	4.03	7.2	<DL
Total Selenium (Se)	6010	3.25	13.0	<DL	<DL
Total Silver (Ag)	6010	0.336	1.34	0.96 E	<DL
Total Thallium (Tl)	6010	3.25	13.0	<DL	<DL
Total Zinc (Zn)	6010	0.448	1.79	260	0.01 E

MDL : Method Detection Limit
PQL : Practical Quantitation Limit
E : Estimated
*Blank Values As Reported By Instrument

Stacey Bergquist

KIBER ENVIRONMENTAL SERVICES

LAB SAMPLE # 40116-11
PROJECT # 821

PRIORITY POLLUTANT METALS RESULTS

GEORGIA METALS/ WESTON
SAMPLE # GM-11

SAMPLED (Date/Time/Init) : 1/7/94, 1120, MC/GK
ICP ANALYSIS (Date/Init) : 1/21/94, LD
CV ANALYSIS (Date/Init) : 1/17/94, KK

DATE REPORTED: 1/24/94

MATRIX : SOLID
Digestion Method : 3051
Quant Factor : 134

ANALYTE	EPA Method	MDL	PQL	Result mg/Kg	Blank* mg/L
Total Antimony (Sb)	6010	2.14	8.58	<DL	<DL
Total Arsenic (As)	6010	2.14	8.58	2.9 E	<DL
Total Beryllium (Be)	6010	0.402	1.61	<DL	<DL
Total Cadmium (Cd)	6010	0.536	2.14	<DL	<DL
Total Chromium (Cr)	6010	0.402	1.61	44	0.007 E
Total Copper (Cu)	6010	0.268	1.07	360	0.002 E
Total Lead (Pb)	6010	2.28	9.11	240	<DL
Total Mercury (Hg)	7471	0.200	0.800	<DL	<DL
Total Nickel (Ni)	6010	1.21	4.82	10	<DL
Total Selenium (Se)	6010	3.89	15.5	21	<DL
Total Silver (Ag)	6010	0.402	1.61	0.98 E	<DL
Total Thallium (Tl)	6010	3.89	15.5	4.2 E	<DL
Total Zinc (Zn)	6010	0.536	2.14	55	0.01 E

MDL : Method Detection Limit
PQL : Practical Quantitation Limit
E : Estimated
*Blank Values As Reported By Instrument

JAN 25 1994

KIBER ENVIRONMENTAL SERVICES

LAB SAMPLE # 40116-12
PROJECT # 821

PRIORITY POLLUTANT METALS RESULTS

GEORGIA METALS/ WESTON
SAMPLE # GM-12

SAMPLED (Date/Time/Init) : 1/7/94, 1125, MC/GK
ICP ANALYSIS (Date/Init) : 1/21/94, LD
CV ANALYSIS (Date/Init) : 1/18/94, KK

DATE REPORTED: 1/24/94

MATRIX : SOLID
Digestion Method : 3051
Quant Factor : 121

ANALYTE	EPA Method	MDL	PQL	Result mg/Kg	Blank* mg/L
Total Antimony (Sb)	6010	1.94	7.74	<DL	<DL
Total Arsenic (As)	6010	1.94	7.74	2.4 E	<DL
Total Beryllium (Be)	6010	0.363	1.45	<DL	<DL
Total Cadmium (Cd)	6010	0.484	1.94	<DL	<DL
Total Chromium (Cr)	6010	0.363	1.45	23	0.007 E
Total Copper (Cu)	6010	0.242	0.968	27	0.002 E
Total Lead (Pb)	6010	2.06	8.23	30	<DL
Total Mercury (Hg)	7471	0.200	0.800	<DL	<DL
Total Nickel (Ni)	6010	1.09	4.36	1.7 E	<DL
Total Selenium (Se)	6010	3.51	14.0	<DL	<DL
Total Silver (Ag)	6010	0.363	1.45	1.2 E	<DL
Total Thallium (Tl)	6010	3.51	14.0	7.0 E	<DL
Total Zinc (Zn)	6010	0.484	1.94	14	0.01 E

MDL : Method Detection Limit
PQL : Practical Quantitation Limit
E : Estimated
*Blank Values As Reported By Instrument

Gary Burgess

KIBER ENVIRONMENTAL SERVICES

LAB SAMPLE # 40116-13
PROJECT # 821

PRIORITY POLLUTANT METALS RESULTS

GEORGIA METALS/ WESTON
SAMPLE # GM-13

SAMPLED (Date/Time/Init) : 1/7/94, 1130, MC/GK
ICP ANALYSIS (Date/Init) : 1/21/94, LD
CV ANALYSIS (Date/Init) : 1/18/94, KK

DATE REPORTED: 1/24/94

MATRIX : SOLID
Digestion Method : 3051
Quant Factor : 111

ANALYTE	EPA Method	MDL	PQL	Result mg/Kg	Blank* mg/L
Total Antimony (Sb)	6010	1.78	7.10	<DL	<DL
Total Arsenic (As)	6010	1.78	7.10	<DL	<DL
Total Beryllium (Be)	6010	0.333	1.33	0.28 E	<DL
Total Cadmium (Cd)	6010	0.444	1.78	<DL	<DL
Total Chromium (Cr)	6010	0.333	1.33	14	0.007 E
Total Copper (Cu)	6010	0.222	0.888	57	0.002 E
Total Lead (Pb)	6010	1.89	7.55	1,000	<DL
Total Mercury (Hg)	7471	0.200	0.800	<DL	<DL
Total Nickel (Ni)	6010	0.999	4.00	4.0	<DL
Total Selenium (Se)	6010	3.22	12.9	<DL	<DL
Total Silver (Ag)	6010	0.333	1.33	0.75 E	<DL
Total Thallium (Tl)	6010	3.22	12.9	<DL	<DL
Total Zinc (Zn)	6010	0.444	1.78	22	0.01 E

MDL : Method Detection Limit
PQL : Practical Quantitation Limit
E : Estimated
*Blank Values As Reported By Instrument

Stacy Bruggeist

KIBER ENVIRONMENTAL SERVICES

LAB SAMPLE # 40116-14
PROJECT # 821

PRIORITY POLLUTANT METALS RESULTS

GEORGIA METALS/ WESTON
SAMPLE # GM-14

SAMPLED (Date/Time/Init) : 1/7/94, 1135, MC/GK
ICP ANALYSIS (Date/Init) : 1/21/94, LD
CV ANALYSIS (Date/Init) : 1/18/94, KK

DATE REPORTED: 1/24/94

MATRIX : SOLID
Digestion Method : 3051
Quant Factor : 115

ANALYTE	EPA Method	MDL	PQL	Result mg/Kg	Blank* mg/L
Total Antimony (Sb)	6010	1.84	7.36	<DL	<DL
Total Arsenic (As)	6010	1.84	7.36	5.0 E	<DL
Total Beryllium (Be)	6010	0.345	1.38	0.31 E	<DL
Total Cadmium (Cd)	6010	0.460	1.84	<DL	<DL
Total Chromium (Cr)	6010	0.345	1.38	79	0.007 E
Total Copper (Cu)	6010	0.230	0.920	19	0.002 E
Total Lead (Pb)	6010	1.96	7.82	71	<DL
Total Mercury (Hg)	7471	0.200	0.800	<DL	<DL
Total Nickel (Ni)	6010	1.04	4.14	4.2	<DL
Total Selenium (Se)	6010	3.34	13.3	<DL	<DL
Total Silver (Ag)	6010	0.345	1.38	1.7	<DL
Total Thallium (Tl)	6010	3.34	13.3	8.1 E	<DL
Total Zinc (Zn)	6010	0.460	1.84	21	0.01 E

MDL : Method Detection Limit
PQL : Practical Quantitation Limit
E : Estimated
*Blank Values As Reported By Instrument

Stacy Bergquist

KIBER ENVIRONMENTAL SERVICES

LAB SAMPLE # 40116-15
PROJECT # 821

PRIORITY POLLUTANT METALS RESULTS

GEORGIA METALS/ WESTON
SAMPLE # GM-15

SAMPLED (Date/Time/Init) : 1/7/94, 1140, MC/GK
ICP ANALYSIS (Date/Init) : 1/21/94, LD
CV ANALYSIS (Date/Init) : 1/18/94, KK

DATE REPORTED: 1/24/94

MATRIX : SOLID
Digestion Method : 3051
Quant Factor : 121

ANALYTE	EPA Method	MDL	PQL	Result mg/Kg	Blank* mg/L
Total Antimony (Sb)	6010	1.94	7.74	<DL	<DL
Total Arsenic (As)	6010	1.94	7.74	7.9	<DL
Total Beryllium (Be)	6010	0.363	1.45	0.45 E	<DL
Total Cadmium (Cd)	6010	0.484	1.94	<DL	<DL
Total Chromium (Cr)	6010	0.363	1.45	28	0.007 E
Total Copper (Cu)	6010	0.242	0.968	46	0.002 E
Total Lead (Pb)	6010	2.06	8.23	100	<DL
Total Mercury (Hg)	7471	0.200	0.800	<DL	<DL
Total Nickel (Ni)	6010	1.09	4.36	3.9 E	<DL
Total Selenium (Se)	6010	3.51	14.0	3.8 E	<DL
Total Silver (Ag)	6010	0.363	1.45	2.6	<DL
Total Thallium (Tl)	6010	3.51	14.0	15	<DL
Total Zinc (Zn)	6010	0.484	1.94	20	0.01 E

MDL : Method Detection Limit
PQL : Practical Quantitation Limit
E : Estimated
*Blank Values As Reported By Instrument

Stacey Berggren

KIBER ENVIRONMENTAL SERVICES

LAB SAMPLE # 40116-16
PROJECT # 821

PRIORITY POLLUTANT METALS RESULTS

GEORGIA METALS/ WESTON
SAMPLE # GM-16

SAMPLED (Date/Time/Init) : 1/7/94, 1145, MC/GK
ICP ANALYSIS (Date/Init) : 1/21/94, LD
CV ANALYSIS (Date/Init) : 1/18/94, KK

DATE REPORTED: 1/24/94

MATRIX : SOLID
Digestion Method : 3051
Quant Factor : 121

ANALYTE	EPA Method	MDL	PQL	Result mg/Kg	Blank* mg/L
Total Antimony (Sb)	6010	1.94	7.74	<DL	<DL
Total Arsenic (As)	6010	1.94	7.74	<DL	<DL
Total Beryllium (Be)	6010	0.363	1.45	<DL	<DL
Total Cadmium (Cd)	6010	0.484	1.94	<DL	<DL
Total Chromium (Cr)	6010	0.363	1.45	22	0.007 E
Total Copper (Cu)	6010	0.242	0.968	50	0.002 E
Total Lead (Pb)	6010	2.06	8.23	870	<DL
Total Mercury (Hg)	7471	0.200	0.800	<DL	<DL
Total Nickel (Ni)	6010	1.09	4.36	4.7	<DL
Total Selenium (Se)	6010	3.51	14.0	<DL	<DL
Total Silver (Ag)	6010	0.363	1.45	0.85 E	<DL
Total Thallium (Tl)	6010	3.51	14.0	<DL	<DL
Total Zinc (Zn)	6010	0.484	1.94	78	0.01 E

MDL : Method Detection Limit
PQL : Practical Quantitation Limit
E : Estimated
*Blank Values As Reported By Instrument

JAN 25 1994

Stacy Bergquist

KIBER ENVIRONMENTAL SERVICES

LAB SAMPLE # 40116-17
PROJECT # 821

PRIORITY POLLUTANT METALS RESULTS

GEORGIA METALS/ WESTON
SAMPLE # GM-17

SAMPLED (Date/Time/Init) : 1/7/94, 1150, MC/GK
ICP ANALYSIS (Date/Init) : 1/21/94, LD
CV ANALYSIS (Date/Init) : 1/18/94, KK

DATE REPORTED: 1/24/94

MATRIX : SOLID
Digestion Method : 3051
Quant Factor : 118

ANALYTE	EPA Method	MDL	PQL	Result mg/Kg	Blank* mg/L
Total Antimony (Sb)	6010	1.89	7.55	59	<DL
Total Arsenic (As)	6010	1.89	7.55	42	<DL
Total Beryllium (Be)	6010	0.708	2.83	<DL	<DL
Total Cadmium (Cd)	6010	0.944	3.78	5.6	<DL
Total Chromium (Cr)	6010	0.708	2.83	160	0.007 E
Total Copper (Cu)	6010	0.472	1.89	2,000	0.002 E
Total Lead (Pb)	6010	60.2	241	65,000	<DL
Total Mercury (Hg)	7471	0.200	0.800	0.79 E	<DL
Total Nickel (Ni)	6010	2.12	8.50	78	<DL
Total Selenium (Se)	6010	6.84	27.4	7.1 E	<DL
Total Silver (Ag)	6010	0.708	2.83	11	<DL
Total Thallium (Tl)	6010	6.84	27.4	19 E	<DL
Total Zinc (Zn)	6010	0.944	3.78	720	0.01 E

MDL : Method Detection Limit
PQL : Practical Quantitation Limit
E : Estimated
*Blank Values As Reported By Instrument

Stacy Bergquist

KIBER ENVIRONMENTAL SERVICES

LAB SAMPLE # 40116-18
PROJECT # 821

PRIORITY POLLUTANT METALS RESULTS

GEORGIA METALS/ WESTON
SAMPLE # GM-18

SAMPLED (Date/Time/Init) : 1/7/94, 1155, MC/GK
ICP ANALYSIS (Date/Init) : 1/20/94, LD
CV ANALYSIS (Date/Init) : 1/18/94, KK

DATE REPORTED: 1/24/94

MATRIX : SOLID
Digestion Method : 3051
Quant Factor : 104

ANALYTE	EPA Method	MDL	PQL	Result mg/Kg	Blank* mg/L
Total Antimony (Sb)	6010	1.66	6.66	27	<DL
Total Arsenic (As)	6010	1.66	6.66	58	<DL
Total Beryllium (Be)	6010	0.312	1.25	<DL	<DL
Total Cadmium (Cd)	6010	0.416	1.66	2.9	<DL
Total Chromium (Cr)	6010	0.312	1.25	48	0.009 E
Total Copper (Cu)	6010	0.208	0.832	2,000	0.003 E
Total Lead (Pb)	6010	53.0	212	49,000	<DL
Total Mercury (Hg)	7471	0.200	0.800	1.0	<DL
Total Nickel (Ni)	6010	0.936	3.74	32	0.01 E
Total Selenium (Se)	6010	3.02	12.1	17	<DL
Total Silver (Ag)	6010	0.312	1.25	3.1	<DL
Total Thallium (Tl)	6010	3.02	12.1	12	<DL
Total Zinc (Zn)	6010	0.416	1.66	810	0.01 E

MDL : Method Detection Limit
PQL : Practical Quantitation Limit
E : Estimated
*Blank Values As Reported By Instrument

Stacy Bergquist

KIBER ENVIRONMENTAL SERVICES

LAB SAMPLE # 40116-19
PROJECT # 821

PRIORITY POLLUTANT METALS RESULTS

GEORGIA METALS/ WESTON
SAMPLE # GM-19

SAMPLED (Date/Time/Init) : 1/7/94, 1200, MC/GK
ICP ANALYSIS (Date/Init) : 1/21/94, LD
CV ANALYSIS (Date/Init) : 1/18/94, KK

DATE REPORTED: 1/24/94

MATRIX : SOLID
Digestion Method : 3051
Quant Factor : 109

ANALYTE	EPA Method	MDL	PQL	Result mg/Kg	Blank* mg/L
Total Antimony (Sb)	6010	1.74	6.98	12	<DL
Total Arsenic (As)	6010	1.74	6.98	32	<DL
Total Beryllium (Be)	6010	0.327	1.31	<DL	<DL
Total Cadmium (Cd)	6010	0.436	1.74	2.0	<DL
Total Chromium (Cr)	6010	0.327	1.31	51	0.007 E
Total Copper (Cu)	6010	1.09	4.36	8,000	0.002 E
Total Lead (Pb)	6010	18.5	74.1	21,000	<DL
Total Mercury (Hg)	7471	0.200	0.800	0.32 E	<DL
Total Nickel (Ni)	6010	0.981	3.92	23	<DL
Total Selenium (Se)	6010	3.16	12.6	7.7 E	<DL
Total Silver (Ag)	6010	0.327	1.31	3.4	<DL
Total Thallium (Tl)	6010	3.16	12.6	7.1 E	<DL
Total Zinc (Zn)	6010	0.436	1.74	1,600	0.01 E

MDL : Method Detection Limit
PQL : Practical Quantitation Limit
E : Estimated
*Blank Values As Reported By Instrument

Stacy Beggerist

KIBER ENVIRONMENTAL SERVICES

LAB SAMPLE # 40116-20
PROJECT # 821

PRIORITY POLLUTANT METALS RESULTS

GEORGIA METALS/ WESTON
SAMPLE # GM-20

SAMPLED (Date/Time/Init) : 1/7/94, 1205, MC/GK
ICP ANALYSIS (Date/Init) : 1/21/94, LD
CV ANALYSIS (Date/Init) : 1/18/94, KK

DATE REPORTED: 1/24/94

MATRIX : SOLID
Digestion Method : 3051
Quant Factor : 100

ANALYTE	EPA Method	MDL	PQL	Result mg/Kg	Blank* mg/L
Total Antimony (Sb)	6010	1.60	6.40	78	<DL
Total Arsenic (As)	6010	1.60	6.40	140	<DL
Total Beryllium (Be)	6010	0.300	1.20	<DL	<DL
Total Cadmium (Cd)	6010	0.400	1.60	9.4	<DL
Total Chromium (Cr)	6010	0.300	1.20	25	0.007 E
Total Copper (Cu)	6010	0.200	0.800	1,300	0.002 E
Total Lead (Pb)	6010	34.0	136	38,000	<DL
Total Mercury (Hg)	7471	0.200	0.800	0.47 E	<DL
Total Nickel (Ni)	6010	0.900	3.60	13	<DL
Total Selenium (Se)	6010	2.90	11.6	7.6 E	<DL
Total Silver (Ag)	6010	0.300	1.20	2.0	<DL
Total Thallium (Tl)	6010	2.90	11.6	8.6 E	<DL
Total Zinc (Zn)	6010	0.400	1.60	600	0.01 E

MDL : Method Detection Limit
PQL : Practical Quantitation Limit
E : Estimated
*Blank Values As Reported By Instrument

Gary Bugenist

KIBER ENVIRONMENTAL SERVICES

LAB SAMPLE # 40116-21
PROJECT # 821

PRIORITY POLLUTANT METALS RESULTS

GEORGIA METALS/ WESTON
SAMPLE # GM-21

SAMPLED (Date/Time/Init) : 1/7/94, 1210, MC/GK
ICP ANALYSIS (Date/Init) : 1/21/94, LD
CV ANALYSIS (Date/Init) : 1/18/94, KK

DATE REPORTED: 1/24/94

MATRIX : SOLID
Digestion Method : 3051
Quant Factor : 109

ANALYTE	EPA Method	MDL	PQL	Result mg/Kg	Blank* mg/L
Total Antimony (Sb)	6010	1.74	6.98	290	<DL
Total Arsenic (As)	6010	1.74	6.98	140	<DL
Total Beryllium (Be)	6010	0.327	1.31	<DL	<DL
Total Cadmium (Cd)	6010	0.436	1.74	22	<DL
Total Chromium (Cr)	6010	0.327	1.31	330	0.007 E
Total Copper (Cu)	6010	0.436	1.74	3,300	0.002 E
Total Lead (Pb)	6010	278	1110	280,000	<DL
Total Mercury (Hg)	7471	0.200	0.800	0.33 E	<DL
Total Nickel (Ni)	6010	0.981	3.92	180	<DL
Total Selenium (Se)	6010	3.16	12.6	12 E	<DL
Total Silver (Ag)	6010	0.327	1.31	6.2	<DL
Total Thallium (Tl)	6010	3.16	12.6	44	<DL
Total Zinc (Zn)	6010	0.436	1.74	820	0.01 E

MDL : Method Detection Limit
PQL : Practical Quantitation Limit
E : Estimated
*Blank Values As Reported By Instrument

KIBER ENVIRONMENTAL SERVICES

LAB SAMPLE # 40116-22
PROJECT # 821

PRIORITY POLLUTANT METALS RESULTS

GEORGIA METALS/ WESTON
SAMPLE # GM-22

SAMPLED (Date/Time/Init) : 1/7/94, 1215, MC/GK
ICP ANALYSIS (Date/Init) : 1/21/94, LD
CV ANALYSIS (Date/Init) : 1/18/94, KK

DATE REPORTED: 1/24/94

MATRIX : SOLID
Digestion Method : 3051
Quant Factor : 117

ANALYTE	EPA Method	MDL	PQL	Result mg/Kg	Blank* mg/L
Total Antimony (Sb)	6010	1.87	7.49	14	<DL
Total Arsenic (As)	6010	1.87	7.49	16	<DL
Total Beryllium (Be)	6010	0.351	1.40	<DL	<DL
Total Cadmium (Cd)	6010	0.468	1.87	5.3	<DL
Total Chromium (Cr)	6010	0.351	1.40	41	0.007 E
Total Copper (Cu)	6010	0.234	0.936	170	0.002 E
Total Lead (Pb)	6010	19.9	79.6	13,000	<DL
Total Mercury (Hg)	7471	0.200	0.800	<DL	<DL
Total Nickel (Ni)	6010	1.05	4.21	66	<DL
Total Selenium (Se)	6010	3.39	13.6	<DL	<DL
Total Silver (Ag)	6010	0.351	1.40	1.5	<DL
Total Thallium (Tl)	6010	3.39	13.6	4.6 E	<DL
Total Zinc (Zn)	6010	0.468	1.87	630	0.01 E

MDL : Method Detection Limit
PQL : Practical Quantitation Limit
E : Estimated
*Blank Values As Reported By Instrument

JAN 25 1994

Lucy Bergquist

KIBER ENVIRONMENTAL SERVICES

LAB SAMPLE # 40116-23
PROJECT # 821

PRIORITY POLLUTANT METALS RESULTS

GEORGIA METALS/ WESTON
SAMPLE # GM-23

SAMPLED (Date/Time/Init) : 1/7/94, 1220, MC/GK
ICP ANALYSIS (Date/Init) : 1/21/94, LD
CV ANALYSIS (Date/Init) : 1/18/94, KK

DATE REPORTED: 1/24/94

MATRIX : SOLID
Digestion Method : 3051
Quant Factor : 118

ANALYTE	EPA Method	MDL	PQL	Result mg/Kg	Blank* mg/L
Total Antimony (Sb)	6010	1.89	7.55	<DL	<DL
Total Arsenic (As)	6010	1.89	7.55	<DL	<DL
Total Beryllium (Be)	6010	0.354	1.42	<DL	<DL
Total Cadmium (Cd)	6010	0.472	1.89	<DL	<DL
Total Chromium (Cr)	6010	0.354	1.42	23	0.007 E
Total Copper (Cu)	6010	0.236	0.944	27	0.002 E
Total Lead (Pb)	6010	2.01	8.02	87	<DL
Total Mercury (Hg)	7471	0.200	0.800	<DL	<DL
Total Nickel (Ni)	6010	1.06	4.25	2.9 E	<DL
Total Selenium (Se)	6010	3.42	13.7	<DL	<DL
Total Silver (Ag)	6010	0.354	1.42	0.50 E	<DL
Total Thallium (Tl)	6010	3.42	13.7	<DL	<DL
Total Zinc (Zn)	6010	0.472	1.89	140	0.01 E

MDL : Method Detection Limit
PQL : Practical Quantitation Limit
E : Estimated
*Blank Values As Reported By Instrument

Stacy Bergquist

KIBER ENVIRONMENTAL SERVICES

LAB SAMPLE # 40116-24
PROJECT # 821

PRIORITY POLLUTANT METALS RESULTS

GEORGIA METALS/ WESTON
SAMPLE # GM-24

SAMPLED (Date/Time/Init) : 1/7/94, 1225, MC/GK
ICP ANALYSIS (Date/Init) : 1/21/94, LD
CV ANALYSIS (Date/Init) : 1/18/94, KK

DATE REPORTED: 1/24/94

MATRIX : SOLID
Digestion Method : 3051
Quant Factor : 118

ANALYTE	EPA Method	MDL	PQL	Result mg/Kg	Blank* mg/L
Total Antimony (Sb)	6010	1.89	7.55	<DL	<DL
Total Arsenic (As)	6010	1.89	7.55	7.1 E	<DL
Total Beryllium (Be)	6010	0.354	1.42	0.57 E	<DL
Total Cadmium (Cd)	6010	0.472	1.89	<DL	<DL
Total Chromium (Cr)	6010	0.354	1.42	32	0.007 E
Total Copper (Cu)	6010	0.236	0.944	160	0.002 E
Total Lead (Pb)	6010	2.01	8.02	420	<DL
Total Mercury (Hg)	7471	0.200	0.800	<DL	<DL
Total Nickel (Ni)	6010	1.06	4.25	6.3	<DL
Total Selenium (Se)	6010	3.42	13.7	<DL	<DL
Total Silver (Ag)	6010	0.354	1.42	2.2	<DL
Total Thallium (Tl)	6010	3.42	13.7	12 E	<DL
Total Zinc (Zn)	6010	0.472	1.89	490	0.01 E

MDL : Method Detection Limit
PQL : Practical Quantitation Limit
E : Estimated
*Blank Values As Reported By Instrument

Stacey Buggieri

KIBER ENVIRONMENTAL SERVICES

LAB SAMPLE # 40116-25
PROJECT # 821

PRIORITY POLLUTANT METALS RESULTS

GEORGIA METALS/ WESTON
SAMPLE # GM-25

SAMPLED (Date/Time/Init) : 1/7/94, 1229, MC/GK
ICP ANALYSIS (Date/Init) : 1/21/94, LD
CV ANALYSIS (Date/Init) : 1/18/94, KK

DATE REPORTED: 1/24/94

MATRIX : SOLID
Digestion Method : 3051
Quant Factor : 128

ANALYTE	EPA Method	MDL	PQL	Result mg/Kg	Blank* mg/L
Total Antimony (Sb)	6010	2.05	8.19	26	<DL
Total Arsenic (As)	6010	2.05	8.19	49	<DL
Total Beryllium (Be)	6010	0.384	1.54	0.38 E	<DL
Total Cadmium (Cd)	6010	0.512	2.05	2.3	<DL
Total Chromium (Cr)	6010	0.384	1.54	49	0.007 E
Total Copper (Cu)	6010	0.256	1.02	1,700	0.002 E
Total Lead (Pb)	6010	21.8	87.0	23,000	<DL
Total Mercury (Hg)	7471	0.200	0.800	<DL	<DL
Total Nickel (Ni)	6010	1.15	4.61	56	<DL
Total Selenium (Se)	6010	3.71	14.8	9.3 E	<DL
Total Silver (Ag)	6010	0.384	1.54	3.9	<DL
Total Thallium (Tl)	6010	3.71	14.8	19	<DL
Total Zinc (Zn)	6010	0.512	2.05	930	0.01 E

MDL : Method Detection Limit
PQL : Practical Quantitation Limit
E : Estimated
*Blank Values As Reported By Instrument

Stacy Berggren

KIBER ENVIRONMENTAL SERVICES

LAB SAMPLE # 40116-26
PROJECT # 821

PRIORITY POLLUTANT METALS RESULTS

GEORGIA METALS/ WESTON
SAMPLE # GM-26

SAMPLED (Date/Time/Init) : 1/7/94, 1235, MC/GK
ICP ANALYSIS (Date/Init) : 1/21/94, LD
CV ANALYSIS (Date/Init) : 1/18/94, KK

DATE REPORTED: 1/24/94

MATRIX : SOLID
Digestion Method : 3051
Quant Factor : 115

ANALYTE	EPA Method	MDL	PQL	Result mg/Kg	Blank* mg/L
Total Antimony (Sb)	6010	1.84	7.36	<DL	<DL
Total Arsenic (As)	6010	1.84	7.36	<DL	<DL
Total Beryllium (Be)	6010	0.345	1.38	<DL	<DL
Total Cadmium (Cd)	6010	0.460	1.84	<DL	<DL
Total Chromium (Cr)	6010	0.345	1.38	11	0.007 E
Total Copper (Cu)	6010	0.230	0.920	260	0.002 E
Total Lead (Pb)	6010	1.96	7.82	23	<DL
Total Mercury (Hg)	7471	0.200	0.800	<DL	<DL
Total Nickel (Ni)	6010	1.04	4.14	2.4 E	<DL
Total Selenium (Se)	6010	3.34	13.3	<DL	<DL
Total Silver (Ag)	6010	0.345	1.38	<DL	<DL
Total Thallium (Tl)	6010	3.34	13.3	<DL	<DL
Total Zinc (Zn)	6010	0.460	1.84	12	0.01 E

MDL : Method Detection Limit
PQL : Practical Quantitation Limit
E : Estimated
*Blank Values As Reported By Instrument

JAN 25 1994

Sandy Sargent

KIBER ENVIRONMENTAL SERVICES

LAB SAMPLE # 40116-27
PROJECT # 821

PRIORITY POLLUTANT METALS RESULTS

GEORGIA METALS/ WESTON
SAMPLE # GM-27

SAMPLED (Date/Time/Init) : 1/7/94, 1240, MC/GK
ICP ANALYSIS (Date/Init) : 1/21/94, LD
CV ANALYSIS (Date/Init) : 1/18/94, KK

DATE REPORTED: 1/24/94

MATRIX : SOLID
Digestion Method : 3051
Quant Factor : 113

ANALYTE	EPA Method	MDL	PQL	Result mg/Kg	Blank* mg/L
Total Antimony (Sb)	6010	1.81	7.23	<DL	<DL
Total Arsenic (As)	6010	1.81	7.23	<DL	<DL
Total Beryllium (Be)	6010	0.339	1.36	<DL	<DL
Total Cadmium (Cd)	6010	0.452	1.81	<DL	<DL
Total Chromium (Cr)	6010	0.339	1.36	22	0.007 E
Total Copper (Cu)	6010	0.226	0.904	6.4	0.002 E
Total Lead (Pb)	6010	1.92	7.68	6.1 E	<DL
Total Mercury (Hg)	7471	0.200	0.800	<DL	<DL
Total Nickel (Ni)	6010	1.02	4.07	3.9 E	<DL
Total Selenium (Se)	6010	3.28	13.1	<DL	<DL
Total Silver (Ag)	6010	0.339	1.36	0.97 E	<DL
Total Thallium (Tl)	6010	3.28	13.1	<DL	<DL
Total Zinc (Zn)	6010	0.452	1.81	10	0.01 E

MDL : Method Detection Limit
PQL : Practical Quantitation Limit
E : Estimated
*Blank Values As Reported By Instrument

Stacy Beggerist

KIBER ENVIRONMENTAL SERVICES LAB SAMPLE # 40116-9S

METALS MATRIX SPIKE RESULTS

GEORGIA METALS/ WESTON MATRIX: SOIL
BATCH# 446

TARGET ANALYTE	SAMPLE RESULT mg\Kg	SPIKE RESULT mg\Kg	CERTIFIED VALUE mg\Kg	% RECOVERY	ACCEPTABLE % RECOVERY RANGE
Total Antimony (Sb)	<DL	4.8 E	135	4*	75-125
Total Arsenic (As)	4.2 E	500	538	92	75-125
Total Beryllium (Be)	<DL	14	13	108	75-125
Total Cadmium (Cd)	<DL	14	13	108	75-125
Total Chromium (Cr)	24	78	54	100	75-125
Total Copper (Cu)	68	140	67	107	75-125
Total Lead (Pb)	1,000	1,200	135	110**	75-125
Total Mercury (Hg)	<DL	0.54	0.50	108	75-125
Total Nickel (Ni)	6.9	140	135	99	75-125
Total Selenium (Se)	<DL	520	538	97	75-125
Total Silver (Ag)	1.4 E	2.7	13	10*	75-125
Total Thallium (Tl)	4.7 E	540	538	100	75-125
Total Zinc (Zn)	120	250	134	97	75-125

*DUE TO MATRIX INTERFERENCE: SEE CASE NARRATIVE

SPEX Industries, Inc.

Multi-Element Plasma Standard

Spike-1

Lot # 5-154AS

**The actual lead matrix spike recovered by the sample was 110%. This is based on the difference of the unrounded numbers.

KIBER ENVIRONMENTAL SERVICES

LAB SAMPLE # 40116-18S

METALS MATRIX SPIKE RESULTS

GEORGIA METALS/ WESTON
BATCH# 448

MATRIX: SOIL

TARGET ANALYTE	SAMPLE RESULT mg\Kg	SPIKE RESULT mg\Kg	CERTIFIED VALUE mg\Kg	% RECOVERY	ACCEPTABLE % RECOVERY RANGE
Total Antimony (Sb)	27	32	98	5*	75-125
Total Arsenic (As)	58	440	392	97	75-125
Total Beryllium (Be)	<DL	9.6	9.8	98	75-125
Total Cadmium (Cd)	2.9	14	9.8	113	75-125
Total Chromium (Cr)	48	100	39	133*	75-125
Total Copper (Cu)	**	**	49	NA	75-125
Total Lead (Pb)	**	**	98	NA	75-125
Total Mercury (Hg)	1.0	3.2	2.0	108	75-125
Total Nickel (Ni)	32	120	98	90	75-125
Total Selenium (Se)	18	390	392	95	75-125
Total Silver (Ag)	3.1	6.1	9.8	31*	75-125
Total Thallium (Tl)	12	400	392	99	75-125
Total Zinc (Zn)	810	1,400	98	602*	75-125

*DUE TO SAMPLE NON-HOMOGENEITY AND MATRIX INTERFERENCE: SEE CASE NARRATIVE
SPEX Industries, Inc.
Multi-Element Plasma Standard
Spike-1
Lot # 5-154AS
**Out of linear range

KIBER ENVIRONMENTAL SERVICES

LAB SAMPLE # 40116-27S

METALS MATRIX SPIKE RESULTS

GEORGIA METALS/ WESTON
BATCH# 448

MATRIX: SOIL

TARGET ANALYTE	SAMPLE RESULT mg\Kg	SPIKE RESULT mg\Kg	CERTIFIED VALUE mg\Kg	% RECOVERY	ACCEPTABLE % RECOVERY RANGE
Total Antimony (Sb)	<DL	5.7	113	5*	75-125
Total Arsenic (As)	<DL	440	454	97	75-125
Total Beryllium (Be)	<DL	12	11	110	75-125
Total Cadmium (Cd)	<DL	11	11	100	75-125
Total Chromium (Cr)	22	65	45	96	75-125
Total Copper (Cu)	6.4	62	57	98	75-125
Total Lead (Pb)	6.1 E	110	113	92	75-125
Total Mercury (Hg)	<DL	0.54	0.50	108	75-125
Total Nickel (Ni)	3.9 E	110	113	94	75-125
Total Selenium (Se)	<DL	470	454	104	75-125
Total Silver (Ag)	0.97 E	6.6	11	51*	75-125
Total Thallium (Tl)	<DL	470	454	104	75-125
Total Zinc (Zn)	10	120	113	97	75-125

*DUE TO MATRIX INTERFERENCE: SEE CASE NARRATIVE
SPEX Industries, Inc.
Multi-Element Plasma Standard
Spike-1
Lot # 5-154AS

JAN 25 1994

KIBER ENVIRONMENTAL SERVICES

LAB SAMPLE # LCSS 0114A

METALS LABORATORY CONTROL SAMPLE

GEORGIA METALS / WESTON
BATCH# 446

MATRIX: SOIL

TARGET ANALYTE	CERTIFIED VALUE mg/Kg	MEASURED VALUE mg/Kg	ACCEPTABLE RANGE mg/Kg
Total Antimony (Sb)	29.8	8.7*	13-130
Total Arsenic (As)	150	145	75-224
Total Beryllium (Be)	87.7	81.8	53-132
Total Cadmium (Cd)	79.1	77.3	40-126
Total Chromium (Cr)	66.2	81.6	30-93
Total Copper (Cu)	34.8	34.5	17-52
Total Lead (Pb)	101	94.6	45-146
Total Mercury (Hg)	0.50	0.54	0.37-0.63
Total Nickel (Ni)	168	154	84-261
Total Selenium (Se)	73.5	67.4	37-118
Total Silver (Ag)	88.1	6.6*	44-123
Total Thallium (Tl)	77.1	75.4	39-116
Total Zinc (Zn)	246	229	135-369

*Silver And Antimony Values Are Typically Low In Microwave Digestion
Environmental Resource Associates
Quality Control Standards
Inorganics in Soil
Lot Number 217

JAN 26 1994

Stacey Bergeron

KIBER ENVIRONMENTAL SERVICES LAB SAMPLE # LCSS 0119A

METALS LABORATORY
CONTROL SAMPLE

GEORGIA METALS / WESTON MATRIX: SOIL
BATCH# 448

TARGET ANALYTE	CERTIFIED VALUE mg/Kg	MEASURED VALUE mg/Kg	ACCEPTABLE RANGE mg/Kg
Total Antimony (Sb)	29.8	5.1*	13-130
Total Arsenic (As)	150	146	75-224
Total Beryllium (Be)	87.7	81.5	53-132
Total Cadmium (Cd)	79.1	77.3	40-126
Total Chromium (Cr)	66.2	76.6	30-93
Total Copper (Cu)	34.8	34.4	17-52
Total Lead (Pb)	101	96.7	45-146
Total Mercury (Hg)	0.50	0.54	0.37-0.63
Total Nickel (Ni)	168	155	84-261
Total Selenium (Se)	73.5	66.3	37-118
Total Silver (Ag)	88.1	5.8*	44-123
Total Thallium (Tl)	77.1	75.0	39-116
Total Zinc (Zn)	246	230	135-369

*Silver And Antimony Values Are Typically Low In Microwave Digestion
Environmental Resource Associates
Quality Control Standards
Inorganics in Soil
Lot Number 217

JAN 26 1994

Gary Buggenst

JAN 25 1994

U. S. ENVIRONMENTAL PROTECTION AGENCY
REGION 4 TAT

CHAIN OF CUSTODY RECORD

ENVIRONMENTAL SERVICES DIVISION
COLLEGE STATION ROAD
ATHENS, GEORGIA 30613

PROJ. NO.

PROJECT NAME: Georgia Metal

SAMPLERS (Signature):

Circle/add Parameters Desired ( ) - Indicates Separate Containers

Water/Wastewater | Soil/Sed/Sldg | Waste | Misc

STA NO	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	(Gal G (ext org Pest) (EP) (herb)	40 ml vial (VOA)	250 ml G (TOX)	P (Bod, TSS, Cl, Fl, Sot, etc)	ILG (pheno) (O&G) (pest)	ILP (met, herb) (Toc, COD, N, P etc)	0.5-ILP (S⁻)	½ gal or ILP (CN)	8 oz G (ext org pest, herb) (met) (EP)	4 oz G (VOA)	P or G (CN, S⁻ N, P COD etc)	8 oz G (ext org pest, herb, VOA)	8 oz G (EP) (met, CN S⁻ FP) (FP BTU)	REMARKS/TAG NUMBERS 821-40116
GMBG-01	1/7/94	1030		X	Back ground - up gradient	1									X					T4 -18236 -1
GMBG-02		1035		X	Back ground - up gradient	1									X					18237 -2
GM-03		1040		X	Drainage Ditch	1									X					18238 -3
GM-04		1045		X	Drainage Ditch	1									X					18239 -4
GM-05		1050		X	Drainage Ditch	1									X					18240 -5
GM-06		1055		X	Drainage Ditch	1									X					18241 -6
GM-07		1100		X	Drainage Ditch	1									X					18242 -7
GM-08		1105		X	Drainage Ditch	1									X					18243 -8
GM-09		1110		X	Drainage Ditch	1									X					18244 -9
GM-10		1115		X	Drainage Ditch	1									X					18245 -10
GM-11		1120		X	Drainage Ditch	1									X					18246 -11
GM-12		1125		X	Drainage Ditch	1									X					18247 -12
GM-13		1130		X	Drainage Ditch	1									X					18248 -13
GM-14		1135		X	Drainage Ditch.	1									X					18249 -14

Relinquished by (Signature)	Date/Time	Received by (Signature)	Relinquished by (Signature)	Date/Time	Received by (Signature)	Remarks
	1/11/94 1010					Priority Pollutant Metals
Relinquished by (Signature)	Date/Time	Received by (Signature)	Relinquished by (Signature)	Date/Time	Received by (Signature)	

DISTRIBUTION Original and Pink copies accompany sample shipment to laboratory. Pink copy retained by laboratory. Yellow copy retained by samplers. Blue copy extra copy as needed

T4-11244

'CES DIVISION

JAN 25 1994

U. S. ENVIRONMENTAL PROTECTION AGENCY
REGION 4 TAT

CHAIN OF CUSTODY RECORD

ENVIRONMENTAL SERVICES DIVISION
COLLEGE STATION ROAD
ATHENS, GEORGIA 30613

PROJ NO

PROJECT NAME: Georgia Metals

SAMPLERS (Signature): [signature] [signature]

Circle/add Parameters Desired ( ) - Indicates Separate Containers

Water/Wastewater | Soil/Sed/Sldg | Waste | Misc

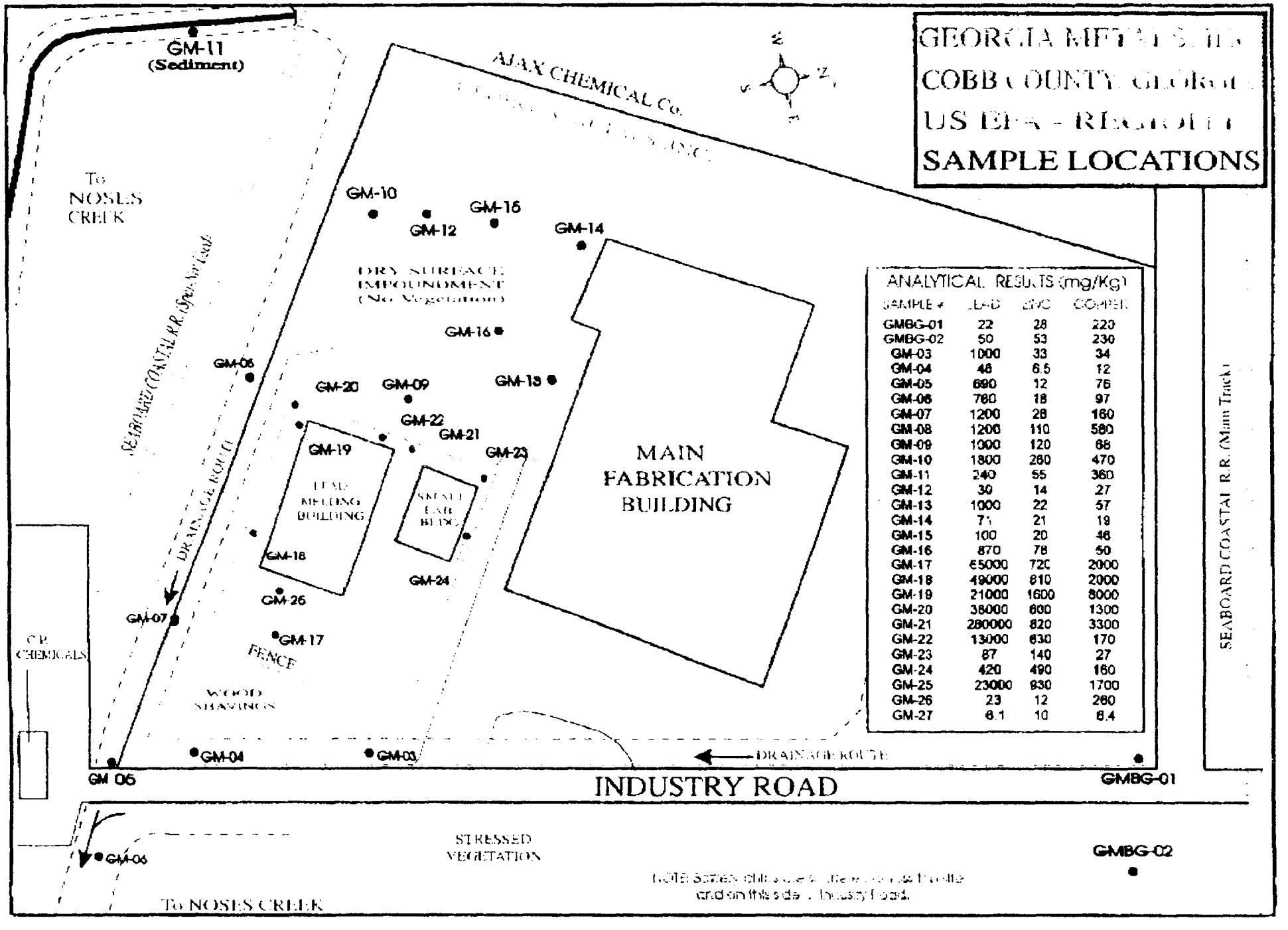
STA NO	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	(Gal G (ext org. Pest) (EP) (herb)	40 ml vial (VOA)	250 ml G (TOX)	P (Bod, TSS, Cl, Fl, So4, etc)	ILG (pheno) (O&G) (pest)	ILP (met, hard) (Toc, COD, N, P, etc)	0.5-ILP (S⁻)	½ gal or ILP (CN)	8 oz G (ext org. pest, herb) (met) (EP)	4 oz G (VOA)	P or G (CN, S⁻, N, P, COD, etc)	8 oz G (ext org. pest, herb, VOA)	8 oz G (EP) (met, CN, S⁻, FP) (FP, BTU)	REMARKS/TAG NUMBERS 821-40116
GM-15	1/7/94	1140		X	DRAINAGE DITCH	1									X					T4-18250 -15
GM-16		1145		X	DRAINAGE DITCH	1									X					18251 -16
GM-17		1150		X	LEAD MELTING AREA	1									X					18252 -17
GM-18		1155		X	LEAD MELTING AREA	1									X					18253 -18
GM-19		1200		X	LEAD MELTING AREA	1									X					18254 -19
GM-20		1205		X	LEAD MELTING AREA	1									X					18255 -20
GM-21		1210		X	LEAD MELTING AREA	1									X					18256 -21
GM-22		1215		X	LEAD MELTING AREA	1									X					18257 -22
GM-23		1220		X	LEAD MELTING AREA	1									X					18258 -23
GM-24		1225		X	LEAD MELTING AREA	1									X					18259 -24
GM-25		1229		X	LEAD MELTING AREA	1									X					18260 -25
GM-26S		1235		X	UNDER LEAD BUILDING	1									X					18261 -26
GM-27		1240		X	SUBSURFACE ADJACENT TO #07	1									X					18262 -27

Relinquished by (Signature)	Date/Time	Received by (Signature)	Relinquished by (Signature)	Date/Time	Received by (Signature)	Remarks
[signature]	1/11/94 1010	[signature]				PRIORITY POLLUTANT METALS
Relinquished by (Signature)	Date/Time	Received by (Signature)	Relinquished by (Signature)	Date/Time	Received by (Signature)	

STRIBU Origin ink co ompan e ship labora k copy d by l y.
Yellow copy retained by samplers, blue copy extra copy as needed

T4 11245

[signature]



ANALYTICAL RESULTS (mg/Kg)

SAMPLE #	LEAD	ZINC	COPPER
GMBG-01	22	28	220
GMBG-02	50	53	230
GM-03	1000	33	34
GM-04	48	6.5	12
GM-05	690	12	76
GM-06	760	18	97
GM-07	1200	28	160
GM-08	1200	110	580
GM-09	1000	120	68
GM-10	1800	260	470
GM-11	240	55	360
GM-12	30	14	27
GM-13	1000	22	57
GM-14	71	21	19
GM-15	100	20	46
GM-16	870	78	50
GM-17	65000	720	2000
GM-18	49000	810	2000
GM-19	21000	1600	8000
GM-20	38000	600	1300
GM-21	280000	820	3300
GM-22	13000	630	170
GM-23	87	140	27
GM-24	420	490	160
GM-25	23000	930	1700
GM-26	23	12	260
GM-27	6.1	10	6.4

DRAFT

GEORGIA METALS SITE
ANALYTICAL DATA SUMMARY

SAMPLE ID	ANALYTE *												
	Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
GMBG-01	<DL	2.2 E	0.41 E	<DL	22 B	220 B	22	<DL	4.0	<DL	1.2 E	3.9 E	28 B
GMBG-02	<DL	7.5 E	0.66 E	0.65 E	44 B	230 B	50	<DL	4.8 E	<DL	3.8	19	53 B
GM-03	<DL	6.4 E	<DL	0.42 E	21 B	34 B	1,000	<DL	3.2 E	<DL	0.90 E	<DL	33 B
GM-04	2.4 E	7.8 E	0.46 E	1.7 E	29 B	12 B	48	<DL	1.8 E	<DL	3.4	12 E	6.5 B
GM-05	2.0 E	<DL	<DL	<DL	12 B	76 B	690	<DL	2.1 E	<DL	0.85 E	<DL	12 B
GM-06	3.0 E	5.3 E	<DL	<DL	14 B	97 B	760	<DL	4.3 E	<DL	1.0 E	4.4 E	18 B
GM-07	2.0 E	<DL	<DL	<DL	12 B	160 B	1,200	<DL	4.0 E	<DL	0.59 E	<DL	28 B
GM-08	2.2 E	<DL	<DL	0.60 E	10 B	580 B	1,200	<DL	3.9 E	<DL	0.70 E	<DL	110 B
GM-09	<DL	4.2 E	<DL	<DL	24 B	68 B	1,000	<DL	5.9	<DL	1.4 E	4.7 E	120 B
GM-10	<DL	5.1 E	<DL	0.86 E	12 B	470 B	1,800	<DL	7.2	<DL	0.96 E	<DL	260 B
GM-11	<DL	2.9 E	<DL	<DL	44 B	360 B	240	<DL	10	21	0.98 E	4.2 E	55 B
GM-12	<DL	2.4 E	<DL	<DL	23 B	27 B	30	<DL	1.7 E	<DL	1.2 E	7.0 E	14 B
GM-13	<DL	<DL	0.28 E	<DL	14 B	57 B	1,000	<DL	4.0	<DL	0.75 E	<DL	22 B
GM-14	<DL	5.0 E	0.31 E	<DL	79 B	19 B	71	<DL	4.2	<DL	1.7	8.1 E	21 B
GM-15	<DL	7.9	0.45 E	<DL	28 B	46 B	100	<DL	3.9 E	3.8 E	2.6	15	20 B
GM-16	<DL	<DL	<DL	<DL	22 B	50 B	870	<DL	4.7	<DL	0.85 E	<DL	78 B
GM-17	59	42	<DL	5.6	60 B	2,000 B	65,000	0.79 E	78	7.1 E	11	19 E	720 B
GM-18	27	58	<DL	2.9	48 B	2,000 B	49,000	1.0	32	17	3.1	12	810 B
GM-19	12	32	<DL	2.0	51 B	8,000 B	21,000	0.32 E	23	7.7 E	3.4	7.1 E	1,600 B
GM-20	78	140	<DL	9.4	25 B	1,300 B	38,000	0.47 E	13	7.6 E	2.0	8.6 E	600 B
GM-21	290	140	<DL	22	330 B	3,300 B	280,000	0.33 E	150	12 E	6.2	44	820 B
GM-22	14	16	<DL	5.3	41 B	170 B	13,000	<DL	66	<DL	1.5	4.6 E	630 B
GM-23	<DL	<DL	<DL	<DL	23 B	27 B	87	<DL	2.9 E	<DL	0.50 E	<DL	140 B
GM-24	<DL	7.1 E	0.57 E	<DL	32 B	160 B	420	<DL	5.3	<DL	2.2	12 E	490 B
GM-25	26	49	0.38 E	2.3	49 B	1,700 B	23,000	<DL	56	9.3 E	3.9	19	930 B
GM-26	<DL	<DL	<DL	<DL	11 B	260 B	23	<DL	2.4 E	<DL	<DL	<DL	12 B
GM-27	<DL	<DL	<DL	<DL	22 B	6.4 B	6.1 E	<DL	3.9 E	<DL	0.97 E	<DL	10 B
LAB BLANK					0.0007 E	0.002 E							0.01 E

E - Estimated value concentration is below Practical Quantitation Limit (PQL)

<DL - concentration is below Detection Limit (DL)

* - all concentrations are in mg/kg (ppm)

B - The analyte was present in the laboratory blank

FEB 09 '94 15:24 NO.012 P.02

GEORGIA METAL, INC.
XRF SCREENING DATA

SAMPLE #	SAMPLE LOCATION	Pb screen	Cr screen	Zn screen	Ni screen
GMBG-01	Surface soil in drainage ditch, up gradient from site. *Background sample.*	1398	0.0	496.0	0.0
GMBG-02	Surface soil east of site. *Background*	1381	****	1720	0.0
GM-03	Bottom of drainage ditch adjacent to site	1660	0.0	0.0	0.0
GM-04	Side of drainage ditch adjacent of site	1161	****	1938	0.0
GM-05	Bottom of drainage ditch intersection	1291	0.0	0.0	5333
GM-06	Bottom of drainage ditch across road from site	1310	0.0	0.0	0.0
GM-17	Front of lead melting building area	9567	1805	****	****
GM-18	South side of lead melting building area	****	****	4996	****
GM-19	Rear of lead melting building area	5865	****	1206	****
GM-20	Southwest corner of lead melting building area, in drainage area.	4320	1471	603.3	7673
GM-21	Drainage northeast of lead melting bldg	****	****	9403	****
GM-22	North rear of lead melting building	4736	****	2273	0.0
GM-23	Northeast corner of lead melting area	1527	0.0	0.0	0.0
GM-24	Center north corner of lead melting area	1346	****	2354	0.0
GM-25	Front of lead melting building	6009	****	5482	0.0

****** - Readings off scale of instrument, >9999**
All readings should be compared with laboratory analytical data.

[12] From: DJohnson 3/18/94 11:00AM (2918 bytes: 53 ln)
To: TPalmer, SSpurlin
Subject: Georgia Metals Site, Powder Springs, Georgia
---------- Message Contents ----------

SUBJ: Georgia Metals Site
Powder Springs, GA

RE: Letter to the State of Georgia

Tracy and Steve,

On 3/17/94, Chuck Eger and I went to take a look at the Georgia Metals Site after overseeing work at the Herndon Homes Site both in Georgia. Upon review of the data within the Site file, observing the conditions at the Site and investigating possible receptors for the waste from the Site I came to the following conclusion:

1. The Site area in question is part of an operating metal plating facility whose owner is a viable party and has maintained owner/operator status for the property over the last thirty years.

Window: 1 - 24 Lines: 57 Edit: Help: F1 End: ENTER

2. As an operating metal plating facility, the EPA and State RCRA programs should be made aware of the Site.

3. Although the levels are very high on the Site, the areas are fenced off limiting access and the contact threats. The surrounding area is presently covered by approximately and 1 1/2 feet of shreded wood preventing any further migration of the soil contamination from leaving the fenced area or property limiting again any migration into creeks, streams or ditches downgradient from the site. (The ditch is actually across the roadway from the facility and seasonally wet.) No residents are within a 1/4 mile of the facility and city water supply is utilized in this industrial setting. Two chemical companies are located behind and to the left of the Georgia Metals Site.

4. My recommendation is to turn this Site over to the State Delegated RCRA Program and request that they look into pusuing the owner to clean up the property under RCRA authority. As a last resort, the Emergency Response and Removal Branch could be requested to take over the cleanup after the State and EPA RCRA exhaust their efforts under Orders with the PRP. At that time, I would recommend entering into a UAO with the PRP. This Site

L: 48 C: 1 Lines: 57 Highlight(▒▒▒▒▒): AltF1 Help: F1 End: F10

would recommend entering into a UAO with the PRP. This Site appears to be a candidate for a large expense removal action.

If you have any further questions or concerns, you may contact me at extension 6137.

Dora Ann Johnson
Federal On-Scene Coordinator

L: 71 C: 1 Lines: 57 Highlight(▒▒▒▒▒): AltF1 Help: F1 End: F10

[13] From: DJohnson 3/18/94 11:12AM (1569 bytes: 28 ln)
To: TPalmer, SSpurlin
Subject: Georgia Metals Site State Letter
---------- Message Contents ----------

Tracy,
I need a letter to the state to
1. make them aware of the present operating conditions of the Site.
2. request that they consider taking on the Site for a RCRA Removal Order

You may want to use some of the following wording:
" After further investigation by EPA ERRB, EPA concludes that the Georgia Metals Site is an operating RCRA facility. The facility has been identified as having lead levels of concern surrounding the lead melting unit and fabrication unit within the fenced in area of the property. EPA ERRB would request that the Site cleanup be addressed under a RCRA Order to address the proper removal and disposal of the contaminated soils within and surrounding these two identified units. At the present time, the units are within a security fence and access to the area is easily limited until remediation of the soils could be negotiated."

L: 5 C: 1 Lines: 32 Highlight(▒▒▒▒▒): AltF1 Help: F1 End: F10

Steve may have some language to add to the letter as well. I would need to review the letter before sent out as well as Steve (King Rat) and Shane.

Thanks,
Dora Ann

L: 48 C: 1 Lines: 32 Highlight(▒▒▒▒▒): AltF1 Help: F1 End: F10

Georgia Department of Natural Resources

205 Butler Street, S.E., Floyd Towers East, Atlanta, Georgia 30334
Joe D. Tanner, Commissioner
Harold F. Reheis, Director
Environmental Protection Division

REPLY TO:

HAZARDOUS WASTE MANAGEMENT BRANCH
GENERATOR COMPLIANCE PROGRAM
1244 INTERNATIONAL PARKWAY
SUITE 104
ATLANTA, GEORGIA 30354
(404)362-2684

August 16, 1993

Mr. Palmer
12/22/93

Mr. Buck Kelly
Georgia Metals
1400 Industry Way
Powder Springs, Georgia 30073

SUBJECT: Generator Requirements
Georgia Metals
Powder Springs, Cobb County
GCP Complaint Record #014-92

6:30

Dear Mr. Kelly:

On August 4, 1993, I conducted a hazardous waste generator compliance and evaluation inspection of your facility located at 1400 Industry Way, Powder Springs, Georgia. This inspection was performed to determine your facility's compliance status with Georgia's Rules for Hazardous Waste Management ("Rules"), Chapter 391-3-11-.08 and Chapter 391-3-11-.16. It was determined that on this date no violations of the Rules were observed.

Should you have any questions, please contact me at (404) 362-2684.

657-8831

Sincerely,

Nancy A. Troup

Nancy A. Troup
Environmental Specialist
Generator Compliance Program

NAT:klc
cc: Freddie L. Dunn, Jr.
File: Georgia Metals, Cobb County
F:\GCP\DOCS\GEOMETAL.CSL

GEORGIA STEEL

■ Phone: 404/355-9510
■ WATS: 1-800/282-3350
■ Fax: 404/355-7623

903 Huff Road, N.W. /Atlanta, Georgia /30318

Connie Daniels Alanso
Ronnie Kittrell
3773 Liberty Rd.
Villa Rica, Ga
30180

Replacement Posts
Villa Rica

1588-7

Member Steel Service Center Institute

HOT ROLLED· COLD ROLLED· STAINLESS· ALUMINUM· GALVANIZED· ANGLES· BARS· BEAMS
CHANNELS· SHEETS· PLATES· TUBING· EXPANDED METAL· BAR GRATE· REBARS· PIPE

GA. METALS DISTRIBUTING, INC.

1400 Industry Road
P.O. Box 68
Powder Springs, GA 30073

FAX TRANSMITTAL COVER SHEET

12/22/93

LEO

ny:

Buck Kelly

Pages (Including Transmittal Page): 2

:e:

DEPARTMENT OF NATURAL RESOURCES
Environmental Protection Division
Hazardous Waste Management Program
Generator Compliance Unit
Nancy A. Trap
Environmental Specialist
4244 International Parkway, Suite 104
Atlanta, Georgia 30354
Office: (404) 362-2684
6/21/93 08/04/93
Recycled Paper

DEPARTMENT OF NATURAL RESOURCES
Environmental Protection Division
Hazardous Waste Management Program
Facilities Compliance Unit
Jane Hendricks
Environmental Specialist
Floyd Tower East, Suite 1154
205 Butler Street, SE
Atlanta, Georgia 30334
Office: (404) 656-2833
5-17-93
Recycled Paper

IN GA (404) 943-5980
WATS (800) 334-3319

FAX# (404) 943-5206

Georgia Department of Natural Resources

HAZARDOUS WASTE MANAGEMENT BRANCH
GENERATOR COMPLIANCE PROGRAM
205 BUTLER STREET, S. E., EAST TOWER SUITE 1066
ATLANTA, GEORGIA 30334
(404)657-8831 FAX (404)657-8882

TRANSMITTAL SHEET

DATE: December 23, 1993

TO: Leo Francendese USEPA

FROM: Nancy Troup GAEPD

NO. OF PAGES INCLUDING THIS SHEET: 5

COMMENTS: Georgia Metals

ENVIRONMENTAL PROTECTION DIVISION
HAZARDOUS WASTE MANAGEMENT PROGRAM

Complaint Record

Log Number: 14-92 Date Received: 2-14-92 Received by: Burns

Date Referred: _____ Program Referred: _____

Complainant: Name: ANONYMOUS

Address: _____

_____

Telephone Number: _____

_____ Information to remain confidential

Alleged Source: Name: Georgia Metals → Southern Leadburning Co. same owners 943-5991

Address: 1400 Industry Way

City: Powder Springs County: Cobb

Zip Code: 30073 EPA I.D. No.: None

Location Directions:

I 20 West → exit Thornton Rd toward Powder Springs → Thornton Rd → Maxham Light Rd (right turn) Turns into Austell Rd 3rd RL see Clay Rd (left) → Flint Hill (1st right turn) → go over RR → left (see Industry Rd) thru residential

Details of Complaint:

going on for years

Builds, repairs & strip Tanks. Washwater goes into ground on the property - 20 to 30 ft behind building - see trough → see run off below + uphill - can see lead

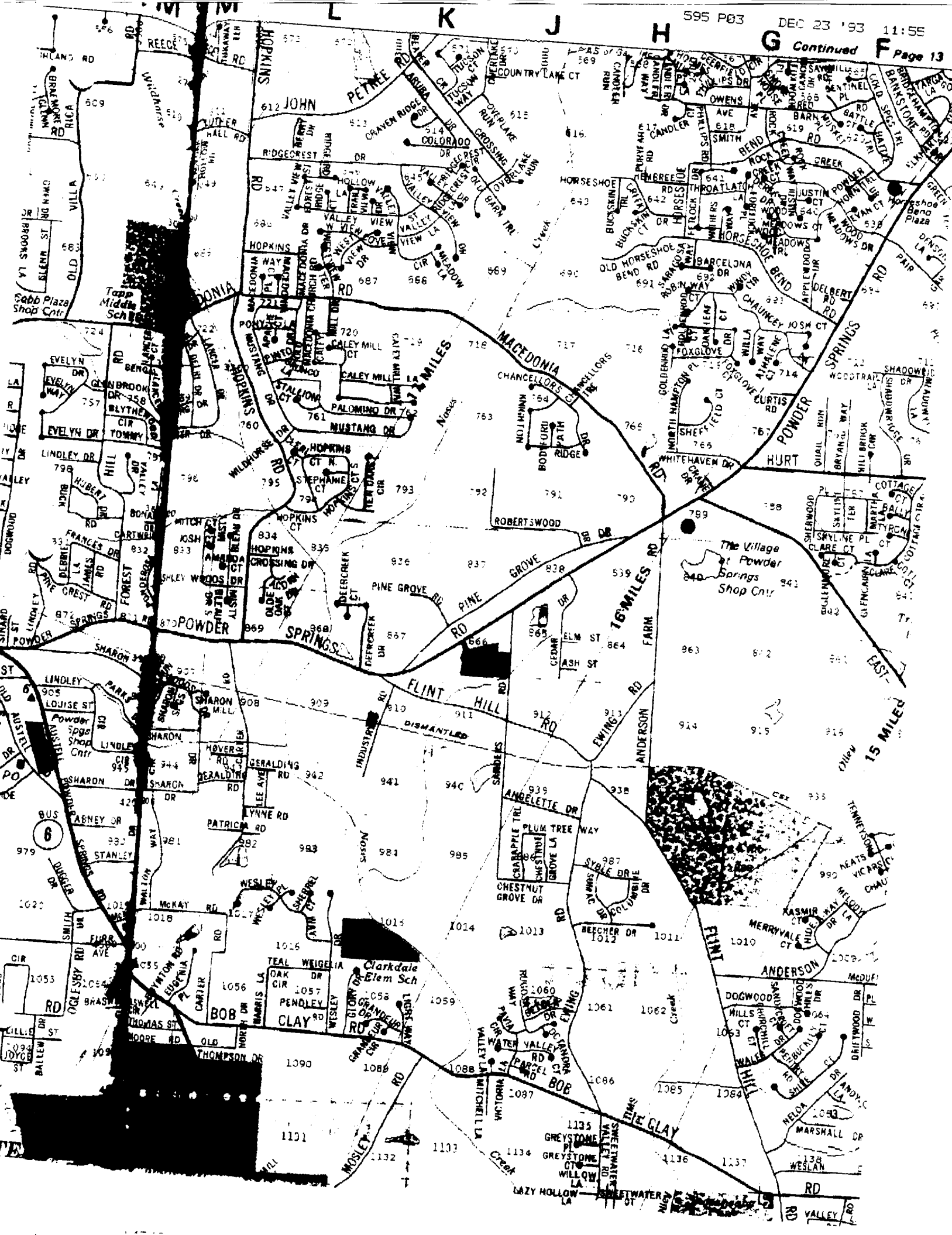
Details of Investigation Should Be Sent To:

Complaint _____ Other _____

File: Original - Log Of Complaint Records
2nd copy -Investigating Program

HW-11 11/90R

TO: RG 214


M
L
K
J
H
G
F
JOHN PETREE RD
HOPKINS RD
MACEDONIA RD
POWDER SPRINGS RD
FLINT HILL RD
ANDERSON FARM RD
BOB CLAY RD
HURT
Tapp Middle Sch
Sabb Plaza Shop Cntr
Powder Spgs Shop Cntr
The Village at Powder Springs Shop Cntr
Clarkdale Elem Sch
Horseshoe Bend Plaza
16 MILES
15 MILES
DISMANTLED
Nosses Creek
Olley Creek

Georgia Department of Natural Resources
205 Butler Street, S.E., Floyd Towers East, Atlanta, Georgia 30334
Joe D. Tanner, Commissioner
Harold F. Reheis, Director
Environmental Protection Division

TRIP REPORT

August 9, 1993

SITE NAME AND LOCATION:	Georgia Metals 1400 Industry Way Powder Springs, Georgia 30073 (404) 943-5980
EPA ID NUMBER:	None
COUNTY:	Cobb
TRIP BY:	Nancy A. Troup NAT Environmental Specialist Generator Compliance Program
DATE OF INVESTIGATION:	August 4, 1993
OFFICIALS CONTACTED:	Buck Kelly
REFERENCE:	GCP Complaint Record #14-92

COMMENTS:

I. Background

The Generator Compliance Program received a complaint on the above facility on February 14, 1992. The complaint was originally assigned to Alan J. Giles; however, due to a backlog, an investigation did not occur until August 4, 1993, conducted by Nancy A. Troup.

The complaint alleged that the facility was discharging lead-contaminated wastewater onto the property.

II. Findings

The facility assembles tanks with pre-fabricated parts. No hazardous wastes are generated. No evidence existed of lead-contaminated wastewater.

CONCLUSIONS:

Georgia Metals is not a generator of hazardous waste and there is no evidence of lead-contaminated wastewater being discharged onto the property.

RECOMMENDATIONS/FOLLOW-UP: Send the facility a Compliance Status Letter.

PHOTOGRAPHS: None

NUMBER OF SAMPLES TAKEN: None

REVIEWED BY: Freddie L. Dump Jr. **DATE:** 8/18/93

ATTACHMENTS: HWMB/GCP Complaint Record #14-92

NAT:klc
File: Georgia Metals, Cobb
F:\GCP\DOCS\NT\GBOMETAL.TRP

"High Priority" ... Lead. ... 70's.

Georgia Metals.

- John McKown ... site owner.
- Dave ... EPD 651-0831, 656-2833 Rucker
- Call company.

... at issue ... "site owner", if no samples along finalization of pathways".

Phone 943-5991 .... Buck Kelley.
943-5296.

12-22-93. faxed Buck Kelley a copy of composite soil sample data. (3) pgs w/ cover letter.

- Mr. Kelley wanted names of "employee complaints" ... I did not feel it necessary to tell him these names he is well aware of since OSHA has built a case against him.

- Focused on EPD "composite soil" levels that need to be substantiated. ... Mr. Kelley realizes he cannot deny me access.

- Need to arrange for a date to sample.

1-4-94

Ben Rucker (EPD) conducted PA last quarter

Ruche
converg. 1.7

CP Chemicals ...
RCRA corrective Act in

Small bldg owned by
unch ... lead lined cases
~~[illegible]~~

Several Drums
covered w/ big,
black piece weather.
(behind smelters)

CP Chem. converg. w/ Ruch 1.11

* Leased to landscaper.
1 hasn't in oper. since 85
1 copper primary contam.
some benzene
lead.

Monitoring wells. Lake Engineers (eng)

same consultant for
Georgia Metals who
submitted soil sampling plan.

I-131 no alpha
low gamma
high beta

lead does not a sufficient shield for betas.

- measured in micro as opposed to milli
- background is betw 10-25 micro / hr
- safety lvls are 10 milli / hr (EPA) ... consult.
  w/ Eastern Env. Resp. Facility.
  Mont, Ala
  Joe Woods.

safety lvls for TAT are 1 milli / hr.

US-EPA
Waste Management Division
Emergency Response & Removal Branch
345 Courtland Street, N.E.
Atlanta, Georgia 30365

404/347-3931 commerical
404/347-4464 FAX
404/347-4062 24-hr. emergency No.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
EPA
REGION IV
OIL & HAZARDOUS SUBSTANCES
EMERGENCY RESPONSE AND REMOVAL

FACSIMILE TRANSMISSION SHEET

Date: 12-22 Number of Pages: 5 (including cover sheet)

TO: BUCK KELLEY Telephone No. 943-5941

Address: GEORGIA METALS. FAX No. 943-5296

FROM: LEO FRANCENDESE

SPECIAL INSTRUCTIONS:

Note: If message is received poorly or other errors are detected, please contact Leo Francendese in our office at the above listed telephone numbers (except the 24-hr. No.)... .....thank you.

TRANSMISSION REPORT

THIS DOCUMENT WAS CONFIRMED
(REDUCED SAMPLE ABOVE - SEE DETAILS BELOW)

** COUNT **
TOTAL PAGES SCANNED : 5
TOTAL PAGES CONFIRMED : 5

*** SEND ***

No.	REMOTE STATION	START TIME	DURATION	#PAGES	MODE	RESULTS
1	4049435296	12-22-93 11:32	2'58"	5/ 5		COMPLETED 9600
		TOTAL	0:02'58"	5		

NOTE:
No. : OPERATION NUMBER 48 : 4800BPS SELECTED EC : ERROR CORRECT G2 : G2 COMMUNICATION
PD : POLLED BY REMOTE SF : STORE & FORWARD RI : RELAY INITIATE RS : RELAY STATION
MB : SEND TO MAILBOX PG : POLLING A REMOTE MP : MULTI-POLLING RM : RECEIVE TO MEMORY

US-EPA
Waste Management Division
Emergency Response & Removal Branch
345 Courtland Street, N.E.
Atlanta, Georgia 30365

404/347-3931 commerical
404/347-4464 FAX
404/347-4062 24-hr. emergency No.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
EPA
REGION IV
OIL & HAZARDOUS SUBSTANCES
EMERGENCY RESPONSE AND REMOVAL

FACSIMILE TRANSMISSION SHEET

Date: 12·22 Number of Pages: 5 (including cover sheet)

TO: BUCK KELLEY Telephone No. 943-5991

Address: GEORGIA METALS. FAX No. 943-5296

FROM: LEO FRANCENDESE

SPECIAL INSTRUCTIONS:

Note: If message is received poorly or other errors are detected, please contact Lo Francendese in our office at the above listed telephone numbers (except the 24-hr. No.)... .....thank you.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

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

12-22-93

Mr. Buck Kelly
Environmental Affairs
Georgia Metals

Dear Sir:

As promised per our conversation, I am faxing a copy of the Georgia EPD analytical results. They are composite soil samples that indicate high lead levels.

Any questions please contact:

Leo Francendese
Federal On Scene Coordinator
Waste Management Division
Emergency Response and Removal Branch
345 Courtland Street, NE
Atlanta, Georgia 30365
404-347-3931 ext.6104

I would like to reiterate that these levels need to be substantiated. I am requesting that you cooperate by allowing me access to your place of business.

Leo Francendese

Leo Francendese

... ENVIRONMENTAL PROTECTION DIVISION

LABORATORY REPORT

1a

SAMPLE DATE: 10/21/86 PROJECT: Georgia Metals Co COLLECTOR: F Hallahan

DATE REC'D 10-22-86
TIME REC'D 8:14
REC'D BY: Harold Lanford
DEL BY: F Hallahan
Harold Lanford
LABORATORY MANAGER

DATE: 11-3-86

HW LOG NO.	2152	2153	2154		
LABEL I.D.	Composite Soil #1 Battery Chip Area	Composite Soil #2 Cast yard	Composite soil #3 South yard		
PARAMETERS / LAB NO.	H 2152	H 2153	H 2154		
Methyl Ethyl Ketone mg/kg	< 10	< 10	< 10		
EP Ag µg/L	<20	<100	<20		
" As "	<100	<2000	<100		
" Ba "	420	<200	210		
" Cd "	<20	<100	<20		
" Cr "	<20	<100	<20		
" Pb "	175000	1430000	136000		
" Se "	<100	<1000	<100		
pH (10%)	5.6	5.7	5.4		

REMARKS:

GEORGIA ENVIRONMENTAL PROTECTION DIVISION
LAND PROTECTION BRANCH

CHAIN OF CUSTODY

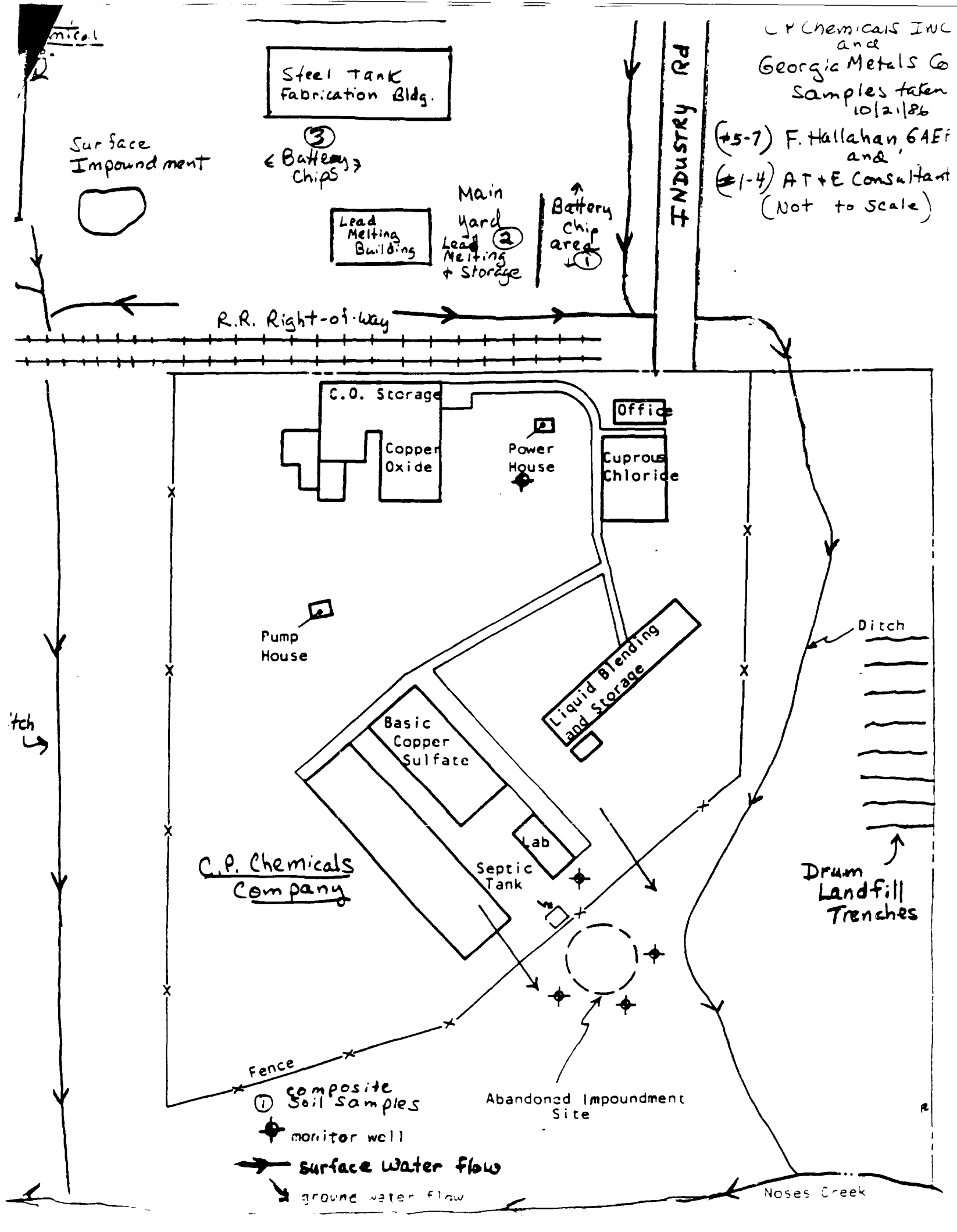
FACILITY: Georgia Metals Co LOCATION: Powder Springs Ga

SAMPLE #	LOG #	LAB I.D.	DESCRIPTION	COLLECTED BY (Name)	DATE	TIME
1	2152		Soil composite #1 battery chip area	F Hallahan	10/21/86	
2	2153		Soil composite #2 mining yard	F Hallahan	10/21/86	
3	2154		Soil composite #3 ~~south~~ near building	F Hallahan	10/21/86	

TRANSFER RECORD

TRANSFERRED BY (Name)	TO (Name) (IF FINAL: Lab Name)	DATE	TIME	METHOD OF TRANSFER	RECEIVED BY (Name)	DATE
F Hallahan	Lab	10/21/86	8:14	hand	Harold Langford	10/22/86

ANALYSES REQUESTED: EP metals, PH, MEK


C P Chemicals INC
and
Georgia Metals Co
Samples taken
10/21/86
(#5-7) F. Hallahan, GAEF
and
(#1-4) AT+E Consultant
(Not to scale)
Steel Tank Fabrication Bldg.
Surface Impoundment
(3) Battery Chips
Lead Melting Building
Main Yard
(2) Lead Melting + Storage
Battery Chip area (1)
INDUSTRY Rd
R.R. Right-of-Way
C.O. Storage
Copper Oxide
Power House
Office
Cuprous Chloride
Pump House
Liquid Blending and Storage
Basic Copper Sulfate
Lab
Septic Tank
Ditch
Drum Landfill Trenches
C.P. Chemicals Company
Fence
(1) composite Soil samples
monitor well
surface water flow
ground water flow
Abandoned Impoundment Site
Noses Creek

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

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

OCT 07 1993

Ms. Jennifer Kaduck, Chief
Hazardous Waste Emergency Response
Georgia Environmental Protection Division
205 Butler Street
Suite 1154 - East Tower
Atlanta, Georgia 30334

RE: Georgia Metals Site, Powder Springs, Cobb County, Georgia

Dear Ms. Kaduck:

On September 28, 1993, the U.S. Environmental Protection Agency's Emergency Response and Removal Branch (ERRB) reviewed the available information for the above referenced site to determine its eligibility for a potential removal action under the National Contingency Plan (NCP). The site information was evaluated using criteria from Section 300.415 of the NCP and current ERRB program guidance.

Based upon ERRB's review, the above site meets the criteria for a high priority removal action. The site is an active lead burning (cutting and welding lead plate for lining tanks) operation. In 1991 Martha Pierce of your staff investigated a complaint regarding alledged hazardous waste handling at the site. OSHA has cited the company for numerous violations relating to worker exposure to lead. Because of the high potential for lead contamination of soils both on-site and off-site, this site is a high priority for a removal action. An On-Scene Coordinator will be assigned in the near future. If you have any questions in the meantime, please call Don Rigger of my staff at (404) 347-3931 ext. 6140.

Sincerely,

Shane Hitchcock for

Myron D. Lair, Chief
Emergency Response and Removal Branch

CC: Narindar Kumar, Site Assessment Section, EPA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

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

MEMORANDUM

DATE: April 21, 1993

SUBJECT: Possible Superfund Emergency Response and Removal Branch Involvement at Georgia Metals (GAD984306605)

FROM: John A. McKeown
Georgia Project Officer
South Unit/WMD

THRU: Mario Villamarzo, Chief
South Unit
Site Assessment Section - WMD

Mario Villamarzo 4/21/93

TO: Doug Lair, Chief
Emergency Response and Removal Branch

Georgia Metals (GAD984306605) is located at 1400 Industrial Road in Powder Springs, Cobb County, Georgia. The site was brought to the attention of EPA by Mr. Ron Kittrell, a former employee who claims that large chunks of lead and metal shavings were buried in numerous locations at the site.

The property was originally owned and operated by Southern Lead Burning, which, according to Mr. Kittrell, routinely buried large chunks of lead and metal shavings on-site. Mr. Kittrell enclosed a sketch of the property which included potential lead burial areas marked with numerous red Xs. Mr. Kittrell does not have a telephone where he can be reached.

If you have any questions concerning this matter, please contact me at x5065.

· PA scheduled for 4 Qtr '93 (by GA EPD)

· GA EPD has responded to complaints at the facility in the past. [illegible] visited the site on 2/27/91 to investigate alleged handling of [illegible] while [illegible] no evidence to support this, should [illegible] [illegible] OSHA had visited site & found safety violations (Joe Hearn 493-6694)

Other EPD related facts:

1. EPD [illegible] soil samples @ GA Metals [illegible] 1987, facility [illegible]
2. [illegible] CERCLA funded remediation, pursuant to RCRA [illegible]
3. EPD [illegible] site @ present time

OSHA
Atlanta West
984 8700

Printed on Recycled Paper

DATE REPORT ACCEPTED 10-16-93
DISPOSITION St low
SAM SIGNATURE Janice P Thomas

PRELIMINARY ASSESSMENT

Georgia Metals, Inc.

EPA ID. GAD984306605

Prepared by:

Ben Rucker
Environmental Specialist

Georgia Environmental Protection Division

Hazardous Waste Management Branch

September 30, 1993

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- 2.2 Site Description 1
- 2.3 Operational History and Waste Characteristics 2

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- 3.1 Hydrogeologic Setting 2
- 3.2 Groundwater Targets 3
- 3.3 Groundwater Conclusions 3

4.0 SURFACE WATER PATHWAY 3
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FIGURES:

Figure 1	Area Map
Figure 2	General Site Location Map
Figure 3	Detailed Site Map

TABLES:

Table 1	Population Distribution and Population Served by Groundwater within A Four Mile Radius of the Site

APPENDICES:

Appendix A	U.S.G.S. 7.5 Minute Series Topographic Maps
Appendix B	EPD Soil Sampling Results, October 21, 1986 and March 5, 1987 Inspections
Appendix C	Photographic Documentation
Appendix D	PA Score Sheets

Preliminary Assessment

Georgia Metals Site
Powder Springs, Georgia

1.0 INTRODUCTION

Under authority of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA), the U.S. Environmental Protection Agency (EPA), Waste Management Division, Region and conducted a Preliminary Assessment (PA) at the Georgia Metals site, Cobb County, Georgia. The purpose of this investigation was to collect information concerning conditions at the Georgia Metals site sufficient to assess the threat posed to human health and the environment and to determine the need for additional investigation under CERCLA/SARA or other appropriate action. The scope of the investigation included review of available file information, a comprehensive target survey and an on-site and off-site reconnaissance.

2.0 SITE DESCRIPTION, OPERATIONAL HISTORY AND WASTE CHARACTERISTICS

2.1 Location

The Georgia Metals site is located in Cobb County approximately two (2) miles east-southeast of Powder Springs, Georgia (Fig. 1). The geographical coordinates are 33° 51' 17" North latitude and 84° 38' " West longitude as can be seen on the United States Geological Survey (U.S.G.S.) Austell 7.5 minute Topographic Quadrangle Map (Appendix A).

The site is located on approximately 6.4 acres and is owned by Mr. William F. Kelly of Marietta, Georgia.

The site is approximately two (2) miles east of Powder Springs, approximately 1/4 mile south of Flint Hill Road on the west side of Industry Road.

The climate of the area of the site is generally mild to hot with humid summers and cool winters. A review of thirty year average temperature data (Ref. 1) yields an average temperature of 78 degrees Fahrenheit during the summer months and 44 degrees Fahrenheit during the winter months. Extreme high temperatures during the summer months can reach above 100 degrees while extreme low temperatures during the winter months can reach below 0 degrees. The normal annual precipitation is 48.61 inches (Ref. 1).

2.2 Site Description

The Georgia Metals site occupies an area of approximately 6.4 acres to the west of Industry road. The site is bordered to the north by a Seaboard Coastal Railroad main track, and to the south by a Seaboard Coastal spur and C. P. Chemicals, Inc. The site is bordered to the west by Ajay Chemicals, Inc. The property slopes gently toward the south and Noses Creek which borders C. P. Chemicals to the south. The site has three structures on it. The largest structure, the main fabrication building, occupies the center

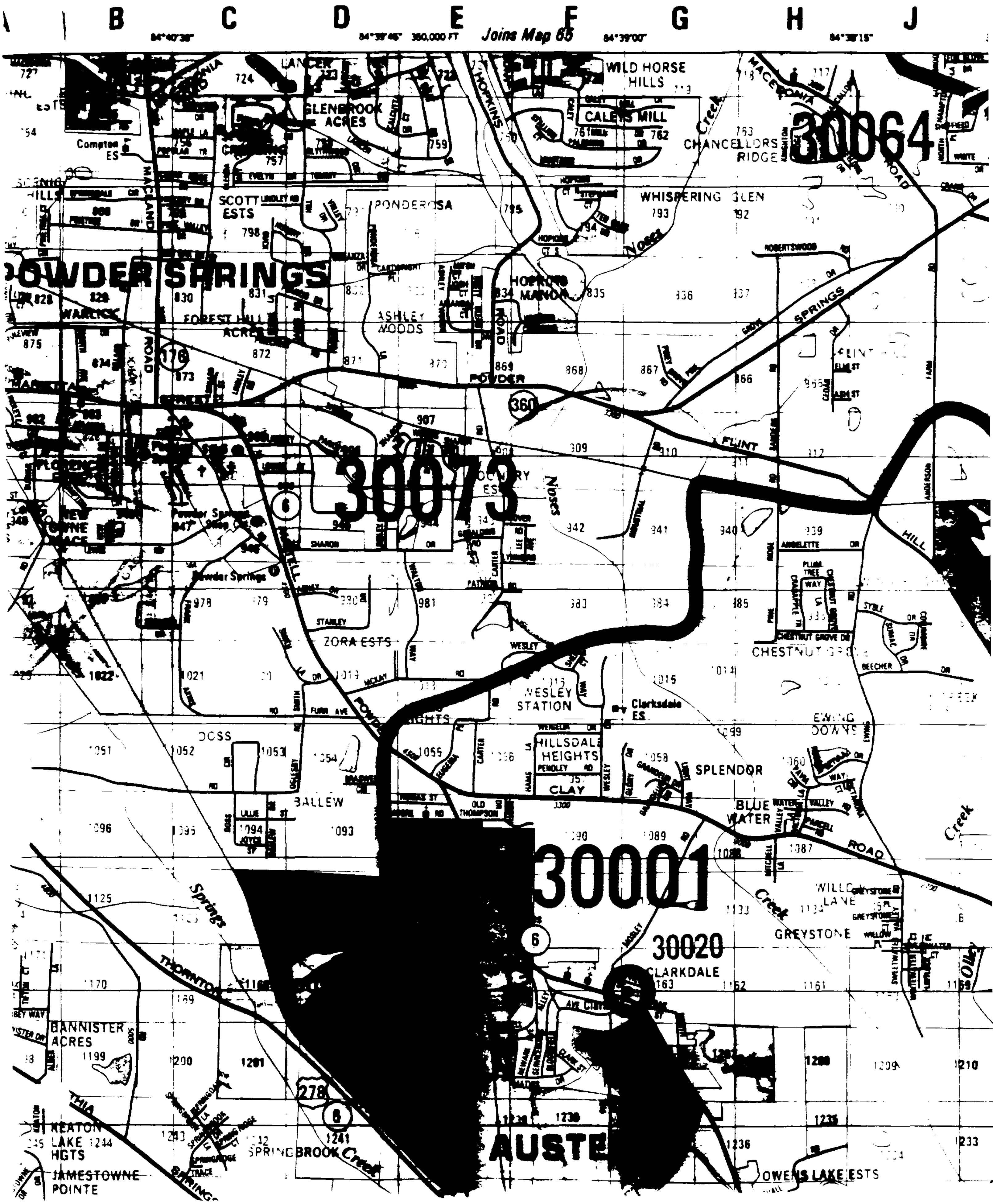
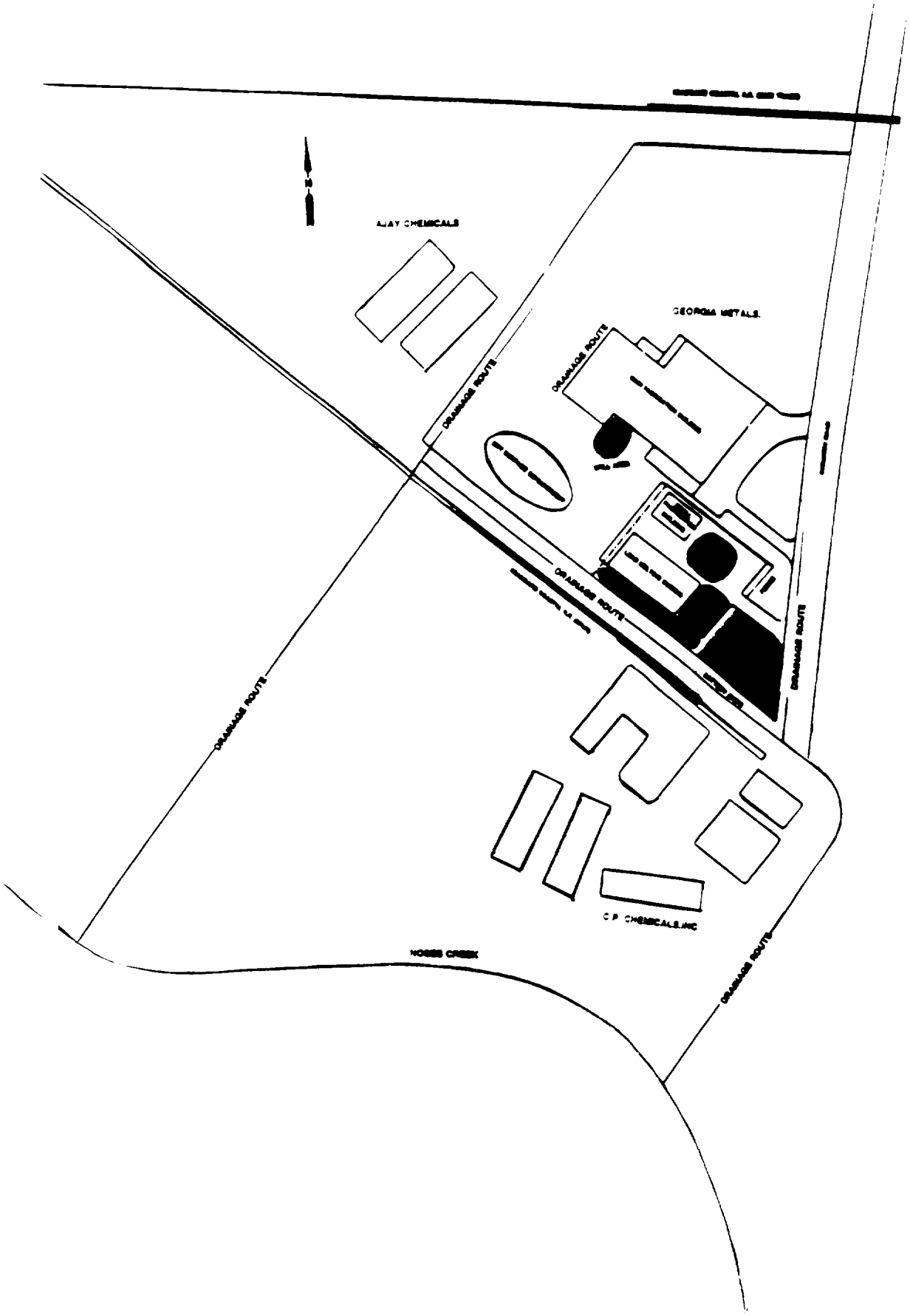
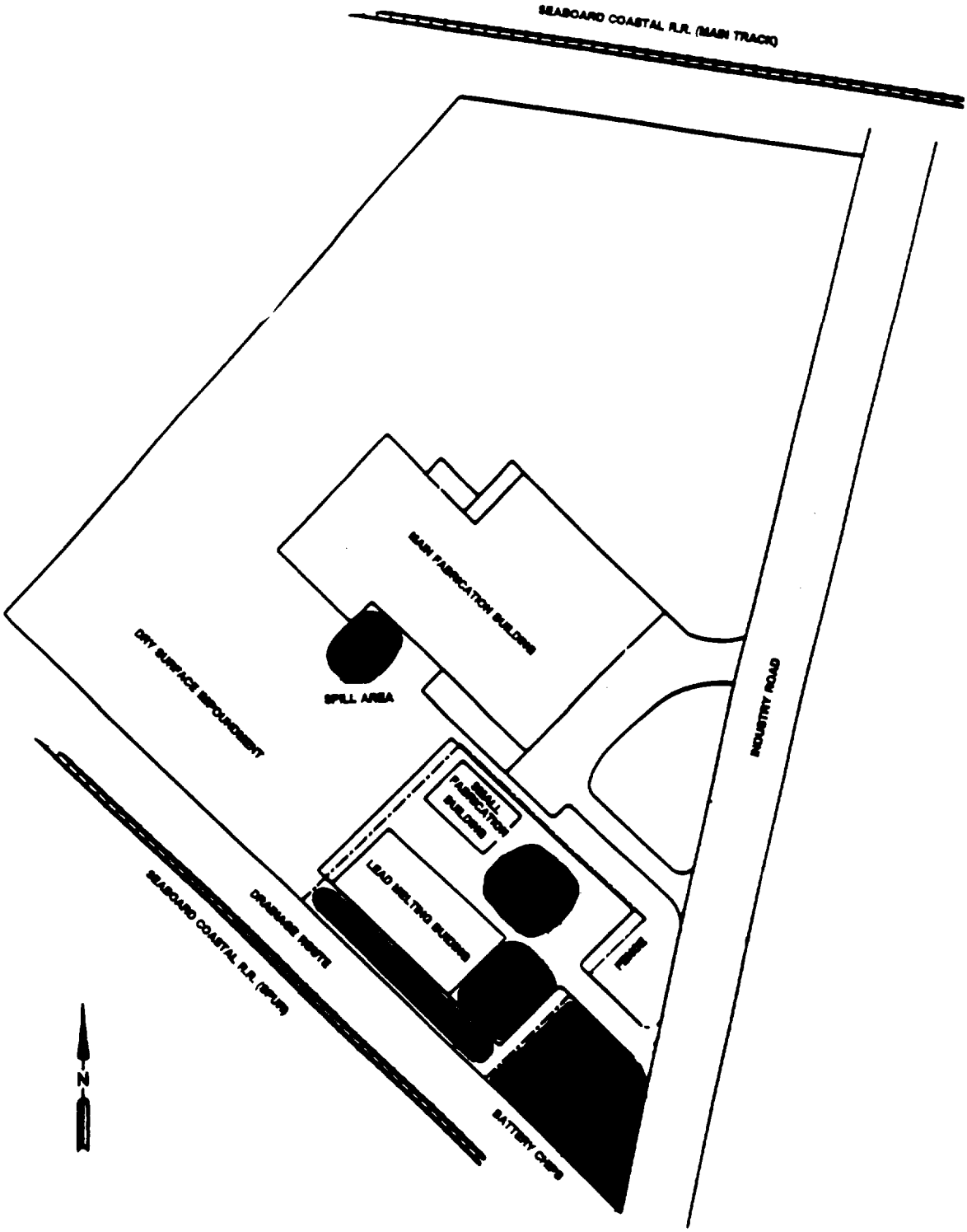

B C D E F G H J
Joins Map 65
WILD HORSE HILLS
GLENBROOK ACRES
CALEYS MILL
CHANCELLORS RIDGE
30064
Compton ES
SCOTT ESTS
PONDEROSA
WHISPERING GLEN
POWDER SPRINGS
HOPKINS MANOR
FOREST HILL ACRES
ASHLEY WOODS
SPRINGS
POWDER
FLINT
30073
Powder Springs
ZORA ESTS
WESLEY STATION
Clarksdale ES
CHESTNUT GROVE
EWING DOWNS
HILLSDALE HEIGHTS
CLAY
SPLENDOR
BALLEW
BLUE WATER
30001
30020
CLARKDALE
GREYSTONE
WILLOW LANE
BANNISTER ACRES
THORNTON
KEATON LAKE HGTS
JAMESTOWNE POINTE
SPRINGBROOK
OWENS LAKE ESTS
Creek
Noses
HILL
ROAD

FIGURE 1



Adapted from illustration from surface soil sampling and analysis plan submitted by Lake Engineering and Development, Inc.

FIGURE 2



GEORGIA METALS, INC. SITE

Adapted from illustration from surface soil sampling and analysis plan submitted by Lake Engineering and Development, Inc.

FIGURE 3

of the site. The larger of the two smaller structures is the melting building which occupies the southern edge of the site. the smallest structure which is used for the fabrication of lead lined containers is located between the two larger buildings. The two latter buildings were enclosed by a chain link fence.

The property has a dry surface impoundment which is located southwest of the largest building. The northern half of the property is well covered with vegetation but the southern half has little ground cover and is etched with gullies. A large quantity of plastic battery casing chips are scattered on the southern corner of the property near Industry Road.

2.3 Operational History and Waste Characteristics

Georgia Metals, Inc., formerly Southern Lead Burning, is an active site owned and operated by William F. Kelly.

Georgia Metals now specializes in the fabrication and repair of steel tank assemblies but for over thirty years operations have included the fabrication of a variety of lead products. These included lead sheets and pipes.

Scrap lead from a variety of sources including scrap lead piping, pieces of metallic lead and batteries was used in the facility's fabrication operations. The scrap lead was remelted in two gas heated units housed in the lead melting building adjacent to the Seacoast Railroad spur. Scrap lead was stored in drums by the southeast end of the lead melting building.

In response to a C. P. Chemicals Company report that elevated lead levels had been detected in a monitoring well located down gradient from Georgia Metals, the Georgia Environmental Protection Division (EPD) conducted several site inspections and collected soil samples on October 21, 1986 and March 5, 1987. Analysis of the samples showed high levels of lead. EPD requested that Georgia Metals submit a plan for further investigation and remediation of contaminated oil and groundwater on January 8, 1987. A surface soil sampling and analysis plan was submitted by Georgia Metals' consultant to EPD. The plan was revised once at the request of EPD but no further action was taken.

EPA Region IV files indicated that a former Georgia Metals employee reported that large pieces of lead and metal shavings were buried in numerous locations at the site. The former employee provided EPA with a map indicating where these burial areas were. The former employee added that he was forced to leave his job because of high blood lead levels.

3.0 GROUNDWATER PATHWAY

3.1 Hydrogeologic Setting

Cobb County is in the Central Uplands District of the Piedmont Province in the Appalachian Highlands Division. This District consists of a series of low, linear ridges, 1300-1500 feet above sea level, and separated by broad, open valleys. Streams flowing through this district are generally transverse to the structure and occupy valleys 150-200 feet below the ridge crests (Ref. 3).

Most of the area is covered by saprolite, a clayey residual deposit produced by the weathering of the rocks, and by soils derived from this material. Depending on the properties of the parent rock and the topographic setting, the saprolite in this area can range from 0 to 200 feet. On uplands where slope is less than 15 percent, saprolite generally is thicker than in areas having steeper slopes (Ref. 9).

Groundwater in this area occupies joints, fractures and other secondary openings in the bedrock and pore spaces of the overlying soil and saprolite (regolith). The largest volume of water is stored in the regolith. Water recharges the underground openings by seeping through the regolith or by flowing directly into openings in exposed rock. Unweathered and unfractured bedrock has very low porosity. Thus, the quantity of water that a rock unit can store and transmit to wells is determined by the number, capacity and interconnection of the secondary openings (Ref. 9).

Well yields in the area range from 20 to 275 gallons per minute, averaging 56 gallons per minute. Water quality is generally good. In the nearest well where data is available dissolved solids are 139 mg/l and hardness is 73 (Ref. 9).

Depth to groundwater in the vicinity of the site is 5.23 feet.

3.2 Targets

There are approximately 1989 people within a four mile radius of the site who rely on wells for their drinking water. Approximately nine of these people live within 1/2 mile of the site (Ref. 4).

3.3 Groundwater Conclusions

The groundwater pathway is of concern at the Georgia Metals site. EPD records indicate that lead had been reported in an upgradient monitoring well at neighboring C. P. Chemicals Inc. Currently no groundwater investigation has been conducted at the site.

4.0 SURFACE WATER PATHWAY

4.1 Hydrologic Setting

The site slopes gently to the south. Drainage ditches exist along the west, south and east borders of the site and empty into Noses Creek approximately 750 feet to the south of the site. The southern portion of the site has little vegetation and is etched with gullies and channels from erosion.

Surface water flow is to the south-southeast.

4.2 Surface Water Targets

There are no known drinking water intakes on the surface water pathway for a distance of fifteen (15) miles downstream of the site (Ref. 6). However, these waters are used for fishing and include Sweetwater Creek State Park.

Wetland areas occur downstream from the site and along Noses Creek (Ref. 7). Four threatened or endangered plants are known to occur in Cobb County: Rhus michauxii (dwarf sumac), Draba aprica (Open-Ground Whitlow-Grass), Nestronia umbellula (Indian Olive) and Schisandra glabra (Climbing Magnolia) (Ref. 8).

4.3 Surface Water Conclusions

The surface water pathway is an area of concern. C. P. Chemicals Inc.'s consultant reported in an exposure information report that "Vertical groundwater flow gradients measured during the groundwater assessment at the neighboring C. P. Chemicals site indicate that groundwater from the site is discharging to Noses Creek". It is reasonable to hypothesize that surface water contamination could result from such a discharge from lead contaminated groundwater.

5.0 SOIL EXPOSURE AND AIR PATHWAY

5.1 Physical Condition

There are five main areas of surficial soil impact as well as a dry surface impoundment (Ref. 5).

Deposits of black plastic chips from crushed battery cases are visible both inside and outside of the chain link fence on the southern tip of the site, on the north side of the melting building and on the south side of the melting building. The owner responded that the battery chips were obtained from off-site sources and spread over the outside of the fenced area to provide erosion control. In addition to the plastic chips, the south side of the melting building had deposits of ash and burned material deposited on the ground and in two rusted drums.

An EPD trip report documents a July 1, 1987 inspection of an old drum storage area next to the southeast end of the lead melting building. Scrap lead for melting into lead pipes and sheets was stored in the drums. EPD representatives observed that the ground in this area was littered with lead scrap and battery chips.

A surface soil sampling and analysis plan from the Georgia Metals' consultant refer to an EPD sampling inspection in which EPD representatives observed a spill area near the southwest warehouse door of the main fabrication building. The spilled material was believed to be a lead-bearing material, but according to this document "sampling and analysis data obtained by EPD indicated that negligible waste constituents existed in the area". Soil Samples from the battery chip area on the southeastern tip of the property, the area next to the east end of the melting building and the south side of the main fabrication building were taken on October 21, 1986 and again on March 5, 1987. Analysis for EP toxicity showed high levels of lead on both occasions in all three areas (Appendix B).

5.2 Soil and Air Targets

A house count, conducted at the time of the site reconnaissance, along with analysis of 1990 census data indicates that approximately 47,795 people reside within a four mile radius of the site (Ref. 4). The population within one-quarter mile of the site is 145. A

breakdown of the population distribution within a four mile radius of the site is presented in table 1.

Wetland areas occur downstream from the site and along Noses Creek (Ref. 7). Four threatened or endangered plants are known to occur in Cobb County: Rhus michauxii (dwarf sumac), Draba aprica (Open-Ground Whitlow-Grass), Nestronia umbellula (Indian Olive) and Schisandra glabra (Climbing Magnolia).

5.3 Soil Exposure and Air Pathway

The soil is an area of concern. Sample analysis indicates high levels of lead contamination at the site.

No emissions were observed from the site during the site reconnaissance.

6.0 SUMMARY AND CONCLUSIONS

The soil exposure pathway, groundwater pathway and surface water pathway are of primary concern at the Georgia Metals site. Previous sampling conducted on site indicates that surficial soils have been contaminated with lead. Lead contamination has been reported in groundwater from a neighboring facility's upgradient monitoring well.

The Georgia Metals site is located in an area where groundwater discharges to surface water so it is reasonable to suspect surface water contamination as well.

Based on the results of this investigation, the Georgia Metals site is recommended as a candidate for a site inspection.

DISTANCE FROM SITE (MILES)	POPULATION
0 TO 1/4	145
1/4 TO 1/2	505
1/2 TO 1	2238
1 TO 2	9054
2 TO 3	15948
3 TO 4	19905

POPULATION DISTRIBUTION WITHIN A FOUR MILE RADIUS

DISTANCE FROM SITE (MILES)	POPULATION
0 TO 1/4	2
1/4 TO 1/2	7
1/2 TO 1	31
1 TO 2	1339 *
2 TO 3	294
3 TO 4	316

POPULATION SERVED BY WELLS WITHIN A FOUR MILE RADIUS

table 1.

DISTRIBUTION AND POPULATION SERVED BY
GROUND WATER WITHIN A FOUR MILE RADIUS OF THE SITE

* this number includes the estimated population served by the City of Powder Springs well which is located approximately 1.7 miles west-northwest of the site (based on 435 households and 2.73 people per household)

REFERENCES

1. National Weather Service, Local Climate Data, Thirty year averages.

2. Facility File, Georgia Metals, Inc. Site, Georgia Department of Natural Resources, Environmental Protection Division, Hazardous Waste Management Branch.

3. Clark, W. Z., Jr. and A. C. Zisa, 1976, "Physiographic Map of Georgia", Georgia Department of Natural Resources, Georgia Geologic Survey.

4. Frost Associates, 1993, "CENTRACTS Report for the Area within four (4) miles of the Georgia Metals site".

5. Site Reconnaissance, May 24, 1993.

6. Water Supply Files, Cobb County, Georgia Department of Natural Resources, Environmental Protection Division, Water Resources Management Branch.

7. National Wetlands Inventory Maps, U. S. Fish and Wildlife Service, 7.5 Minute Series Maps: Austell, Ben Hill, Campbellton and Mableton.

8. McCollum, Jerry and David Ettman, 1991, "Georgia's Protected Plants", Georgia Department of Natural Resources, Game and Fish Division.

9. Cressler, C. W., Thurmond, C. J. and Hester W. G., 1983, "Groundwater in the Atlanta Region, Georgia", Georgia Department of Natural Resources, Georgia Geologic Survey.

APPENDIX A

U.S.G.S. 7.5 Minute Series Topographic Maps

APPENDIX B

EPD Soil Sampling Results, October 21, 1986 and March 5, 1987 Inspections

TO THE QUALITY OF THE DOCUMENT
BEING FILMED."

LAND PROTECTION BRANCH

HAZARDOUS WASTE ANALYSIS REQUEST

DATE: 10/21/86 PROJECT: Georgia Metals COLLECTOR: Mallahan

NO. SAMPLES: 3 LOG NOS. 2152, 2153, 2154 LIQUID ____ SOLID ____ SOIL X

CAUSTIC ____ ACID ____ SOLVENT ____ UNKNOWN ____ SLUDGE ____

INFORMATION FOUND: Sol composites lead melting/battery processing facility
D Cant also uses MEK

HAZARDOUS WASTE NOS. D008

HAZARDOUS HANDLING:

WORK PRIORITY (CRITICAL NEED) normal

METALS ANALYSES

	TOT	DIS			
METALS (DW NO Hg)	☐	☐	EP METALS (DW NO Hg) ☒	100X ☐	30X ☐
METALS (DW WITH Hg)	☐	☐	EP METALS (DW WITH Hg) ☐		

	TOT	DIS		TOT	DIS				
NICKEL	☐	☐	CADMIUM	☐	☐	EP NICKEL	☐	EP CADMIUM	☐
ARSENIC	☐	☐	LEAD	☐	☐	EP ARSENIC	☐	EP LEAD	☐
CHROMIUM	☐	☐	MERCURY	☐	☐	EP CHROMIUM	☐	EP MERCURY	☐
CHROM-HEX	☐	☐	SELENIUM	☐	☐	EP CHROM-HEX	☐	EP SELENIUM	☐
____	☐	☐	____	☐	☐	____	☐	____	☐

SPECIFIC ANALYSES

pH	☒	SULFIDE	☐	% SOLIDS	☐	____	☐
FLASH PT	☐	SP.COND.	☐	TOT. PHENOLS	☐	____	☐
CYANIDE TOT.	☐	TOC	☐	CHLORIDE	☐	____	☐
CYANIDE AM.	☐	TOH	☐	FLUORIDE	☐	____	☐

ORGANIC ANALYSES

PESTICIDE SCREEN (EC)	☐	GC-MS ACID EXTRACTABLES	☐
PCB	☐	GC-MS BASE/NEUTRALS	☐
VOLATILE ORGANICS (VOA)	☒		

SPECIFIC ORGANICS:

MEK

APPROVED: ____ AUTHORIZED: ____

(previously approved)

HW/0089F

D#1a

GEORGIA ENVIRONMENTAL PROTECTION DIVISION

LABORATORY REPORT

SAMPLE DATE: 10/21/86 PROJECT: Georgia Metals Co COLLECTOR: F. Hallahan

DATE REC'D 10-22-86

TIME REC'D 9:14

REC'D BY: Harold Lanford

DEL BY: F. Hallahan

Harold Lanford
LABORATORY MANAGER

DATE: 11-3-86

HW LOG NO.	2152	2153	2154		
LABEL I.D.	Composite Soil #1 [illegible]	Composite Soil #2 [illegible]	Composite Soil #3 [illegible]		
PARAMETERS / LAB NO.	H2152	H2153	H2154		
Methyl Ethyl Ketone mg/kg	<10	<10	<10		
EP Ag µg/L	<20	<100	<20		
" As "	<100	<2000	<100		
" Ba "	420	<200	210		
" Cd "	<20	<100	<20		
" Cr "	<20	<100	<20		
" Pb "	175000	1430000	136000		
" Se "	<100	<1000	<100		
pH (10%)	5.6	5.7	5.4		

REMARKS:

...ING FILMED."

HAZARDOUS WASTE ANALYSIS REQUEST

DATE: 3/5/87 PROJECT: GA. METALS COLLECTOR: McKugh

NO. SAMPLES: _____ LOG NOS. 2290-2292 LIQUID _____ SOLID _____ SOIL ✓

CAUSTIC _____ ACID _____ SOLVENT _____ UNKNOWN _____ SLUDGE _____

INFORMATION FOUND: Soil Samples from Lead Melter

HAZARDOUS WASTE NOS. D008

HAZARDOUS HANDLING:

WORK PRIORITY (CRITICAL NEED)

METALS ANALYSES

	TOT	DIS				
METALS (DW NO Hg)	☐	☐	EP METALS (DW NO Hg)	☐	100K ☐	30K ☐
METALS (DW WITH Hg)	☐	☐	EP METALS (DW WITH Hg)	☐		

	TOT	DIS		TOT	DIS				
NICKEL	☐	☐	CADMIUM	☐	☐	EP NICKEL	☐	EP CADMIUM	☐
ARSENIC	☐	☐	LEAD	☐	☐	EP ARSENIC	☐	EP LEAD	☒
CHROMIUM	☐	☐	MERCURY	☐	☐	EP CHROMIUM	☐	EP MERCURY	☐
CHROM-HEX	☐	☐	SELENIUM	☐	☐	EP CHROM-HEX	☐	EP SELENIUM	☐
_____	☐	☐	_____	☐	☐	_____	☐	_____	☐

SPECIFIC ANALYSES

pH	☐	SULFIDE	☐	% SOLIDS	☐	_____	☐
FLASH PT	☐	SP.COND.	☐	TOT. PHENOLS	☐	_____	☐
CYANIDE TOT.	☐	TOC	☐	CHLORIDE	☐	_____	☐
CYANIDE AM.	☐	TOH	☐	FLUORIDE	☐	_____	☐

ORGANIC ANALYSES

PESTICIDE SCREEN (EC)	☐	GC-MS ACID EXTRACTABLES	☐
PCB	☐	GC-MS BASE/NEUTRALS	☐
VOLATILE ORGANICS (VOA)	☐		

SPECIFIC ORGANICS:

APPROVED: [signature] AUTHORIZED: M

BW/0089F

CLEAR THAN THIS NOTICE, IT IS DUE TO THE QUALITY OF THE DOCUMENT BEING FILMED."

LABORATORY REPORT

DATE: 3/5/87 PROJECT: Ga. Metals COLLECTOR: McHugh

HW LOG NO.	2290	2291	2292	2293	
DATE REC'D 5-MAR-87 LABEL I.D.	Battery Chip Area (5)	Main Yard	Battery Chips (7)	Battery Chip	
TIME REC'D 15:30					
REC'D BY: [signature]		G-2			
DEL BY: McHugh	G-1		G-3	G-4	
Harold Lanford LABORATORY MANAGER					
DATE: 3-19-87					
PARAMETERS LAB NO.	HW 2290	HW 2291	HW 2292	HW 2293	
EP Pb mg/L	9500	55,000	2300	7200	

REMARKS:

APPENDIX C

Photographic Documentation

UNSCANNABLE

MEDIA

(PHOTOGRAPHS)

APPENDIX D

PA Score Sheets

APPENDIX A

OMB Approval Number: 2050-0095
Approved for Use Through: 1/92

PA Scoresheets

Site Name: Georgia Metals
CERCLIS ID No.: GAD984306605
Street Address: 1400 Industry Road
City/State/Zip: Powder Springs, GA 30073

Investigator: Ben Rucker
Agency/Organization: GA EPD
Street Address: 205 Butler St, Floyd Tower E.
City/State/Zip: Atlanta, GA 30334
Date: September 30, 1993

INSTRUCTIONS FOR SCORESHEETS

Introduction

This scoresheets package functions as a self-contained workbook providing all of the basic tools to apply collected data and calculate a PA score. Note that a computerized scoring tool, "PA-Score," is also available from EPA (Office of Solid Waste and Emergency Response, Directive 9345.1-11). The scoresheets provide space to:

- Record information collected during the PA
- Indicate references to support information
- Select and assign values ("scores") for factors
- Calculate pathway scores
- Calculate the site score

Do not enter values or scores in shaded areas of the scoresheets. You are encouraged to write notes on the scoresheets and especially on the Criteria Lists. On scoresheets with a reference column, indicate a number corresponding to attached sources of information or pages containing rationale for hypotheses; attach to the scoresheets a numbered list of these references. Evaluate all four pathways. Complete all Criteria Lists, scoresheets, and tables. Show calculations, as appropriate. If scoresheets are photocopy reproduced, copy and submit the numbered pages (right-side pages) only.

GENERAL INFORMATION

Site Description and Operational History: Briefly describe the site and its operating history. Provide the site name, owner/operator, type of facility and operations, size of property, active or inactive status, and years of waste generation. Summarize waste treatment, storage, or disposal activities that have or may have occurred at the site; note also if these activities are documented or alleged. Identify probable source types and prior spills. Summarize highlights of previous investigations.

Probable Substances of Concern: List hazardous substances that have or may have been stored, handled, or disposed at the site, based on your knowledge of site operations. Identify the sources to which the substances may be related. Summarize any existing analytical data concerning hazardous substances detected onsite, in releases from the site, or at targets.

GENERAL INFORMATION

Site Description and Operational History:

Site Description

The Georgia Metals site occupies an area of approximately 6.4 acres to the west of Industry road. The site is bordered to the north by a Seaboard Coastal Railroad main track, and to the south by a Seaboard Coastal spur and C. P. Chemicals, Inc. The site is bordered to the west by Ajay Chemicals, Inc. The property slopes gently toward the south and Noses Creek which borders C. P. Chemicals to the south. The site has three structures on it. The largest structure, the main fabrication building, occupies the center of the site. The larger of the two smaller structures is the melting building which occupies the southern edge of the site. the smallest structure which is used for the fabrication of lead lined containers is located between the two larger buildings. The two latter buildings were enclosed by a chain link fence.

The property has a dry surface impoundment which is located southwest of the largest building. The northern half of the property is well covered with vegetation but the southern half has little ground cover and is etched with gullies. A large quantity of plastic battery casing chips are scattered on the southern corner of the property near Industry Road.

Operational History

Georgia Metals, Inc., formerly Southern Lead Burning, is an active site owned and operated by William F. Kelly.

Georgia Metals now specializes in the fabrication and repair of steel tank assemblies but for over thirty years operations have included the fabrication of a variety of lead products. These included lead sheets and pipes.

Scrap lead from a variety of sources including scrap lead piping, pieces of metallic lead and batteries was used in the facility's fabrication operations. The scrap lead was remelted in two gas heated units housed in the lead melting building adjacent to the Seacoast Railroad spur. Scrap lead was stored in drums by the southeast end of the lead melting building.

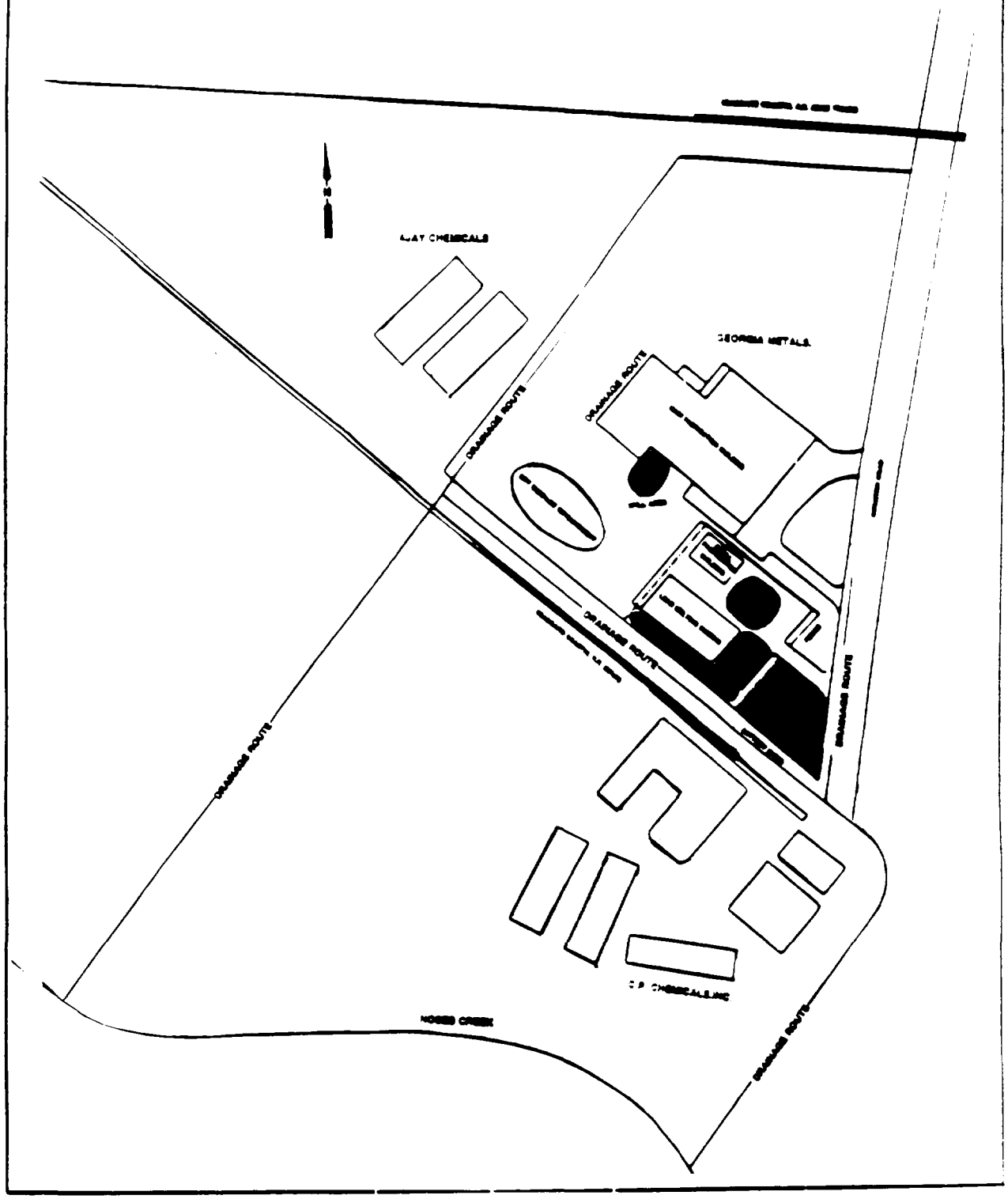
Probable Substances of Concern:
(Previous investigations, analytical data)

In response to a C. P. Chemicals Company report that elevated lead levels had been detected in a monitoring well located down gradient from Georgia Metals, the Georgia Environmental Protection Division (EPD) conducted several site inspections and collected soil samples on October 21, 1986 and March 5, 1987. Analysis of the samples showed high levels of lead. EPD requested that Georgia Metals submit a plan for further investigation and remediation of contaminated oil and groundwater on January 8, 1987. A surface soil sampling and analysis plan was submitted by Georgia Metals' consultant to EPD. The plan was revised once at the request of EPD but no further action was taken.

EPA Region IV files indicated that a former Georgia Metals employee reported that large pieces of lead and metal shavings were buried in numerous locations at the site. The former employee provided EPA with a map indicating where these burial areas were. The former employee added that he was forced to leave his job because of high blood lead levels.

GENERAL INFORMATION (continued)

Site Sketch:
(Show all pertinent features, indicate sources and closest targets, indicate north)



SOURCE EVALUATION

Source No.: 1	Source Name: Contaminated Soil	Source Waste Quantity (WQ) Calculations:
Source Description: ① Battery Chip Area ② Spill area near southwest door of main fabrication building ③ Area south of melting building with battery chips and burned material ④ Area east of small fabrication building with battery chips		Area ① 128′ x 86′ = 11008 ft² ② 100′ x 71′ = 7100 ft² ③ 29′ x 186′ = 5394 ft² ④ 57′ x 57′ = 3249 ft² 26751 ft² WQ = 26,751 / 34,000 = .79

Source No.: 2	Source Name: Scrap lead storage area (former)	Source Waste Quantity (WQ) Calculations:
Source Description: Scrap lead and lead-bearing material was stored in drums next to the melting building on its east end.		WQ = 50 drums (estimated)/10 = 5

Source No.: 3	Source Name: Dry surface impoundment	Source Waste Quantity (WQ) Calculations:
Source Description: Surface impoundment is dry. The owner/operator stated that its sole purpose was to catch runoff and control erosion.		Area 150′ x 57′ = 8550 ft² WQ = 8550/13 = 658

Site WC.
32

WASTE CHARACTERISTICS (WC) SCORES

WC, based on waste quantity, may be determined by one or all of four measures called "tiers": constituent quantity, wastestream quantity, source volume, and source area. PA Table 1a (page 5) is divided into these four tiers. The amount and detail of information available determine which tier(s) to use for each source. For each source, evaluate waste quantity by as many of the tiers as you have information to support, and select the result that gives you the highest WC score. If minimal, incomplete, or no information is available regarding waste quantity, assign a WC score of 18 (minimum).

PA Table 1a has 6 columns: column 1 indicates the quantity tier; column 2 lists source types for the four tiers; columns 3, 4, and 5 provide ranges of waste amount for sites with only one source, which correspond to WC scores at the top of the columns (18, 32, or 100); column 6 provides formulas to obtain source waste quantity (WQ) values at sites with multiple sources.

To determine WC for sites with only one source:

1. *Identify source type (see descriptions opposite page 4).*
2. *Examine all waste quantity data available.*
3. *Estimate the mass and/or dimensions of the source.*
4. *Determine which quantity tiers to use based on available source information.*
5. *Convert source measurements to appropriate units for each tier you can evaluate for the source.*
6. *Identify the range into which the total quantity falls for each tier evaluated (PA Table 1a).*
7. *Determine the highest WC score obtained for any tier (18, 32, or 100, at top of PA Table 1a columns 3, 4, and 5, respectively).*
8. *Use this WC score for all pathways.* *

To determine WC for sites with multiple sources:

1. *Identify each source type (see descriptions opposite page 4).*
2. *Examine all waste quantity data available for each source.*
3. *Estimate the mass and/or dimensions of each source.*
4. *Determine which quantity tiers to use for each source based on the available information.*
5. *Convert source measurements to appropriate units for each tier you can evaluate for each source.*
6. *For each source, use the formulas in column 6 of PA Table 1a to determine the WQ value for each tier that can be evaluated. The highest WQ value obtained for any tier is the WQ value for the source.*
7. *Sum the WQ values for all sources to get the site WQ total.*
8. *Use the site WQ total from step 7 to assign the WC score from PA Table 1b.*
9. *Use this WC score for all pathways.* *

---

* The WC score is considered in all four pathways. However, if a primary target is identified for the ground water, surface water, or air migration pathway, assign the determined WC or a score of 32, whichever is greater, as the WC score for that pathway.

PA TABLE 1: WASTE CHARACTERISTICS (WC) SCORES

PA Table 1a: WC Scores for Single Source Sites and Formulas for Multiple Source Sites

TIER	SOURCE TYPE	SINGLE SOURCE SITES (assigned WC scores)			MULTIPLE SOURCE SITES
		WC = 18	*WC = 32*	*WC = 100*	Formula for Assigning Source WQ Values
CONSTITUENT	N/A	≤100 lb	>100 to 10,000 lb	>10,000 lb	*lb ÷ 1*
HAZARDOUSNESS	N/A	≤500,000 lb	>500,000 to 50 million lb	>50 million lb	*lb ÷ 5,000*
VOLUME	Landfill	≤6.75 million ft³ ≤250,000 yd³	>6.75 million to 675 million ft³ >250,000 to 25 million yd³	>675 million ft³ >25 million yd³	*ft³ ÷ 67,500* *yd³ ÷ 2,500*
	Surface impoundment	≤6,750 ft³ ≤250 yd³	>6,750 to 675,000 ft³ >250 to 25,000 yd³	>675,000 ft³ >25,000 yd³	*ft³ ÷ 67.5* *yd³ ÷ 2.5*
	Drums	≤1,000 drums	>1,000 to 100,000 drums	>100,000 drums	*drums ÷ 10*
	Tanks and non-drum containers	≤50,000 gallons	>50,000 to 5 million gallons	>5 million gallons	*gallons ÷ 500*
	Contaminated soil	≤6.75 million ft³ ≤250,000 yd³	>6.75 million to 675 million ft³ >250,000 to 25 million yd³	>675 million ft³ >25 million yd³	*ft³ ÷ 67,500* *yd³ ÷ 2,500*
	Pile	≤6,750 ft³ ≤250 yd³	>6,750 to 675,000 ft³ >250 to 25,000 yd³	>675,000 ft³ >25,000 yd³	*ft³ ÷ 67.5* *yd³ ÷ 2.5*
	Other	≤6,750 ft³ ≤250 yd³	>6,750 to 675,000 ft³ >250 to 25,000 yd³	>675,000 ft³ >25,000 yd³	*ft³ ÷ 67.5* *yd³ ÷ 2.5*
AREA	Landfill	≤340,000 ft² ≤7.8 acres	>340,000 to 34 million ft² >7.8 to 780 acres	>34 million ft² >780 acres	*ft² ÷ 3,400* *acres ÷ 0.078*
	Surface impoundment	≤1,300 ft² ≤0.029 acres	>1,300 to 130,000 ft² >0.029 to 2.9 acres	>130,000 ft² >2.9 acres	*ft² ÷ 13* *acres ÷ 0.00029*
	Contaminated soil	≤3.4 million ft² ≤78 acres	>3.4 million to 340 million ft² >78 to 7,800 acres	>340 million ft² >7,800 acres	*ft² ÷ 34,000* *acres ÷ 0.78*
	Pile*	≤1,300 ft² ≤0.029 acres	>1,300 to 130,000 ft² >0.029 to 2.9 acres	>130,000 ft² >2.9 acres	*ft² ÷ 13* *acres ÷ 0.00029*
	Land treatment	≤27,000 ft² ≤0.62 acres	>27,000 to 2.7 million ft² >0.62 to 62 acres	>2.7 million ft² >62 acres	*ft² ÷ 270* *acres ÷ 0.0062*

1 ton = 2,000 lb = 1 yd³ = 4 drums = 200 gallons

* Use area of land surface under pile, not surface area of pile.

PA Table 1b: WC Scores for Multiple Source Sites

WQ Total	*WC Score*
>0 to 100	18
>100 to 10,000	32
>10,000	100

GROUND WATER PATHWAY

Ground Water Use Description: Provide information on ground water use in the vicinity. Present the general stratigraphy, aquifers used, and distribution of private and municipal wells.

Calculations for Drinking Water Populations Served by Ground Water: Provide populations from private wells and municipal supply systems in each distance category. Show apportionment calculations for blended supply systems.

GROUND WATER PATHWAY
GROUND WATER USE DESCRIPTION

Describe Ground Water Use Within 4-miles of the Site:
(Describe stratigraphy, information on aquifers, municipal and/or private wells)

Cobb County is in the Central Uplands District of the Piedmont Province in the Appalachian Highlands Division. This District consists of a series of low, linear ridges, 1300-1500 feet above sea level, and separated by broad, open valleys. Streams flowing through this district are generally transverse to the structure and occupy valleys 150-200 feet below the ridge crests.

Most of the area is covered by saprolite, a clayey residual deposit produced by the weathering of the rocks, and by soils derived from this material. Depending on the properties of the parent rock and the topographic setting, the saprolite in this area can range from 0 to 200 feet. On uplands where slope is less than 15 percent, saprolite generally is thicker than in areas having steeper slopes.

Groundwater in this area occupies joints, fractures and other secondary openings in the bedrock and pore spaces of the overlying soil and saprolite (regolith). The largest volume of water is stored in the regolith. Water recharges the underground openings by seeping through the regolith or by flowing directly into openings in exposed rock. Unweathered and unfractured bedrock has very low porosity. Thus, the quantity of water that a rock unit can store and transmit to wells is determined by the number, capacity and interconnection of the secondary openings.

Well yields in the area range from 20 to 275 gallons per minute, averaging 56 gallons per minute. Water quality is generally good. In the nearest well where data is available dissolved solids are 139 mg/l and hardness is 73.

Depth to groundwater in the vicinity of the site is 5.23 feet. There is a 500 foot deep well on-site which is leased to Ajay Chemicals to provide them with process water. This well yields approximately 40 gallons per minute.

Calculations for Drinking Water Populations Served by Ground Water:

DISTANCE FROM SITE (MILES)	POPULATION
0 TO 1/4	2
1/4 TO 1/2	7
1/2 TO 1	31
1 TO 2	1339 *
2 TO 3	294
3 TO 4	316

DISTRIBUTION AND POPULATION SERVED BY
GROUND WATER WITHIN A FOUR MILE RADIUS OF THE SITE

* this number includes the estimated population served by the City of Powder Springs well which is located approximately 1.7 miles west-northwest of the site (based on 435 households and 2.73 people per household)

GROUND WATER PATHWAY CRITERIA LIST

This "Criteria List" helps guide the process of developing hypotheses concerning the occurrence of a suspected release and the exposure of specific targets to a hazardous substance. The check-boxes record your professional judgment in evaluating these factors. Answers to all of the listed questions may not be available during the PA. Also, the list is not all-inclusive; if other criteria help shape your hypotheses, list them at the bottom of the page or attach an additional page.

The "Suspected Release" section identifies several site, source, and pathway conditions that could provide insight as to whether a release from the site is likely to have occurred. If a release is suspected, use the "Primary Targets" section to evaluate conditions that may help identify targets likely to be exposed to a hazardous substance. Record responses for the well that you feel has the highest probability of being exposed to a hazardous substance. You may use this section of the chart more than once, depending on the number of targets you feel may be considered "primary."

Check the boxes to indicate a "yes," "no," or "unknown" answer to each question. If you check the "Suspected Release" box as "yes," make sure you assign a Likelihood of Release value of 550 for the pathway.

GROUND WATER PATHWAY CRITERIA LIST

SUSPECTED RELEASE

Yes	No	Unk	
☑	☐	☐	Are sources poorly contained?
☑	☐	☐	Is the source a type likely to contribute to ground water contamination (e.g., wet lagoon)?
☐	☐	☑	Is waste quantity particularly large?
☑	☐	☐	Is precipitation heavy?
☐	☐	☑	Is the infiltration rate high?
☐	☑		Is the site located in an area of karst terrain?
☐	☐	☑	Is the subsurface highly permeable or conductive?
☐	☐	☑	Is drinking water drawn from a shallow aquifer?
☐	☐	☑	Are suspected contaminants highly mobile in ground water?
☑	☐	☐	Does analytical or circumstantial evidence suggest ground water contamination?
☐	☐		Other criteria? _____
☑	☐		**SUSPECTED RELEASE?**

PRIMARY TARGETS

Yes	No	Unk	
☑	☐	☐	Is any drinking water well nearby?
☐	☐	☑	Has any nearby drinking water well been closed?
☐	☐	☑	Has any nearby drinking water user reported foul-tasting or foul-smelling water?
☐	☐	☑	Does any nearby well have a large drawdown or high production rate?
☐	☐	☑	Is any drinking water well located between the site and other wells that are suspected to be exposed to a hazardous substance?
☑	☐	☐	Does analytical or circumstantial evidence suggest contamination at a drinking water well?
☑	☐	☐	Does any drinking water well warrant sampling?
☐	☐		Other criteria? _____
☑	☐		**PRIMARY TARGET(S) IDENTIFIED?**

Summarize the rationale for Suspected Release (attach an additional page if necessary):

A release is suspected because lead contamination was reported from a downgradient monitoring well located at neighboring C.P. Chemicals.

Summarize the rationale for Primary Targets (attach an

Because lead contamination has been reported from a neighboring, down gradient monitoring well, it is reasonable to assume that ground water used for drinking water near the site is also contaminated with lead.

GROUND WATER PATHWAY SCORESHEET

Pathway Characteristics

Answer the questions at the top of the page. Refer to the Ground Water Pathway Criteria List (page 7) to hypothesize whether you suspect that a hazardous substance associated with the site has been released to ground water. Record depth to aquifer (in feet): the difference between the deepest occurrence of a hazardous substance and the depth of the top of the shallowest aquifer at (or as near as possible) to the site. Note whether the site is in karst terrain (characterized by abrupt ridges, sink holes, caverns, springs, disappearing streams). Record the distance (in feet) from any source to the nearest well used for drinking water.

Likelihood of Release (LR)

1. **Suspected Release:** Hypothesize based on professional judgment guided by the Ground Water Pathway Criteria List (page 7). If you suspect a release to ground water, use only Column A for this pathway and do not evaluate factor 2.

2. **No Suspected Release:** If you do not suspect a release, determine score based on depth to aquifer or whether the site is in an area of karst terrain. If you do not suspect a release to ground water, use only Column B to score this pathway.

Targets (T)

This factor category evaluates the threat to populations obtaining drinking water from ground water. To apportion populations served by blended drinking water supply systems, determine the percentage of population served by each well based on its production.

3. **Primary Target Population:** Evaluate populations served by all drinking water wells that you suspect have been exposed to a hazardous substance released from the site. Use professional judgment guided by the Ground Water Pathway Criteria List (page 7) to make this determination. In the space provided, enter the population served by any wells you suspect have been exposed to a hazardous substance from the site. If only the number of residences is known, use the average county residents per household (rounded up to the next integer) to determine population served. Multiply the population by 10 to determine the Primary Target Population score. Note that if you do not suspect a release, there can be no primary target population.

4. **Secondary Target Population:** Evaluate populations served by all drinking water wells within 4 miles that you do not suspect have been exposed to a hazardous substance. Use PA Table 2a or 2b (for wells drawing from non-karst and karst aquifers, respectfully) (page 9). If only the number of residences is known, use the average county residents per household (rounded to the nearest integer) to determine population served. Circle the assigned value for the population in each distance category and enter it in the column on the far-right side of the table. Sum the far-right column and enter the total as the Secondary Target Population factor score.

5. **Nearest Well** represents the threat posed to the drinking water well that is most likely to be exposed to a hazardous substance. If you have identified a primary target population, enter 50. Otherwise, assign the score from PA Table 2a or 2b for the closest distance category with a drinking water well population.

6. **Wellhead Protection Area (WHPA):** WHPAs are special areas designated by States for protection under Section 1428 of the Safe Drinking Water Act. Local/State and EPA Regional water officials can provide information regarding the location of WHPAs.

7. **Resources:** A score of 5 can generally be assigned as a default measure. Assign zero only if ground water within 4 miles has no resource use.

Sum the target scores in Column A (Suspected Release) or Column B (No Suspected Release).

Waste Characteristics (WC)

8. **Waste Characteristics:** Score is assigned from page 4. However, if you have identified any primary target for ground water, assign either the score calculated on page 4 or a score of 32, whichever is greater.

Ground Water Pathway Score: Multiply the scores for LR, T, and WC. Divide the product by 82,500. Round the result to the nearest integer. If the result is greater than 100, assign 100.

GROUND WATER PATHWAY SCORESHEET

Pathway Characteristics		
Do you suspect a release (see Ground Water Pathway Criteria List, page 71)?	Yes ✓	No
Is the site located in karst terrain?	Yes	No ✓
Depth to aquifer:	5.2 ft	
Distance to the nearest drinking water well:	~ 1320 ft	

	A Suspected Release	B No Suspected Release	References
LIKELIHOOD OF RELEASE			
1. SUSPECTED RELEASE: If you suspect a release to ground water (see page 71), assign a score of 550. Use only column A for this pathway.	550		
2. NO SUSPECTED RELEASE: If you do not suspect a release to ground water, and the site is in karst terrain or the depth to aquifer is 70 feet or less, assign a score of 500; otherwise, assign a score of 340. Use only column B for this pathway.			
LR =	550		
TARGETS			
3. PRIMARY TARGET POPULATION: Determine the number of people served by drinking water wells that you suspect have been exposed to a hazardous substance from the site (see Ground Water Pathway Criteria List, page 71). 9 people x 10 =	90		
4. SECONDARY TARGET POPULATION: Determine the number of people served by drinking water wells that you do NOT suspect have been exposed to a hazardous substance from the site, and assign the total population score from PA Table 2. Are any wells part of a blended system? Yes ___ No ✓ If yes, attach a page to show apportionment calculations.	37		
5. NEAREST WELL: If you have identified a primary target population for ground water, assign a score of 50; otherwise, assign the Nearest Well score from PA Table 2. If no drinking water wells exist within 4 miles, assign a score of zero.	50		
6. WELLHEAD PROTECTION AREA (WHPA): If any source lies within or above a WHPA, or if you have identified any primary target well within a WHPA, assign a score of 20; assign 5 if neither condition holds but a WHPA is present within 4 miles; otherwise assign zero.	5		
7. RESOURCES	5		
T =	187		
WASTE CHARACTERISTICS			
8. A. If you have identified any primary target for ground water, assign the waste characteristics score calculated on page 4, or a score of 32, whichever is GREATER; do not evaluate part B of this factor.	32		
B. If you have NOT identified any primary target for ground water, assign the waste characteristics score calculated on page 4			
WC =	32		

GROUND WATER PATHWAY SCORE: $\frac{LR \times T \times WC}{82,500}$ (subject to a maximum of 100) **39.89**

PA TABLE 2: VALUES FOR SECONDARY GROUND WATER TARGET POPULATIONS

PA Table 2a: Non-Karst Aquifers

Distance from Site	Population	Nearest Well (choose highest)	Population Served by Wells Within Distance Category: 1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	Greater than 100,000	Population Value
0 to ¼ mile	____	20	1	2	5	16	52	163	521	1,633	5,214	16,325	____
> ¼ to ½ mile	____	18	1	1	3	10	32	101	323	1,012	3,233	10,121	____
> ½ to 1 mile	31	9	1	1	(2)	5	17	52	167	522	1,668	5,224	2
> 1 to 2 miles	1339	5	1	1	1	3	9	(29)	94	294	939	2,938	29
> 2 to 3 miles	294	3	1	1	1	(2)	7	21	68	212	678	2,122	2
> 3 to 4 miles	316	2	1	1	1	1	(4)	13	42	131	417	1,306	4

Nearest Well = 20

Score = 37

PA Table 2b: Karst Aquifers

Distance from Site	Population	Nearest Well (use 20 for karst)	Population Served by Wells Within Distance Category: 1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	Greater than 100,000	Population Value
0 to ¼ mile	____	20	1	2	5	16	52	163	521	1,633	5,214	16,325	____
> ¼ to ½ mile	____	20	1	1	3	10	32	101	323	1,012	3,233	10,121	____
> ½ to 1 mile	____	20	1	1	3	8	26	82	261	816	2,607	8,162	____
> 1 to 2 miles	____	20	1	1	3	8	26	82	261	816	2,607	8,162	____
> 2 to 3 miles	____	20	1	1	3	8	26	82	261	816	2,607	8,162	____
> 3 to 4 miles	____	20	1	1	3	8	26	82	261	816	2,607	8,162	____

Nearest Well = ____

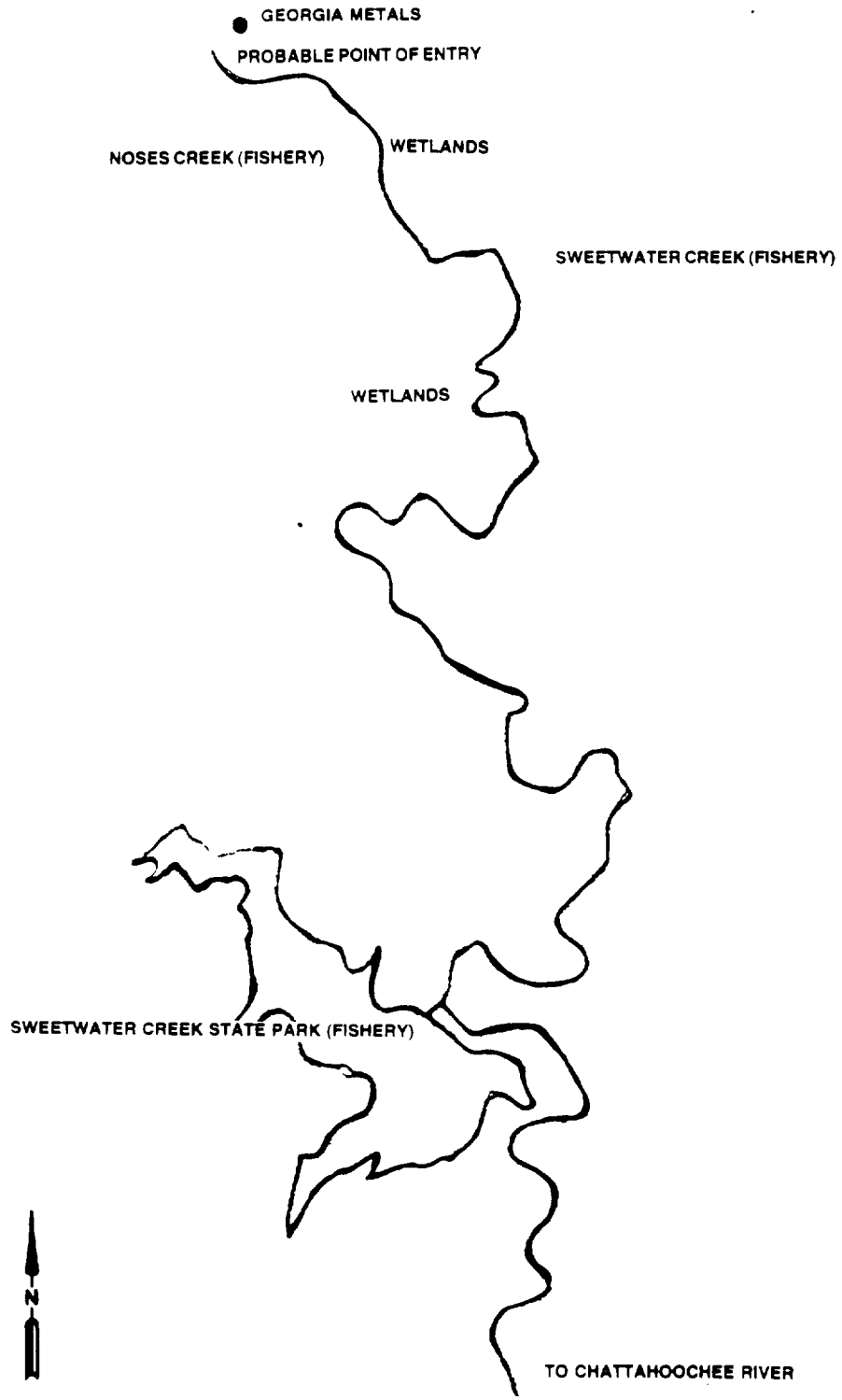
Score = ____

SURFACE WATER PATHWAY

Migration Route Sketch: Sketch the surface water migration pathway (freehand is acceptable) illustrating the drainage route and identifying water bodies, probable point of entry, flows, and targets.

SURFACE WATER PATHWAY
MIGRATION ROUTE SKETCH

Suface Water Migration Route Sketch:
(include runoff route, probable point of entry, 15-mile target distance limit, intakes, fisheries, and sensitive environments)



SURFACE WATER PATHWAY CRITERIA LIST

This "Criteria List" helps guide the process of developing hypotheses concerning the occurrence of a suspected release and the exposure of specific targets to a hazardous substance. The check-boxes record your professional judgment in evaluating these factors. Answers to all of the listed questions may not be available during the PA. Also, the list is not all-inclusive; if other criteria help shape your hypotheses, list them at the bottom of the page or attach an additional page.

The "Suspected Release" section identifies several site, source, and pathway conditions that could provide insight as to whether a release from the site is likely to have occurred. If a release is suspected, use the "Primary Targets" section to guide you through evaluation of some conditions that may help identify targets likely to be exposed to a hazardous substance. Record responses for the target that you feel has the highest probability of being exposed to a hazardous substance. You may use this section of the chart more than once, depending on the number of targets you feel may be considered "primary."

Check the boxes to indicate a "yes," "no," or "unknown" answer to each question. If you check the "Suspected Release" box as "yes," make sure you assign a Likelihood of Release value of 550 for the pathway.

If the distance to surface water is greater than 2 miles, do not evaluate the surface water migration pathway. Document the source of information in the text boxes below the surface water criteria list.

SURFACE WATER PATHWAY CRITERIA LIST

SUSPECTED RELEASE

Yes	No	Unk	
☑	☐	☐	Is surface water nearby?
☐	☐	☑	Is waste quantity particularly large?
☑	☐	☐	Is the drainage area large?
☑	☐	☐	Is rainfall heavy?
☐	☐	☑	Is the infiltration rate low?
☑	☐	☐	Are sources poorly contained or prone to runoff or flooding?
☑	☐	☐	Is a runoff route well defined (e.g., ditch or channel leading to surface water)?
☑	☐	☐	Is vegetation stressed along the probable run-off route?
☑	☐	☐	Are sediments or water unnaturally discolored?
☐	☑	☐	Is wildlife unnaturally absent?
☐	☑	☐	Has deposition of waste into surface water been observed?
☑	☐	☐	Is ground water discharge to surface water likely?
☐	☐	☐	Does analytical or circumstantial evidence suggest surface water contamination?
☐	☐		Other criteria? _____
☑	☐		**SUSPECTED RELEASE?**

PRIMARY TARGETS

Yes	No	Unk	
☑	☐	☐	Is any target nearby? If yes: ☐ Drinking water intake ☑ Fishery ☑ Sensitive environment
☐	☐	☑	Has any intake, fishery, or recreational area been closed?
☑	☐	☐	Does analytical or circumstantial evidence suggest surface water contamination at or downstream of a target?
☑	☐	☐	Does any target warrant sampling? If yes: ☐ Drinking water intake ☑ Fishery ☑ Sensitive environment
☐	☐		Other criteria? _____
☐	☑		**PRIMARY INTAKE(S) IDENTIFIED?**
☑	☐		**PRIMARY FISHERY(IES) IDENTIFIED?**
☑	☐		**PRIMARY SENSITIVE ENVIRONMENT(S) IDENTIFIED?**

Summarize the rationale for Suspected Release (attach an additional page if necessary):

The short distance from sources, well defined drainage routes, poorly contained sources that are prone to runoff and the lack of adequate ground cover all suggest that a release is probable.

Summarize the rationale for Primary Targets (attach an additional page if necessary):

Proximity

SURFACE WATER PATHWAY LIKELIHOOD OF RELEASE AND DRINKING WATER THREAT SCORESHEET

Pathway Characteristics

The surface water pathway includes three threats: Drinking Water Threat, Human Food Chain Threat, and Environmental Threat. Answer the questions at the top of the page. Refer to the Surface Water Pathway Criteria List (page 11) to hypothesize whether you suspect that a hazardous substance associated with the site has been released to surface water. Record the distance to surface water (the shortest overland drainage distance from a source to a surface water body). Record the flood frequency at the site (e.g., 100-yr, 200-yr). If the site is located in more than one floodplain, use the most frequent flooding event. Identify surface water use(s) along the surface water migration path and their distance(s) from the site.

Likelihood of Release (LR)

1. **Suspected Release:** Hypothesize based on professional judgment guided by the Surface Water Pathway Criteria List (page 11). If you suspect a release to surface water, use only Column A for this pathway and do not evaluate factor 2.

2. **No Suspected Release:** If you do not suspect a release, determine score based on the shortest overland drainage distance from a source to a surface water body. If distance to surface water is 2,500 feet or less, assign a score of 500. If distance to surface water is greater than 2,500 feet, determine score based on flood frequency. If you do not suspect a release to surface water, use only Column B to score this pathway.

Drinking Water Threat Targets (T)

3. List all drinking water intakes on downstream surface water bodies along the surface water migration path. Record the intake name, the type of water body on which the intake is located, the flow of the water body, and the number of people served by the intake (apportion the population if part of a blended system).

4. **Primary Target Population:** Evaluate populations served by all drinking water intakes that you suspect have been exposed to a hazardous substance released from the site. Use professional judgment guided by the Surface Water Pathway Criteria List (page 11) to make this determination. In the space provided, enter the population served by all intakes you suspect have been exposed to a hazardous substance from the site. If only the number of residences is known, use the average county residents per household (rounded up to the next integer) to determine population served. Multiply by 10 to determine the Primary Target Population score. Remember, if you do not suspect a release, there can be no primary target population.

5. **Secondary Target Population:** Evaluate populations served by all drinking water intakes within the target distance limit that you do not suspect have been exposed to a hazardous substance. Use PA Table 3 (page 13) and enter the population served by intakes for each flow category. If only the number of residences is known, use the average county residents per household (rounded to the nearest integer) to determine population served. Circle the assigned value for the population in each flow category, and enter it in the column on the far-right side of the table. Sum the far-right column and enter the total as the Secondary Target Population factor score.

Gauging station data for many surface water bodies are available from USGS or other sources. In the absence of gauging station data, estimate flow using the list of surface water body types and associated flow categories in PA Table 4 (page 13). The flow for lakes is determined by the sum of flows of streams entering or leaving the lake. Note that the flow category "mixing zone of quiet flowing rivers" is limited to 3 miles from the probable point of entry.

6. **Nearest Intake** represents the threat posed to the drinking water intake that is most likely to be exposed to a hazardous substance. If you have identified a primary target population, enter 50. Otherwise, assign the score from PA Table 3 (page 13) for the lowest-flowing water body on which there is an intake.

7. **Resources:** A score of 5 can generally be assigned as a default measure. Assign zero only if surface water within the target distance limit has no resource use.

Sum the target scores in Column A (Suspected Release) or Column B (No Suspected Release).

SURFACE WATER PATHWAY
LIKELIHOOD OF RELEASE AND DRINKING WATER THREAT SCORESHEET

Pathway Characteristics

Do you suspect a release (see Surface Water Pathway Criteria List, page 11)? Yes ✓ No ___
Distance to surface water: 750 ft
Flood frequency: ___ yrs
What is the downstream distance to the nearest drinking water intake? ___ miles
Nearest fishery? .14 miles Nearest sensitive environment? .14 miles

	A Suspected Release	B No Suspected Release	References
LIKELIHOOD OF RELEASE			
1. SUSPECTED RELEASE: If you suspect a release to surface water (see page 11), assign a score of 550. Use only column A for this pathway.	550		
2. NO SUSPECTED RELEASE: If you do not suspect a release to surface water, use the table below to assign a score based on distance to surface water and flood frequency. Use only column B for this pathway.			
LR =	550		

Distance to surface water ≤ 2,500 feet	500
Distance to surface water > 2,500 feet, and	
Site in annual or 10-year floodplain	500
Site in 100-year floodplain	400
Site in 500-year floodplain	300
Site outside 500-year floodplain	100

	A	B	References
DRINKING WATER THREAT TARGETS			
3. Record the water body type, flow (if applicable), and number of people served by each drinking water intake within the target distance limit. If there is no drinking water intake within the target distance limit, factors 4, 5, and 6 each receive zero scores.			
4. PRIMARY TARGET POPULATION: If you suspect any drinking water intake listed above has been exposed to a hazardous substance from the site (see Surface Water Pathway Criteria List, page 11), list the intake name(s) and calculate the factor score based on the total population served. ___ people x 10 =	0		
5. SECONDARY TARGET POPULATION: Determine the number of people served by drinking water intakes that you do NOT suspect have been exposed to a hazardous substance from the site, and assign the total population score from PA Table 3. Are any intakes part of a blended system? Yes ___ No ___ If yes, attach a page to show apportionment calculations.	0		
6. NEAREST INTAKE: If you have identified a primary target population for the drinking water threat (factor 4), assign a score of 50; otherwise, assign the Nearest Intake score from PA Table 3. If no drinking water intake exists within the target distance limit, assign a score of zero.	0		
7. RESOURCES	5		
T =	5		

Intake Name	Water Body Type	Flow	People Served
		___ cfs	
		___ cfs	
		___ cfs	

PA TABLE 3: VALUES FOR SECONDARY SURFACE WATER TARGET POPULATIONS

Surface Water Body Flow (see PA Table 4)	Population	Nearest Intake (phase (highest))	Population Served by Intakes Within Flow Category: 1 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	Greater than 1,000,000	Population Value
< 10 cfs	_____	20	2	5	16	52	163	521	1,633	5,214	16,326	52,136	163,246	_____
10 to 100 cfs	_____	2	1	1	2	5	16	52	163	521	1,633	5,214	16,326	_____
> 100 to 1,000 cfs	_____	1	0	0	1	1	2	5	16	52	163	521	1,633	_____
> 1,000 to 10,000 cfs	_____	0	0	0	0	0	1	1	2	5	16	52	163	_____
> 10,000 cfs or Great Lakes	_____	0	0	0	0	0	0	0	1	1	2	5	16	_____
3-mile Mixing Zone	_____	10	1	3	8	26	82	261	816	2,607	8,162	26,068	81,663	_____

Nearest Intake = _____ Score = _____

No intakes identified

PA TABLE 4: SURFACE WATER TYPE / FLOW CHARACTERISTICS WITH DILUTION WEIGHTS FOR SECONDARY SURFACE WATER SENSITIVE ENVIRONMENTS

Type of Surface Water Body: Water Body Type	OR	Flow	Dilution Weight
minimal stream		< 10 cfs	1
small to moderate stream		10 to 100 cfs	0.1
moderate to large stream		> 100 to 1,000 cfs	N/A
large stream to river		> 1,000 to 10,000 cfs	N/A
large river		> 10,000 cfs	N/A
3-mile mixing zone of quiet flowing streams or rivers		10 cfs or greater	N/A
coastal tidal water (harbors, sounds, bays, etc.), ocean, or Great Lakes		N/A	N/A

SURFACE WATER PATHWAY HUMAN FOOD CHAIN THREAT SCORESHEET

Likelihood of Release (LR)

LR is the same for all surface water pathway threats. Enter LR score from page 12.

Human Food Chain Threat Targets (T)

8. The only human food chain targets are fisheries. A fishery is an area of a surface water body from which food chain organisms are taken or could be taken for human consumption on a subsistence, sporting, or commercial basis. Food chain organisms include fish, shellfish, crustaceans, amphibians, and amphibious reptiles. Fisheries are delineated by changes in surface water body type (i.e., streams and rivers, lakes, coastal tidal waters, and oceans/Great Lakes) and whenever the flow characteristics of a stream or river change.

In the space provided, identify all fisheries within the target distance limit. Indicate the surface water body type and flow for each fishery. Gauging station flow data are available for many surface water bodies from USGS or other sources. In the absence of gauging station data, estimate flow using the list of surface water body types and associated flow categories in PA Table 4 (page 13). The flow for lakes is determined by the sum of flows of streams entering or leaving the lake. Note that, if there are no fisheries within the target distance limit, the Human Food Chain Threat Targets score is zero.

9. Primary fisheries are any fisheries within the target distance limit that you suspect have been exposed to a hazardous substance released from the site. Use professional judgment guided by the Surface Water Pathway Criteria List (page 11) to make this determination. If you identify any primary fisheries, list them in the space provided, enter 300 as the Primary Fisheries factor score, and do not evaluate Secondary Fisheries. Note that if you do not suspect a release, there can be no primary fisheries.

10. Secondary fisheries are fisheries that you do not suspect have been exposed to a hazardous substance. Evaluate this factor only if fisheries are present within the target distance limit, but none is considered a primary fishery.

A. If you suspect a release to surface water and have identified a secondary fishery but no primary fishery, assign a score of 210.

B. If you do not suspect a release, evaluate this factor based on flow. In the absence of gauging station flow data, estimate flow using the list of surface water body types and associated flow categories in PA Table 4 (page 13). Assign a Secondary Fisheries score from the table on the scoresheet using the lowest flow at any fishery within the target distance limit. (Dilution weight multiplier does not apply to PA evaluation of this factor.)

Sum the target scores in Column A (Suspected Release) or Column B (No Suspected Release).

SURFACE WATER PATHWAY (continued)
HUMAN FOOD CHAIN THREAT SCORESHEET

	A Suspected Release	B No Suspected Release	References
LIKELIHOOD OF RELEASE			
Enter Surface Water Likelihood of Release score from page 12. LR =	550		

HUMAN FOOD CHAIN THREAT TARGETS

8. Record the water body type and flow (if applicable) for each fishery within the target distance limit. If there is no fishery within the target distance limit, assign a Targets score of 0 at the bottom of the page.

Fishery Name	Water Body Type	Flow
Noses Creek	Small Stream	10 to 100 cfs
Sweetwater Creek	Moderate Stream	100 to 1000 cfs
Sweetwater Creek State		cfs
Park-Sparks Reservoir	Lake	cfs
		cfs

9. **PRIMARY FISHERIES:** If you suspect any fishery listed above has been exposed to a hazardous substance from the site (see Surface Water Criteria List, page 11), assign a score of 300 and do not evaluate Factor 10. List the primary fisheries:
Noses Creek

300

10. **SECONDARY FISHERIES**

A. If you suspect a release to surface water and have identified a secondary fishery but no primary fishery, assign a score of 210.

B. If you do not suspect a release, assign a Secondary Fisheries score from the table below using the lowest flow at any fishery within the target distance limit.

Lowest Flow	Secondary Fisheries Score
< 10 cfs	210
10 to 100 cfs	30
> 100 cfs, coastal tidal waters, oceans, or Great Lakes	12

T = 300

SURFACE WATER PATHWAY ENVIRONMENTAL THREAT SCORESHEET

Likelihood of Release (LR)

LR is the same for all surface water pathway threats. Enter LR score from page 12.

Environmental Threat Targets (T)

11. PA Table 5 (page 16) lists sensitive environments for the Surface Water Pathway Environmental Threat. In the space provided, identify all sensitive environments located within the target distance limit. Indicate the surface water body type and flow at each sensitive environment. Gauging station flow data for many surface water bodies are available from USGS or other sources. In the absence of gauging station data, estimate flow using the list of surface water body types and associated flow categories in PA Table 4 (page 13). The flow for lakes is determined by the sum of flows of streams entering or leaving the lake. Note that if there are no sensitive environments within the target distance limit, the Environmental Threat Targets score is zero.

12. Primary sensitive environments are surface water sensitive environments within the target distance limit that you suspect have been exposed to a hazardous substance released from the site. Use professional judgment guided by the Surface Water Pathway Criteria List (page 11) to make this determination. If you identify any primary sensitive environments, list them in the space provided, enter 300 as the Primary Sensitive Environments factor score, and do not evaluate Secondary Sensitive Environments. Note that if you do not suspect a release, there can be no primary sensitive environments.

13. Secondary sensitive environments are surface water sensitive environments that you do not suspect have been exposed to a hazardous substance. Evaluate this factor only if surface water sensitive environments are present within the target distance limit, but none is considered a primary sensitive environment. Evaluate secondary sensitive environments based on flow.

- In the table provided, list all secondary sensitive environments on surface water bodies with flow of 100 cfs or less.

  1) Use PA Table 4 (page 13) to determine the appropriate dilution weight for each.

  2) Use PA Tables 5 and 6 (page 16) to determine the appropriate value for each sensitive environment type and for wetlands frontage.

  3) For a sensitive environment that falls into more than one of the categories in PA Table 5, sum the values for each type to determine the environment value (e.g., a wetland with 1.5 miles frontage (value of 50) that is also a critical habitat for a Federally designated endangered species (value of 100) would receive a total value of 150).

  4) For each sensitive environment, multiply the dilution weight by the environment type (or length of wetlands) value and record the product in the far-right column.

  5) Sum the values in the far-right column and enter the total as the Secondary Sensitive Environments score. Do not evaluate part B of this factor.

- If all secondary sensitive environments are on surface water bodies with flows greater than 100 cfs, assign 10 as the Secondary Sensitive Environments score.

Sum the target scores in Column A (Suspected Release) or Column B (No Suspected Release).

SURFACE WATER PATHWAY (continued)
ENVIRONMENTAL THREAT SCORESHEET

LIKELIHOOD OF RELEASE		A Suspected Release	B No Suspected Release	References
Enter Surface Water Likelihood of Release score from page 12.	LR =	550		

ENVIRONMENTAL THREAT TARGETS

11. Record the water body type and flow (if applicable) for each surface water sensitive environment within the target distance limit (see PA Tables 4 and 5). If there is no sensitive environment within the target distance limit, assign a Targets score of 0 at the bottom of the page.

Environment Name	Water Body Type	Flow
Wetlands Noses Creek	small stream	____ cfs
Wetlands Sweetwater Creek	moderate stream	____ cfs
Sweetwater Creek State	lake	____ cfs
Park		____ cfs
		____ cfs

12. PRIMARY SENSITIVE ENVIRONMENTS: If you suspect any sensitive environment listed above has been exposed to a hazardous substance from the site (see Surface Water Criteria List, page 11), assign a score of 300 and do not evaluate factor 13. List the primary sensitive environments:
Wetlands - Noses Creek, Wetlands - Sweetwater Creek
_____, _____.

300

13. SECONDARY SENSITIVE ENVIRONMENTS: If sensitive environments are present, but none is a primary sensitive environment, evaluate Secondary Sensitive Environments based on flow.

A. For secondary sensitive environments on surface water bodies with flows of 100 cfs or less, assign scores as follows, and do not evaluate part B of this factor:

Flow	Dilution Weight (PA Table 4)	Environment Type and Value (PA Tables 5 and 6)	Total
cfs	x	=	
cfs	x	=	
cfs	x	=	
cfs	x	=	
cfs	x	=	

Sum =

B. If all secondary sensitive environments are located on surface water bodies with flows > 100 cfs, assign a score of 10.

T = 300

PA TABLE 5: SURFACE WATER AND AIR PATHWAY SENSITIVE ENVIRONMENTS VALUES

Sensitive Environment	*Assigned Value*
Critical habitat for Federally designated endangered or threatened species Marine Sanctuary National Park Designated Federal Wilderness Area Ecologically important areas identified under the Coastal Zone Wilderness Act Sensitive Areas identified under the National Estuary Program or Near Coastal Water Program of the Clean Water Act Critical Areas identified under the Clean Lakes Program of the Clean Water Act (subareas in lakes or entire small lakes) National Monument (air pathway only) National Seashore Recreation Area National Lakeshore Recreation Area	100
Habitat known to be used by Federally designated or proposed endangered or threatened species National Preserve National or State Wildlife Refuge Unit of Coastal Barrier Resources System Federal land designated for the protection of natural ecosystems Administratively Proposed Federal Wilderness Area Spawning areas critical for the maintenance of fish/shellfish species within a river system, bay, or estuary Migratory pathways and feeding areas critical for the maintenance of anadromous fish species in a river system Terrestrial areas utilized for breeding by large or dense aggregations of vertebrate animals (air pathway) or semi-aquatic foragers (surface water pathway) National river reach designated as Recreational	75
Habitat known to be used by State designated endangered or threatened species Habitat known to be used by a species under review as to its Federal endangered or threatened status Coastal Barrier (partially developed) Federally designated Scenic or Wild River	50
State land designated for wildlife or game management State designated Scenic or Wild River State designated Natural Area Particular areas, relatively small in size, important to maintenance of unique biotic communities	25
State designated areas for protection/maintenance of aquatic life under the Clean Water Act	5
Wetlands	See PA Table 6 (Surface Water Pathway) or PA Table 9 (Air Pathway)

PA TABLE 6: SURFACE WATER PATHWAY WETLANDS FRONTAGE VALUES

Total Length of Wetlands	*Assigned Value*
Less than 0.1 mile	0
0.1 to 1 mile	25
Greater than 1 to 2 miles	50
Greater than 2 to 3 miles	75
Greater than 3 to 4 miles	100
Greater than 4 to 8 miles	150
Greater than 8 to 12 miles	250
Greater than 12 to 16 miles	350
Greater than 16 to 20 miles	450
Greater than 20 miles	500

SURFACE WATER PATHWAY WASTE CHARACTERISTICS, THREAT, AND PATHWAY SCORES

Waste Characteristics (WC)

14. **Waste Characteristics:** Score is assigned from page 4. However, if a primary target has been identified for any surface water threat, assign either the score calculated on page 4 or a score of 32, whichever is greater.

Surface Water Pathway Threat Scores

Fill in the matrix with the appropriate scores from the previous pages. To calculate the score for each threat: multiply the scores for LR, T, and WC; divide the product by 82,500; and round the result to the nearest integer. The Drinking Water Threat and Human Food Chain Threat are each subject to a maximum of 100. The Environmental Threat is subject to a maximum of 60. Enter the rounded threat scores in the far-right column.

Surface Water Pathway Score

Sum the individual threat scores to determine the Surface Water Pathway Score. If the sum is greater than 100, assign 100.

SURFACE WATER PATHWAY (concluded)
WASTE CHARACTERISTICS, THREAT, AND PATHWAY SCORE SUMMARY

WASTE CHARACTERISTICS	A Suspected Release	B No Suspected Release
14. A. If you have identified any primary target for surface water (pages 12, 14, or 15), assign the waste characteristics score calculated on page 4, or a score of 32, whichever is GREATER; do not evaluate part B of this factor.	32	
B. If you have NOT identified any primary target for surface water, assign the waste characteristics score calculated on page 4.		
WC =	32	

SURFACE WATER PATHWAY THREAT SCORES

Threat	Likelihood of Release (LR) Score (from page 12)	Targets (T) Score (pages 12, 14, 15)	Pathway Waste Characteristics (WC) Score (determined above)	Threat Score LR x T x WC / 82,500
Drinking Water	550	5	32	1.07
Human Food Chain	550	300	32	64
Environmental	550	300	32	64

SURFACE WATER PATHWAY SCORE
(Drinking Water Threat + Human Food Chain Threat + Environmental Threat) 100

SOIL EXPOSURE PATHWAY CRITERIA LIST

Areas of surficial contamination can generally be assumed. This "Criteria List" helps guide the process of developing a hypothesis concerning the exposure of specific targets to a hazardous substance at the site. Use the "Resident Population" section to evaluate site and source conditions that may help identify targets likely to be exposed to a hazardous substance. The check-boxes record your professional judgment. Answers to all of the listed questions may not be available during the PA. Also, the list is not all-inclusive; if other criteria help shape your hypothesis, list them at the bottom of the page or attach an additional page.

Check the boxes to indicate a "yes," "no," or "unknown" answer to each question.

SOIL EXPOSURE PATHWAY CRITERIA LIST

SUSPECTED CONTAMINATION	RESIDENT POPULATION			
	Yes	No	Unk	
Surficial contamination can generally be assumed.	☐	☑	☐	Is any residence, school, or daycare facility on or within 200 feet of an area of suspected contamination?
	☐	☐	☑	Is any residence, school, or daycare facility located on adjacent land previously owned or leased by the site owner/operator?
	☑	☐	☐	Is there a migration route that might spread hazardous substances near residences, schools, or daycare facilities?
	☐	☑	☐	Have onsite or adjacent residents or students reported adverse health effects, exclusive of apparent drinking water or air contamination problems?
	☐	☐	☑	Does any neighboring property warrant sampling?
	☐	☐		Other criteria? _____
	☐	☑		RESIDENT POPULATION IDENTIFIED?

Summarize the rationale for Resident Population (attach an additional page if necessary):

No resident population identified

SOIL EXPOSURE PATHWAY SCORESHEET

Pathway Characteristics

Answer the questions at the top of the page. Identify people who may be exposed to a hazardous substance because they work at the facility, or reside or attend school or daycare on or within 200 feet of an area of suspected contamination. If the site is active, estimate the number of full and part-time workers. Note that evaluation of targets is based on current site conditions.

Likelihood of Exposure (LE)

1. **Suspected Contamination:** Areas of surficial contamination are present at most sites, and a score of 550 can generally be assigned as a default measure. Assign zero, which effectively eliminates the pathway from further consideration, only if there is no surficial contamination; reliable analytical data are generally necessary to make this determination.

Resident Population Threat Targets (T)

2. **Resident Population** corresponds to "primary targets" for the migration pathways. Use professional judgment guided by the Soil Exposure Pathway Criteria List (page 18) to determine if there are people living or attending school or daycare on or within 200 feet of areas of suspected contamination. Record the number of people identified as resident population and multiply by 10 to determine the Resident Population factor score.

3. **Resident Individual:** Assign 50 if you have identified a resident population; otherwise, assign zero.

4. **Workers:** Estimate the number of full and part-time workers at this facility and adjacent facilities where contamination is also suspected. Assign a score for the Workers factor from the table.

5. **Terrestrial Sensitive Environments:** In the table provided, list each terrestrial sensitive environment located on an area of suspected contamination. Use PA Table 7 (page 20) to assign a value for each. Sum the values and assign the total as the factor score.

6. **Resources:** A score of 5 can generally be assigned as a default measure. Assign zero only if there is no land resource use on an area of suspected contamination.

Sum the target scores.

Waste Characteristics (WC)

7. Enter the WC score determined on page 4.

Resident Population Threat Score: Multiply the scores for LE, T, and WC. Divide the product by 82,500. Round the result to the nearest integer. If the result is greater than 100, assign 100.

Nearby Population Threat Score: Do not evaluate this threat if you gave a zero score to Likelihood of Exposure. Otherwise, assign a score based on the population within a 1-mile radius (use the same 1-mile radius population you evaluate for air pathway population targets):

Population Within One Mile	Nearby Population Threat Score
< 10,000	1
10,000 to 50,000	2
>50,000	4

Soil Exposure Pathway Score: Sum the Resident Population Threat score and the Nearby Population Threat score, subject to a maximum of 100.

SOIL EXPOSURE PATHWAY SCORESHEET

Pathway Characteristics	
Do any people live on or within 200 ft of areas of suspected contamination?	Yes ___ No ✓
Do any people attend school or daycare on or within 200 ft of areas of suspected contamination?	Yes ___ No ✓
Is the facility active? Yes ✓ No ___ If yes, estimate the number of workers: 10	

LIKELIHOOD OF EXPOSURE	Suspected Contamination	References
1. SUSPECTED CONTAMINATION: Surficial contamination can generally be assumed, and a score of 550 assigned. Assign zero only if the absence of surficial contamination can be confidently demonstrated. LE =	550	
RESIDENT POPULATION THREAT TARGETS		
2. RESIDENT POPULATION: Determine the number of people occupying residences or attending school or daycare on or within 200 feet of areas of suspected contamination (see Soil Exposure Pathway Criteria List, page 18). 0 people x 10 =	0	
3. RESIDENT INDIVIDUAL: If you have identified a resident population (factor 2), assign a score of 50; otherwise, assign a score of 0.	0	
4. WORKERS: Use the following table to assign a score based on the total number of workers at the facility and nearby facilities with suspected contamination:	5	
5. TERRESTRIAL SENSITIVE ENVIRONMENTS: Use PA Table 7 to assign a value for each terrestrial sensitive environment on an area of suspected contamination:		
6. RESOURCES	5	
T =	235	
WASTE CHARACTERISTICS		
7. Assign the waste characteristics score calculated on page 4. WC =	32	
RESIDENT POPULATION THREAT SCORE: LE x T x WC / 82,500	50.13	
NEARBY POPULATION THREAT SCORE:	1	
SOIL EXPOSURE PATHWAY SCORE: Resident Population Threat + Nearby Population Threat	51.13	

Number of Workers	Score
0	0
1 to 100	5
101 to 1,000	10
>1,000	15

Terrestrial Sensitive Environment Type	Value
Rhus michauxii	75
Nestronia umbellula	50
Schisandra glabra	50
Draba aprica	50
Sum =	225

PA TABLE 7: SOIL EXPOSURE PATHWAY
TERRESTRIAL SENSITIVE ENVIRONMENT VALUES

Terrestrial Sensitive Environment	*Assigned Value*
Terrestrial critical habitat for Federally designated endangered or threatened species National Park Designated Federal Wilderness Area National Monument	100
Terrestrial habitat known to be used by Federally designated or proposed threatened or endangered species National Preserve (terrestrial) National or State terrestrial Wildlife Refuge Federal land designated for protection of natural ecosystems Administratively proposed Federal Wilderness Area Terrestrial areas utilized by large or dense aggregations of animals (vertebrate species) for breeding	75
Terrestrial habitat used by State designated endangered or threatened species Terrestrial habitat used by species under review for Federal designated endangered or threatened status	50
State lands designated for wildlife or game management State designated Natural Areas Particular areas, relatively small in size, important to maintenance of unique biotic communities	25

AIR PATHWAY CRITERIA LIST

This "Criteria List" helps guide the process of developing a hypothesis as to whether a release to the air is likely to be detected. The check-boxes record your professional judgment. Answers to all of the listed questions may not be available during the PA. Also, the list is not all-inclusive; if other criteria help shape your hypothesis, list them at the bottom of the page or attach an additional page.

The "Suspected Release" section identifies several conditions that could provide insight as to whether a release from the site is likely to be detected. If a release is suspected, primary targets are any residents, workers, students, and sensitive environments on or within ¼ mile of the site.

Check the boxes to indicate a "yes," "no," or "unknown" answer to each question. If you check the "Suspected Release" box as "yes," make sure you assign a Likelihood of Release value of 550 for the pathway.

AIR PATHWAY CRITERIA LIST

SUSPECTED RELEASE				PRIMARY TARGETS
Yes	No	Unk		
☐	☑	☐	Are odors currently reported?	If you suspect a release to air, evaluate all populations and sensitive environments within 1/4 mile (including those onsite) as primary targets.
☐	☐	☑	Has release of a hazardous substance to the air been directly observed?	
☑	☐	☐	Are there reports of adverse health effects (e.g., headaches, nausea, dizziness) potentially resulting from migration of hazardous substances through the air?	
☐	☑	☐	Does analytical or circumstantial evidence suggest a release to the air?	
☐	☐		Other criteria? _____	
☐	☑		**SUSPECTED RELEASE?**	

Summarize the rationale for Suspected Release (attach an additional page if necessary):

No release is suspected.

AIR PATHWAY SCORESHEET

Pathway Characteristics

Answer the questions at the top of the page. Refer to the Air Pathway Criteria List (page 21) to hypothesize whether you suspect that a hazardous substance release to the air could be detected. Due to dispersion, releases to air are not as persistent as releases to water migration pathways and are much more difficult to detect. Develop your hypothesis concerning the release of hazardous substances to air based on "real time" considerations. Record the distance (in feet) from any source to the nearest regularly occupied building.

Likelihood of Release (LR)

1. **Suspected Release:** Hypothesize based on professional judgment guided by the Air Pathway Criteria List (page 21). If you suspect a release to air, use only Column A for this pathway and do not evaluate factor 2.

2. **No Suspected Release:** If you do not suspect a release, enter 500 and use only Column B for this pathway.

Targets (T)

3. **Primary Target Population:** Evaluate populations subject to exposure from release of a hazardous substance from the site. If you suspect a release, the resident, student, and worker populations on and within ¼ mile of the site are considered primary target population. If only the number of residences is known, use the average county residents per household (rounded up to the next integer) to determine the population. In the space provided, enter this population. Multiply the population by 10 to determine the Primary Target Population score. Note that if you do not suspect a release, there can be no primary target population.

4. **Secondary Target Population:** Evaluate populations in distance categories not suspected to be subject to exposure from release of a hazardous substance from the site. If you suspect a release, residents, students, and workers in the ¼- to 4-mile distance categories are secondary target population. If you do not suspect a release, all residents, students, and workers onsite and within 4 miles are considered secondary target population.

Use PA Table 8 (page 23). Enter the population in each secondary target population distance category, circle the assigned value, and record it on the far-right side of the table. Sum the far-right column and enter the total as the Secondary Target Population factor score.

5. **Nearest Individual** represents the threat posed to the person most likely to be exposed to a hazardous substance release from the site. If you have identified a primary target population, enter 50. Otherwise, assign the score from PA Table 8 (page 23) for the closest distance category in which you have identified a secondary target population.

6. **Primary Sensitive Environments:** If a release is suspected, all sensitive environments on or within ¼ mile of the site are considered primary targets. List them and assign values for sensitive environment type (from PA Table 5, page 16) and/or wetland acreage (from PA Table 9, page 23). Sum the values and enter the total as the factor score.

7. **Secondary Sensitive Environments:** If a release is suspected, sensitive environments in the ¼- to ½-mile distance category are secondary targets; greater distances need not be evaluated because distance weighting greatly diminishes the impact on site score. If you do not suspect a release, all sensitive environments on and within ½ mile of the site are considered secondary targets. List each secondary sensitive environment on PA Table 10 (page 23) and assign a value to each using PA Tables 5 and 9. Multiply each value by the indicated distance weight and record the product in the far-right column. Sum the products and enter the total as the factor score.

8. **Resources:** A score of 5 can generally be assigned as a default measure. Assign zero only if there is no land resource use within ½ mile.

Sum the target scores in Column A (Suspected Release) or Column B (No Suspected Release).

Waste Characteristics (WC)

9. **Waste Characteristics:** Score is assigned from page 4. However, if you have identified any primary target for the air pathway, assign either the score calculated on page 4 or a score of 32, whichever is greater.

Air Pathway Score: Multiply the scores for LR, T, and WC. Divide the product by 82,500. Round the result to the nearest integer. If the result is greater than 100, assign 100.

AIR PATHWAY SCORESHEET

Pathway Characteristics	
Do you suspect a release (see Air Pathway Criteria List, page 21)?	Yes ___ No ✓
Distance to the nearest individual:	0 ft

	A Suspected Release	B No Suspected Release	References
LIKELIHOOD OF RELEASE			
1. SUSPECTED RELEASE: If you suspect a release to air (see page 21), assign a score of 550. Use only column A for this pathway.			
2. NO SUSPECTED RELEASE: If you do not suspect a release to air, assign a score of 500. Use only column B for this pathway.		500	
LR =		500	
TARGETS			
3. PRIMARY TARGET POPULATION: Determine the number of people subject to exposure from a suspected release of hazardous substances to the air. ___ people x 10 =			
4. SECONDARY TARGET POPULATION: Determine the number of people not suspected to be exposed to a release to air, and assign the total population score using PA Table 8.		20	
5. NEAREST INDIVIDUAL: If you have identified any Primary Target Population for the air pathway, assign a score of 50; otherwise, assign the Nearest Individual score from PA Table 8.		20	
6. PRIMARY SENSITIVE ENVIRONMENTS: Sum the sensitive environment values (PA Table 5) and wetland acreage values (PA Table 9) for environments subject to exposure from a suspected release to the air. Sum =			
7. SECONDARY SENSITIVE ENVIRONMENTS: Use PA Table 10 to determine the score for secondary sensitive environments.		23.27	
8. RESOURCES		5	
T =		68.27	
WASTE CHARACTERISTICS			
9. A. If you have identified any Primary Target for the air pathway, assign the waste characteristics score calculated on page 4, or a score of 32, whichever is GREATER; do not evaluate part B of this factor.			
B. If you have NOT identified any Primary Target for the air pathway, assign the waste characteristics score calculated on page 4.		32	
WC =		32	

AIR PATHWAY SCORE: $\frac{LR \times T \times WC}{82,500}$ = 13.24

PA TABLE 8: VALUES FOR SECONDARY AIR TARGET POPULATIONS

Distance from Site	Population	Nearest Individual (above highest)	Population Within Distance Category: 1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	Greater than 1,000,000	Population Value
Onsite	10	20	1	2	5	16	52	163	521	1,633	5,214	16,325	52,136	163,246	1
>0 to ¼ mile	145	20	1	1	1	4	13	41	130	408	1,303	4,081	13,034	40,811	4
> ¼ to ½ mile	505	2	0	0	1	1	3	9	28	88	282	882	2,815	8,815	3
> ½ to 1 mile	2238	1	0	0	0	1	1	3	8	26	83	261	834	2,612	3
> 1 to 2 miles	9054	0	0	0	0	0	1	1	3	8	27	83	266	833	3
> 2 to 3 miles	15948	0	0	0	0	0	1	1	1	4	12	38	120	376	4
> 3 to 4 miles	19905	0	0	0	0	0	0	1	1	2	7	23	73	228	2

Nearest Individual = 20

Score = 20

PA TABLE 9: AIR PATHWAY VALUES FOR WETLAND AREA

Wetland Area	Assigned Value
Less than 1 acre	0
1 to 50 acres	25
Greater than 50 to 100 acres	75
Greater than 100 to 150 acres	125
Greater than 150 to 200 acres	175
Greater than 200 to 300 acres	250
Greater than 300 to 400 acres	350
Greater than 400 to 500 acres	450
Greater than 500 acres	500

PA TABLE 10: DISTANCE WEIGHTS AND CALCULATIONS FOR AIR PATHWAY SECONDARY SENSITIVE ENVIRONMENTS

Distance	Distance Weight	Sensitive Environment Type and Value (from PA Table 5 or 9)	Product
Onsite	0.10	* Habitat for Federal designated threatened species (x3)	7.5
		* Habitat for State designated threatened species	15
0-1/4 mi	0.025	*	
		*	
		* Wetlands	.63
1/4-1/2mi	0.0064	* Wetlands	.14
		*	
		*	
		*	

Total Environments Score = 23.27

SITE SCORE CALCULATION

In the column labeled S, record the Ground Water Pathway score, the Surface Water Pathway score, the Soil Exposure Pathway score, and the Air Pathway score. Square each pathway score and record the result in the S^2 column. Sum the squared pathway scores. Divide the sum by 4, and take the square root of the result to obtain the Site Score.

SUMMARY

Answer the summary questions, which ask for a qualitative evaluation of the relative risk of targets being exposed to a hazardous substance from the site. You may find your responses to these questions a good cross-check against the way you scored the individual pathways. For example, if you scored the ground-water pathway on the basis of no suspected release and secondary targets only, yet your response to question #1 is "yes," this presents apparently conflicting conclusions that you need to reconsider and resolve. Your answers to the questions on page 24 should be consistent with your evaluations elsewhere in the PA scoresheets package.

SITE SCORE CALCULATION

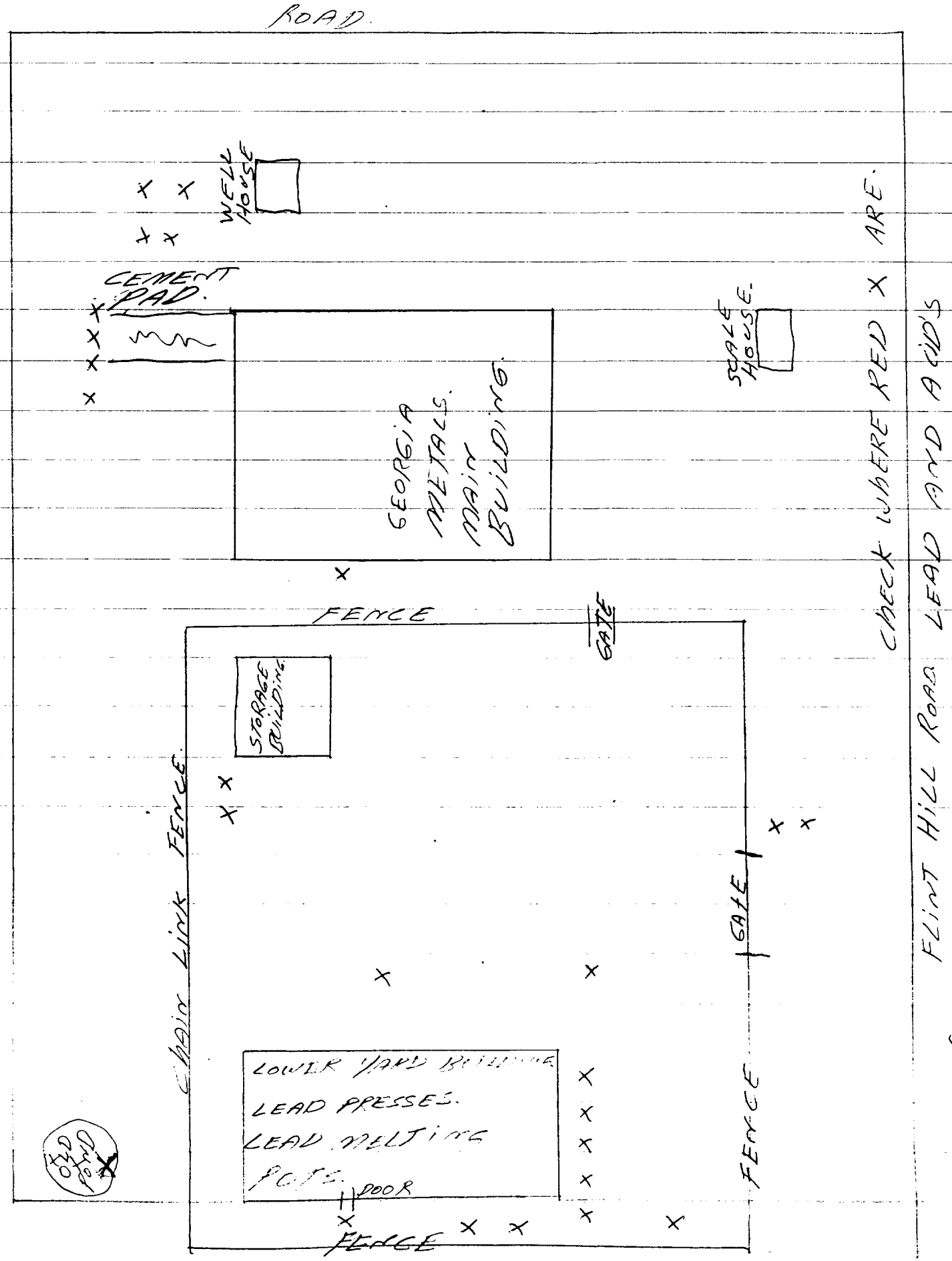
	S	S^2
GROUND WATER PATHWAY SCORE (S_{gw}):	39.89	1591
SURFACE WATER PATHWAY SCORE (S_{sw}):	100	10,000
SOIL EXPOSURE PATHWAY SCORE (S_s):	51.13	2614
AIR PATHWAY SCORE (S_a):	13.24	175.29
SITE SCORE: $\sqrt{\frac{S_{gw}^2+S_{sw}^2+S_s^2+S_a^2}{4}}$		60

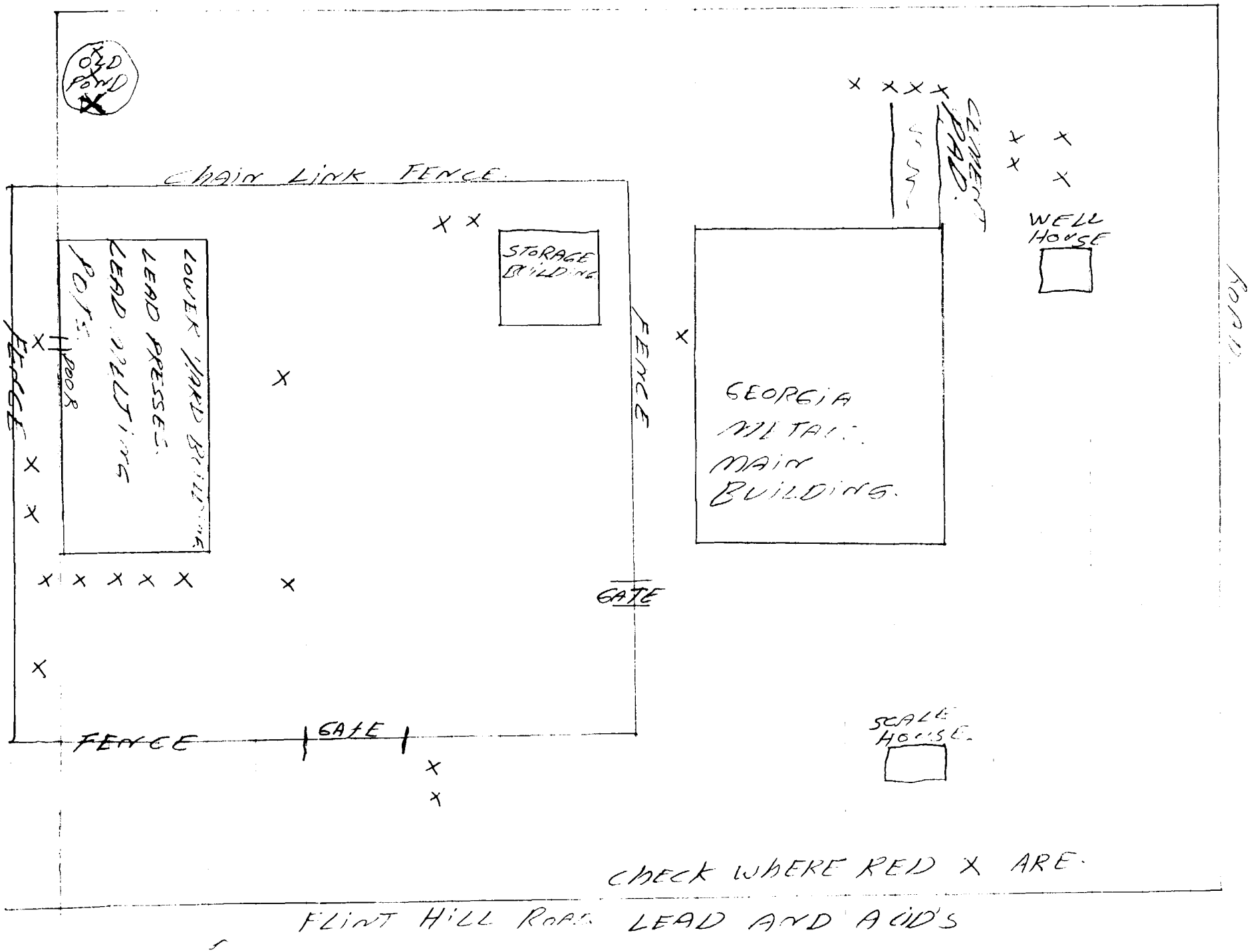
SUMMARY

	YES	NO
1. Is there a high possibility of a threat to any nearby drinking water well(s) by migration of a hazardous substance in ground water?	☑	☐
A. If yes, identify the well(s). wells within ½ mile of site		
B. If yes, how many people are served by the threatened well(s)? 9		
2. Is there a high possibility of a threat to any of the following by hazardous substance migration in surface water?		
A. Drinking water intake	☑	☑
B. Fishery	☑	☐
C. Sensitive environment (wetland, critical habitat, others)	☑	☐
D. If yes, identify the target(s). Fishery - Noses Creek; Wetland - Wetlands associated with Noses Creek		
3. Is there a high possibility of an area of surficial contamination within 200 feet of any residence, school, or daycare facility?	☐	☑
If yes, identify the property(ies) and estimate the associated population(s).		
4. Are there public health concerns at this site that are not addressed by PA scoring considerations? If yes, explain:	☐	☐

1400 IND. RD. POWDER SPRINGS

1-15-92




OLD POND
CHAIN LINK FENCE
LOWER HARD BUILDING
LEAD PRESSES
LEAD MELTING POTS
POOR
FENCE
STORAGE BUILDING
FENCE
GATE
FENCE
GATE
GEORGIA METALS MAIN BUILDING
CEMENT PAD
WELL HOUSE
SCALE HOUSE
ROAD
CHECK WHERE RED X ARE
FLINT HILL ROAD LEAD AND ACID'S

Long 84° 38' 50'
Lat 33° 51' 40'
30073
30060
30001
POWDER SPRINGS
MACLAND
MACEDONIA
Georgia Metals

Check Me!

VIEW — EVENT COMMENTS

REF NO.: 05832 — EPA ID: GAD984306605
OPUNIT: 00 — SITE NAME: GEORGIA METALS - POWDE
EVENT: DS1 — EVENT NAME: DISCOVERY

COMM ID	LINE NO.	COMMENTS	TYPE
001	01	GEORGIA METALS IS LOCATED AT 1400 INDUSTRIAL ROAD IN POWDER	
001	02	SPRINGS, GEORGIA. GEORGIA METALS, FORMERLY KNOWN AS	
001	03	SOUTHERN LEAD BURNING, DEPOSITED CHUNKS OF LEAD AND LEAD	
001	04	SHAVINGS ON THE PROPERTY IT OCCUPIED. J MCKEOWN 2/18/92	

Ron Kittrell

Add new comment Select comment ID View screen Leave [ ]

VIEW — EVENT COMMENTS

REF NO.: 05832 — EPA ID: GAD984306605
OPUNIT: 00 — SITE NAME: GEORGIA METALS - POWDE
EVENT: DS1 — EVENT NAME: DISCOVERY

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Add new comment Select comment ID View screen Leave [ ]

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service
Region VIII

Federal Office Building
1961 Stout Street
Denver CO 80294

FOI RECEIVED 12/10/91
(FEDERAL AGENCY - NOT A FOIA)
DEC 10 1991
CTRL. NO.: 4-RIN- Unassigned .91
RESPONSE DUE: 12-23-91
ASSIGNED TO: ___ APTMD ___ FINDS
LEAD WD ___ WM ___ OPM ✓ ORC

Walton Jones
FOI Officer, EPA
Tele (404) 347-4332
Fax (404) 347-1695

Dear Mr. Jones:

Please send me a copy of an investigation conducted by EPA at a company called Georgia Metals, Inc. approximately 4 or 5 years ago. At that time, the company was named Southern Lead Burning Company. It is located in Powder Springs, Georgia. This company may have a current EPA investigation.

Thank you very much for your time and attention.

Sincerely,

Thomas Hales

Thomas Hales, MD
Medical Epidemiologist
National Institute for Occupational Saftey and Health (NIOSH)
1961 Stout St.
Denver, Colorado 80294
FTS 564-6166, (303) 844-6166
Fax 564-6117, (303) 844-6117

At Georgia Metals at 1400 ~~Powder Sp~~ Industry Road in Powder Springs.
Buried + Spilled Nitric + Sulfuric Acid
and Lead
Large chunks of lead + lead shavings

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conv. w/ Hales (5/10/93)

HHE (Health Hazard Evaluation) - TA (technical assistance)
- OSHA requested assistance from NIOSH after getting complaint in Jan '89 & Jan '90
reported blood lead of 140 ug/dl (critical, life-threatening) - K. Hrell others w/ elevated levels (30-40)
but not above standard of 50 - company fined for violations of lead standard.

At Georgia Metals at 1400 ~~Powder Sp~~ Industry Road in Powder Springs.

Buried + Spilled Nitric + Sulfuric Acid
and Lead

Georgia Metals:

lead reclamation, casting, lining of steel tanks
melting lead

Large chunks of lead + lead shavings

REMOVAL ASSESSMENT TEAM WORKSHEET

The following is to be filled out by both the Removal Assessment Team (RAT) members and the OSC conducting the assessment. Information should be gathered from as many sources as possible. Sections V and VI should be filled out during the site visit and sampling activities. Once completed, the worksheet will be used by the RAT members to determine the need for a removal action at the site. Information from the worksheet will also be shared with other Superfund groups such as Site Assessment.

I. SITE NAME AND LOCATION

Site name (include aliases): Southern Lead Burning (aka Georgia Metals)

Address: 1400 Industrial Rd. Powder Springs, GA Cobb Co.

Latitude: 33.51:40 Longitude: 84.38:50

Directions to site:

Site contacts and phone numbers: (State, local, property owner/operator, trustee, SAM, etc.)

II. PRE-INVESTIGATION ACTIVITIES

Who referred site: Mr. Kittrell, former ~~owner~~ employee

Information available from (name and number):

Where are site files:

Historical Information:

Suspected current site status and condition: o active o inactive o unknown

Regulatory status: o RCRA-TSD o Title III o NPDES o other

Suspected contamination and threats to environment or population:

lead in soil - large chunks & shavings

III. POTENTIALLY RESPONSIBLE PARTIES

Owner or Former Owner: Address: Telephone:

Operator: Address: Telephone:

Does site have generator PRPs: o yes o no

Have PRPs been contacted: o yes o no

Have 104(e) letters been sent: o yes o no o in process

Has access been obtained: o yes, document below o no o access denied, if so why?
Person talked to, date and time:

IV. REMOVAL ASSESSMENT INFORMATION NEEDED

- o confirmation of file information
- o site visit
- o site map/sketch/diagram
- o diagram locating actual waste or contamination
- o population distribution information
- o utilities information or maps
- o photographs
- o video tape
- o PRP information
- o title search
- o determine hazards present
- o determine potential threats
- o sampling

- everything	- surface water	- tanks
- soil	- drinking water wells	- drums
- air	- monitoring wells	- waste
- sediments	- municipal wells	- other

- o conduct geophysical investigation
- o identify number/location of wells (on and off-site)
- o identify number/location of drinking water wells
- o identify affected plant/animal species
- o contact local officials
- o other

Special Instructions:

V. ASSESSMENT INFORMATION

A. DATE OF SITE VISIT: / /

B. SITE DIAGRAM (Show North arrow, any streets or roads, drainage and direction of flow, location of nearest residences, and any other features that may affect a removal):

C. INTERVIEWS

1. Federal, State or Local officials

Name	Title	Phone Number	Date Interviewed

2. Local Residents

Name	Address	Phone Number	Date Interviewed

3. Employees or former employees

Name	Interview Date

D. ON-SITE CONDITIONS

Items present on-site (include on site sketch):

- o drums
- o lagoons
- o sludges
- o sink holes
- o runoff
- o leaking drums
- o ponds
- o monitoring wells
- o stained soils
- o fence
- o tanks
- o buried drums
- o creeks
- o stressed animals
- o stressed humans
- o waste
- o contaminated soils
- o ditches
- o stressed vegetation

How much of each:

Describe conditions of drums, tanks, waste, etc.:

Information on labels:

E. CONTAMINATION

Contaminant characteristics:
- o ignitable
- o corrosive
- o reactive
- o toxic
- o not applicable
- o radioactive
- o infectious
- o flammable
- o soluble
- o highly volatile
- o explosive
- o persistent
- o incompatible

Physical state:
- o solid
- o liquid
- o sludge
- o other, specify
- o slurry
- o powder, fines
- o gas

Type of contamination:
- o sludge
- o pesticides
- o acids
- o extractables
- o dioxins
- o oily waste
- o inorganics
- o bases
- o petroleum compounds
- o other, specify
- o solvents
- o organics
- o heavy metals
- o PCBs

How is material secured:
- o fence around site
- o waste in building
- o unsecured
- o fence around waste/contamination
- o waste buried

Threat:
- o fire/explosion
- o direct contact
- o surface water contamination
- o population exposure/injury
- o damage to plants/animals
- o damage to off-site property
- o unstable containment of waste
- o air contamination
- o soil contamination
- o groundwater contamination
- o worker exposure/injury
- o food chain contamination
- o illegal/unauthorized dumping
- o contamination of sewers, storm drains, WWTPs
- o other known, potential, or alleged hazards, specify

Has there been or is there an observable release to the environment?
If yes, describe when, where, and media affected:

F. TARGET INFORMATION

1. POPULATION

Type:
- o residential - urban
- o residential - rural
- o agricultural
- o industrial
- o on-site workers
- o other, specify

Total population affected or potentially affected (specify how large a radius from site):

Are there schools/daycare centers within 0.5 miles:

How many children are within 0.5 miles of the site (either on a permanent basis such as a residence or a temporary basis such as during school hours):

Are there any environmental equity issues associated with the site, explain:

---

2. ENVIRONMENTAL TARGETS

List any sensitive habitats on or near the site:

List any threatened or endangered species on or near the site:

Are livestock or other domestic animals kept near the site:

---

3. GROUNDWATER

a. Type of aquifer (karst, fractured, unconsolidated, etc.): _____

b. Approximate depth to water table: _____

c. Private wells

Total number: _____ Total number of people served: _____

Locations relative to the site:

Well depths:

d. Municipal wells

Total number: _____ Total number of people served: _____

Locations relative to the site:

Well Depths:

---

4. SURFACE WATER

Location of nearest downgradient surface water body or wetland:

List any other surface water bodies or wetlands affected or potentially affected:

List any recreational or economic uses: (i.e., boating, fishing, swimming, fisheries, etc.)

---

5. RELEASES

Routes for off-site migration of contaminants:

o swales	o depressions	o drainage ditches
o runoff	o vehicular traffic	o windblown particulates
o sewers	o flooding	o other, specify

Has contamination been observed in either the ground water, surface water, drinking water wells or municipal wells: (if so, specify when, type of contamination, concentrations)

Is there a potential for air releases:

---

6. ON-SITE EXPOSURE/DIRECT CONTACT

Site access (restricted, unrestricted):

How many workers on-site:

Exposure pathways on-site:

---

7. ADDITIONAL INFORMATION

VI. SAMPLING

Date of sampling: / /

Sketch locations of sampling points on facing page.

A. ON-SITE SAMPLING

Media sampled:

- o surface soil
- o lagoons/ponds
- o monitoring wells
- o drums
- o background
- o other, specify
- o subsurface soil
- o surface water
- o private wells
- o tanks
- o environmental
- o waste
- o sediments
- o municipal wells
- o air
- o people

How many samples taken of each media:

B. OFF-SITE SAMPLING

Media sampled:

- o surface soil
- o lagoons/ponds
- o monitoring wells
- o drums
- o background
- o other, specify
- o subsurface soil
- o surface water
- o private wells
- o tanks
- o environmental
- o waste
- o sediments
- o municipal wells
- o air
- o people

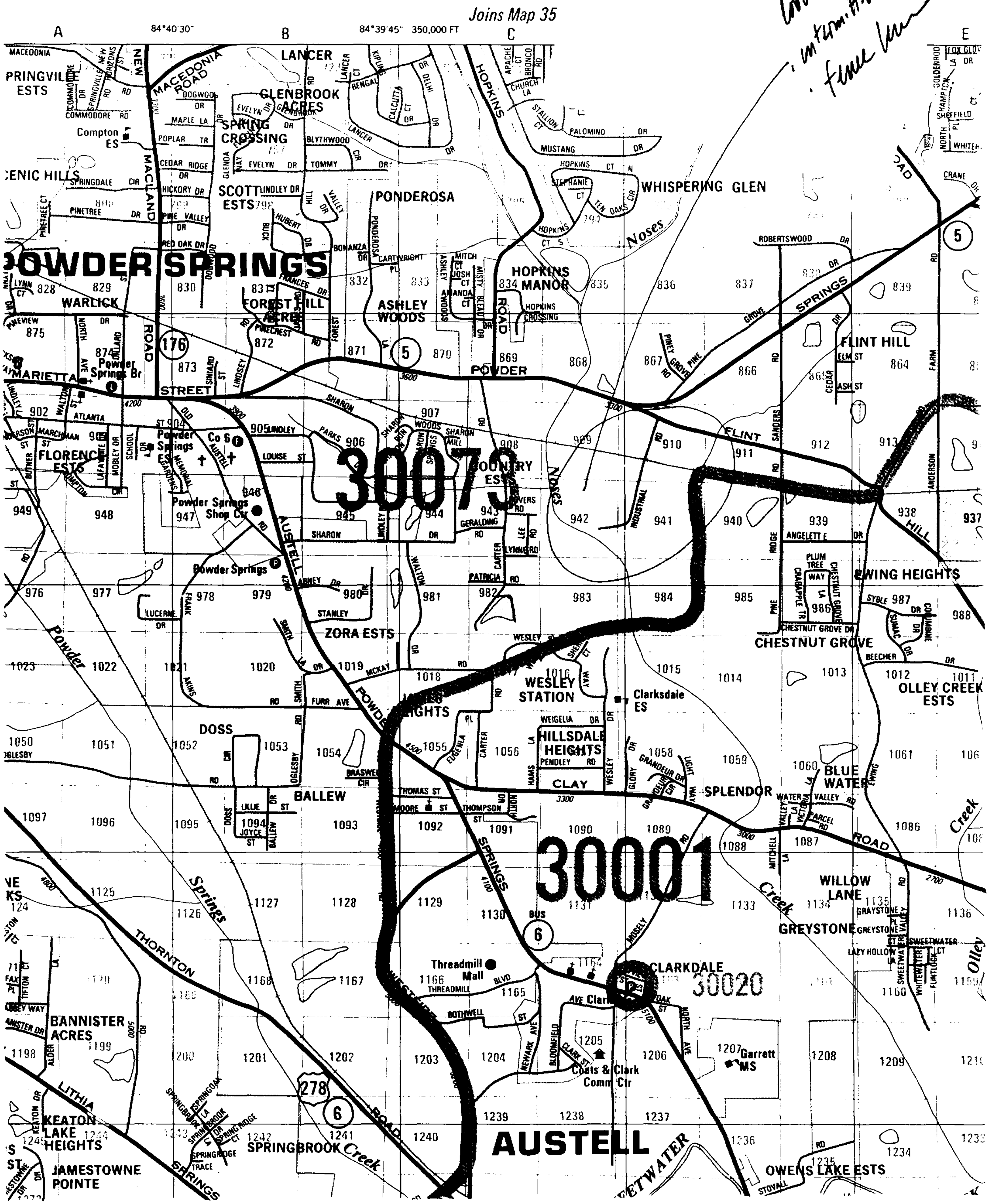
How many samples taken of each media:

C. RESULTS

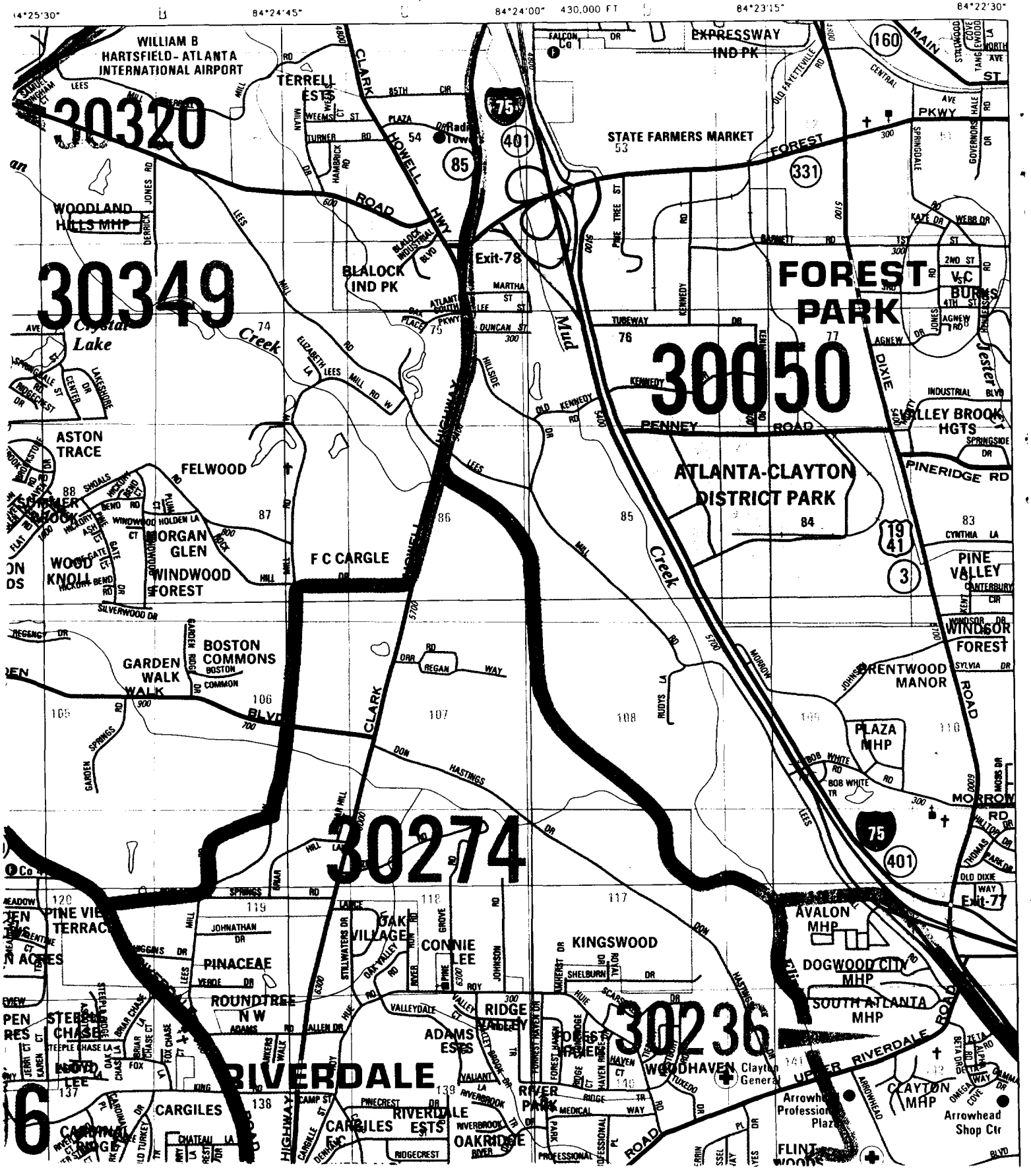
Attach a summary of sampling results or list compounds and their concentrations (attach additional pages if necessary).

Media sampled	Compound	Concentration (_____)

look for
· intermittent creek
· fence line



Joins Map 2



84°25'30"
84°24'45"
84°24'00"
430,000 FT
84°23'15"
84°22'30"
WILLIAM B HARTSFIELD-ATLANTA INTERNATIONAL AIRPORT
TERRELL ESTS
EXPRESSWAY IND PK
STATE FARMERS MARKET
30320
30349
30050
30274
30236
FOREST PARK
ATLANTA-CLAYTON DISTRICT PARK
WOODLAND HILLS MHP
BLALOCK IND PK
Exit-78
Crystal Lake
Creek
Mud
Creek
ASTON TRACE
FELWOOD
MORGAN GLEN
WINDWOOD FOREST
WOOD KNOLL
F C CARGLE
BOSTON COMMONS
GARDEN WALK
VALLEY BROOK HGTS
PINE VALLEY
WINDSOR FOREST
BRENTWOOD MANOR
PLAZA MHP
MORROW RD
Exit-77
AVALON MHP
DOGWOOD CITY MHP
SOUTH ATLANTA MHP
KINGSWOOD
CONNIE LEE
OAK VILLAGE
PINACEAE
ROUNDTREE N W
RIDGE VALLEY
ADAMS ESTS
RIVERDALE
WOODHAVEN
Clayton General
CLAYTON MHP
Arrowhead Professional Plaza
Arrowhead Shop Ctr
CARGILES
RIVERDALE ESTS
OAKRIDGE
RIVER PARK
FLINT WOODS
CLARK HOWELL HWY
FOREST PKWY
PENNEY ROAD
PINERIDGE RD
DIXIE ROAD
UPPER RIVERDALE ROAD
HIGHWAY

30073
30001
30060
POWDER SPRINGS
Georgia Metals
Long 84° 38' 50"
Lat 33° 51' 40"
MACLAND
OLD VILLA RICA RD
POWDER SPRINGS

Mary Drenga

OSHA
Atlanta-West
Tom Brown [Area Director]

OSHA
Bobby Walters (legal)
347-4811

GA Metals Distributing Inc
Mr. Kelly (op as separate entity)

OSHA has cited Georgia Metals (Jan '92) - issued penalties of $33,000

Pb burning has ceased on-site

Int'l Lead Burning ← Forest Park manufacturers Guide [Andy Cole Title 3]

~~So Lead Burning~~ in phone book

Been in business for years

Can we get OSHA on site?

contamination
homes

OSHA is ~~on the verge~~ trying to get co. to pay medical removal benefits to 2 former employees who have medical problems assoc. w/ lead exposure.

Ben Ross · 984-8700
Dr. Frumpkin (Emory U. Occupational Health)

2 Possible Removal Sites

1. Georgia Metals (formerly Southern Lead Burning)
   1400 Industrial Road; Powder Springs, GA
2. Int'l Lead Burning
   5245 Jones Rd; Forest Park, GA

LAND PROTECTION BRANCH
HAZARDOUS WASTE ANALYSIS REQUEST

DATE: 3/5/87 PROJECT: GA. METALS COLLECTOR: McLUCH

NO. SAMPLES: _____ LOG NOS. 2290-2293 LIQUID _____ SOLID _____ SOIL ✓

CAUSTIC _____ ACID _____ SOLVENT _____ UNKNOWN _____ SLUDGE _____

INFORMATION FOUND: SOIL SAMPLES FROM LEAD MELTER

HAZARDOUS WASTE NOS. D008

HAZARDOUS HANDLING: _____

WORK PRIORITY (CRITICAL NEED) _____

METALS ANALYSES

	TOT	DIS		
METALS (DW NO Hg)	☐	☐	EP METALS (DW NO Hg) ☐	100X ☐ 30X ☐
METALS (DW WITH Hg)	☐	☐	EP METALS (DW WITH Hg) ☐	

	TOT	DIS		TOT	DIS				
NICKEL	☐	☐	CADMIUM	☐	☐	EP NICKEL	☐	EP CADMIUM	☐
ARSENIC	☐	☐	LEAD	☐	☐	EP ARSENIC	☐	EP LEAD	☑
CHROMIUM	☐	☐	MERCURY	☐	☐	EP CHROMIUM	☐	EP MERCURY	☐
CHROM-HEX	☐	☐	SELENIUM	☐	☐	EP CHROM-HEX	☐	EP SELENIUM	☐
_____	☐	☐	_____	☐	☐	_____	☐	_____	☐

SPECIFIC ANALYSES

pH	☐	SULFIDE	☐	% SOLIDS	☐	_____	☐
FLASH PT	☐	SP.COND.	☐	TOT. PHENOLS	☐	_____	☐
CYANIDE TOT.	☐	TOC	☐	CHLORIDE	☐	_____	☐
CYANIDE AM.	☐	TOH	☐	FLUORIDE	☐	_____	☐

ORGANIC ANALYSES

PESTICIDE SCREEN (EC)	☐	GC-MS ACID EXTRACTABLES	☐
PCB	☐	GC-MS BASE/NEUTRALS	☐
VOLATILE ORGANICS (VOA)	☐		

SPECIFIC ORGANICS: _____

APPROVED: (Fil) AUTHORIZED: M

BW/0089F

GEORGIA ENVIRONMENTAL PROTECTION DIVISION

LABORATORY REPORT

DATE: 3/5/87 PROJECT: Ga. Metals COLLECTOR: McHugh

	HW LOG NO.	2290	2291	2292	2293	
DATE REC'D	5-MAR-87					
TIME REC'D	15:30					
REC'D BY:	[illegible]					
DEL BY:	McHugh					
	LABEL I.D.	Battery Chip Area (5) G-1	Main Yard G-2	Battery Chips (7) G-3	Battery Chip G-4	
	LABORATORY MANAGER					
DATE: 3-19-87						
PARAMETERS	LAB NO.	HW 2290	HW 2291	HW 2292	HW 2293	
EP Pb	mg/L	9500	55,000	2300	7300	

REMARKS:

GEORGIA ENVIRONMENTAL PROTECTION DIVISION
LAND PROTECTION BRANCH

CHAIN OF CUSTODY

FACILITY: SA METALS LOCATION: COBB COUNTY

SAMPLE #	LOG #	LAB I.D.	DESCRIPTION	COLLECTED BY (Name)	DATE	TI
G-1	2290		BATTERY CHIP AREA (5) G-1	McHUGH	3-5-87	10:20A
G-2	2291		MAIN YARD G-2	"	"	10:38A
G-3	2292		BATTERY CHIPS (7) G-3	"	"	10:50
G-4	2293		BATTERY CHIPS G-4	"	"	10:56

TRANSFER RECORD

TRANSFERRED BY (Name)	TO (Name) (IF FINAL: Lab Name)	DATE	TIME	METHOD OF TRANSFER	RECEIVED BY (Name)	DA
McHUGH	METALS LAB	3-5-87	12:32	HAND	Robert Price	

ANALYSES REQUESTED:

OVERSIZED

DOCUMENT