State of Illinois
ENVIRONMENTAL PROTECTION AGENCY

Mary A. Gade, Director

2200 Churchill Road, Springfield, IL 62794-9276

February 18, 1997

Mr. Michael W. Cordes
Business & Economic Development Department
301 River Park Drive
East St. Louis, IL 62201

Dear Mr. Cordes,

As you are aware, this past spring, the Illinois EPA began field work for a CERCLA Redevelopment Assessment on the Former Alcoa Property located on Missouri Avenue. Enclosed with this letter is the Redevelopment Assessment Report and analytical information for your review. The Illinois EPA is asking the Business & Economic Development Department to take the next couple of weeks to read the report and provide me with your comments. To expedite this process, March 21, 1997 has been set as the latest date for your comments to be given to Illinois EPA. At this time, I will consider the report final and send copies to the appropriate locations. If this date does not seem adequate time for your review please let me know.

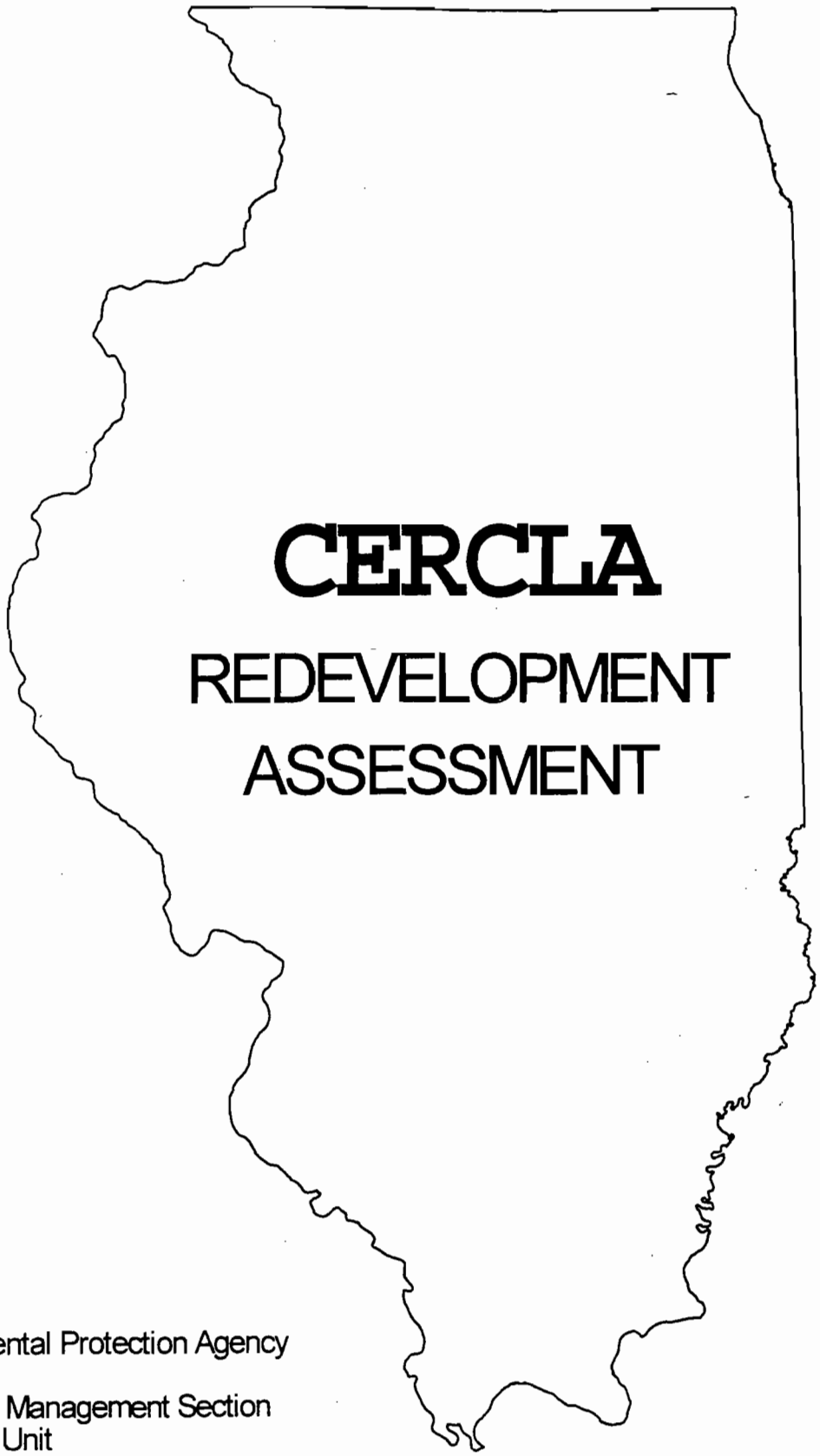
I have appreciated your assistance and cooperation throughout this endeavor and look forward to discussing the report and future plans for the property with you. If you have any questions please contact me at 217-524-1657.

Sincerely,

Peter T. Sorensen

Peter Sorensen
Illinois Environmental Protection Agency
Bureau of Land
Remedial Project Management Section
Site Assessment Unit

LPC# 1630450035 St. Clair County
Former Alcoa Property
ILB# 000000001
SF/Tech



CERCLA

REDEVELOPMENT ASSESSMENT

Illinois Environmental Protection Agency
Bureau of Land
Remedial Project Management Section
Site Assessment Unit

EXECUTIVE SUMMARY

In March and April of 1996, the Illinois Environmental Protection Agency's (IEPA) Site Assessment Program, working in cooperation with the United States Environmental Protection Agency (USEPA) Region 5, began work on a CERCLA Redevelopment Assessment of the Former Alcoa Property located in East St. Louis, Illinois. This property was identified as an area for possible redevelopment by the City of East St. Louis' Business and Economic Development Department. The purpose of the Redevelopment Assessment was to provide prospective buyers, lenders, developers and current owners information regarding the current environmental condition of the property. To accomplish this, soil and groundwater samples were collected to help determine the nature and location of potential contamination. The analytical results from these samples were then compared to IEPA's *Tiered Approach to Corrective Action Objectives* (TACO) guidance document to see if any Tier 1 remediation objectives were exceeded.

The City of East St. Louis has tentatively identified the future use of the Former Alcoa Property as industrial/commercial land use. Because of this, the analytical results were compared to the TACO Tier 1 industrial/commercial remediation objectives with Class 1 groundwater with the inhalation, ingestion, and migration to groundwater pathway evaluated for each scenario. It should be pointed out that no Tier 2 or Tier 3 analysis of the sample data was conducted which is something that a potential developer of the site might want to consider to possibly reduce the number of sample points exceeding remediation objectives.

During the Redevelopment Assessment, one-hundred eighteen soil samples and nine groundwater samples were collected on the site. Of the soil samples, two were found to contain organic contaminants exceeding Tier 1 industrial/commercial remediation objectives while fifty-six contained inorganic contaminants exceeding these objectives (see Table 2). The majority of the soil samples found to exceed remediation objectives can be categorized into six main areas or soil types where similar contaminants were found: red mud, black cinders, gypsum berms, paint cans area, flooded area and burn area. These are all discussed in detail in Section 4 of the report. All nine of the groundwater samples were found to contain contaminants exceeding Tier 1 remediation objectives for Class 1 groundwater, mainly for inorganics but a few for organic contaminants as well.

Seven soil samples where high levels of inorganics were detected were selected to be analyzed for TCLP inorganics. The TCLP results from these samples can be seen in Table 4. Of these, X003, X016, X020, X080 and X098 were found to each contain one compound exceeding RCRA Toxicity Characteristic values for hazardous waste. Additional investigation will be required to determine the extent of soil contamination around these three points and then the soil must be removed from the site regardless of the future use of the property.

The Redevelopment Assessment was designed to identify potential areas of concern and determine if these areas pose an undue risk to human health and/or the environment. The report is not intended to define the lateral or vertical extent of contamination, nor should it be viewed as conclusive evidence that additional contamination does not exist at the site.

TABLE OF CONTENTS

FIGURES (in Appendix A)

TABLES (in Appendix B)

APPENDICES

1.0 INTRODUCTION

In March and April of 1996, the Illinois Environmental Protection Agency's (IEPA) Site Assessment Program, working in cooperation with United States Environmental Protection Agency (USEPA) Region 5, began work on a CERCLA Redevelopment Assessment at a portion of the Former Alcoa Property located on the north side of Missouri Avenue in East St. Louis, Illinois. These properties were identified as areas for possible redevelopment by the City of East St. Louis' Business and Economic Development Department. The Redevelopment Assessment was undertaken through a state and federal cooperative program, and conducted under the statutory authority of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

The purpose of the Redevelopment Assessment was to determine whether any environmental or public health concerns exist at the site which would act as an impediment to future redevelopment of the property. This was accomplished by performing an environmental assessment of the site, thereby providing information to perspective buyers, developers, lenders and owners concerned about possible site contamination. The field investigation portion of the Redevelopment Assessment was conducted during three sampling events taking place during the last week of March and the first two weeks of April 1996. During these inspections, personnel from the IEPA collected 120 soil and nine groundwater samples.

2.0 SITE CHARACTERIZATION

This section contains information gathered over the course of the formal CERCLA Redevelopment Assessment. Specific information was obtained from IEPA file reviews, historical information searches and previous investigations regarding the site.

2.1 Site Location

The portion of the Former Alcoa Property that was the subject of this CERCLA Redevelopment Assessment is located in the 3000 block of Missouri Avenue. Because of its large size, a portion of the site is in the town of East St. Louis and a portion in Alorton, Illinois. It should be made clear that the portion of the facility which is the subject of this investigation is located to the north of Missouri Avenue. Alcoa also owned a large parcel of land across the street on the south side of Missouri Avenue where its main industrial operations occurred. The Redevelopment Assessment site is bordered by Missouri Avenue to the southwest, Pocket Road to the southeast, 29th Street to the northwest and Lake Drive to the northeast. The general land use surrounding the site is residential to the north and west, industrial across Missouri Avenue to the south and Frank Holton State Park is located just to the east. The legal description of the center of the site is Northwest quarter of Section 29, Township 2 North, Range 9 West, St.Clair County, Illinois. Maps showing the location of the site can be seen on Figures 1, 2 and 3 in Appendix A.

2.2 Site Description

The Former Alcoa Property consists of an irregular-shaped, approximately 220 acre parcel of

land which varies greatly in topography and former and present land use. Due to its large size and existing condition, only the portion of the property that was determined to have the greatest redevelopment potential by the East St. Louis Business and Economic Development Department was investigated during the 1996 CERCLA Redevelopment Assessment. Natural drainage has been altered due to surrounding industrial and residential development. Over the years, the entire site has been disturbed and filled. Storm and sanitary sewer systems carry most of the surface water runoff from the site.

For investigative purposes, the site was divided into four sections which are currently owned by four separate landowners. Throughout this report, these four sections will be referred to as Section 1, Section 2, Section 3 and Section 4. Figure 3 in Appendix A shows the locations of these four sections of property and the following four paragraphs provide a brief description of each property. Appendix A also includes several other figures including topographic maps, aerial photos, sample location maps and Global Positioning System generated maps.

Section 1 is basically a rectangular lot which was estimated to be approximately 14 acres in size, is basically topographically flat and has four standing concrete structures and a couple of building foundations remaining from when Alcoa owned the property. The history and use of these buildings and foundations is discussed in Section 2.4. The property is currently privately owned with a brick reclaiming and other salvaging operations being conducted on the property. It is used as a salvage yard for a large variety of items including automobiles, trucks, empty 55-gallon drums, construction debris, street lamp posts, telephone posts, and other miscellaneous

items which currently cover a large portion of the property. The property also contains a concrete and gravel private drive, a mobile home and a large garage where the owner stores and works on various items. Where no debris, buildings or roadways are located, the remainder of Section 1 is vacant property with a small portion in the northwest corner being wooded. Some portions of Section 1 have a layer of a black cindery material which was used as fill and other areas contain a layer of red mud (red mud is discussed in Section 2.3).

Section 2 is approximately 9.2 acres, is privately owned and is currently for sale. No operations are currently taking place on this section of property. This section is basically topographically flat and is fenced and contains small trees and other vegetation on large portions of it. It doesn't appear that any of Alcoa's former buildings were located on this section of land, however, it has been reported that a car wash operated on this section of land for a short period of time.

Section 3 is approximately 16 acres, with the portion being located south of the former Alton and Southern Railroad being privately owned, and the remaining area north of the former railroad being owned by the city of East St. Louis. The southern portion of the section is basically flat with the exception of a few areas of mounded soil resulting from past site removal activities (discussed in Section 2.6). Predominant features of this portion include large areas of red mud, a pond, and a swamp area. Much of the southern portion of Section 3 is covered with various types of vegetation, such as small trees, brush, reeds, and short grass. The property is privately owned, and the only known use of the property (after Alcoa ownership) was as a drum storage/disposal area. Currently, the property is vacant, although a

number of empty drums were noted at the site during the Redevelopment Assessment site reconnaissance. These drums were removed prior to field activities. The northern portion of the Section 3 property is basically flat and is primarily covered with grass, although smaller areas of reeds can also be found. In the northwestern corner of this area is a rectangular bermed area, consisting of a gray, crusty material. This area has had no known uses since Alcoa ownership.

Section 4 was used for numerous years by Alcoa as a disposal area for its waste slurry from its main alumina production facility across Missouri Avenue (see Section 2.3 for a discussion of this process and Section 2.4 for a history of its deposition). Prior to the deposition of waste slurry by Alcoa, Section 4 was a low lying wetland area. Large gypsum berms were built around the low areas by Alcoa and slowly over the years these areas were filled in by the deposition of the slurry. Currently Section 4 is roughly divided into three large areas that are surrounded by berms. The sizes of these three areas were estimated from a 1993 aerial photograph. One of these areas is approximately 37 acres in size, is a bright orangish-red in color and will be referred to in this report as "Red Pond". Another is approximately 42 acres in size, is brown in color and will be referred to in this report as "Brown Pond". These two areas have ponding on them during wet times and are dry during dry times. The third bermed area is approximately 40 acres in size, is located on the northwest edge of this section of property, is brown in color and is usually dry. This area is thought to be the first area used by Alcoa for the disposal of its slurry wastes and will be referred to in this report as "Old Pond". See Figures 5 and 7 for a map of Section 4 showing the respective locations of these three areas.

2.3 Alcoa's Alumina Processing

Before discussing the history of Alcoa's involvement at the Former Alcoa Property, this report will discuss Alcoa's processes and give a summary of the methods they used to process alumina from bauxite ore. This will also discuss the formation of the resulting waste slurry known as "red mud," which is a byproduct of the production of alumina and was disposed of mainly on Section 4 of the Former Alcoa Property.

During its years of operation at the East St. Louis works, Alcoa used the Bayer process for refining bauxite and producing alumina. Bauxite is an ore containing hydrated alumina, a compound of aluminum and oxygen chemically combined with water. The oxides of iron, silicon and titanium are always present as impurities. In the Bayer process, bauxite was digested with caustic soda to dissolve the alumina, leaving the impurities as an insoluble residue which is separated from the solution and is a waste product known as red mud, which was disposed of. The dissolved alumina is then precipitated from the liquor as aluminum trihydrate, washed and calcined to produce anhydrous aluminum oxide. From this point, the alumina was taken to another plant (the East St. Louis works only produced alumina and did not produce aluminum) where it was processed into metallic aluminum.

2.4 Site History

In 1902 a study was conducted by the Pittsburgh Reduction Company (later known in 1907 as Aluminum Ore Company and then after World War II as Alcoa) to determine the best location for an alumina plant. Since the principal supply of bauxite was in central Arkansas,

the principal market for aluminum was in the east and Alcoa's reduction plant, where alumina is made into metallic aluminum, was in Niagara where hydroelectric power was available, East St. Louis was selected as an intermediate point for the manufacture of alumina. Abundant supplies of coal and limestone along with a suitable supply of labor and railroad facilities also made East St. Louis an ideal location for Alcoa's alumina operations. In 1903, the Pittsburgh Reduction Company plant in East St. Louis began refining bauxite ore to produce alumina at a location just to the south of Missouri Avenue.

As mentioned earlier, most bauxite ore that is used in the production of alumina contains iron oxide as an impurity along with clay, silicates and a host of other materials. The spent ore waste which results from the initial refining process is known as "red mud" because after the water evaporates from the slurry it leaves behind a mud generally red in color. From 1903 until 1963, Alcoa used what is referred to in this report as the Old Pond, Red Pond and Brown Pond (see Figures 5 and 7) of the Former Alcoa Property as a disposal area to dump this red mud slurry. Historical references mentioned that these areas started out as a low, wet area known as Pittsburgh Lake and was eventually built up approximately 30 feet above the surrounding land after being bermed by Alcoa and used for years as a slurry deposition area. In the early days of disposal, Alcoa moved the red mud using a small railcar traveling over narrow gauge tracks under mule power to the lakes edge. This method was later supplanted by a little saddleback locomotive and u-body dump car, and still later by pumping. The Alcoa plant began phasing out its operations in 1958 and had pretty much ceased its operations by 1963. No slurry was pumped into the waste ponds after 1963. The

piping system for the distribution of slurry to the main sedimentation areas was either dismantled or fell into disrepair and little evidence remains of the method by which the red mud had been conveyed to its present location. At the present time, there is shallow ponding that occurs during wet portions of the year on a large part of the bermed deposition area.

Since 1926, various entities beginning with Alcoa have sought economic uses for the red mud without much success. These uses have included using the slurry to grease molds for the steel industry, in making a quick setting agent for concrete, as a fertilizer, as a binder for pelletizing iron ore, as a air scrubber for coal burning plants, as a base for roads and numerous other ideas. Currently, a group of local contractors called East Side Partners has a three year contract that runs into 1999, (with an option to extend the contract), with the City of East St. Louis to mine portions of the gypsum berms to use in concrete mix.

While Section 4 was the main portion of the Former Alcoa Property that was historically used for waste disposal activities, the other portions were also used on a limited basis. Historic Alcoa maps and written site history, in addition to talks with Alcoa representatives indicated that Section 1 had various buildings and uses during Alcoa's operations. Section 1 contained two small buildings; one used as a guard house and locker room and the other used as a research laboratory. The laboratory building was built during World War II and was built to research new methods to extract alumina from low grade bauxite ores. This was needed during the war because of a great increase in the demand for alumina, the domestic reserves of high grade bauxite were limited and the fact that the war made it difficult to

bring in foreign bauxite ore. In addition to these two buildings, a commercial sized sinter plant was built on Section 1 in 1942 which was shut down in 1946 and the majority of it was torn down in 1953. The concrete silos, heavy kiln piers and elevated coal bin structure from the sinter plant were left in place however and still stand on the property (see Figure 8). Historic Alcoa maps and talks with Alcoa representatives indicated that a portion of the Section 2 property was used as employee parking. Historic maps do not indicate any particular use by Alcoa of Section 3. Red mud can also be found on portions of Sections 1, 2 and 3.

At this time, little information is known of the site use between the time when Alcoa abandoned the property and the present. It appears that Section 1 has been used as a salvage yard while in the Spring of 1996, a small flea market was begun on the Section 2 property and Section 3 has been used as a drum storage and disposal area by United Steel Drum. It appears that has Section 4 has had little use since being abandoned by Alcoa.

2.5 Site Geology

The Former Alcoa Property site is located in the American Bottoms, a broad, flat, former flood plain of the Mississippi River. Because the ground surface was originally for the most part low and flat, East St. Louis and the surrounding land areas were continually subject to flooding from the Mississippi River. To allow for development in this area prior to the construction of a comprehensive system of flood protection levees, the ground surface was elevated by random filling over much of the East St. Louis area. Visual surficial

observations and geoprobe borings indicate that old fill material, much of it a black cindery material, exist today over the majority of the site, although its origin is unknown. The fill also consists of many materials including clay, sand, gravel, cinders, limestone fragments, cloth remnants and organic materials and depths of the fill varies throughout the site.

Underlying the fill material, the geology of this area consists of 100 to 120 feet of unconsolidated valley fill above bedrock. This valley fill contains two varying units. The upper unit is 15 to 30 feet thick and consists of clayey silt with fine sand alluvium. The lower unit consists of medium coarse sand and gravel, glacial outwash. The lower sand and gravel unit is a major aquifer for the region; although it is not for the immediate local area which relies primarily on surface water from the Mississippi River for a water supply. The bedrock deposits beneath the site belong to the Chester Series of the Mississippian System Bedrock. Maps of the general area published by the Illinois State Geological Survey indicate that bedrock lies at about 120 feet below the ground surface. The City of East St. Louis and vicinity obtain their municipal water supplies from the Illinois American Water Company which obtains its water from surface water intakes along the Mississippi River.

Groundwater levels in the American Bottoms area of the Mississippi Aquifer generally occur under gravity flow conditions and are influenced by a number of factors including the Mississippi River stage, deep well pumping from industrial sources, precipitation, temperature and recharge from area lakes and streams. Geoprobe borings taken by IEPA in the Spring of 1996 indicate that groundwater is located at approximately seven to twelve feet

below the ground surface at most locations in Sections 1, 2 and 3 although one boring (G104) did not hit water until twenty feet below the surface and G105 hit water at two feet. Some of the groundwater hit by these borings may have been perched water on top of a layer of clay or red mud. The groundwater flow for the site was determined in 1981 when piezometer borings conducted by John Mathes and Associates showed it to be moving in basically a northwest or westerly gradient. Since 1981, more area industries have started using surface water instead of deep groundwater and this may have altered the areas groundwater flow.

After reviewing the geology, groundwater flow and groundwater usage of the area, and the Groundwater Quality Standards (35 IL Adm. Code Part 620), the groundwater beneath this site was determined to be classified as Class I groundwater. Therefore, groundwater remediation objectives will be compared to the Class I groundwater standards in 35 IL. Adm. Code Part 620 or the groundwater objectives found in the IEPA's Tiered Approach to Corrective Action Objectives (TACO) guidance document (proposed Part 742). The soil analytical results will be compared to the values in TACO under either the inhalation, ingestion or Class I migration to groundwater pathway, whichever is lowest.

2.6 Previous Investigations

Several inspections and investigations have previously taken place on the Former Alcoa Property. Section 1 and 3 have been inspected by IEPA's Collinsville Regional Office and Section 4 has been investigated by the City of East St. Louis. The following describes the

previous investigations on all of these properties.

Section 1 was inspected by the IEPA Collinsville Regional Office because the current landowner was using the back of the property and the adjoining land owned by the City of East St. Louis as an area to dump demolition debris. IEPA had an enforcement case against the landowner to remove this debris, however, the courts determined that he did not have the resources to do so and instead ordered that he cover the waste with a layer of soil. In the deal, the City was to provide the soil while the landowner was to spread it over the demolition debris area. This work is just being completed and the area can be seen on a map on Figure 8 and is referred to as "demolition landfill".

Section 3, formerly a part of the United Steel Drum drum recycling facility, was first inspected in 1979, when a large number of drums were documented to be located throughout the site. In the following years numerous investigations, inspections and legal procedures were executed in an attempt to prompt the site owner/operator to improve site conditions. Eventually, in 1986 and 1987 the IEPA sent 4q notices to potentially responsible parties. A Consent Agreement between the Illinois Attorney General's Office and United Steel Drum was signed in 1987 requiring them to remove the drums from the site and to conduct soil sampling throughout the site. O.H. Materials Corporation was hired to conduct these site activities, which began in 1987 and ended in 1989. Upon review of the analytical data, O.H. Materials concluded that concentrations of parameters examined were consistent with background levels, noting that elevated EP Tox barium and TOC parameters were attributable

to pre-existing gypsum/bauxite tailings on site. More detailed information concerning Section 3 can be found in IEPA Bureau of Land files from the "United Steel Drum" site, identification number L1630450030.

Section 4 had an engineering investigation conducted on it in 1981 by John Mathes & Associates, Inc. to determine the feasibility of using the property as a sanitary landfill for the City of East St. Louis. This two-phase hydrogeologic and geotechnical investigation included surficial and subsurface exploration which helped determine the site stratigraphy, geology and groundwater depths. Studies were also conducted to determine the engineering characteristics and permeability of the sites natural soils and red mud fill material. The application for the landfill was denied by the IEPA due to the geological conditions of the site. For a much more in-depth description of this study and its findings, refer to the John Mathes & Associates Engineering Investigation Report which is available in IEPA's Bureau of Land files in Springfield, Illinois. The file the report is contained in is called "East St. Louis Sanitary Landfill" and the file number is L1630450043.

3.0 FIELD INVESTIGATION ACTIVITIES AND ANALYTICAL RESULTS

This section outlines the procedures utilized and observations made during the CERCLA Redevelopment Assessment site sampling conducted at the Former Alcoa Property in East St. Louis. Specific portions of this section contain information pertaining to pre-sampling activities, field sampling, sample description and analytical results.

3.1 Site Representative Interview

On January 9, 1996, discussions were undertaken with the City of East St. Louis regarding the past history and potential future economic uses of the Former Alcoa Property. Representing the City throughout the discussions was Mr. Michael Cordes, Deputy Director of the City of East St. Louis Business and Economic Development Department. During a number of conversations with Mr. Cordes, the nature, purpose, intent of the investigation, future plans for the property, number and location of samples, and sampling date were discussed.

The property owners of Sections 1, 2 and 3 were also contacted and talked to about the Redevelopment Assessment process, IEPA's intention to conduct field sampling activities on their properties and the scheduled dates of the sampling events. All three property owners gave their verbal consent to IEPA to allow sampling to be conducted on their properties.

3.2 Site Reconnaissance

On February 13, 1996, Pete Sorensen, Brad Taylor and Judy Triller of the IEPA's CERCLA Site Assessment Program conducted a site reconnaissance at the Former Alcoa Property. The reconnaissance consisted of a visual inspection to determine the status of the site, to identify potential sampling points and to identify any health or safety concerns associated with the property. Properties which surround the subject sections of property were also surveyed.

The site was found to vary greatly from area to area. While Sections 1, 2 and 3 were basically topographically level, Section 4's topography was much more varied and rugged. Section 1 was found to contain several structures left from when it was owned by Alcoa and a large portion of the property was covered by salvage materials of the current owner's. Section 2 was vacant and surrounded by a chain link fence. Since the reconnaissance, a small flea market has been set up on Section 2. Section 3 was vacant and was a mixture of low wet areas, forested areas and areas where red mud was deposited. At the time of the reconnaissance, a number of empty 55-gallon drums were stockpiled in the southern portion of Section 3. These were removed by their owner prior to the sampling event. Section 4 was primarily comprised of basically three bermed areas where red mud had been deposited by Alcoa. Refer to Section 2.2 for a much more detailed description of the site.

3.3 Global Positioning System and Metal Detector Survey

Sample location data was collected at the site on May 16 and 17 using Trimble Navigation's

Pro XL System which used Global Positioning System (GPS) technology and achieves sub-meter positional accuracy. Three maps (Figures 11, 12 and 13) were constructed in ARCVIEW 2.1 Geographic Information System (GIS) software from GPS data which was collected at the Former Alcoa Property during this period of time.

A metal detector survey was conducted on a portion of Section 3 on May 20, 1996 in an attempt to locate any additional buried drums that were not removed during the 1987 drum removal on the property. In this survey a Geonics EM 61 metal detector was used. The Geonics EM 61 is a high sensitivity, high resolution metal detector which is used to detect both ferrous and non-ferrous metallic objects. The survey was restricted to the southeastern corner of Section 3, due to the presence of heavy vegetation over much of the site where drum activity is known to have occurred. The result of this survey shows the presence of anomalies in various locations (see Appendix G). The exact cause of the anomalies is not known, but these areas should be taken into consideration if any ground work is to be done at the site.

3.4 Workplan

A site sampling workplan was prepared for the Former Alcoa Property in March of 1996. The sampling locations were determined based on a review of historical aerial photography, historical site maps, conversations with City of East St. Louis representatives, conversations with Alcoa representatives and information gathered throughout the site reconnaissance process. Sections 1, 2 and 3 were sampled according to a grid pattern specific to the

respective section, depending on size and shape, as well as sampling areas of potential environmental concern. Sampling in this manner helped ensure that these three sections were adequately sampled to assist in proper site characterization. Only limited sampling was conducted on Section 4 with nine soil samples being collected to help characterize the major units of the Section. The workplan was prepared and submitted to the Region V offices of the USEPA for review prior to initiation of field activities. As stated in the workplan, prior to mobilization on the site to collect samples, JULIE was contacted to locate underground utilities.

3.5 Sampling Activities

One hundred twenty soil, nine ground water samples and one water sample from an open manhole were collected during the Redevelopment Assessment of the Former Alcoa Property. Of these samples, forty soil and three groundwater samples were collected from Section 1, twenty-nine soil, two groundwater and one water from an open manhole from Section 2, forty soil and four groundwater from Section 3 and nine soil samples from Section 4. The location of each sample point is shown in Figures 9 and 10 with the background location shown in Figure 11. Photographs taken at each sample location are shown in Appendix D.

3.5.1 Soil Sampling Procedures

Stainless steel hand augers or hand trowels were utilized to collect all of the soil samples, except X007 which was collected with the geoprobe. At each sample location, soil was

collected from consecutive one-foot intervals, removed from the auger and placed in an airtight plastic bag. The plastic bag was then placed in a warm sunny area or next to a heater in the support vehicle for at least ten minutes to allow for volatilization of volatile organic materials that may have been present in the soils. After the waiting period, the Toxic Vapor Analyzer (TVA) probe was inserted through an incision in the plastic bag and both a Photo-Ionization Detector (PID) and Flame-Ionization Detector (FID) readings were taken. This process was repeated in each bag to determine the interval with the highest TVA readings and those intervals with readings which did not rise significantly above or remained at background levels. At each bore hole, if there were two or more depths that contained elevated TVA readings, a sample was collected from each of these depths. If there were not two or more intervals with elevated readings, soil samples were taken from the interval with the highest reading and another sample was taken at a deeper interval where readings did not rise significantly above background. In instances where there were no significant TVA readings but the sampling team observed a marked change in soil composition or appearance, a sample was usually collected at the depth where the change was observed.

All of the soil samples were collected directly from the auger or trowel and placed into sample jars provided by the IEPA's Contract Laboratory Program. For every twenty soil samples taken, a set of duplicate soil samples were collected at the same location after mixing the soil in a stainless steel pan prior to filling sample containers. All sample containers were labeled noting location, time and date of sample collection and analysis to be performed. The samples were transported to the analytical laboratories via Federal Express

in iced coolers under chain-of-custody documentation in accordance with IEPA Site Assessment Program procedures.

All samples were analyzed for the Target Compound List (TCL) a copy of which is provided in Appendix C. After reviewing the analytical results, seven samples with elevated metals concentrations were selected to be run for Toxicity Characteristics Leaching Procedure (TCLP) metal analysis. Inorganic TCLP analysis was conducted for samples X003, X011, X016, X020, X075, X080 and X098 at IEPA's inorganics laboratory in Champaign, Illinois.

The analytical results were compared to the Tier 1 remediation objectives from the IEPA's Tiered Approach to Corrective Action Objectives (TACO) guidance document. Tier 1 commercial/industrial remediation objectives (Appendix E) were used for this evaluation. These objectives were selected because to the proposed future redevelopment of this property for commercial/industrial purposes. The inorganic TCLP analytical results were compared to Subtitle G from Title 35 of the Environmental Protection Act to determine if the substance was classified as a hazardous waste (Appendix F).

3.5.2 Groundwater Sampling Procedures

The Geoprobe unit was used to collect groundwater samples and to gather subsurface information. After driving a probe into the ground to the depth of groundwater (see Section 3.4.1), a peristaltic pump and plastic tubing were used to pump the water from the hole and fill the sample jars. All sample containers were labeled noting location, time and date of

sample collection and analysis to be performed. The samples were transported to the laboratory in an iced cooler under chain-of-custody documentation in accordance with IEPA CERCLA Site Assessment Program procedures.

3.6 Analytical Results

This section provides information on analytical data obtained during the course of the 1996 Redevelopment Assessment at the Former Alcoa Property. Table 2 (Analytical Summary Table) identifies those samples collected during the Redevelopment Assessment and the analytical results associated with them. All analytical results are compared to Tier 1 remediation objectives found in Tables C and E of the IEPA TACO document (refer to Appendix E for appropriate excerpts from this document). The remediation objectives that appear in these tables are taken from Tier 1 of the guidance document. Table 2 contained in this report, compares contaminant concentrations to the Tier 1 remediation objectives for an industrial/commercial setting (Table C of the TACO document) using ingestion, inhalation and migration to Class I groundwater pathways. The numbers printed in red ink in Table 2 are the concentrations which have exceeded the Tier 1 remediation objectives. In the inorganic portion of Table 2, some remediation objectives are pH dependent and therefore are not shown. However, these objectives may be found on Table E of the TACO document (Appendix E). Sample points X003, X011, X016, X020, X075, X080 and X098 were also evaluated utilizing TCLP analysis. TCLP results were compared to remediation objectives based on an industrial/commercial setting with Class I groundwater (Table 4). For a review of the raw analytical data obtained during the CERCLA Assessment see Appendix H.

4.0 POTENTIAL AREAS OF CONCERN

Six potential areas of contamination have been identified at the Former Alcoa Property. These include red mud, black cinders, gypsum berms, paint cans area, flooded area and burn area.

4.1 Red Mud

As discussed in Section 2.4, large areas of the Former Alcoa Property were used by Alcoa as areas to dispose of their waste product known as red mud. Although a large portion of it was disposed of in the large bermed areas in Section 4, large sections of Sections 1, 2 and 3 also contain areas of red mud. The northwestern portion of Section 1 contains red mud either on the surface or buried beneath a layer of cinders or other fill material. The majority of Section 2 has a one to two foot surface layer of black cinders which covers red mud that extends down to at least four feet in depth. The majority of Section 3 also either has a layer of red mud at the surface or at a shallow depth. These areas were most likely historically low areas that were convenient to use as areas to dump Alcoa's red mud.

A total of twenty-nine soil samples were collected from areas that contained red mud and seventeen of these were found to exceed TACO Tier 1 remediation objectives. These samples included X009, X047, X048, X053, X054, X059, X061, X062, X074, X075, X083, X084, X087, X090, X091, X092 and X096. The majority of these samples were found to contain similar contaminants at elevated levels including aluminum, chromium and sodium. The highest concentration of aluminum was 223,000 mg/kg in X033, however the majority of the aluminum

concentrations were in the 40,000 to 80,000 mg/kg range. The highest chromium concentration was 2540 mg/kg in X075 while the majority of the samples were found to contain chromium in the 300 to 1000 mg/kg range. Sodium was detected at levels up to 47,600 mg/kg in X009.

4.2 Black Cinders

A large portion of Section 1, almost all of Section 2 and some areas of Section 3 are covered with a layer of black cindery fill material. The origin of this fill material is unknown. Although it looks similar and has some similar contaminants throughout the three sections, the cinder samples also vary in what was detected in them.

A total of twenty-five soil samples were collected from areas containing black cinders and four of these (X003, X012, X018 and X051) were found to exceed Tier 1 remediation objectives. Many of these samples were found to contain similar contaminants including one or more of the following: arsenic, cadmium, chromium, cobalt, lead, nickel, selenium, silver, thallium and zinc.

4.3 Gypsum Berms

As discussed in Section 2.4, Alcoa formed gypsum berms on Section 4 to form disposal impoundments for their red mud waste. Five samples (X076 - X080) were collected from the gypsum berms and were all found to contain similar contaminants exceeding Tier 1 remediation objectives including lead and silver. The concentrations of lead in these samples ranges from 716 mg/kg to 1500 mg/kg and silver ranges from 24.1 mg/kg to 25.6 mg/kg. Sample X080 was

collected from a small bluish colored area in the berm and was found to also contain cyanide at 273 mg/kg. In addition, TCLP inorganics analysis was conducted on X080 and indicated that the soil would be classified as RCRA toxicity characteristic hazardous waste as it exceeded the TCLP toxicity characteristic value for lead.

In addition, a small impoundment with a gypsum berm is located on the northwest corner of Section 3 and can be seen on Figure 8. It is unknown who used this impoundment or what it was used for but it appears to be constructed of the same material that constitutes the large berms on Section 4. Sample X098 was collected from this area and was found to contain lead exceeding Tier 1 remediation objectives at 3820 mg/kg. TCLP inorganics analysis was conducted on X098 and indicated that the soil would be classified as RCRA toxicity characteristic hazardous waste as it exceeded the TCLP toxicity characteristic value for lead. Sample X060 was collected from an area which also contained what appeared to be gypsum. This sample also exceeded Tier 1 remediation objectives for lead and silver.

4.4 Paint Cans Area

A small area on Section 1 contains a pile of numerous old, rusted paint and tar cans (see Figure 8). Sample X020 was collected in this area and was found to contain several inorganic compounds which exceeded Tier 1 remediation objectives. These contaminants included arsenic (624 mg/kg), cadmium (428 mg/kg), lead (5500 mg/kg) and selenium (6.2 mg/kg). These paint cans are currently on a slab of concrete and the contamination is believed to be very localized around the pile.

4.5 Flooded Areas

At the time of sampling, a fairly large portion of Section 2 was inundated by approximately six inches of water. This area was flooded because it is low-lying and receives runoff from adjacent properties and from a manhole which overflows onto the property. Samples X063 - X073 were collected from this flooded area and were all found to contain arsenic at levels exceeding Tier 1 remediation objectives. Soil samples X103, X106, X107, X113, X114, X115, X116, X118, X119 and X120 collected on Section 2 were all collected from areas that were not flooded at the time of sampling but contained similar contaminants (arsenic) exceeding Tier 1 remediation objectives as those found on the flooded area of Section 2. There is the posibility that this is because those areas are also flooded by contaminated waters at some times. Arsenic ranges in the samples taken from both areas were from 25.7 mg/kg to 226 mg/kg with the majority ranging from 40 mg/kg to 70 mg/kg. Sample X070 also contained chromium and lead and X065 selenium exceeding Tier 1 remediation objectives.

4.6 Burn Area

A couple of burn pits are located on the eastern portion of Section 1. It is unknown what has been burned in these areas although it appears that the burn areas have been used recently. Sample X011 was collected from one of these burn areas and was found to contain mercury (1440 mg/kg), selenium (961 mg/kg) and thallium (39.5 mg/kg) above Tier 1 remediation objectives.

5.0 NATURE OF CONTAMINATION

This section provides a discussion of the analytical data obtained during the CERCLA Redevelopment Assessment and the nature of this contamination. Refer to Table 2 for a summary of the analytical results and to Figures 9 and 10 for a sample location map.

5.1 Laboratory Analysis

All samples collected during the CERCLA Redevelopment Assessment were transported to the laboratory in an iced cooler following chain-of-custody procedures and protocols as outlined in the IEPA work plan. Upon receipt by the laboratories, all samples were analyzed for the Target Compound List volatiles, semi-volatiles, polynuclear aromatic hydrocarbons, pesticides, polychlorinated biphenyls and inorganics. A copy of the Target Compound List is provided in Appendix C. In addition, after reviewing the Target Compound List analytical results, seven of the soil samples were also analyzed for TCLP metals analysis.

The organics portion of the samples were all analyzed at CompuChem Environmental Corporation located at Research Triangle Park in North Carolina. Inorganics samples X002 through X042 were analyzed at Inchcape Testing Services Aquatec in Colchester, Vermont while samples X043 through X080 were analyzed at TMA/Skinner & Sherman Labs in Waltham, Massachusetts and inorganics samples X081 through X120 were analyzed at American Analytical & Technical Services in Broken Arrow, Oklahoma. All of the previously mentioned laboratories were under contract with U.S. EPA Region 5, who contracted Lockheed/ESAT to validate the analytical results. The TCLP inorganic samples

were analyzed by the Illinois EPA Inorganics Laboratory in Champaign, Illinois.

5.2 Soil Investigation

One-hundred eighteen soil samples were collected from the Former Alcoa Property and two soil samples were collected from a location off-site to represent background conditions. The on-site samples were X103 - X120 and the background samples were X101 and X102. The locations of the on-site samples can be seen on Figures 9 and 10 while the background sample location can be seen on Figure 11. The analytical results of these samples were compared to the TACO Tier 1 remediation objectives for a commercial/industrial scenario with Class I groundwater to determine whether any remediation objectives were exceeded. This scenario takes into account the potential for ingestion, inhalation and migration to groundwater. Of the 118 on-site soil samples collected, 57 exceeded Tier 1 remediation objectives for at least one contaminant when compared to all Tier 1 exposure routes (see Table 2). The majority of these exceeded the Tier 1 remediation objective for the "migration to groundwater" pathway while a small number exceeded them for the ingestion or inhalation exposure routes. It should emphasized that the analytical results were compared only to Tier 1 remediation objectives and no Tier 2 or Tier 3 analysis was conducted. The following section discusses the samples that were found to contain contaminants at levels exceeding Tier 1 remediation objectives. The analytical results from all soil samples collected can be seen on Table 2 with the numbers exceeding TACO Tier 1 remediation objectives in red ink. Sample descriptions for all soil samples can be found in Table 1.

Only two soil samples (X088 and X118) exceeded Tier 1 remediation objectives for organic contaminants. Sample X088 exceeded the Tier 1 remediation objective for benzo (a) pyrene while X118 exceeded the Tier 1 remediation objectives for benzo (b) fluoranthene and benzo (a) pyrene. Sample X088 was collected in an area that was used as a drum staging area during the drum removal cleanup on the property in 1987. Sample X118 was collected from an area of cinders on the edge of the small wetland (see Figure 10).

Fifty-six of the 118 soil samples collected on the Former Alcoa Property were found to exceed TACO Tier 1 remediation objectives for one or more inorganic contaminants. Sixteen different inorganics were detected at levels exceeding Tier 1 remediation objectives. These inorganic constituents included: arsenic, cadmium, chromium, copper, iron, lead, mercury, nickel, selenium, silver, thallium, vanadium, zinc and cyanide. Fifty of the samples that exceeded Tier 1 remediation objectives can be catagorized under six main groups: red mud, black cinders, gypsum berms, paint cans area, flooded area and burn area. Samples collected from these seven soil types or areas have been discussed in detail previously in Sections 4.0 through 4.6.

The remaining nine soil samples which exceeded Tier 1 remediation objectives cannot be easily catagorized as they were located throughout Sections 1, 2 and 3 and were in a wide variety of soil types and depths. The inorganic constituents that were detected in these nine samples exceeding Tier 1 remediation objectives included antimony, arsenic, cadmium, cobalt, copper, iron, lead, mercury, selenium, silver and thallium. Cadmium was found to exceed Tier 1 remediation objectives in X015, X016, and X020, lead in X016, X020, X085, X098 and X114,

mercury in X011, selenium in X011 and X020, silver in X016 and X060 and thallium in X011 and X102.

TCLP Analysis

Seven soil samples (X003, X011, X016, X020, X075, X080 and X098) were analyzed for TCLP inorganics in addition to the Target Compound List. The TCLP results from these samples can be seen in Table 4. Of these, X003, X016, X020, X080 and X098 were found to each contain one compound exceeding RCRA Toxicity Characteristic values for hazardous waste. Sample X003 was found to contain TCLP cadmium at 2.9 mg/L while the RCRA value to be classified as hazardous waste is 1 mg/L. Samples X016, X020, X080 and X098 were found to contain TCLP lead at 6.3, 13, 11 and 20 mg/L, respectively, while the RCRA value to be classified as hazardous waste is 5 mg/L.

5.3 Groundwater Investigation

Nine groundwater samples (G101 through G109) were collected during the field investigation portion of the CERCLA Redevelopment Assessment at the Former Alcoa Property. The geology and groundwater use of the area is described in Section 2.5 and the locations of the groundwater samples can be seen on Figure 10. All nine samples were found to contain at least two contaminants exceeding Tier 1 Class 1 groundwater remediation objectives. Sodium was detected exceeding Tier 1 remediation objectives in nine samples, manganese and vanadium in four samples while remediation objectives for nickel were exceeded in three. The following contaminants were detected exceeding Tier 1 remediation objectives in at least one of the

groundwater samples: benzo(a)anthracene (G105), bis(2-Ethylhexyl)phthalate (G102 and G106), benzo(b)fluoranthene (G105), benzo(k)fluoranthene (G105), aluminum (G103 and G104) antimony (G109), arsenic (G103 and G106), cadmium (G109), chromium (G107), iron (G104), lead (G105), manganese (G101, G102, G104, G109), nickel (G101, G104, G109), thallium (G108), vanadium (G103, G106, G107 and G108) and cyanide (G102). It should be pointed out that aluminum and sodium were also detected at elevated levels in some of the groundwater samples, however, at this time there are no established TACO remediation objectives for these two constituents. The groundwater sample summary considering all Tier 1 routes may be found in Table 3.

One water sample was also collected from the water in an open manhole which is located on Section 2. During the field investigation portion of the Redevelopment Assessment, this manhole was seen occasionally overflowing and its water flowing onto Section 2. Because of this, water sample G110 was collected from the water standing in the manhole. The results from this sample indicate that the water exceeded Tier 1 remediation objectives for bis (2-Ethylhexyl) phthalate, antimony and sodium.

6.0 REDEVELOPMENT POTENTIAL

This section includes a very brief summary of the analytical data gathered during the CERCLA Redevelopment Assessment, description of the TACO process for establishing remediation objectives and identifies information gaps where additional information or investigation is needed. The groundwater and soil samples collected by the IEPA's Site Assessment Program focused on potential or definite areas of concern at the Former Alcoa Property. The soil sampling strategy was not designed to define the extent of soil contamination, but rather to identify potential areas of environmental concern.

6.1 Analytical Summary Narrative

One-hundred eighteen soil samples and nine groundwater samples were collected from the Former Alcoa Property (refer to Figures 9 and 10). The soil sample results indicate that sixty-three of the soil samples contain contaminants exceeding TACO Tier 1 remediation objectives, mainly from inorganic contaminants. In addition, all nine groundwater samples were found to exceed groundwater Tier 1 remediation objectives for at least one contaminant.

6.2 Tiered Approach to Corrective Action Objectives Process

The Illinois Environmental Protection Agency's *Tiered Approach to Corrective Action Objectives* (TACO) guidance document (proposed Part 742), can be used to develop site specific remediation objectives. The TACO document discusses key elements required to develop risk-based remediation objectives, how background values may be used and provides guidance through the three tiers of the risk-based approach. The IEPA will use this guidance and the

groundwater quality standards established in 35 Ill. Adm. Code 620 to determine soil and groundwater remediation objectives at CERCLA Redevelopment sites.

The goal of the risk-based tiered approach is to protect human health and the environment, while using site specific data to allow for more cost-effective remedial actions. The risk-based approach allows remediation efforts to be focused on those specific exposure routes which pose a threat to either human health and/or the environment. The following paragraphs discuss the three tiers identified in the IEPA guidance document.

Tier 1 consists of "look-up" tables, which consider limited site-specific information and are based on simple numeric models. Two Tier 1 tables exist, one for the residential scenario and one for the industrial/commercial scenario. The residential scenario table contains objectives (or in some cases groundwater standards) for the ingestion, inhalation, groundwater and migration to groundwater routes. The Tier 1 approach only requires knowledge of contaminant concentrations and extent, the groundwater class, and the receptors. In this Redevelopment Assessment, analytical data was compared to Tier 1 remediation objectives.

Tier 2 allows for the use of more site-specific information (such as property use, soil and hydrogeologic characteristics, engineered barriers and institutional controls). This Tier is useful where actual site conditions do not reflect the assumptions under the Tier 1 approach. Tier 2 uses simple analytical models nature, but allows for site specific data to be considered. Analytical models similar to the Soil Screening Levels proposed by the United States

Environmental Protection Agency and the Risk Based Corrective Action guidance prepared by the American Society for Testing and Materials are used to determine site specific remediation objectives for a site.

Tier 3 evaluations address all other situations which cannot be handled under Tier 1 or Tier 2, including any situation in which an ecological threat must be evaluated. All Tier 3 evaluations require a technical review by the IEPA. Tier 3 scenarios include, but are not limited to, risk assessments, use of different analytical models, contamination removal restraints due to physical barriers, and the modification of parameters not allowed under Tier 2.

The following paragraphs describe the different scenarios available using the TACO guidance document. The City of East St. Louis has identified the possibility of using the Former Alcoa Property on the north side of Missouri Avenue for industrial/commercial purposes. Therefore, the soil contaminants have been compared to the soil remediation objectives established for industrial/commercial properties, with the inhalation, ingestion, and migration to groundwater pathways evaluated for each scenario.

As discussed earlier, 57 of the 118 soil samples collected on the Former Alcoa Property were found to contain either semi-volatiles (two samples) or inorganics (79 samples) above the Tier 1 industrial/commercial remediation objectives identified in Table C of the TACO document. Using the ingestion, inhalation and migration to groundwater exposure pathways, these soils would have to be removed before work for any industrial commercial use could occur.

However, if additional site-specific soil properties are gathered, a Tier 2 analysis using Table G or Table I of the TACO document can be used to calculate site specific remediation objectives. A Tier 3 analysis could also be performed either by completing a risk assessment or providing an engineered barrier (clay cap, etc.) and providing documentation that the contaminants are not endangering human health and/or the environment. If a maintained engineered barrier in conjunction with an institutional control (which will be required since this property will be industrial/commercial property) is used to control human exposure to the soil, only soil removal from the area around soil samples X003, X016, X020, X080 and X098, which exceeded RCRA TCLP benchmarks as hazardous waste, may need to occur.

6.3 Areas Requiring Further Investigation

Additional investigation will be required to determine the extent of soil contamination around soil samples X003, X080 and X098 prior to site redevelopment. The extent of cadmium contaminated soils around X003 and the extent of lead contaminated soils around X080 and X098 will need to be investigated. These three areas, according to the analytical data, contain either cadmium or lead above the toxicity characteristic of 1 mg/L for cadmium or 5 mg/L for lead causing the soil to be classified as hazardous waste. The soil in these areas must be removed from the site regardless of the future use of the property.

APPENDICES

FIGURES

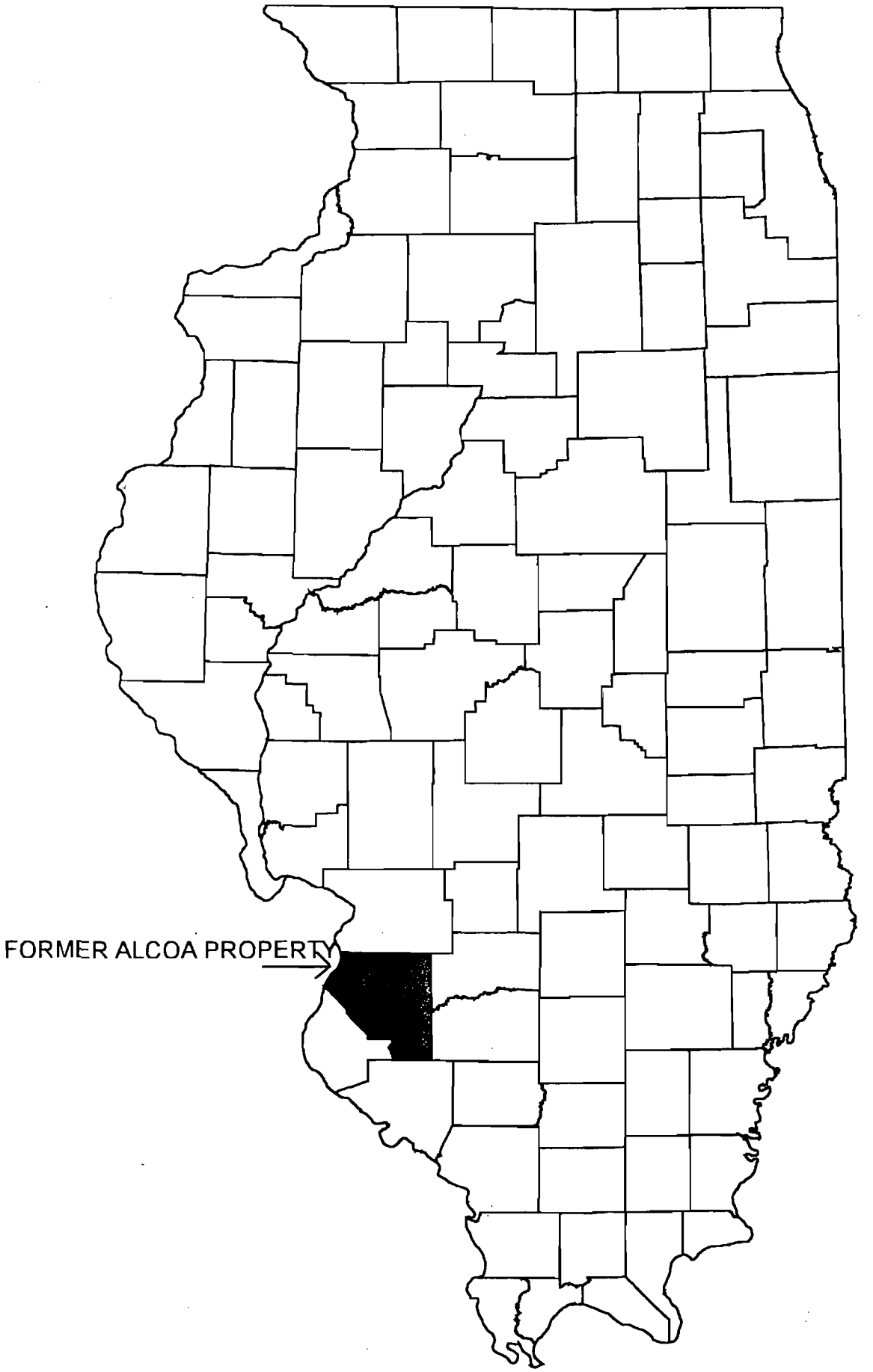


FIGURE 1 ILLINOIS STATE MAP

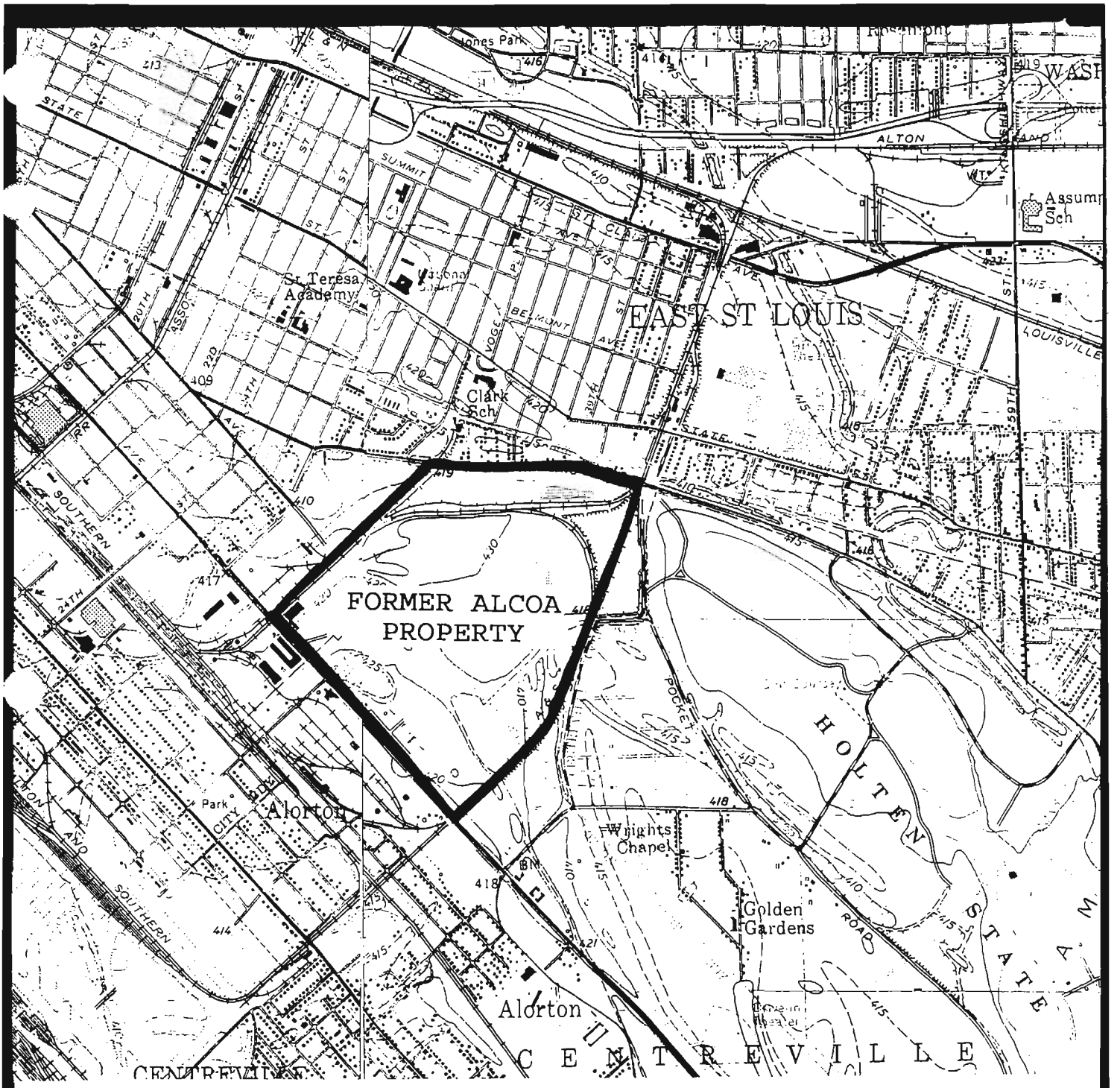


FIGURE 2

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY	SITE: FORMER ALCOA PROPERTY SITE ILB 000 000 001
REGIONAL AREA MAP SHOWING FORMER ALCOA PROPERTY	
Scale: 24,000	N
LEGEND: ☐ Site Location	

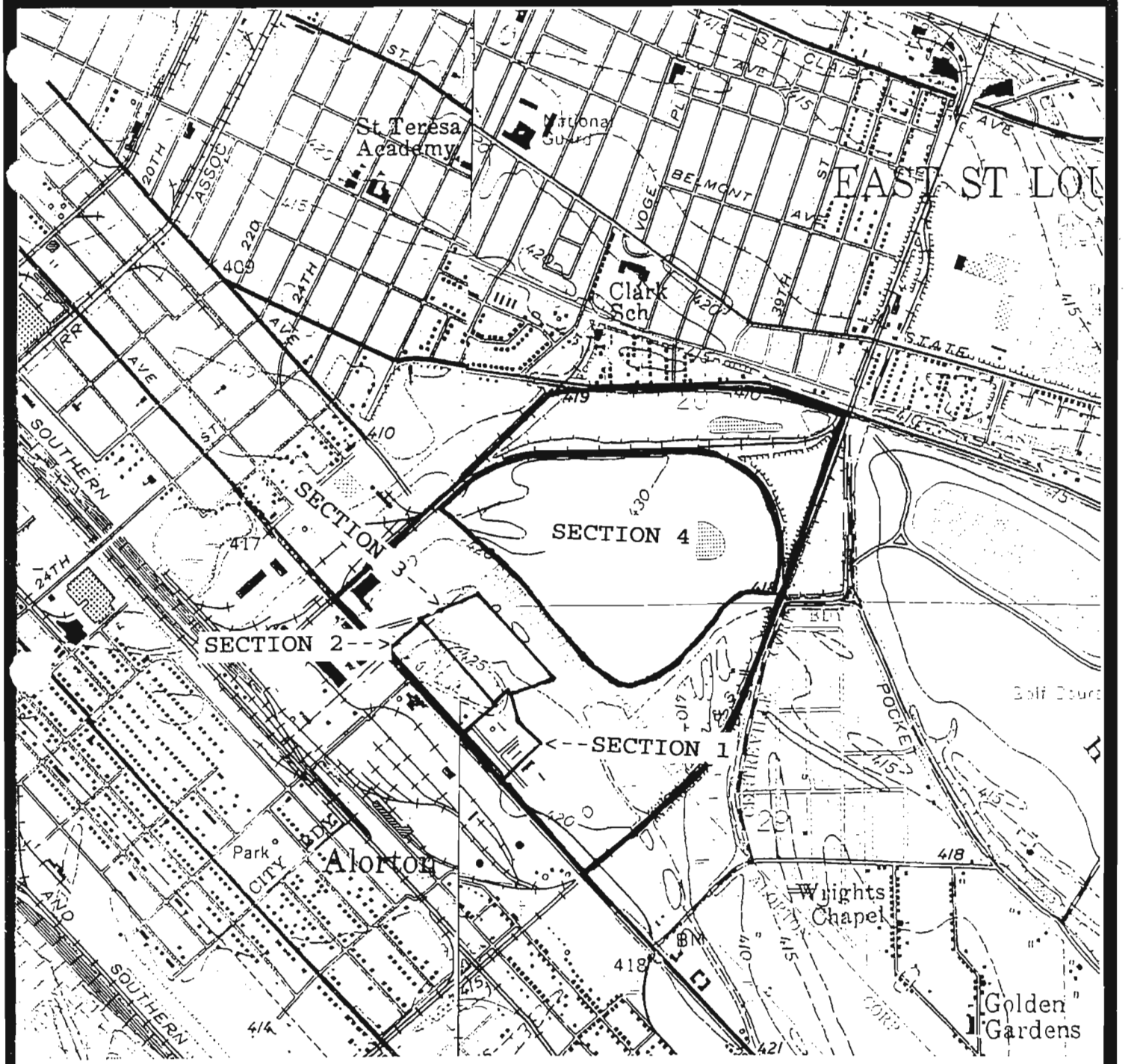


FIGURE 3

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY	SITE: FORMER ALCOA PROPERTY SITE ILB 000 000 001
REGIONAL AREA MAP SHOWING SECTIONS 1, 2, 3 & 4	
SCALE: Unknown	N
LEGEND: ☐ Site Location	

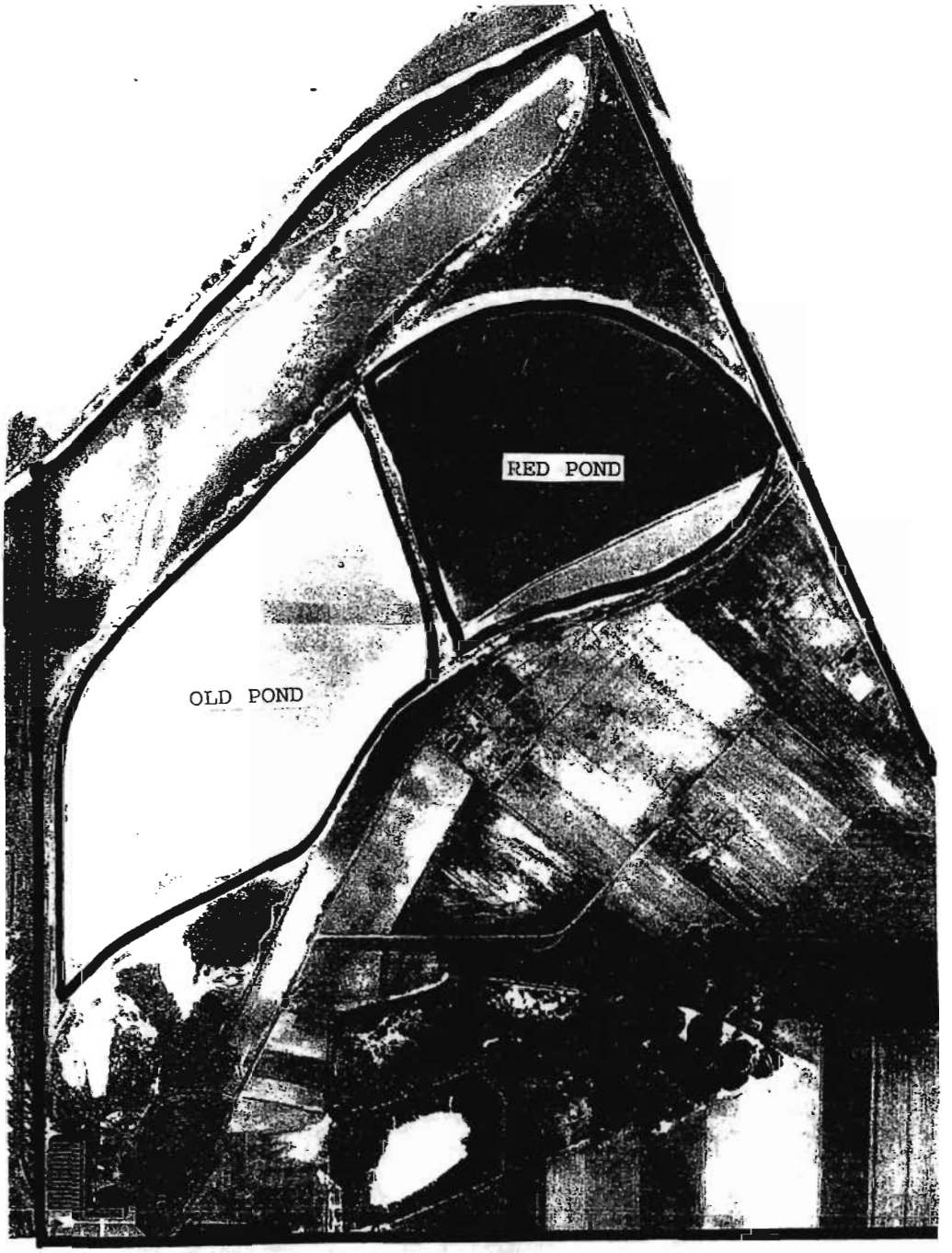


FIGURE 4

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY	SITE: FORMER ALCOA PROPERTY SITE ILB 000 000 001
1940 AERIAL PHOTOGRAPH SHOWING FORMER ALCOA PROPERTY	
Scale: Unknown	N
LEGEND: ☐ Site Location	

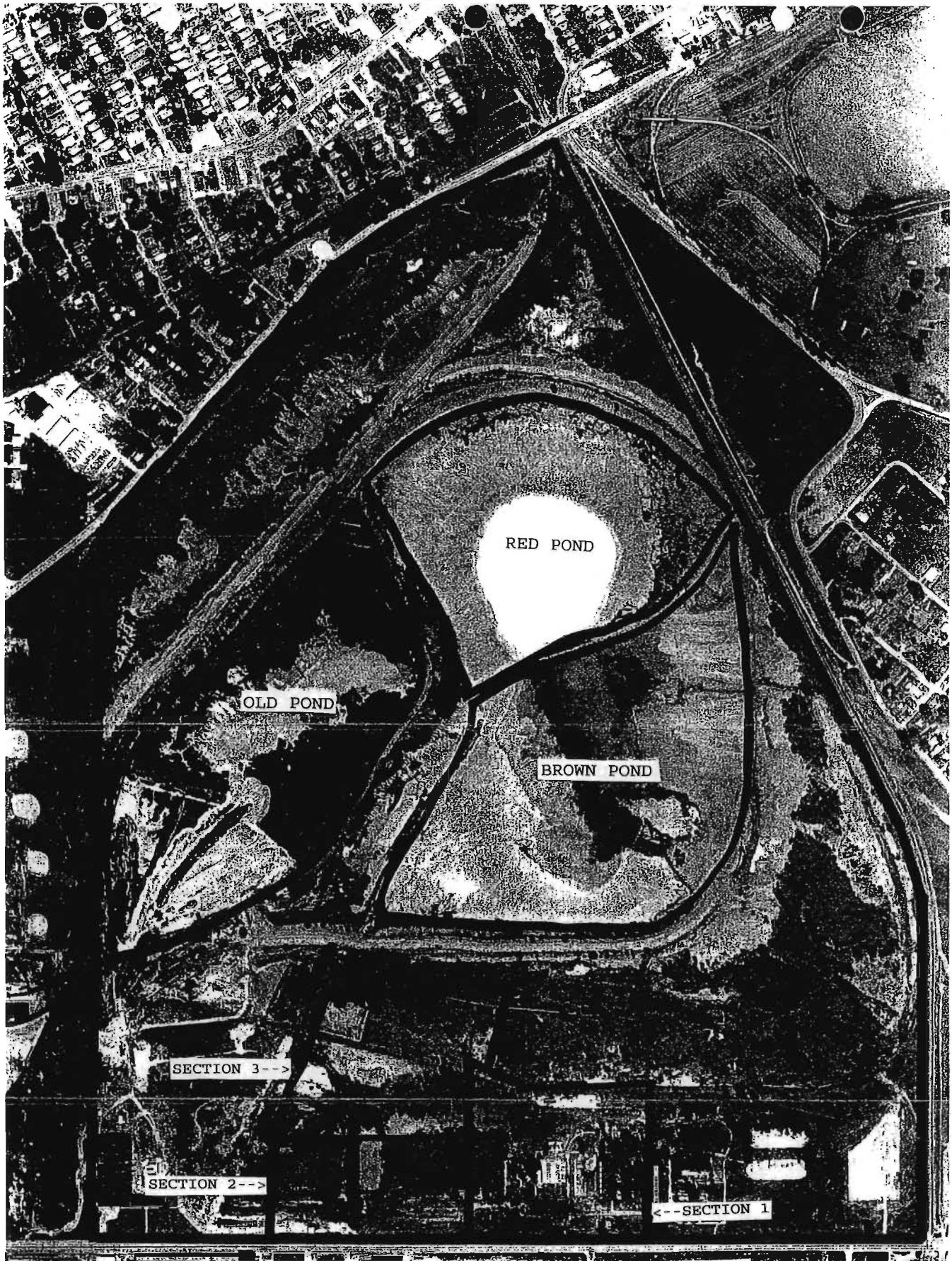


FIGURE 5

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY	SITE: FORMER ALCOA PROPERTY SITE ILB 000 000 001
1978 AERIAL PHOTOGRAPH SHOWING FORMER ALCOA PROPERTY	
Scale: 1:4800	
LEGEND: ☐ Site Location	N

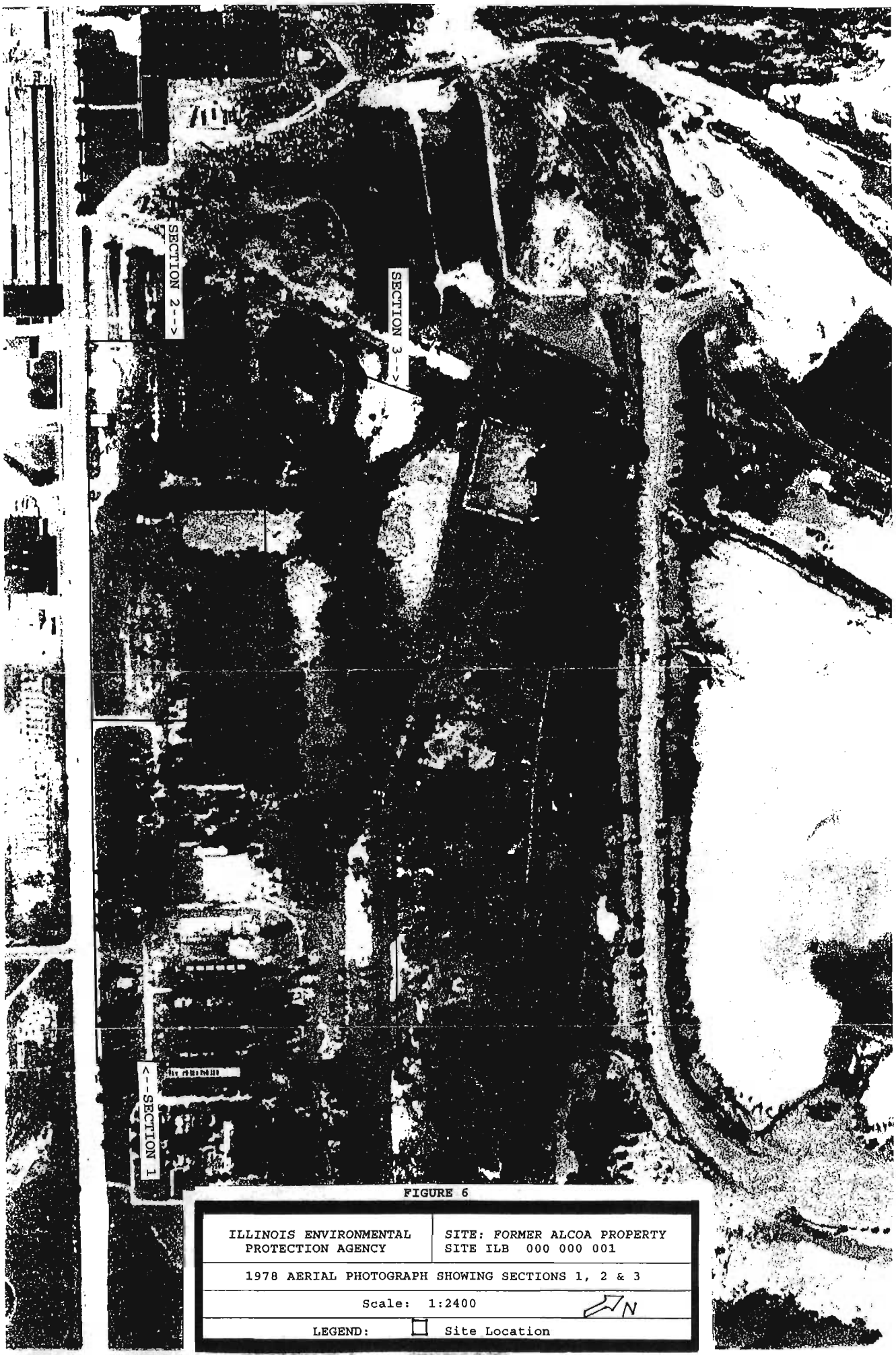


FIGURE 6

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY	SITE: FORMER ALCOA PROPERTY SITE ILB 000 000 001
1978 AERIAL PHOTOGRAPH SHOWING SECTIONS 1, 2 & 3	
Scale: 1:2400	N
LEGEND: ☐ Site Location	

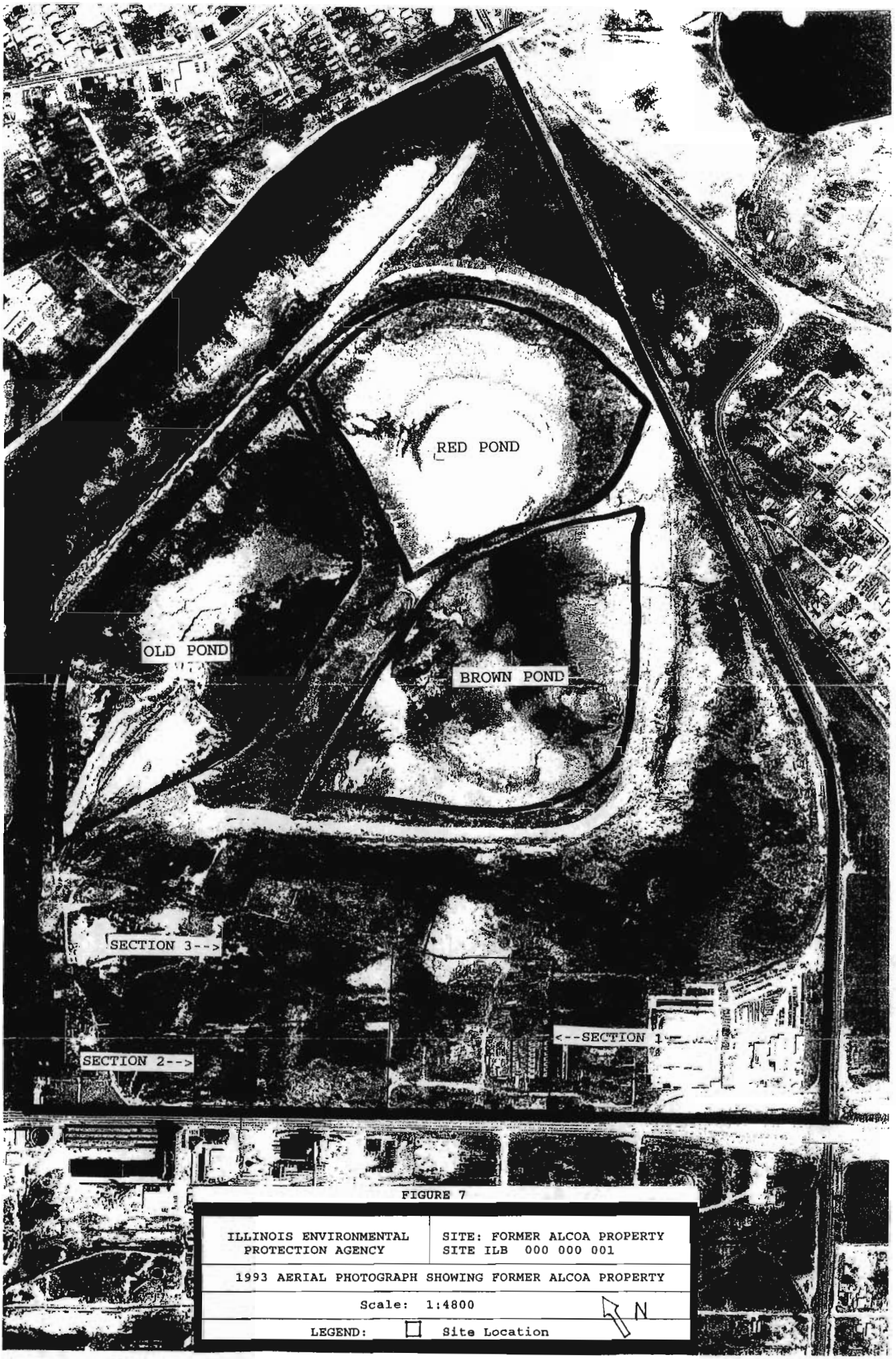
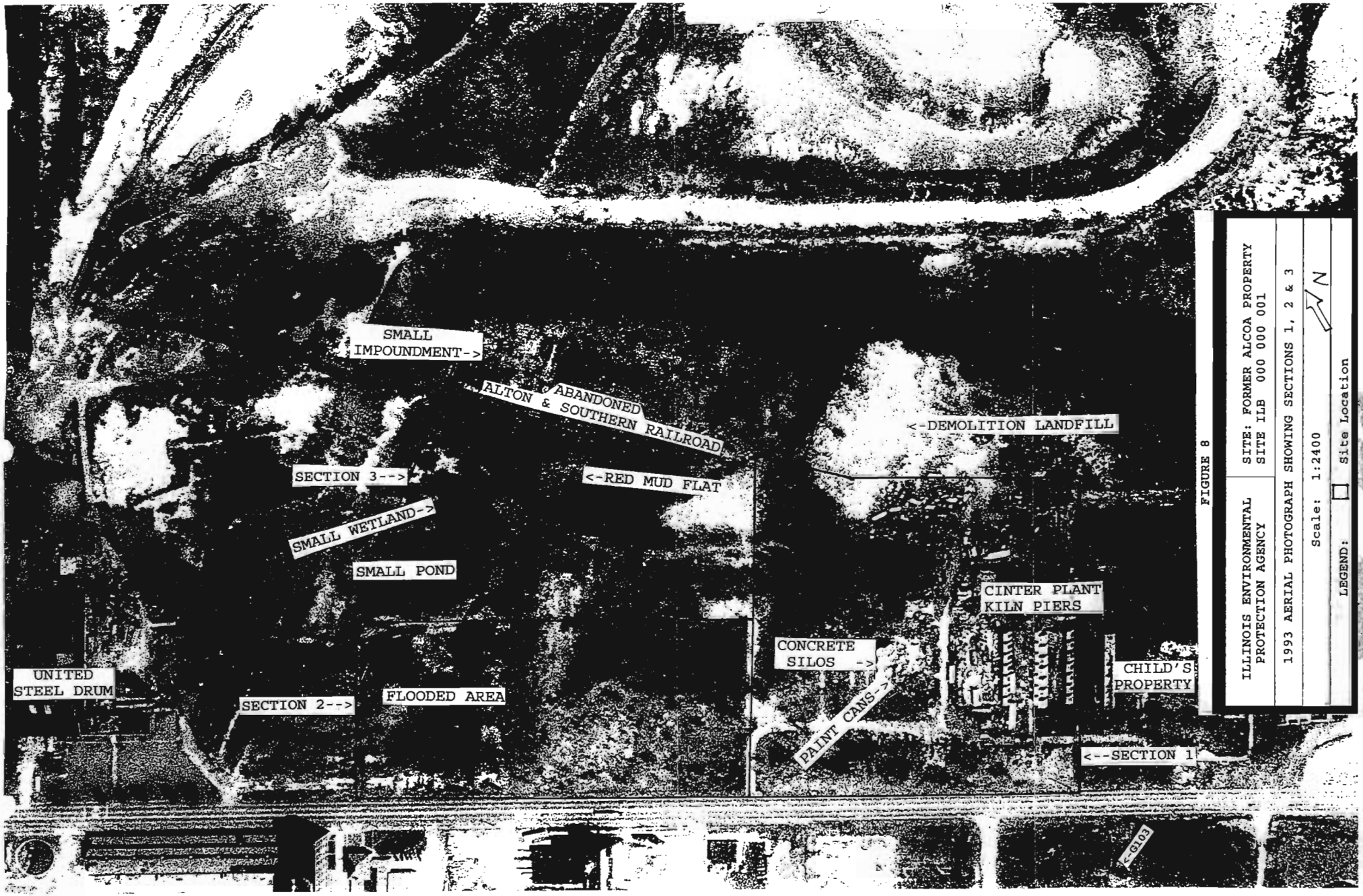


FIGURE 7

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY	SITE: FORMER ALCOA PROPERTY SITE ILB 000 000 001
1993 AERIAL PHOTOGRAPH SHOWING FORMER ALCOA PROPERTY	
Scale: 1:4800	N
LEGEND: ☐ Site Location	


SMALL IMPOUNDMENT->
ABANDONED ALTON & SOUTHERN RAILROAD
<-DEMOLITION LANDFILL
SECTION 3-->
<-RED MUD FLAT
SMALL WETLAND->
SMALL POND
CINTER PLANT KILN PIERS
CONCRETE SILOS ->
UNITED STEEL DRUM
SECTION 2-->
FLOODED AREA
CHILD'S PROPERTY
PAINT CANS->
<--SECTION 1
<-GL03
FIGURE 8
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
SITE: FORMER ALCOA PROPERTY
SITE ILB 000 000 001
1993 AERIAL PHOTOGRAPH SHOWING SECTIONS 1, 2 & 3
Scale: 1:2400
N
LEGEND: Site Location

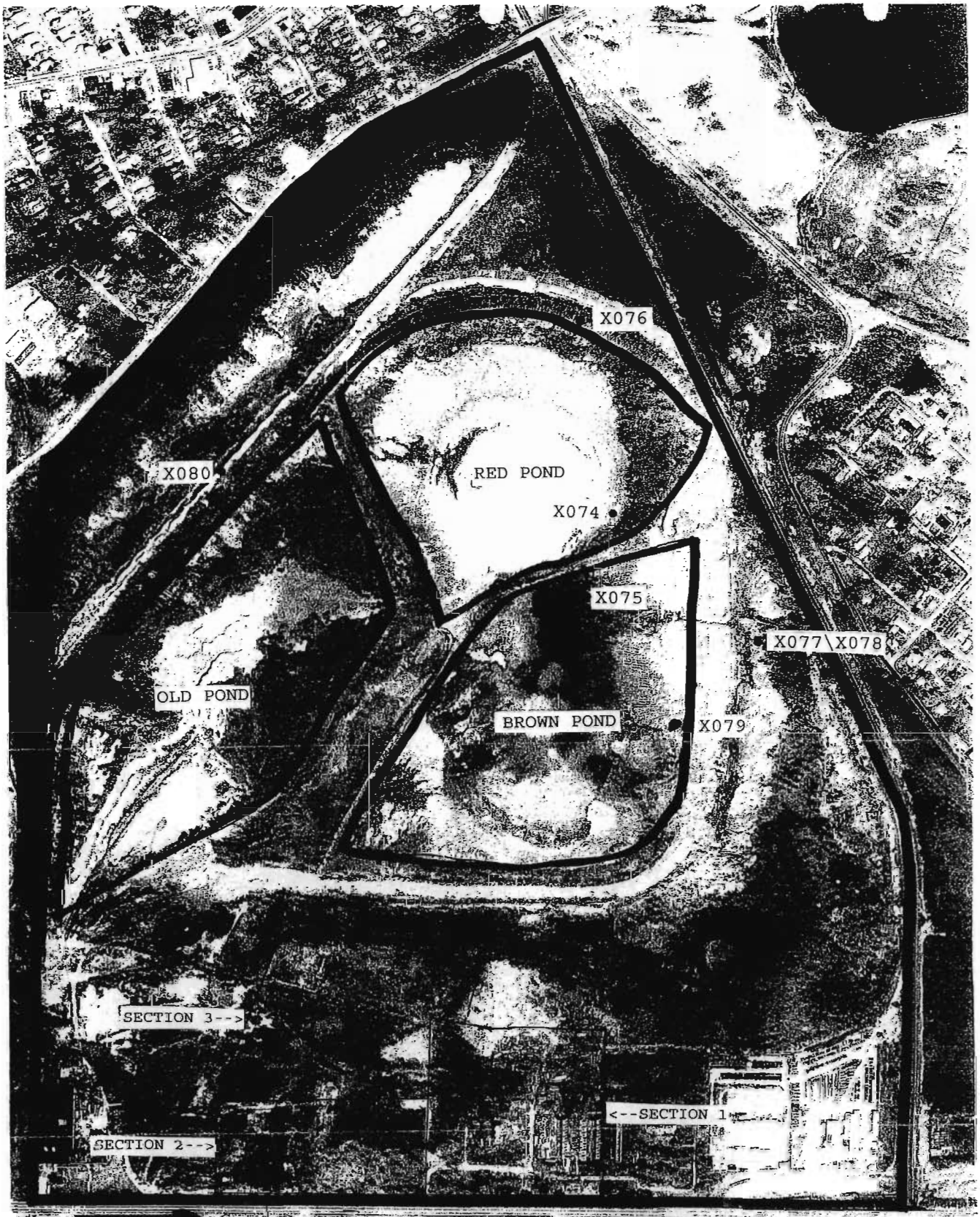


FIGURE 9

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY	SITE: FORMER ALCOA PROPERTY SITE ILB 000 000 001
SAMPLE LOCATION MAP FOR SECTION 4 ON 1993 AERIAL PHOTOGRAPH	
Scale: 1:4800	N
LEGEND: Site Location	

FIGURE 14

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY	SITE: FORMER ALCOA PROPERTY SITE ILB 000 000 001
SAMPLE LOCATION MAP FOR SECTIONS 1, 2 & 3 ON 1993 AERIAL PHOTOGRAPH	N
Scale: 1:2400	
LEGEND: ☐ Site Location	

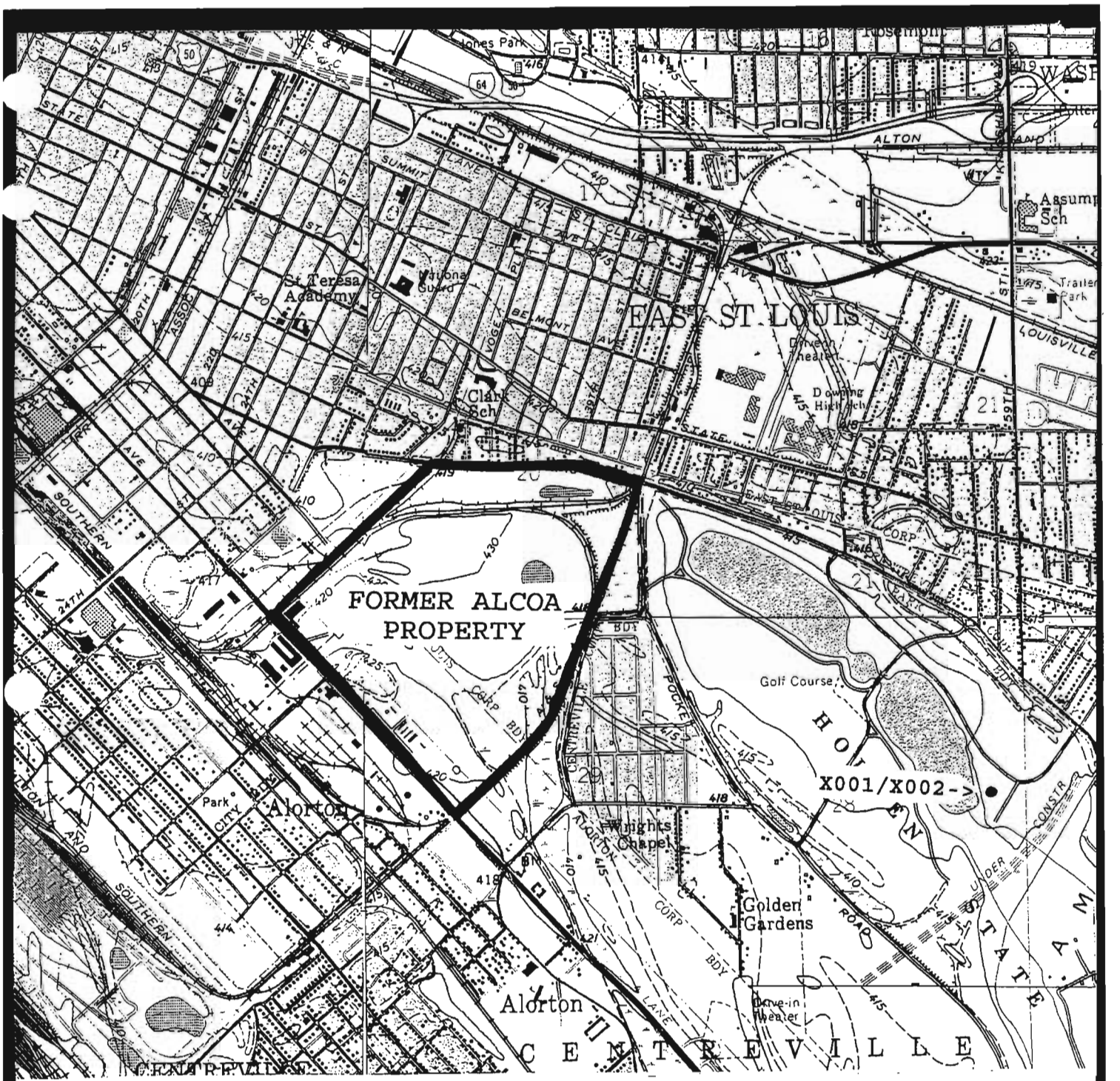


FIGURE 11

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY	SITE: FORMER ALCOA PROPERTY SITE ILB 000 000 001
REGIONAL AREA MAP SHOWING BACKGROUND SOIL SAMPLE LOCATION	
Scale: 24,000	↑N
LEGEND: ☐ Site Location	

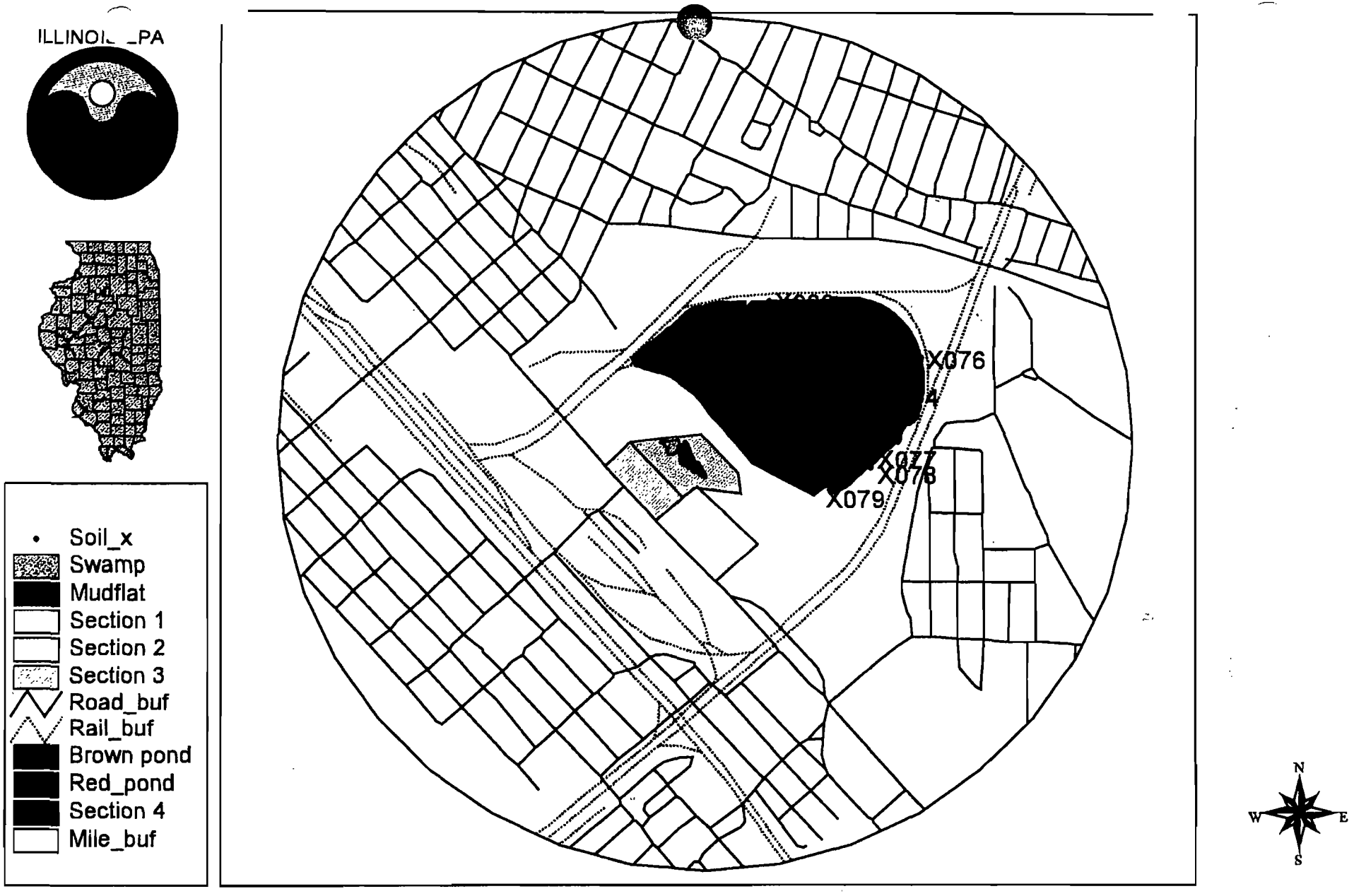


FIGURE 12: FORMER ALCOA PROPERTY ST. CLAIR COUNTY

1900 0 1900 3800 5700 7600 Feet

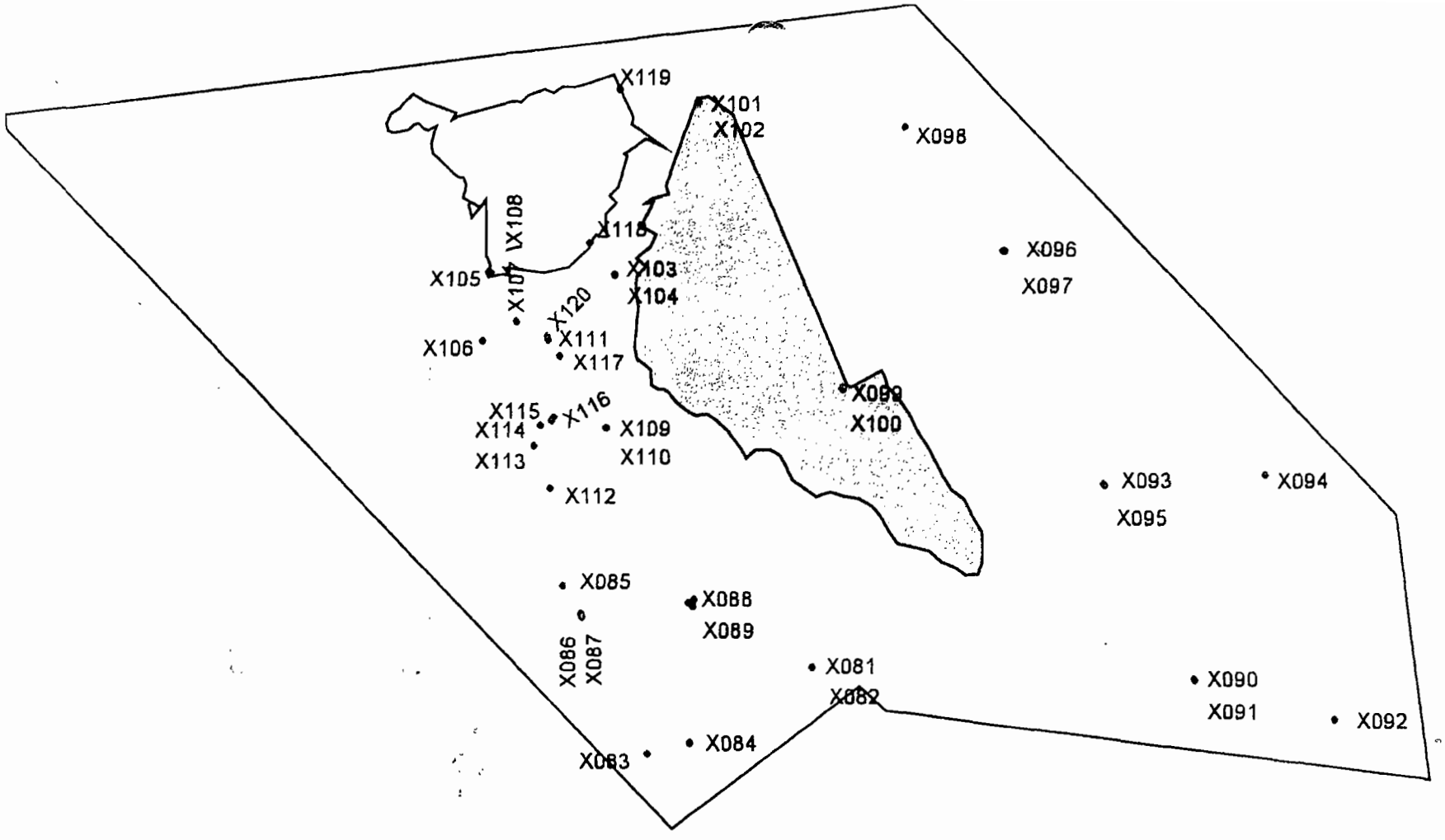


FIGURE 16: FORMER ALCOA PROPERTY SECTION 3 SAMPLE LOCATIONS

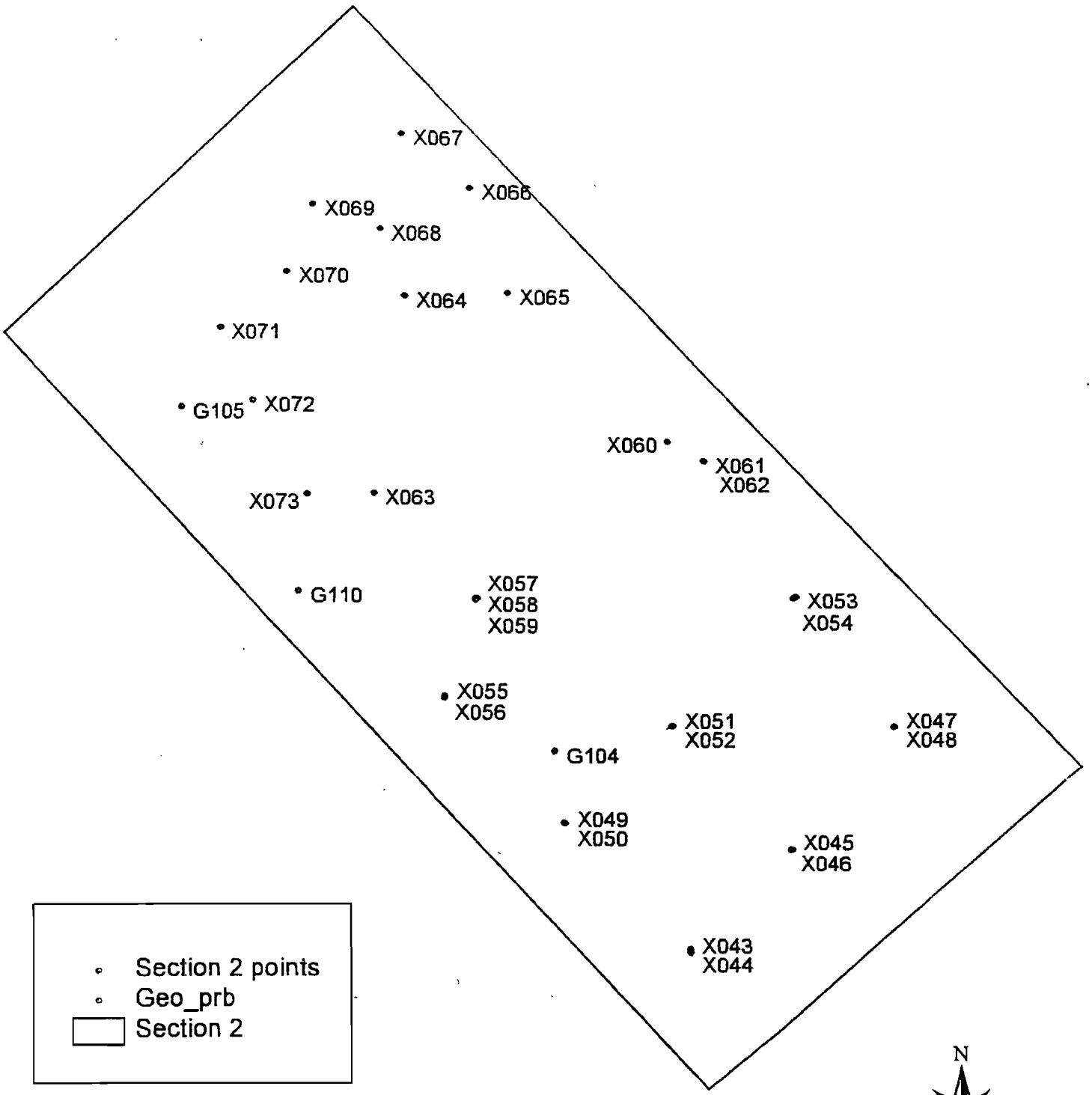
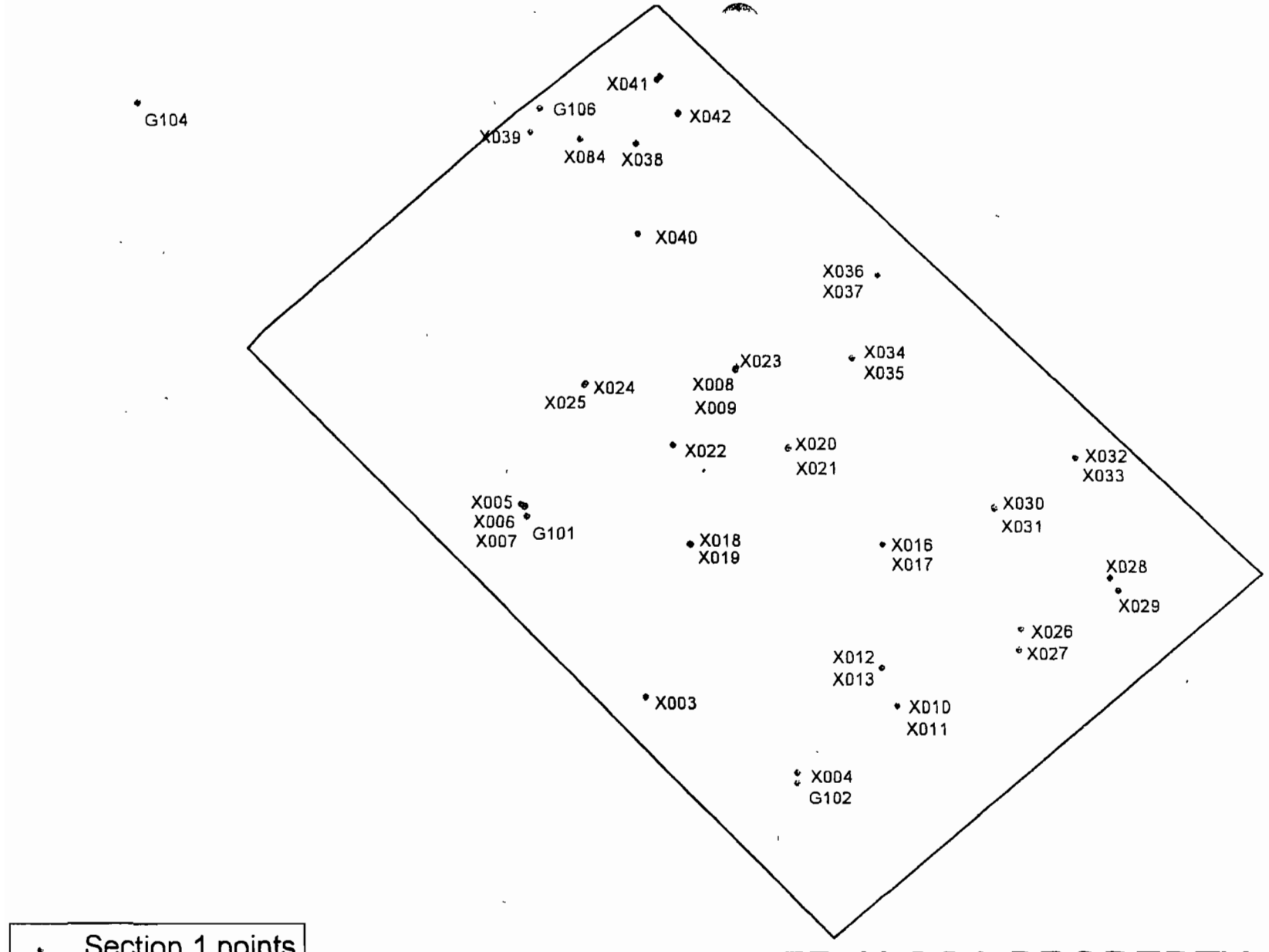


FIGURE 15: FORMER ALCOA PROPERTY SECTION 2 SAMPLE LOCATIONS



Section 1 points
Geo_prb
Section 1

FIGURE 14 FORMER ALCOA PRORERTY SECTION 1 SAMPLE LOCATIONS

190 0 190 380 570 760 Feet

N
W E
S

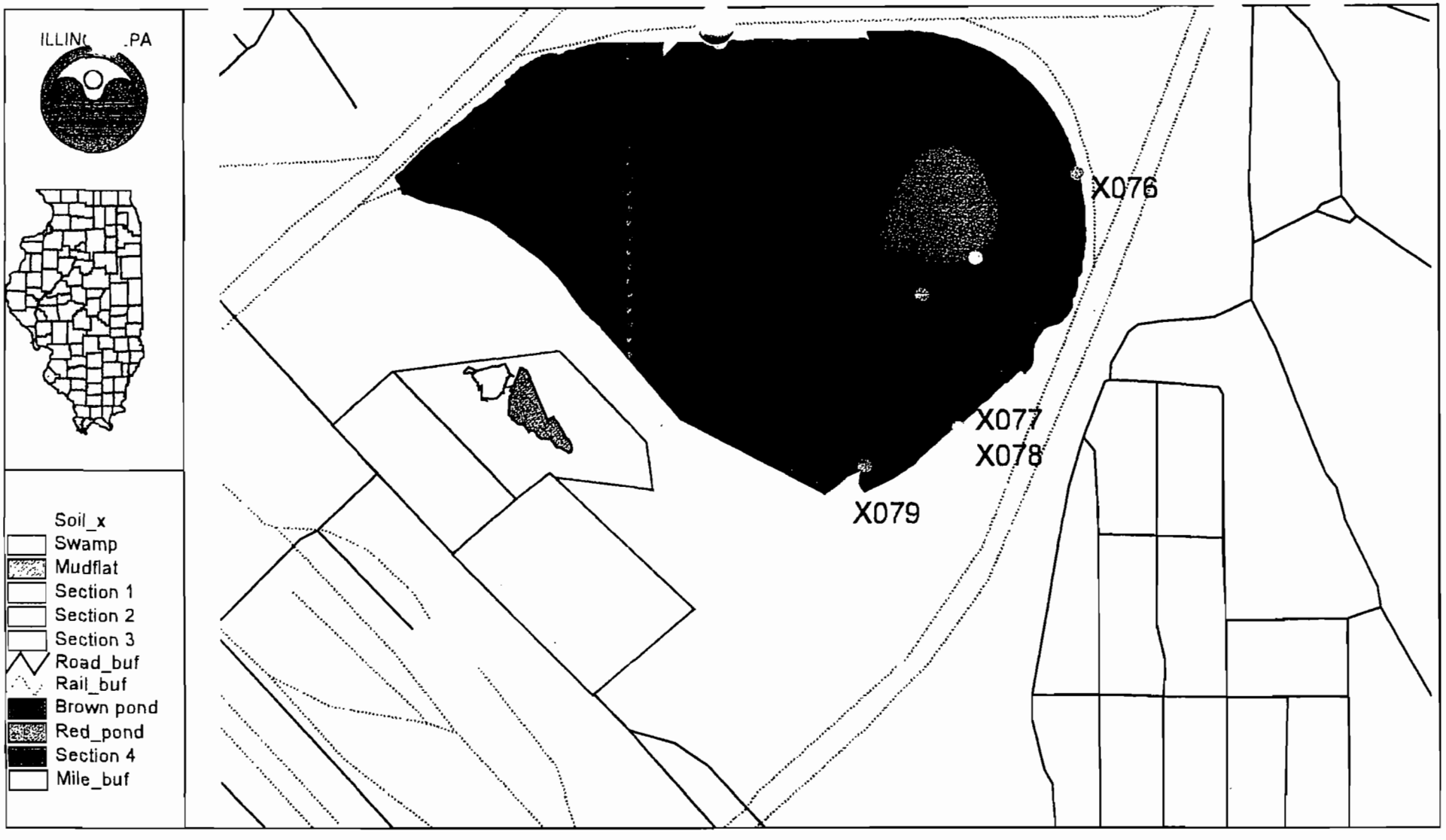


FIGURE 13: FORMER ALCOA PROPERTY ST. CLAIR COUNTY

1000 0 1000 2000 3000 4000 Feet

N
W E
S

Appendix B
Tables

APPENDIX B

TABLES

TABLES

TABLE 1
SOIL SAMPLE DESCRIPTIONS

SAMPLE	DEPTH	APPEARANCE
X001	0 - 2"	Dark silty loam.
X002	1 - 1.5'	Dark silty loam.
X003	0 - 1'	Black cindery material in front portion of property along Missouri Ave.
X004	7 - 8'	Brown clay.
X005/ X006	1 - 2'	Brown, silty loam.
X007	11 - 12'	Light brown sand just above clay layer.
X008	1 - 2'	Orangish sandy soil in an area where red mud was present.
X009	4 - 5'	Red mud.
X010	0 - 1'	Dark brown to black fill material in large burn area.
X011	2 - 3'	Dark brown to black silty loam above gray clay layer beneath large burn area.
X012	0 - 1'	Black cindery fill material.
X013	3 - 4'	Light brown sandy silt.
X014	2 - 3'	Sandy light brown clay just under black cinder layer.
X015	8 - 9'	Gray clay layer.
X016	0 - 1'	Dark brown fill material with what appears to be colored wire casings.
X017	8 - 12'	Light brown sandy clay.
X018	0 - 1'	Brown loam with black cinders in it.
X019	2 - 3'	Brown fine sand.
X020	0 - 1'	Light brown loam collected in an area where numerous empty and full paint cans are lying.
X021	4 - 5'	Brown sandy clay.
X022	2 - 3'	Light brown sandy clay.
X023	7 - 8'	Gray sand under red mud layer.
X024	0 - 1'	Dark brown loam.

TABLE 1
SOIL SAMPLE DESCRIPTIONS

SAMPLE	DEPTH	APPEARANCE
X025	3 - 4'	Light brown silty clay.
X026	0 - 1'	Black sandy loam.
X027	2 - 3'	Light brown sandy material.
X028	0 - 4"	Black cindery material next to 55 gallon drums.
X029	0 - 4"	Brown silty clay in dug-out pit area.
X030	2 - 3'	Green clay.
X031	5 - 6'	Brown sandy loam.
X032	0 - 1'	Black cindery material with bricks.
X033	3 - 4'	Red mud with light brown sand.
X034	0 - 1'	Black cindery material.
X035	3 - 4'	Brown silt.
X036	0 - 1'	Black cindery material.
X037	2 - 3'	Friable redish material.
X038/X039	0 - 1'	Black cindery material on what appear to be piles of shingles.
X040	2 - 3'	Light brown sandy loam.
X041	0 - 1'	Fine black soil on what appears to be a tar pile.
X042	2 - 3'	Red mud with light brown clay.
X043	4"-12"	Black cinders, fine grain sand.
X044	4'	Light brown sandy clay, starting to be moist.
X045	4"-12"	Black cinders mixed with sand layer.
X046	3-4'	Sandy silt, with a small amount of medium brown clay.
X047	4"-12"	Black cinder material.
X048	1-1.5'	Red mud.

TABLE 1
SOIL SAMPLE DESCRIPTIONS

SAMPLE	DEPTH	APPEARANCE
X049	0-6"	Black cinder material.
X050	2-2.5'	Black cinder material.
X051	0-6"	Dark cinder material.
X052	4'	Dark cinder material.
X053	0-6"	Black cinder layer.
X054	3'	Red mud.
X055	2"-1'	Dark brown cinders.
X056	3.5-4'	Red mud.
X057	0-12"	Silty loam mixed with some sand and cinders.
X058		Same as sample X057.
X059	2-3'	Black cinder material.
X060	0-2"	Light grey sand, hard-tightly packed.
X061	0-12"	Red mud clay, very fine.
X062	3-4'	Red mud.
X063	1-3"	Silty loam with cinders and gravel mixed in.
X064	1-3"	Dark black cinders and silt.
X065	2-8"	Dark silt with some sand present.
X066	1-3"	Cinders with silty sand.
X067	1-3"	Sandy silt, dark fine silt mixed with sand.
X068	1-3"	Black cinders with silt mixed in.
X069	1-4"	Black cinders with silt.
X070	1-4"	Dark silt with some cinders.
X071	1-4"	Dark cinders with fine silt mixed in, small amount of sand.
X072	1-3"	Silt-sandy loam.

TABLE 1
SOIL SAMPLE DESCRIPTIONS

SAMPLE	DEPTH	APPEARANCE
X073	1-3"	More sand present compared to X072. Some dark silt present.
X074	0-3"	Red Mud.
X075	3-4"	The top two inches consisted of thick organic material with red mud under the organic material. Some sand present.
X076	0-3"	White sandy material which has crystallized.
X077	0-3"	Fine silt with reddish brown, light grey.
X078		Same as X077.
X079	0-2"	Sample was taken from a blue layer in the side of the gypsum berm.
X080	0-3"	Gray sand-like particles of unknown origin, crystal-like material.
X081	0 - 6"	Cinder material
X082	3 - 3.5'	Cinder material
X083	1 - 2'	Red mud with some white/red clay peices
X084	2.5 - 3'	Red mud
X085	0 - 2"	Very sandy, fine, greenish-gray with some white and yellow material.
X086	0 - 1"	Mixture of cinder, loam, silt and red mud
X087	3 - 3.75'	Red mud
X088	0 - 1'	Sandy, silty with some white sandy material
X089	2 - 3'	Very fine cinder material
X090	0 - 2"	Light brown silty sand, slightly moist
X091	0 - 2"	Light brown silty sand, slightly moist
X092	1.5 - 2'	Red mud with a little sand; moist
X093	0 - 1'	Cinder material, then light brown silty clay
X094	1 - 2'	Dry, crumbly red mud material
X095	5 - 6'	Brown/gray tight clay
X096	0 - 1'	Dark cindery material with a little red mud

TABLE 1
SOIL SAMPLE DESCRIPTIONS

SAMPLE	DEPTH	APPEARANCE
X097	5 - 6'	light brown/gray tight clay
X098	0 - 1"	Gray, then brown; crusty sandy/silty material
X099	0 - 1'	Cinder material with some silty clay
X100	2 - 3'	Red mud
X101	0 - 1'	Fine cinder material or coal fines
X102	6.5 - 7'	Brown clay with some fine sand
X103	1 - 2'	Cindery material with some clay/loam material
X104	3 - 4'	Clay with some cinders
X105	0 - 3"	Red mud and dark silty muck material.
X106	0 - 6"	Dark brown sandy silt
X107	0.5 - 1'	Dark black/brown sandy/silty material
X108	2.5 - 3'	Tight gray clay
X109	7 - 7.5'	Moist silty sand
X110	10 - 10.5'	Moist silty sand
X111	0 - 6"	Dark loam
X112	2 - 3'	Cinder material
X113	0 - 6"	Moist sand, silt coal material
X114	0 - 6"	Sitly with orange-brown rust-like material
X115	0 - 8"	Medium brown; silty material with some red crystalized material.
X116	0 - 6"	Moist, dark, silty material
X117	0 - 6"	Medium brown; silty with a little sand
X118	0 - 6"	Fill material with some cinders/coal fines and some red mud pieces.
X119	0 - 6"	Red mud with medium brown fine clay/sand below. clay/sand below
X120	2 - 2.5'	Loam material

TABLE 2 FORMER ALCOA PROPERTY SOIL SAMPLE SUMMARY CONSIDERING ALL TACO TIER 1 ROUTES

SAMPLING POINT	TACO Tier 1	X001	X002	X003	X004	X005	X006	X007	X008	X009	X010	X011	X012
Date Collected	Remediation	4-4-96	4-4-96	9-14-95	3-13-96	3-13-96	3-13-96	3-13-96	3-13-96	3-13-96	3-13-96	3-13-96	3-13-96
Parameter	Objective	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
pH		7.0	8.2	6.6	7.8	8.7	7.7	7.3	9.1	10.5	8.2	8.3	7.6
Sample Depth (Feet)		0-2"	1-1.5'	0-1	7-8	1-2	1-2	11-12	1-2	4-5	0-1	2-3	0-1
VOLATILES													
Methylene Chloride	--	17 B	19 B	--	--	--	--	--	--	--	--	--	--
Acetone	8000	28 B	16 B	--	--	--	--	--	--	--	--	--	--
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
SEMIVOLATILES													
Phenol	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	30000	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	200000	--	--	--	--	--	--	--	--	--	--	--	--
2,4- Dinitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	340 J	--	--	--	--	--	--	--	--
Fluorene	160000	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	--	--	--	1100 R	--	--	--	--	--	--	--	--	--
Phenanthrene	--	--	--	140 J	--	--	--	--	90 J	--	--	--	160 J
Carbazole	290000	--	--	--	--	--	--	--	--	--	--	--	23 J
Anthracene	4300000	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	980000	--	--	340 J	--	22 J	--	--	160 J	--	30 J	--	270 J
Pyrene	1400000	--	--	--	--	33 J	--	--	150 J	--	28 J	--	240 J
Butylbenzylphthalate	68000	--	--	--	--	230 J	--	--	--	--	640 J	--	720 J
Benzo(a)anthracene	2000	--	--	220 J	--	--	--	--	65 J	--	38 J	--	220 J
Chrysene	49000	--	--	290 J	--	--	--	--	49 J	--	70 J	--	210 J
bis(2-Ethylhexyl)phthalate	11000	--	--	180 J	59 J	79 J	78 J	42 J	--	--	810 J	48 J	1200 J
Di-n butylphthalate	--	--	--	--	--	1800 J	--	--	--	--	1400 J	--	1200 J
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	5000	--	--	500	--	--	--	--	110 J	--	110 J	--	430 J
Benzo(k)fluoranthene	49000	--	--	670	--	--	--	--	110 J	--	100 J	--	420 J
Benzo(a)pyrene	800	--	--	220 J	--	32 J	--	--	65 J	--	37 J	--	220 J
Indeno(1,2,3-cd)pyrene	8000	--	--	140 J	--	--	--	--	44 J	--	37 J	--	79 J
Dibenz(a,h)anthracene	800	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	89 J	--	--	--	--	48 J	--	22 J	--	67 J
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
PESTICIDES													
alpha-BHC	--					0.28 J			0.03 J				
beta-BHC	--	0.2 JP	0.12 JP										
delta-BHC	--			0.21 J	0.06 J	0.15 J	0.47 J	0.08 J			0.24 J	0.44 J	0.37 J
gamma-BHC (Lindane)	--						0.11 J						
Heptachlor	--			0.53 J	0.07 J	0.75 J	0.71 J				0.42 J	0.12 J	0.54 J
Aldrin	--									0.39 J	0.74 J		
Heptachlor epoxide	30	--	--	0.28 J	--	0.29 J	0.42 J	--	0.74 J	0.7 J	0.4 J	--	0.62 J
Endosulfan I	--					0.14 J			0.1 J		0.34 J		0.89 J
Dieldrin	--					4.9	4.3	0.3 J	3.8 J	0.81 J	1.5 J	0.08 J	
4,4'-DDE	700	--	--	1 J	--	0.15 J	1.5 J	--	--	--	0.07 J	--	--
Endrin	--	0.37 JP					0.83 J				1.1 J		4.1 J
Endosulfan II	--												
4,4'-DDD	--					2.2 J	1.7 J		2 J				0.89 J
Endosulfan sulfate	--	--	--	--	--	0.43 J	--	--	--	--	0.15 J	--	0.72 J
4,4'-DDT	1000	1.2 J	--	--	--	8.3	7.3 J	0.11 J	0.68 J	0.82 J	2.1 J	--	8.4
Methoxychlor	--	--	--	7.1 J		3 J	2.3 J	0.42 J	61	11 J	2.4 J		3.9 J
Endrin aldehyde	--	--	--	2.2 J									1.3 J
Endrin Ketone	--	--	--	3.9 J	--	0.65 J	0.41 J	--	5.9 J	--	1.2 J	0.1 J	--
alpha-Chlordane	--	--	--	0.09 J		1.8 J	1.1 J	2 J	2.5 J	0.36 J	0.54 J		3.8 J
gamma-Chlordane	--	--	--	--	0.08 J	2.4 J	1.4 J	0.13 J				0.1 J	1.1 J
Toxaphene	--	--	--	--	5 J				340		--	--	--
Aroclor-1016	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1221	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1232	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1242	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1248	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1254	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	--	--	--	67		25 J	19 J				31 J	11 J	160
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
INORGANICS													
Aluminum	--	9200	8700	17800	16000	9990	7930	7880	38500	31800	21600	9280	16800
Antimony	5	6.5 B		9.5 B					1.1 B	1.2 B			0.58 B
Arsenic	24	7	5.1	492	12.4	7.8	7.5	6.9	10.2	12.3	8.2	5.1	38
Barium	pH based	241	189	197	315	193	219	235	215	144	209	179	128
Beryllium	pH based	0.66 B	0.61 B	0.34 B	0.69 B	0.34 B	0.26 B	0.05 B	0.82 B	0.39 B		0.07 B	
Cadmium	pH based	0.96 B*		447	0.93 B	2.5	3.1	0.27 B	1.5		3.3		294
Calcium	--	16000 *	16800 *	11800	17500	23600	20100	20700	31000	110000 J	49600	2130	24200
Chromium	pH based	12.7	11.7	36.8	22.2	14.7	13.6	12.2	81.6	299	21.5	9	35.9
Cobalt	12000	7 B	8 B	52.7	12.1 B	7.2 B	6.7 B	6.1 B	6.2 B	3.4 B	5 B	5.4 B	28.3
Copper	pH based	41.6	27.1	3360	29.4	31.1	33.9	12.8	538	10.8	64.6	7.8	207
Iron	--	15800	14400	49300	26400	16400	14400	13500	29500	37800	16700	2070	28400
Lead	647	26.1	19.5	3290	19.4	48.1	49.2	10	104	57.4	107	337	389
Magnesium	--	4090	3970	1970	6820	5710	5000	5630	3530	1050 B	11600		2150
Manganese	8700	461 *	367 *	1260	812	402	357	333	435	202	354	12.1	659
Mercury	pH based			0.22						0.21		1440	0.52
Nickel	pH based	18.7	16.3	47.2	27.5	17.5	23.4	14.4	41.2	5.9 B	11.5		27.7
Potassium	--	1760	1370	1520	3320	2310	1930	1830	1580	301 B	3300		1380
Selenium	pH based			8.9	0.93 B			1.1 B				961 B	2.2
Silver	pH based			108					0.4 B	0.76 B			2.6
Sodium	--	92.2 B	97.2 B		86.9 B	74.3 B	75.9 B	208 B	1720	47600 J	903 B	17.2	
Thallium	pH based			3.4								39.5	1.1 B
Vanadium	980	21.7	21	36.4	42.7	26.1	22.7	23.9	112	210	24.7		42
Zinc	pH based	109 *	84.5 *	36500	115	220	225	49.8	282	27.3 J	289		6540
Cyanide	40		0.15 B										
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg

This table presents a summary of the samples collected from the Former Alcoa Property. The Tier 1 soil remediation objectives were taken from the IEPA's TACO Guidance Document.
These Tier 1 remediation objectives are based on an industrial/commercial scenario with Class 1 Groundwater.
The lowest Tier 1 remediation objective of the three exposure routes (ingestion, inhalation, migration to groundwater) is considered in this table. The remediation objective column is blank in cases where there is no established TACO cleanup objective. In cases where the Tier 1 remediation objective is based on the pH of the soil that was sampled, the table states "pH based" in the remediation objective column.
The concentrations that appear in red have exceeded the TACO Tier 1 soil remediation objectives.

TABLE 2 FORMER ALCOA PROPERTY SOIL SAMPLE SUMMARY CONSIDERING ALL TACO TIER 1 ROUTES

SAMPLING POINT	TACO Tier 1	X013	X014	X015	X016	X017	X018	X019	X020	X021	X022	X023	X024
Date Collected	Remediation	3-13-96	3-13-96	3-13-96	9-12-95	9-12-95	9-14-95	9-14-95	9-14-95	9-14-95	9-14-95	9-14-95	3-13-96
Parameter	Objective	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
pH		6.5	8.3	6.3	7.2	9.4	6.6	8.2	8.2	7.6	6.9	10.5	8.0
Sample Depth (Feet)		3-4	2-3	8-9	0-1	8 - 12	0-1	2-3	0-1	4-5	2-3	7-8	0-1
VOLATILES													
Methylene Chloride	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	8000	--	--	--	--	--	--	--	--	--	--	--	--
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
SEMIVOLATILES													
Phenol	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	30000	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	200000	--	--	--	--	--	--	--	--	--	--	--	--
2,4- Dinitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluorene	160000	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	--	--	--	--	--	--	--	--	150 J	--	--	--	--
Carbazole	290000	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	4300000	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	980000	--	--	--	45 J	--	--	--	310 J	--	--	--	--
Pyrene	1400000	--	--	--	--	--	--	--	410 J	--	--	--	--
Butylbenzylphthalate	68000	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)anthracene	2000	--	--	--	--	--	--	--	160 J	--	--	--	--
Chrysene	49000	--	--	--	30 J	--	--	--	170 J	--	--	--	--
bis(2-Ethylhexyl)phthalate	11000	42 J	--	--	89000	1100	--	--	--	--	--	--	--
Di-n butylphthalate	--	--	--	--	53 J	44 J	--	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	18000	280 J	--	--	--	--	--	--	--
Benzo(b)fluoranthene	5000	--	--	--	36 J	--	--	--	280 J	--	--	--	--
Benzo(k)fluoranthene	49000	--	--	--	36 J	--	--	--	270 J	--	--	--	--
Benzo(e)pyrene	800	--	--	--		--	--	--	180 J	--	--	--	--
Indeno(1,2,3-cd)pyrene	8000	--	--	--		--	--	--	100 J	--	--	--	--
Dibenz(a,h)anthracene	800	--	--	--		--	--	--		--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--		--	--	--	130 J	--	--	--	--
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
PESTICIDES													
alpha-BHC	--				0 28 J	0 03 J	0.47 J						
beta-BHC	--						2 4 R						
delta-BHC	--	0 22 J	0 06 J				2 4 R			37 J			0 23 J
gamma-BHC (Lindane)	--	0 31 J		0 15 J			2 4 R						
Heptachlor	--	0 23 J					2 4 R				0.7 J	0.13 J	
Aldrin	--	1 2 J			4 J		2 2 J				0 19 J		0 33 J
Heptachlor epoxide	30	0 88 J	--	0 06 J	--	0 06 J	1.5 J	0 03 J	--	0.06 J	--	--	0.64 J
Endosulfan I	--	0 19 J	0 57 J				1 J		40			0 07 J	
Dieldrin	--	0 63 J		0 36 J	66	0 61 J	2 8 J		33		0 86 J	0 06 J	0.95 J
4,4'-DDE	700	0 3 J	0 13 J	--	74	1 J	0 25 J	--	9 J	--	1 5 J	0.14 J	0 51 J
Endrin	--						1 1 J						
Endosulfan II	--						1 3 J						
4,4'-DDD	--				16 J		4 6 R						
Endosulfan sulfate	--	--	--	--	--	--	4 6 R	--	--	--	--	--	--
4,4'-DDT	1000	0 45 J	1 J	--	150	--	4 6 R	--	19 J	0 3 J	--	0 4 J	0 22 J
Methoxychlor	--			2 4 J		0 67 J	5 6 J	2 6 J	90		5 9 J		
Endrin aldehyde	--								7.2 J				
Endrin Ketone	--	1 3 J	--	--	--	--	4 6 R	--	2 6 J	3 5 J	--	--	
alpha-Chlordane	--	0 25 J			69		0 11 J		6 J		3 6 J		
gamma-Chlordane	--				30 J		1 3 J						
Toxaphene	--	--	--	--	--	--	150 R	--	57 J	--		--	--
Aroclor-1016	--	--	--	--	--	--	46 R	--		--		--	--
Aroclor-1221	--	--	--	--	--	--	94 R	--		--		--	--
Aroclor-1232	--	--	--	--	--	--	46 R	--		--		--	--
Aroclor-1242	--	--	--	--	--	--	46 R	--		--		--	--
Aroclor-1248	--	--	--	--	--	--	46 R	--		--		--	--
Aroclor-1254	--	--	--	--	--	--	46 R	--		--	110	--	--
Aroclor-1260	--				3500 J		46 R		360				
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
INORGANICS													
Aluminum	--	9990	10600	12700	29700	12200	11800	9570	6150	7100	11800	15700	18100
Antimony	5		0 31 B	0 59 B	10 6 B		0 75 B	0 24 B	16 2		0 53 B	0 32 B	0 89 B
Arsenic	24	7	6 5	11 2	51 8	6.4	10 1	8.6	824	8 6	7.1	2 7	11.6
Barium	pH based	212	168	268	278	281	205	191	350	140 0	211	224	161
Beryllium	pH based	0 17 B	0.5 B	0 76 B	0.49 B	0.82 B	0.58 B	0 5 B	0 8 B	0.38 B	0.52 B	0 48 B	0.66 B
Cadmium	pH based	0 41 B	41 3	47 4	61 6	0 32 B	27 3	3 4	428	0 9 B	2 4		2 1
Calcium	--	3780	4020	5180 J	5140	4700	6110	3720	95900	3420	4100	2540	9640
Chromium	pH based	12 9	15	20	64 5	15 8	18	14 9	26 5	11 6	16 7	15	40 2
Cobalt	12000	6.9 B	7 B	10 2 B	7.9 B	7.7 B	7 B	7.2 B	39.1	5.4 B	7 2 B	6 6 B	6 4 B
Copper	pH based	13	11 7	53 5	43300	17 2	30 5	26.8	4080	13 6	41 2	4 4 B	50 7
Iron	--	15200	13800	21900	29800	15800	15400	14400	48400	16800 0	15400	14400	21400
Lead	647	11 8	17 J	49 6 J	1290	12	72	46 8	5500	20 5	35 8	8 9	75 8
Magnesium	--	2820	2760	4180	1920	3510	2180	2500	3990	2240 0	2880	2800	2090
Manganese	8700	420	300	669	206	415	470	389	968	177 0	342	338	314
Mercury	pH based				0 18 J		0.11		0.5				0.12
Nickel	pH based	16 5	15 6	35 8	43 8	21 4	16 8	16	78 8	13 5	16 3	12 9	16 6
Potassium	--	1910	2130	2560	1300 B	1940	2100	2120	813 B	1480	2140	2530	2330
Selenium	pH based	1 2			1 4				6 2			0 98 B	1 1 B
Silver	pH based		0 59 B	0.54 B	14.1			0 41 B	81.8		0.61 B		
Sodium	--	83 B	259 B	259 B	445 B	1490	152 B	51 1 B	3470	76 3 B	65 4 B	7290	69 4 B
Thallium	pH based												
Vanadium	980	25 5	28 1	33 1	21 7	31 3	29 3	25 6	17 6	21 1	29 5	25 7	73
Zinc	pH based	62.2	1120 J	1670	3360 J	76	1060 J	217 J	10400	104	197 J	55 8	246 J
Cyanide	40	1 3							0 77				
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg

This table presents a summary of the samples collected from the Former Alcoa Property The Tier 1 soil remediation objectives were taken from the IEPA's TACO Guidance Document
These Tier 1 remediation objectives are based on an industrial/commercial scenario with Class 1 Groundwater
The lowest Tier 1 remediation objective of the three exposure routes (ingestion, inhalation, migration to groundwater) is considered in this table The remediation objective column is blank in cases where there is no established TACO cleanup objective In cases where the Tier 1 remediation objective is based on the pH of the soil that was sampled, the table states "pH based" in the remediation objective column
The concentrations that appear in red have exceeded the TACO Tier 1 soil remediation objectives

TABLE 2 FORMER ALCOA PROPERTY SOIL SAMPLE SUMMARY CONSIDERING ALL TACO TIER 1 ROUTES

SAMPLING POINT	TACO Tier 1	X025	X026	X027	X028	X029	X030	X031	X032	X033	X034	X035	X036
Date Collected	Remediation	3-13-96	9-14-95	9-14-95	9-14-95	3-13-96	3-13-96	3-13-96	3-13-96	3-13-96	3-13-96	3-13-96	3-13-96
Parameter	Objective	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
pH		8.2	7.7	6 6	7.4	8.0	7.8	9.6	8.2	8.0	6.1	7.7	7.4
Sample Depth (Feet)		3-4	0-1	2-3	0-4"	0-4"	2-3	5-6	0-1	3-4	0-1	3-4	0-1
VOLATILES													
Methylene Chloride	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	8000	--	--	--	--	--	--	--	--	--	--	--	--
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
SEMIVOLATILES													
Phenol	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	30000	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	200000	--	--	--	--	--	--	--	--	--	--	--	--
2,4- Dinitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	--	--	210 J	280 J	--	--	22 J	--	--
Fluorene	160000	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	--	--	--	--	240 J	--	--	--	--	--	340 J	--	57 J
Carbazole	290000	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	4300000	--	--	--	49 J	--	--	--	--	--	46 J	--	--
Fluoranthene	980000	--	--	--	710	46 J	--	--	--	--	600	38 J	79 J
Pyrene	1400000	--	--	--	560	42 J	--	--	--	--	510	--	--
Butylbenzylphthalate	68000	--	--	--	--	--	--	--	--	--	--	--	69 J
Benzo(a)anthracene	2000	--	--	--	420	41 J	--	--	--	--	300 J	--	43 J
Chrysene	49000	--	--	--	500	46 J	--	--	--	--	340 J	--	--
bis(2-Ethylhexyl)phthalate	11000	--	45 J	61 J	120 J	55 J	45 J	42 J	--	--	86 J	--	--
Di-n butylphthalate	--	--	--	--	--	2000 J	--	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	5000	--	63 J	--	1100	110 J	--	--	--	--	700	39 J	59 J
Benzo(k)fluoranthene	49000	--	60 J	--	1000	100 J	--	--	--	--	700	43 J	65 J
Benzo(a)pyrene	800	--	--	--	480	54 J	--	--	--	--	310 J	--	--
Indeno(1,2,3-cd)pyrene	8000	--	--	--	190 J	--	--	--	--	--	220 J	--	--
Dibenz(a,h)anthracene	800	--	--	--	43 J	--	--	--	--	--	49 J	--	--
Benzo(g,h,i)perylene	--	--	--	--	130 J	--	--	--	--	--	140 J	--	--
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
PESTICIDES													
alpha-BHC	--								0.13 J		0.46 J		
beta-BHC	--					0 59 J							
delta-BHC	--		0 14 J			0.72 J		0 9 J	5 4 J	2.2 JP	0 68 J		
gamma-BHC (Lindane)	--		0 26 J		1 1 J						1 1 J		
Heptachlor	--		0.44 J	0.2 J	0 43 J	0.76 J		0.36 J					
Aldrin	--				2 8	0 37 J	0 03 J						
Heptachlor epoxide	30	0 04 J	0 09 J	--	1 4 J	0 14 J	--	--	1.2 J	0.1 JP	2 J	--	--
Endosulfan I	--		1 9 J		0 41 J			0 37 J	9 8	1 2 JP	0 72 J		0 86 J
Dieldrin	--	0 03 J	0 12 J		1 7 J	0 54 J		0 09 J	1 J	1 8 J	2 1 J		0 5 J
4,4'-DDE	700	0 08 J	0 19 J	--	2 8	0 14 J	--	0 08 J	--	--	0 16 J	--	--
Endrin	--	0 44 J							0.6 J	0 81 JP	0.99 J	0 12 J	
Endosulfan II	--					0 57 J	0 2 J						
4,4'-DDD	--				2 1 J					1 JP			
Endosulfan sulfate	--	--	0 21 J	0 21 J	1 1 J	--	--	--	--	--	0 15 J	--	--
4,4'-DDT	1000	0 27 J	0 51 J	0 47 J	16	1 J	--	--	15	--	--	--	--
Methoxychlor	--	0 96 J	1 7 J	0 66 J				1 2 J	37		1 6 J	0 99 J	0 58 J
Endrin aldehyde	--											0 34 J	0 65 J
Endrin Ketone	--	--	0 28 J	--	5 8	1 2 J	--	0 13 J	--	7 3 J	1 9 J	0 54 J	0 6 J
alpha-Chlordane	--				2 8	0.66 J			1 6		0.9 J	0.27 J	
gamma-Chlordane	--			0 08 J	2 8	0 6 J	0 07 J				0 81 J	0 18 J	
Toxaphene	--	--	--	--	--	--	--	--	11 J	97 JP	--	--	--
Aroclor-1016	--	--	--	--	--	--	--	--			--	--	--
Aroclor-1221	--	--	--	--	--	--	--	--			--	--	--
Aroclor-1232	--	--	--	--	--	--	--	--			--	--	--
Aroclor-1242	--	--	--	--	--	--	--	--			--	--	--
Aroclor-1248	--	--	--	--	--	--	--	--			--	--	--
Aroclor-1254	--	--	--	--	--	--	--	--			--	--	--
Aroclor-1260	--		19 J	27 J				15 J			56		
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
INORGANICS													
Aluminum	--	8040	80400	20700	10000	19400	10700	19500	7230	223000	13100	11100.0	9830
Antimony	5								0 68 B	0.7 B	0 63 B		
Arsenic	24	4 3	7 8	8.9	7 7	12.9	5.2	11.2	8.2	9.7	5.7	8 0	3 8
Barium	pH based	151	142	202	121	286	103	210	377	55 1	101	186 0	46 B
Beryllium	pH based	0 38 B		0 18 B	0.32 B	0 71 B			0 84 B	0 24 B	0.44 B	0 1 B	0.81 B
Cadmium	pH based	0 21 B	1 4	0 3 B	6 4	1 2 B	0 27 B	0 32 B	1 8	1 3 B	1 7		
Calcium	--	2920	5500	3010	12900	7590	11200	22700	18100	88400	14600	4720.0	14100
Chromium	pH based	13	141	27 4	19	24 2	15 4	18 5	37.9	79 4	19 1	15 6	17 2
Cobalt	12000	5.7 B	7.6 B	5 7 B	4.8 B	11 2 B	4 2 B	6 1 B	5.2 B	10.3 B	6.9 B	6.9 B	4 4 B
Copper	pH based	8 4	972	87 9	90 2	44 9	7 3	11 8	35 5	44 8	171	27 9	17 2
Iron	--	11500	26700	13600	17200	27900	10400	18600	18600	31600	20300	18600.0	16700
Lead	647	10 9	54 6	13 2	223	49 7	13 8	22 6	278	179 J	141	33 8	36 6
Magnesium	--	2070	2940	2660	1740	5190	1340	2670	1590	1030 B	1200 B	2570 0	658 B
Manganese	8700	276	364	237	182	431	191	468	181	238	173	400 0	125
Mercury	pH based				0.12				0.5	0.4	0.11		0 37
Nickel	pH based	14 1	321	24 8	17 4	28 2	8.6 B	12 8	16 6	20 4	29 2	19 8	18 1
Potassium	--	1670	1700	1130	1090 B	3830	1020 B	2050	895 B	426	1280 B	2060 0	1090 B
Selenium	pH based	0 79 B	1 2 B		1 9	1 9		0 99 B	1 6		1 9	1 2	1 7
Silver	pH based								0 41 B				
Sodium	--		588 B	79 5 B	185 B	405 B	797 B	4110	82 B	2760	296 B	131 0 B	300 B
Thallium	pH based									1.8 B			0.96 B
Vanadium	980	24 1	43 2	19 8	27 2	48 6	27 8	44	37 5	115	28 6	27 9	25 3
Zinc	pH based	48 5	267	70.8	485	172	44.5	66.3	321	136	201	78.8	66 2
Cyanide	40												
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg

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TABLE 2 FORMER ALCOA PROPERTY SOIL SAMPLE SUMMARY CONSIDERING ALL TACO TIER 1 ROUTES

SAMPLING POINT	TACO Tier 1	X049	X050	X051	X052	X053	X054	X055	X056	X057	X058	X059	X060
Date Collected	Remediation	4-2-96	4-2-96	4-2-96	4-2-96	4-2-96	4-2-96	4-2-96	4-2-96	4-2-96	4-2-96	4-2-96	4-2-96
Parameter	Objective	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
pH		7.1	6.6	6.6	6.9	8.5	9.1	6.7	8.2	6.6	8.2	8.4	5.6
Sample Depth (Feet)		0-6"	2'-2.5'	0-6"	4'	0-6"	3'	2"-1'	3.5'-4'	0-12"	0-12"	2'-3'	0-2"
VOLATILES													
Methylene Chloride	--	42 B	20 B	29 B	24 B	26 B	26 B	23 B	27 B	24 B	9 JB	15 JB	11 JB
Acetone	8000	8 JB	7 JB	10 JB	12 JB	8 JB	8 JB	23 B	9 JB	8 JB	8 JB	8 JB	6 JB
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
SEMIVOLATILES													
Phenol	--	--	--	--	--	--	--	--	--	--	--	--	
4-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--	
Nitrobenzene	--	--	--	--	--	--	--	--	--	--	--	--	
Naphthalene	30000	--	--	--	57 J	--	--	--	--	--	73 J	--	--
2-Methylnaphthalene	--	53 J	--	--	180 J	140 J	--	110 J	--	830	300 J	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	200000	--	--	--	--	--	--	--	--	--	--	--	--
2,4- Dinitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	100 J	--	--	75 J	--	190 J	96 J	--	--
2,4-Dinitrotoluene	--		--	--	--	--	--	--	--	--	--	--	
Diethylphthalate	--		--	--	--	--	--	--	--	--	--	--	--
Fluorene	160000	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	--	49 J	--	--	190 J	160 J	--	180 J	--	350 J	160 J	--	83 J
Carbazole	290000	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	4300000	--	--	--	--	--	--	--	--	54 J	--	--	--
Fluoranthene	980000	--	--	--	--	71 J	37 J	46 J	--	51 J	25 J	--	230 J
Pyrene	1400000	--	--	--	55 J	66 J	42 J	50 J	--	75 J	39 J	--	160 J
Butylbenzylphthalate	68000	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)anthracene	2000	--	--	--	--	48 J	30 J	--	--	59 J	--	--	78 J
Chrysene	49000	--	--	--	--	48 J	39 J	--	--	56 J	--	--	200 J
bis(2-Ethylhexyl)phthalate	11000	89 J	42 J	59 J	58 J	170 J	39 J	55 J	--	83 J	--	--	54 J
Di-n butylphthalate	--	--	--	--	--	--	--	--	--	--	--	--	22 J
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	5000	--	--	--	--	68 XJ	55 JX	25 JX	--	--	--	--	290 JX
Benzo(k)fluoranthene	49000	--	--	--	--	63 XJ	62 JX	28 JX	--	--	--	--	290 JX
Benzo(a)pyrene	800	--	--	--	--	--	28 J	22 J	--	--	--	--	110 J
Indeno(1,2,3-cd)pyrene	8000	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	800	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--	--	--
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
PESTICIDES													
alpha-BHC	--				0.2 JP				0.65 JP		0.43 JP	--	--
beta-BHC	--											--	--
delta-BHC	--										0.58 JP	0.16 JP	0.12 JP
gamma-BHC (Lindane)	--											--	--
Heptachlor	--											--	--
Aldrin	--					0.45 JP					4.4 P	--	--
Heptachlor epoxide	30	0.41 JP	--	--	0.49 JP	--	--	0.58 J P	0.37 JP	--	0.59 JP	--	0.18 JP
Endosulfan I	--	0.31 JP			0.85 BJ		0.08 JB	0.18 JB	0.39 BJ		0.6 JP	--	0.66 JP
Dieldrin	--	0.33 JP			0.94 JP	0.35 JP		0.68 JP	0.92 JP	0.61 J	1.6 JP	--	4.8
4,4'-DDE	700	--	--	0.76 JP	--	1.7 JP	0.3 JP	--	0.6 J	--	0.46 JP	0.35 JP	14 P
Endrin	--	0.33 JP			1.2 JP	0.51 JP		0.25 JP	1.7 J	0.32 JP	1.7 JP	--	--
Endosulfan II	--	0.1 JP	0.44 JP	0.37 JP		1.1 JP		0.45 JP		0.28 JP		--	4.7 P
4,4'-DDD	--				1.9 J	0.22 JP			1.6 JP		1.6 JP	--	0.87 JP
Endosulfan sulfate	--	--	--	--	1.1 JP	--	--	0.86 JP	--	--	0.39 JP	--	--
4,4'-DDT	1000	--	--	--	--	--	--	--	--	--	0.85 JP	0.68 JP	37 P
Methoxychlor	--	3.8 JP	1.5 JP	1.1 JP	9.9 J	3.6 JP	2.7 JP	6.6 JP	11 JP	1.5 JP	9.9 J	0.44 JP	0.72 JP
Endrin aldehyde	--				0.14 J	0.14 JP			0.28 JP		0.57 JP	--	3.4 JP
Endrin Ketone	--	--	--	--	1.1 JP	--	--	--	--	--	--	--	--
alpha-Chlordane	--								0.95 J			--	3.1
gamma-Chlordane	--				0.33 JP			0.61 JP	0.45 JP		1.9 JP	--	
Toxaphene	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1016	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1221	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1232	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1242	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1248	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1254	--	--	--	--	--	--	--	--	--	--	--	--	260
Aroclor-1260	--												
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
INORGANICS													
Aluminum	--	10100	5810	8450	9790	73600	67600	7880	6350	11500	12400	70500	121
Antimony	5	--	--	--	--	--	--	--	5.6 B	--	--	--	--
Arsenic	24	10.2	5.1	8.9	10.1	16.9	15.6	5.8	3.5	3.8	2.9	13.9	1.2 B
Barium	pH based	89.7	159	61.8	84.5	141	166	57.9	133	80.8	88.8	125	34.8
Beryllium	pH based	1.4	0.38 B	1.3 B	1.3	0.16 B	--	0.79 B	0.39 B	1.7	1.8	--	--
Cadmium	pH based	6.6	--	4.7	1.9	1.3 B	0.82 B	--	--	--	--	--	0.53 B
Calcium	--	13500	3130	9720	12800	83600	68700	13000	3130	11300	12300	45700	255000
Chromium	pH based	14.1	9.9	12.9	27.7	539	807	14.6	11.4	8.6	9.6	1040	0.86 B
Cobalt	12000	4.4 B	5.3 B	3.4 B	5.4 B	2.6 B	2.5 B	--	5.6 B	3.7 B	3.7 B	4.2 B	--
Copper	pH based	48	7.9	38.8	24.7	49.5	15.3	11	4.4 B	13.2	13.3	--	3.1 B
Iron	--	18300	9780	11400	22100	49400	84200	14000	10600	19100	16900	110000	154
Lead	647	63.6	7.8	46.7	84	103	115	82	6.7	3.7	2.1	120	1170
Magnesium	--	1000 B	1730	644 B	696 B	1750	3350	722 B	2010	561 B	624 B	1860	25.7 B
Manganese	8700	166	300	159	133	222	224	109	248	98.6	109	136	2.1 B
Mercury	pH based	--	--	--	0.1 B	0.42	0.74	0.19	--	--	--	0.29	--
Nickel	pH based	14.7	11.5	137	17.5	10.4 B	8 B	4.9 B	14.5	9.6	11.9	11.7 B	--
Potassium	--	771 B	1080 B	577 B	1180 B	506 B	251 B	--	993 B	479 B	486 B	290 B	52.9 B
Selenium	pH based	--	--	--	--	--	--	--	--	1.6	--	--	--
Silver	pH based	1.1 B	--	1.3 B	--	--	--	--	--	--	0.83 B	--	24.5
Sodium	--	257 B	63.5 B	148 B	323 B	20200	22800	--	357 B	332 B	362 B	24800	80.2 B
Thallium	pH based	--	--	--	--	--	--	--	--	0.85 B	--	--	--
Vanadium	980	26.7	22.9	24.4	47	353	520	24.3	22.5	24.2	23.5	609	1 B
Zinc	pH based	519	48.9	350	242	124	151	182	44.7	94.1	96.3	31.2	16.6
Cyanide	40	--	--	--	--	--	--	--	--	--	--	--	0.62
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/KG	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg

This table presents a summary of the samples collected from the Former Alcoa Property The Tier 1 soil remediation objectives were taken from the IEPA's TACO Guidance Document
These Tier 1 remediation objectives are based on an industrial/commercial scenario with Class 1 Groundwater
The lowest Tier 1 remediation objective of the three exposure routes (ingestion, inhalation, migration to groundwater) is considered in this table The remediation objective column is blank in cases where there is no established TACO cleanup objective In cases where the Tier 1 remediation objective is based on the pH of the soil that was sampled, the table states "pH based" in the remediation objective column
The concentrations that appear in red have exceeded the TACO Tier 1 soil remediation objectives

TABLE 2 FORMER ALCOA PROPERTY SOIL SAMPLE SUMMARY CONSIDERING ALL TACO TIER 1 ROUTES

SAMPLING POINT	TACO Tier 1	X037	X038	X039	X040	X041	X042	X043	X044	X045	X046	X047	X048
Date Collected	Remediation	3-13-96	3-13-96	3-13-96	3-13-96	9-12-95	9-12-95	4-2-96	4-2-96	4-2-96	4-2-96	4-2-96	4-2-96
Parameter	Objective	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
pH		6.9	7.8	8.2	8.3	8.2	8.3	7.6	7.5	8.5	8.5	8.9	9.4
Sample Depth (Feet)		2-3	0-1	0-1	2-3	0-1	2-3	0-1	4	4"-12"	3-4	4"-12"	1-1.5
VOLATILES													
Methylene Chloride	--	--	--	--	--	--	--	84 B	--	--	-- B	100 B	38 B
Acetone	8000	--	--	--	--	--	--	6 JB	10 JB	7 JB	7 JB	14 JB	10 JB
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
SEMIVOLATILES													
Phenol	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	30000	--	--	--	--	--	--	150 J	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--	--	120 J	380 J	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	200000	--	--	--	--	--	--	--	--	--	--	--	--
2,4- Dinitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	120 J	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluorene	160000	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	--	280 J	--	--	47 J	--	190 J	220 J	--	45 J	--	--	--
Carbazole	290000	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	4300000	62 J	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	980000	420	--	--	82 J	--	280 J	33 J	--	--	--	--	--
Pyrene	1400000	360 J	--	--	54 J	--	200 J	52 J	--	--	--	--	--
Butylbenzylphthalate	68000	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)anthracene	2000	200 J	--	--	--	--	160 J	--	--	--	--	--	--
Chrysene	49000	180 J	--	--	--	--	180 J	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	11000	--	100 J	110 J	43 J	45 J	220 J	--	52 JB	43 J	--	69 J	--
Di-n butylphthalate	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	5000	270 J	45 J	70 J	40 J		380 J	--	--	--	--	--	--
Benzo(k)fluoranthene	49000	300 J		67 J	44 J		340 J	--	--	--	--	--	--
Benzo(e)pyrene	800	160 J	42 J		--		160 J	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	8000	50 J			--			--	--	--	--	--	--
Dibenz(a,h)anthracene	800	--			--			--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--			--			--	--	--	--	--	--
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
PESTICIDES													
alpha-BHC	--												
beta-BHC	--												
delta-BHC	--		0 45 J	0 37 JP									
gamma-BHC (Lindane)	--												
Heptachlor	--												
Aldrin	--	0 3 J				0 079 JP	2 2 JP						
Heptachlor epoxide	30	--	--	0 4 JP	--	--	0 11 JP	1 4 JP	--	1 J	--	--	--
Endosulfan I	--			0 27 JP			0 99 JP	0 14 JBI					
Dieldrin	--	2 8	1 8 J	1 6 J	0 42 J		2 6 J	0 92 JP		0 31 JP			0 31 J
4,4'-DDE	700	--	4 JP	2 JP	--	--	0 47 JP	0 25 JP	0 66 J	0 36 J	--	--	0 26 JP
Endrin	--	0 17 J			0 13 J			1 1 J		0 89 J			0 48 JP
Endosulfan II	--										0 24 JP	0 11 JP	0 7 JP
4,4'-DDD	--	2 3		0 5 JP				1 4 J		0 83 JP			
Endosulfan sulfate	--	--	--	--	--	--	0 55 JP	0 82 JP	--	--	--	--	--
4,4'-DDT	1000	--	18 P	7 1 P	--	1 JP	--	--	--	--	--	--	--
Methoxychlor	--		0 99 JP	2 5 J	0 91 J		7 2 JP	9 2 JP	1 2 J	7 1 JP	1 5 J		1 2 JP
Endrin aldehyde	--	0 71 J		1 6 JP	0 37 J		0 78 JP			0 14 JP			
Endrin Ketone	--	2 2	--	0 32 JP	0 2 J	--	--	--	--	--	--	--	--
alpha-Chlordane	--		3 6 P	0 75 JP			0 87 JP	0 44 JP					0 42 J
gamma-Chlordane	--		3 9	1 6 JP	0 1 J	0 14 JP		0 34 JP		0 51 JP			
Toxaphene	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1016	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1221	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1232	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1242	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1248	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1254	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	--		130	95	11 J								
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
INORGANICS													
Aluminum	--	77800	11700	15300	16400	22800	17800	10400	7240	6460	5100	58800	83700
Antimony	5		4 9 B	7 1 J		0 38 J	2 B	--	--	--	--	--	--
Arsenic	24	13 4	14 3	20 8	7 4	7 8	13 8	8 2	6 7	5 3	6 6	12 7	12 2
Barium	pH based	23 3 B	142	155	126	164	119	58 2	146	56 7	134	116	126
Beryllium	pH based		0 38 B	0 43	0 06 B	0 68	1 2 B	0 94 B	0 46 B	1 2 B	0 32 B	--	--
Cadmium	pH based		10 5	10 4	0 49 B	0 27	18	2 9	0 58 B	1 1 B	--	--	--
Calcium	--	600 B	12300	14300 J	19000	25000 J	21200	11300	3280	10400	2480	31700	62900
Chromium	pH based	22 5	95 2	148	58 7	71 4	40 8	14 4	10 1	11 4	10	827	1150
Cobalt	12000		22 8	27 8	4 9 B	6 5	7 3 B	4 9 B	6 3 B	3 9 B	4 7 B	3 2 B	3 B
Copper	pH based	1 3 B	236	344	183	15 1	135	55 2	26 6	25	9 5	16 7	5 B
Iron	--	10400	56700	108000	18800	27800	21400	13700	12500	14400	8520	70200	88300
Lead	647	30 4	360	539 J	41 6	28 4 J	300	60 8	17 6	12 4	11 8	95 3	108
Magnesium	--	35 5 B	20800	25100	1800	2850	1890	940 B	2200	856 B	1530	851 B	1330 B
Manganese	8700	15 5	747	1010	253	334	273	138	339	127	275	110	201
Mercury	pH based	0 17	4 3	3 8 J		0 09 J	0 4	0 15	--	--	--	0 43	0 33
Nickel	pH based	0 72 B	194	212	67 1	15 7	73 9	16 5	16 5	14	10	8 9 B	5 3 B
Potassium	--	36 6 B	1000 B	1020	1170	1860	1680 B	750 B	1180	690 B	1100	222 B	254 B
Selenium	pH based	2 1	1 8	1 4 J	1 2	0 85 J	2 7	--	--	--	--	--	--
Silver	pH based		8 6	28 2		0 33	3 4 B	1 2 B	--	0 98 B	--	--	--
Sodium	--		234 B	189 J	1070	343 J	327 B	212 B	83 7 B	210 B	488 B	23500	29400
Thallium	pH based			1	1 1 B	1 2		--	--	--	0 73 B	--	--
Vanadium	980	51 3	37 1	50 1	63 9	112	38 5	23 9	19 9	27 7	23 7	422	467
Zinc	pH based	8 9	1110 J	1210 J	57 4	67 8 J	1420	229	92 5	183	48	66 6	24 5
Cyanide	40			0 69 R		0 69 R		0 21 B	--	0 39 B	--	--	--
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg

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TABLE 2 FORMER ALCOA PROPERTY SOIL SAMPLE SUMMARY CONSIDERING ALL TACO TIER 1 ROUTES

SAMPLING POINT	TACO Tier 1	X085	X086	X087	X088	X089	X090	X091	X092	X093	X094	X095	X096
Date Collected	Remediation	4-9-96	4-9-96	4-9-96	4-9-96	4-9-96	4-9-96	4-9-96	4-9-96	4-9-96	4-9-96	4-9-96	4-10-96
Parameter	Objective	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
pH		7 8	7.8	8.5	8.5	8.7	10.2	10.2	9.1	9 4	9.1	9 4	8
Sample Depth (Feet)		0" - 2"	0 - 1	3 - 3 75	0 - 1	2 - 3	0" - 2"	0" - 2"	1.5 - 2	0 - 1	1 - 2	5 - 6	0 - 1
VOLATILES													
Methylene Chloride	--	10 JB	12 JB	37 B	11 JB	10 JB	11 JB	9 JB	11 JB	10 JB	20 B	9 JB	9 JB
Acetone	8000	7 JB	5 JB	9 JB	5 JB	11 JB	6 JB	--	5 JB	8 JB	9 JB	8 JB	7 JB
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
SEMIVOLATILES													
Phenol	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	--	--	--	--	61 J	--	--	--	--	--	--	--	--
Naphthalene	30000	--	--	--	60 J	120 J	--	--	--	--	--	--	380 J
2-Methylnaphthalene	--	--	--	--	200 J	160 J	--	--	--	82 J	--	--	1000
Acenaphthylene	--	--	--	--	83 J	--	--	--	--	--	--	--	--
Acenaphthene	200000	--	--	--	--	62 J	--	--	--	--	--	--	--
2,4- Dinitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	130 J	100 J	--	--	--	--	--	--	410
2,4-Dinitrotoluene	--	--	--	--	--	--	--	--	--	--	--	--	140 J
Diethylphthalate	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluorene	160000	--	--	--	--	72 J	--	--	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	--	--	--	--	410 J	680	--	--	--	71 J	--	--	890
Carbazole	290000	--	--	--	--	68 J	--	--	--	--	--	--	--
Anthracene	4300000	--	--	--	53 J	150 J	--	--	--	--	--	--	94 J
Fluoranthene	980000	66 J	--	--	1200	490	--	--	--	--	--	--	140 J
Pyrene	1400000	55 J	--	--	1400	580	--	--	--	--	--	--	270 J
Butylbenzylphthalate	68000	2800 D	120 J	--	100 J	37 J	--	--	--	--	--	--	--
Benzo(a)anthracene	2000	74 J	--	--	800	270 J	--	--	--	--	--	--	160 J
Chrysene	49000	68 J	--	--	950	280 J	--	--	--	--	--	--	170 J
bis(2-Ethylhexyl)phthalate	11000	6900 D	1100	60 J	52 J	46 J	53 J	50 J	--	58 J	--	--	--
Di-n butylphthalate	--	82 J	--	--	22 J	--	--	54 J	--	25 J	--	--	24 J
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	5000	140 JX	--	--	1900 X	340 JX	--	--	--	--	--	--	--
Benzo(k)fluoranthene	49000	150 JX	--	--	1900 X	340 JX	--	--	--	--	--	--	--
Benzo(a)pyrene	800	45 J	--	--	990	200 J	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	8000	--	--	--	310 J	68 J	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	800	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	210 J	--	--	--	--	--	--	--	--
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
PESTICIDES													
alpha-BHC	--	0 8 JP	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	--	2.1 P	--	0 12 JP	0 19 JP	--	0 078 JP	0 1 JP	0 097 JP	0.34 JP	0 1 JP	0 086 JP	0 55 JP
gamma-BHC (Lindane)	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	--	3 3	0 15 JP	0 38 JP	--	--	0 17 JP	0 21 JP	0 083 JP	--	--	--	--
Heptachlor epoxide	30	9 3 JP	--	--	1 1 J	0.52 J	--	--	--	0.15 JP	--	--	2.2 P
Endosulfan I	--	0 89 JP	--	--	--	0 098 JP	--	--	--	0 13 JP	--	--	1 JP
Dieldrin	--	1.2 JP	--	--	2 4 JP	--	0.19 JP	0.15 JP	--	0.23 JP	--	--	1 2 JP
4,4'-DDE	700	1 2 JP	--	0 098 JP	7 8 P	--	0 61 JP	0 78 JP	--	--	--	--	--
Endrin	--	--	--	--	--	0.29 JP	0.27 JP	0.18 JP	0.13 JP	--	--	--	--
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4'-DDD	--	--	--	--	--	--	--	--	--	--	--	--	5 1
Endosulfan sulfate	--	2 8 JP	--	--	1 6 JP	--	--	--	--	--	--	--	--
4,4'-DDT	1000	--	--	--	--	--	--	--	--	--	--	--	--
Methoxychlor	--	--	--	--	47 B	--	--	1 1 JB	--	1 2 JPB	--	--	17 JPB
Endrin aldehyde	--	--	--	0.61 JP	--	--	--	--	--	0.8 JP	--	--	1 8 JP
Endrin Ketone	--	3 5 JP	--	--	--	--	--	--	--	--	--	--	2 9 JP
alpha-Chlordane	--	1 4 JP	--	--	0 38 JP	0.11 JP	--	--	--	--	--	--	--
gamma-Chlordane	--	25	--	--	--	--	--	--	--	--	--	--	2 8 P
Toxaphene	--	130 JP	--	--	500 P	--	--	--	--	36 JP	--	--	240 P
Aroclor-1016	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1221	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1232	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1242	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1248	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1254	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	--	--	--	--	--	--	--	--	--	--	--	--	--
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
INORGANICS													
Aluminum	--	14600	61200	62000	8270	14300	64900	66200	68000	45700	71000	13700	20900
Antimony	5	4 3 B	1 1 B	--	--	--	--	--	--	--	--	--	--
Arsenic	24	14.9 N	30.8 N	13.5 N	4 7 N	8.1 N	19.8 N	19.2 N	40.4 N	8.8 N	19 5 N	10.7 N	11 N
Barium	pH based	213	158	126	45 8 B	120	109	109	159	87.6	180	585	64 3
Beryllium	pH based	0.26 B	0 47 B	--	1.2 B	1.9	0.57 B	0.41 B	0.7 B	--	0.72 B	0 84 B	1 1 B
Cadmium	pH based	5 2	3 2	0 4 B	0 79 B	1 1 B	2.3	2 3	--	--	0 41 B	0 37 B	1 9
Calcium	--	198000 *	124000	65800	8960	21400	101000	104000	173000	95300	76700	6970	38900
Chromium	pH based	99 2 E*	830 E*	679 E*	15 6 E*	19 5 E*	163 E*	178 E*	77 6 E*	271 E*	82 E*	20 9 E*	155 E*
Cobalt	12000	6 6 B	4 9 B	2 3 B	5 B	8 B	3.7 B	2.7 B	9 B	1.4 B	3.3 B	9.6 B	9.3 B
Copper	pH based	592	91 6	6 1 B	152	122	14 9	14 4	5 9 B	4.2 B	9 8	23 3	21 5
Iron	--	94300	115000	56400	20900	24100	66800	63100	23300	22900	29700	21000	36000
Lead	647	1800 *	228 *	78 5 *	46 8 *	49 8 *	70 6 *	67 8 *	46 1 *	55 5 *	55 *	16 2 *	44 6 *
Magnesium	--	842 B	1360 B	1260 B	636 B	616 B	1210 B	1210 B	1490 B	1320 B	850 B	4120	1090 B
Manganese	8700	346 *	236 *	173 *	113 *	210 *	279 *	290 *	286 *	115 *	266 *	219 *	249 *
Mercury	pH based	0 18	0.7	0 37	--	--	--	--	0.3	0.18	0.29	--	0.27
Nickel	pH based	21 3 E	22 7 E	7 BE	27 1 E	25 8 E	7.1 BE	5 3 BE	3 1 BE	5 1 BE	4 2 BE	23 8 E	16 6 E
Potassium	--	254 B	531 B	256 B	383 B	1200 B	189 B	194 B	49.1 B	148 B	249 B	1750	404 B
Selenium	pH based	--	--	--	1 4	1 7	--	--	--	--	--	0 81 B	--
Silver	pH based	0 78 B	0 89 B	0 72 B	--	--	0.75 B	0 82 B	2.6 B	--	2.4 B	--	--
Sodium	--	470 B	4360	26300	421 B	1430 B	11600	11900	12500	14700	29600	3230	3850
Thallium	pH based	1 7 B	--	--	--	--	--	--	--	--	--	--	--
Vanadium	980	39 1	682	431	26	34 3	322	313	243	221	163	35 3	169
Zinc	pH based	635 N*	427 N*	11 4 N*	92.6 N*	99 N*	131 N*	131 N*	14.2 N*	11.6 N*	30.4 N*	78 9 N*	153 N*
Cyanide	40	5	0 25 B		0 68	0 95	--	0.14 B	0 24 B	0 17 B		--	0 64 B
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg

This table presents a summary of the samples collected from the Former Alcoa Property The Tier 1 soil remediation objectives were taken from the IEPA's TACO Guidance Document
These Tier 1 remediation objectives are based on an industrial/commercial scenario with Class 1 Groundwater
The lowest Tier 1 remediation objective of the three exposure routes (ingestion, inhalation migration to groundwater) is considered in this table The remediation objective column is blank in cases where there is no established TACO cleanup objective In cases where the Tier 1 remediation objective is based on the pH of the soil that was sampled, the table states "pH based" in the remediation objective column
The concentrations that appear in red have exceeded the TACO Tier 1 soil remediation objectives

TABLE 2 FORMER ALCOA PROPERTY SOIL SAMPLE SUMMARY CONSIDERING ALL TACO TIER 1 ROUTES

SAMPLING POINT	TACO Tier 1	X073	X074	X075	X076	X077	X078	X079	X080	X081	X082	X083	X084
Date Collected	Remediation	4-3-96	4-3-96	4-3-96	4-3-96	4-4-96	4-4-96	4-4-96	4-4-96	4-9-96	4-9-96	4-9-96	4-9-96
Parameter	Objective	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
pH		8.4	9 7	6.5	5.9	7.6	6.5	6.0	6.5	8.3	7.5	9.2	9
Sample Depth (Feet)		1"-3"	0-3"	3"-4"	0-3"	0-3"	0-3"	0-2"	0-3"	0 - 0.5	2.5 - 3	1.25 - 1.75	2.5 - 3
VOLATILES													
Methylene Chloride	–	8 JB	10 JB	22 JB	9 JB	8 JB	7 JB	17 B	12 JB	19 B	32 B	48 B	39 B
Acetone	8000	5 JB	8 JB	23 JB	6 JB	6 JB	4 JB	8 JB	6 JB	10 JB	5 JB	51 B	13 JB
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
SEMIVOLATILES													
Phenol	–	–	–	–	–	–	–	–	–	–	–	–	–
4-Methylphenol	–	–	–	–	–	–	–	–	–	–	–	–	–
Nitrobenzene	–	–	–	–	–	–	–	–	–	–	–	–	–
Naphthalene	30000	–	–	–	–	–	–	–	–	100 J	–	–	–
2-Methylnaphthalene	–	–	–	–	–	–	–	–	–	350 J	–	–	–
Acenaphthylene	–	–	–	–	–	–	–	–	–	–	–	–	–
Acenaphthene	200000	–	–	–	–	–	–	–	–	–	–	–	–
2,4- Dinitrophenol	–	–	–	–	–	–	–	–	–	–	–	–	–
Dibenzofuran	–	–	–	–	–	–	–	–	–	200 J	–	–	–
2,4-Dinitrotoluene	–	–	–	–	–	–	–	–	–	–	–	–	–
Diethylphthalate	–	–	–	–	–	–	–	–	–	–	–	–	–
Fluorene	160000	–	–	–	–	–	–	–	–	–	–	–	–
Pentachlorophenol	–	–	–	–	–	–	–	–	–	–	–	–	–
Phenanthrene	–	–	–	–	–	–	–	–	–	380 J	–	–	–
Carbazole	290000	–	–	–	–	–	–	–	–	–	–	–	–
Anthracene	4300000	–	–	–	–	–	–	–	–	34 J	–	–	–
Fluoranthene	980000	–	–	–	–	–	–	–	–	72 J	–	49 J	–
Pyrene	1400000	–	–	–	–	–	–	–	–	120 J	–	56 J	–
Butylbenzylphthalate	68000	–	–	–	–	–	–	–	–	–	–	–	–
Benzo(a)anthracene	2000	–	–	–	–	–	–	–	–	88 J	–	–	–
Chrysene	49000	–	–	–	–	–	–	–	–	81 J	–	–	–
bis(2-Ethylhexyl)phthalate	11000	–	–	–	–	–	160 J	–	–	88 J	–	59 J	–
Di-n butylphthalate	–	–	–	–	–	–	–	–	–	51 J	–	–	–
Di-n-octylphthalate	–	–	–	–	–	–	–	–	–	–	–	–	–
Benzo(b)fluoranthene	5000	–	–	–	–	–	–	–	–	85 XJ	–	73 JX	–
Benzo(k)fluoranthene	49000	–	–	–	–	–	–	–	–	80 XJ	–	70 JX	–
Benzo(a)pyrene	800	–	–	–	–	–	–	–	–	74 J	–	–	–
Indeno(1,2 3-cd)pyrene	8000	–	–	–	–	–	–	–	–	–	–	–	–
Dibenz(a,h)anthracene	800	–	–	–	–	–	–	–	–	–	–	–	–
Benzo(g,h,i)perylene	–	–	–	–	–	–	–	–	–	–	–	–	–
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
PESTICIDES													
alpha-BHC	–	–	–	–	–	–	–	–	–	–	–	–	–
beta-BHC	–	–	–	–	–	–	–	–	–	–	–	–	–
delta-BHC	–	–	0 56 JP	–	0 92 JP	1 6 JP	1.6 JP	35	–	–	0 13 JP	0 13 JP	0 1 JP
gamma-BHC (Lindane)	–	–	–	–	22	–	–	–	–	–	–	–	–
Heptachlor	–	0 29 JP	–	–	21	–	0.05 JP	–	–	–	–	–	–
Aldrin	–	–	–	–	22	–	–	–	–	–	0 16 JP	0 43 JP	–
Heptachlor epoxide	30	1.7 JP	0.75 JP	–	–	0.37 JP	0 34 JP	0.54 JP	–	0.24 JP	–	–	–
Endosulfan I	–	1 7 JP	0 53 JP			0 49 JP	0 11 JP			0 81 JP	–	0 21 JP	0 2 JP
Dieldrin	–	5 6 P	–		46	0 99 JP	0.89 JP		0.07 JP	1.3 JP	–	–	–
4,4'-DDE	700	1 3 J	0 5 JP	–	–	3 7 J	3 JP	–	–	–	–	–	–
Endrin	–	4 5 P	–	–	52	0 51 JP	–	–	–	–	–	0 2 JP	–
Endosulfan II	–	12 P	–	–	0 21 JP	–	–	–	1 9 JP	–	–	0 3 JP	–
4,4'-DDD	–	0 86 J	–	–	–	–	–	–	–	1 4 J	–	–	0.24 JP
Endosulfan sulfate	–	1 3 JP	–	–	–	–	–	–	0 29 J	–	–	–	–
4,4'-DDT	1000	–	–	–	47 P	0.53 JP	–	–	–	–	–	–	–
Methoxychlor	–	40	21 JP	–	3 4 JP	12 J	13 JP	6 6 JP	0.73 JP	11 JPB	–	1 JPB	–
Endrin aldehyde	–	2 2 JP	–	–	–	–	–	–	–	–	–	–	–
Endrin Ketone	–	0 72 JP	–	–	–	–	–	–	–	0 77 JP	–	–	–
alpha-Chlordane	–	1 JP	–	–	–	–	0.61 JP	–	–	–	–	–	–
gamma-Chlordane	–	2 6	–	–	–	0 46 JP	0 38 JP	–	–	2 2 J	–	–	–
Toxaphene	–	–	–	–	–	–	–	–	–	130 J	–	24 JP	–
Aroclor-1016	–	–	–	–	–	–	–	–	–	–	–	–	–
Aroclor-1221	–	–	–	–	–	–	–	–	–	–	–	–	–
Aroclor-1232	–	–	–	–	–	–	–	–	–	–	–	–	–
Aroclor-1242	–	–	–	–	–	–	–	–	–	–	–	–	–
Aroclor-1248	–	–	–	–	–	–	–	–	–	–	–	–	–
Aroclor-1254	–	–	–	–	–	–	–	–	–	–	–	–	–
Aroclor-1260	–	–	–	–	–	–	–	–	7 3 J	–	–	–	–
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
INORGANICS													
Aluminum	–	14700	59800	46000	1440	7380	6470	1140	154	7110	5340	68400	70900
Antimony	5	11 6 B	6 3 B	11 1 B	–	7 9 B	9 B	–	5 5 B	–	26 1	–	–
Arsenic	24	60.8	18 3	34.6	1.8 B	9.2	8.9	1 4 B	–	5 8 N	3 7 N	16.5 N	14 N
Barium	pH based	171	54 1 B	80 5 B	131	561	759	32 1 B	9 3 B	58	310	152	135
Beryllium	pH based	1 B	–	–	0.22 B	0 48 B	0.44 B	–	–	1 B	0.82 B	0 3 B	
Cadmium	pH based	11 1 *	–	–	0 43 B*	1 6 *	1 9 *	0 6 B*	–	1 5	0 42 B	2 5	1 4 B
Calcium	–	37000 *	73000 *	12600 *	252000 *	319000 *	339000 *	258000 *	270000 *	9990	8880	59600	52000
Chromium	pH based	44 3	1000	2540	18 4	20 8	19 4	8 1	–	12 5 E*	26.3 E*	765 E*	674 E*
Cobalt	12000	8.6 B	5 4 B	5 9 B	–	2.5 B	2.9 B	–	–	4 B	5.4 B	3 1 B	2 7 B
Copper	pH based	117	5 9 B	85 2	3 8 B	35 3	33.2	71 2	–	33 2	39 4	13 6	11 6
Iron	–	48300	182000	305000	5190	7530	7010	5020	140	12300	17200	76900	62500
Lead	647	210	71 7	291	932	1470	1420	716	1500	39 2 *	298 *	115 *	82 1 *
Magnesium	–	3690	1730	385 B	90.4 B	1610	1550	34.3 B	15.4 B	476 B	517 B	2240	1730
Manganese	8700	334 *	183 *	115 *	12 *	139 *	134 *	10 2 *	3 1 B*	93 5 *	81 9 *	194 *	154 *
Mercury	pH based	0.26	0.45	0.32	0.08 B	0.09 B	0.08 B	0 09 B	–	0.14	–	0 36	0.98
Nickel	pH based	52 8	6 2 B	7 3 B	1.6 B	8 B	8 7 B	–	–	13 8 E	18 7 E	8 BE	7 2 BE
Potassium	–	2970	127 B	226 B	48 9 B	675 B	808 B	–	–	519 B	434 B	405 B	284 B
Selenium	pH based	–	–	–	–	1 5	2	0 77 B	–	1 1 B	–	–	–
Silver	pH based	1.8 B	–	–	24 1	25 1	25 8	24.3	24.3		–	0.72 B	–
Sodium	–	4040	29900	947 B	269 B	3050	3080	259 B	97 5 B	479 B	294 B	22500	21200
Thallium	pH based	–	–	–	–	–	–	–	–	–	–	–	–
Vanadium	980	37 4	795	1820	28	25 8	24 7	23 1	0 95 B	20 8	24 8	539	488
Zinc	pH based	948 *	40 *	283 *	25.8 *	272 *	256 *	30 1 *	14.2 *	266 N*	233 N*	141 N*	109 N*
Cyanide	40	0 25 B	–	0 58 B	–	0 14 B	0 16 B	273	–	0 87	0 32 B	0 3 B	0 22 B
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg

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TABLE 2 FORMER ALCOA PROPERTY SOIL SAMPLE SUMMARY CONSIDERING ALL TACO TIER 1 ROUTES

SAMPLING POINT	TACO Tier 1	X097	X098	X099	X100	X101	X102	X103	X104	X105	X106	X107	X108
Date Collected	Remediation	4-10-96	4-10-96	4-10-96	4-10-96	4-10-96	4-10-96	4-10-96	4-10-96	4-10-96	4-10-96	4-10-96	4-10-96
Parameter	Objective	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
pH		8.7	6.2	5.4	9.2	4.8	5.3	8.4	8.5	8.5	8.3	8.2	8.7
Sample Depth (Feet)		5 - 6	0" - 1"	0 - 1	2 - 3	0 - 1	6.5 - 7	1 - 2	3 - 4		0" - 6"	0.5 - 1	2.5 - 3
VOLATILES													
Methylene Chloride	--	10 JB	7 JB	42 B	50 B	14 B	13 JB	22 B	12 JB	12 JB	25 B	10 JB	12 JB
Acetone	8000	--	28	7 J	--	--	--	--	--	--	67	--	--
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
SEMIVOLATILES													
Phenol	--	--	--	--	--	--	--	--	--	--	92 J	--	--
4-Methylphenol	--	--	--	--	--	--	--	--	--	--	120 J	--	--
Nitrobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	30000	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	--	--	--	89 J	--	80 J	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	200000	--	--	--	--	--	--	--	--	--	--	--	--
2,4- Dinitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	58 J	--	--	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluorene	160000	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	--	--	--	80 J	--	190 J	--	--	--	--	--	--	--
Carbazole	290000	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	4300000	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	980000	--	59 J	--	--	53 J	--	--	--	--	--	--	--
Pyrene	1400000	--	57 J	--	--	54 J	--	--	--	--	--	--	--
Butylbenzylphthalate	88000	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)anthracene	2000	--	--	--	--	47 J	--	--	--	--	--	--	--
Chrysene	49000	--	43 J	--	--	45 J	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	11000	--	460	76 J	57 J	100 JB	48 JB	71 BJ	150 JB	100 JB	200 JB	470 B	81 JB
Di-n butylphthalate	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	150 J	--
Benzo(b)fluoranthene	5000	--	75 J	--	--	--	--	42 J	--	--	--	--	--
Benzo(k)fluoranthene	49000	--	76 J	--	--	--	--	48 XJ	--	--	--	--	--
Benzo(a)pyrene	800	--	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	8000	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	800	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--	--	--
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
PESTICIDES													
alpha-BHC	--	--	0.26 J	--	--	--	--	--	--	--	0.41 JP	--	--
beta-BHC	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	--	0.19 JPB	0.31 JPB	--	0.16 JPB	--	--	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	--	--	--	0.27 JP	--	--	--	--	1.7 JP	0.54 JP	--
Heptachlor	--	--	--	--	--	--	--	--	0.085 JP	--	0.95 J	--	--
Aldrin	--	0.6 JP	2 JP	5.9 P	0.34 JP	0.74 JP	--	1.1 JP	--	0.14 JP	--	--	--
Heptachlor epoxide	30	--	0.21 JP	1.6 J	--	0.66 JP	0.39 JP	0.44 JP	--	--	0.47 JP	--	--
Endosulfan I	--	--	0.9 JP	0.46 JP	--	0.17 JP	0.19 JP	0.068 JP	--	--	--	--	--
Dieldrin	--	--	0.8 JP	1 JP	--	1.2 JP	--	0.38 JP	--	0.18 JP	0.2 JP	--	--
4,4'-DDE	700	--	0.23 JP	--	--	1.2 JP	--	--	2.3 J	--	--	--	0.53 JP
Endrin	--	--	0.92 J	1 J	--	--	0.2 JP	--	--	0.31 JP	0.61 JP	--	--
Endosulfan II	--	--	0.35 JP	--	--	--	--	0.91 JP	--	--	--	--	--
4,4'-DDD	--	--	--	0.98 JP	--	--	--	--	0.19 JP	0.22 JP	0.58 JP	--	--
Endosulfan sulfate	--	--	0.46 JP	0.99 JP	--	--	--	0.6 JP	--	--	--	--	--
4,4'-DDT	1000	--	0.2 JP	--	0.2 JP	--	--	--	--	--	--	--	--
Methoxychlor	--	0.37 JP	2.3 JP	8.3 JP	1.6 J	1.7 JP	0.26 JP	--	--	0.49 JP	--	--	--
Endrin aldehyde	--	--	0.32 JP	2.6 JP	0.51 JP	0.57 JP	0.27 JP	--	--	--	--	--	--
Endrin Ketone	--	--	--	--	--	0.28 JP	--	0.48 JP	--	0.39 JP	2.7 JP	--	--
alpha-Chlordane	--	--	--	0.37 JP	--	0.49 JP	--	0.18 JP	--	0.23 JP	--	--	--
gamma-Chlordane	--	0.08 JP	0.31 JP	0.48 JP	--	0.44 JP	--	0.49 JP	--	--	1.5 JP	--	--
Toxaphene	--	--	--	--	--	100 J	--	--	--	--	--	--	--
Aroclor-1016	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1221	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1232	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1242	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1248	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1254	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	--	--	--	--	--	--	--	--	--	--	--	--	--
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
INORGANICS													
Aluminum	--	10600	3960	7440	64500	656	13500	14800	12000	35600	8930	20800	13500
Antimony	5	--	1.8 B	--	--	--	--	--	--	--	--	0.54 B	--
Arsenic	24	9.2 N	5 N	12.3 N	12.8 N	9	16.4	42.2	9.7	19.8	35.8	31.6	11.5
Barium	pH based	232	33.2 B	41.2 B	130	19.1 B	294	229	167	214	129	291	357
Beryllium	pH based	0.78 B	--	1.3 B	0.61 B	0.56 B	0.87 B	0.85 B	0.83 B	0.69 B	--	0.64 B	0.87 B
Cadmium	pH based	0.42 B	2.3	8	1.8	--	0.43 B	3.3	0.37 B	3.2	2.8	12.9	0.77 B
Calcium	--	6580	243000	18200	86300	714 B	5020	5300	3820	9410	5040	6170	4650
Chromium	pH based	21.2 E*	27 E*	10.7 E*	113 E*	7.7	18.3	28.3	15.6	132	26.8	59.5	17.5
Cobalt	12000	8.2 B	0.85 B	3.8 B	8.2 B	2.2 B	10 B	10.2 B	7.4 B	6.7 B	6.3 B	10.5 B	10.6 B
Copper	pH based	21.9	25.5	44.4	11.2	11.4	27.3	33	20.1	36.9	26.8	33.1 B	26.8
Iron	--	16500	6400	14800	19600	7680	28300	22600	20100	25700	13700	21400	22400
Lead	647	16 *	3820 *	51.7 *	52.7 *	36.8	17.6	59.3	12.8	58.3	48	62.5	15.9
Magnesium	--	3600	272 B	259 B	948 B	85 B	5240	2080	3380	2720	2500	3110	4410
Manganese	8700	488 *	39.6 *	29.2 *	281 *	5.5 *	600 *	776 *	337 *	477 *	234 *	529 *	724 *
Mercury	pH based	--	--	--	0.15	--	--	--	--	--	--	--	--
Nickel	pH based	21.2 E	2.2 BE	12.9 E	18.8 E	10.5 B	29.3	24.9	17.3	14.5	18.7	19.7	24.2
Potassium	--	1500	255 B	303 B	325 B	271 B	2080	1880	2010	2780	2030	2530	1820
Selenium	pH based	--	--	2	--	2.1 N	--	1.6 N	--	1.6 N	1.3 BN	1.7 N	--
Silver	pH based	--	1.8 B	0.72 B	2 B	--	--	--	--	0.75 B	--	--	--
Sodium	--	1580	450 B	299 B	24200	268 BE	852 BE	893 BE	1880 E	8610 E	3030 E	3940 E	2130 E
Thallium	pH based	1.3 B	--	--	--	--	1.7 B	1.8 B	1.5 B	--	--	1.4 B	1.6 B
Vanadium	980	30.7	27.7	29.1	130	14.1	36.2	103	29.5	159	39.3	90.2	33.8
Zinc	pH based	77.4 N*	161 N*	417 N*	176 N*	26.1	101	217	81.5	168	168	447	91.2
Cyanide	40	--	0.2 B	0.4 B	0.16 B	0.56 B	--	1	0.25 B	0.69 B	0.41 B	5.5	4
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg

This table presents a summary of the samples collected from the Former Alcoa Property The Tier 1 soil remediation objectives were taken from the IEPA's TACO Guidance Document
These Tier 1 remediation objectives are based on an industrial/commercial scenario with Class 1 Groundwater
The lowest Tier 1 remediation objective of the three exposure routes (ingestion, inhalation, migration to groundwater) is considered in this table The remediation objective column is blank in cases where there is no established TACO cleanup objective In cases where the Tier 1 remediation objective is based on the pH of the soil that was sampled, the table states "pH based" in the remediation objective column
The concentrations that appear in red have exceeded the TACO Tier 1 soil remediation objectives

TABLE 2 FORMER ALCOA PROPERTY SOIL SAMPLE SUMMARY CONSIDERING ALL TACO TIER 1 ROUTES

SAMPLING POINT	TACO Tier 1	X109	X110	X111	X112	X113	X114	X115	X116	X117	X118	X119	X120
Date Collected	Remediation	4-10-96	4-11-96	4-11-96	4-11-96	4-11-96	4-11-96	4-11-96	4-11-96	4-11-96	4-11-96	4-11-96	4-11-96
Parameter	Objective	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
pH		9.2	9 4	7.8	7	8.2	7.7	7.3	7.7	8.5	8.5	8.9	7.5
Sample Depth (Feet)		6 5 - 7.5	10 - 11	0 - 0.5	2 - 3	0 - 0.5	0 - 0.5	0 - 0.6	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	2 - 2.5" into berm
VOLATILES													
Methylene Chloride	--	11 JB	13 JB	11 JB	12 JB	15 JB	14 JB	16 B	14 JB	8 JB	26 B	62 B	33 B
Acetone	8000	--	--	--	--	--	--	--	--	--	62 B	--	--
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
SEMIVOLATILES													
Phenol	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	--	--	--	--	--	--	--	--	69 J	--	--	--	--
Nitrobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	30000	--	--	--	--	--	--	--	--	--	190 J	--	--
2-Methylnaphthalene	--	--	--	--	--	89 J	--	88 J	--	--	670 J	--	91 J
Acenaphthylene	--	--	--	--	--	--	--	62 J	--	--	260 J	--	--
Acenaphthene	200000	--	--	--	--	--	--	--	--	--	--	--	--
2,4- Dinitrophenol	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	--	--	--	--	--	--	--	51 J	--
Fluorene	160000	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	--	--	--	--	--	64 J	56 J	180 J	110 J	--	810 J	--	200 J
Carbazole	290000	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	4300000	--	--	--	--	--	--	--	--	--	200 J	--	--
Fluoranthene	980000	--	--	160 J	--	460 J	200 J	460 J	250 J	--	4200	--	210 J
Pyrene	1400000	--	--	170 J	--	630	320 J	540	280 J	--	3300	--	190 J
Butylbenzylphthalate	68900	--	--	--	--	--	1300	390 J	64 J	--	2800	--	--
Benzo(a)anthracene	2000	--	--	77 J	--	340 J	190 J	460 J	120 J	--	2700	--	120 J
Chrysene	49000	--	--	110 J	--	340 J	230 J	630	180 J	--	3000	--	160 J
bis(2-Ethylhexyl)phthalate	11000	74 JB	68 JB	800 B	170 JB	350 JB	1300 B	2800	420 JB	--	930 J	73 J	--
Di-n butylphthalate	--	--	--	--	--	--	1200	540 J	--	--	--	--	--
Di-n-octylphthalate	--	--	--	1500	--	--	74 J	--	--	--	--	--	--
Benzo(b)fluoranthene	5000	--	--	190 J	--	680 X	550 X	1600 X	250 J	--	7900 X	--	310 XJ
Benzo(k)fluoranthene	49000	--	--	210 J	--	640 X	520 XJ	1700 X	240 J	--	8300 X	--	310 XJ
Benzo(a)pyrene	800	--	--	90 J	--	290 J	230 J	560	120 J	--	3200	--	140 J
Indeno(1,2,3-cd)pyrene	8000	--	--	--	--	170 J	170 J	210 J	80 J	--	1300 J	--	83 J
Dibenz(a,h)anthracene	800	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	170 J	210 J	250 J	83 J	--	930 J	--	59 J
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
PESTICIDES													
alpha-BHC	--	--	--	0.19 JP	--	1 1 J	6 6 JP	0 73 JP	--	0.51 JP	--	--	--
beta-BHC	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	--	--	--	--	--	--	--	--	--	0.23 J	--	0 11 JP	0 74 JP
gamma-BHC (Lindane)	--	--	--	4 6 P	0 37 JP	--	--	0 9 JP	1 2 JP	0 23 JP	--	--	1 1 JP
Heptachlor	--	0 088 JP	--	--	0.2 JP	2 1 JP	1 7 J	0 97 JP	1.2 JP	0.28 JP	--	0.22 JP	0.37 JP
Aldrin	--	--	--	--	--	--	--	--	--	1 4 JP	16 JPD	--	--
Heptachlor epoxide	30	--	--	16 P	0 6 JP	0 12 JP	0 73 JP	1.4 JP	3.9 P	1 JP	--	--	3
Endosulfan I	--	--	--	7 7 P	0 15 JP	2 9 P	--	0 72 JP	--	0 23 JP	--	--	0 44 JP
Dieldrin	--	--	--	4 JP	--	3.5 J	--	7 7 P	2.3 JP	1 7 JP	3 7 JPD	--	2 JP
4,4'-DDE	700	--	--	4 4 J	--	1 2 JP	--	1 9 JP	1 6 JP	2 J	--	--	1 9 JP
Endrin	--	--	--	--	0 36 J	--	--	--	3.5 JP	--	--	--	
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	--	
4,4'-DDD	--	--	--	14	0 092 JP	8 5 P	--	1.9 JP	3.1 J	0.46 JP	--	--	1 8 JP
Endosulfan sulfate	--	--	--	--	--	--	--	--	--	--	--	18 P	--
4,4'-DDT	1000	--	--	--	1 2 JP	--	1 JP	3 7 JP	--	--	--	--	--
Methoxychlor	--	--	--	16 JP	2 7 JP	3 5 JP	--	22 J	--	3 9 JP	51 JPD	--	22 JP
Endrin aldehyde	--	0 32 JP	--	--	--	0 31 JP	--	8.4 P	--	0 42 JP	--	--	--
Endrin Ketone	--	--	--	16 P	0 8 JP	1 4 JP	2 2 JP	--	--	--	--	--	--
alpha-Chlordane	--	--	--	3 5 P	--	0.22 JP	--	9 3 P	2 6 JP	0.66 JP	120 JPD	--	--
gamma-Chlordane	--	--	--	3 8 P	--	6 8 P	--	4 5 P	--	0 71 JP	15 JPD	--	1 3 J
Toxaphene	--	--	--	900 P	--	170 JP	--	360 P	240 JP	130 JP	--	--	370
Aroclor-1016	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1221	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1232	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1242	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1248	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1254	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	--	--	--	--	--	--	--	--	--	--	--	--	--
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
INORGANICS													
Aluminum	--	8050	11800	22900	6980	34900	36100	29900	31500	9430	16900	19700	27200
Antimony	5	--	--	--	--	1 4 B	120	2 8 B	--	1 3 B	1 2 B	--	--
Arsenic	24	5.7	5 8	23.8	3.2	42.9	59.7	82 9	65.5	11.5	35.5	35.6	31 4
Barium	pH based	173	167	256	123	134	166	250	210	142	144	158	229
Beryllium	pH based	0.34 B	0.44 B	0 9 B	1.1 B	0.7 B	1 B	0.78 B	0.77 B	0.46 B	0.74 B	0 86 B	0.87 B
Cadmium	pH based	0 33 B	0 49 B	5 7	0 53 B	6 3	19 2	15 6	10 2	4 5	19	3 2	10
Calcium	--	2850	16800	19100	13700	49900	32700	42800	18900	12000	10700	9840	35900
Chromium	pH based	18 9	33 3	31 5	35 8	217	327	322	55 6	27 5	184	49 2	42 4
Cobalt	12000	6 6 B	6 B	9 7 B	5 1 B	5 9 B	6 1 B	8.7 B	7.9 B	6.1 B	13.5	7.6 B	8 B
Copper	pH based	9 3	25 5	58 5	14 9	46 5	65 7	172	47 9	49 6	83 3	57 4	126
Iron	--	13000	13800	21100	18200	37300	44100	35800	22400	13900	36800	20700	20800
Lead	647	10 7	16 1	118	16 2	237	672	591	230	129	542	59 7	200
Magnesium	--	2380	5870	5190	594 B	2060	1910	3280	3180	2590	888 B	2620	2750
Manganese	8700	319 *	302 *	719 *	94 2 *	219 *	197 *	239 *	176 *	369 *	230 *	357 *	609 *
Mercury	pH based	--	--	0.16 N	--	0.37 N	0 37 N	0.86 N	--	--	0.78 N	0 2 N	0.21 N
Nickel	pH based	17 8	15 1	22 1	21 9	18 6	27 4	22 5	29 9	15 1	29 6	20 2	19 5
Potassium	--	1310	1320 B	2820	461 B	1800 B	1320 B	1860	3060	1540	438 B	1750	2010
Selenium	pH based	--	--	--	--	1 BN	2.4 N	1 8 N	--	--	3 2 N	1 6 N	2 N
Silver	pH based	--	--	0 77 B	--	0 67 B	--	5	--	1.1 B	1 5 B	--	1.9 B
Sodium	--	1680 E	2010 E	696 BE	300 BE	2720 E	2150 E	1570 E	2370 E	109 BE	3300 E	3160 E	2150 E
Thallium	pH based	--	--	1.9 B	--	1 8 B	1 4 B	1.8 B		1 1 B	1.2 B	1 8 B	1 5 B
Vanadium	980	26 3	37 5	61 8	45 5	176	200	147	62	28.2	116	121	78 7
Zinc	pH based	44 8	55	422	107	361	484	1430	773	397	1130	204	740
Cyanide	40	--	--	0 77	0 19 B	1 8	4 2	24 9	0 66 B	0 69	8 5	0 88	1 8
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg

This table presents a summary of the samples collected from the Former Alcoa Property The Tier 1 soil remediation objectives were taken from the IEPA's TACO Guidance Document.
These Tier 1 remediation objectives are based on an industrial/commercial scenario with Class 1 Groundwater
The lowest Tier 1 remediation objective of the three exposure routes (ingestion, inhalation, migration to groundwater) is considered in this table The remediation objective column is blank in cases where there is no established TACO cleanup objective In cases where the Tier 1 remediation objective is based on the pH of the soil that was sampled, the table states "pH based" in the remediation objective column
The concentrations that appear in red have exceeded the TACO Tier 1 soil remediation objectives

TABLE 2 FORMER ALCOA PROPERTY SOIL SAMPLE SUMMARY CONSIDERING ALL TACO TIER 1 ROUTES

SAMPLING POINT	TACO Tier 1	X061	X062	X063	X064	X065	X066	X067	X068	X069	X070	X071	X072
Date Collected	Remediation	4-2-96	4-2-96	4-3-96	4-3-96	4-3-96	4-3-96	4-3-96	4-3-96	4-3-96	4-3-96	4-3-96	4-3-96
Parameter	Objective	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
pH		8.2	8.7	8.2	7.6	7.4	7.4	8.5	7.6	8.0	7.7	8.3	8.0
Sample Depth (Feet)		0-12"	3'-4'	1-3"	1-3"	2"-6"	1"-3"	1"-3"	1"-3"	1"-4"	1"-4"	1"-4"	1"-3"
VOLATILES													
Methylene Chloride	--	15 JB	17 B	14 JB	23 B	30 B	32 B	18 B	16 JB	20 JB	11 JB	10 JB	10 JB
Acetone	8000	11 JB	10 JB	8 JB	7 JB	13 JB	120 B	150 B	21 JB	140 JB	15 JB	7 JB	10 JB
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
SEMIVOLATILES													
Phenol	--	--	--	--	--	--	990	--	--	--	--	--	--
4-Methylphenol	--	--	--	--	--	--		--	--	--	--	--	--
Nitrobenzene	--	--	--	--	--	--		--	--	--	--	--	--
Naphthalene	30000	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	200000	--	--	--	--	--	--	--	--	--	--	--	--
2,4- Dinitrophenol	--	--	--	--	--	--		--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--		--	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	--	--		--	--	--	--	--	--
Fluorene	160000	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	290000	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	4300000	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	980000	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	1400000	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	88000	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)anthracene	2000	--	--	--	--	--	--	--	--	99 J	--	--	--
Chrysene	49000	--	--	--	--	--	--	--	--	140 J	--	--	--
bis(2-Ethylhexyl)phthalate	11000	--	--	--	86 J	200 J	250 J	--	--	89 J	--	--	--
Di-n butylphthalate	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	5000	--	--	--	--	--	--	--	--	380 XJ	--	--	--
Benzo(k)fluoranthene	49000	--	--	--	--	--	--	--	--	420 XJ		--	--
Benzo(a)pyrene	800	--	--	--	--	--	--	--	--	160 J	--	--	--
Indeno(1,2,3-cd)pyrene	8000	--	--	--	--	--	--	--	--	130 J	--	--	--
Dibenz(a,h)anthracene	800	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	110 J	--	--	--
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
PESTICIDES													
alpha-BHC	--	--	--	--	--	--	--	1.2 JP	1.1 JP	0.21 JP	0.25 JP	0.33 JP	0.43 JP
beta-BHC	--	--	--	--	--	0.39 JP	0.78 JP	--	--	--	--	--	--
delta-BHC	--	--	--	--	--	0.24 J	0.16 JP	19		3.4 P	0.96 JP	9.1 P	--
gamma-BHC (Lindane)	--	0.43 JP	0.18 JP	--	--	--	--	--	--	--	1 J	1.1 JP	--
Heptachlor	--	--	--	0.43 JP	--	--	--	--	--	--	--	--	0.55 JP
Aldrin	--	2.2 JP	--	5.8 P	--	--	0.34 JP	--	--	--	--	--	1.6 JP
Heptachlor epoxide	30	1.2 JP	0.86 JP	3.3 P	--	0.74 JP	--	4.3 P	0.48 JP	1.5 JP	5.1 P	6.6 P	3.1 P
Endosulfan I	--	--	--	2.5 P	--		--	--	1.7 JP	4 P	4 P	5.8 P	0.82 JP
Dieldrin	--	0.71 JP	--	--	0.9 JP	4.7 JP	3.4 JP	--	--	--	--	0.83 JP	1.5 J
4,4'-DDE	700	1 J	0.71 JP	0.3 JP	1.2 J	0.6 JP	1.3 J	--	--	--	--	--	0.54 JP
Endrin	--	1.2 JP	--	2.6 JP	0.29 JP	--	0.31 JP	--	1.9 JP	2.1 J	6.3 P	7.3 J	3.2 J
Endosulfan II	--	2 JP	3.5 JP	5.6 P	--	--		--	1.8 JP	1.8 JP	6.2 P	14 P	
4,4'-DDD	--	--	--	--	0.64 JP	0.91 JP	2 JP	--	--	--	--	--	1.7 JP
Endosulfan sulfate	--	0.67 JP	0.65 JP	--	--	0.58 JP	0.6 JP	--	--	--	3 JP	3.5 JP	--
4,4'-DDT	1000	--	0.35 JP	--	1.1 JP		0.51 JP	1.6 JP	--	--	--	--	1.4 JP
Methoxychlor	--	19 J	12 JP	21 JP	3.7 JP	6.2 JP	6.1 JP	22 JP	11 JP	12 JP	39 P	40 P	67 P
Endrin aldehyde	--	--	--	--	0.65 JP	2.6 JP	1 JP	--	--	--	2.8 JP	--	--
Endrin Ketone	--	--	--	--	0.37 JP	0.24 JP	2.5 JP	--	--	--	--	--	3.1 JP
alpha-Chlordane	--	--	--	--	0.19 JP	0.52 JP		--	--	--	--	--	--
gamma-Chlordane	--	--	--	1.7 JP	0.65 JP	0.84 JP	0.24 JP		2.7 J	0.99 JP	8.3	5 P	2.2 JP
Toxaphene	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1016	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1221	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1232	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1242	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1248	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1254	--	--	--	--	--	55 JP	--	--	--	--	--	--	--
Aroclor-1260	--												
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
INORGANICS													
Aluminum	--	54000	68200	18400	9030	32900	9820	17300	9960	15500	15600	19400	16400
Antimony	5	--	--	12.3 B	--	7.3 B	9.2 B		7.5 B	--	17.6 B	--	9.6 B
Arsenic	24	17.8	13	25.7	43.1	226	70.1	38.9	38.1	47.5	61.4	60.9	77.2
Barium	pH based	125	106	90	74.4	361	152	155	149	137	170	160	179
Beryllium	pH based	--	--	1.3 B	1.3 B	1.3 B	1 B	2	1.4 B	1 B	1.4 B	1.2 B	1.3 B
Cadmium	pH based	--	--	4.4 *	23.4 *	7.7 *	4.8 *	--	1.7 *	5.4 B*	24.8 *	10.6 *	18.5 *
Calcium	--	93400	56300	17900 *	11500 *	51700 *	17900 *	20100 *	15300 *	16700	20000 *	59300 *	48100 *
Chromium	pH based	1130	1000	27.5	20.3	51.5	100	25.7	20.1	43.4	219	41.3	40.6
Cobalt	12000	4.2 B	3.1 B	5.3 B	6.3 B	8.1 B	8.3 B	10.3 B	5.5 B	7.2 B	10.2 B	11.7	9.1 B
Copper	pH based	8.3	5.3 B	42.5	90.1	55.7	58.5	29.9	23.3	43.9	60.9	55.7	74.7
Iron	--	99700	91000	19700	22200	18100	23100	40100	20800	21800	30500	20100	22500
Lead	647	112	147	152	169	415	91.8	25	41.6	151	1020	299	301
Magnesium	--	2010	1620	1040 B	780 B	3100	1500 B	1480 B	914 B	2180	1470 B	9080	9680
Manganese	8700	217	149	127 *	185 *	240 *	163 *	147 *	152 *	177 *	192 *	250 *	276 *
Mercury	pH based	1.6	0.41	0.11 B	--	0.38	0.14 B	0.19	--	0.12 B	0.73	0.39	0.17
Nickel	pH based	10.5 B	7.3 B	17.8	22.7	30.3	30.7	27.4	19.1	26.1	37.6	33.8	34.6
Potassium	--	150 B	323 B	899 B	892 B	1480 B	1530 B	1550 B	1080 B	2470	1330 B	2460	3010
Selenium	pH based	--	--	--	1.3 B	2.7	--	--	--	--	1.7	1.1 B	1 B
Silver	pH based	--	--	--	--	2.1 B	--	--	--	--	--	--	2 B
Sodium	--	12700	28200	829 B	1280 B	2840	3220	2870	2090	3810	1170 B	1790	1470
Thallium	pH based	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	980	615	474	31.8	27.6	70.3	38.4	40	27.3	42.7	43.3	47.5	41.3
Zinc	pH based	125	34	317 *	1340 *	243 *	509 *	234 *	172 *	754 *	655 *	696 *	1170 *
Cyanide	40	--	--	0.38 B	0.56 B	0.59 B	0.74 B	0.46 B	0.63 B	0.58 B	1	0.82	0.3 B
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg

This table presents a summary of the samples collected from the Former Alcoa Property The Tier 1 soil remediation objectives were taken from the IEPA's TACO Guidance Document.
These Tier 1 remediation objectives are based on an industrial/commercial scenario with Class 1 Groundwater
The lowest Tier 1 remediation objective of the three exposure routes (ingestion, inhalation, migration to groundwater) is considered in this table The remediation objective column is blank in cases where there is no established TACO cleanup objective In cases where the Tier 1 remediation objective is based on the pH of the soil that was sampled, the table states "pH based" in the remediation objective column
The concentrations that appear in red have exceeded the TACO Tier 1 soil remediation objectives

Table 4 TCLP Soil Sample Summary

COMPOUNDS			SAMPLE POINTS						
IEPA Sample ID	TCLP Remediation	Toxicity Characteristic	X003	X011	X016	X020	X075	X080	X098
Description	Objectives	hazardous waste	Soil	Soil	Soil	Soil	Soil	Soil	Soil
INORGANICS (mg/L)									
Antimony	.006	---	--	--	0.011	0.0021	--	--	--
Arsenic	0.05	5	0.25	--	0.0065	0.24	--	--	--
Barium	2	100	1.2	0.98	1.2	1.1	0.15	0.062	0.083
Cadmium	0.005	1	2.9	--	0.44	0.87	--	--	0.011
Chromium	0.1	5	--	--	--	--	0.03	--	0.008
Lead	0.0075	5	2.9	0.068	6.8	13	--	11	20
Mercury	0.002	.2	--	--	--	--	--	--	--
Nickel	0.1	---	0.075	--	0.031	0.032	--	--	--
Selenium	0.05	1	0.012	--		0.017	0.025	--	--
Vanadium	0.049	---	--	--	--	--	--	--	0.006
Silver	0.05	5	--	--	--	--	--	--	--
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L

* These cleanup objectives were taken from the IEPA's Tiered Approach to Cleanup Objectives Guidance Document.
The cleanup objectives are the Tier 1 residential and industrial/commercial Class I groundwater cleanup objectives for soil samples analyzed by the Toxicity Characteristics Leaching Procedure (TCLP) to evaluate the migration to groundwater route.
The residential and industrial/commercial cleanup objectives for the constitutents in this table are same.
The numbers appearing in red exceed the Toxicity Characteristic numbers.

Site Name: Former Alcoa Property **Table 5 Tentatively Identified Compounds**

SAMPLING POINT	X012	X030	X034	X038	X052	X053	X057	X058	X065	X066	X085	X101	X106	X111	X113	X114	X115	X116	X118	X120
Date Collected	3-13-96	3-13-96	3-13-96	3-13-96	4-2-96	4-2-96	4-2-96	4-2-96	4-3-96	4-3-96	4-9-96	4-10-96	4-10-96	4-11-96	4-11-96	4-11-96	4-11-96	4-11-96	4-11-96	4-11-96
Parameter	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
pH	7.6	7.8	6.1	7.8	6.9	8.5	6.6	8.2	7.4	7.4	7.8	4 8	8.3	7.8	8.2	7.7	7.3	7.7	8.5	7.5
Sample Depth (Feet)	0-1	2-3	0-	0-1	4'	0-6"	0-12"	0-12"	2"-8"	1"-3"	0" - 2"	0 - 1	0" - 6"	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.6	0 - 0.5	0 - 0.5	2 - 2.5" into berm
SEMIVOLATILES																				
Dichloro 1,2-Cyclohexane		130 NJ	140 NJ																	
Benzofuran	390 NJ																			
Hexadecanoic Acid				160 NJ																
1-Methy-Naphthalene					130 NJ	110 NJ	310 NJ													
4-Methly-Dibenzofuran								220 NJ												
Piperonylonitrile										1500 NJ										
Diethyltoluamide									430 NJ				220 NJ		290 NJ		150 NJ			
Piperonyl Butoxide									200 NJ											
9H-Fluoren-9-one												120 NJ								
N-(2-Ethylhexyl)-5-norbornen													310 NJ							
Phenol, 4,4'-Methylenebis-													1400 NJ							
2,6,10-Dodecatrien-1-OL, 3,7														170 NJ						
Biphenyl															180 NJ					
Diphenyl Ether															160 NJ					
Phenol, 2,4-Bis(1,1-Dimethyl															210 NJ					
Octadecanoic Acid																450 NJ				
Diazene, Bis(3,4-Dichlorophe																1500 NJ			1600 NJ	
1-Phenanthrenecarboxylic Acid											260 NJ					560 NJ	150 NJ			
2,4-Diphenyl-4-Methyl-1(E)-P																280 NJ				
2,5-Cyclohexadiene-1,4-Dione											300 NJ						210 NJ			
Benzeneacetic Acid																		300 NJ		
Phenol, P-Tert-Butyl-																		270 NJ		
4(1H)-Pyrimidinone, 6-Methyl																		180 NJ		
Phenol, 4-(2,2,4-Trimethyl																		320 NJ		
Naphthalene, 1-Methyl-																			540 NJ	
Benzenenamine, 3,5-Dichloro																			9600 NJ	
[1,1'-Biphenyl]-4-Carboxalde																			610 NJ	
Propanamide, N-(3,4-Dichloro																			2000 NJ	
[2.2] Paracyclophane																				220 NJ
2-Naphthalenol											2100 NJ									
1-Chloro-2,5-Dinitrobenzene											380 NJ									
Hexadecanoic Acid											210 NJ									
Benzenamine, 2,4-Dinitro-											350 NJ									
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg

* The above table lists the Tentatively Identified Compounds (TICS) at each sample location where they were detected with a CAS number

Appendix C
TCL

TARGET COMPOUND LIST

Volatile Target Compounds

Chloromethane	1,2-Dichloropropane
Bromomethane	cis-1,3-Dichloropropene
Vinyl Chlorde	Trichloroethene
Chloroethane	Dibromochloromethane
Methylene Chloride	1,1,2-Trichloroethane
Acetone	Benzene
Carbon Disulfide	trans-1,3-Dichloropropene
1,1-Dichloroethene	Bromoform
1,1-Dichloroethane	4-Methyl-2-pentanone
1,2-Dichloroehtene (total)	2-Hexanone
Chloroform	Tetrachloroethene
1,2-Dichloroethane	1,1,2,2-Tetrachloroethane
2-Butanone	Toluene
1,1,1-Trichloroethane	Chlorobenzene
Carbon Tetrachloride	Ethylbenzene
Vinyl Acetate	Styrene
Bromodichloromethane	Xylenes (total)

Base/Neutral Target Compounds

Hexachloroethane	2,4-Dinitrotoluene
bis(2-Chloroethyl) Ether	Diethylphthalate
Benzyl Alcohol	N-Nitrosodiphenylamine
bis (2-Chloroisopropyl) Ether	Hexachlorobenzene
N-Nitroso-Di-n-Propylamine	Phenanthrene
Nitrobenzene	4-Bromophenyl-phenylether

Hexachlorobutadiene	Anthracene
2-Methylnaphthalene	Di-n-Butylphthalate
1,2,4-Trichlorobenzene	Fluoranthene
Isophorone	Pyrene
Naphthalene	Butylbenzylphthalate
4-Chloroaniline	bis(2-Ethylhexyl)Phthalate
bis(2-chloroethoxy)Methane	Chrysene
Hexachlorocyclopentadiene	Benzo(a)Anthracene
2-Chloronaphthalene	3-3'-Dichlorobenzidene
2-Nitroaniline	Di-n-Octyl Phthalate
Acenaphthylene	Benzo(b)Fluoranthene
3-Nitroaniline	Benzo(k)Fluoranthene
Acenaphthene	Benzo(a)Pyrene
Dibenzofuran	Ideno(1,2,3-cd)Pyrene
Dimethyl Phthalate	Dibenz(a,h)Anthracene
2,6-Dinitrotoluene	Benzo(g,h,i)Perylene
Fluorene	1,2-Dichlorobenzene
4-Nitroaniline	1,3-Dichlorobenzene
4-Chlorophenyl-phenylether	1,4-Dichlorobenzene

Acid Target Compounds

Benzoic Acid	2,4,6-Trichlorophenol
Phenol	2,4,5-Trichlorophenol
2-Chlorophenol	4-Chloro-3-methylphenol
2-Nitrophenol	2,4-Dinitrophenol
2-Methylphenol	2-Methyl-4,6-dinitrophenol
2,4-Dimethylphenol	Pentachlorophenol
4-Methylphenol	4-Nitrophenol
2,4-Dichlorophenol	

Pesticide/PCB Target Compounds

alpha-BHC	Endrin Ketone
beta-BHC	Endosulfan Sulfate
delta-BHC	Methoxychlor
gamma-BHC (Lindane)	alpha-Chlordane
Heptachlor	gamma-Chlordane
Aldrin	Toxaphene
Heptachlor epoxide	Aroclor-1016
Endosulfan I	Aroclor-1221
4,4'-DDE	Aroclor-1232
Dieldrin	Aroclor-1242
Endrin	Aroclor-1248
4,4'-DDD	Aroclor-1254
Endosulfan II	Aroclor-1260
4,4'-DDT	

Inorganic Target Compounds

Aluminum	Manganese
Antimony	Mercury
Arsenic	Nickel
Barium	Potassium
Beryllium	Selenium
Cadmium	Silver
Calcium	Sodium
Chromium	Thallium
Cobolt	Vanadium
Copper	Zinc

Iron	Cyanide
Lead	Sulfide
Magnesium	

Appendix D
Photographs

Former Alcoa Property Sample Photographs

DATE: April 4, 1996

TIME: 9:15 A.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Frank Holten State Park St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X001.

DATE: April 4, 1996

TIME: 9:15 A.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Frank Holten State Park St. Clair County

PICTURE TAKEN TOWARD: NE

COMMENTS: Photo taken of sample point X001.

Former Alcoa Property Sample Photographs

DATE: March 26, 1996

TIME: 2:00 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X004.

DATE: March 26, 1996

TIME: 2:00 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample point X004.

Former Alcoa Property Sample Photographs

DATE: March 26, 1996

TIME: [illegible] P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X003.

DATE: March 26, 1996

TIME: 2:30 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample point X003.

Former Alcoa Property Sample Photographs

DATE: March 26, 1996

TIME: 12:05 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X005/X006

DATE: March 26, 1996

TIME: 12:05 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample point X005/X006

Former Alcoa Property Sample Photographs

DATE: March 26, 1996

TIME: 5:45 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X007.

DATE: March 26, 1996

TIME: 5:45 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample point X007.

Former Alcoa Property Sample Photographs

DATE: March 28, 1996

TIME: 3:00 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample point X008.

DATE: March 28, 1996

TIME: 3:00 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X008.

Former Alcoa Property Sample Photographs

DATE: March 28, 1996

TIME: 3:10 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample point X009.

DATE: March 28, 1996

TIME: 3:10 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X009.

Former Alcoa Property Sample Photographs

DATE: March 26, 1996

TIME: 4:00 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X010.

DATE: March 26, 1996

TIME: 4:00 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X010.

Former Alcoa Property Sample Photographs

DATE: March 27, 1996

TIME: 5:45 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample point X011.

DATE: March 27, 1996

TIME: 5:45 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X011.

Former Alcoa Property Sample Photographs

DATE: March 26, 1996

TIME: 5:15 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X012.

DATE: March 26, 1996

TIME: 5:15 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X012.

Former Alcoa Property Sample Photographs

DATE: March 26, 1996

TIME: 5:30 P.M.

PHOTOGRAPH TAKEN BY:

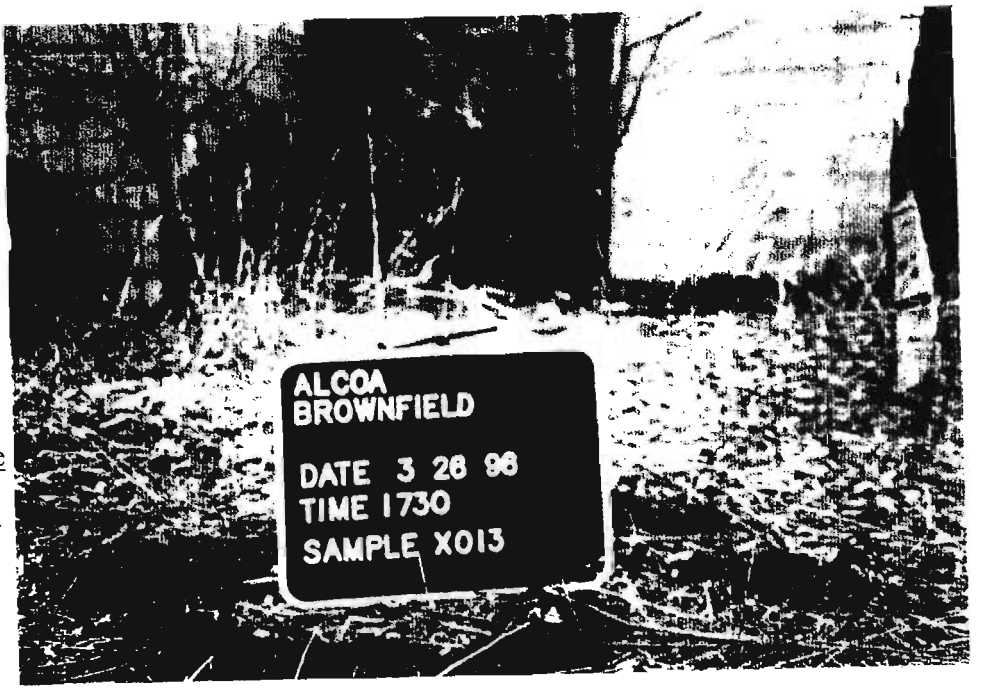
Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X013.



DATE: March 26, 1996

TIME: 5:30 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X013.

Former Alcoa Property Sample Photographs

DATE: March 28, 1996

TIME: 11:00 A.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X014.

DATE: March 28, 1996

TIME: 11:00 A.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X014.

Former Alcoa Property Sample Photographs

DATE: March 28, 1996

TIME: 11:10 A.M

PHOTOGRAPH TAKEN BY:

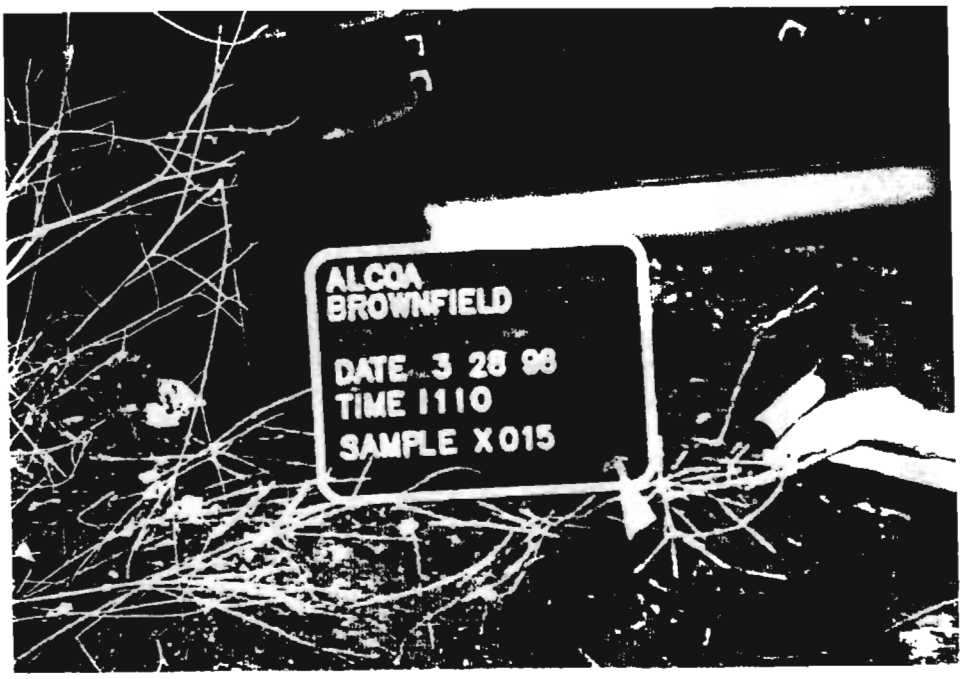
Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X015.



DATE: March 28, 1996

TIME: 11:10 A.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X015.

Former Alcoa Property Sample Photographs

DATE: March 28, 1996

TIME: 11:30 A.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X016.

DATE: March 28, 1996

TIME: 11:30 A.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X016.

Former Alcoa Property Sample Photographs

DATE: March 28, 1996

TIME: 11:40 A.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample point X017.

DATE: March 28, 1996

TIME: 11:40 A.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X017.

Former Alcoa Property Sample Photographs

DATE: March 28, 1996

TIME: 12:20 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X018.

DATE: March 28, 1996

TIME: 12:20 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample point X018.

Former Alcoa Property Sample Photographs

DATE: March 28, 1996

TIME: 12:30 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X019.

DATE: March 28, 1996

TIME: 12:30 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample point X019.

Former Alcoa Property Sample Photographs

DATE: March 28, 1996

TIME: 1:00 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X020.

DATE: March 28, 1996

TIME: 1:00 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X020.

Former Alcoa Property Sample Photographs

DATE: March 28, 1996

TIME: 1:10 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X021

DATE: March 28, 1996

TIME: 1:10 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X021.

Former Alcoa Property Sample Photographs

DATE: March 28. 1996

TIME: 2:00 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample point X022.

DATE: March 28, 1996

TIME: 2:00 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X022.

Former Alcoa Property Sample Photographs

DATE: March 28, 1996

TIME: 2:20 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample point X023.

DATE: March 28, 1996

TIME: 2:20 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X023.

Former Alcoa Property Sample Photographs

DATE: March 28, 1996

TIME: 4:00 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample point X024.

DATE: March 28, 1996

TIME: 4:00 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X024.

Former Alcoa Property Sample Photographs

DATE: March 28. 1996

TIME: 4:10 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample point X025.

DATE: March 28, 1996

TIME: 4:10 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X025.

Former Alcoa Property Sample Photographs

DATE: March 27. 1996

TIME: 11:40 A.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X026.

DATE: March 27. 1996

TIME: 11:40 A.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X026.

Former Alcoa Property Sample Photographs

DATE: March 27, 1996

TIME: 11:50 A.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X027.

DATE: March 27, 1996

TIME: 11:50 A.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X027.

Former Alcoa Property Sample Photographs

DATE: March 27, 1996

TIME: 12:20 P.M.

PHOTOGRAPH TAKEN BY:

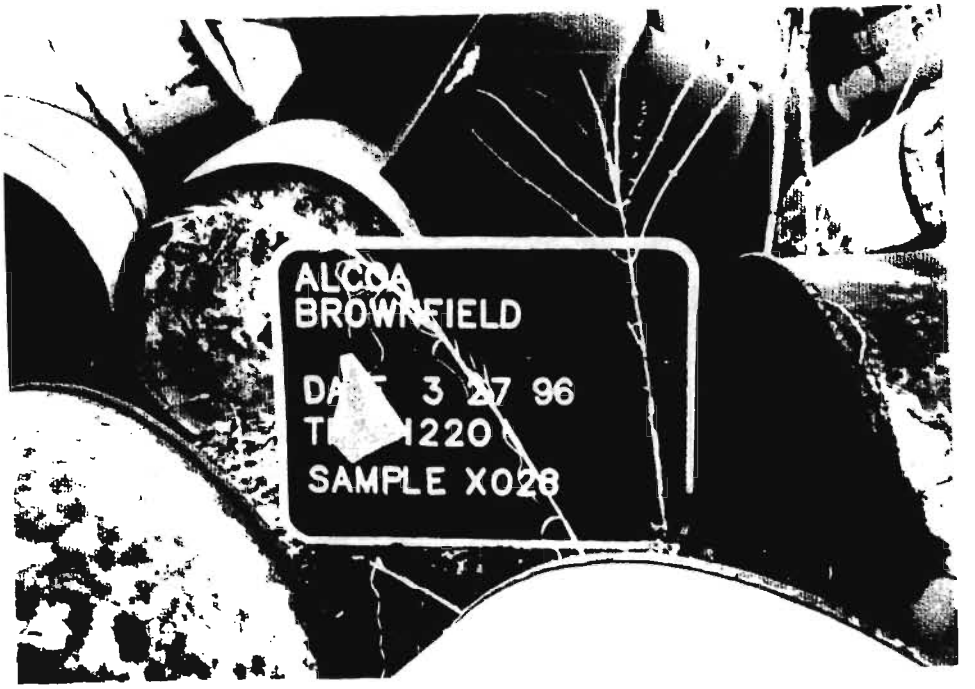
Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X028.



DATE: March 27, 1996

TIME: 12:20 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X028.

Former Alcoa Property Sample Photographs

DATE: March 27, 1996

TIME: 12:40 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample point X029.

DATE: March 27, 1996

TIME: 12:40 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X029.

Former Alcoa Property Sample Photographs

DATE: March 27, 1996

TIME: 1:00 P.M.

PHOTOGRAPH TAKEN BY:

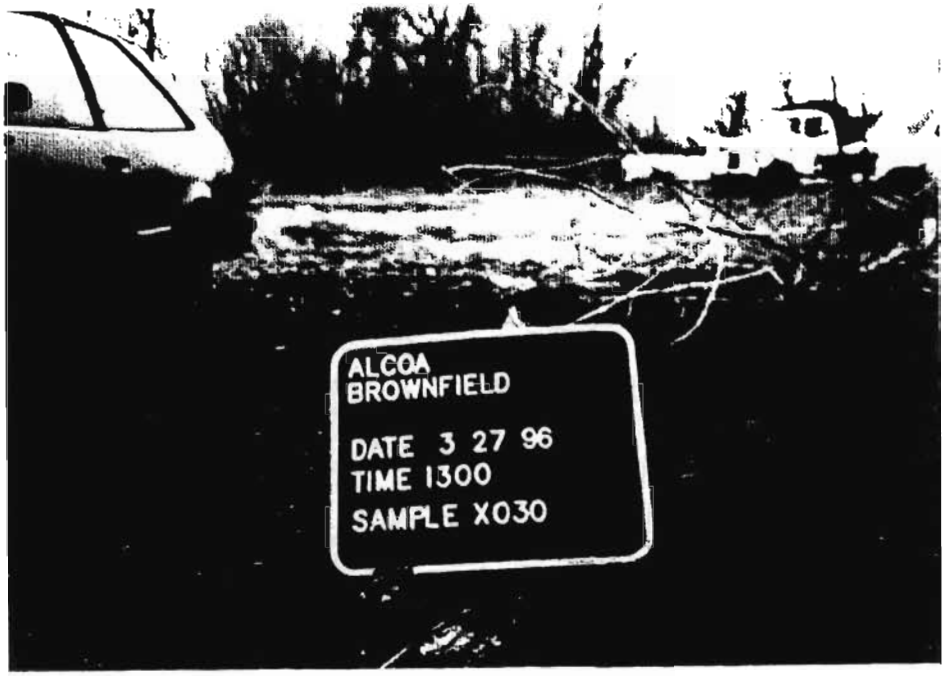
Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X030.



DATE: March 27, 1996

TIME: 1:00 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X030.

Former Alcoa Property Sample Photographs

DATE: March 28, 1996

TIME: 3:40 P.M.

PHOTOGRAPH TAKEN BY:

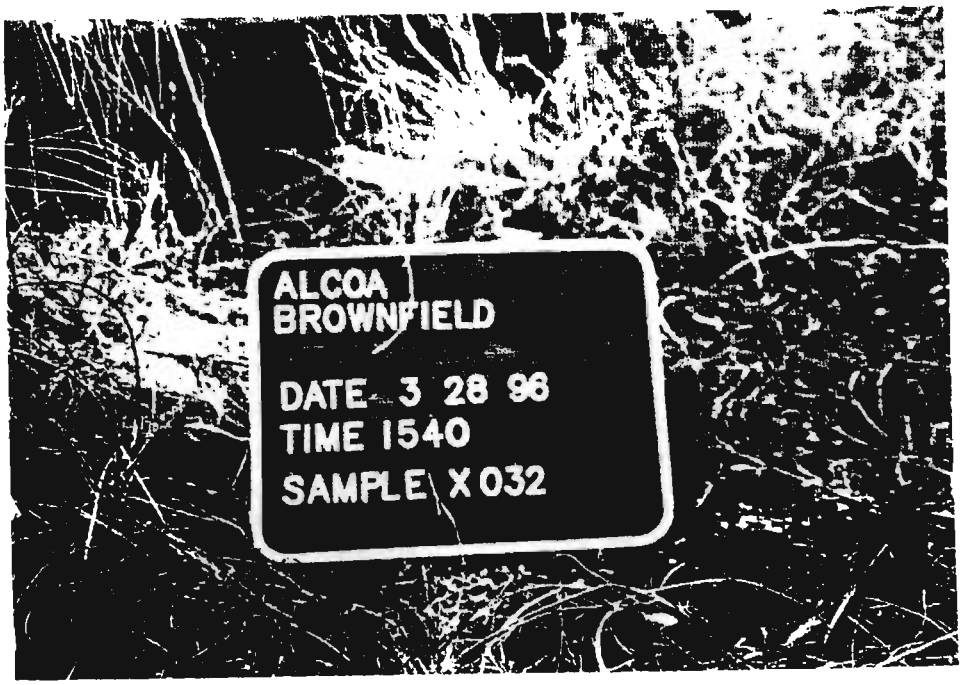
Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample point X032.



DATE: March 28, 1996

TIME: 3:40 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X032.

Former Alcoa Property Sample Photographs

DATE: March 28, 1996

TIME: 3:50 P.M.

PHOTOGRAPH TAKEN BY:

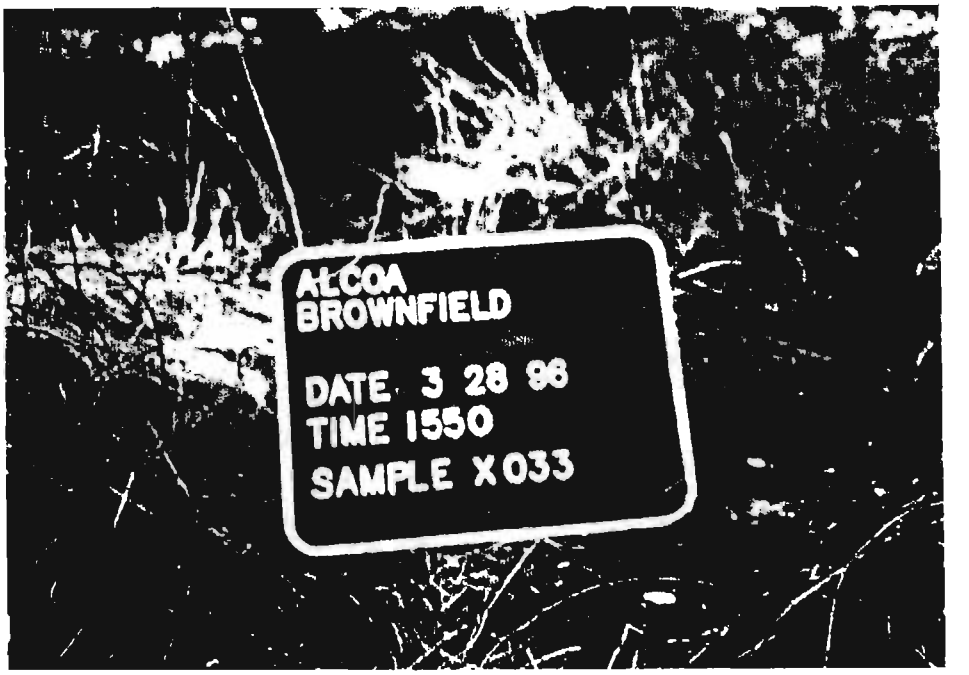
Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample point X033.



DATE: March 28, 1996

TIME: 3:50 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X033.

Former Alcoa Property Sample Photographs

DATE: March 27, 1996

TIME: 3:30 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X034.

DATE: March 27, 1996

TIME: 3:30 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample point X034.

Former Alcoa Property Sample Photographs

DATE: March 27, 1996

TIME: 3:40 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X035.

DATE: March 27, 1996

TIME: 3:40 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample point X035.

Former Alcoa Property Sample Photographs

DATE: March 27, 1996

TIME: 2:30 P.M.

PHOTOGRAPH TAKEN BY:

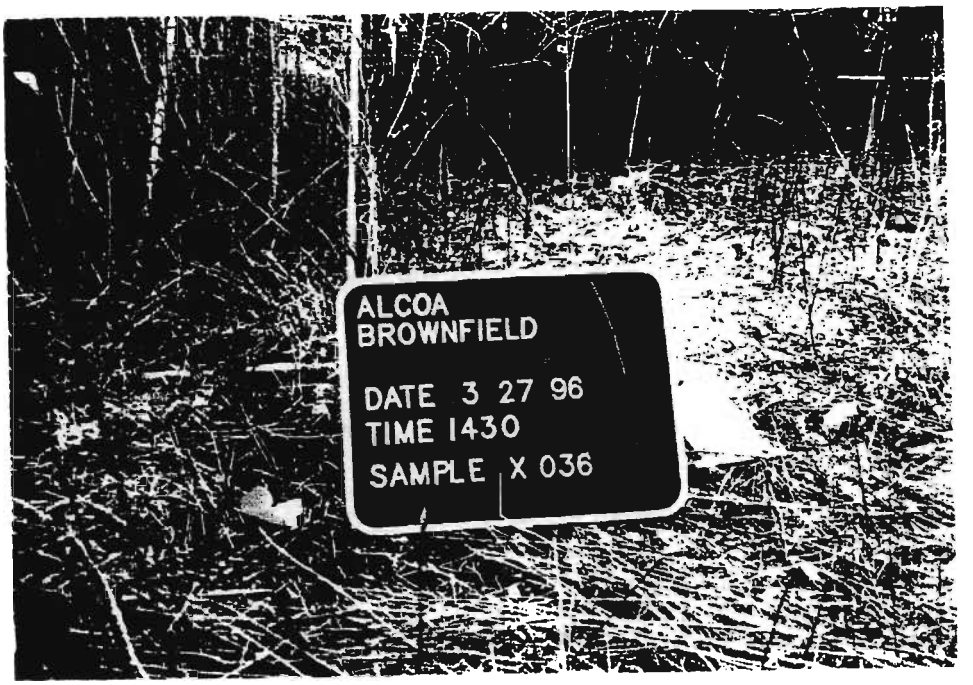
Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X036.



DATE: March 27, 1996

TIME: 2:30 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X036.

Former Alcoa Property Sample Photographs

DATE: March 27, 1996

TIME: 2:40 P.M.

PHOTOGRAPH TAKEN BY:

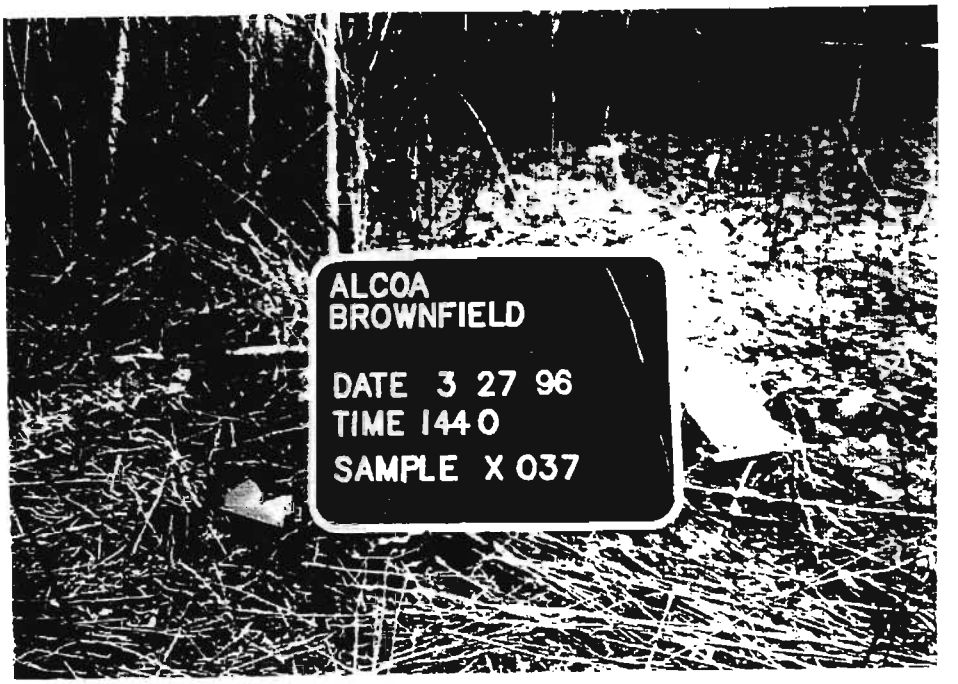
Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X037.



DATE: March 27, 1996

TIME: 2:40 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X037.

Former Alcoa Property Sample Photographs

DATE: March 27, 1996

TIME: 6:10 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X038/X039.

DATE: March 27, 1996

TIME: 6:10 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X038/X039.

Former Alcoa Property Sample Photographs

DATE: March 27, 1996

TIME: 6:25 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X040.

DATE: March 27, 1996

TIME: 6:25 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X040.

Former Alcoa Property Sample Photographs

DATE: March 27, 1996

TIME: 5:45 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X041.

DATE: March 27, 1996

TIME: 5:45 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X041.

Former Alcoa Property Sample Photographs

DATE: March 27, 1996

TIME: 5:55 P.M.

PHOTOGRAPH TAKEN BY:

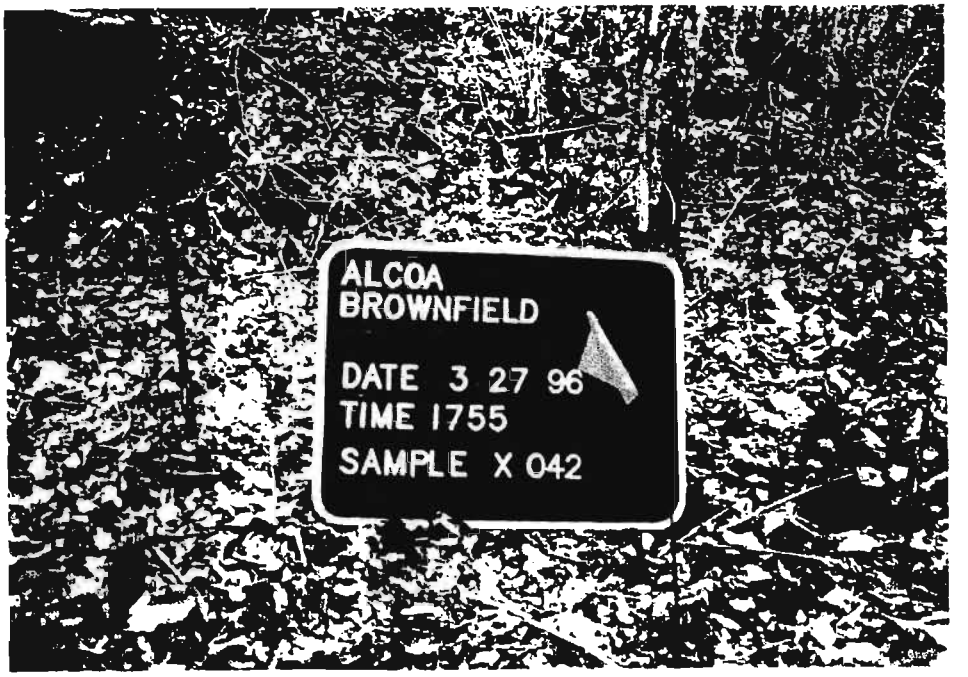
Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X042.



DATE: March 27, 1996

TIME: 5:55 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X042.

Former Alcoa Property Sample Photographs

DATE: April 2. 1996

TIME: 11:00 A.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X043 & X044

DATE: April 2, 1996

TIME: 11:00 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X043 & X044

Former Alcoa Property Sample Photographs

DATE: April 2, 1996

TIME: 11:30 A.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X045 & X046

DATE: April 2, 1996

TIME: 11:30 A.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X045 & X046

TABLE 3 FORMER ALCOA PROPERTY GROUNDWATER SAMPLE SUMMARY

SAMPLING POINT	TACO Tier 1	G101	G102	G103	G104	G105	G106	G107	G108	G109	G110
Date Collected	Groundwater	3-27-96	3-28-96	3-27-96	4-2-96	4-2-96	4-2-96	4-3-96	4-3-96	4-3-96	4-2-96
Parameter	Remediation	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
pH	Objective	7.0	8.2	6.6							
Groundwater Depth (F		12.5'	7'	7'	20-23'	2-5'	8'	7-8'	7-8'	6-8'	8'
VOLATILES											
Acetone	700	--	--	--	--	150 J	--	--	--	--	45 J
Chloroform	0.02	--	--	--	--	--	--	--	--	--	16
Bromodichloromethane	0.02	--	--	--	--	--	--	--	--	--	2 J
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
SEMIVOLATILES											
		--	--	--	--	--	--	--	--	--	--
Phenol		--	--	6 J	--	--	--	--	--	--	--
Diethylphthalate	5600	--	--	--	2 J	--	--	--	2 J	--	--
Phenanthrene		--	--	--	--	4 J	--	--	--	--	--
Carbazole		--	--	--	--	2 J	--	--	--	--	--
Fluoranthene	280	--	--	--	--	3 J	--	--	--	--	--
Pyrene	210	--	--	--	--	3 J	--	--	--	--	--
Benzo(a)anthracene	0.13	--	--	--	--	1 J	--	--	--	--	--
Chrysene	1.5	--	--	--	--	1 J	--	--	--	--	--
bis(2-Ethylhexyl)phthalat	6	6 J	76	--	--	4 J	7 J	1 J	--	6 J	7 J
Di-n butylphthalate	700	--	--	--	3 J	--	--	--	--	--	--
Benzo(b)fluoranthene	0.18	--	--	--	--	2 J	--	--	--	--	--
Benzo(k)fluoranthene	0.17	--	--	--	--	2 J	--	--	--	--	--
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
INORGANICS											
Aluminum	3500	31.8 B	337	232000	6830	1060	1310	189 B	2220	313	1020
Antimony	6	--	2.4 B	--	--	--	--	--	--	23.2 B	18.9 B
Arsenic	50	--	--	99.7	7.2 B	23.4	87.8	5.1 B	11.5	--	20.6
Barium	2000	109 B	110 B	9.6 B	200 B	24.6 B	2.6 B	4.5 B	14.9 B	12 B	6.1 B
Beryllium	4	--	--	--	0.6 B	0.53 B	--	--	--	--	--
Cadmium	5	0.94 B	1 B	--	--	--	--	--	--	5.4	--
Calcium		194000	180000	6660	21200	44300	1210 B	23800	19800	563000	17400
Chromium	100	--	4 B	3 B	12.4	5.8 B	649	3.6 B	11.4	--	--
Cobalt	1000	56.7	19.1 B	--	5.2 B	--	--	--	--	6.5 B	--
Copper	650	5.1 B	8.4 B	8.1 B	9.8 B	8.1 B	--	--	--	--	17.8 B
Iron	5000	165	1320	2020	7580	259	459	136	1460	2380	277
Lead	7.5	--	--	4.9	6.7	8.2	--	1.3 B	2.5 B	--	3 B
Magnesium		58700	48700	127 B	8400	5220	727 B	708 B	1210 B	10300	9690
Manganese	150	3040	2200	28	283	10.5 B	3.7 B	10.7 B	23.9	3520	22.1
Mercury	2	--	--	0.34	--	--	--	--	--	--	--
Nickel	100	4790	42.1	5.6 B	216	--	--	--	7.4 B	183	--
Potassium		10700	8620	2470 B	4290 B	15700	1190 B	239 B	732 B	14100	11600
Selenium	50	--	--	23	--	--	6.6	4.6 B	13.5	--	--
Silver	50	--	--	--	--	--	--	--	--	5.3 B	4.5 B
Sodium	20000	134000	260000	1130000	307000	243000	838000	159000	257000	19800	659000
Thallium	2	--	--	--	--	--	--	--	4.4 B	--	--
Vanadium	49	--	--	512	20.2 B	6 B	650	100	206	--	10.5 B
Zinc	5000	34.8	15.8 B	8.7 B	36.5	48.2	9.8 B	8.6 B	21.4	876	33.3
Cyanide	200	--	266	--	--	8.1 B	--	2.8 B	2.3 B	--	5.9 B
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L

This table is a summary of the samples collected from the Former Alcoa Property. The remediation objectives were taken from the IEPA's TACO Guidance Document.
These Tier 1 Remediation Objectives are based on an industrial/commercial scenario with Class 1 Groundwater.
Concentrations that appear in red have exceeded the TACO Tier 1 Groundwater Remediation Objective.

Former Alcoa Property Sample Photographs

DATE: April 2, 1996

TIME: 11:45 P.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X047 & X048.

DATE: _____

TIME: _____

PHOTOGRAPH TAKEN BY:

No photo taken.

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: ___

COMMENTS: _____

Former Alcoa Property Sample Photographs

DATE: April 2. 1996

TIME: 12:15 P.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X049 & X050.

DATE: April 2. 1996

TIME: 12:15 P.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: NW

COMMENTS: Photo taken of sample point X049 & X050.

Former Alcoa Property Sample Photographs

DATE: April 2, 1996

TIME: 12:40 P.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X051 & X052.

DATE: April 2, 1996

TIME: 12:40 P.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X051 & X052.

Former Alcoa Property Sample Photographs

DATE: April 2, 1996

TIME: 1:00 P.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: NE

COMMENTS: Photo taken of sample point X053 & X054.

DATE: _____

TIME: _____

PHOTOGRAPH TAKEN BY:

No photo taken.

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: ___

COMMENTS: _____

Former Alcoa Property Sample Photographs

DATE: April 2, 1996

TIME: 1:35 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X055 & X056.

DATE: April 2, 1996

TIME: 1:35 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X055 & X056.

Former Alcoa Property Sample Photographs

DATE: April 2, 1996

TIME: 3:15 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample point X057\X058 & X059.

DATE: April 2, 1996

TIME: 3:15 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X057\X058 & X059

Former Alcoa Property Sample Photographs

DATE: April 2, 1996

TIME: 3:45 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample point X060.

DATE: April 2, 1996

TIME: 3:45 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: SW

COMMENTS: Photo taken of sample point X060.

Former Alcoa Property Sample Photographs

DATE: April 2, 1996

TIME: 4:20 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: NW

COMMENTS: Photo taken of sample point X061 & X062.

DATE: _____

TIME: _____

PHOTOGRAPH TAKEN BY:

No photo taken.

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: ___

COMMENTS: _____

Former Alcoa Property Sample Photographs

DATE: April 2, 1996

TIME: 9:35 A.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X063.

DATE: April 2, 1996

TIME: 9:35 A.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: SW

COMMENTS: Photo taken of sample point X063.

Former Alcoa Property Sample Photographs

DATE: April 3, 1996

TIME: 10:30 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X064.

DATE: April 3, 1996

TIME: 10:20 A.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X064.

Former Alcoa Property Sample Photographs

DATE: April 3, 1996

TIME: 10:45 A.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X065.

DATE: April 3, 1996

TIME: 10:45 A.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: SW

COMMENTS: Photo taken of sample point X065.

Former Alcoa Property Sample Photographs

DATE: April 3, 1996

TIME: 11:00 A.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X066.

DATE: April 3, 1996

TIME: 11:00 A.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X066.

Former Alcoa Property Sample Photographs

DATE: April 3, 1996

TIME: 11:20 A.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X067.

DATE: April 3, 1996

TIME: 11:20 A.M.

PHOTOGRAPH TAKEN BY:

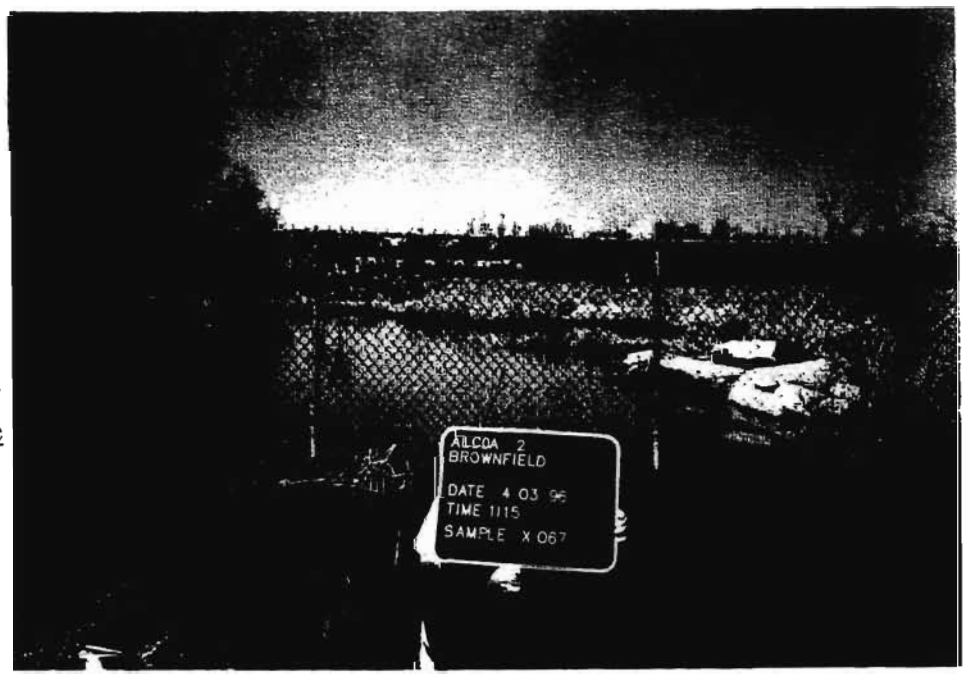
Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X067.



Former Alcoa Property Sample Photographs

DATE: April 3, 1996

TIME: 11:55 A.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X068.

DATE: April 3, 1996

TIME: 11:55 A.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X068.

Former Alcoa Property Sample Photographs

DATE: April 3, 1996

TIME: 12:05 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X069.

DATE: April 3, 1996

TIME: 12:05 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X069.

Former Alcoa Property Sample Photographs

DATE: April 3, 1996

TIME: 1:20 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: SW

COMMENTS: Photo taken of sample point X070.

DATE: April 3, 1996

TIME: 1:20 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X070.

Former Alcoa Property Sample Photographs

DATE: April 3, 1996

TIME: 1:35 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X071.

DATE: April 3, 1996

TIME: 1:35 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X071.

Former Alcoa Property Sample Photographs

DATE: April 3, 1996

TIME: 2:05 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: SW

COMMENTS: Photo taken of sample point X072.

DATE: April 3, 1996

TIME: 2:05 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X072.

Former Alcoa Property Sample Photographs

DATE: April 3, 1996

TIME: 2:15 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X073.

DATE: April 3, 1996

TIME: 2:15 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X073.

Former Alcoa Property Sample Photographs

DATE: April 3, 1996

TIME: 4:00 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X074.

DATE: April 3, 1996

TIME: 4:00 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample point X074.

Former Alcoa Property Sample Photographs

DATE: April 3, 1996

TIME: 4:20 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X075.

DATE: April 3, 1996

TIME: 4:20 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X075.

Former Alcoa Property Sample Photographs

DATE: April 3, 1996

TIME: 4:10 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample point X076.

DATE: April 3, 1996

TIME: 4:10 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X076.

Former Alcoa Property Sample Photographs

DATE: April 4, 1996

TIME: 11:30 A.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X077\X078.

DATE: April 4, 1996

TIME: 11:30 A.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X077\X078.

Former Alcoa Property Sample Photographs

DATE: April 4, 1996

TIME: 12:05 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD:

COMMENTS: Photo taken of sample point X079.

DATE:

TIME:

PHOTOGRAPH TAKEN BY:

No photo taken.

LOCATION:

PICTURE TAKEN TOWARD:

COMMENTS:

Former Alcoa Property Sample Photographs

DATE: April 4, 1996

TIME: 12:55 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample point X080.

DATE: April 4, 1996

TIME: 12:55 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X080.

Former Alcoa Property Sample Photographs

DATE: April 9, 1996

TIME: 9:55 A.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: NW

COMMENTS: Photo taken of sample point X081 and X082.

DATE: April 9, 1996

TIME: 9:55 A.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: SSE

COMMENTS: Photo taken of sample point X081 and X082.

Former Alcoa Property Sample Photographs

DATE: April 9, 1996

TIME: 10:10 A.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X083.

DATE: April 9, 1996

TIME: 10:10 A.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: SE

COMMENTS: Photo taken of sample point X083.

Former Alcoa Property Sample Photographs

DATE: April 9, 1996

TIME: 10:25 A.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: ESE

COMMENTS: Photo taken of sample point X084.

DATE: April 9, 1996

TIME: 10:25 A.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: NW

COMMENTS: Photo taken of sample point X084.

Former Alcoa Property Sample Photographs

DATE: April 9, 1996

TIME: Noon

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X085.

DATE: April 9, 1996

TIME: Noon

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: SE

COMMENTS: Photo taken of sample point X085.

Former Alcoa Property Sample Photographs

DATE: April 9, 1996

TIME: 12:15 P.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: SE

COMMENTS: Photo taken of sample point X086 and X087.

DATE: April 9, 1996

TIME: 12:15 P.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: WSW

COMMENTS: Photo taken of sample point X086 and X087.

Former Alcoa Property Sample Photographs

DATE: April 9, 1996

TIME: 12:40 P.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X088 and X089.

DATE: April 9, 1996

TIME: 12:40 P.M.

PHOTOGRAPH TAKEN BY:

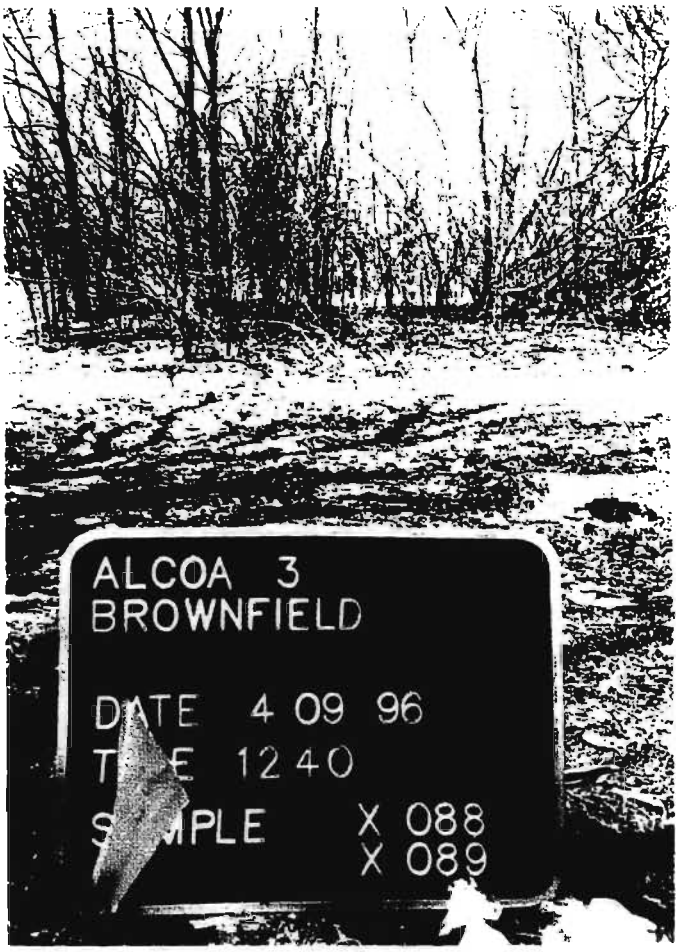
Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X088 and X089.



Former Alcoa Property Sample Photographs

DATE: April 9, 1996

TIME: 3:15 P.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X090 and X091.

DATE: April 9, 1996

TIME: 3:15 P.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X090 and X091.

Former Alcoa Property Sample Photographs

DATE: April 9, 1996

TIME: 3 30 P.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: NE

COMMENTS: Photo taken of sample point X092.

DATE: _____

TIME: _____

PHOTOGRAPH TAKEN BY:

_____

LOCATION: _____

_____

PICTURE TAKEN TOWARD: ___

COMMENTS: _____

_____

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_____

NO PHOTO

Former Alcoa Property Sample Photographs

DATE: April 9, 1996

TIME: 4:45 P.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: SSE

COMMENTS: Photo taken of sample point X094.

DATE: April 9, 1996

TIME: 4:45 P.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: SW

COMMENTS: Photo taken of sample point X094.

Former Alcoa Property Sample Photographs

DATE: April 9, 1996

TIME: 4:20 P.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: SE

COMMENTS: Photo taken of sample point X093 and X095.

DATE: April 9, 1996

TIME: 4:20 P.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: SW

COMMENTS: Photo taken of sample point X093 and X095.

Former Alcoa Property Sample Photographs

DATE: April 10, 1996

TIME: 10:10 A.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: SW

COMMENTS: Photo taken of sample point X096 and X097.

DATE: April 10, 1996

TIME: 10:00 A.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: SSE

COMMENTS: Photo taken of sample point X096 and X097.

Former Alcoa Property Sample Photographs

DATE: April 10, 1996

TIME: 10:20 A.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: SW

COMMENTS: Photo taken of sample point X098.

DATE: April 10, 1996

TIME: 10:20 A.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: SE

COMMENTS: Photo taken of sample point X098.

Former Alcoa Property Sample Photographs

DATE: April 10, 1996

TIME: 10:55 A.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: SSW

COMMENTS: Photo taken of sample point X099 and X100.

DATE: April 10, 1996

TIME: 10:55 A.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X099 and X100.

Former Alcoa Property Sample Photographs

DATE: April 10, 1996

TIME: 12:45 P.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: SE

COMMENTS: Photo taken of sample point X101 and X102.

DATE: _____

TIME: _____

PHOTOGRAPH TAKEN BY:

_____

LOCATION: _____

_____

PICTURE TAKEN TOWARD: ___

COMMENTS: _____

_____

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_____

NO PHOTO

Former Alcoa Property Sample Photographs

DATE: April 10, 1996

TIME: 1:15 P.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: NNW

COMMENTS: Photo taken of sample point X103 and X104.

DATE: April 10, 1996

TIME: 1:15 P.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X103 and X104.

Former Alcoa Property Sample Photographs

DATE: April 10, 1996

TIME: 2:45 P.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X105.

DATE: April 10., 1996

TIME: 2:45 P.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X105.

Former Alcoa Property Sample Photographs

DATE: April 10, 1996

TIME: 3:00 P.M.

PHOTOGRAPH TAKEN BY:

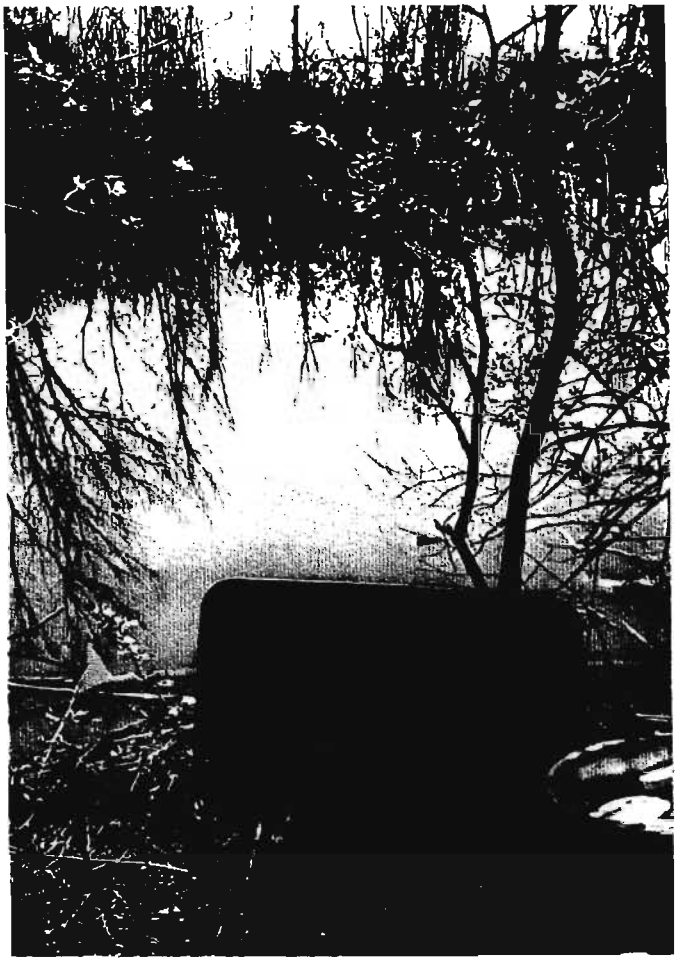
Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X106.



DATE: _____

TIME: _____

PHOTOGRAPH TAKEN BY:

_____

NO PHOTO

LOCATION: _____

_____

PICTURE TAKEN TOWARD: ___

COMMENTS: _____

_____

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_____

Former Alcoa Property Sample Photographs

DATE: April 10, 1996

TIME: 4:00 P.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: WNW

COMMENTS: Photo taken of sample point X107 and X108.

DATE: April 10, 1996

TIME: 4:00 P.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X107 and X108.

Former Alcoa Property Sample Photographs

DATE: April 10, 1996

TIME: 4:50 P.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: SE

COMMENTS: Photo taken of sample point X109 and X110.

DATE: _____

TIME: _____

PHOTOGRAPH TAKEN BY:

_____

LOCATION: _____

_____

PICTURE TAKEN TOWARD: __

COMMENTS: _____

_____

_____

_____

NO PHOTO

Former Alcoa Property Sample Photographs

DATE: April 11, 1996

TIME: 10:05 A.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X111.

DATE: April 11, 1996

TIME: 10:05 A.M.

PHOTOGRAPH TAKEN BY:

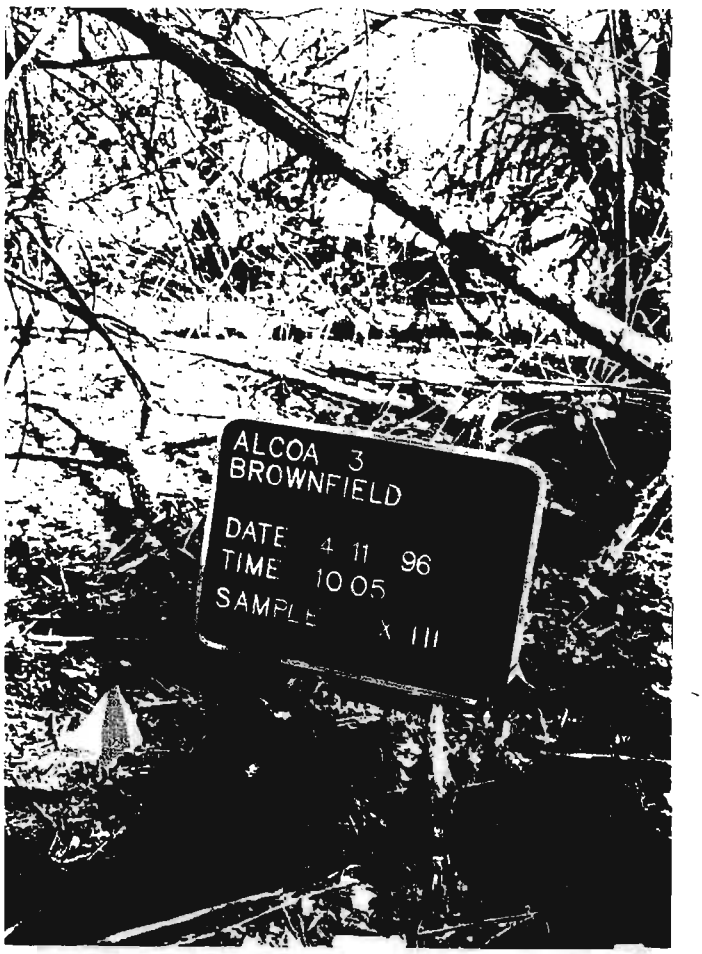
Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X111.



Former Alcoa Property Sample Photographs

DATE: April 11, 1996

TIME: 10:20 A.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X112. Looking down into excavation.

DATE: April 11, 1996

TIME: 10:20 A.M.

PHOTOGRAPH TAKEN BY:

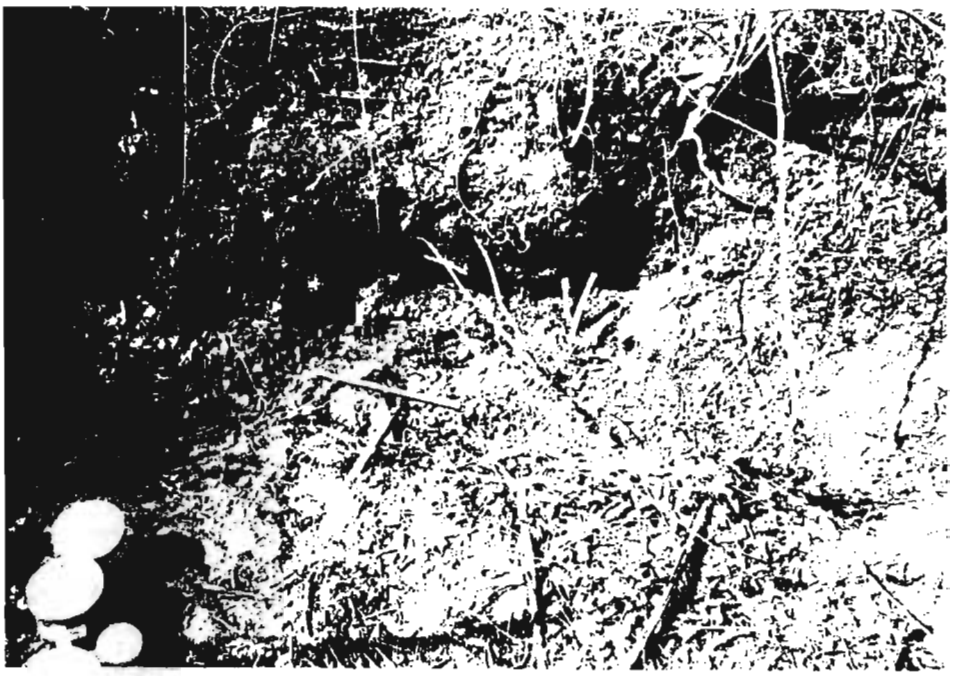
Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X112. Looking down into excavation.



Former Alcoa Property Sample Photographs

DATE: April 11, 1996

TIME: 10:30 A.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: SW

COMMENTS: Photo taken of sample point X113.

DATE: April 11, 1996

TIME: 10:30 A.M.

PHOTOGRAPH TAKEN BY:

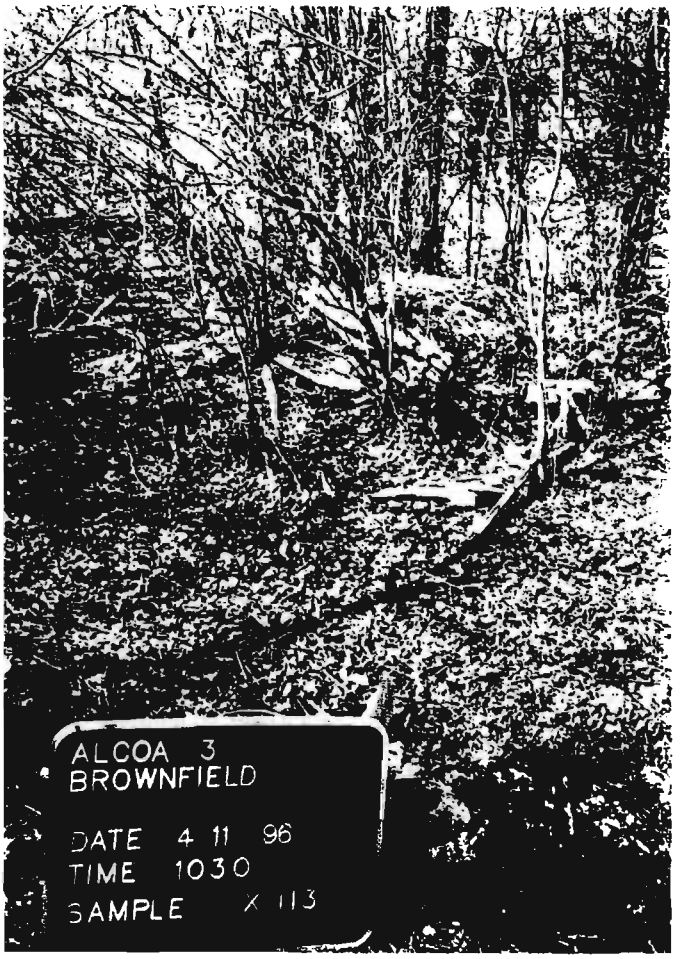
Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point X113.



Former Alcoa Property Sample Photographs

DATE: April 11, 1996

TIME: 11:00A.M.

PHOTOGRAPH TAKEN BY:

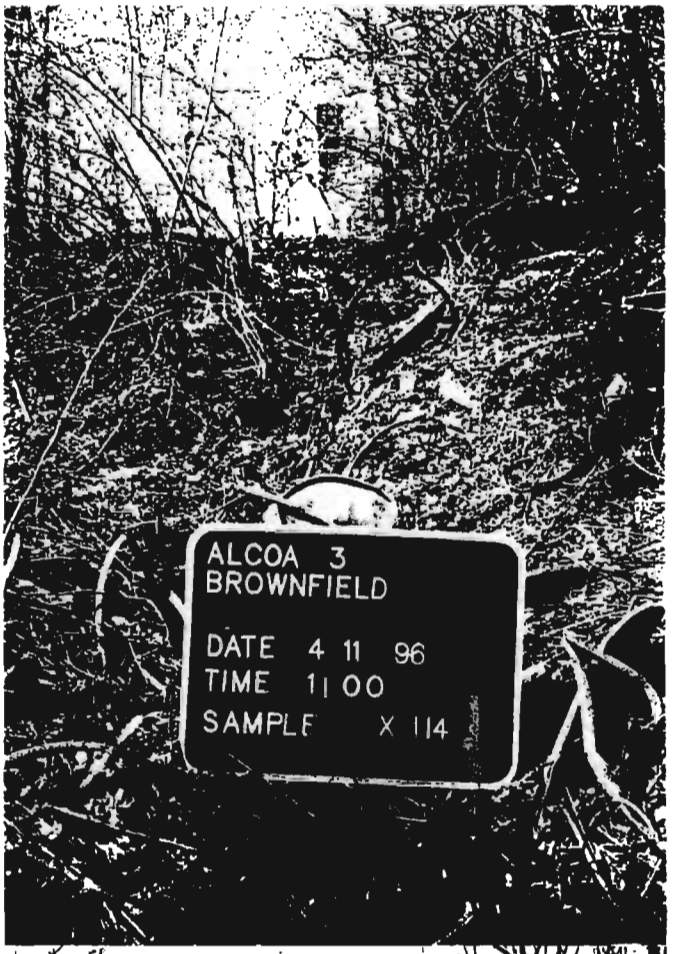
Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point X114.



DATE: April 11, 1996

TIME: 11:00 A.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample point X114.

Former Alcoa Property Sample Photographs

DATE: April 11, 1996

TIME: 11:10 A.M.

PHOTOGRAPH TAKEN BY:

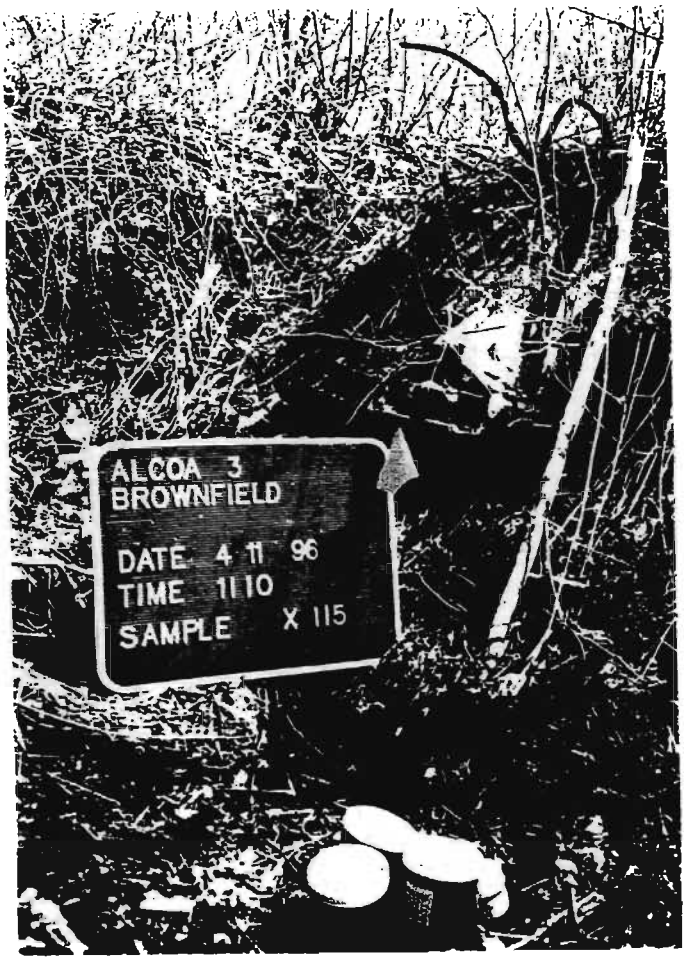
Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: NNW

COMMENTS: Photo taken of sample point X115.



DATE: _____

TIME: _____

PHOTOGRAPH TAKEN BY:

_____

LOCATION: _____

_____

PICTURE TAKEN TOWARD: ____

COMMENTS: _____

_____

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_____

NO PHOTO

Former Alcoa Property Sample Photographs

DATE: April 11, 1996

TIME: 11:20 A.M.

PHOTOGRAPH TAKEN BY:

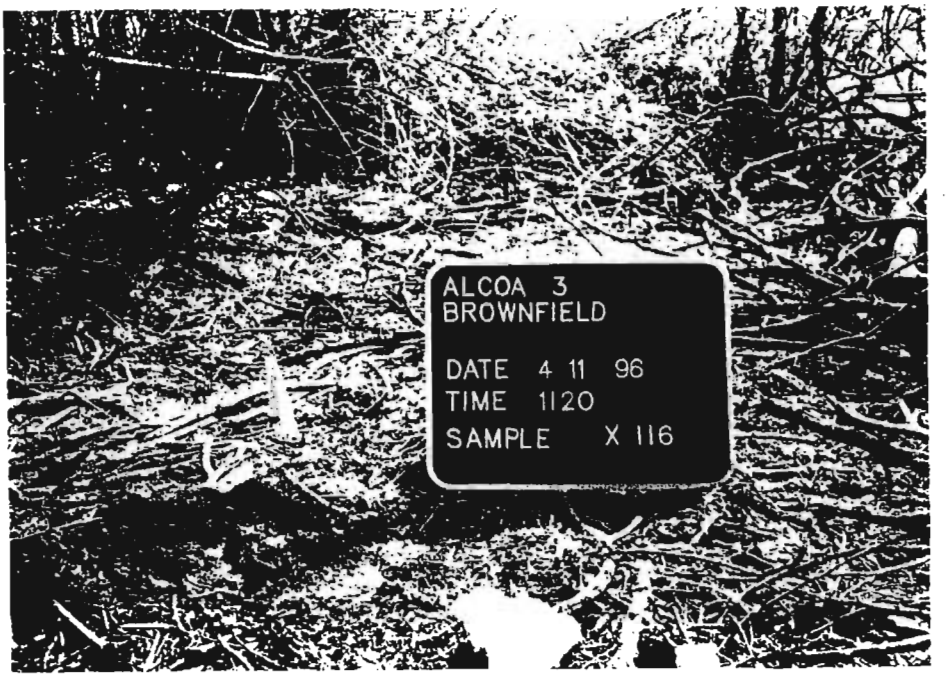
Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: SW

COMMENTS: Photo taken of sample point X116.



DATE: April 11, 1996

TIME: 11:20 A.M.

PHOTOGRAPH TAKEN BY:

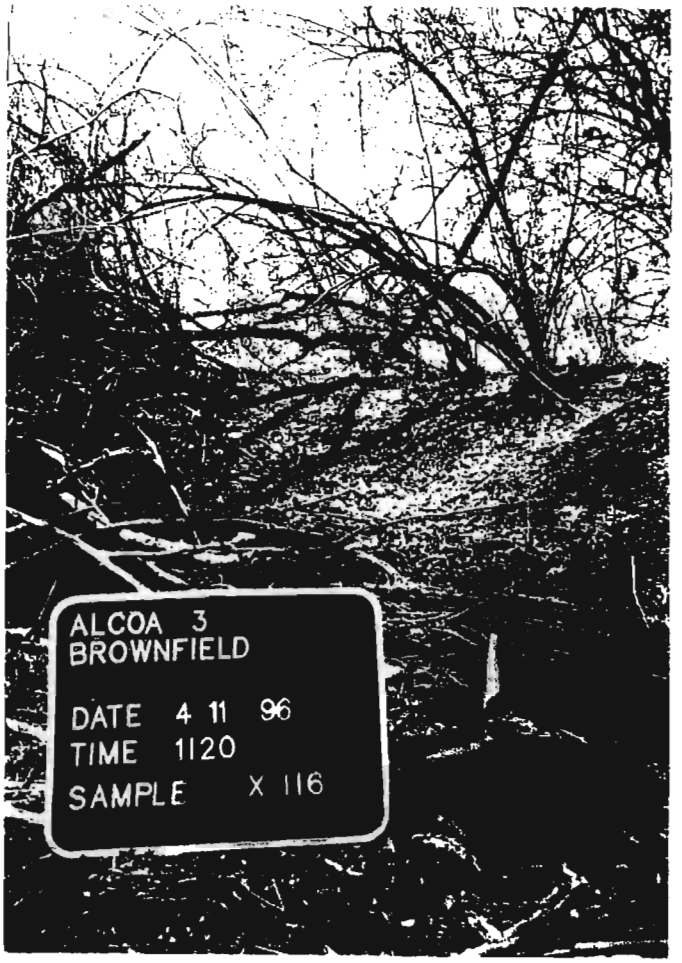
Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: NE

COMMENTS: Photo taken of sample point X116.



Former Alcoa Property Sample Photographs

DATE: April 11, 1996

TIME: 11:55 A.M.

PHOTOGRAPH TAKEN BY:

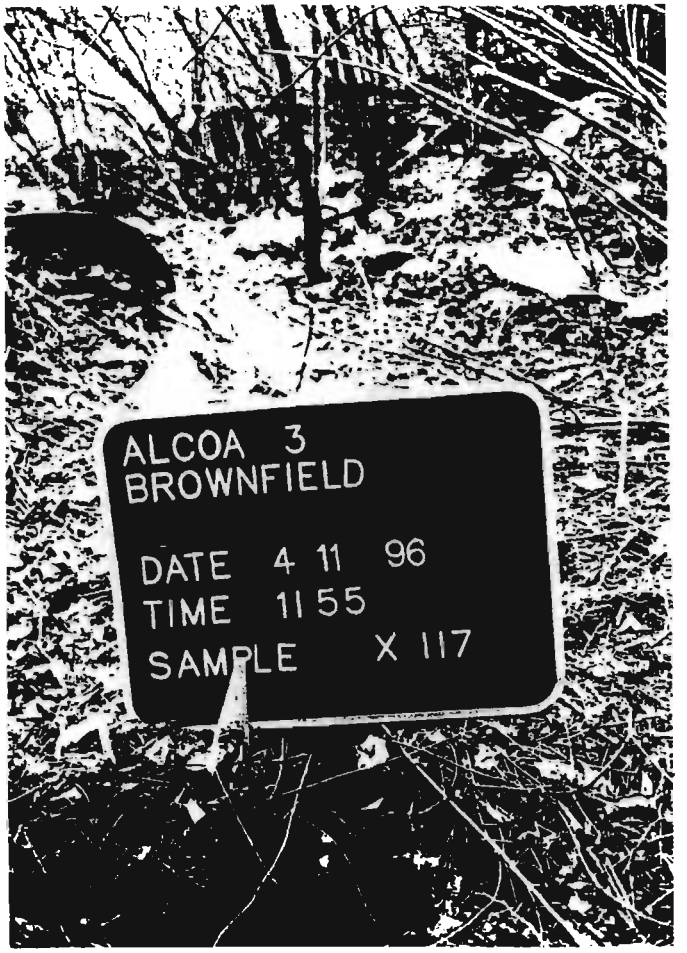
Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X117.



DATE: _____

TIME: _____

PHOTOGRAPH TAKEN BY:

_____

LOCATION: _____

_____

PICTURE TAKEN TOWARD: ____

COMMENTS:_____

_____

_____

_____

Former Alcoa Property Sample Photographs

DATE: April 11, 1996

TIME: 12:05 P.M.

PHOTOGRAPH TAKEN BY:

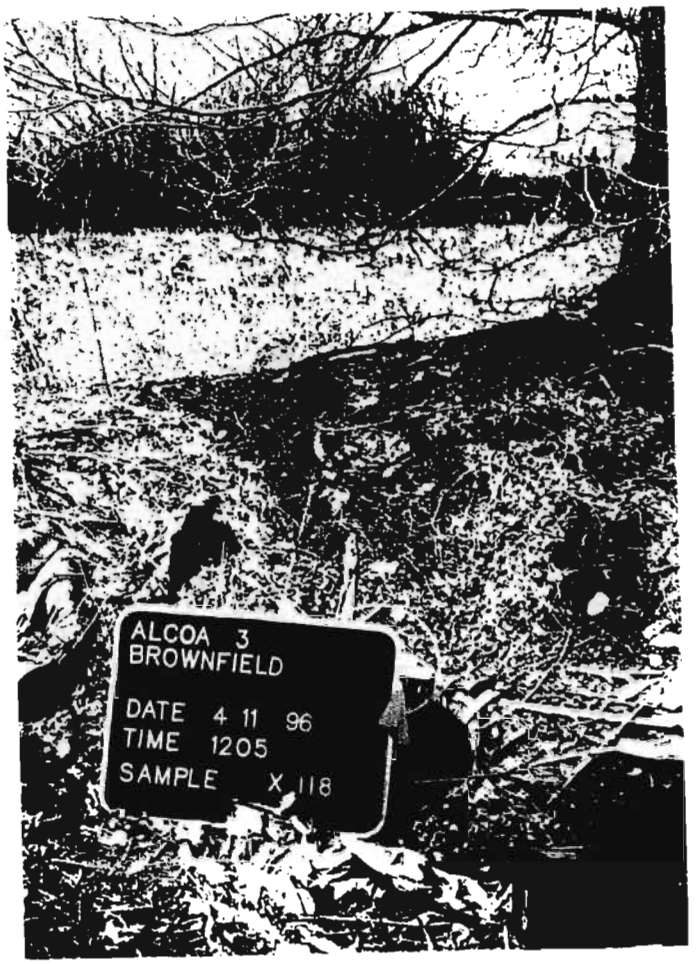
Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: SW

COMMENTS: Photo taken of sample point X118.



DATE: April 11, 1996

TIME: 12:05 P.M.

PHOTOGRAPH TAKEN BY:

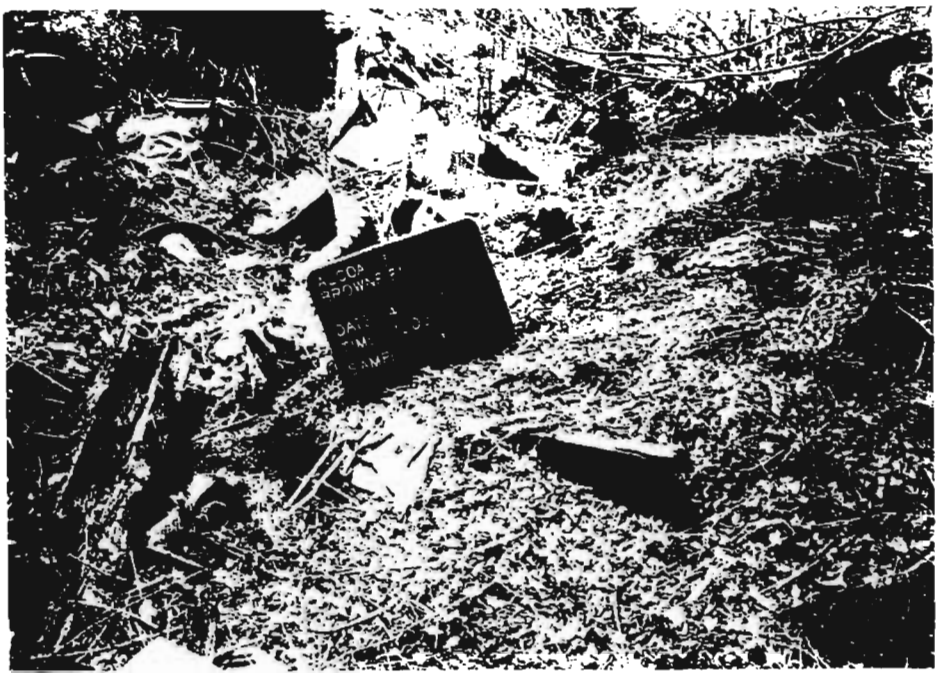
Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point X118.



Former Alcoa Property Sample Photographs

DATE: March 27, 1996

TIME: 5:00 P.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point G101

DATE: March 27, 1996

TIME: 5:00 P.M.

PHOTOGRAPH TAKEN BY:

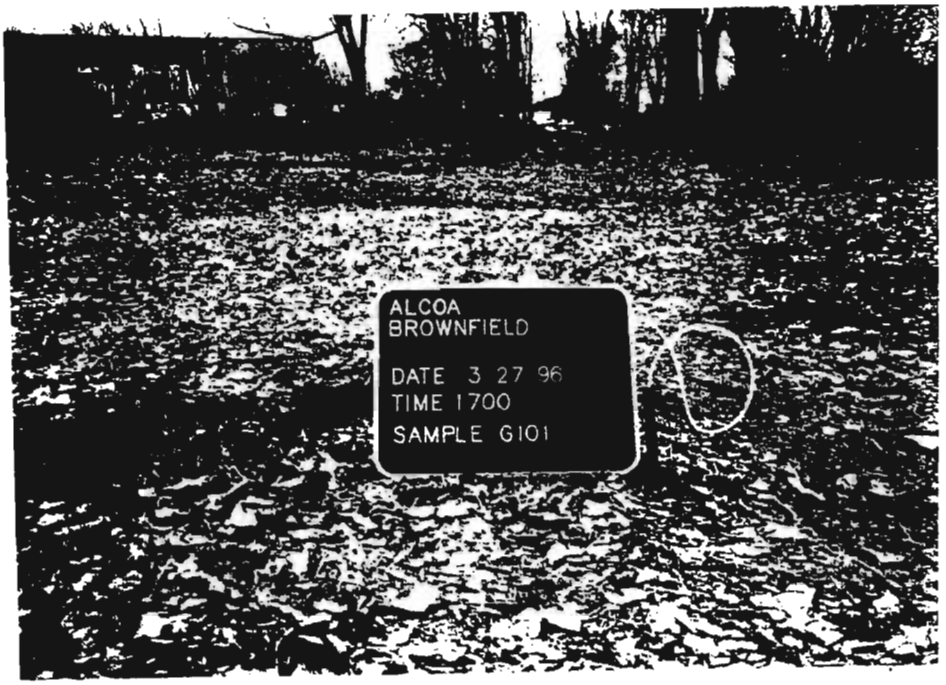
Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample point G101.



Former Alcoa Property Sample Photographs

DATE: April 11, 1996

TIME: 12:15 P.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: WSW

COMMENTS: Photo taken of sample point X119.

DATE: April 11, 1996

TIME: 12:15 P.M.

PHOTOGRAPH TAKEN BY:

Judy Triller

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: NW

COMMENTS: Photo taken of sample point X119.

Former Alcoa Property Sample Photographs

DATE: March 28, 1996

TIME: 10:00 A.M.

PHOTOGRAPH TAKEN BY:

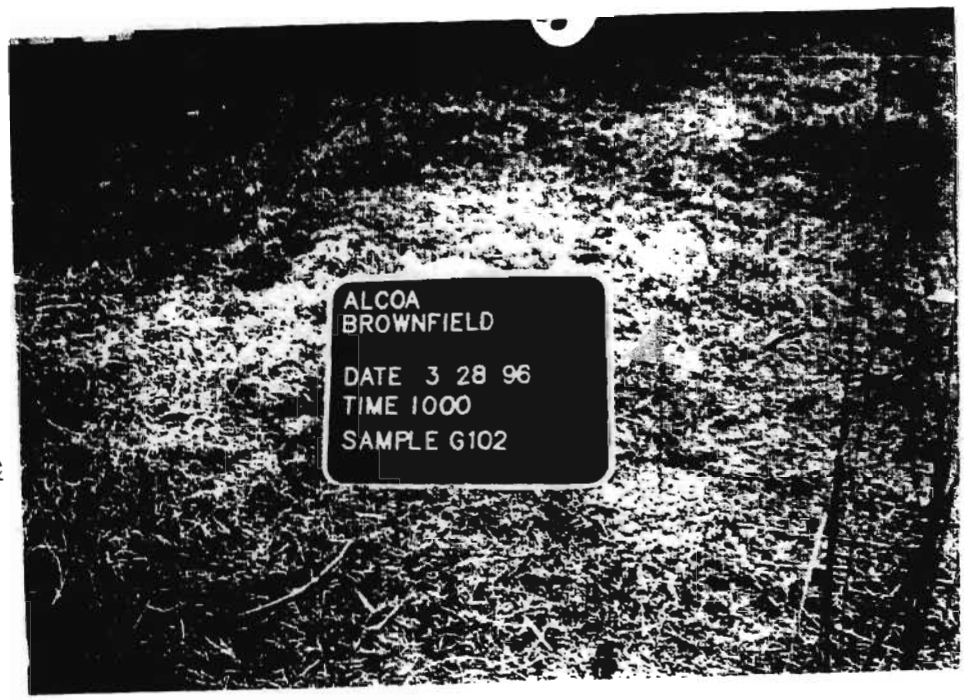
Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point G102.



DATE: March 28, 1996

TIME: 10:00 A.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: N

COMMENTS: Photo taken of sample point G102.

Former Alcoa Property Sample Photographs

DATE: April 3, 1996

TIME: 2:30 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point G110

DATE: April 3, 1996

TIME: 2:30 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point G110

Former Alcoa Property Sample Photographs

DATE: March 27, 1996

TIME: 10:30 A.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: E

COMMENTS: Photo taken of sample point G103.

DATE: March 27, 1996

TIME: 10:30 A.M.

PHOTOGRAPH TAKEN BY:

Peter Sorensen

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point G103.

Former Alcoa Property Sample Photographs

DATE: April 2. 1996

TIME: 2:50 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: SE

COMMENTS: Photo taken of sample point G104

DATE: April 2. 1996

TIME: 2:50 P.M.

PHOTOGRAPH TAKEN BY:

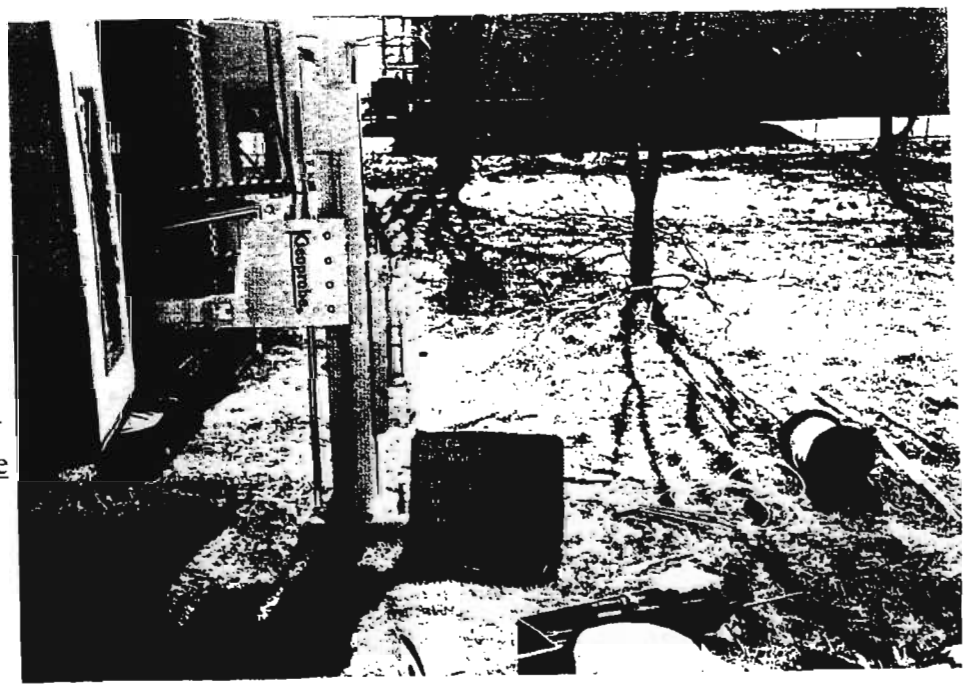
Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: SW

COMMENTS: Photo taken of sample point G104



Former Alcoa Property Sample Photographs

April 2, 1996

3:00 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point G105

DATE: April 2, 1996

TIME: 3:00 P.M.

PHOTOGRAPH TAKEN BY:

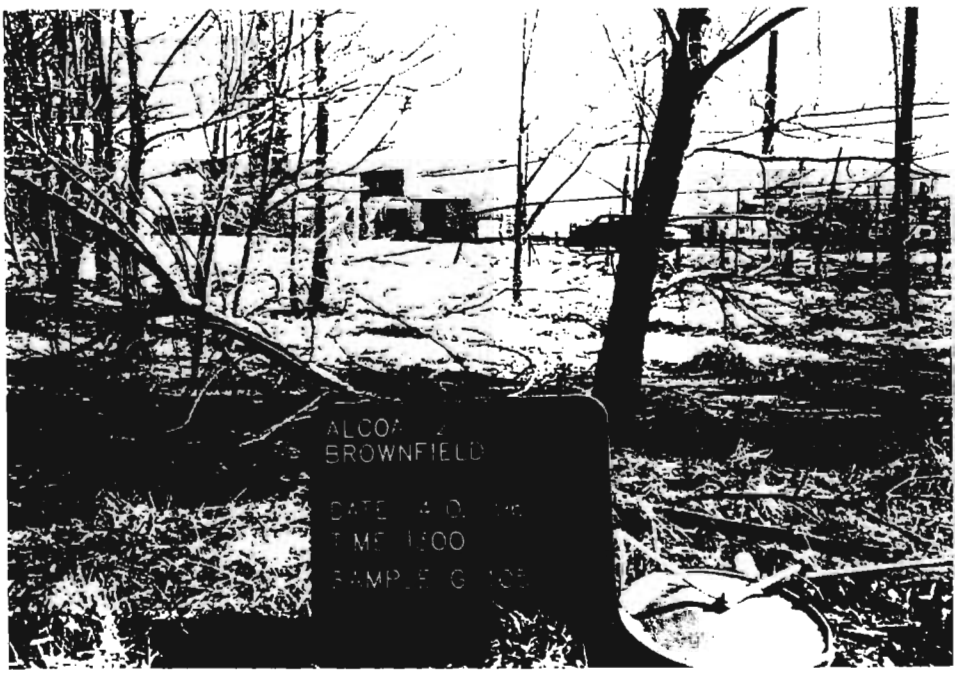
Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: S

COMMENTS: Photo taken of sample point G105



Former Alcoa Property Sample Photographs

DATE: April 2. 1996

TIME: 5:15 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: SE

COMMENTS: Photo taken of sample point G106

DATE: April 2 . 1996

TIME: 5:15 P.M.

PHOTOGRAPH TAKEN BY:

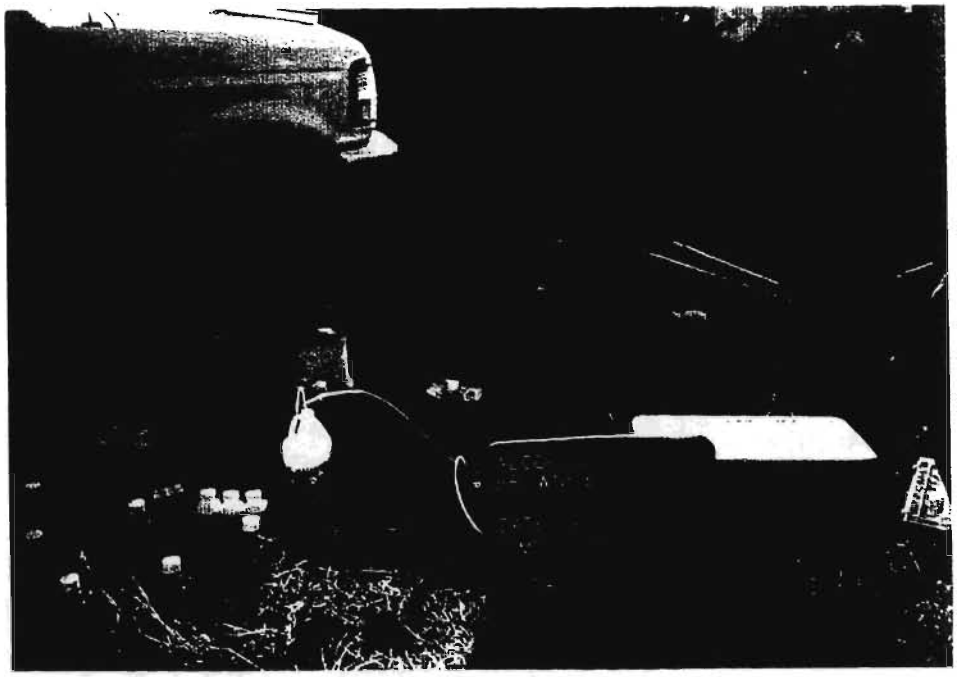
Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point G106



Former Alcoa Property Sample Photographs

DATE: April 3, 1996

TIME: 2:30 P.M.

PHOTOGRAPH TAKEN BY:

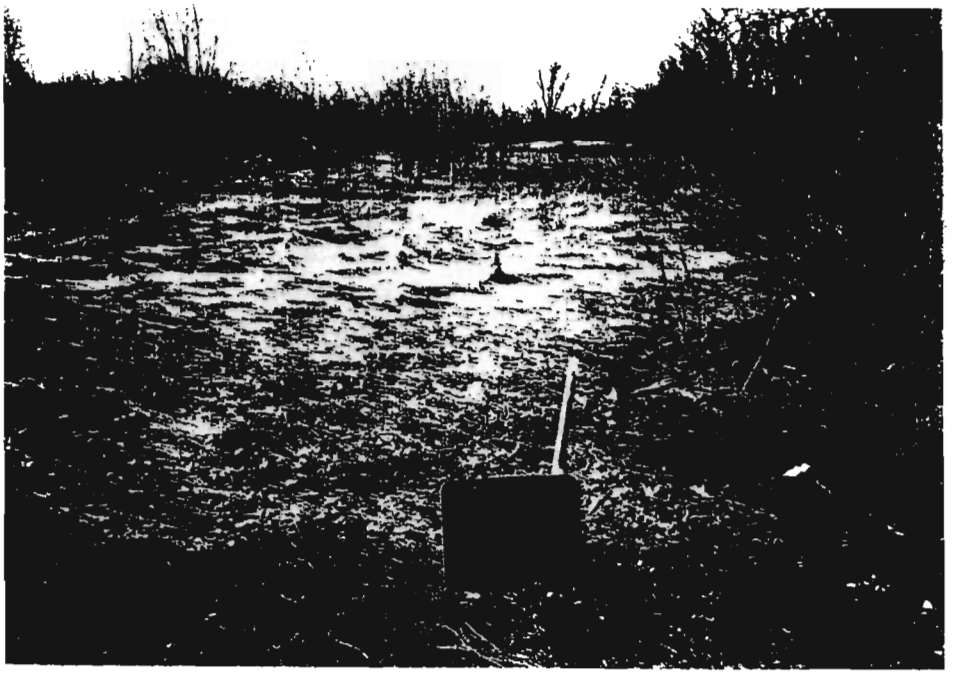
Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: NW

COMMENTS: Photo taken of sample point G107\G108



DATE: April 3, 1996

TIME: 2:30 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point G107\G108

Former Alcoa Property Sample Photographs

DATE: April 3, 1996

TIME: 3:00 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: SW

COMMENTS: Photo taken of sample point G109

DATE: April 3, 1996

TIME: 3:00 P.M.

PHOTOGRAPH TAKEN BY:

Brad Taylor

LOCATION: Former Alcoa Property

St. Clair County

PICTURE TAKEN TOWARD: W

COMMENTS: Photo taken of sample point G109

Appendix E
TACO Guidance

Illinois Environmental Protection Agency

Bureau of Land

Tiered Approach to Cleanup Objectives Guidance Document

		Exposure Route-Specific Values for Soils				Migration to Groundwater Portion of the Groundwater Ingestion Exposure Route Values		
		Industrial-Commercial		Construction Worker				
CAS No.	Chemical Name	Ingestion (mg/kg)	Inhalation (mg/kg)	Ingestion (mg/kg)	Inhalation (mg/kg)	Class I (mg/kg)	ClassII (mg/kg)	ADL (mg/kg)
	Ionizable Organics							
106-47-8	4 - Chloroaniline (*p*-Chloroaniline)	8,200[b]	----[c]	820[b]	----[c]	0.7[b]	0.7	1.3
95-57-8	2-Chlorophenol	10,000[b]	53,000[d]	10,000[b]	53,000[d]	4[b,i]	4[i]	*
120-83-2	2,4-Dichlorophenol	6,100[b]	----[c]	610[b]	----[c]	1[b,i]	1[i]	*
105-67-9	2,4-Dimethylphenol	41,000[b]	----[c]	41,000[b]	----[c]	9[b]	9	*
51-28-5	2,4-Dinitrophenol	4,100[b]	----[c]	410[b]	----[c]	0.3[b,f,i]	0.3[i]	3.3
88-85-7	Dinoseb[o]	2,000[b]	----[c]	200[b]	----[c]	0.34[b,i]	3.4[i]	*
95-48-7	2-Methylphenol (*o* - Cresol)	100,000[b]	----[c]	100,000[b]	----[c]	15[b]	15	*
86-30-6	*N*-Nitrosodiphenylamine	1,200[e]	----[c]	25,000[e]	----[c]	1[e]	1	0.66
621-64-7	*N*-Nitrosodi-*n*-propylamine	0.8[e]	----[c]	18[e]	----[c]	0.00005[e,f]	0.00005	0.66
87-86-5	Pentachlorophenol	24[e,j]	----[c]	520[e,j]	----[c]	0.03[f,i]	0.15[i]	2.4

		Exposure Route-Specific Values for Soils				Migration to Groundwater Portion of the Groundwater Ingestion Exposure Route Values		
		Industrial-Commercial		Construction Worker				
CAS No.	Chemical Name	Ingestion (mg/kg)	Inhalation (mg/kg)	Ingestion (mg/kg)	Inhalation (mg/kg)	Class I (mg/kg)	ClassII (mg/kg)	ADL (mg/kg)
91-20-3	Naphthalene	82,000[b]	----[c]	8,200[b]	----[c]	84[b]	130	*
98-95-3	Nitrobenzene	1,000[b]	150[b]	1,000[b]	10[b]	0.1[b,f]	0.1	0.26
1918-02-1	Picloram[o]	140,000[b]	----[c]	14,000[b]	----[c]	2	20	NA
1336-36-3	Polychlorinated biphenyls (PCBs)[n]	1; 10; 25[h]	----[c,h]	1[h]	----[c,h]	----[h]	----[h]	*
129-00-0	Pyrene	61,000[b]	----[c]	61,000[b]	----[c]	4,200[b]	21,000	*
122-34-9	Simazine[o]	10,000[b]	----[c]	1,000[b]	----[c]	0.04	0.4	NA
100-42-5	Styrene	410,000[b]	1,500[d]	41,000[b]	470[b]	4	20	*
127-18-4	Tetrachloroethylene (Perchloroethylene)	110[e]	20[e]	2,400[e]	31[e]	0.06	0.3	*
108-88-3	Toluene	410,000[b]	650[d]	410,000[b]	47[b]	12	30	*
8001-35-2	Toxaphene[n]	5.2[e]	170[e]	110[e]	260[e]	31	150	*

		Exposure Route-Specific Values for Soils				Migration to Groundwater Portion of the Groundwater Ingestion Exposure Route Values		
		Industrial-Commercial		Construction Worker				
CAS No.	Chemical Name	Ingestion (mg/kg)	Inhalation (mg/kg)	Ingestion (mg/kg)	Inhalation (mg/kg)	Class I (mg/kg)	ClassII (mg/kg)	ADL (mg/kg)
121-14-2	2,4-Dinitrotoluene	8.4[e]	----[c]	180[e]	----[c]	0.0008[e,f]	0.0008	0.013
606-20-2	2,6-Dinitrotoluene	8.4[e]	----[c]	180[e]	----[c]	0.0007[e,f]	0.0007	0.0067
117-84-0	Di-*n*-octyl phthalate	41,000[e]	10,000[d]	4,100[b]	10,000[d]	10,000[d]	10,000[d]	*
115-29-7	Endosulfan	12,000[e]	----[c]	1,200[b]	----[c]	18[b]	18	*
145-73-3	Endothall[o]	41,000[c]	----[c]	4,100[b]	----[c]	0.4	0.4	NA
72-20-8	Endrin	610[b]	----[c]	61[b]	----[c]	1	5	*
100-41-4	Ethylbenzene	200,000[b]	400[d]	20,000[b]	58[b]	13	19	*
206-44-0	Fluoranthene	82,000[b]	----[c]	82,000[b]	----[c]	4,300[b]	21,000	*
86-73-7	Fluorene	82,000[b]	----[c]	82,000[b]	----[c]	560[b]	2,800	*
76-44-8	Heptachlor	1[e]	11[e]	28[e]	16[e]	23	110	*
1024-57-3	Heptachlor epoxide	0.6[e]	9.2[e]	2.7[b]	13[e]	0.7	3.5	*

		Exposure Route-Specific Values for Soils				Migration to Groundwater Portion of the Groundwater Ingestion Exposure Route Values		
		Industrial-Commercial		Construction Worker				
CAS No.	Chemical Name	Ingestion (mg/kg)	Inhalation (mg/kg)	Ingestion (mg/kg)	Inhalation (mg/kg)	Class I (mg/kg)	ClassII (mg/kg)	ADL (mg/kg)
72-54-8	DDD	24[e]	-----[c]	520[e]	-----[c]	16[e]	80	*
72-55-9	DDE	17[e]	-----[c]	370[e]	-----[c]	54[e]	270	*
50-29-3	DDT	17[e]	1,500[e]	100[b]	2,100[e]	32[e]	160	*
53-70-3	Dibenzo(*a,h*)anthracene	0.8[e]	-----[c]	17[e]	-----[c]	2	10	*
96-12-8	1,2-Dibromo-3-chloropropane	4[e]	17[b]	89[e]	0.11[b]	0.002	0.002	*
106-93-4	1,2-Dibromoethane (Ethylene dibromide)	0.07[e]	0.32[e]	1.5[e]	0.45[e]	0.0004	0.004	0.005
84-74-2	Di-*n*-butyl phthalate	200,000[b]	2,300[d]	200,000[b]	2,300[d]	2,300[d]	2,300[d]	*
95-50-1	1,2-Dichlorobenzene (*o* - Dichlorobenzene)	180,000[b]	560[d]	18,000[b]	340[b]	17	85	*
106-46-7	1,4-Dichlorobenzene (*p* - Dichlorobenzene)	-----[c]	17,000[b]	-----[c]	350[b]	2	10	*

		Exposure Route-Specific Values for Soils				Migration to Groundwater Portion of the Groundwater Ingestion Exposure Route Values		
		Industrial-Commercial		Construction Worker				
CAS No.	Chemical Name	Ingestion (mg/kg)	Inhalation (mg/kg)	Ingestion (mg/kg)	Inhalation (mg/kg)	Class I (mg/kg)	ClassII (mg/kg)	ADL (mg/kg)
56-55-3	Benzo(*a*)anthracene	8[c]	----[c]	170[c]	----[c]	2	10	*
205-99-2	Benzo(*b*)fluoranthene	8[c]	----[c]	170[c]	----[c]	5	25	*
207-08-9	Benzo(*k*)fluroanthene	78[c]	----[c]	1,700[c]	----[c]	49	240	*
50-32-8	Benzo(*a*)pyrene	0.8[c]	----[c]	17[c]	----[c]	8	80	*
117-81-7	Bis(2-ethylhexyl)phthalate	410[c]	31,000[d]	4,100[b]	31,000[d]	3,600	31,000[d]	*
75-27-4	Bromodichloromethane (Dichlorobromomethane)	92[c]	3,000[d]	2,000[e]	3,000[d]	0.6	3	*
75-25-2	Bromoform	720[c]	100[e]	16,000[e]	140[c]	0.8	4	*
71-36-3	Butanol	200,000[b]	10,000[d]	200,000[b]	10,000[d]	17[b]	17	NA
85-68-7	Butyl benzyl phthalate	410,000[b]	930[d]	410,000[b]	930[d]	930[d]	930[d]	*
86-74-8	Carbazole	290[e]	-----[c]	6,200[c]	-----[c]	-----	-----	NA

		Exposure Route-Specific Values for Soils				Migration to Groundwater Portion of the Groundwater Ingestion Exposure Route Values		
		Industrial-Commercial		Construction Worker				
CAS No.	Chemical Name	Ingestion (mg/kg)	Inhalation (mg/kg)	Ingestion (mg/kg)	Inhalation (mg/kg)	Class I (mg/L)	Class II (mg/L)	
7440-48-4	Cobalt	120,000[b]	-----[c]	12,000[b]	-----[c]	1.0[m]	1.0[m]	*
7440-50-8	Copper[n]	82,000[b]	-----[c]	8,200[b]	-----[c]	0.65[m]	0.65[m]	*
57-12-5	Cyanide (amenable)	41,000[b]	-----[c]	4,100[b]	-----[c]	0.2[q]	0.6[q]	*
7782-41-4	Fluoride	120,000[b]	-----[c]	12,000[b]	-----[c]	4.0[m]	4.0[m]	*
15438-31-0	Iron	-----[c]	-----[c]	-----[c]	-----[c]	5.0[m]	5.0[m]	*
7439-92-1	Lead	400[k]	-----[c]	400[k]	-----[c]	0.0075[m]	0.1[m]	*
7439-96-5	Manganese	100,000[b]	91,000[b]	10,000[b]	8,700[b]	0.15[m]	10.0[m]	*
7439-97-6	Mercury[l,n]	610[b]	540,000[b]	61[b,s]	52,000[b]	0.002[m]	0.01[m]	*
7440-02-0	Nickel[l]	41,000[b]	21,000[e]	4,100[b]	440,000[e]	0.1[m]	2.0[m]	*
14797-55-8	Nitrate as N[p]	1,000,000[b]	-----[c]	330,000[b]	-----[c]	10.0[m]	100[m]	*
7782-49-2	Selenium[l,n]	10,000[b]	-----[c]	1,000[b]	-----[c]	0.05[m]	0.05[m]	*

		Exposure Route-Specific Values for Soils				Migration to Groundwater Portion of the Groundwater Exposure Route Values		
		Industrial-Commercial		Construction Worker				
CAS No.	Chemical Name	Ingestion (mg/kg)	Inhalation (mg/kg)	Ingestion (mg/kg)	Inhalation (mg/kg)	Class I (mg/L)	Class II (mg/L)	
	Inorganics							
7440-36-0	Antimony	820[b]	----[c]	82[b]	----[c]	0.006[m]	0.024[m]	*
7440-38-2	Arsenic[l,n]	3[e,t]	1,200[e]	61[b]	25,000[e]	0.05[m]	0.2[m]	
7440-39-3	Barium	140,000[b]	910,000[b]	14,000[b]	870,000[b]	2.0[m]	2.0[m]	*
7440-41-7	Beryllium	1[e,t]	2,100[e]	29[e]	44,000[e]	0.004[m]	0.5[m]	*
7440-42-8	Boron	180,000[b]	1,000,000	18,000[b]	1,000,000	2.0[m]	2.0[m]	*
7440-43-9	Cadmium[l,n]	2,000[b,r]	2,800[e]	200[b,r]	59,000[e]	0.005[m]	0.05[m]	*
16887-00-6	Chloride	----[c]	----[c]	----[c]	----[c]	200[m]	200[m]	*
7440-47-3	Chromium, total	10,000[b]	420[e]	4,100[b]	8,800[e]	0.1[m]	1.0[m]	*
16065-83-1	Chromium, ion, trivalent	1,000,000[b]	----[c]	330,000[b]	----[c]	----[g]	----[g]	*
18540-29-9	Chromium, ion, hexavalent	10,000[b]	420[e]	4,100[b]	8,800[e]	-----	-----	*

"*" indicates that the ADL is less than or equal to the specified cleanup objective.

NA means Not Available; no PQL or EQL available in USEPA analytical methods.

Chemical Name and Soil Cleanup Objective Notations (2nd, 5th thru 8th Columns)

a Soil cleanup objectives based on human health criteria only.

b Calculated values correspond to a target hazard quotient of 1.

c No toxicity criteria available for this route of exposure.

d Soil saturation concentration (C_{sat}) = the concentration at which the absorptive limits of the soil particles, the solubility limits of the available soil moisture, and saturation of soil pore air have been reached. Above the soil saturation concentration, the assumptions regarding vapor transport to air and/or dissolved phase transport to groundwater (for chemicals which are liquid at ambient soil temperatures) have been violated, and alternative modeling approaches are required.

e Calculated values correspond to a cancer risk level of 1 in 1,000,000. Site-specific conditions may warrant use of a greater risk level but not to exceed 1 in 10,000.

f Level is at or below Contract Laboratory Program required quantitation limit for Regular Analytical Services (RAS).

g Chemical-specific properties are such that this route is not of concern at any soil contaminant concentration.

h A preliminary goal of 1 ppm has been set for PCBs based on *Guidance on Remedial Actions for Superfund Sites with PCB Contamination*, EPA/540G-90/007, and on USEPA efforts to manage PCB contamination. See 40 CFR 761.120 for USEPA "PCB Spill Cleanup Policy." This regulation goes on to say that the cleanup goal for an unrestricted area is 10 ppm and 25 ppm for a restricted area, provided both have at least 10 inches of clean cover.

i Soil cleanup objective for pH of 6.8. If soil pH is other than 6.8, refer to Appendix B, Tables C and D in this Part.

j Ingestion soil cleanup objective adjusted by a factor of 0.5 to account for dermal route.

k A preliminary remediation goal of 400 mg/kg has been set for lead based on *Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities*, OSWER Directive #9355.4-12.

l Potential for soil-plant-human exposure.

m Concentration in mg/L determined by the Toxicity Characteristic Leaching Procedure (TCLP). The person conducting the remediation has the option to use TCLP cleanup objectives listed in this Table or the applicable pH-specific soil cleanup objectives in Appendix B, Tables C or D of this Part. If the person wishes to calculate cleanup objectives based on background concentrations, this should be done in accordance with Subpart D of this Part.

n The Agency reserves the right to evaluate the potential for remaining contaminant concentrations to pose significant threats to crops, livestock, or wildlife.

o For agrichemical facilities, cleanup objectives for surficial soils which are based on field application rates may be more appropriate for currently registered pesticides. Consult the Agency for further information.

p For agrichemical facilities, soil cleanup objectives based on site-specific background concentrations of Nitrate as N may be more appropriate. Such determinations shall be conducted in accordance with the located in Subparts D and I of this Part.

q For cyanide, the TCLP extraction must be done using water at a pH of 7.0.

r *Value based on dietary Reference Dose.*

s Value based on Reference Dose for Mercuric chloride (CAS No. 7487-94-7).

t *Note that Table value is likely to be less than background concentration for this chemical; screening or remediation concentrations using the procedures of Subpart D* of this Part.

Chemical (totals) (mg/kg)	pH 4.5 to 4.74	pH 4.75 to 5.24	pH 5.25 to 5.74	pH 5.75 to 6.24	pH 6.25 to 6.64	pH 6.65 to 6.89	pH 6.9 to 7.24	pH 7.25 to 7.74	pH 7.75 to 8.0
Thallium	1.6	1.8	2.0	2.4	2.6	2.8	3.0	3.4	3.8
Vanadium	980	980	980	980	980	980	980	980	980
Zinc	1,000	1,800	2,600	3,600	5,100	6,200	7,500	16,000	53,000
Organics									
Benzoic Acid	440	420	410	400	400	400	400	400	400
2-*Chlorophenol*	3.5	3.5	3.5	3.5	3.4	3.4	3.4	3.2	2.7
2,4-Dichlorophenol	1.1	1.1	1.1	1.1	1.1	1.0	1.0	0.90	0.72
Dinoseb	8.4	4.5	1.9	0.82	0.43	0.34	0.31	0.27	0.25
Pentachlorophenol	0.54	0.32	0.15	0.07	0.04	0.03	0.02	0.02	0.02
2,4,5-TP (Silvex)	26	16	12	11	11	11	11	11	11
2,4,5-Trichlorophenol	350	340	340	320	280	270	200	110	56
2,4,6-Trichlorophenol	0.37	0.36	0.34	0.26	0.20	0.15	0.13	0.09	0.07

Chemical (totals) (mg/kg)	pH 4.5 to 4.74	pH 4.75 to 5.24	pH 5.25 to 5.74	pH 5.75 to 6.24	pH 6.25 to 6.64	pH 6.65 to 6.89	pH 6.9 to 7.24	pH 7.25 to 7.74	pH 7.75 to 8.0
Organics									
Benzoic Acid	440	420	410	400	400	400	400	400	400
2-Chlorophenol	3.5	3.5	3.5	3.5	3.4	3.4	3.4	3.2	2.7
2,4-Dichlorophenol	1.1	1.1	1.1	1.1	1.1	1.0	1.0	0.90	0.72
Dinoseb	84	45	19	8.2	4.3	3.4	3.1	2.7	2.5
Pentachlorophenol	2.7	1.6	0.75	0.33	0.18	0.15	0.12	0.11	0.10
2,4,5-TP (Silvex)	130	79	62	57	55	55	55	55	55
2,4,5-Trichlorophenol	1,700	1,700	1,700	1,600	1,400	1,200	1,000	560	280
2,4,6-Trichlorophenol	0.37	0.36	0.34	0.26	0.20	0.15	0.13	0.09	0.07

		Groundwater Cleanup Objective	
CAS No.	Chemical Name	Class I (mg/L)	Class II (mg/L)
108-90-7	Chlorobenzene (Monochlorobenzene)	0.1[c]	0.5[c]
124-48-1	Chlorodibromomethane (Dibromochloromethane)	0.14	0.14
67-66-3	Chloroform	0.00002[a]	0.0001
218-01-9	Chrysene	0.0015[a]	0.0075
94-75-7	2,4-D	0.07[c]	0.35[c]
75-99-0	Dalapon	0.2[c]	2.0[c]
72-54-8	DDD	0.00011[a]	0.00055
72-55-9	DDE	0.00004[a]	0.0002
50-29-3	DDT	0.00012[a]	0.0006
53-70-3	Dibenzo(*a,h*)anthracene	0.0003[a]	0.0015
96-12-8	1,2-Dibromo-3-chloropropane	0.0002[c]	0.0002[c]
106-93-4	1,2-Dibromoethane (Ethylene dibromide)	0.00005[a,c]	0.0005[c]
84-74-2	Di-*n*-butyl phthalate	0.7	3.5
95-50-1	1,2-Dichlorobenzene (*o* - Dichlorobenzene)	0.6[c]	1.5[c]
106-46-7	1,4-Dichlorobenzene (*p* - Dichlorobenzene)	0.075[c]	0.375[c]
91-94-1	3,3'-Dichlorobenzidine	0.02[a]	0.1
75-34-3	1,1-Dichloroethane	0.7	3.5
107-06-2	1,2-Dichloroethane (Ethylene dichloride)	0.005[c]	0.025[c]
75-35-4	1,1-Dichloroethylene[b]	0.007[c]	0.035[c]
156-59-2	*cis*-1,2-Dichloroethylene	0.07[c]	0.2[c]
156-60-5	*trans*-1,2-Dichloroethylene	0.1[c]	0.5[c]
78-97-5	1,2-Dichloropropane	0.005[c]	0.025[c]
542-75-6	1,3-Dichloropropene (1,3-Dichloropropylene, *cis* + *trans*)	0.001[a]	0.005

		Groundwater Cleanup Objective	
CAS No.	Chemical Name	Class I (mg/L)	Class II (mg/L)
1918-02-1	Picloram	0.5[c]	5.0[c]
1336-36-3	Polychlorinated biphenyls (PCBs)[n]	0.0005[c]	0.0025[c]
129-00-0	Pyrene	0.21	1.05
122-34-9	Simazine	0.004[c]	0.04[c]
100-42-5	Styrene	0.1[c]	0.5[c]
93-72-1	2,4,5-TP (Silvex)	0.05[c]	0.25[c]
127-18-4	Tetrachloroethylene (Perchloroethylene)	0.005[c]	0.025[c]
108-88-3	Toluene	1.0[c]	2.5[c]
8001-35-2	Toxaphene	0.00[c]	0.015[c]
120-82-1	1,2,4-Trichlorobenzene	0.07[c]	0.7[c]
71-55-6	1,1,1-Trichloroethane[2]	0.2[c]	1.0[c]
79-00-5	1,1,2-Trichloroethane	0.005[c]	0.05[c]
79-01-6	Trichloroethylene	0.005[c]	0.025[c]
108-05-4	Vinyl acetate	7.0	7.0
75-01-4	Vinyl chloride	0.002[c]	0.01[c]
1330-20-7	Xylenes (total)	10.0[c]	10.0[c]
	Ionizable Organics		
65-85-0	Benzoic Acid	28	28
106-47-8	4-Chloroaniline (*p*-Chloroaniline)	0.028	0.028
95-57-8	2-Chlorophenol	0.035	0.035
120-83-2	2,4-Dichlorophenol	0.021	0.021
105-67-9	2,4-Dimethylphenol	0.14	0.14
51-28-5	2,4-Dinitrophenol	0.014	0.014
95-48-7	2-Methylphenol (*o* - Cresol)	0.35	0.35
86-30-6	*N*-Nitrosodiphenylamine	0.01[a]	0.01

		Groundwater Cleanup Objective	
CAS No.	Chemical Name	Class I (mg/L)	Class II (mg/L)
7440-28-0	Thallium	0.002[c]	0.02[c]
7440-62-2	Vanadium[2]	0.049	—
7440-66-6	Zinc	5.0[c]	10[c]

Chemical Name and Groundwater Cleanup Objective Notations

[a] The groundwater Health Advisory concentration is equal to ADL for carcinogens.

[b] Oral Reference Dose and/or Reference Concentration under review by USEPA. Listed values subject to change.

[c] Value listed is also the Groundwater Quality Standard for this chemical pursuant to 35 Ill. Adm. Code 620.410 for Class I Groundwater or 35 Ill. Adm. Code 620.420 for Class II Groundwater.

Appendix F
Subtitle G

Illinois
Environmental
Protection Agency

2200 Churchill Road
Springfield, IL 62794-9276

March 1995

TITLE 35:
ENVIRONMENTAL PROTECTION

SUBTITLE G:
WASTE DISPOSAL

Chapter I:
POLLUTION CONTROL BOARD

State of Illinois

Rules and Regulations

This printing of Title 35: Environmental Protection,
Subtitle G: Waste Disposal, Chapter I: Pollution Control Board
includes amendments through December 20, 1994.

Volume I: Parts 700 through 723

environmental hazard posed by the waste or waste constituent.

K) Such other factors as may be appropriate.

(Board Note: Wastes listed in accordance with these criteria are designated toxic wastes.)

b) USEPA may list classes or types of solid waste as hazardous waste if USEPA has reason to believe that individual wastes, within the class or type of waste, typically or frequently are hazardous under the definition of hazardous waste found in Section 1004(5) of the Resource Conservation and Recovery Act (42 USC 6901 et seq.)

c) USEPA will use the criteria for listing specified in this Section to establish the exclusion limits referred to in Section 721.105(c).

(Source: Amended at 6 Ill. Reg. 4828, effective as noted in Section 700.106; amended in R90-17 at 15 Ill. Reg. 7950, effective May 9, 1991; amended in R92-10 at 17 Ill. Reg. 5650, effective March 26, 1993)

SUBPART C: CHARACTERISTICS OF HAZARDOUS WASTE

Section 721.120 General

a) A solid waste, as defined in Section 721.102, which is not excluded from regulation as a hazardous waste under Section 721.104(b), is a hazardous waste if it exhibits any of the characteristics identified in this Subpart.

BOARD NOTE: 35 Ill. Adm. Code 722.111 sets forth the generator's responsibility to determine whether the generator's waste exhibits one or more of the characteristics identified in this Subpart.

b) A hazardous waste which is identified by a characteristic in this Subpart is assigned every USEPA Hazardous Waste Number which is applicable as set forth in this Subpart. This number must be used in complying with the notification requirements of Section 3010 of the Resource Conservation and Recovery Act and all applicable recordkeeping and reporting requirements under 35 Ill. Adm. Code 702, 703, 722 through 726 and 728.

c) For purposes of this Subpart, a sample obtained using any of the applicable sampling methods specified in Appendix A is a representative sample within the meaning of 35 Ill. Adm. Code 720.

BOARD NOTE: Since the Appendix A sampling methods are not being formally adopted, a person who desires to employ an alternative sampling method is not required to demonstrate the equivalency of the person's method under the procedures set forth in 35 Ill. Adm. Code 720.121.

(Source: Amended at 9 Ill. Reg. 11834, effective July 24, 1985; amended in R87-5 at 11 Ill. Reg. 19303, effective November 12, 1987; amended in R90-11 at 15 Ill. Reg. 9332, effective June 17, 1991; amended in R91-13 at 16 Ill. Reg. 9519, effective June 9, 1992)

Section 721.121 Characteristic of Ignitability

a) A solid waste exhibits the characteristic of ignitability if a representative sample of the waste has any of the following properties:

1) It is a liquid, other than an aqueous solution containing less than 24 percent alcohol by volume, and has a flash point less than 60°C (140°F), as determined by Pensky-Martens Closed Cup Tester, using the test method specified in ASTM D-93, incorporated by reference in 35 Ill. Adm. Code 720.111, or a Setaflash Closed Cup Tester, using the test method specified in ASTM Standard D-3228, incorporated by reference in 35 Ill. Adm. Code 720.111, or as determined by an equivalent test method approved by the Board (35 Ill. Adm. Code 720.120).

2) It is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard.

3) It is an ignitable compressed gas as defined in 49 CFR 173.300, incorporated by reference in 35 Ill. Adm. Code 720.111, and as determined by the test methods described in that regulation or equivalent test methods approved by the Board (35 Ill. Adm. Code 720.120).

4) It is an oxidizer as defined in 49 CFR 173.151, incorporated by reference in 35 Ill. Adm. Code 720.111.

b) A solid waste that exhibits the characteristic of ignitability has the EPA Hazardous Waste Number of D001.

(Source: Amended at 6 Ill. Reg. 4828, effective as noted in Section 700.106; amended in R90-11 at 15 Ill. Reg. 9332, effective June 17, 1991)

Section 721.122 Characteristic of Corrosivity

a) A solid waste exhibits the characteristic of corrosivity if a representative sample of the waste has either of the following properties:

1) It is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, as determined by a pH meter using Methods 9040 in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods", incorporated by reference in 35 Ill. Adm. Code 720.111.

2) It is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 mm (0.250 inch) per year at a test temperature of 55°C (130°F) as determined by the test method specified in NACE (National Association of Corrosion Engineers) Standard TM-01-69 as standardized in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods", incorporated by reference in 35 Ill. Adm. Code 720.111.

BOARD NOTE: The corrosivity characteristic determination currently does not apply to non-liquid wastes, as discussed by U.S. EPA at 45 Fed. Reg. 33109, May 19, 1980 and at 55 Fed. Reg. 22549, June 1, 1990.

b) A solid waste that exhibits the characteristic of corrosivity has the U.S. EPA Hazardous Waste Number of D002.

(Source: Amended at 6 Ill. Reg. 4828, effective as noted in Section 700.106; amended in R90-11 at 15 Ill. Reg. 9332, effective June 17, 1991; amended in R92-1 at 16 Ill. Reg. 17666, effective November 6, 1992; amended in R94-7 at 18 Ill. Reg. 12175, effective July 29, 1994)

Section 721.123 Characteristic of Reactivity

a) A solid waste exhibits the characteristic of reactivity if a representative sample of the waste has any of the following properties:

1) It is normally unstable and readily undergoes violent change without detonating.

2) It reacts violently with water.

3) It forms potentially explosive mixtures with water.

4) When mixed with water, it generates toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.

5) It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5 can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.

6) It is capable of detonation of explosive reaction if it is subjected to a strong initiating source or if heated under confinement.

7) It is readily capable of detonation of explosive decomposition or reaction at standard temperature and pressure.

8) It is a forbidden explosive as defined in 49 CFR 173.51, or a Class A explosive as defined in 49 CFR 173.53 or a Class B explosive as defined in 49 CFR 173.88, incorporated by reference in 35 Ill. Adm. Code 720.111.

b) A solid waste that exhibits the characteristic of reactivity has the EPA Hazardous Waste Number of D003.

(Source: Amended at 6 Ill. Reg. 4828, effective as noted in Section 700.106; amended in R90-11 at 15 Ill. Reg. 9332, effective June 17, 1991)

Section 721.124 Toxicity Characteristic

a) A solid waste exhibits the characteristic of toxicity if, using the Toxicity Characteristics Leaching Procedure (TCLP), test Method 1311 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", U.S. EPA Publication SW-846, as incorporated by reference in 35 Ill. Adm. Code 720.111, the extract from a representative sample of the waste contains any of the contaminants listed in the table in subsection (b) below at a concentration equal to or greater than the respective value given in that Table. Where the waste contains less than 0.5 percent filterable solids, the waste itself, after filtering using the methodology outlined in Method 1311, is considered to be the extract for the purpose of this Section.

BOARD NOTE: The reference to the "EP toxicity test" in 35 Ill. Adm. Code 808.410(b)(4) is to be understood as referencing the test required by this Section.

b) A solid waste that exhibits the characteristic of toxicity has the U.S. EPA Hazardous Waste Number specified in the following table that corresponds to the toxic contaminant causing it to be hazardous.

MAXIMUM CONCENTRATIONS OF CONTAMINANTS FOR THE TOXICITY CHARACTERISTIC

U.S. EPA Hazardous Waste Number	Contaminant	CAS No.		Regulatory Level Note (mg/l)
D004	Arsenic	7440-38-2		5.0
D005	Barium	7440-39-3		100.0
D018	Benzene	71-43-2		0.5
D006	Cadmium	7440-43-9		1.0
D019	Carbon tetrachloride	56-23-5		0.5
D020	Chlordane	57-74-9		0.03
D021	Chlorobenzene	108-90-7		100.0
D022	Chloroform	67-66-3		6.0
D007	Chromium	7440-47-3		5.0
D023	o-Cresol	95-48-7	4	200.0
D024	m-Cresol	108-39-4	4	200.0
D025	p-Cresol	106-44-5	4	200.0
D026	Cresol		4	200.0
D016	2,4-D	94-75-7		10.0
D027	1,4-Dichloro-benzene	106-46-7		7.5
D028	1,2-Dichloroethane	107-06-2		0.5
D029	1,1-Dichloro-ethylene	75-35-4		0.7
D030	2,4-Dinitrotoluene	121-14-2	3	0.13
D012	Endrin	72-20-8		0.02
D031	Heptachlor (and its epoxide)	76-44-8		0.008
D032	Hexachloro-benzene	118-74-1	3	0.13
D033	Hexachloro-butadiene	87-68-3		0.5
D034	Hexachloroethane	67-72-1		3.0
D008	Lead	7439-92-1		5.0
D013	Lindane	58-89-9		0.4
D009	Mercury	7439-97-6		0.2
D014	Methoxychlor	72-43-5		10.0
D035	Methyl ethyl ketone	78-93-3		200.0
D036	Nitrobenzene	98-95-3		2.0
D037	Pentachlorophenol	87-86-5		100.0
D038	Pyridine	110-86-1	3	5.0
D010	Selenium	7782-49-2		1.0
D011	Silver	7440-22-4		5.0
D039	Tetrachloroethylene	127-18-4		0.7
D015	Toxaphene	8001-35-2		0.5
D040	Trichloroethylene	79-01-6		0.5
D041	2,4,5-Trich-lorophenol	95-95-4		400.0
D042	2,4,6-Trich lorophenol	88-06-2		2.0
D017	2,4,5-TP (Silvex)	93-72-1		1.0
D043	Vinyl chloride	75-01-4		0.2

Notes to Table:

3 Quantitation limit is greater than the calculated regulatory level. The quantitation limit therefore becomes the regulatory level.

4 If o-, m-, p-cresol concentrations cannot be differentiated, the total cresol (D026) concentration is used. The regulatory level of total cresol is 200.0 mg/l.

(Source: Amended at 6 Ill. Reg. 4828, effective as noted in Section 700.106; amended in R90-10 at 14 Ill. Reg. 16472, effective September 25, 1990; amended in R90-11 at 15 Ill. Reg. 9332, effective June 17, 1991; amended in R94-7 at 18 Ill. Reg. 12175, effective July 29, 1994)

Appendix G
Metal Detector Survey

Appendix G

Metal Detector Survey

EM61 Electromagnetic Metal Detector

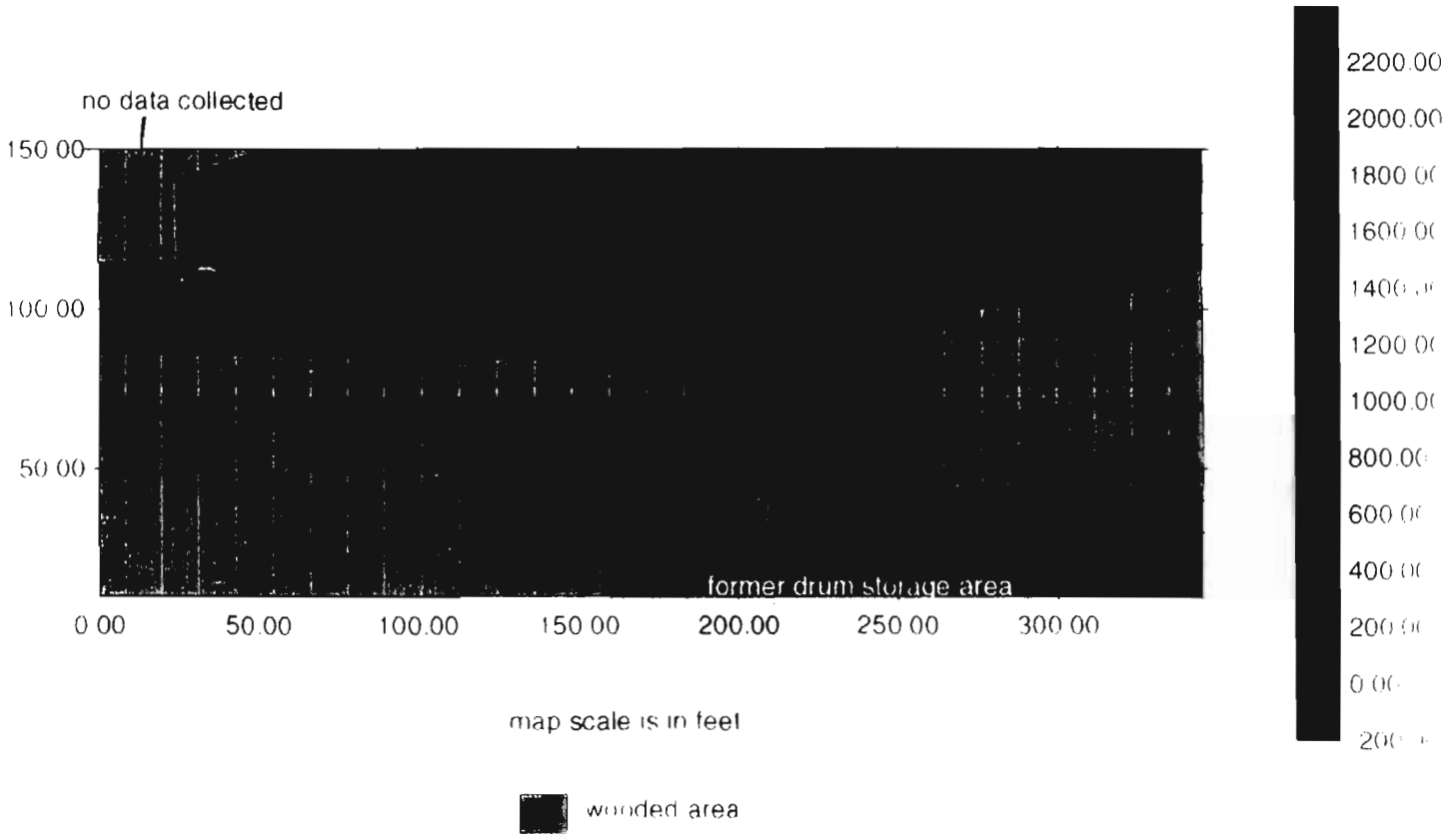
FORMER ALCOA PROPERTY

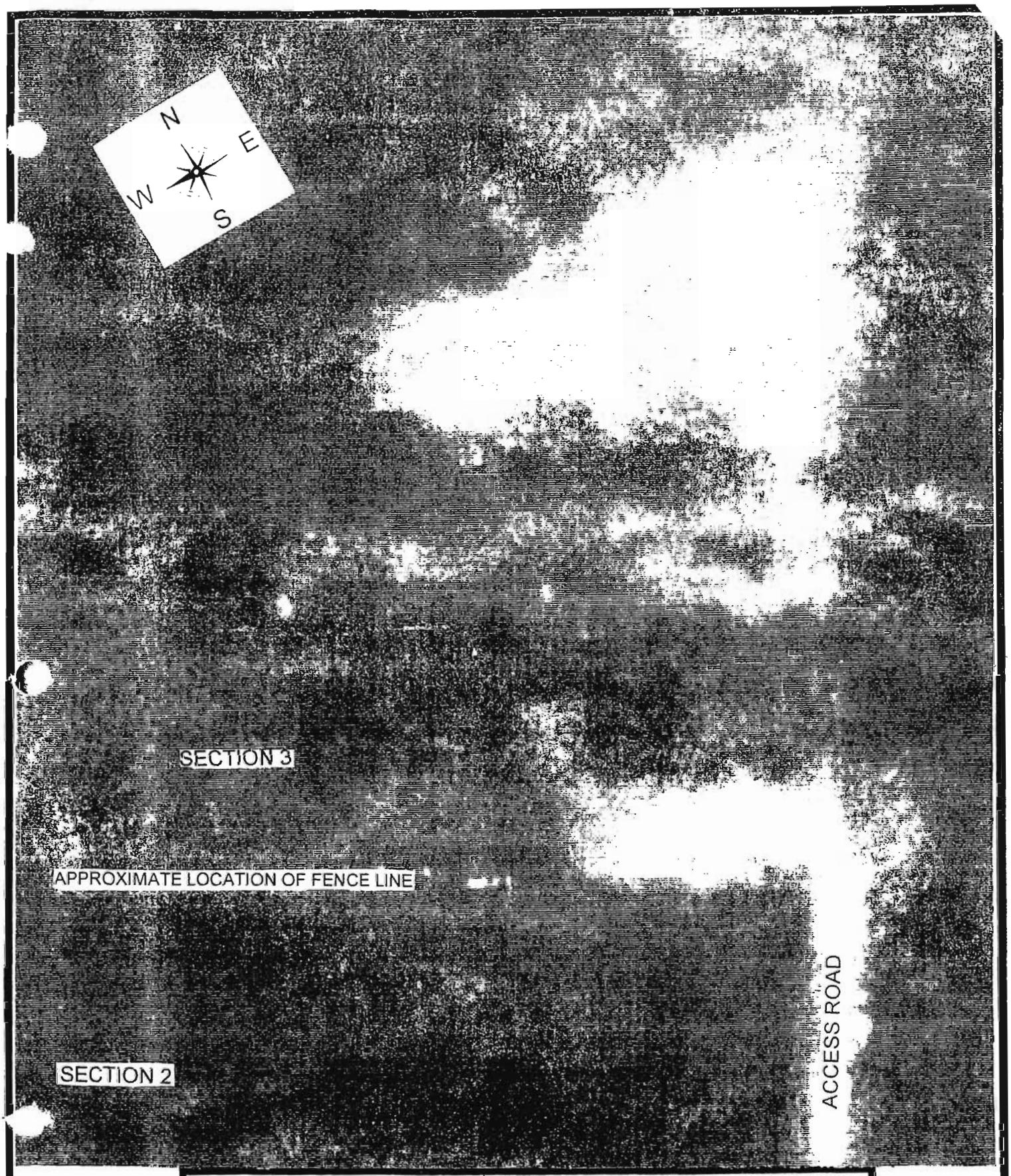
In the past, various areas in the southern portion of Section 3 (south of the railroad) were used for drum storage, disposal, and burial. During the redevelopment assessment activities, a geophysical survey was conducted by U.S. EPA in Section 3 in an attempt to locate any remaining buried drums. The survey was made with a Geonics High-Sensitivity Metal Detector, (commonly known as an EM61) which detects both ferrous and non-ferrous metallic objects.

The EM61 generates electromagnetic pulses 150 times per second, and measures the response during the off-time between pulses. After each pulse, secondary electromagnetic fields are induced briefly in moderately conductive earth, and for a longer time in the metallic targets. Between each pulse, the EM61 waits until the response from the conducive earth dissipates, and then measures the prolonged buried metal response. In this way the EM61 only measures the response from buried metal, which is measured in millivolts (mV).

The majority of the southern part of Section 3 consists of dense vegetation with or without uneven terrain, or large areas of red mud material. Because these areas are not accessible to the EM61, the survey was restricted to the southern corner of Section 3. The metal detector survey results are shown on the colored overlay. The reddish areas represent areas where the EM61 measured higher mV indicating of the presence of some type of metallic anomalies. The survey shows the presence of anomalies in various locations. The exact cause of the anomalies is not known, but these areas should be taken into consideration if any ground work is to be done at the site.

Metal detector survey map of a portion of the Alcoa site Metallic anomalies will appear as red or purple shaded areas





ILLINOIS ENVIRONMENTAL PROTECTION AGENCY	SITE: FORMER ALCOA PROPERTY SITE ILB 000 000 001
METAL DETECTOR SURVEY RESULTS	
SCALE: 1 inch = approximately 59 feet	