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ENVIRONMENTAL INVESTIGATION
ELLISON BRONZE COMPANY
FALCONER, NEW YORK

Phase I & II

Aug, 1991

Prepared For:

Dowcraft Corporation
65 South Dow Street
Falconer, New York 14733

Attention: Mr. Harry B. Nicholson

Prepared By:

Empire Soils Investigations, Inc.
S-5167 South Park Avenue
Hamburg, New York 14075

BTA-90-179D
August, 1991

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ENVIRONMENTAL INVESTIGATION
ELLISON BRONZE COMPANY
FALCONER, NEW YORK

SECTION I
INTRODUCTION

A. General

Empire Soils Investigations, Inc. (ESI) was authorized by Mr. Harry B. Nicholson Jr., President and Chief Executive Officer of the Dowcraft Corporation, to conduct Phase I and Phase II Environmental Site Assessments on the Ellison Bronze Company plant and offices which are located at 125 West Main Street, Falconer, New York. A site vicinity map is shown as Drawing No. 1 in Appendix A. The work summarized in this document incorporates the findings from both the Phase I and Phase II Environmental Site Assessments, and subsequent verification sampling.

B. Purpose And Scope

ESI was engaged by the Dowcraft Corporation to complete an environmental investigation on the Ellison Bronze Company plant and surrounding property located at 125 West Main Street, Falconer, New York. A Phase I Environmental Site Assessment was conducted to evaluate the potential for environmental contamination to be present on the subject property. Based on the Phase I conclusions, a Phase II Environmental Site Assessment was recommended to determine if environmental contamination was present on the subject property. The analytical results of samples acquired during the Phase II Investigation indicated contamination of the surface and subsurface soil on a portion of the subject property. As part of the Phase II Environmental Site Assessment, ESI conducted soil testing to further characterize the nature and extent of contaminated soil. A remediation work plan is being prepared by ESI to remove the contaminated soil. The following scope of services has been completed by ESI:

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Phase I Scope of Services

- Conducted site walkovers of the property on September 12 and 20, and October 2, 1990 to evaluate the condition and uses of the site.
- Observed uses of the adjoining properties.
- Examined historical aerial photographs of the site.
- Reviewed site history including available information regarding past ownership.
- Examined past and present methods of plant water disposal to determine the potential for environmental liability.
- Contacted selected public officials and federal, state and local regulatory agencies regarding potential environmental concerns at the site.

Phase II Scope of Services

- Developed a subsurface and surface exploration program to identify contamination on the subject property.
- Monitored the excavation of seven (7) test pits.
- Prepared test pit logs corresponding to each of the seven (7) test pits excavated.
- Collected six (6) subsurface soil samples from the test pits and two (2) surface soil samples from below a wooden storage shed.
- Engaged the services of a New York State Department of Health (NYSDOH) certified analytical testing laboratory to analyze the soil samples collected.

- o Evaluated the data collected.
- o Researched potential remediation alternatives, and;
- o Summarized the information in this report.

The opinion rendered in this report are based solely on the above scope of services. Limitations to this report are presented in Appendix B.

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SECTION II
SITE DESCRIPTION/HISTORICAL REVIEW

A. Physical Layout

The subject property is located at 125 West Main Street, Falconer, New York. Based on the Chautauqua County tax maps, the site covers approximately 2.6 acres. The section, block and lot numbers which identify the three parcels which constitute the subject property are 105-17-1, 105-17-2 and 105-18-19.3. A Site Plan for with the property is shown as Drawing No. 2 in Appendix A. The subject property is bound to the north by West Main Street and to the south by the Chadakoin River. Moon Brook is directly east of the site and Davidson's Restaurant is located immediately to the west.

Approximately two thirds of the property has been developed into a commercial door manufacturing plant and parking areas. The topography along the south and east property line drops off to the Chadakoin River and Moon Brook Creek. Based on the location and direction of flow of the Chadakoin River and Moon Brook Creek, the ground water flow is likely in a southeast direction.

B. Site History

Information on site history was obtained from the Chautuauqua County Department of Planning and Development, Chautauqua County Clerks Office, Town of Ellicott Historian, aerial photographs, and inspection of available historical maps. The discussion below is based solely on information obtained from these sources.

The Town of Ellicott Historian, City of Jamestown Assessor, and the Chautauqua County Department of Planning and Development informed ESI that the subject property has been developed since the 1880's. According to Chris Lyon, the Town of Ellicott Historian, the property was vacant prior to 1881 when residential construction was first reported. During the 1880's, a blacksmith shop was in business directly adjacent to Moon Brook. Between 1890 and 1912, a towel factory was operational before the Ellison Bronze Company took over the factory in 1912. The Ellison Bronze Company was initially a foundry but in 1932 the company changed it's focus to commercial door

manufacturing which it continues today. A review of aerial photographs from the Chautauqua County Department of Planning and Development generally substantiates the above information.

A summary of property ownership since 1921 is shown in Table II-1. The Ellison Bronze Company became a subsidiary of the Dowcraft Corporation in 1969. In 1986, Ellison Bronze secured a loan from the Chautauqua County Industrial Development Agency (CCIDA). As a result of the property lien the Chautuaqua County Industrial Development Agency retains, the assessors office lists the CCIDA as the current owner of the property.

TABLE II-1
PROPERTY TRANSFER OF THE
ELLISON BRONZE
COMPANY SINCE 1921

Listed Seller	Listed Owner	Date
Unknown	Ellison Bronze Company	1/10/21
Ellison Bronze Company	Dowcraft Corporation	12/31/69
Dowcraft Corporation	Robert and Jane Kope	5/2/73
Robert and Jane Kope	Ellison Bronze Company	3/5/85
Ellison Bronze Company	Chautauqua County Industrial Development Agency	6/30/86

The main environmental concerns identified from the historical research include the potential of foundry wastes on the property and the presence of a chemical storage shed outside the plant.

According to the publication entitled "Ground Water Resources of the Jamestown Area, New York with Emphasis on the Hydrogeology of the Major Stream Valleys," the site is over a portion of the "Jamestown Aquifer". The nearest public well shown on the 1966 map is approximately 5,600-feet down gradient.

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SECTION III
SITE RECONNAISSANCE

A. General

A site walkover was conducted on September 12, 1990 by an ESI environmental engineer and senior environmental engineer. A second and third site visit occurred on September 20 and October 2, 1990 by an ESI Environmental Engineer to obtain additional information about the site.

Representative photographs of the subject site taken during the site reconnaissance are presented in Appendix C. Mr. Kim Peterson and Mr. Fran Dexter, representing Ellison Bronze Company, accompanied ESI personnel during the site visits. Mr. Peterson and Mr. Dexter provided information on the physical operation and manufacturing processes which occur at the plant.

The building consists of a number of additions constructed at different times since the original plant was built. All of the plant additions are interconnected and have poured concrete floors. The original building consists of brick walls and wooden supports. The later additions consist of a cinder block and steel frame construction. Roofing materials were not inspected as part of this environmental investigation. The first and second floor plans can be found on Drawings Nos. 3 and 4 respectively in Appendix A.

B. Plant Exterior

The subject property contains the Ellison Bronze Company plant and offices with two asphaltic concrete parking lots and an access road leading to the rear of the building. A grass covered section measuring approximately 90 by 180-feet lies on the southwest portion of the subject property between the access road (West Everett Street) and the Chadakoin River. The Chadakoin River and Moon Brook form the south and east property lines respectively. The topography drops off to the creek and river surfaces.

Wastes similar in appearance to the foundry sand waste noted to be present in an on-site Chemical Waste Management dumpster were also observed along the creek banks directly east of the rear parking lot (refer to photograph No. 1 in Appendix C).

The physical appearance of the foundry sand waste observed along the banks of Moon Brook and in the Chemical Waste Management dumpster was brown compacted sand pieces approximately one quarter to one half inch thick. Each of the pieces were apparently of uniform thickness and generally ranged between one and ten square inches in size. The foundry sand waste is rather compact, however, the pieces could be broken by hand.

Based on discussions with long time plant employees, the foundry sand waste is not present under the paved parking area. Reportedly, any foundry sand waste in this area was removed during the construction of the parking lot.

Two discharge pipes were observed extending from the plant into Moon Brook on the east side of the building. Waste storage areas were also observed on the exterior of the plant and will be discussed in a later section.

C. Asbestos

The interior of the plant was inspected to determine the potential presence of suspect asbestos materials. Suspected asbestos containing thermal insulation was observed in several areas of the plant as indicated in Table III-2 (refer to photographs Nos. 2 and 3). The named rooms are identified on Drawings Nos. 3 and 4 in Appendix A.

In total, there was approximately 450 linear feet of suspected asbestos containing thermal insulation present in various rooms of the plant. It is ESI understanding that since the initial plant inspection the suspect asbestos insulation has been removed, however, ESI has not reinspected the property to verify this information.

TABLE III-2
LOCATION AND QUANTITY OF SUSPECTED
ASBESTOS THERMAL INSULATION AT THE
ELLISON BRONZE PLANT

Room	Approximate Quantity (Linear Feet)
Foundry Room	27
Metal Storage Room	12
Machine Shop	48
Press Room	183
Glazing Room	90
Boiler Room	96

D. Lead Based Paint

It should be noted that the painted surfaces within the building may contain a lead based paint. Sampling and testing of the painted surfaces within the plant for lead was outside the scope of this assessment.

E. Chemicals Used Within the Plant

Chemicals used for raw materials, painting activities or maintenance are stored in different locations throughout the plant. Phenolic resin (Hooker Durez Resin #13848 ABD-488) used for casting metal parts is stored in drums in the foundry area. Hydraulic fluid is used as a raw material in the production of doors and is stored in the machine shop. Buffing polish used in the door finishing phase is stored adjacent to polishing machines in 5-gallon pails. The paint room contains 55-gallon drums of paint thinner, clear lacquer, and white encolope. Three cabinets labeled "flammable" were also noted to be present in the paint room. The paint booth used for applying paint currently uses an air exhaust system to vent fumes. No improper releases of the chemicals used within the building were observed.

A wooden shed was located on the south side of the property and contained

naphtha, lacquer thinner, and acetone (refer to photograph No. 4). Staining was observed on the wooden floor of this shed. The staining appears to have been due to drips from the dispenser valves on the drums. The wooden floor is believed to have absorbed most of the drips. Soil sampling immediately below the wooden floor was completed and surface soil contamination was found. The area of surface contamination is believed to be a small area due to visual observations made in the field. It is believed that given the small area of likely contamination, the evaporation rate of the contaminate, the depth to ground water and dry conditions beneath the shed that the ground water is not likely to be contaminated from this source.

A maintenance storage shed attached to the Ellison Bronze plant contained one 55-gallon drum of Solv Kleen. Additional chemicals in minor quantities (pails and cans) were observed throughout the subject property, however, itemizing all chemicals present was beyond the scope of this project.

F. Waste and Recyclable Material Storage Areas

Several waste storage areas were located during the site walkovers. Waste materials are generated during the door manufacturing processes including foundry sands, painting, finishing, and machine shop activity wastes. Slag produced from the foundry operations is stored in 55-gallon drums and resold.

The sanding and polishing processes create a fine metal dust which is undesirable for health reasons. A cyclone particle collector system has been installed in the finishing room to collect the metal dust (refer to photographs Nos. 5 and 6 in Appendix C). Lime is used for fire control in the particle collection system. The lime and metal particles are collected by the cyclone particle collector and deposited into 55-gallon drums. Storage of the particle waste was noted to be in the wooden garage on the west end of the site. Twenty 55-gallon drums of the particle waste and eight 55-gallon drums of sand blasting sand waste were counted during the site walkover (refer to photograph No. 7).

Kim Peterson of Ellison Bronze cited the inability to dispose of the particle waste at the local landfill as the reason for the large quantity of waste present. The use of lime

as a fire retardant was recently initiated and was reported to be the reason Ellison Bronze could no longer recycle the metal particles. Mr. Peterson indicated to Empire Soils Investigations through a telephone conversation on July 29, 1991, that the particle waste material had been tested and had been disposed of in the county landfill. Additional generation of the particle waste material will be disposed of in a similar fashion. Eight 55-gallon drums of sand blasting sand waste remains in the garage and has not been tested.

Foundry wastes currently generated are in the solid form and are placed in a dumpster owned by Chemical Waste Management located at the southeast corner of the rear parking lot (refer to Photograph No. 8). According to Ellison Bronze personnel the foundry waste is sampled and analyzed for metals toxicity prior to off site disposal. Laboratory results indicate the foundry waste is below the maximum concentration for EP Toxicity criteria for metals.

An inspection of the Ellison Bronze plant was performed by Mr. Raymond Henning of the New York State Department of Environmental Conservation (NYSDEC) to determine compliance with hazardous waste regulations. The results of the inspection reported that the Ellison Bronze Company is an exempt generator of hazardous waste. An exempt generator of hazardous waste generates less than 100 kilograms of hazardous waste over a given month and stores less than 100 kilograms at any time.

During the ESI site walkover, mineral spirits was observed to be used as a parts cleaner and the spent mineral spirits were stored in a 55-gallon drum in the machine room. Employees of the plant reported that the drum is filled less than twice a year.

G. Drainage Network

The Ellison Bronze Company door manufacturing operation produces boiler blowdown and non-contact cooling water as plant process water. Non-contact cooling water was determined to be discharged to the sanitary sewer system. The periodic boiler blowdown water is reportedly discharged to the sanitary sewer system.

Storm water runoff is drained to five outfalls which discharge to Moon Brook

and/or the Chadakoin River. Seventeen floor drains located throughout the plant also drain to the brook or river outfalls. The 1986 addition includes nineteen floor drains which discharge to the sanitary sewer system. A summary of the Ellison Bronze plant drainage system is presented as Drawing No. 5 in Appendix A. The plant is not permitted with a State Pollution Discharge Elimination System (SPDES) permit as no process or non-process water is discharged to the natural water bodies. Some of the floor drains, which are typically dry, do connect to the storm water drainage system.

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SECTION IV
REGULATORY AGENCY INFORMATION

Information requests were submitted to the New York State Department of Environmental Conservation (NYSDEC) Region 9 Office, the United States Environmental Protection Agency (USEPA) Region II Office, the Chautauqua County Department of Health, and the Department of Labor to determine if past activities on the subject property or adjacent parcels have caused any environmental concerns. There were no significant environmental concerns reported to ESI by any of the above mentioned agencies. Copies of the responses from the regulatory authorities is presented in Appendix D.

A review of NYSDEC files pertaining to inactive hazardous waste sites was conducted to evaluate whether the subject property or adjacent parcels may be of known environmental concern. The NYSDEC has not listed any active or inactive hazardous waste sites located within a one-half mile radius of the subject site. A review of the USEPA National Priorities List of Hazardous Waste Sites (NPL) indicated that there were no sites listed within a one-half mile radius of the subject site as of July, 1987.

Based on ESI review of NYSDEC provided files, ESI determined there were no records of waste disposal activity, oil or chemical spills, or underground tanks associated with the site.

One Class II NYSDEC wetland (GE-3) and one USEPA wetland (designated as R20WH-riverine lower perennial open water permanent) are located within one-half mile of the subject property. Approximately ten percent of the subject property exists on Zone A floodplain and ninety percent on a Zone C floodplain. A Zone A floodplain is an area within the 100 year flood and a Zone C designation is a region of minimal flooding. Wetland and floodplain information was obtained from the Chautauqua County Department of Planning and Development Community Panel Number 3601380002B which went into effect on January 5, 1978.

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SECTION V
SURFACE EXPLORATION OF STORAGE SHED AREA

A. General

ESI collected two (2) surface soil samples from soils immediately below the wooden storage shed as part of the Phase II Environmental Site Assessment. Surface soil sampling and analysis was recommended below the wooden storage shed due to the observation of staining on the wood floor and the presence of a small drip from one of the drum dispensers. The initial surface soil sample was obtained on November 14, 1990. A second surface soil sample was collected on December 12, 1990 to better define the characteristics of the soil with respect to off-site disposal as a hazardous waste (i.e. TCLP, corrositivity, ignitability). The approximate location of the surface soil sampling point is shown on the Site Plan enclosed as Drawing No. 2 in Appendix A. The location of the surface soil samples was determined based on the presence of chemical staining on the wooden floor of the chemical storage shed.

B. Soil Sample Procedures

The surface soil samples were obtained by an ESI environmental engineer using a one (1)-inch diameter hand auger precleaned for excavation of soil. The surface soil samples were excavated to a depth of six inches below the ground surface and placed into precleaned environmental sample jars.

The initial surface soil sample was analyzed for the USEPA Target Compound List (TCL) volatiles. The second surface soil sample was analyzed for pH, total cyanide, reactivity, ignitability, TCLP metals, TCLP semi-volatiles and TCLP volatiles. The selection of the chemical testing corresponding to the first surface soil sample was based on visible leakage and ESI's information on the type of chemicals stored within the chemical storage shed. The purpose for requesting the analytical testing

completed on the second surface soil sample was to determine the acceptability of the soil beneath the chemical storage shed to offsite disposal facilities. Chain-of-custody forms were completed with the required sample location and analysis. Samples were then packaged, cooled, and sent to the laboratory for analysis. All sampling tools were decontaminated between sampling locations.

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SECTION VI
SUBSURFACE EXPLORATION OF FOUNDRY SAND AREA

A. General

ESI monitored the excavation of seven test pits (TP-1 through TP-7) along Moon Brook on the eastern edge of the subject property based on the visual observation of foundry sand material on the ground surface in this area. The test pit excavations were monitored by an ESI environmental engineer on October 25, 1990. The approximate location of the seven test pits are shown on the Site Plan enclosed as Drawing No. 2 in Appendix A.

The test pit excavation was conducted to determine subsurface conditions for environmental considerations. The location of the test pits was chosen to generalize subsurface conditions along Moon Brook where foundry sand waste was observed on the surface.

B. Test Pit Procedures

Seven (7) test pits were excavated using a Model 510 John Deere backhoe subcontracted from Barnes Construction Company. Test pit excavation was terminated when native soils were apparent or ground water was observed filling the excavation. Test pit logs associated with each test pit were prepared by an ESI environmental engineer and are presented in Appendix E.

Samples were collected from the excavated soil with a decontaminated stainless steel trowel. Samples of the apparent foundry sand waste were obtained from five (5)of the seven (7) test pits for chemical testing on October 25, 1990. Representative soil samples were taken from the same five (5) test pits consisting of several subsamples collected from random locations on the excavated soil pile for chemical analysis.

One (1) additional test pit sample was collected from test pit TP-3 on December 12, 1990. The soil sample was a grab sample of apparent foundry sand waste located at a depth of approximately two feet below the ground surface. The purpose for obtaining the additional test pit sample was to test the foundry sand waste for the list of

compounds required before disposal facilities could evaluate the acceptability of this material.

Decontamination procedures were used between the test pit sampling to reduce the potential for cross contamination. Each sample was placed into 950 milliliter amber glass bottles with teflon lids and cooled to 4°C before laboratory analysis. Chain of custody forms were completed with the required sample location and analysis. Test pit excavation monitoring and sample procurement was performed by an ESI environmental engineer.

C. Subsurface Conditions

ESI evaluated the subsurface conditions at the subject property based on the seven test pits excavated. Coarse sand and gravel fill was noted in all seven test pits from the ground surface to approximately one foot in depth. Fill material characteristic of the foundry operations was also observed in each of the seven test pits. The thickness of the foundry waste varied between each of the test pits excavated. The general trend observed was that the thickness of the foundry waste was greatest in the test pits closest to the foundry room. The suspect contamination layer apparently became thinner as the distance from the foundry room increased. Test pits TP-6 and TP-7 contained a thin layer or only traces of suspected foundry sand waste. The native soils underlying the fill material consist of brown silty sand with some sandstone gravel. Water was encountered between six and seven feet below the ground surface. No bedrock was encountered during the excavation of the test pits. It should be noted that the foundry sand waste observed in the subsurface soils appeared to be distinctly different from the material observed on the banks of Moon Brook and in the Chemical Waste Management dumpster. The foundry sand waste found below the ground surface was much less compact and was black, green, yellow and brown.

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SECTION VII
ANALYTICAL TEST RESULTS

A. General

ESI initially collected five (5) test pit samples (TP-1 through TP-5) and one (1) surface soil sample for chemical testing. After evaluating the analytical results of the initial soil samples collected, ESI obtained two additional samples to better define the characteristics of the soils. The analytical testing results are presented in Appendix F and are summarized in this section.

B. Surface Soil Sampling Results for Storage Shed Area

An initial surface soil sample (0 to 6-inches) was obtained from beneath the chemical storage shed located on the south side of the property. The surface soil sample was analyzed for the USEPA Target Compound List (TCL) volatiles since volatile liquids were stored within the shed. The purpose of the shed was to store and dispense flammable liquids a safe distance from the plant. Toluene was the only detectable compound found to be present in the initial surface soil sample at a concentration of 1,000 parts per million (ppm) as shown on Table VII-1. Soils with toluene contamination at the tested level is considered a hazardous waste by the regulatory agencies. A maximum concentration standard of 28 ppm has been established for land disposal of toluene contaminated soils (Source: Federal Register, June 1, 1990). Concentrations of toluene above 28 ppm in hazardous waste soils may require pretreatment prior to landfilling.

ESI recommended collecting one additional surface soil sample in the same vicinity to further define the chemical contamination detected beneath the chemical storage shed. The additional surface soil sample was analyzed for pH, reactivity, total cyanide, ignitability, TCLP metals, TCLP semi-volatiles, and TCLP volatiles. The results for pH, total cyanide, reactivity and ignitability are presented on Table VII-2. Table VII-3 presents the results from the TCLP metals analysis conducted on the additional surface soil sample.

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TABLE VII-1
SUMMARY OF TCL VOLATILE RESULTS OF
THE INITIAL SURFACE SOIL SAMPLE TAKEN
BENEATH THE CHEMICAL STORAGE SHED

Parameter	Concentration (mg/kg)
Chloromethane	< 100
Bromomethane	< 100
Vinyl Chloride	< 100
Chloroethane	< 100
Methylene Chloride	< 50
Acetone	< 100
Trichlorofluoromethane	< 100
Carbon Disulfide	< 50
1,1-Dichloroethene	< 50
1,1-Dichloroethene	< 50
1,2-dichloroethene (Total)	< 50
Chloroform	< 50
1,2-Dichloroethane	< 50
2-Butanone	< 100
1,1,1-Trichloroethane	< 50
Carbon Tetrachloride	< 50
Vinyl Acetate	< 100
Bromodrichloromethane	< 50
1,2 Dichloropropene	< 50

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TABLE VII-1
SUMMARY OF TCL VOLATILE RESULTS OF
THE INITIAL SURFACE SOIL SAMPLE TAKEN
FROM BENEATH THE CHEMICAL STORAGE SHED
Continued

	ppm
Trichloroethene	<50
Dibromochloromethane	<50
1,1,2-Trichloroethane	<50
Benzene	<50
Trans-1,3-Dichloropropene	<50
2-Chloroethylvinyl Ether	<200
Bromoform	<50
4-Methyl-2-Pentanone	<100
2-Hexanone	<100
Tetrachloroethane	<50
1,1,2,2-Tetrachloroethane	<50
Toluene	1,000
Chlorobenzene	<50
Ethyl Benzene	<50
Sytrene	<50
Xylene (Total)	<50
1,3-Dichlorobenzene	<100
1,2-Dichlorobenzene	<100
1,4-Dichlorobenzene	<100

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TABLE VII-2
ANALYTICAL RESULTS FOR ADDITIONAL SURFACE SOIL SAMPLE TAKEN FROM BENEATH THE CHEMICAL STORAGE SHED

Parameter	Units	Supplemental Surface Soil Sample	EPA Standard For Hazardous Waste Designation
pH	s.u.	7.04	$2 < pH < 12.5$
Total Cyanide	mg/kg	< 1.0	No Standard
Total Releasable Sulfide	mg/kg as H_2S	< 50	≥ 500
Total Releasable Cyanide	mg/kg as HCN	< 50	≥ 250
Ignitability	°F	> 160	< 140

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TABLE VII-3
ANALYTICAL RESULTS FOR ADDITIONAL SURFACE SOIL SAMPLE TAKEN FROM BENEATH THE STORAGE SHED

TCLP Metals	Concentrations (mg/L)	
	Supplemental Surface Soil Sample	EPA Standard For Hazardous Waste Designation
Arsenic	<0.035	5.0
Barium	1.32	100
Cadmium	0.032	1.0
Chromium	0.03	5.0
Copper	12.1	NS
Lead	0.53	5.0
Mercury	<0.0002	0.2
Selenium	<0.06	1.0
Silver	<0.01	5.0
Zinc	7.06	NS

NS - No Standard

There were no TCLP volatiles or semi-volatiles detected in the surface soil sample analyzed from beneath the former shed. There was no hazardous waste criterion which failed upon testing the additional surface soil sample. However, based on the elevated toluene concentrations reported from the initial surface soil sample analysis, the soil should be considered a hazardous waste and be disposed of properly.

C: Subsurface Soil Samples Taken From The Foundry Sand Waste Disposal Area

The initial subsurface soil samples collected from five (5) of the seven (7) excavated test pits were analyzed for total lead and phenolics. The analytical results can be found on Table VII-4. Elevated lead concentrations were found to be present in all five test pit samples. The measured levels ranged from 156 mg/kg (TP-3) to 3,740 mg/kg (TP-1) which are well above the published background levels for New York State soils. A USEPA cleanup criteria for lead in soils has been established to be 500 mg/kg (USEPA Interim Guidance on Established Soil Lead Cleanup Levels at Superfund Sites).

The phenolic concentrations measured in the subsurface soil samples ranged from 1.94 mg/kg (TP-3) to 17.3 mg/kg (TP-1). There are no known soil standards promulgated by New York State regarding phenolics. The USEPA concentration standard established for land disposal of phenol contaminated soils is 6.2 mg/kg. Soil concentrations of phenol in soil above 6.2 mg/kg would probably require pretreatment prior to landfilling.

Based on the elevated lead concentrations in the soil samples, ESI recommended a TCLP extraction test for metals be conducted on the initial test pit samples. The results of the TCLP extraction test provide a basis for determining whether the material is considered a hazardous waste based on the leachability of metals.

TABLE VII-4
ANALYTICAL RESULTS FOR
INITIAL TEST PIT SOIL SAMPLES

Sample Location	Concentration (mg/Kg)	
	Total Lead*	Phenolics**
TP-1	3,740	17.3
TP-2	2,850	3.78
TP-3	156	1.94
TP-4	919	3.99
TP-5	343	3.85

* The average NYS range for lead in soils is approximately 1-12.5 mg/kg. The average crustal concentrations of lead is 16 mg/kg.

** The standard concentration established by the USEPA for land disposal of phenol contaminated soil is 6.2 mg/kg.

The analytical results for the TCLP extraction test for metals are presented on Table VII-5. The detectable metals concentrations are compared to the USEPA hazardous waste criteria established for the leachate extract generated from the soil samples. The lead concentrations in the leachate was found to range from 3.72 mg/l (TP-5) to 99.1 mg/l (TP-1). Soil samples from test pits TP-1, TP-2 and TP-4 were found to be above the lead criteria of five 5 mg/l and are therefore would be considered a hazardous waste.

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TABLE VII-5
TCLP METALS ANALYTICAL RESULTS
FOR INITIAL TEST PIT SOIL SAMPLES

Parameter	Sample Location And Concentration (mg/l)					EPA Standard for Hazardous Waste Designation (mg/L)
	TP-1	TP-2	TP-3	TP-4	TP-5	
Arsenic	<0.35	<0.35	<0.18	<0.35	<0.035	5.0
Barium	3.09	2.25	2.25	2.08	1.72	100
Cadmium	0.10	<0.05	<0.025	<0.05	<0.005	1.0
Chromium	<0.10	<0.10	<0.05	<0.10	0.03	5.0
Copper	293	526	76.2	209	69.1	NC
Lead	99.1	32.1	3.79	18.5	3.72	5.0
Mercury	<0.0004	<0.0004	<0.0004	<0.0002	<0.0002	0.2
Selenium	<0.60	<0.60	<0.30	<0.60	<0.06	1.0
Silver	0.16	0.18	0.05	<0.10	0.03	5.0

NC - No Criteria

The copper concentration in the leachate was also analyzed and ranged from 69.1 mg/l to 526 mg/l. Although no hazardous waste criteria has been developed for copper, elevated copper concentrations of this magnitude is an indication there is metals contamination of the soil on the subject property.

ESI recommended collecting one additional sample of the foundry sand waste to determine the acceptability of this material to potential hazardous waste landfills. The additional soil sample was obtained of the foundry sand waste where test pit TP-3 was originally excavated. The foundry sand waste sample was analyzed for pH, reactivity, total cyanide, ignitability, TCLP metals, TCLP semi-volatiles and TCLP volatiles. The results for pH, total cyanide, reactivity and ignitability are presented on Table VII-6. Table VII-7 presents the results from the TCLP metals analysis conducted on the foundry sand waste sample.

The results from the supplemental sampling indicated the foundry sand waste was considered a hazardous waste since the TCLP extraction test for metals produced a lead concentration of 53.7 mg/L. The EPA hazardous waste criteria for lead is 5.0 mg/L. Although the sample was also high in copper and zinc, no other constituents were detected above the established hazardous waste criteria. There were no TCLP volatile or semi-volatile compounds detected in the foundry sand waste sample.

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TABLE VII-6
ANALYTICAL RESULTS FOR THE
ADDITIONAL FOUNDRY SAND WASTE SAMPLE AT TP-3

Parameter	Units	Foundry Sand Waste Sample	EPA Standard For Hazardous Waste Designation
pH	s.u.	7.98	2<pH<12.5
Total Cyanide	mg/kg	1.1	No Standard
Total Releasable Sulfide	mg/kg as H^2S	<50	>500
Total Releasable Cyanide	mg/kg as HCN	<50	>250
Ignitability	°F	>160	<140

TABLE VII-7
TCLP METALS RESULTS FOR THE
ADDITIONAL FOUNDRY SAND WASTE SAMPLE AT TP-3

TCLP Metals	Concentrations (mg/L)	
	Foundry Sand Waste Sample	EPA Standard For Hazardous Waste Designation (mg/L)
Arsenic	<0.18	5.0
Barium	1.96	100
Cadmium	<0.025	1.0
Chromium	0.07	5.0
Copper	429	NS
Lead	53.7	5.0
Mercury	<0.0002	0.2
Selenium	<0.03	1.0
Silver	<0.05	5.0
Zinc	107	NS

NS -- No Standard

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SOILS INVESTIGATIONS INC.

SECTION VIII
SUMMARY AND CONCLUSIONS

The conclusions presented below are based on the aforementioned scope of services which are subject to the limitations identified within this report and in Appendix B. Phase I and Phase II Environmental Site Assessments were completed for the Ellison Bronze Company property located at 125 West Main Street, Falconer, New York. This study was limited to data obtained from a review of site history, a review of regulatory agency information, a site walkover, surface explorations, subsurface explorations, and analytical testing of soil samples collected during the study. Based on the limited studies completed and the information made available to ESI, the relevant finds are summarized below:

General

- The Ellison Bronze Company property investigated for this Environmental Investigation consists of three parcels and occupies approximately 2.6 acres.
- Based on our review of site history, including discussions with the Town of Ellicott Historian, the property has been primarily used for industrial purposes since the 1880's.
- Ellison Bronze Company was established in 1921 as a foundry and later converted operations to commercial door manufacturing.

NO Volatiles at
Semi-Volatiles at TP-3

- An above ground bulk petroleum storage tank was present during a period of the plants existence. The tank has since been removed.
- Approximately 450 linear feet of suspect thermal insulation was observed in the plant. This insulation has been reported to have been removed by Dowcraft, and ESI has not reinspected the plant to verify this.
- The paint within the building may contain lead.

- Plant process water discharges consist of periodic boiler blowdown and spotwelder non-contact cooling water. The boiler blowdown and the non-contact cooling water are discharged to the sanitary sewer. Roof drains and seventeen floor drains are plumbed into five outfalls which discharge to the creek and/or river.

Regulatory Information

- There are no known active, inactive, or national priority hazardous waste sites located within one-half mile of the subject site.

- There was no record of waste disposal activities, oil or chemical spills or underground tanks associated with the subject property in the NYSDEC files.

Solid Wastes

- Spent foundry sand is placed in a dumpster for off-site disposal.

- Twenty 55 gallon drums of the particulate waste (lime/metal) and eight 55-gallon drums of spent sand blasting sand were observed in a storage garage on-site.

Storage Shed

- The wooden storage shed contained naphtha, lacquer thinner, and acetone at the time of the initial site walkover. Leakage and staining were observed on the wooden floor of this storage shed.

- A surface soil sample was obtained from directly below the wooden floor in the storage shed and analyzed for TCL volatiles. Toluene was present at a concentration of 1,000 ppm which is well above the criteria established for land disposal of toluene contaminated soils.

- An additional soil sample was obtained from beneath the storage shed and subject to chemical testing to determine the potential disposal options for the toluene contaminated soils. No additional hazardous constituents were identified in the analysis of the supplemental surface soil sample.

- The storage shed has been dismantled and the products stored elsewhere on the site.

Foundry Sand Waste

- Foundry sand waste material was observed to be present along the banks of Moon Brook in the immediate vicinity of the foundry room.
- Seven test pits were excavated to evaluate the subsurface conditions along Moon Brook in the vicinity where the foundry sand waste was observed.
- Foundry sand waste appeared to be present in the test pits excavated.
- One representative soil sample was tested from each of five test pits. The analytical results indicated the soil samples contained relatively high concentrations of lead and phenolics.
- A TCLP extraction analysis was conducted on the five test pit soil samples. The results from the TCLP test indicated the soils in test pits TP-1, TP-2 and TP-4 are considered hazardous waste based on the lead criteria. Copper was also present in the soil at relatively high concentrations and may be considered an environmental liability.
- A sample of the foundry sand waste material was collected and analyzed for parameters typically used for determining acceptability to hazardous waste landfills. The results of these chemical analyses verified the hazardous waste classification based on lead concentrations.

In summary, ESI has identified two locations on the property that should be remediated. These areas are the undeveloped land between the parking lot and Moon Brook and the area beneath the former chemical storage shed. The next section of the report discusses the proposed remediation and cleanup verification plan . A formal Remediation Work Plan, Cleanup Verification Plan, Health and Safety Plan and Quality Assurance Project Plan (QAPP) are being prepared. These plans will be submitted to the NYSDEC for review when completed.

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SOILS INVESTIGATIONS INC.

SECTION IX
SITE REMEDIATION PLAN

This section of the report discusses the technical approach to remediation of the identified environmental concerns at the Ellison Bronze Company property. The Site Remediation Plan includes the following plans:

1. Contractor Remediation Work Plan (Plans and Specifications)
2. Cleanup Verification Plan
3. Health and Safety Plan
4. Quality Assurance Project Plan

In general these plans call for the excavation and off-site disposal of the contaminated soil. Onsite disposal is not considered prudent due to the proximity of the Chadakoin river and Moon Brook, the Jamestown Drinking Water Aquifer and the inorganic nature of foundry sand waste. Foundry sand waste and toluene contamination will be handled separately, but concurrently. The work plan calls for the toluene contaminated soil to be incinerated and for the foundry sand waste to be landfilled after off-site pretreatment.

The general steps which will be taken to remediate the property are as follows:

Toluene Contaminated Soil

1. Excavate soil and place directly into drums;
2. Use a photoionization detector to determine the limit of excavation (non-detectable organic vapor readings). Verify soil concentrations after excavation using laboratory analysis;
3. Transport and incinerate soil;
4. If contamination has reached water table (approximately six feet below grade), install a recovery well including pump and activated carbon.
5. Install monitoring wells downgradient, if ground water contamination is apparent, in an effort to determine the extent of contamination.

Foundry Sand Waste

1. Excavated foundry sand waste from area shown on Drawing No. 5 in Appendix A.

2. Dispose of material as hazardous waste.

3. Verify cleanup using a Verification Sampling Plan shown on Drawing No. 6 in Appendix A (approximate 10' x 10') and a clean up criteria of 250 ppm total lead. This cleanup criteria is believed to reflect a conservative approach. Analyze a portion of the cleanup verification samples for TCLP metals to verify that no hazardous waste remain.

4. Continue excavating until the lead concentration in the soil is verified to be below 250 ppm.

5. Backfill with clean materials to restore grade.

6. Due to the immediate proximity to the creek, ground water contamination is not expected.

The plans will include specific procedures for all aspects of the project. The key aspect of the plan is that all cleanup will be verified analytically and methodically documented. ESI will prepare a final report which will document the overall remediation project. The report will include the verification sampling results, performance of the cleanup contractor and interactions with NYSDEC personnel.

We trust this report herein satisfies your current requirements. Field notes and other information relating to this project are available for review at ESI in Hamburg, New York. Should you have any questions or comments, please do not hesitate to contact the undersigned. We have appreciated the opportunity to work with you on this project.

EMPIRE
SOILS INVESTIGATIONS INC.

Respectfully Submitted,
EMPIRE SOILS INVESTIGATIONS, INC.

Kevin J. Shanahan.

Kevin J. Shanahan
Environmental Engineer

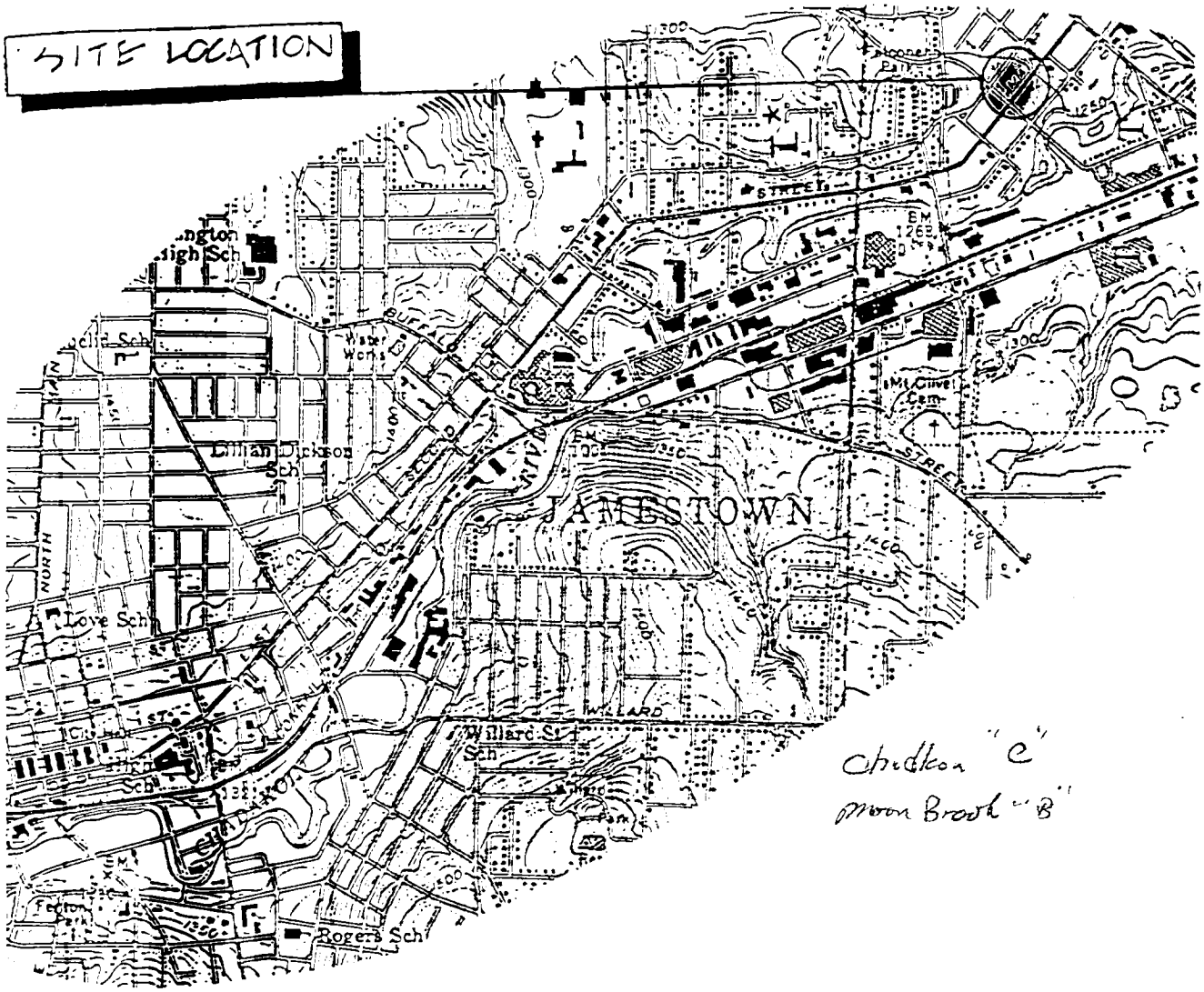
David M. Harty, P.E.
Senior Environmental Engineer

cab

EMPIRE
SOILS INVESTIGATIONS INC

APPENDIX A

SITE LOCATION



Notes

- THIS DRAWING IS FOR ILLUSTRATIVE PURPOSES ONLY.
- THIS PLAN WAS ADAPTED FROM A USGS JAMESTOWN NEW YORK MAP DATED 1965.

N

EMPIRE SOILS INVESTIGATIONS INC

Site Location Map

ELLISON BRONZE CO. INC.
125 WEST MAIN ST.
FALCONER NEW YORK.

DR.BY: D.W.LABELLE	SCALE: 1: 2000'	PROJ. NO. BTA 90179
CK'D.BY: K.S.	DATE: OCT. 1990	DRWG.NO. 1

R/T FORM R-1

site plan

1ST FLOOR PLAN

2nd floor plan

FOUNDRY WASTE

DISPOSAL AREA

VERIFICATION

SAMPLE PLAN

EMPIRE
SOILS INVESTIGATIONS INC.

APPENDIX B

APPENDIX B
LIMITATIONS

1. Empire Soils Investigations, Inc. (ESI) work was completed in accordance with generally accepted practices of other consultants undertaking similar studies, and ESI observed that degree of care and skill generally exercised by other consultants under similar circumstances and conditions. ESI's finding and conclusions must be considered not as scientific certainties but as probabilities based on our professional judgement concerning the significance of the limited data gathered du/ring the course of the work.

2. The environmental site assessment, completed has not included comprehensive analytical testing on the site. Without such testing, ESI can assume no responsibility for the undetected presence of either identified potential conditions or other latent conditions.

3. The observations described in this report were made under conditions stated therein. The conclusions presented in the report were based solely upon the services described therein and not on tasks and procedures beyond the scope of described services or the time and budgetary constraints imposed by the client.

4. In preparing this report, ESI has relied on certain information provided by the State, County and Town Officials and other parties referenced herein and on information contained in the files of the state and local agencies made available to ESI at the time of the assessment.

5. Observations were made of the subject site and on adjacent sites as indicated within the report. Where access to portions of the site or structures were limited or unavailable, ESI renders no opinion as to the presence of hazardous materials or to the presence of indirect evidence relating to hazardous material in that portion of the site or adjacent structures.

6. Unless otherwise specified in the report, ESI did not perform testing or analyses to determine the presence of concentrations of hazardous chemical compounds, asbestos, polychlorinated biphenyls (PCB's) oil, gasoline, radon and lead paint at the subject property.

7. The purpose of this report was to assess the physical characteristics of the subject property with respect to the presence in the environment of hazardous materials or oil. No specific attempt was made to check on the compliance of present or past owners or operators of the site with federal, state or local laws and regulations, environmental or otherwise.

APPENDIX B
(Continued)

8. Except as noted within the text of the report, no quantitative laboratory testing was performed as part of the site assessment. Where such analyses have been conducted by a laboratory, ESI has relied upon the data provided and has not conducted an independent evaluation of the reliability of these data.

9. Evaluation of the possible impact of activities at neighboring locations on the subject property was beyond the scope of services for this environmental investigation.

10. Evaluation of the presence of a regulated wetland was beyond the contractual scope of work for this environmental investigation.

11. This report has been prepared for the exclusive use of Dowcraft Corporation and its designated agents and lending institutions for the specific application to the subject property in accordance with generally accepted engineering practice. No other warranty, expressed or implied, is made. The environmental concerns noted in this report (if any) are applicable to the current identified proposed usage of this property.

12. Marine Midland Bank as the lending institution can rely on the contents of this report.

EMPIRE
SOILS INVESTIGATIONS INC.

APPENDIX C

EMPIRE
SOILS INVESTIGATIONS INC

PROJECT NO: BTA-90-179 DATE PHOTOGRAPHED: 9/20/90

CLIENT: Dowcraft Corporation

PROJECT: Ellison Bronze Company, Inc.

PROJECT LOCATION: 125 W. Main Street, Falconer, New York

PHOTOGRAPHED BY: KJS .PAGE 1 OF 9

1

DESCRIPTION: Foundry sand material located on Moonbrook Creek banks.

EMPIRE
SOILS INVESTIGATIONS INC

PROJECT NO: BTA-90-179 DATE PHOTOGRAPHED: 9/20/90

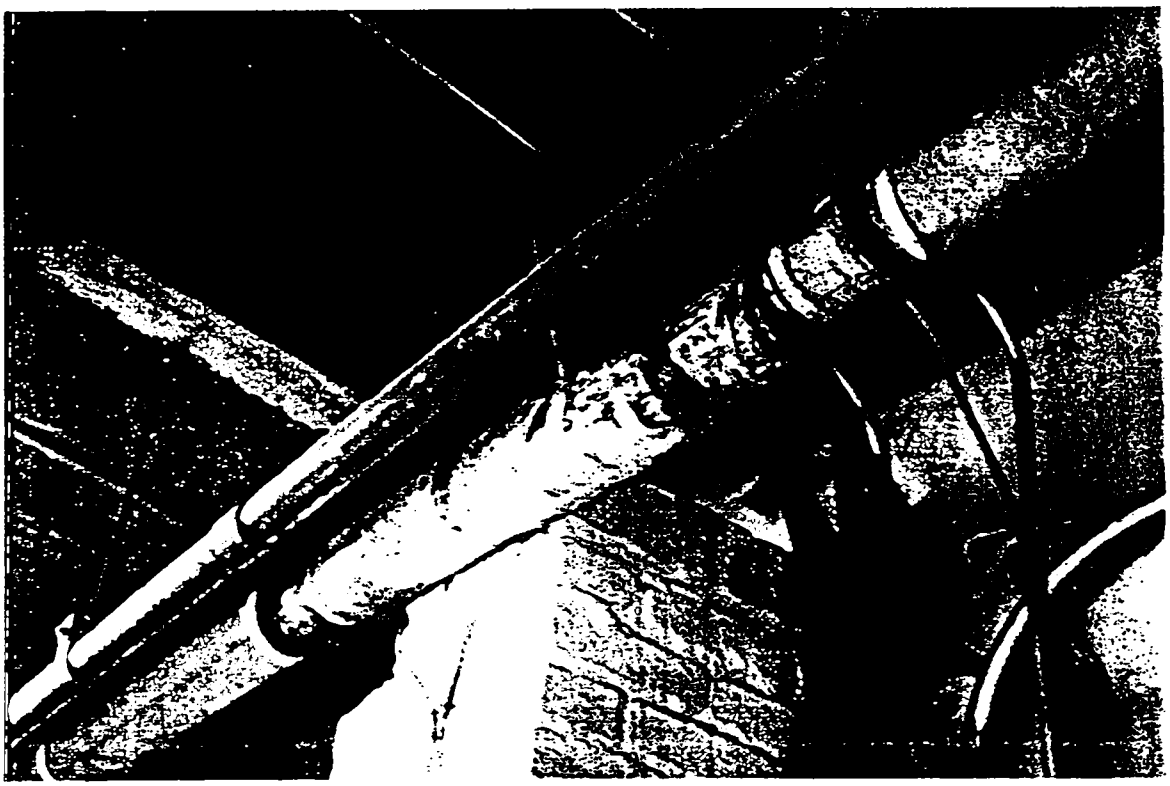
CLIENT: Dowcraft Corporation

PROJECT: Ellison Bronze Company, Inc.

PROJECT LOCATION: 125 West Main Street, Falconer, New York

PHOTOGRAPHED BY: KJS PAGE 2 OF 9

2



DESCRIPTION: Suspect asbestos thermal insulation is damaged condition located in the foundry room.

EMPIRE
SOILS INVESTIGATIONS INC

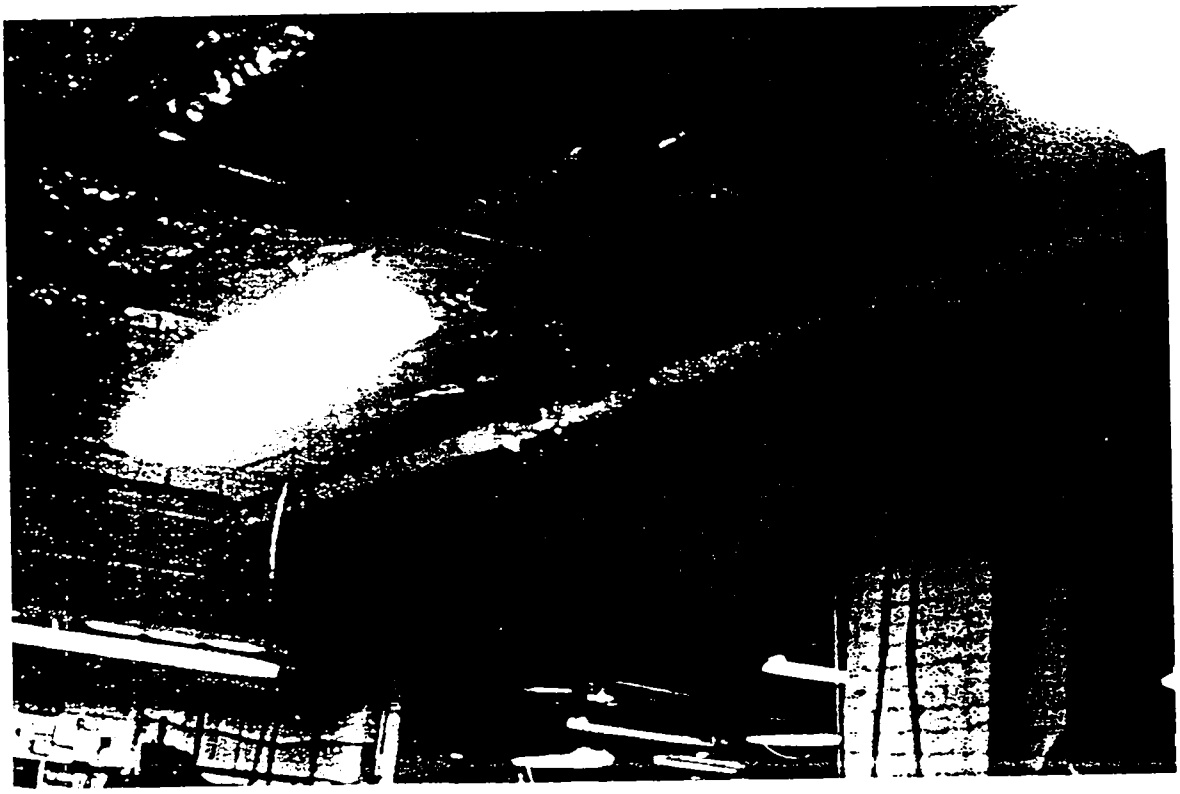
PROJECT NO: BTA-90-179 DATE PHOTOGRAPHED: 9/20/90

CLIENT: Dowcraft Corporation

PROJECT: Ellison Bronze Company, Inc.

PROJECT LOCATION: 125 West Main Street, Falconer, New York

PHOTOGRAPHED BY: KJS PAGE 3 OF 9



3

DESCRIPTION: Suspect asbestos thermal insulation located in the glasing room.

EMPIRE
SOILS INVESTIGATIONS INC

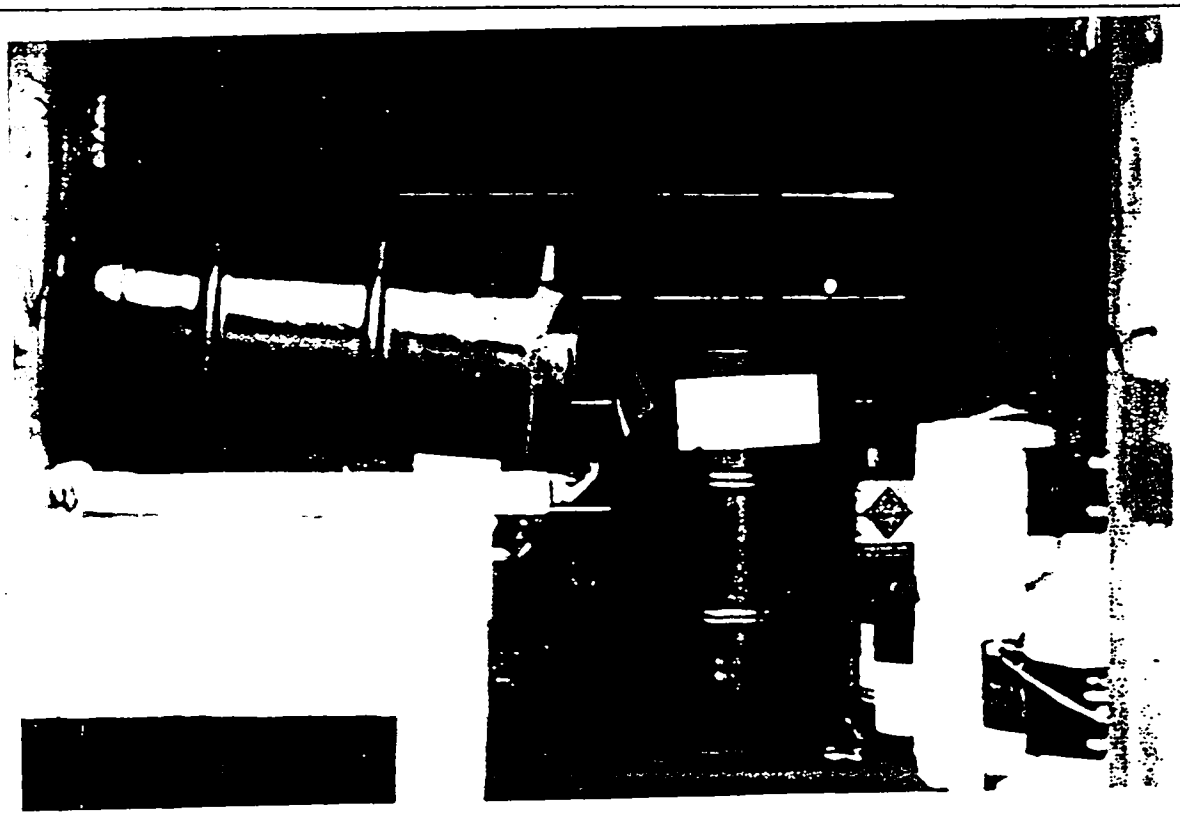
PROJECT NO: BTA-90-179 DATE PHOTOGRAPHED: 9/20/90

CLIENT: Dowcraft Corporation

PROJECT: Ellison Bronze Company, Inc.

PROJECT LOCATION: 125 West Main Street, Falconer, New York

PHOTOGRAPHED BY: KJS PAGE 4 OF 9



DESCRIPTION: Chemical storage shed.

EMPIRE
SOILS INVESTIGATIONS INC.

PROJECT NO: BTA-90-179 DATE PHOTOGRAPHED: 9/20/90

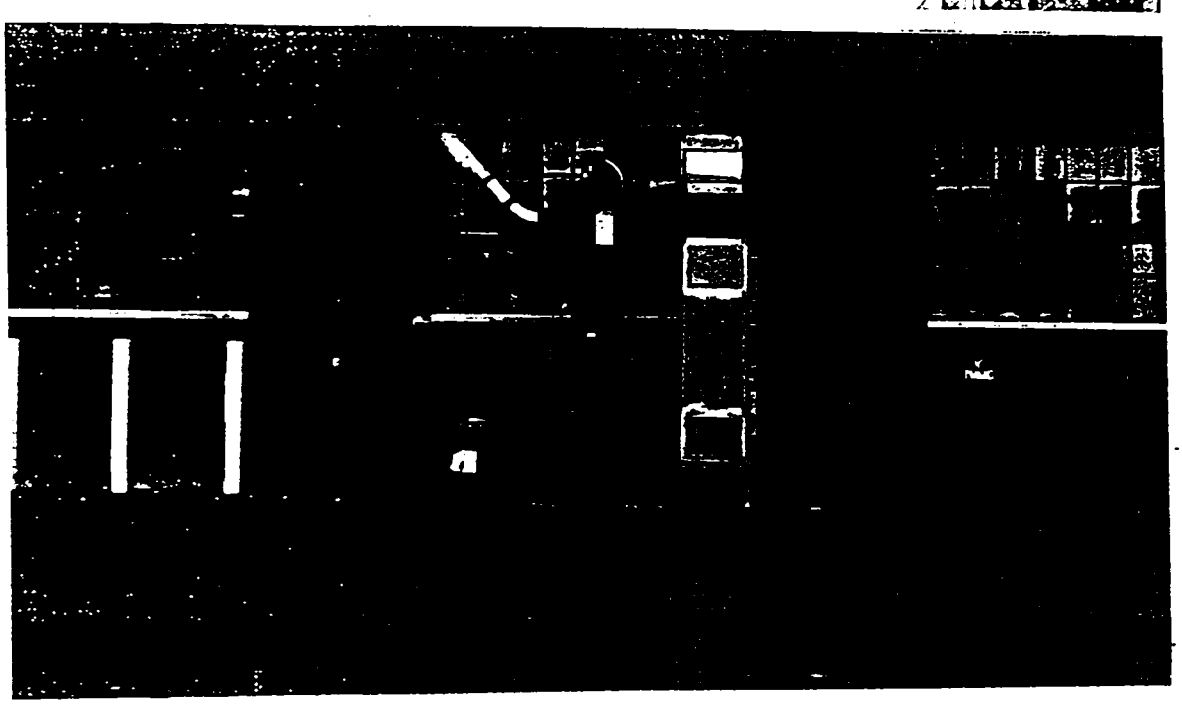
CLIENT: Dowcraft Corporation

PROJECT: Ellison Bronze Company, Inc.

PROJECT LOCATION: 125 W. Main Street, Falconer, New York

PHOTOGRAPHED BY: KJS PAGE 5 OF 9

5



DESCRIPTION: Cyclone particle separator

EMPIRE
SOILS INVESTIGATIONS INC

PROJECT NO: BTA-90-179 DATE PHOTOGRAPHED: 9/20/90

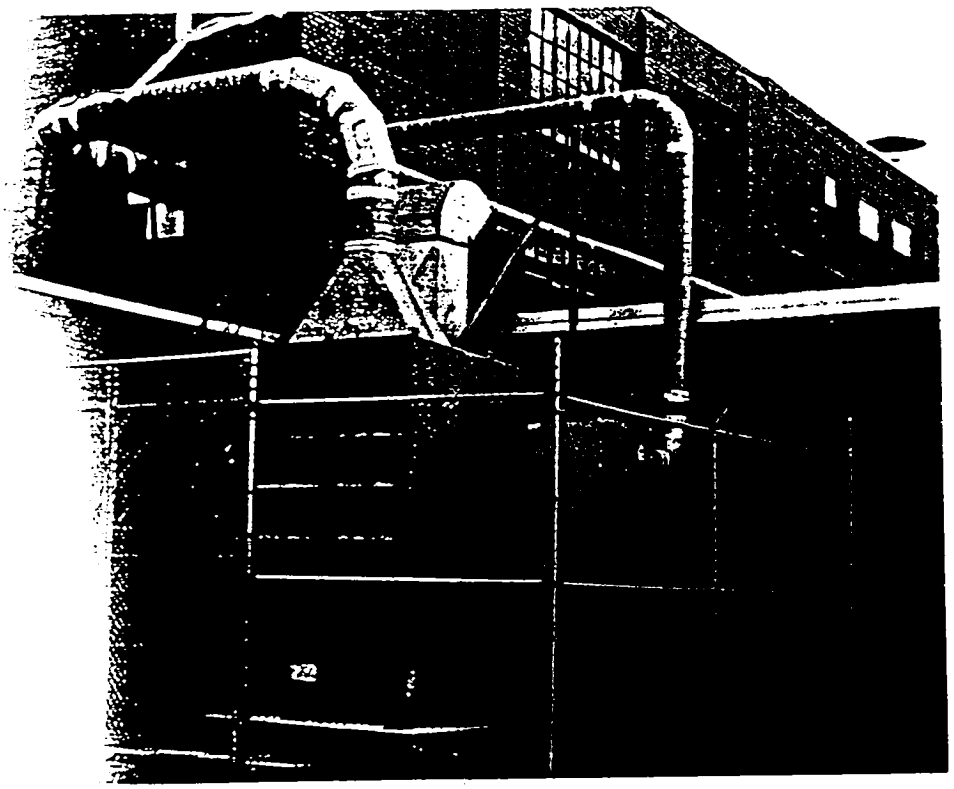
CLIENT: Dowcraft Corporation

PROJECT: Ellison Bronze Company, Inc.

PROJECT LOCATION: 125 W. Main Street, Falconer, New York

PHOTOGRAPHED BY: KJS PAGE 6 OF 9

6



DESCRIPTION: Industrial sized dust control pollution abatement device.

EMPIRE
SOILS INVESTIGATIONS INC

PROJECT NO: BTA-90-179 DATE PHOTOGRAPHED: 10/2/90

CLIENT: Dowcraft Corporation

PROJECT: Ellison Bronze Company, Inc.

PROJECT LOCATION: 125 West Main Street, Falconer, New York

PHOTOGRAPHED BY: KJS PAGE 7 OF 9

7

DESCRIPTION: Waste storage area for particle separator material was located in garage on west end of property. Twenty-eight drums of metal and lime waste were observed during the September 12, 1990 site walkover.

EMPIRE
SOILS INVESTIGATIONS INC

PROJECT NO: BTA-90-179 DATE PHOTOGRAPHED: 10/2/90

CLIENT: Dowcraft Corporation

PROJECT: Ellison Bronze Company, Inc.

PROJECT LOCATION: 125 West Main Street, Falconer, New York

PHOTOGRAPHED BY: KJS PAGE 8 OF 9

8

DESCRIPTION: Foundry waste stored in Chemical Waste Management dumpster for off-site disposal.

EMPIRE
SOILS INVESTIGATIONS INC.

PROJECT NO: BTA-90-179 DATE PHOTOGRAPHED: 9/20/90

CLIENT: Dowcraft Corporation

PROJECT: Ellison Bronze Company, Inc.

PROJECT LOCATION: 125 West Main Street, Falconer, New York

PHOTOGRAPHED BY: KJS PAGE 9 OF 9

9

DESCRIPTION: Location of underground drywell at which boiler blow-off water is discharged. Drums in photograph were empty.

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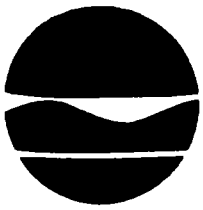
APPENDIX D

New York State Department of Environmental Conservation
600 Delaware Avenue, Buffalo, New York 14202



Thomas C. Jorling
Commissioner

October 11, 1990

Mr. Kevin J. Shanahan
Empire Soils Investigations, Inc.
S-5167 South Park Avenue
P.O. Box 0913
Hamburg, New York 14075

Dear Mr. Shanahan:

Ellison Bronze Company
Falconer, New York

In response to your FOIL request of October 2, 1990 relative to the subject property, a search of this Region's Solid and Hazardous Waste Program files has been completed.

We have found no records of currently active solid or hazardous waste facilities associated with the subject property. In addition, we have found no records of past solid or hazardous waste disposal at this site.

Please be advised that our files only reflect information on those sites where investigation by this Department, the USEPA or local county health/environmental agencies, or information from the public has revealed that waste disposal has or may have occurred. The Department makes no guarantee as to the completeness of our files. Therefore, our file search should in no way be considered as a substitute for a site inspection or environmental audit by qualified personnel. If such an inspection/audit were to reveal that waste disposal has occurred, it should be promptly reported to this office.

You may wish to contact the local county health/environmental department to determine if they have any information on the subject site.

Yours truly,

Edward J. Feron, Jr., P.E.
Environmental Engineer II

EJF:vam
cc: Mr. James Wilding
Mr. Charles Kollatz

STATE OF NEW YORK
DEPARTMENT OF LABOR

GOVERNOR W. AVERELL HARRIMAN
STATE OFFICE BUILDING CAMPUS
ALBANY, NEW YORK 12240

Counsel's Office
(518) 457-4380

October 2, 1990

Kevin J. Shanahan
Environmental Engineer
Empire Soils Investigations, Inc.
S.5167 South Park Avenue
P.O. Box 0913
Hamburg, New York 14075

Re: Freedom of Information Law Request--
Shanahan/Empire Soils/Ellison Bronze Co., Inc.

Dear Mr. Shanahan:

Receipt is acknowledged of the Freedom of Information Law request contained in your correspondence dated September 26, 1990 and received in this office October 1, 1990.

We are in the process of obtaining and reviewing the materials to which you have requested access. We will advise as to those documents to which access can be granted and the cost for same as soon as possible.

Please be advised that our records are accessible only by specific location. We will be unable to advise as to any location as described by radius.

Very truly yours,

Barbara C. Deinhardt
Deputy Commissioner of Labor
for Legal Affairs
Records Access Officer

Christine J. Timber

By: Christine J. Timber
Attorney I

CJT:sg

LH 1 (4-86)

STATE OF NEW YORK
DEPARTMENT OF LABOR

GOVERNOR W. AVERELL HARRIMAN
STATE OFFICE BUILDING CAMPUS
ALBANY, NEW YORK 12240

Counsel's Office
(518) 457-4380

December 26, 1990

Kevin J. Shanahan
Environmental Engineer
Empire Soils Investigations, Inc.
S.5167 South Park Avenue
P.O. Box 0913
Hamburg, New York 14075

Re: Freedom of Information Law Request--
Shanahan/Empire Soils/Ellison Bronze Co., Inc.

Dear Mr. Shanahan:

I am informed that the Department of Labor has no records concerning the subject of your request.

Please be advised that Department records are accessible only be specific location and can not be accessed by location described in terms of radius.

Very truly yours,

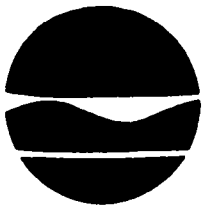
Barbara C. Deinhardt
Deputy Commissioner of Labor
for Legal Affairs
Records Access Officer

By: Christine J. Timber
Attorney I

CJT:sg

LH 1 (4-86)

New York State Department of Environmental Conservation
600 Delaware Avenue, Buffalo, New York 14202



Thomas C. Jorling
Commissioner

December 28, 1990

Mr. Kevin J. Shanahan
Empire Soils Investigations, Inc.
S-5167 South Park Avenue
P.O. Box C913
Hamburg, NY 14075

Dear Mr. Shanahan:

This is in response to your request for information regarding Ellison Bronze Co., Falconer, NY. A search of our spill computer files (1986-present) and bulk storage computer files has been conducted. Based on these reviews, the following information is provided:

___ See attached response sheets for reported spills.

___ See attached response sheets for tanks registered pursuant to the NYS Petroleum Bulk Storage Program.

___ See attached response sheets for tanks registered pursuant to the NYS Chemical Bulk Storage Program.

___ This Office has no record of spills reported.

_x_ This Office has no record of tanks registered pursuant to the NYS Petroleum Bulk Storage Program.

___ This Office has no record of tanks registered pursuant to the NYS Chemical Bulk Storage Program.

_x_ Refer to the spill record summary previously provided to your firm.

___ Request cannot be processed due to insufficient street address.

Please be advised that requests for area-wide searches of our records cannot be accommodated. As such, information presented in response to your request is site-specific.

Very truly yours,

Daniel K. King, P.E.
Associate Sanitary Engineer

cc: FOIL File

EMPIRE
SOILS INVESTIGATIONS INC.

APPENDIX E

TEST PIT FIELD LOG

EMPIRE SOILS INVESTIGATIONS INC.

PROJECT
DESCRIPTION: Ellison Bronze
LOCATION: 125 W. Main Street

TEST PIT NO. 1
FILE NO. BTA-90-179A
DATE: 10-25-90

ENGINEER: KJS
WEATHER: Cloudy, 40°F

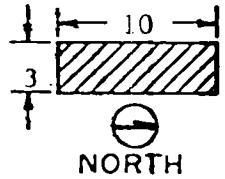
EXCAVATION EQUIPMENT
CONTRACTOR: Barnes Construction
OPERATOR: Ken Seastrum
MAKE: John Deere MODEL: 510
CAPACITY: C.Y. REACH: FT.

GROUND ELEV. ----
TIME STARTED: 8:25 am
TIME COMPLETED: 8:45 am

DEPTH	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS.	REMARK NO.
0'	0.5' Brown-gray SAND and GRAVEL (moist, FILL)	E		
1'	Black, Sandy SILT, some Cinders, tr. slag (damp,FILL)	E		
2'	2.0' Concrete Obstruction			1
3'	Test Pit Complete at 2.0-feet.			2
4'				
5'				
6'				
7'				
8'				
9'				
10'				
11'				
12'				
13'				
14'				

REMARKS:
1. Backhoe refusal on concrete retaining wall.
2. No free standing water observed at test pit completion.

TEST PIT PLAN



VOLUME = 3 C.Y.

LEGEND:

BOULDER COUNT

SIZE RANGE CLASSIFICATION	LETTER DESIGNATION
6"-18"	A
18"-36"	B
36" AND LARGER	C

PROPORTIONS USED

TRACE (TR.)	0 - 10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20-35%
AND	35-50%

ABBREVIATIONS

F - FINE
M - MEDIUM
C - COARSE
F/M - FINE TO MEDIUM
F/C - FINE TO COARSE
V - VERY
GR. - GRAY
BN. - BROWN
YEL. - YELLOW

EXCAVATION EFFORT

EASY — E
MODERATE — M
DIFFICULT — D

GROUNDWATER

ELAPSED TIME TO READING (HRS.) ▽2 G.W.L.

TEST PIT FIELD LOG

EMPIRE SOILS INVESTIGATIONS INC.

PROJECT
DESCRIPTION: Ellison Bronze
LOCATION: 125 W. Main Street

TEST PIT NO. 2
FILE NO. BTA-90-179A
DATE: 10-25-90

ENGINEER: KJS
WEATHER: Cloudy, 45°F

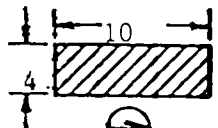
EXCAVATION EQUIPMENT
CONTRACTOR: Barnes Construction
OPERATOR: Ken Seastrum
MAKE: John Deere MODEL: 510
CAPACITY: C.Y. REACH: FT.

GROUND ELEV.: ---
TIME STARTED: 8:55 am
TIME COMPLETED: 9:15

DEPTH		SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS	REMARK NO.
0'	1.0'	Brown-gray SAND and GRAVEL (moist, FILL)	E		
1'		Brown-orange SILT, some Clay, tr. sand, tr. brick, tr. ~~brick,~~ tr. cinders (moist, FILL)	E		
2'			E		1
3'			E		
4'	4.0'		E		
5'	5.5'	Black-green SILT, some brown Sand, (moist, FILL)	E		
6'		Brown SAND, little Gravel, tr. black-green silt, (moist, FILL)	E		
7'	7.0'		E		2
8'		Test Pit complete at 7.0-feet.			
9'					
10'					
11'					
12'					
13'					
14'					

REMARKS:
1. Slight musty-like odor.
2. Free water observed entering excavation at 6.5'.

TEST PIT PLAN



VOLUME = 14 C.Y.

LEGEND:

BOULDER COUNT

SIZE RANGE CLASSIFICATION	LETTER DESIGNATION
6"-18"	A
18"-36"	B
36" AND LARGER	C

PROPORTIONS USED

TRACE (TR.)	0-10%
LITTLE (LI.)	10-20%
SOME (SO.)	20-35%
AND	35-50%

ABBREVIATIONS

F - FINE
M - MEDIUM
C - COARSE
F/M - FINE TO MEDIUM
F/C - FINE TO COARSE
V - VERY
GR. - GRAY
BN. - BROWN
YEL. - YELLOW

EXCAVATION EFFORT

EASY — E
MODERATE — M
DIFFICULT — D

GROUNDWATER

ELAPSED TIME TO READING (HRS.) — G.W.L.

TEST PIT FIELD LOG

EMPIRE SOILS INVESTIGATIONS INC

PROJECT
DESCRIPTION: Ellison Bronze
LOCATION: 125 W. Main Street

TEST PIT NO. 3
FILE NO. BTA-90-179A
DATE: 10-25-90

ENGINEER: KJS
WEATHER: Coudy, 45°F

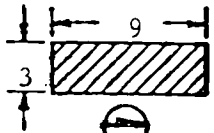
EXCAVATION EQUIPMENT
CONTRACTOR: Barnes Construction
OPERATOR: Ken Seastrum
MAKE: John Deere MODEL: 510
CAPACITY: C.Y. REACH: FT.

GROUND ELEV. ---
TIME STARTED: 9:45 am
TIME COMPLETED: 10:00 am

DEPTH	SOIL DESCRIPTION		EXCAV. EFFORT	BOULDER COUNT QTY. CLASS.	REMARK NO.
0'	1.0'	Brown-gray SAND and GRAVEL (moist, FILL)	E		
1'		Brown-orange SILT and SAND, tr. black Cinders (moist, FILL)	E		
2'		Becomes black-green tr. brick	E		
3'		Becomes brown-orange	E		
4'	4.0'		E		
5'		Brown SAND, little tan Gravel, little orange-brown Silt and Sand (moist, FILL)	E		
6'			E		
7'		Brown SAND and GRAVEL	E		
8'		Test Pit complete at 7.0'-feet.			1
9'					
10'					
11'					
12'					
13'					
14'					

REMARKS: 1. Free water observed entering the excavation at 6.0-feet.

TEST PIT PLAN



VOLUME = 10 C.Y.

LEGEND:

BOULDER COUNT

SIZE RANGE CLASSIFICATION	LETTER DESIGNATION
6"-18"	A
18"-36"	B
36" AND LARGER	C

PROPORTIONS USED

TRACE (TR.)	0-10%
LITTLE (LI.)	10-20%
SOME (SO.)	20-35%
AND	35-50%

ABBREVIATIONS

F - FINE
M - MEDIUM
C - COARSE
F/M - FINE TO MEDIUM
F/C - FINE TO COARSE
V - VERY
GR. - GRAY
BN. - BROWN
YEL. - YELLOW

EXCAVATION EFFORT

EASY — E
MODERATE — M
DIFFICULT — D

GROUNDWATER

ELAPSED TIME TO READING (HRS.) 2 G.W.L.

TEST PIT FIELD LOG

EMPIRE SOILS INVESTIGATIONS INC

PROJECT
DESCRIPTION: Ellison Bronze
LOCATION: 125 W. Main Street

TEST PIT NO. 4
FILE NO. BTA-90-179A
DATE: 10-25-90

ENGINEER: KJS
WEATHER: Light Rain 45°F

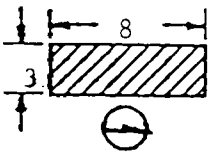
EXCAVATION EQUIPMENT
CONTRACTOR: Barnes Construction
OPERATOR: Ken Seastrum
MAKE: John Deere MODEL: 510
CAPACITY: C.Y. REACH: FT.

GROUND ELEV.: ---
TIME STARTED: 10:20
TIME COMPLETED: 10:35 am

DEPTH		SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS.	REMARK NO.
0'	1.0'	Brown-gray SAND and GRAVEL (moist, FILL)	E		
1'					
2'	2.5'	Black Silty SAND, some brown-orange Silt, tr. glass, tr. brick (moist, FILL)	E		
3'	3.5'	Brown Silty CLAY (moist, FILL)	E		
4'	4.5'	Orange-brown CLAY, some Silt (moist, FILL)	E		
5'	5.5'	Orange-brown Silty SAND, (moist, FILL)	E		
6'	7.0'	Brown SAND, some Gravel (wet, loose)	E		1
7'		Test Pit complete at 7.0-feet.			
8'					
9'					
10'					
11'					
12'					
13'					
14'					

REMARKS: 1. Free standing water observed entering the excavation at 6.0-feet.

TEST PIT PLAN



VOLUME = 12 C.Y.

LEGEND:

BOULDER COUNT

SIZE RANGE CLASSIFICATION	LETTER DESIGNATION
6"-18"	A
18"-36"	B
36" AND LARGER	C

PROPORTIONS USED

TRACE (TR.)	0-10%
LITTLE (LI.)	10-20%
SOME (SO.)	20-35%
AND	35-50%

ABBREVIATIONS

F - FINE
M - MEDIUM
C - COARSE
F/M - FINE TO MEDIUM
F/C - FINE TO COARSE
V - VERY
GR - GRAY
BN. - BROWN
YEL. - YELLOW

EXCAVATION EFFORT

EASY — E
MODERATE — M
DIFFICULT — D

GROUNDWATER

ELAPSED TIME TO READING (HRS.) 2 G.W.L.

TEST PIT FIELD LOG

EMPIRE SOILS INVESTIGATIONS INC

PROJECT
DESCRIPTION: Ellison Bronze
LOCATION: 125 W. Main Street

TEST PIT NO. 5
FILE NO. BTA-90-179
DATE: 10-25-90

ENGINEER: KJS
WEATHER: Light Rain, 45°F

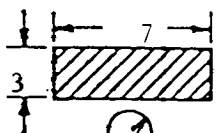
EXCAVATION EQUIPMENT
CONTRACTOR: Barnes Construction
OPERATOR: Ken Seastrum
MAKE: John Deere MODEL: 510
CAPACITY: C.Y. REACH: FT.

GROUND ELEV. ---
TIME STARTED: 11:05 am
TIME COMPLETED: 11:20 am

DEPTH	SOIL DESCRIPTION		EXCAV. EFFORT	BOULDER COUNT QTY. CLASS.	REMARK NO.
0'					
1'	1.0'	Brown and gray SAND and GRAVEL (moist, FILL)	E		
2'		Black SILT, little brown-orange Silty Sand (moist, FILL)	E		
3'	2.5'	Brown Silty CLAY (wet, firm)	E		
4'	3.5'		E		1
5'		Brown CLAY, little Silt	E		
6'			E		
7'	7.0'		E		2
8'		Test Pit complete at 7.0'-feet.			
9'					
10'					
11'					
12'					
13'					
14'					

REMARKS:
1. Appears to be natural soils.
2. Free standing water observed entering the excavation at 6.0-feet.

TEST PIT PLAN



NORTH

VOLUME = 12 C.Y.

LEGEND:

BOULDER COUNT

SIZE RANGE CLASSIFICATION	LETTER DESIGNATION
6"-18"	A
18"-36"	B
36" AND LARGER	C

PROPORTIONS USED

TRACE (TR.)	0-10%
LITTLE (LI.)	10-20%
SOME (SO.)	20-35%
AND	35-50%

ABBREVIATIONS

F - FINE
M - MEDIUM
C - COARSE
F/M - FINE TO MEDIUM
F/C - FINE TO COARSE
V - VERY
GR. - GRAY
BN. - BROWN
YEL. - YELLOW

EXCAVATION EFFORT

EASY — E
MODERATE — M
DIFFICULT — D

GROUNDWATER

ELAPSED TIME TO READING (HRS.) 2 G.W.L.

TEST PIT FIELD LOG

EMPIRE SOILS INVESTIGATIONS INC

PROJECT
DESCRIPTION: Ellison Bronze
LOCATION: 125 W. Main Street

TEST PIT NO. 6
FILE NO. BTA-90-179A
DATE: 10-25-90

ENGINEER: KJS
WEATHER: Cloudy, 45°F

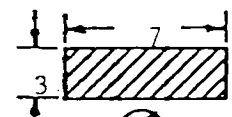
EXCAVATION EQUIPMENT
CONTRACTOR: Barnes Construction
OPERATOR: Ken Seastrum
MAKE: John Deere MODEL: 510
CAPACITY: C.Y. REACH: FT.

GROUND ELEV.:
TIME STARTED: 11:35
TIME COMPLETED: 11:55

DEPTH	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS.	REMARK NO.
0'				
1'	1.0' Brown-gray SAND and GRAVEL (moist, FILL)	E		
2'	2.0' Black-brown-orange SILT, tr. brick, tr. cinders (moist, FILL)	E		
3'	3.0' Brown SAND, some Silt	E		1
4'	Brown Silty SAND, some Sandstone fragments	E		
5'		E		
6'	6.5'	E		
7'		E		2
8'	Test Pit complete at 6.5-feet.			
9'				
10'				
11'				
12'				
13'				
14'				

REMARKS:
1. Appears to be native soil.
2. Free standing water observed entering excavation at 6.0-feet.

TEST PIT PLAN



NORTH

VOLUME = 12 C.Y.

LEGEND:

BOULDER COUNT

SIZE RANGE CLASSIFICATION	LETTER DESIGNATION
6"-18"	A
18"-36"	B
36" AND LARGER	C

PROPORTIONS USED

TRACE (TR.)	0 - 10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 - 35%
AND	35 - 50%

ABBREVIATIONS

F - FINE
M - MEDIUM
C - COARSE
F/M - FINE TO MEDIUM
F/C - FINE TO COARSE
V - VERY
GR. - GRAY
BN. - BROWN
YEL. - YELLOW

EXCAVATION EFFORT

EASY — E
MODERATE — M
DIFFICULT — D

GROUNDWATER
ELAPSED TIME TO READING (HRS) 2 G.W.L.

TEST PIT FIELD LOG

EMPIRE SOILS INVESTIGATIONS INC

PROJECT
DESCRIPTION: Ellison Bronze
LOCATION: 125 W. Main Street

TEST PIT NO. 7
FILE NO. BTA-90-179A
DATE: 10-25-90

ENGINEER: KJS
WEATHER: Cloudy, 45°F

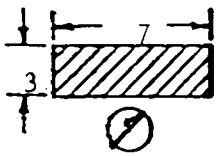
EXCAVATION EQUIPMENT
CONTRACTOR: Barnes Construction
OPERATOR: Ken Seastrum
MAKE: John Deere MODEL: 510
CAPACITY: C.Y. REACH: FT.

GROUND ELEV.:
TIME STARTED: 12:15
TIME COMPLETED: 12:35 pm

DEPTH		SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS.	REMARK NO.
0'					
1'	1.0'	Brown-gray SAND and GRAVEL (moist, FILL)	E		
2'	2.0'	Black Silty SAND, tr. green silt (moist, FILL)	E		
3'		Brown Sandy SILT, tr. gravel	E		1
4'			E		
5'	4.5'		E		
6'	6.5'	Brown Sandy SILT, some Gravel	E		2
7'		Test Pit complete at 6.5-feet.			
8'					
9'					
10'					
11'					
12'					
13'					
14'					

REMARKS:
1. Appears to be native soils.
2. Free standing water observed entering excavation at 6.0-feet.

TEST PIT PLAN



NORTH

VOLUME = 11 C.Y.

LEGEND:

BOULDER COUNT

SIZE RANGE CLASSIFICATION	LETTER DESIGNATION
6"-18"	A
18"-36"	B
36" AND LARGER	C

PROPORTIONS USED

TRACE (TR.)	0-10%
LITTLE (LI.)	10-20%
SOME (SO.)	20-35%
AND	35-50%

ABBREVIATIONS

F - FINE
M - MEDIUM
C - COARSE
F/M - FINE TO MEDIUM
F/C - FINE TO COARSE
V - VERY
GR. - GRAY
BN. - BROWN
YEL. - YELLOW

EXCAVATION EFFORT

EASY — E
MODERATE — M
DIFFICULT — D

GROUNDWATER

ELAPSED TIME TO READING (HRS) 2 G.W.L.

EMPIRE
SOILS INVESTIGATIONS INC.

APPENDIX F

HAS

HUNTINGDON ANALYTICAL SERVICES
Division of EMPIRE SOILS INVESTIGATIONS INC.
PO Box 250 Middleport New York 14105
Tel: (716) 735-3400 FAX (716) 735-3653

November 27, 1990

Mr. David Harty
Empire Soils Investigations, Inc.
S-5167 South Park Avenue
Hamburg, New York 14075

Dear Dave:

Enclosed please find the additional reports you requested for report #90-1524. The orginals were sent on November 13, 1990.

If you require anything else, please feel free to contact me at 716-735-3400.

Sincerely,

HUNTINGDON ANALYTICAL SERVICES

Katherine A. Syracuse/lmk

Katherine A. Syracuse,
Lab Director, Environmental

KAS/lkn
Enclosures

HUNTINGDON ANALYTICAL SERVICES
Division of EMPIRE SOILS INVESTIGATIONS INC.
PO Box 250 Middleport New York 14105
Tel: (716) 735-3400 FAX (716) 735-3653

Environmental Analytical Report For:

EMPIRE SOILS INVESTIGATIONS, INC. - HAMBURG

HAS Ref. #90-1524

November 27, 1990

HUNTINGDON ANALYTICAL SERVICES

Analyte: LEAD

Date Sampled: 10/25/90

SAMPLE ID: HAS #	CLIENT	EPA METHOD	DATE PREPARED	DATE ANALYZED	DETECTION LIMIT	RESULT mg/kg	QC
1524-007	ELLISON TP-1B	6010	10/29/90	10/31/90	45.0	3740	*95
1524-008	ELLISON TP-2B	6010	10/29/90	10/31/90	9.96	2850	*95
1524-009	ELLISON TP-3B	6010	10/29/90	10/31/90	10.4	156	*95
1524-010	ELLISON TP-4B	6010	10/29/90	10/31/90	10.9	919	*95
1524-011	ELLISON TP-5B	6010	10/29/90	10/31/90	10.1	343	*95
1524-MB	METHOD BLANK	6010	10/29/90	10/31/90	0.045	<DL	*95

*THIS INDICATES A 95% CONFIDENCE LIMIT ACHIEVED WITH AN EPA QUALITY CONTROL SOLUTION ANALYZED ALONG WITH YOUR SAMPLE.

ALL SOIL/SLUDGE SAMPLE RESULTS ARE BASED UPON DRY WEIGHT

HUNTINGDON ANALYTICAL SERVICES
ENVIRONMENTAL

Inorganic Wet Chemical Analyses

Analyte: Phenolics

EPA Method No.: SW-846 9065

Sample Date	HAS Sample #90-	Client I.D.	Date Prepared	Date Analyzed	Method Detection Limit	Result	Units	QC in %
10/25/90	1524-007	Ellison TP-1B	10/29/90	10/29/90	0.50	17.3	mg/kg	95*
10/25/90	1524-008	Ellison TP-2B	10/29/90	10/29/90	0.50	3.78	mg/kg	95*
10/25/90	1514-009	Ellison TP-3B	10/29/90	10/29/90	0.50	1.94	mg/kg	2** 95*
10/25/90	1514-010	Ellison TP-4B	10/29/90	10/29/90	0.50	3.99	mg/kg	95*
10/25/90	1514-011	Ellison TP-5B	10/29/90	10/29/90	0.50	3.85	mg/kg	95*

* A known standard of the analyte of interest was analyzed along with this sample with the percent recovery indicated above.

** This sample was analyzed in duplicate with the RPD indicated above.

HUNTINGDON ANALYTICAL SERVICES

METALS ANALYSIS-TCLP DATA SHEET

Sample ID: METHOD BLANK
HAS Sample #90-1524-MB
Date Sampled: N/A

ANALYTE	EPA METHOD	EPA LIMITS	DATE ANALYZED	DETECTION LIMIT	RESULT mg/l	QC
ARSENIC	6010	5.0 mg/l	11/21/90	0.035	<DL	*95
BARIUM	6010	100 mg/l	11/21/90	0.01	<DL	*95
CADMIUM	6010	1.0 mg/l	11/21/90	0.005	<DL	*95
CHROMIUM	6010	5.0 mg/l	11/21/90	0.01	<DL	*95
COPPER	6010	- - -	11/21/90	0.01	<DL	*95
LEAD	6010	5.0 mg/l	11/21/90	0.045	<DL	*95
MERCURY	7470	0.2 mg/l	11/21/90	0.0002	<DL	*95
SELENIUM	6010	1.0 mg/l	11/21/90	0.06	<DL	*95
SILVER	6010	5.0 mg/l	11/21/90	0.01	<DL	*95

*THIS INDICATES A 95% CONFIDENCE LIMIT ACHIEVED WITH AN EPA QUALITY CONTROL SOLUTION ANALYZED ALONG WITH YOUR SAMPLE.

HUNTINGDON ANALYTICAL SERVICES

METALS ANALYSIS-TCLP DATA SHEET

Sample ID: ELLISON TP-1B
HAS Sample #90-1524-007
Date Sampled: 10/25/90

ANALYTE	EPA METHOD	EPA LIMITS	DATE ANALYZED	DETECTION LIMIT	RESULT mg/l	QC
ARSENIC	6010	5.0 mg/l	11/21/90	0.35	<DL	*95
BARIUM	6010	100 mg/l	11/21/90	0.10	3.09	*95
CADMIUM	6010	1.0 mg/l	11/21/90	0.05	0.10	*95
CHROMIUM	6010	5.0 mg/l	11/21/90	0.10	<DL	*95
COPPER	6010	- - -	11/21/90	0.10	293	*95
LEAD	6010	5.0 mg/l	11/21/90	0.45	99.1	*95
MERCURY	7470	0.2 mg/l	11/21/90	0.0004	<DL	*95
SELENIUM	6010	1.0 mg/l	11/21/90	0.60	<DL	*95
SILVER	6010	5.0 mg/l	11/21/90	0.10	0.16	*95

*THIS INDICATES A 95% CONFIDENCE LIMIT ACHIEVED WITH AN EPA QUALITY CONTROL SOLUTION ANALYZED ALONG WITH YOUR SAMPLE.

HUNTINGDON ANALYTICAL SERVICES

METALS ANALYSIS-TCLP DATA SHEET

Sample ID: ELLISON TP-2B
HAS Sample #90-1524-008
Date Sampled: 10/25/90

ANALYTE	EPA METHOD	EPA LIMITS	DATE ANALYZED	DETECTION LIMIT	RESULT mg/l	QC
ARSENIC	6010	5.0 mg/l	11/21/90	0.35	<DL	*95
BARIUM	6010	100 mg/l	11/21/90	0.10	2.25	*95
CADMIUM	6010	1.0 mg/l	11/21/90	0.05	<DL	*95
CHROMIUM	6010	5.0 mg/l	11/21/90	0.10	<DL	*95
COPPER	6010	- - -	11/21/90	0.10	526	*95
LEAD	6010	5.0 mg/l	11/21/90	0.45	32.1	*95
MERCURY	7470	0.2 mg/l	11/21/90	0.0004	<DL	*95
SELENIUM	6010	1.0 mg/l	11/21/90	0.60	<DL	*95
SILVER	6010	5.0 mg/l	11/21/90	0.10	0.18	*95

*THIS INDICATES A 95% CONFIDENCE LIMIT ACHIEVED WITH AN EPA QUALITY CONTROL SOLUTION ANALYZED ALONG WITH YOUR SAMPLE.

HUNTINGDON ANALYTICAL SERVICES

METALS ANALYSIS-TCLP DATA SHEET

Sample ID: ELLISON TP-3B
HAS Sample #90-1524-009
Date Sampled: 10/25/90

ANALYTE	EPA METHOD	EPA LIMITS	DATE ANALYZED	DETECTION LIMIT	RESULT mg/l	QC
ARSENIC	6010	5.0 mg/l	11/21/90	0.180	<DL	*95
BARIUM	6010	100 mg/l	11/21/90	0.05	2.25	*95
CADMIUM	6010	1.0 mg/l	11/21/90	0.025	<DL	*95
CHROMIUM	6010	5.0 mg/l	11/21/90	0.05	<DL	*95
COPPER	6010	- - -	11/21/90	0.05	78.2	*95
LEAD	6010	5.0 mg/l	11/21/90	0.230	3.79	*95
MERCURY	7470	0.2 mg/l	11/21/90	0.0004	<DL	*95
SELENIUM	6010	1.0 mg/l	11/21/90	0.30	<DL	*95
SILVER	6010	5.0 mg/l	11/21/90	0.05	0.05	*95

*THIS INDICATES A 95% CONFIDENCE LIMIT ACHIEVED WITH AN EPA QUALITY CONTROL SOLUTION ANALYZED ALONG WITH YOUR SAMPLE.

HUNTINGDON ANALYTICAL SERVICES

METALS ANALYSIS-TCLP DATA SHEET

Sample ID: ELLISON TP-3B
HAS Sample #90-1524-009 DUPLICATE
Date Sampled: 10/25/90

ANALYTE	EPA METHOD	EPA LIMITS	DATE ANALYZED	DETECTION LIMIT	RESULT mg/l	MS %REC	MSD %REC	RPD
ARSENIC	6010	5.0 mg/l	11/21/90	0.180	<DL	*95		
BARIUM	6010	100 mg/l	11/21/90	0.05	2.37	*95		
CADMIUM	6010	1.0 mg/l	11/21/90	0.025	<DL	*95		
CHROMIUM	6010	5.0 mg/l	11/21/90	0.05	<DL	*95		
COPPER	6010	- - -	11/21/90	0.05	194	*95		
LEAD	6010	5.0 mg/l	11/21/90	0.230	9.34	*95		
MERCURY	7470	0.2 mg/l	11/21/90	0.0004	<DL	101	101	<1.0
SELENIUM	6010	1.0 mg/l	11/21/90	0.30	<DL	*95		
SILVER	6010	5.0 mg/l	11/21/90	0.05	0.07	*95		

*THIS INDICATES A 95% CONFIDENCE LIMIT ACHIEVED WITH AN EPA QUALITY CONTROL SOLUTION ANALYZED ALONG WITH YOUR SAMPLE.

HUNTINGDON ANALYTICAL SERVICES

METALS ANALYSIS-TCLP DATA SHEET

Sample ID: ELLISON TP-4B
HAS Sample #90-1524-010
Date Sampled: 10/25/90

ANALYTE	EPA METHOD	EPA LIMITS	DATE ANALYZED	DETECTION LIMIT	RESULT mg/l	QC
ARSENIC	6010	5.0 mg/l	12/07/90	0.35	<DL	*95
BARIUM	6010	100 mg/l	12/07/90	0.10	2.08	*95
CADMIUM	6010	1.0 mg/l	12/07/90	0.05	<DL	*95
CHROMIUM	6010	5.0 mg/l	12/07/90	0.10	<DL	*95
COPPER	6010	5.0 mg/l	12/07/90	0.10	209	*95
LEAD	6010	0.2 mg/l	12/07/90	0.45	18.5	*95
MERCURY	7470	1.0 mg/l	12/12/90	0.0002	<DL	*95
SELENIUM	6010	5.0 mg/l	12/07/90	0.60	<DL	*95
SILVER	6010	5.0 mg/l	12/07/90	0.10	<DL	*95

*THIS INDICATES A 95% CONFIDENCE LIMIT ACHIEVED WITH AN EPA QUALITY CONTROL SOLUTION ANALYZED ALONG WITH YOUR SAMPLE.

HUNTINGDON ANALYTICAL SERVICES

METALS ANALYSIS-TCLP DATA SHEET

Sample ID: ELLISON TP-5B
HAS Sample #90-1524-011
Date Sampled: 10/25/90

ANALYTE	EPA METHOD	EPA LIMITS	DATE ANYZED	DETECTION LIMIT	RESULT mg/l	QC
ARSENIC	6010	5.0 mg/l	12/07/90	0.035	<DL	*95
BARIUM	6010	100 mg/l	12/07/90	0.01	1.72	*95
CADMIUM	6010	1.0 mg/l	12/07/90	0.005	<DL	*95
CHROMIUM	6010	5.0 mg/l	12/07/90	0.01	0.03	*95
COPPER	6010	5.0 mg/l	12/07/90	0.01	69.1	*95
LEAD	6010	0.2 mg/l	12/07/90	0.045	3.72	*95
MERCURY	7470	1.0 mg/l	12/12/90	0.0002	<DL	*95
SELENIUM	6010	5.0 mg/l	12/07/90	0.06	<DL	*95
SILVER	6010	5.0 mg/l	12/07/90	0.01	0.03	*95

*THIS INDICATES A 95% CONFIDENCE LIMIT ACHIEVED WITH AN EPA QUALITY CONTROL SOLUTION ANALYZED ALONG WITH YOUR SAMPLE.

HUNTINGDON ANALYTICAL SERVICES

METALS ANALYSIS-TCLP DATA SHEET

Sample ID: METHOD BLANK
HAS Sample #90-1524-MB
Date Sampled: N/A

ANALYTE	EPA METHOD	EPA LIMITS	DATE ANALYZED	DETECTION LIMIT	RESULT mg/l	QC
ARSENIC	6010	5.0 mg/l	12/07/90	0.035	<DL	*95
BARIUM	6010	100 mg/l	12/07/90	0.01	<DL	*95
CADMIUM	6010	1.0 mg/l	12/07/90	0.005	<DL	*95
CHROMIUM	6010	5.0 mg/l	12/07/90	0.01	<DL	*95
COPPER	6010	5.0 mg/l	12/07/90	0.01	<DL	*95
LEAD	6010	0.2 mg/l	12/07/90	0.045	<DL	*95
MERCURY	7470	1.0 mg/l	12/12/90	0.0002	<DL	*95
SELENIUM	6010	5.0 mg/l	12/07/90	0.06	<DL	*95
SILVER	6010	5.0 mg/l	12/07/90	0.01	<DL	*95

*THIS INDICATES A 95% CONFIDENCE LIMIT ACHIEVED WITH AN EPA QUALITY CONTROL SOLUTION ANALYZED ALONG WITH YOUR SAMPLE.

HUNTINGDON ANALYTICAL SERVICES
ENVIRONMENTAL

METHOD 8240
VOLATILE ORGANICS

	ELLISON	METHOD	
SAMPLE IDENTIFICATION :	SS-1	BLANK	
HAS SAMPLE #90-1658	008	-----	
COMPOUND	RESULT ug/Kg	RESULT ug/Kg	MDL ug/Kg
CHLOROMETHANE ----------	<100,000	<1,000	<1,000
BROMOMETHANE ----------	<100,000	<1,000	<1,000
VINYL CHLORIDE ----------	<100,000	<1,000	<1,000
CHLOROETHANE ----------	<100,000	<1,000	<1,000
METHYLENE CHLORIDE ----------	<50,000	<500	<500
ACETONE ----------	<100,000	<1,000	<1,000
TRICHLOROFLUOROMETHANE -----	<100,000	<1,000	<1,000
CARBON DISULFIDE ----------	<50,000	<500	<500
1,1-DICHLOROETHENE ----------	<50,000	<500	<500
1,1-DICHLOROETHANE ----------	<50,000	<500	<500
1,2-DICHLOROETHENE (TOTAL) -	<50,000	<500	<500
CHLOROFORM ----------	<50,000	<500	<500
1,2-DICHLOROETHANE ----------	<50,000	<500	<500
2-BUTANONE ----------	<100,000	<1,000	<1,000
1,1,1-TRICHLOROETHANE ------	<50,000	<500	<500
CARBON TETRACHLORIDE -------	<50,000	<500	<500
VINYL ACETATE ----------	<100,000	<1,000	<1,000
BROMODICHLOROMETHANE -------	<50,000	<500	<500
1,2-DICHLOROPROPANE ---------	<50,000	<500	<500
cis-1,3-DICHLOROPROPENE ----	<50,000	<500	<500
TRICHLOROETHENE ----------	<50,000	<500	<500
DIBROMOCHLOROMETHANE -------	<50,000	<500	<500
1,1,2-TRICHLOROETHANE ------	<50,000	<500	<500
BENZENE ----------	<50,000	<500	<500
trans-1,3-DICHLOROPROPENE --	<50,000	<500	<500
2-CHLOROETHYLVINYL ETHER----	<200,000	<2,000	<2,000
BROMOFORM----------	<50,000	<500	<500
4-METHYL-2-PENTANONE -------	<100,000	<1,000	<1,000
2-HEXANONE ----------	<100,000	<1,000	<1,000
TETRACHLOROETHENE ----------	<50,000	<500	<500
1,1,2,2-TETRACHLOROETHANE --	<50,000	<500	<500
TOLUENE ----------	1,000,000	<500	<500
CHLOROBENZENE ----------	<50,000	<500	<500
ETHYL BENZENE ----------	<50,000	<500	<500
STYRENE ----------	<50,000	<500	<500
XYLENE (TOTAL) ----------	<50,000	<500	<500
1,3-DICHLOROBENZENE ---------	<100,000	<1,000	<1,000
1,2-DICHLOROBENZENE ---------	<100,000	<1,000	<1,000
1,4-DICHLOROBENZENE ---------	<100,000	<1,000	<1,000
DATE RECEIVED:	11-15-90	----	----
DATE SAMPLED:	11-14-90	----	----
DATE ANALYZED:	11-20-90	11-17-90	----

1 week

NORTHEASTERN ANALYTICAL SERVICES - CHAIN-OF-CUSTODY RECORD AND ANALYTICAL REQUEST FORM Page of

Client Name: DOWCRAFT CORPORATION
Address: 65 S. DOW STREET, FALCONER, NEW YORK
Client Contact: KEVIN SHANAHAN
Phone: 665 8110
NAS Quote #:
P.O. #:

Project No.: BTA 90
Project/Site Name:
Sampler: (Signature): Kevin J. Shanahan
NAS Ref. #90-1524

Sample Lab.	Date	Time	Comp.	Grab	Sample Location	NAS Seq. #	Matrix	# of Containers	Container Size & Type: 950 amber glass	125 clear glass				Analysis Requested/ Remarks
DC Rollforms TP-2A	10/24/90	1000		X	TP-2	001	S	2	1	1				CYANIDE PP METALS, pH, OIL & GREASE; TCL VOLATILES
DC ROLLFORM TP-3A	"	1040		X	TP-3	002	S	2	1	1				" "
DC ROLLFORM TP-4A	"	1120		X	TP-4	003	S	2	1	1				" "
DC ROLLFORMS TP-5A	"	1150		X	TP-5	004	S	2	1	1				" "
DC ROLLFORMS TP-6A	"	1340		X	TP-6	005	S	2	1	1				" "
DC ROLLFORMS TP-7A	"	1420		X	TP-7	006	S	2	1	1				" "
ELLISON TP-1B	10/25/90	0835		X	TP-1	007	S	1	1					Total Lead, Phenolics (4AAP)
ELLISON TP-2B	"	0920		X	TP-2	008	S	1	1					" "
ELLISON TP-3B	"	1005		X	TP-3	009	S	1	1					" "
ELLISON TP-4B	"	1040		X	TP-4	010	S	1	1					" "
ELLISON TP-5B	"	1115		X	TP-5	011	S	1	1					" "
						TMCL								

NOTE: ONE WEEK TURNAROUND REQUESTED BY CLIENT!

Relinquished by:	Date/Time	Received by:	Relinquished by:	Date/Time	Received by:
Kevin Shanahan	10/25/90			10/26/90 3:35	Mary Beaudoin
Relinquished by:	Date/Time	Received by:	Relinquished by:	Date/Time	Received by:
Relinquished by:	Date/Time	Received for Lab by: Mary Beaudoin 10/26/90 3:35	Remarks:		JW, MP, TB, DW, DA, JC, PM, SM

HUNTINGDON ANALYTICAL SERVICES
Division of EMPIRE SOILS INVESTIGATIONS INC.
PO Box 250 Middleport New York 14105
Tel: (716) 735-3400 FAX (716) 735-3653

Environmental Analytical Report For:

EMPIRE SOILS INVESTIGATIONS, INC. - HAMBURG

PROJECT NAME: DOWCRAFT

HAS Ref. #90-1855

January 8, 1991

HAS

HUNTINGDON ANALYTICAL SERVICES
ELAP #10833
ENVIRONMENTAL REPORT

HAS Reference Numbers: #90-1855

January 8, 1991

Statement of Work Performed

I hereby declare that the work was performed under my supervision according to the procedures outlined by the following references and that this report provides a correct and faithful record of the results obtained.

- 40 CFR Part 136, "Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act," October 26, 1984 (Federal Register) U. S. Environmental Protection Agency.
- U. S. Environmental Protection Agency, "Test Methods of Evaluating Solid Waste - Physical/Chemical Methods, " Office of Solid Waste and Emergency Response, SW-846, 2nd Edition and 3rd Edition.
- New York State Department of Health, Analytical Toxicology Laboratory Handbook, August 1982.

Katherine A. Syracuse
Lab Director, Environmental

REPORT CODE LEGEND:

<DL = Less than detection limit
ND = Not detected
NA = Not applicable
INP = Information not provided
MB = Method Blank

HUNTINGDON ANALYTICAL SERVICES, INC.
ENVIRONMENTAL

Inorganic Wet Chemical Analyses

Sample Identification: Dowcraft Ellison SS-1

HAS Sample #90-1855-001

Date Sampled: 12/14/90

Analyte	EPA Method	Date Prepared	Date Analyzed	Method Detection Limit	Result	Units	QC in %
pH	SW-846 9045	12/19/90	12/19/90	0.10	7.98	S. U.	100*
Total Cyanide	SW-846 9030	12/26/90	12/27/90	1.0	1.1	mg/kg	90*
Reactivity	SW-846 Section 7.3						
Total Releasable Sulfide	9030	12/20/90	12/20/90	50	<50	mg/kg as H_2S	99*
Total Releasable Cyanide	9010	12/20/90	12/20/90	50	<50	mg/kg as HCN	100*
Ignitability	SW-846 1010	---	12/19/90	Init. Temp. 70	>160	°F	---

* A known standard of the analyte of interest was analyzed along with this sample with the percent recovery indicated above.

HUNTINGDON ANALYTICAL SERVICES, INC.
ENVIRONMENTAL

Inorganic Wet Chemical Analyses

Sample Identification: Dowcraft Ellison SS-2

HAS Sample #90-1855-002

Date Sampled: 12/14/90

Analyte	EPA Method	Date Prepared	Date Analyzed	Method Detection Limit	Result	Units	QC in %
pH	SW-846 9045	12/19/90	12/19/90	0.10	7.04	S. U.	100*
Total Cyanide	SW-846 9030	12/26/90	12/27/90	1.0	<1.0	mg/kg	90*
Reactivity	SW-846 Section 7.3						
Total Releasable Sulfide	9030	12/20/90	12/20/90	50	<50	mg/kg as H_2S	99*
Total Releasable Cyanide	9010	12/20/90	12/20/90	50	<50	mg/kg as HCN	100*
Ignitability	SW-846 1010	---	12/19/90	Init. Temp. 65	>160	°F	---

* A known standard of the analyte of interest was analyzed along with this sample with the percent recovery indicated above.

HUNTINGDON ANALYTICAL SERVICES

METALS ANALYSIS-TCLP DATA SHEET

Sample ID: DOWCRAFT ELLISON SS - 1 (ESI)
HAS Sample #90-1855-001
Date Sampled: 12/14/90

ANALYTE	EPA METHOD	EPA LIMITS	DATE ANALYZED	DETECTION LIMIT	RESULT mg/l	QC
ARSENIC	6010	5.0 mg/l	12/26/90	0.18	<DL	*95
BARIUM	6010	100 mg/l	12/26/90	0.05	1.96	*95
CADMIUM	6010	1.0 mg/l	12/26/90	0.025	<DL	*95
CHROMIUM	6010	5.0 mg/l	12/26/90	0.05	0.07	*95
COPPER	6010	- - -	12/26/90	0.05	429	*95
LEAD	6010	5.0 mg/l	12/26/90	0.23	53.7	*95
MERCURY	7470	0.2 mg/l	12/28/90	0.0002	<DL	*95
SELENIUM	6010	1.0 mg/l	12/26/90	0.3	<DL	*95
SILVER	6010	5.0 mg/l	12/26/90	0.05	<DL	*95
ZINC	6010	- - -	12/26/90	0.1	107	*95

*THIS INDICATES A 95% CONFIDENCE LIMIT ACHIEVED WITH AN EPA QUALITY CONTROL SOLUTION ANALYZED ALONG WITH YOUR SAMPLE.

HUNTINGDON ANALYTICAL SERVICES

METALS ANALYSIS-TCLP DATA SHEET

Sample ID: DOWCRAFT ELLISON SS - 2 (ESI)
HAS Sample #90-1855-002
Date Sampled: 12/14/90

ANALYTE	EPA METHOD	EPA LIMITS	DATE ANALYZED	DETECTION LIMIT	RESULT mg/l	QC
ARSENIC	6010	5.0 mg/l	12/26/90	0.035	<DL	*95
BARIUM	6010	100 mg/l	12/26/90	0.01	1.32	*95
CADMIUM	6010	1.0 mg/l	12/26/90	0.005	0.023	*95
CHROMIUM	6010	5.0 mg/l	12/26/90	0.01	0.03	*95
COPPER	6010	- - -	12/26/90	0.01	12.1	*95
LEAD	6010	5.0 mg/l	12/26/90	0.045	0.530	*95
MERCURY	7470	0.2 mg/l	12/28/90	0.0002	<DL	*95
SELENIUM	6010	1.0 mg/l	12/26/90	0.06	<DL	*95
SILVER	6010	5.0 mg/l	12/26/90	0.01	<DL	*95
ZINC	6010	- - -	12/26/90	0.02	7.06	*95

*THIS INDICATES A 95% CONFIDENCE LIMIT ACHIEVED WITH AN EPA QUALITY CONTROL SOLUTION ANALYZED ALONG WITH YOUR SAMPLE.

HUNTINGDON ANALYTICAL SERVICES

METALS ANALYSIS-TCLP DATA SHEET

Sample ID: METHOD BLANK
HAS Sample #90-1855MB #1
Date Sampled: N/A

ANALYTE	EPA METHOD	EPA LIMITS	DATE ANALYZED	DETECTION LIMIT	RESULT mg/l	QC
ARSENIC	6010	5.0 mg/l	12/26/90	0.035	<DL	*95
BARIUM	6010	100 mg/l	12/26/90	0.01	<DL	*95
CADMIUM	6010	1.0 mg/l	12/26/90	0.005	<DL	*95
CHROMIUM	6010	5.0 mg/l	12/26/90	0.01	<DL	*95
COPPER	6010	- - -	12/26/90	0.01	<DL	*95
LEAD	6010	5.0 mg/l	12/26/90	0.045	<DL	*95
MERCURY	7470	0.2 mg/l	12/28/90	0.0002	<DL	*95
SELENIUM	6010	1.0 mg/l	12/26/90	0.06	<DL	*95
SILVER	6010	5.0 mg/l	12/26/90	0.01	<DL	*95
ZINC	6010	- - -	12/26/90	0.02	<DL	*95

*THIS INDICATES A 95% CONFIDENCE LIMIT ACHIEVED WITH AN EPA QUALITY CONTROL SOLUTION ANALYZED ALONG WITH YOUR SAMPLE.

HUNTINGDON ANALYTICAL SERVICES

METALS ANALYSIS-TCLP DATA SHEET

Sample ID: METHOD BLANK
HAS Sample #90-1855MB #2
Date Sampled: N/A

ANALYTE	EPA METHOD	EPA LIMITS	DATE ANALYZED	DETECTION LIMIT	RESULT mg/l	QC
ARSENIC	6010	5.0 mg/l	12/26/90	0.035	<DL	*95
BARIUM	6010	100 mg/l	12/26/90	0.01	<DL	*95
CADMIUM	6010	1.0 mg/l	12/26/90	0.005	<DL	*95
CHROMIUM	6010	5.0 mg/l	12/26/90	0.01	<DL	*95
COPPER	6010	- - -	12/26/90	0.01	<DL	*95
LEAD	6010	5.0 mg/l	12/26/90	0.045	<DL	*95
MERCURY	7470	0.2 mg/l	12/28/90	0.0002	<DL	*95
SELENIUM	6010	1.0 mg/l	12/26/90	0.06	<DL	*95
SILVER	6010	5.0 mg/l	12/26/90	0.01	<DL	*95
ZINC	6010	- - -	12/26/90	0.02	<DL	*95

*THIS INDICATES A 95% CONFIDENCE LIMIT ACHIEVED WITH AN EPA QUALITY CONTROL SOLUTION ANALYZED ALONG WITH YOUR SAMPLE.

HUNTINGDON ANALYTICAL SERVICES
ENVIRONMENTAL

METHOD 625
TCLP SEMI-VOLATILE ORGANICS

SAMPLE IDENTIFICATION :	ELLISON SS-1	ELLISON SS-2	TCLP METHOD BLANK	
HAS SAMPLE #90-1855	001	002	----	
COMPOUND	RESULT ug/l	RESULT ug/l	RESULT ug/l	MDL ug/l
CRESOL (TOTAL) ----------	<50	<50	<50	<50
1,4-DICHLOROBENZENE ----------	<50	<50	<50	<50
2,4-DINITROTOLUENE ----------	<50	<50	<50	<50
HEXACHLOROBENZENE ----------	<50	<50	<50	<50
HEXACHLOROBUTADIENE ----------	<50	<50	<50	<50
HEXACHLOROETHANE ----------	<50	<50	<50	<50
NITROBENZENE ----------	<50	<50	<50	<50
PENTACHLOROPHENOL ----------	<250	<250	<250	<250
2,4,5-TRICHLOROPHENOL --------	<250	<250	<250	<250
2,4,6-TRICHLOROPHENOL --------	<50	<50	<50	<50
PYRIDINE ----------	<50	<50	<50	<50
DATE SAMPLED:	12-14-90	12-14-90	----	
DATE RECEIVED:	12-17-90	12-17-90	----	
TCLP DATE:	12-17-90	12-17-90	12-17-90	
DATE EXTRACTED:	12-18-90	12-18-90	12-18-90	
DATE ANALYZED:	12-20-90	12-20-90	12-20-90	

HUNTINGDON ANALYTICAL SERVICES
ENVIRONMENTAL

METHOD 601
PURGEABLE HALOCARBONS
TCLP VOA

SAMPLE IDENTIFICATION :	ELLISON SS-1	ELLISON SS-2	METHOD BLANK
HAS SAMPLE #90-1855	001	002	----
DATE ANALYZED:	12-31-90	12-31-90	12-31-90
COMPOUND	RESULT ug/l	RESULT ug/l	RESULT ug/l
VINYL CHLORIDE ----------	<50	<50	<50
1,1-DICHLOROETHENE ------	<25	<25	<25
CHLOROFORM -------------	<25	<25	<25
1,2-DICHLOROETHANE-------	<25	<25	<25
CARBON TETRACHLORIDE ----	<25	<25	<25
TRICHLOROETHENE ---------	<25	<25	<25
TETRACHLOROETHENE -------	<25	<25	<25
CHLORODBENZENE ----------	<25	<25	<25
1,4-DICHLOROBENZENE------	<50	<50	<50

RUNTIDGE ANALYTICAL SERVICES - CHAIN-OF-CUSTODY RECORD AND ANALYTICAL REQUEST FORM Page (of)

Client Name: Empire Soils Inv. / Silica Sand Corp. — Client Contact: Dave Hardy — RAS Quote #:

Address: Hamburg, New York — Phone: 649 8110 — P.O. #:

Project No.: BTA 90 1793 — Project/Site Name: DOWCRAFT — Sampler's (Signature): Kevin J. Chandler — RAS Ref. #90-1855

Sample I.D.	Date	Time	Comp.	Grab	Sample Location/No.	RAS Sample #	Matrix	# of Containers	Container Size & Type	Analysis Requested / Remarks
ELLISON SS-1	12/14/90	12:05		X	SS-1	001	S	2	1 1	TCLP VOLT. — TCLP Semi vol's, TCLP metals plus TCLP Zn & Cu, pH, reactivity, CN, ignitability
ELLISON SS-2	"	12:35		X	SS-2	002	S	2	1 1	" — "

MEH

NOTE ⇒ SS-2 MAY CONTAIN UP TO 1000 PPM VOLATILES BE CAREFUL

NOTE ⇒ IN CASE IT IS NECESSARY SS-1 & SS-2 MUST BE ANALYZED FOR: TCLP Semi VOL's, TCLP METALS (INCLUDE ZINC & COPPER), pH, CN (total) IGNITABILITY, REACTIVITY, AND TCLP VOLATILES

Relinquished by:	Date/Time	Received by:	Relinquished by:	Date/Time	Received by:
Kevin J. Chandler	12/14/90 11:15			12/17/90 10:30	Mary Beaudoin
Relinquished by:	Date/Time	Received by:	Relinquished by:	Date/Time	Received by:
Relinquished by:	Date/Time	Received for Lab by:	Date/Time	Remarks:	
		Mary Beaudoin	12/17/90 10:30	DW, DA, TC, PM, SM, JW, MP, TB	

Huntingdon
Consulting Engineers Environmental Scientists

Empire Soils Investigations, Inc., Division
5467 South Park Avenue
Box 0813
Hamburg, New York 14075
(716)649-8110
Fax: (716)649-8051

May 28, 1993

Dowcraft Corporation
65 South Dow Street
Falconer, New York 14733

Attention: Mr. Harry B. Nicholson, Jr.

Reference: Additional Environmental Evaluations
at the Ellison Bronze Company Site
125 West Main Street, Falconer, New York 14733

Mr. Nicholson:

On June 11, 1992, Empire Soils Investigations, Inc. (ESI) issued a report entitled "Remedial Investigation Summary Report and Interim Remedial Measure (IRM) Work Plan for the Ellison Bronze Company Site" to the Dowcraft Corporation (Dowcraft), Ellison Bronze Company (Ellison Bronze) and the New York State Department of Environmental Conservation (NYSDEC). The report summarized the nature and extent of lead and toluene contaminated soils present at the site as well as the specific remedial measures proposed to clean up the site. Conestoga-Rovers and Associates (CRA) was also retained by Dowcraft after the June 11, 1992 report was submitted for additional environmental consulting capabilities. A Site Location Map is presented as Drawing No. 1 in Attachment A.

Subsequent to the June 1992 report, it was decided between Dowcraft, Ellison Bronze, CRA and ESI that the following tasks be completed to finalize the environmental evaluation work at the Ellison Bronze site:

1. Assist Dowcraft personnel in evaluating disposal options for the toluene contaminated soils and collect one (1) representative soil sample;

2. Measure ground water elevations in each of the monitoring wells at the site to confirm the previously observed ground water flow direction;

3. Re-develop the ground water monitoring wells at the site and analyze the water sample collected from each well for total lead;

4. Excavate three (3) test pits in the area of lead contaminated soils and complete in-place density and percent moisture testing to determine the approximate unit weight of the in-situ soils to calculate tons per cubic yard, and;

5. Collect representative soil samples from the test pits for sieve testing (greater than 1-inch) and TCLP analytical testing to evaluate the potential cost savings of waste separation during soil remediation.

The significant findings of these tasks are summarized in this letter report which serves as an addendum to the June 11, 1992 summary report. Limitations to this addendum letter report are presented in Attachment B.

TASK 1:

On December 12, 1992 an ESI environmental engineer met with Dowcraft and Ellison Bronze personnel to collect one (1) representative soil sample from soils contaminated with toluene (referred to as Area B in summary report). The sample was forwarded to the facility selected by Dowcraft to dispose of the impacted soils. The organic vapor concentrations from the soil sample collected measured 160 to 225 parts per million (ppm) with an HNu photoionization detector. ESI also sent to several disposal and incineration facilities the analytical testing results completed during the Phase II Environmental Site Assessment and subsequent field work to assist Dowcraft in selecting the most economical disposal option with limited liability.

On April 12, 1993 a representative from CRA monitored the excavation of 25, 460 pounds of toluene contaminated soil from Area B. The soil was placed directly into a roll-off bin supplied by Chemical Waste Management (CWM). The contaminated soil was subsequently hauled to CWM's hazardous waste landfill for pretreatment and disposal. The manifest number associated with the waste is NYB6335946.

One (1) grab verification soil sample was collected from the bottom of the excavation using specialized precleaned sampling equipment. The sample was placed directly into an environmental sample bottle and shipped to Advanced Environmental Services, Inc. (AES) in a cooler with ice for analytical testing. AES is a New York State Department of Health (NYSDOH) certified laboratory. The verification soil sample was analyzed for toluene using United States Environmental Protection Agency (USEPA) Method SW 846 8020. Toluene was not present above the method detection limit of 2.0 ug/kg.

TASK 2:

ESI completed ground water level measurements in each of the monitoring wells installed at the site on November 13, 1992 (prior to well development) to confirm the estimated east northeast ground water flow direction previously reported. Ground water levels were also measured on March 9, 1992. The ground water level elevations for the above mentioned dates are plotted on the Site Plan presented as Drawing No. 2 in Attachment A. The depth to ground water across the site ranges from approximately seven (7) to ten (10) feet below grade. Based on the two (2) ground water level measurement events, it appears the direction of flow beneath the site is in the east northeast direction.

TASK 3:

On November 13, 1992 an ESI environmental engineer re-developed each of the ground water monitoring wells at the Ellison Bronze site with an ISCO mechanical pump. Each of the monitoring wells were initially developed on March 3, 1992. A minimum of ten (10) water well volumes were evacuated from each well to achieve development. The monitoring well development logs are presented in Attachment C.

Ground water samples were collected from each monitoring well after development, preserved with nitric acid and shipped to Huntingdon Analytical Services, Inc. (HAS) for analytical testing. HAS is a New York State Department of Health (NYSDOH) certified laboratory located in Middleport, New York. The purpose of the second ground water sampling and analytical testing event was to evaluate whether turbidity may have caused elevated lead concentrations for samples collected during the March 3, 1992 ground water sampling event. Turbidity barely detectable to the human eye can cause the concentration of a total metals analysis to be reported higher than the actual soluble metals present in the sample. The NYSDEC ground water standards have been established for dissolved or soluble metals in ground water.

Each sample was split in the field and part of the sample was filtered. The unfiltered samples were analyzed initially to determine whether the flushing effect of well re-development reduced the turbidity levels and total lead concentration.

Table 1 presents the lead concentrations reported for samples collected during the March 3 and November 13, 1992 sampling events. The data from the March 9, 1992 sampling event was discussed in the June 11, 1992 summary report. The reported

concentrations were compared to ground water quality standards (Class GA ground water) published by the NYSDEC entitled "Water Quality Regulations, Surface Water and Groundwater Classifications and Standards" (September 1, 1992). This publication forms Parts 700-705, Title C, Chapter X of the New York State Codes, Rules and Regulations.

TABLE 1

REPORTED LEAD CONCENTRATIONS FOR GROUND WATER SAMPLES COLLECTED ON MARCH 3, AND NOVEMBER 13, 1992

Monitoring Well	Lead Concentration (mg/l)	
	3/3/92 Results	11/13/92 Results
ESI-1	0.07	<0.04
ESI-2	0.095	<0.04
ESI-3	0.023	0.04

NOTE: NYSDEC Class GA Ground Water Standard for Lead is 0.025 mg/l.

Based on the March 3, 1992 sampling results it appeared the ground water in the area of monitoring wells ESI-1 (0.07 mg/l) and ESI-2 (0.095 mg/l) contained lead above the NYSDEC ground water standard of 0.025 mg/l. The analytical results for samples collected on November 13, 1992 indicated lead was not present above the method detection limit of 0.04 mg/l. Lead was found to be present in the sample collected from monitoring well ESI-3 at a concentration of 0.04 mg/l which is only slightly above the NYSDEC ground water standard. It should be noted that monitoring well ESI-3 is the upgradient well for the site. It appears based on the November sampling event results, re-development of the monitoring wells reduced the turbidity of the samples thereby reducing the reported lead concentrations. The filtered samples were not analyzed. Copies of the analytical reports are presented in Attachment D.

TASK 4:

On December 8, 1992, an ESI environmental engineer and construction testing technician supervised the excavation of test pits TP-8, TP-9 and TP-10 in the area of lead contaminated soil (referred to as Area A in summary report). Refer to Attachment E for the associated test pit logs and photographs. The test pit locations are shown on the Site Plan in Attachment A.

ESI completed in-place density and percent moisture testing during the excavation of each test pit. The data collected from the field testing was used to determine the approximate density (unit weight) of the contaminated soils. Table 2 summarized the field testing completed during excavation of the test pits.

TABLE 2

SUMMARY OF FIELD TESTING COMPLETED DURING EXCAVATION OF TEST PITS TP-8, TP-9 AND TP-10

Test Pit	Depth (feet)	In-Place Moisture (%)	In-Place Density (pounds/cubic foot)	Calculated Tons/Cubic Yard
TP-8	2	14.7	87.3	1.18
TP-8	4	12.5	102.3	1.38
TP-9	2	10.7	92.8	1.25
TP-9	4	13.6	94.4	1.27
TP-10	1.5	19.3	84.5	1.14
Average		14.2	92.3	1.24

The observed depths of foundry material in test pits TP-8, TP-9 and TP-10 was 6.0-feet, 6.5-feet and 2.0-feet, respectively. It appeared that varying quantities of silt, sand and gravel-type soils were mixed with the foundry material. Refer to the photographs in Attachment E for a visual representation of the subsurface conditions in the vicinity of test pit TP-8.

The field testing was completed at depths where the foundry material was observed and not on the native soils below. The average in-place moisture, in-place density and tons/cubic yard were 14.2 percent, 92.3 pound/cubic foot and 1.24 tons/cubic yard, respectively. The information in Table 2 will be information required by potential stabilization contractors and for estimating disposal costs.

TASK 5:

In addition to determining the approximate densities of the lead contaminated soils, another purpose for excavating the test pits was to evaluate whether the lead contaminated soils could be separated from non-hazardous soils using an industrial sized screen during soil remediation. One (1) representative soil sample (5-gallon pail) was collected from each test pit spoil pile for analysis at ESI's construction testing laboratory. Each sample was placed on a one (1) inch sieve screen and slightly agitated to allow the soil particles less than one (1) inch diameter to pass through the sieve screen. ESI weighed the sample prior to placing on the sieve and the material passing through the sieve. The percent by weight passing through the one (1) inch sieve for the test pits TP-8, TP-9 and TP-10 was 90.55%, 84.91% and 79.31%, respectively. Therefore, it appears that approximately fifteen (15) percent could be separated during remediation using this technique.

ESI collected a composite sample of the material retained on the one (1) inch sieve and a separate composite sample of the material passing through the sieve. Both samples were analyzed for lead using the United States Environmental Protection Agency (USEPA) Toxicity Characteristic Leachate Procedure (TCLP). The analytical results indicated the material less than one (1) inch in diameter contained a TCLP lead concentration of 15.1 mg/l and the material greater than one (1) inch in diameter contained 0.68 mg/l TCLP lead. The USEPA TCLP criteria for hazardous waste is greater than or equal to 5 mg/l lead.

Based on the limited analytical testing completed on the test pit samples, soils within the lead contaminated area greater than one (1) inch in diameter are likely to be non-hazardous and soils less than one (1) inch in diameter may contain elevated lead levels. These elevated lead levels would probably be to the presence of grinding dust as discussed in detail in the June 11, 1992 Summary Report for the site. Using industrial sized screens during soil remediation to separate the waste could potentially result in a fifteen (15) percent reduction in hazardous waste generated.

SUMMARY AND CONCLUSIONS:

In summary, the findings of the above mentioned tasks are expected to complete the final phase of the environmental evaluation work required at the Ellison Bronze Company site prior to remediation of contaminated soils. The significant conclusions generated from this work has been summarized in this letter report which serves as an addendum to the June 11, 1992 summary report for the site. Specific findings include:

- The ground water flow direction beneath the site was to the east northeast on March 3 and November 13, 1992.

- The ground water quality beneath the site was reported to contain elevated lead concentrations based on the March 3, 1992 sampling event. The analytical results corresponding to the November 13, 1992 sampling (after monitoring well re-development), indicates the lead concentration in the ground water is at or near the NYSDEC Class GA ground water standard for lead.

- The observed thickness of foundry waste material in test pits TP-8, TP-9 and TP-10 was 6.0-feet, 5.5-feet and 2.0-feet, respectively. Varying quantities of silt, sand and gravel-type soils were mixed with the foundry material.

- The average percent moisture and in-place density of the foundry material were measured to be 14.2 percent and 1.24 tons per cubic yard, respectively.

- Approximately 85 percent of the soil excavated from test pits TP-8, TP-9 and TP-10 contained a grain size diameter of less than one (1) inch. This material was tested to be hazardous waste for lead (TCLP lead concentration of 15.1 mg/l).

- The remaining fifteen (15) percent of the soil excavated from the test pits consisted of material with greater than one (1) inch grain size. This material was tested to be non-hazardous (TCLP lead concentration of 0.68 mg/l).

We trust the enclosed information will be incorporated into the conclusions and significant findings of the June 11, 1992 summary report. Please contact our office if you have any questions regarding this letter report or the June 11, 1992 summary report.

Respectfully Submitted,
EMPIRE SOILS INVESTIGATIONS, INC.

Kevin J. Shanahan

Kevin J. Shanahan
Environmental Engineer

Donald B. Abrams

Donald B. Abrams
Senior Environmental Geologist

xc: Jerry Pietraszek, NYSDEC
Martin Doster, NYSDEC
Cameron O'Conner, NYSDOH
James Kay, CRA

Huntingdon
Consulting Engineers Environmental Scientists

Empire Soils Investigations, Inc., Division
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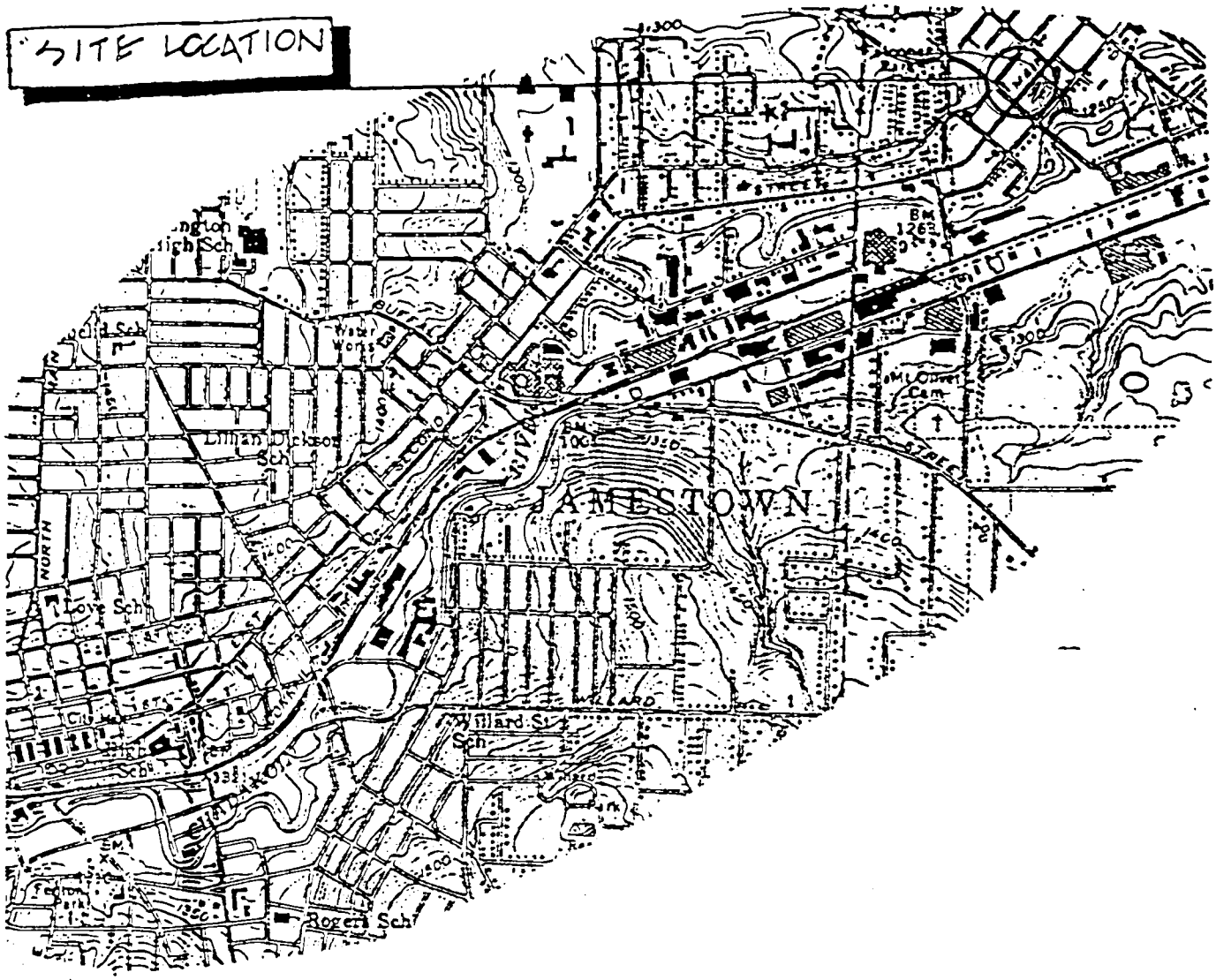
APPENDIX A

SITE LOCATION



Notes

- THIS DRAWING IS FOR ILLUSTRATIVE PURPOSES ONLY.
- THIS PLAN WAS ADAPTED FROM A USGS JAMESTOWN NEW YORK MAP DATED 1965.

N

EMPIRE SOILS INVESTIGATIONS INC.	SITE LOCATION PLAN	
ELLISON BRONZE COMPANY 125 WEST MAIN STREET, FALCONER, NEW YORK		
DRAWN BY: KJS	SCALE: 1" = 2000'	PROJECT: BTA-92-266
CHECKED BY: DBA	DATE: APRIL 1993	DRAWING NO. 1

Huntingdon
Consulting Engineers Environmental Scientists

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APPENDIX B

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LIMITATIONS

1. Empire Soils Investigations, Inc. (ESI) work was completed in accordance with generally accepted practices of other consultants undertaking similar studies, and ESI observed that degree of care and skill generally exercised by other consultants under similar circumstances and conditions. ESI's findings and conclusions must be considered not as scientific certainties but as probabilities based on our professional judgement concerning the significance of the limited data gathered during the course of the work.

2. The Environmental Investigation completed has not included comprehensive analytical testing on the site due to cost constraints. Without such testing, ESI can assume no responsibility for the undetected presence of either identified potential conditions or other latent conditions.

3. The observations described in this report were made under conditions stated therein. The conclusions presented in the report were based solely upon the services described therein and not on tasks and procedures beyond the scope of described services or the time and budgetary constraints imposed by the client.

4. In preparing this report, ESI has relied on certain information provided by the State, County and Town Officials and other parties referenced herein and on information contained in the files of the state and local agencies made available to ESI at the time this report was prepared.

5. Observations were made of the subject site and on adjacent sites as indicated within the report. Where access to portions of the site or structures were limited or unavailable, ESI renders no opinion as to the presence of hazardous materials or to the presence of indirect evidence relating to hazardous material in that portion of the site or adjacent structures.

6. Unless otherwise specified in the report, ESI did not perform testing or analyses to determine the presence of concentrations of hazardous chemical compounds, asbestos, polychlorinated biphenyls (PCB's), oil, gasoline, radon and lead paint at the subject property.

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LIMITATIONS (Continued)

7. The purpose of the Environmental Ivestigation was to assess the physical characteristics of the subject property with respect to the presence in the environment of hazardous materials. No specific attempt was made to check on the compliance of present or past owners or operators of the site with federal, state or local laws and regulations, environmental or otherwise.

8. Except as noted within the text of the report, no quantitative laboratory testing was performed as part of the Environmental Investigation. Where such analyses have been conducted by a laboratory, ESI has relied upon the data provided and has not conducted an independent evaluation of the reliability of these data.

9. Evaluation of the possible impact of activities at neighboring locations on the subject property was beyond the scope of services for this investigation.

11. This report has been prepared for the exclusive use of the Dowcraft Corporation and its designated agents and lending institutions for the specific application to the subject property in accordance with generally accepted engineering practice. No other warrant, expressed or implied, is made. The environmental concerns noted in this report (if any) are applicable to the current identified proposed usage of this property.

12. ESI cannot warranty that the proposed Remediation Plan will successfully remove the levels of contamination identified at Ellison Bronze Company property.

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APPENDIX C

Huntingdon

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WELL DEVELOPMENT RECORD

PROJECT: ELLISON BRONZE REMEDIATION

PROJECT NUMBER: BTA-92-266 DATE: 11-13-92

LOCATION: 125 W. MAIN STREET, FALCONER, NEW YORK 14733

WELL NUMBER: ESI - 1

PERSONNEL: K. SHANAHAN

DEVELOPMENT METHOD: BAILERS - BK PUMP - PERASTALLIC PUMP
DOWN HOLE PUMP - COMPRESSED AIR
OTHER: _____

REQUIRED DEVELOPMENT CRITERIA:

TURBIDITY	-	NTU
WELL VOLUMES	10	
STABLE pH	X	
STABLE CONDUCTIVITY	X	

WATER LEVEL PRIOR TO DEVELOPMENT	10.23	(elevation in feet)
WATER LEVEL AFTER DEVELOPMENT	10.48	(elevation in feet)
DEVELOPMENT STARTED	10:20	
DEVELOPMENT COMPLETED	11:05	
TOTAL VOLUME OF WATER REMOVED	12.5	GALLONS

VOLUME EVACUATED (GALLONS)	pH (STANDARD UNITS)	CONDUCTIVITY (umhos cm) x 10	TEMPERATURE (DEGREES F)	TURBIDITY NTU
0	7.19	450	11.7	-
2.5	7.05	436	10.9	-
5.0	6.88	471	10.7	-
7.5	6.87	471	10.7	-
10.0	7.23	482	12.5	-
12.5	7.24	499	11.4	-

NOTES: GROUND WATER APPEARED TO CLEAR WITH NO DETECTABLE ODOR

Huntingdon

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WELL DEVELOPMENT RECORD

PROJECT: ELLISON BRONZE REMEDIATION

PROJECT NUMBER: BTA-92-266 DATE: 11-13-92

LOCATION: 125 W. MAIN STREET, FALCONER, NEW YORK 14733

WELL NUMBER: ESI - 2

PERSONNEL: K. SHANAHAN

DEVELOPMENT METHOD: BAILERS - BK PUMP - PERASTALLIC PUMP
DOWN HOLE PUMP - COMPRESSED AIR
OTHER: _____

REQUIRED DEVELOPMENT CRITERIA:

TURBIDITY	-	NTU
WELL VOLUMES	10	
STABLE pH	X	
STABLE CONDUCTIVITY	X	

WATER LEVEL PRIOR TO DEVELOPMENT	7.27	(elevation in feet)
WATER LEVEL AFTER DEVELOPMENT	7.27	(elevation in feet)
DEVELOPMENT STARTED	11:20	
DEVELOPMENT COMPLETED	12:00	
TOTAL VOLUME OF WATER REMOVED	14.4	GALLONS

VOLUME EVACUATED (GALLONS)	pH (STANDARD UNITS)	CONDUCTIVITY (umhos cm) x 10	TEMPERATURE (DEGREES F)	TURBIDITY NTU
0	6.99	550	10.9	-
2.8	6.87	564	9.9	-
5.6	6.86	560	10.0	-
8.4	6.75	558	9.9	-
11.2	6.86	561	9.6	-
14.4	6.86	557	9.8	-

NOTES: GROUND WATER APPEARED TO CLEAR WITH NO DETECTABLE ODOR

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Fax (716) 649-8051

WELL DEVELOPMENT RECORD

PROJECT: ELLISON BRONZE REMEDIATION

PROJECT NUMBER: BTA-92-266 DATE: 11-13-92

LOCATION: 125 W. MAIN STREET, FALCONER, NEW YORK 14733

WELL NUMBER: ESI - 3

PERSONNEL: K. SHANAHAN

DEVELOPMENT METHOD: BAILERS - BK PUMP - PERASTALLIC PUMP
DOWN HOLE PUMP - COMPRESSED AIR
OTHER: _____

REQUIRED DEVELOPMENT CRITERIA:

TURBIDITY	-	NTU
WELL VOLUMES	10	
STABLE pH	X	
STABLE CONDUCTIVITY	X	

WATER LEVEL PRIOR TO DEVELOPMENT 7.59 (elevation in feet)
WATER LEVEL AFTER DEVELOPMENT 7.60 (elevation in feet)
DEVELOPMENT STARTED 12:15
DEVELOPMENT COMPLETED 12:50
TOTAL VOLUME OF WATER REMOVED 10.0 GALLONS

VOLUME EVACUATED (GALLONS)	pH (STANDARD UNITS)	CONDUCTIVITY (umhos cm) x 10	TEMPERATURE (DEGREES F)	TURBIDITY NTU
0	7.33	1021	14.1	-
2	7.26	901	11.7	-
4	7.00	922	12.1	-
6	7.31	936	14.8	-
8	7.17	940	12.4	-
10	6.93	940	12.7	-

NOTES: GROUND WATER APPEARED TO CLEAR WITH NO DETECTABLE ODOR

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APPENDIX D

ENVIRONMENTAL ANALYTICAL REPORT

REPORT NUMBER: 92-1732

PREPARED FOR:

EMPIRE SOILS INVESTIGATIONS, INC.
S-5167 SOUTH PARK AVENUE
HAMBURG, NEW YORK 14075

RE: BTA-92-266; ELLISON BRONZE

PREPARED BY:

HUNTINGDON ANALYTICAL SERVICES
DIVISION OF EMPIRE SOILS INVESTIGATIONS, INC.
P.O. BOX 250
MIDDLEPORT, NEW YORK 14105
TELEPHONE: 716/735-3400; FAX: 716/735-3653

NOVEMBER 24, 1992

Huntingdon
Analytical Laboratory

Analytical Services Division

HUNTINGDON ANALYTICAL SERVICES
ELAP #10833
ENVIRONMENTAL REPORT

REPORT NUMBER: 92-1732

STATEMENT OF WORK PERFORMED

I HEREBY DECLARE THAT THE WORK WAS PERFORMED UNDER MY SUPERVISION ACCORDING TO THE PROCEDURES OUTLINED BY THE FOLLOWING REFERENCES AND THAT THIS REPORT PROVIDES A CORRECT AND FAITHFUL RECORD OF THE RESULTS OBTAINED.

- 40 CFR PART 136, "GUIDELINES ESTABLISHING TEST PROCEDURES FOR THE ANALYSIS OF POLLUTANTS UNDER THE CLEAN WATER ACT", OCTOBER 26, 1984 (FEDERAL REGISTER) U. S. ENVIRONMENTAL PROTECTION AGENCY.

- U.S. ENVIRONMENTAL PROTECTION AGENCY, "TEST METHODS OF EVALUATING SOLID WASTE - PHYSICAL/CHEMICAL METHODS", OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, SW-846, 2ND EDITION AND 3RD EDITION.

ANDREW P. CLIFTON NOVEMBER 24, 1992
ENVIRONMENTAL LABORATORY DIRECTOR

REPORT CODE LEGEND:

< DL	= LESS THAN DETECTION LIMIT
ND	= NOT DETECTED
NA	= NOT APPLICABLE
INP	= INFORMATION NOT PROVIDED
MB	= METHOD BLANK

Huntingdon
Analytical Laboratory

Analytical Services Division

HUNTINGDON ANALYTICAL SERVICES

Analyte: LEAD

Date Sampled: 11/13/92
Date Prepared: 11/18/92

SAMPLE ID: HAS #	CLIENT	EPA METHOD	DATE ANALYZED	DETECTION LIMIT	RESULT mg/l	QC
1732-01	ESI-3	6010	11/20/92	0.04	0.04	*95
1732-02	ESI-2	6010	11/20/92	0.04	<DL	*95
1732-03	ESI-1	6010	11/20/92	0.04	<DL	*95
1732-MB	METHOD BLANK	6010	11/20/92	0.04	<DL	*95

*THIS INDICATES A 95% CONFIDENCE LIMIT ACHIEVED WITH AN EPA QUALITY CONTROL SOLUTION ANALYZED ALONG WITH YOUR SAMPLE.

HUNTINGDON ANALYTICAL SERVICES - CHAIN-OF-CUSTODY RECORD AND ANALYTICAL REQUEST FORM

Page 1 of 1

Client Name: Empire Soils Investigations, Inc.
Address: 8-5167 South Park Avenue, Hamburg, New York 14075
Client Contact: Kevin J. Shanahan
Phone: (716)649-8110
HAS Quote #:
P.O. #:

Project No.: BTA 92766
Project/Site Name: Ellison Bronte
Samplers (Signature): Kevin J. Shanahan
HAS Ref. #: 92-1732

Sample I.D.	Date	Time	Comp.	Grab	Location	Sample Seq. #	HAS Matrix	# of Containers	Container Size & Type: 500ml plastic	Analysis Requested/ Remarks
ESI-3	11/13/96	11:10		X		01	LW	1		TOTAL LEAD
ESI-2	"	12:05		X		02	LW	1		" "
ESI-1	"	1:00		X		03	LW	1		" "
						RB				TCLP

Relinquished by: Kevin J. Shanahan — Date/Time: 11/13/96 13:00 — Received by: EST Cooler
Relinquished by: Karen Lemen — Date/Time: 11/13/96 2:30pm — Received by:
Date/Time: — Received from lab by:

Relinquished by: EST Cooler — Date/Time: 11-17 13:00 — Received By: Karen Lemen
Relinquished by: — Date/Time: — Received By:
Date/Time: — Remarks:

ENVIRONMENTAL ANALYTICAL REPORT

REPORT NUMBER: 93-0052

PREPARED FOR:

EMPIRE SOILS INVESTIGATIONS, INC.
S-5167 SOUTH PARK AVENUE
HAMBURG, NEW YORK 14075

RE: BTA-92-266; ELLISON BRONZE

PREPARED BY:

HUNTINGDON ANALYTICAL SERVICES
DIVISION OF EMPIRE SOILS INVESTIGATIONS, INC.
P.O. BOX 250
MIDDLEPORT, NEW YORK 14105
TELEPHONE: 716/735-3400; FAX: 716/735-3653

FEBRUARY 5, 1993

Huntingdon
Analytical Laboratory
Analytical Services Division

HUNTINGDON ANALYTICAL SERVICES
ELAP #10833
ENVIRONMENTAL REPORT

REPORT NUMBER: 93-0052

STATEMENT OF WORK PERFORMED

I HEREBY DECLARE THAT THE WORK WAS PERFORMED UNDER MY SUPERVISION ACCORDING TO THE PROCEDURES OUTLINED BY THE FOLLOWING REFERENCES AND THAT THIS REPORT PROVIDES A CORRECT AND FAITHFUL RECORD OF THE RESULTS OBTAINED.

- 40 CFR PART 136, "GUIDELINES ESTABLISHING TEST PROCEDURES FOR THE ANALYSIS OF POLLUTANTS UNDER THE CLEAN WATER ACT", OCTOBER 26, 1984 (FEDERAL REGISTER) U. S. ENVIRONMENTAL PROTECTION AGENCY.

- U.S. ENVIRONMENTAL PROTECTION AGENCY, "TEST METHODS OF EVALUATING SOLID WASTE - PHYSICAL/CHEMICAL METHODS", OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, SW-846, 2ND EDITION AND 3RD EDITION.

THIS REPORT CONTAINS ANALYTICAL DATA BASED ON OUR EXAMINATION OF THE SAMPLE(S) PRESENTED TO US. THIS REPORT CONTAINS (EXCEPT WHERE EXPLICITLY STATED) A COMPLETE ACCOUNT OF THE ANALYSES REQUESTED TO BE PERFORMED ON THE SAMPLE(S). INFORMATION WHICH WAS NOT REQUESTED TO BE REPORTED IS NOT INCLUDED.

ANDREW P. CLIFTON FEBRUARY 5, 1993
ENVIRONMENTAL LABORATORY DIRECTOR

REPORT CODE LEGEND:

<DL	= LESS THAN DETECTION LIMIT
ND	= NOT DETECTED
NA	= NOT APPLICABLE
INP	= INFORMATION NOT PROVIDED
MB	= METHOD BLANK

Huntingdon
Analytical Laboratory

Analytical Services Division

HUNTINGDON ANALYTICAL SERVICES

METALS ANALYSIS - TCLP DATA SHEET

Analyte:	TCLP LEAD
EPA Limit:	5.0 mg/L
Date Sampled :	1/08/93
Date Prepared:	1/28/93

SAMPLE ID: HAS #	CLIENT	EPA METHOD	DATE ANALYZE	DET.LIMIT (mg/L)	RESULT mg/L	QC	SPIKE %REC	RPD
0052-01	> 1-INCH	6010	2/03/93	0.40	0.68	*95		
0052-02	< 1-INCH	6010	2/03/93	0.40	15.1	*95	88.0	2.6
0052-B#1	B#1	6010	2/02/93	0.40	<DL	*95		

*THIS INDICATES A 95% CONFIDENCE LIMIT ACHIEVED WITH AN EPA QUALITY CONTROL SOLUTION ANALYZED ALONG WITH YOUR SAMPLE.

EMPIRE SOILS INVESTIGATIONS, INC.

HUNTINGDON ANALYTICAL SERVICES - CHAIN-OF-CUSTODY RECORD AND ANALYTICAL REQUEST FORM

PAGE 1 OF 1

Client Name: EST - Buffalo

Address:

Client Contact: K. Shanahan

Phone: 649 8110

HAS Quote #

P.O. #

Project No.:	Project/Site Name:	Sample's Signature:	HAS Ref. No: ~~92-0011~~ 93-0052
BTA 92266	Ellison Bronze	Karen J. Shanahan	

Sample I.D.	Date	Time	Comp or Grab	Sample Location	HAS Seq. #	MATRIX	No. of Cont.	Container Size & Type: 950 glass	Analysis Requested/Remarks
>1-INCH	1/8/93	4:20	C		01	S	1	1	TCLP Lead
<1-INCH	1/8/93	"	"		02	S	1	1	" "
					PLP				

KTC

Relinquished by:	Date/Time:	Received by:	Relinquished by:	Date/Time:	Received by:
Karen J. Shanahan	1/8/93 4:45	EST Cooler	EST Cooler	1/12/93 8:40	Karen Kremer
Relinquished by: Karen Kremer	Date/Time: 1/12/93 5:10	Received for Lab by: Tony Fish	Date/Time: 1-12-93 5:10 pm	Remarks: HAS Cooler Pam Pearson 1/13/93 8:00	

C:\QPRO\COC-1

Huntingdon
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APPENDIX E

TEST PIT FIELD LOG

EMPIRE SOILS INVESTIGATIONS INC.

PROJECT
DESCRIPTION ELLISON BRONZE SITE
LOCATION 125 W. MAIN ST., FALCONER, NY

TEST PIT NO. TP-8
FILE NO. BTA-92-266
DATE 12/8/92

ENGINEER K. Shanahan
WEATHER Drizzel 40's

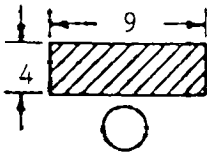
EXCAVATION EQUIPMENT
CONTRACTOR Barnes Construction
OPERATOR Jeff Barnes
MAKE John Deere MODEL 510 B Turbo
CAPACITY C.Y. REACH FT.

GROUND ELEV.
TIME STARTED 10:15
TIME COMPLETED 10:40

DEPTH	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS.	REMARK NO.
0'	Gray f-c SAND and f-c Gravel, tr. silt (moist, FILL)	E		
1'	Black, Brown and f-c SAND, some Silt, little Gravel, tr. cinders, tr. glass, tr. wood, tr. brick (moist, FILL)	E		
2'		E		
3'		E		
4'		E		
5'		E		1
6'		E		
7'	Gray - Brown f-c SAND and fine Gravel, little Silt (wet, SW)			2
8'	Test pit complete at 7.0 feet			
9'				
10'	Refer to attached photographs			
11'				
12'				
13'				
14'				

REMARKS: 1. Apparent foundry waste present from 0.5 feet to 6.0 feet.
2. Ground water encountered at 6 feet, 7 inches below grade

TEST PIT PLAN



VOLUME = 9 C.Y.

LEGEND:

BOULDER COUNT

SIZE RANGE CLASSIFICATION	LETTER DESIGNATION
6" - 18"	A
18" - 36"	B
36" AND LARGER	C

PROPORTIONS USED

TRACE (TR.)	0 - 10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 - 35%
AND	35 - 50%

ABBREVIATIONS

F - FINE
M - MEDIUM
C - COARSE
F/M - FINE TO MEDIUM
F/C - FINE TO COARSE
V - VERY
GR. - GRAY
BN. - BROWN
YEL. - YELLOW

EXCAVATION EFFORT

EASY — E
MODERATE — M
DIFFICULT — D

GROUNDWATER

ELAPSED TIME TO READING (HRS.) 2 G.W.L.

TEST PIT FIELD LOG

EMPIRE SOILS INVESTIGATIONS INC.

PROJECT
DESCRIPTION ELLISON BRONZE SITE
LOCATION 125 W. MAIN ST., FALCONER, NY

TEST PIT NO. TP-9
FILE NO. BTA-92-266
DATE 12/8/92

ENGINEER K. Shanahan
WEATHER Drizzel 40's

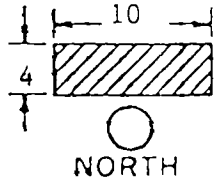
EXCAVATION EQUIPMENT
CONTRACTOR Barnes Construction
OPERATOR Jeff Barnes
MAKE John Deere MODEL 510 B Turbo
CAPACITY ____ C.Y. REACH ____ FT.

GROUND ELEV. ____
TIME STARTED 9:45
TIME COMPLETED 10:10

DEPTH	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS.	REMARK NO.
0'	Gray f-c SAND and f-c Gravel, little Silt (moist, FILL)	E		
1'				
2'	Black and Brown f-c SAND, little Silt, tr. gravel, tr. cinders, tr. metal (moist, FILL)	E		
3'		E		
4'	Occasional Green c. Sand Seams	E		
5'		E		
6'		E		
7'	Gray Brown f-c SAND and fine Gravel, little Silt(wet,SW)			1
8'	Test pit complete at 7.0 feet			2
9'				
10'				
11'				
12'				
13'				
14'				

REMARKS:
1. Apparent foundry waste present from 1.0 feet to 6.5 feet below grade with percent foundry waste reducing significantly between 5-feet and 6-feet below grade
2. Ground water encountered at 6-feet, 7 inches below grade

TEST PIT PLAN



VOLUME = 10 C.Y.

LEGEND:

BOULDER COUNT

SIZE RANGE CLASSIFICATION	LETTER DESIGNATION
6"-18"	A
18"-36"	B
36" AND LARGER	C

PROPORTIONS USED

TRACE (TR.)	0-10%
LITTLE (LI.)	10-20%
SOME (SO.)	20-35%
AND	35-50%

ABBREVIATIONS

F - FINE
M - MEDIUM
C - COARSE
F/M - FINE TO MEDIUM
F/C - FINE TO COARSE
V - VERY
GR. - GRAY
BN. - BROWN
YEL. - YELLOW

EXCAVATION EFFORT

EASY — E
MODERATE — M
DIFFICULT — D

GROUNDWATER

ELAPSED TIME TO READING (HRS.) 2 G.W.L.

TEST PIT FIELD LOG

EMPIRE SOILS INVESTIGATIONS INC.

PROJECT
DESCRIPTION ELLISON BRONZE SITE
LOCATION 125 W. MAIN ST., FALCONER, NY

TEST PIT NO. TP-10
FILE NO. BTA-92-266
DATE 12/8/92

ENGINEER K. Shanahan
WEATHER Drizzel 40's

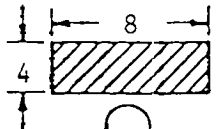
EXCAVATION EQUIPMENT
CONTRACTOR Barnes Construction
OPERATOR Jeff Barnes
MAKE John Deere MODEL 510 B Turbo
CAPACITY C.Y. REACH FT.

GROUND ELEV.
TIME STARTED 10:50
TIME COMPLETED 11:05

DEPTH	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS.	REMARK NO.
0'	Gray f-c SAND and f-c Gravel, tr. silt, tr. cinders (moist, FILL)	E		
1'	Brown and Black f-c SAND, some black Silt, tr. cinders (moist, FILL)	E		1
2'	Brown f-c SAND and f-c Gravel, little Silt (moist; SW)	E		
3'		E		
4'	Occasional fine Sand Seams	E		2
5'		E		
6'	Test pit complete at 5.0 feet			
7'				
8'				
9'				
10'				
11'				
12'				
13'				
14'				

REMARKS: 1. Apparent foundry waste present from 0.5 feet to 2.0 feet below grade
2. No ground water encountered

TEST PIT PLAN



VOLUME = 6 C.Y.

LEGEND:

BOULDER COUNT

SIZE RANGE CLASSIFICATION	LETTER DESIGNATION
6"-18"	A
18"-36"	B
36" AND LARGER	C

PROPORTIONS USED

TRACE (TR.)	0-10%
LITTLE (LI.)	10-20%
SOME (SO.)	20-35%
AND	35-50%

ABBREVIATIONS

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F/M - FINE TO MEDIUM
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V - VERY
GR. - GRAY
BN. - BROWN
YEL. - YELLOW

EXCAVATION EFFORT

EASY — E
MODERATE — M
DIFFICULT — D

GROUNDWATER

ELAPSED TIME TO READING (HRS.) G.W.L.

EMPIRE
SOILS INVESTIGATIONS, INC.

CLIENT: Ellison Bronze Company

PROJECT: Ellison Bronze Remediation

PROJECT LOCATION: 125 West Main Street, Falconer, New York

PROJECT NUMBER: BTA-92-266 **DATE PHOTOGRAPHED** 12/8/92

PHOTOGRAPHED BY: K. Shanahan **PHOTOGRAPH** 1 **OF** 2

DESCRIPTION: This photograph was taken of test pit TP-8 after excavation was completed. The foundry material consists primarily of black and brown fine to coarse sand. Sand and gravel fill material was present near the ground surface.

EMPIRE SOILS INVESTIGATIONS, INC.
S-5167 SOUTH PARK AVENUE o P.O. BOX 0913 o HAMBURG, NY 14075

EMPIRE
SOILS INVESTIGATIONS, INC.

CLIENT: Ellison Bronze Company

PROJECT: Ellison Bronze Remediation

PROJECT LOCATION: 125 West Main Street, Falconer, New York

PROJECT NUMBER: BTA-92-266 **DATE PHOTOGRAPHED** 12/8/92

PHOTOGRAPHED BY: K. Shanahan **PHOTOGRAPH** 2 **OF** 2

DESCRIPTION: This photograph illustrates the spoil pile generated during the excavation of test pit TP-8.