Department of Environmental Conservation

Division of Hazardous Waste Remediation

Record of Decision

Ellison Bronze Site
Village of Falconer, Chautauqua County
Site Number 9-07-018

March 1996

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* MICHAEL D. ZAGATA, *Commissioner*

DECLARATION STATEMENT - RECORD OF DECISION

Ellison Bronze Inactive Hazardous Waste Site
Village of Falconer, County of Chautauqua
Site No. 907018

Statement of Purpose and Basis

This Record of Decision (ROD) presents the selected remedial action for the Ellison Bronze inactive hazardous waste site which was chosen in accordance with the New York Environmental Conservation Law (ECL). The remedial program selected is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40 CFR 300).

This decision is based upon the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the Ellison Bronze Inactive Hazardous Waste Site and upon public input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. A bibliography of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Assessment of the Site

Actual or threatened releases of hazardous waste constituents from this site, if not addressed by implementing the response action selected in this ROD, presented a potential threat to public health and the environment.

Description of Selected Remedy

Based upon the results of the Remedial Investigation and the solidification/stabilization of the foundry wastes and stream sediments at the Ellison Bronze site, the NYSDEC has concluded that no further action is necessary. The actions already taken include:

* Excavation, stabilization and replacement of approximately 1150 cubic yards (1650 tons) of contaminated foundry waste and the excavation and stabilization of approximately 60 cubic yards (100 tons) of contaminated stream sediment.

* On-site stabilization consisting of mixing of the soils with Portland cement and water, then placement into the on-site excavation, final grading and placement of an asphalt cover over the parking area and placement of topsoil on the stream banks.

* Excavation monitoring and treatment monitoring to determine the limits of work and proper degree of treatment of the impacted soils.

Long-term monitoring will be completed to evaluate the effectiveness of the remedy. Monitoring will include:

a) Semi-annual inspections of the paved areas, grass area, stream banks and on-site monitoring wells.

b) Annual groundwater sampling of the three on-site wells. Analyses will include barium, iron, lead, and manganese. After 3 years, an assessment will be done regarding the continuance of the groundwater monitoring.

New York State Department of Health Acceptance

The New York State Department of Health concurs with the remedy selected for this site as being protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

3/28/96
Date

Michael J. O'Toole, Jr.
Director
Division of Hazardous Waste Remediation

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RECORD OF DECISION
ELLISON BRONZE COMPANY
Falconer(V), Chautauqua County, New York
Site #907018
February 1996

SECTION 1: SITE LOCATION AND DESCRIPTION

The Ellison Bronze Company is located at 125 Main Street, Falconer, New York. The site covers 2.6 acres. It is situated on the south side of Main Street, immediately northwest of the Chadakoin River and immediately southwest of Moon Brook (Figure 1). Approximately 2/3 of the property has been developed into a commercial door manufacturing plant with attendant parking areas. (Figure 2)

The topography along the southeast and northeast property lines slopes downward approximately 5 - 10 feet toward the Chadakoin River and Moon Brook, respectively. At the site, Moon Brook flows south into the Chadakoin River which flows generally eastward. Shallow overburden soils in the vicinity of the site consist of sand, or sand and gravel. The underlying bedrock at the site is shale which is present at a depth of approximately 300 feet.

The main hydrogeologic feature in the Jamestown/Falconer area is the Jamestown Aquifer, which is an artesian aquifer contained within the deep valley sands and gravel which are overlain by silts and clays. In the vicinity of the site, artesian water production has been reported from depths of less than 50 feet below ground surface. Artesian water is groundwater which is under sufficient natural pressure to rise to or above the ground surface.

SECTION 2: SITE HISTORY

2.1: Operational/Disposal History

This site has been used for industrial purposes since the 1880's. In 1912, Ellison Bronze acquired the property and operated a foundry until 1932. In 1932 Ellison Bronze revised operations to commercial door manufacturing, which is presently ongoing. 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 and as a requirement of the agreement, an environmental audit was completed in August 1991 and submitted to the New York State Department of Environmental Conservation (NYSDEC).

In June 1992, a Remedial Investigation (RI) was completed at the site by Empire Soils Investigations (ESI) on behalf of Dowcraft Corporation. The results of the RI identified two areas which presented a potential impact on the environment: a former chemical storage shed area and a foundry waste disposal area.

2.2: Nature and Extent of Contamination

The environmental concern with respect to the former chemical storage shed area was the presence of toluene in soils, extending to a depth of approximately two feet beneath the shed. These soils were excavated by Dowcraft and properly disposed off site in April, 1993. Total material excavated was 9 cubic yards of soil. File information is available showing that soils were removed to non-detect levels.

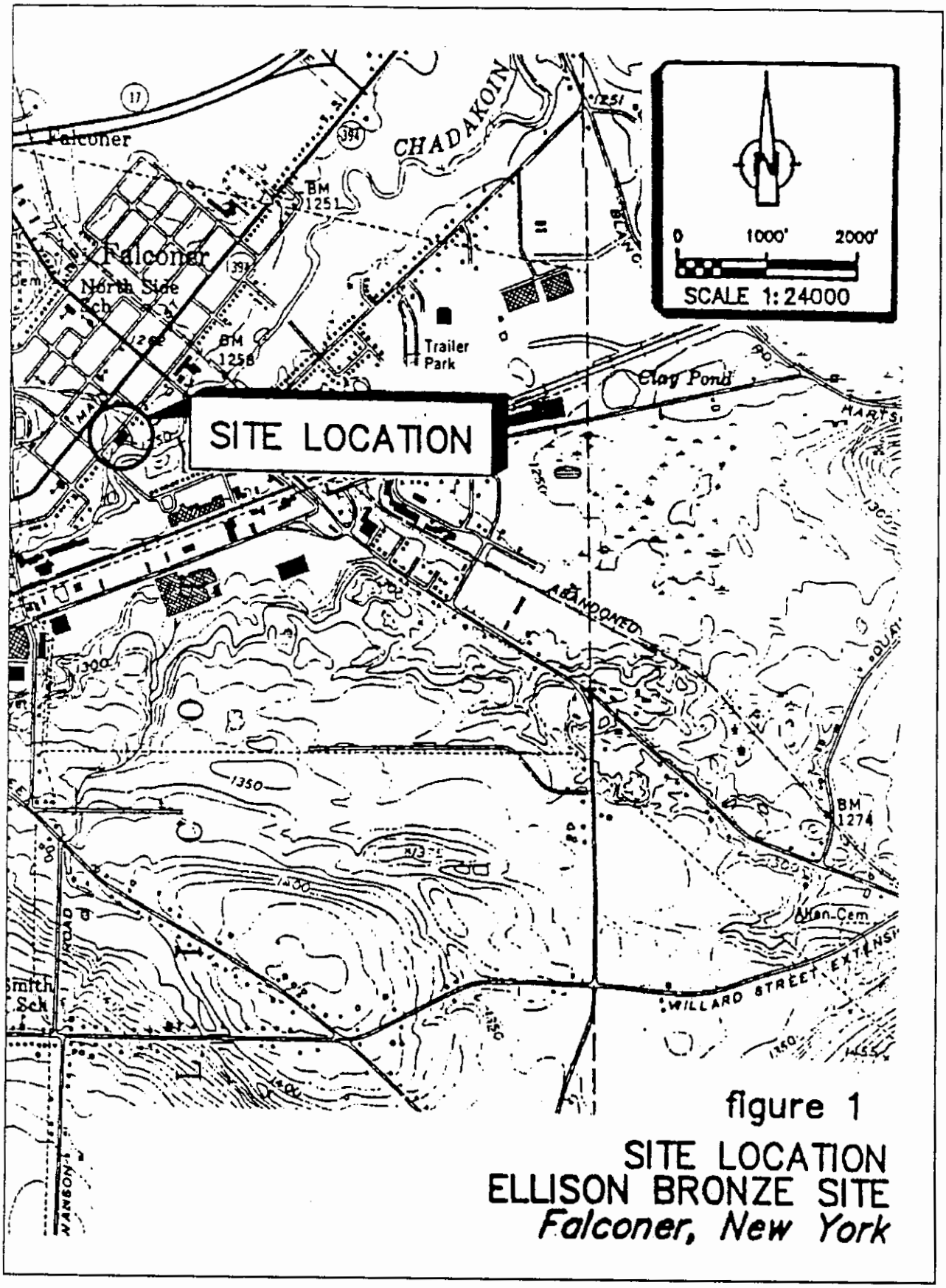

figure 1

SITE LOCATION
ELLISON BRONZE SITE
Falconer, New York

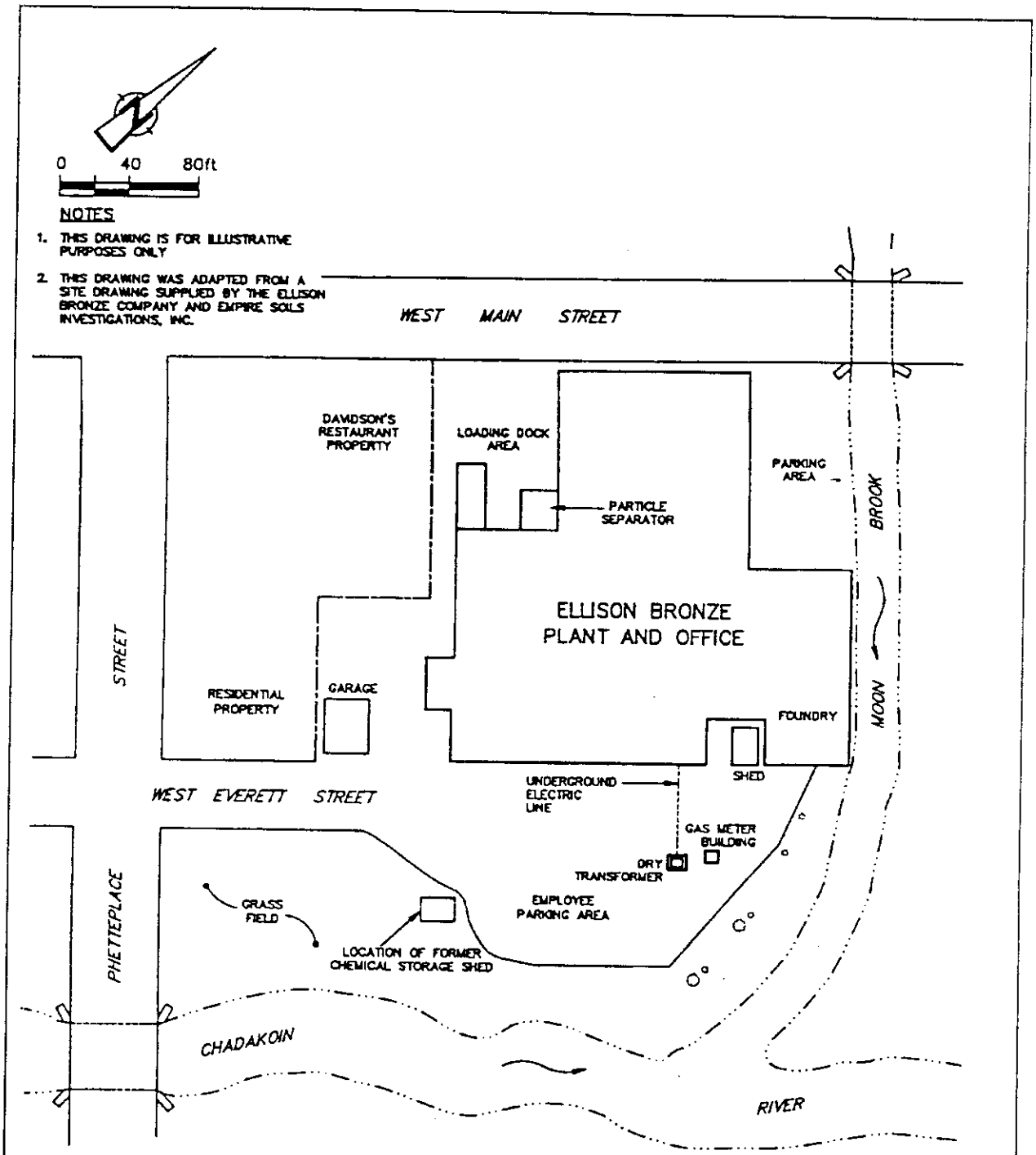

figure 2

SITE LAYOUT
ELLISON BRONZE SITE
Falconer, New York

CRA

The primary concern at this site was the potential for lead in discarded waste foundry sand and grinding dust to leach into groundwater. These spent wastes had, over the years, been deposited at the rear of the building along Moon Brook and the Chadakoin River, in an area which is now partially covered by a parking lot. Note limits of excavation on Figure 3. RI results indicated that lead levels in the foundry sand ranged from 156 parts per million (ppm) to 3,740 ppm (Table 1).

TABLE 1

Analytical Test Results for Subsurface Soil Samples		
Sample Location	Concentration (ppm)	
	Lead	Phenolics
TP-1	3,740	17.3
TP-2	2,850	3.58
TP-3	156	1.94
TP-4	919	3.99
TP-5	343	3.85

Additionally, elevated copper levels of up to 236 ppm were noted in the stream sediments of Moon Brook and the Chadakoin River, both of which border the site (Table 2). Copper is related to the foundry waste. It is not an issue on dry land but in stream sediments it can affect aquatic life. Lead was noted in sediments at levels below 69 ppm and therefore is not an issue in the streams. Total impacted soils included approximately 1,150 cubic yards from lead and 60 cubic yards from copper.

Groundwater at this site has not been impacted by solvents or related types of organic compounds (volatile or semi-volatile). Four metals were present at elevated levels in one or more groundwater samples from the three site monitoring wells, (Barium, iron, lead and manganese) (Table 3). Local residents are on public water supply. Surface water sampling was not warranted at this site.

2.3: Remedial Action

Results of the RI documented the disposal of hazardous waste and concluded that lead residue in the discarded foundry sand and grinding dust had the potential to leach from the waste material and enter the environment. It also concluded that high levels of copper in some stream sediments adjacent to the site had the potential to affect aquatic life. On February 26, 1993, the site was officially listed as a Class 2 site. A Class 2 site is a site at which hazardous waste disposal has been confirmed and this hazardous waste or its components or breakdown products presents a significant threat to the environment as described in Part 375-1.4.

TABLE 2

Analytical Test Results for Sediment Samples		
Sample Identification	Concentration (ppm)	
	Copper	Lead
SED-1	64.3	44.3
SED-2	140	68.5
SED-3	68.3	40.6
SED-4	236	21.4
SED-5	23.7	10.9
SED-6	17.5	11
SED-7	14.9	13

TABLE 3

Analytical Test Results for Metals in Groundwater				
PARAMETER	LOCATION & CONCENTRATION (ppm)			NYS GROUNDWATER STANDARD (ppm)
	ESI-1	ESI-2	ESI-3	
Aluminum	15.7	17.4	2.10	NS
Arsenic	0.01	0.01	<0.01	0.025
Barium	0.76	1.53	0.18	1.0
Calcium	103	60.9	51.5	NS
Copper	<0.14	0.56	<0.01	1.0
Iron	33.9	29.5	2.10	0.3
Lead	0.07	0.095	0.023	0.025
Magnesium	32.8	13.6	7.92	NS
Manganese	5.15	7.81	0.70	0.3
Sodium	69.6	30.2	26.7	NS
Zinc	0.30	0.25	<0.20	5.0

NS — No Standard

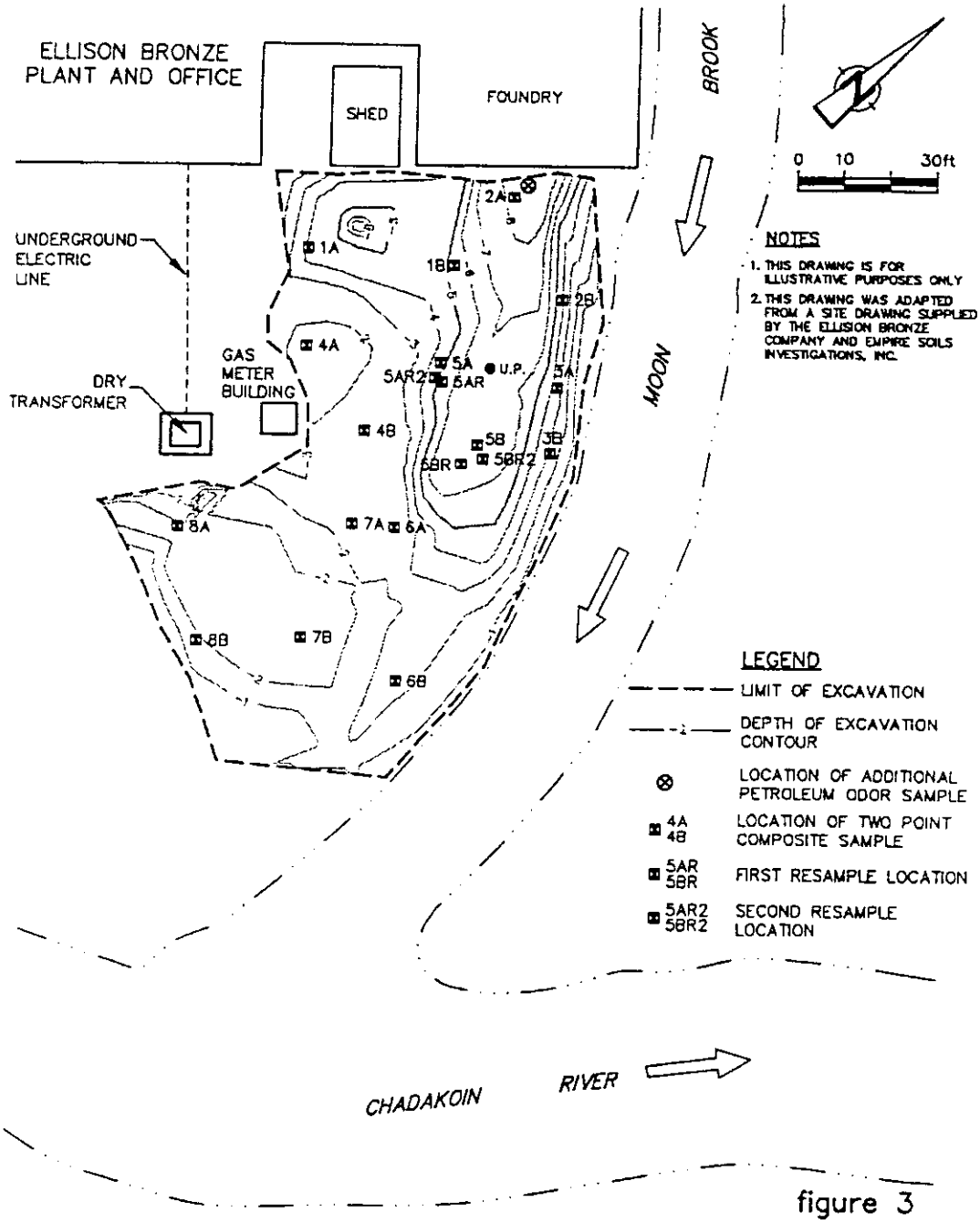

figure 3

CONFIRMATORY SOIL SAMPLE LOCATIONS
ELLISON BRONZE SITE
Falconer, New York

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To mitigate the lead and copper issue, an Interim Remedial Measure (IRM) Decision Document was prepared by the NYSDEC and presented to the public in May, 1995 for stabilization/solidification of the foundry sand and stream sediments, by mixing with cement and water. This process binds up the metals and prevents them from leaching into the environment.

2.4: Description of the Remedial Action

2.4.1: Pre-excavation Sampling

The work for this project included the excavation, stabilization and replacement of approximately 1,150 cubic yards (1650 tons) of contaminated foundry waste and the excavation and stabilization of 60 cubic yards (100 tons) of contaminated stream sediment.

The preliminary limits of excavation of foundry waste and stream sediments were determined in the RI. During construction, once the preliminary excavation limits were met, confirmation sampling was done to verify that agreed upon limits had been met. There were a couple of cases where it was not feasible to continue with the excavation and limits were set in the field based on best professional judgment and supporting data.

2.4.2: Soil Excavation

Excavation began at the northernmost limit of the contaminated area, where contamination was the highest and progressed south toward the lesser contaminated area. Excavation limits and confirmation soil sample locations are noted on Figure 3. The depth of the excavation varied between 0.5 feet and 9 feet. Excavated material was transferred to the on-site mixing station for stabilization.

2.4.3: Stream Sediment Excavation

Stream diversion measures were implemented prior to excavation of stream sediments through the use of concrete "Jersey Barriers," silt screen, hay bales, and sand bags. Excavation depth averaged 6 inch lifts and progressed in a downstream direction in both streams. Excavation limits and confirmation sediment sample locations are noted on Figure 4. Excavated sediment was placed in a temporary sediment staging area along the north bank of the Chadakoin River. A sediment trap was constructed of silt fence and hay bales on the downgradient side of the staging area to allow for percolation of free water from the sediments, through the filter media and back into the Chadakoin River.

2.4.4: Material Stabilization and Stockpiling

Upon excavation, soil and sediment was placed into a Pugmill mixing unit. Portland cement was added at a mixture ratio of 20 pounds of cement for 100 pounds of waste. Water was added at a ratio of 30 pounds of water for each 120 pounds of mixed cement/waste/sediment to achieve the desired mixture. Each batch was approximately 5 cubic yards in size. Stabilized waste was stockpiled in a secured staging area on the asphalt to the west of the excavation area. For each 25 cubic yards of treated material, a stabilized soil/sediment sample was taken. Each sample collected was analyzed, first by using the Toxic Characteristic Leaching Procedure (TCLP), then by analyzing the resulting extract, for lead, to confirm that the mixture was protective of groundwater. Stockpiled materials were covered at the completion of each day.

2.4.5: Backfilling

At the completion of each week, to the extent practicable, all stockpiled stabilized material which was

excavated from the foundry waste disposal area or from the stream channel, was placed within the excavation area on-site where excavation activities were complete. Stabilized materials were compacted to a standard proctor density of approximately 90 percent. In the parking area, 3 inches of gravel subbase and 3 inches of asphalt were placed over the fill materials. The unpaved areas, including the stream banks, received 6 inches of topsoil and then were seeded. The unpaved areas accounted for approximately 30-35% of the total excavated area.

2.4.6: Environmental Controls

a) Stream Bank Protection

During construction activities, the stream banks of the Chadakoin River and Moon Brook were protected from erosion through the use of hay bales, sandbags and silt fencing.

b)Stream Diversion

A cooperative agreement was reached between Ellison Bronze and the Jamestown Board of Public Utilities and reviewed by the DEC's, Division of Fish and Wildlife, whereby the flow in the river was reduced substantially during the stream work by controlling the water flow at the upstream, City of Jamestown, dam. Actual duration of stream work was a few days. Prior to work within the confines of the Chadakoin River, a stream diversion wall was installed to divert water from the work area. This consisted of Jersey Barriers, sand bags and silt fencing material.

c)Run-off Controls

All surface water runoff from the work areas was controlled by the use of berms, silt fencing and hay bales.

d)Dust Controls

Fugitive dust was controlled using a water misting system. Dust monitoring, to protect the public, was implemented in accordance with the Health and Safety Plan. During the remedial work, there were no violations of pre-established air limits.

e)Decontamination

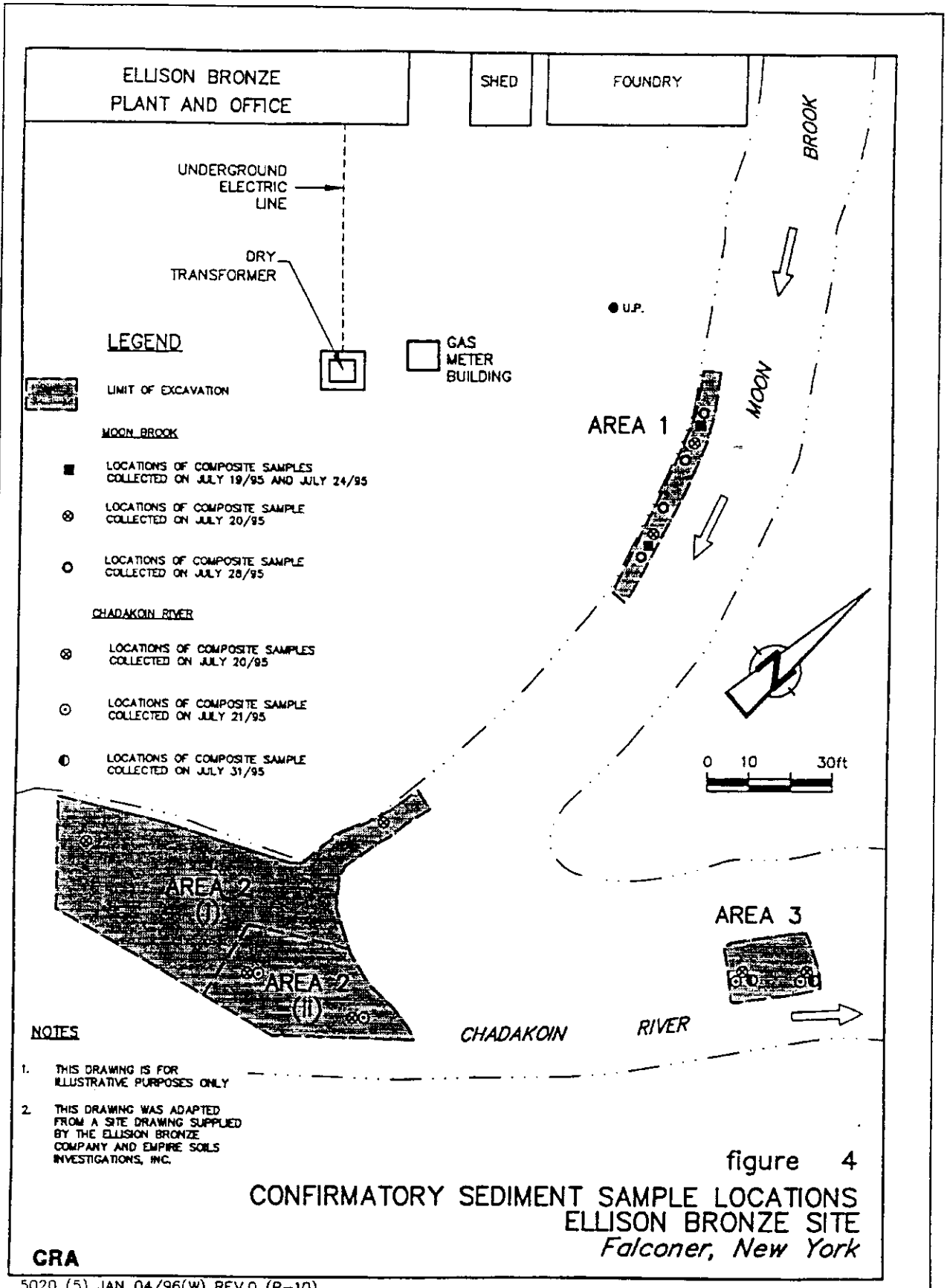
A decontamination area was constructed at the site for equipment cleaning. A Personnel decontamination area was set up adjacent to the site trailer immediately outside of the work area.

f)Long Term Monitoring

Semi-annual inspections of the paved areas, grass area, stream banks and on-site monitoring wells will be conducted. Groundwater samples will be collected on an annual basis from the three on-site monitoring wells and analyzed for barium, iron, lead and manganese.

SECTION 3: CURRENT STATUS

An IRM was conducted at the site between June and August of 1995. The IRM, as described in Section 2.4, consisted of excavation of foundry wastes and creek sediments, mixing of the excavated material with cement and water, then backfilling into the on-site excavated areas as a solidified/stabilized material. Confirmatory sampling of excavated areas found residual lead and copper to be at acceptable levels. Confirmatory sampling of treated material indicated that there were a few instances where groundwater standards were not exactly met, however, the levels attained were deemed appropriate. Three monitoring wells are in place to monitor for metals in groundwater. A Soil/Sediment Stabilization Summary Report is available which presents detailed information on the work performed.


ELLISON BRONZE
PLANT AND OFFICE
SHED
FOUNDRY
BROOK
UNDERGROUND
ELECTRIC
LINE
DRY
TRANSFORMER
U.P.
LEGEND
GAS
METER
BUILDING
LIMIT OF EXCAVATION
MOON BROOK
LOCATIONS OF COMPOSITE SAMPLES
COLLECTED ON JULY 19/95 AND JULY 24/95
LOCATIONS OF COMPOSITE SAMPLE
COLLECTED ON JULY 20/95
LOCATIONS OF COMPOSITE SAMPLE
COLLECTED ON JULY 28/95
CHADAKOIN RIVER
LOCATIONS OF COMPOSITE SAMPLES
COLLECTED ON JULY 20/95
LOCATIONS OF COMPOSITE SAMPLE
COLLECTED ON JULY 21/95
LOCATIONS OF COMPOSITE SAMPLE
COLLECTED ON JULY 31/95
MOON
AREA 1
0 10 30ft
AREA 2
(i)
AREA 2
(ii)
AREA 3
CHADAKOIN
RIVER
NOTES
1. THIS DRAWING IS FOR
ILLUSTRATIVE PURPOSES ONLY
2. THIS DRAWING WAS ADAPTED
FROM A SITE DRAWING SUPPLIED
BY THE ELLISON BRONZE
COMPANY AND EMPIRE SOILS
INVESTIGATIONS, INC.
figure 4
CONFIRMATORY SEDIMENT SAMPLE LOCATIONS
ELLISON BRONZE SITE
Falconer, New York
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5020 (5) JAN 04/96(W) REV.0 (P-10)

This Record of Decision (ROD) has been prepared by the NYSDEC which concludes that "No Further Actions" is needed at the site other than long term monitoring of groundwater for metals and monitoring/maintenance of the asphalt and soil cover to maintain site cap integrity.

3.1 Summary of the Remedial Investigation:

Remedial Investigations (RI) are performed to determine the nature (type) and extent (location) of contamination at a site. The Ellison Bronze RI clearly defined the affected areas and indicated that an IRM would be the best course of action. The results of the IRM indicate that further investigation is not necessary. Confirmatory samples of both subsurface soils and groundwater were collected after the contaminated soils had been treated.

Clean-up goals established by the NYSDEC and the NYS DOH were met. See Tables 4, 5, and 6 for analytical results. Even with minor deviations from projected clean-up goals, no further investigative action at the site is anticipated.

3.2 Summary of Human Exposure Pathways:

The remediation of the site was performed as an IRM to address high levels of lead that were detected in foundry sands and copper found in stream sediments. Potential routes of human exposure included direct contact with soils, ingestion of (eating) soils and ingestion of (drinking) contaminated groundwater. The IRM stabilized the contaminated soil, thereby removing the human exposure source.

3.3 Summary of Environmental Exposure Pathways:

While the contamination was in place, the potential for impacts to local groundwater existed as a result of the percolation of rain or snow melt through lead contaminated soils. Also, the potential existed for impacts to stream aquatic life from ingestion of copper laden sediments. The IRM stabilized the contaminated soils, thereby removing the environmental exposure pathway.

SECTION 4: ENFORCEMENT STATUS

The NYSDEC and the Ellison Bronze Company entered into an Order on Consent. The Order obligated Ellison Bronze to implement the IRM involving the excavation and stabilization/solidification of foundry wastes and stream sediments.

The following is the chronological enforcement history of this site.

Date	Index No.	Subject
2/95	---	Class 2 Listing
6/95	---	IRM Decision Document
6/95	B9-0429-93-04	IRM Order on Consent

SECTION 5: REMEDIAL ACTION GOALS

Goals for the remedial program were established through the remedy selection process stated in 6NYCRR

375-1.10. These goals were established with the understanding of meeting specified standards, criteria, and guidance (SCGs) and for being protective of human health and the environment.

Soil cleanup goals were developed by the NYSDEC using guidance from Technical and Administrative Guidance Memorandum (TAGM) HWR-92-4046 entitled "Determination of Soil Cleanup Objectives and Cleanup Levels". Sediment cleanup guidelines were developed by referring to NYSDEC, "Technical Guidance for Screening Contaminated Sediments", November, 1993 and more specifically by considering typical background levels around the site. Other appropriate guidance was considered to address concerns relative to Fish & Wildlife, Surface Water Standards, and Air Regulations.

Through the application of proper scientific and engineering principles, the remedy eliminated significant threats to public health and to the environment which were indicated by the presence of hazardous waste disposed at the site. Because of the satisfactory results of the remedial action, no further remedial activity is considered necessary for the Ellison Bronze site.

TABLE 4

SOIL STABILIZATION - CONFIRMATORY SAMPLE SUMMARY
ELLISON BRONZE SITE
FALCONER, NEW YORK

Composite Sample Location ID	Sample Date	Sample ID	Total Lead Concentration (ppm)	Comment
1	June 30, 1995	COMP-1	12.2	
2		COMP-2	241	
3	July 7, 1995	CS-070795-003	95.2	
4	July 12, 1995	CS-071295-DS-004	261	
5		CS-071295-DS-005	1230	Excavated further, resample
	July 14, 1995	5020-RJS-005R	3100	Excavated further, resample
	July 18, 1995	CS-071895-DS-005R2	660	Excavation approved by NYSDEC
6	July 13, 1995	CS-071395-DS-006	366J	
7	July 18, 1995	CS-071895-DS-007	130	
8	July 19, 1995	CS-071995-DS-008	133	

Note:

J - Associated value is estimated.

TABLE 5

SOIL STABILIZATION - STABILIZED SOIL SAMPLE SUMMARY
ELLISON BRONZE SITE
FALCONER, NEW YORK

Sample Date	Sample ID	TCLP Lead Concentration (ppm)	Comment
June 29, 1995	TW-062995-DO-112	ND	
	TW-062995-DO-140	ND	
	TW-062995-DO-175	ND	
	TW-062995-DO-220	ND	
	TW-062995-DO-245	ND	
June 30, 1995	TW-063095-DO-280	ND	
	TW-063095-DO-01	ND	Duplicate of 385
	TW-063095-DO-315	ND	
	TW-063095-DO-350	ND	
	TW-063095-DO-385	ND	
	TW-063095-DO-420	ND	
	TW-063095-DO-455	ND	
	TW-063095-DO-480	ND	
	TW-063095-DO-515	ND	
July 5, 1995	TW-070595-DS-555	0.123	Half of batch reprocessed to ensure adjacent batch fully recovered. No sample required. Previously approved for backfill by NYSDEC.
	TW-070595-DS-590	ND	
	TW-070595-DS-640	0.309	Reprocessed, no sample required
	TW-070595-DS-660	0.985	Reprocessed (660-695)
July 11, 1995	TW-071195-DS-695	ND	Reprocessed batch from July 5, 1995
	TW-071195-DS-725	0.031	Approved for backfill by NYSDEC
	TW-071195-DS-757	0.254	Resampled (see July 14, 1995)
	TW-071195-DS-795	0.078	Resampled (see July 14, 1995)
	TW-071195-DS-830	0.039	Approved for backfill by NYSDEC
	TW-071195-DS-860	0.082	Approved for backfill by NYSDEC
	TW-071195-DS-02	0.276	Duplicate of 795, resampled (see July 14, 1995)
July 12, 1995	TW-071295-DS-895	ND	
	TW-071295-DS-930	ND	
	TW-071295-DS-965	ND	
	TW-071295-DS-1000	ND	
	TW-071295-DS-1035	ND	
	TW-071295-DS-1070	ND	
	TW-071295-DS-1105	ND	
	TW-071295-DS-1140	ND	
	TW-071295-DS-1175	ND	
	TW-071295-DS-1210	ND	
	TW-071295-DS-1245	ND	
	TW-071295-DS-1280	ND	
	TW-071295-DS-03	ND	Duplicate of 1280

TABLE 5 CON'T.

July 13, 1995	TW-071395-DS-1315	ND	
	TW-071395-DS-1350	ND	
	TW-071395-DS-1385	0.088	Approved for backfill by NYSDEC
	TW-071395-DS-1420	ND	
	TW-071395-DS-1455	ND	
	TW-071395-DS-1490	ND	
	TW-071395-DS-1525	ND	
	TW-071395-DS-1560	NA	Resampled (see July 14, 1995)
	TW-071395-DS-1595	NA	Resampled (see July 14, 1995)
	TW-071395-DS-1630	ND	
July 14, 1995	5020-RJS-757-R	0.04	Resample of 757, approved for backfill by NYSDEC
	5020-RJS-795-R	ND	Resample of 795
	5020-RS-1560	ND	Resample of 1560
	5020-RS-1525	ND	Resample of 1595
July 18, 1995	TW-071895-DS-1665	ND	
	TW-071895-DS-1700	ND	
	TW-071895-DS-1735	ND	
	TW-071895-DS-1770	ND	
	TW-071895-DS-1805	ND	
	TW-071895-DS-1840	ND	
	TW-071895-DS-04	ND	Duplicate of 1840
July 20, 1995	TW-072095-DS-1890	ND	
	TW-072095-DS-05	ND	Duplicate of 1890
	TW-072095-DS-1925	ND	
	TW-072895-DS-1960	ND	
	TW-072095-DS-2011	ND	
	TW-072895-DS-06	ND	Duplicate of 2011

Notes:
NA - Not analyzed, laboratory received sample bottles broken.
ND - Lead not detected at or above 0.025 ppm.

Goals achieved at the site:

A clean-up level of 500 ppm lead in foundry sand and soil was targeted for the stabilization/solidification process. There was one instance where it was not feasible to achieve the target level.

A level of 65 ppm for copper in sediments was the clean-up target based on background levels associated with the streams. However, there were two instances where, based on professional judgment, it was infeasible to meet the pre-determined target level. More work in the stream may have been more detrimental than good.

The remedial activity reduced the potential for contaminated soils to impact local groundwater or surface water and has reduced the potential for direct exposure, to the affected soils, by the public.

SECTION 6: SUMMARY OF THE SELECTED REMEDY

The Department concludes that **"No Further Action"** is necessary at the Ellison Bronze site. This decision is based upon the results of the IRM recently conducted at the site. Also, there have been no public objections to the remedy. The IRM consisted of:

TABLE 6
SEDIMENT STABILIZATION - CONFIRMATORY SAMPLE SUMMARY
ELLISON BRONZE SITE
FALCONER, NEW YORK

Composite Sample Location	Location Description (2)	Sample Date	Sample ID	Approximate Sample Depth (inches) (1)	Total Copper Concentration (ppm)	Comments
Area 1	Moon Brook	July 19, 1995	CSED-071995-DS-001	6	1,340	Excavate further, resample
		July 20, 1995	COMP-SED-4	12	1,730	Excavate further, resample
		July 24, 1995	CSED-072495-DF-001	18	93	Excavate further, resample
		July 28, 1995	MB-SED-072895	24	1,500	Excavation complete (3)
Area 2	Moon Brook/Chadakoin River Convergence					
	i) North Bank to 1/4 Distance to South Bank	July 20, 1995	COMP-SED-2	6	110	Approved by NYSDEC
	ii) 1/4 Distance to South Bank to Midpoint of Chadakoin River	July 20, 1995	COMP-SED-3	6	161	Excavate further, resample
		July 21, 1995	COMP-SED-6	12	60	Approved by NYSDEC
Area 3	Chadakoin River Downstream	July 20, 1995	COMP-SED-1	6	3,590	Excavate further, resample
		July 21, 1995	COMP-SED-5	12	1,060J-600J (4)	Excavate further, resample
		July 31, 1995	CR-SED-073195	18	15	Approved by NYSDEC

Notes:

(1) Sample depth below existing ground surface at time of sample collection.
(2) Sample collection locations are also present on Figure 4. Sample dates can also be utilized for cross references.
(3) Ellison Bronze considers the Moon Brook sediment removal program complete. The depth of excavation (24-inches) precludes potential contact between the majority of Moon Brook benthic macroinvertebrates and remaining materials with elevated copper concentrations.
(4) Duplicate sample.
(5) J - Associated value is estimated.

- The excavation, stabilization and replacement of approximately 1150 cubic yards (1650 tons) of contaminated foundry waste and the excavation and stabilization of approximately 60 cubic yards (100 tons) of contaminated stream sediment.

- On-site stabilization consisting of mixing of the soils with portland cement and water, then placement into the on-site excavation, final grading and placement of an asphalt cover over the parking area and topsoil on the stream banks.

- Excavation monitoring and treatment monitoring determined the limits of work and proper degree of treatment of the impacted soils.

The **"No Further Action"** alternative is justified because the completed IRM provided protection to public health and the environment; adequately addressed the short and long term effectiveness through the expedient excavation and treatment of the contaminated material thereby reducing its toxicity and mobility; was readily implementable and was of a reasonable cost to implement. This alternative will also involve reclassification of this site, since long-term monitoring and site maintenance is all that is necessary for future site activity.

As previously noted, the long-term monitoring will include:

a) Semi-annual inspections of the paved areas, grass area, stream banks and on-site monitoring wells.
b) Annual groundwater sampling of the three on-site wells. Analysis will include barium, iron, lead and manganese. After 3 years, an assessment will be done regarding the continuance of the groundwater monitoring.

SECTION 7: HIGHLIGHTS OF COMMUNITY PARTICIPATION

As part of the remedial investigation process, a Citizen Participation Plan was developed for the Ellison Bronze site project. Objectives of the plan are: promote public understanding of the NYSDEC's responsibilities, planning and remedial activities; provide opportunities for the NYSDEC to learn from the public; and provide information that would facilitate a comprehensive remedial program protective of both public health and the environment. The following public participation activities have been conducted as part of the project:

* A document repository was established at the Falconer Village Library. Site documents and general information about the site are available for review.

* A toll free number was established to answer questions, from the public, regarding the NYSDEC and remediation at the site.

* A Fact Sheet was mailed out in May, 1995.

* There was a news release on May 25, 1995.

* A Public Availability Session, describing the proposed Interim Remedial Measure was held on June 6, 1995.

* On August 24, 1995 an article appeared in the Buffalo News regarding the completion of the remedial work.

* On September 10, 1995 an article appeared in the Jamestown Post Journal regarding activities at the site.

* A Public Meeting Notice was mailed out on February 23, 1996 regarding the PRAP meeting.

* Held a public meeting on March 13, 1996 to present the Proposed Remedial Action Plan (PRAP) for the site. Comments received during the meeting and the public comment period (from February 26, 1996 to March 26, 1996) and the Department's responses are presented in the Responsiveness Summary in Appendix B. The selected remedy is the same as was proposed in the PRAP.

APPENDIX A
ADMINISTRATIVE RECORD

1. **Environmental Investigation, Ellison Bronze Company, Falconer, New York,** dated August, 1991.

2. **Remedial Investigation Summary Report and Interim Remedial Measure (IRM) Work Plan for the Ellison Bronze Company Site,** dated June 26, 1992.

3. Site listed as **CLASS 2** on New York State Registry of Inactive Hazardous Waste Sites, March 31, 1993.

4. Referral to Division of Environmental Enforcement for legal action, dated April 6, 1993.

5. **Additional Environmental Evaluations at the Ellison Bronze Company Site,** dated May 28, 1993.

6. **Former Chemical Storage Shed, Surface and Subsurface Soils Removal Program,** dated June 29, 1993.

7. **Treatability Study Results ,Stabilization/Solidification for Foundry Waste,** dated April 14, 1994.

8. **Dowcraft Ellison Bronze Site, Work Plan/Health and Safety Plan, Falconer, New York,** dated September 9, 1994.

9. **Work Plan for Soil Stabilization, Dowcraft Corporation, Ellison Bronze Site,** dated February 23, 1995.

10. **Interim Remedial Measure, Decision Document,** dated June 8, 1995.

11. Order on Consent **for Development and Implementation of an Interim Remedial Measure Program. Index # B9-0429-93-04,** dated June 13, 1995.

12. **Proposed Remedial Action Plan,** dated February, 1996

13. **Record of Decision,** dated March 1996.

14. **Relevant Correspondence.**

8/22/91 Letter, Kryzan (Whiteman Osterman & Hanna) to Ryan (DEC), Suggesting IRM.

12/16/91 Meeting, DEC/Dowcraft/Empire Soils.

1/3/92 Memo, Doster (DEC) to Marino (DEC), Addition of site to registry.

3/30/92 DOH concurrence with classification of site to Class 2.

7/24/92	Memo, Kolak (DEC) to Pietraszek (DEC), Clean-up goals.
8/19/92	Letter, O'Connor (DOH) to Pietraszek, comments on RI and IRM.
8/19/92	Memo, Doster to Marino, Addition to registry form.
3/31/93	Letter, Marino to Dowcraft, Official notice of listing of site as Class 2.
4/6/93	Memo, O'Toole (DEC) to Lacey (DEE), Legal referral for action at Ellison Bronze.
6/29/93	Meeting, DEC/Ellison Bronze.
7/19/93	Letter, Pietraszek to Nicholson (Ellison), Former Chemical Storage Shed, surface and subsurface soil removal.
10/14/93	Letter, Desmond (DEE) to Kryzan, concern over lack of response from Ellison.
11/5/93	Letter, Kay (CRA) to Nicholson, follow-up of NYSDEC/Dowcraft meeting of 6/29/93.
11/19/93	Letter, Pietraszek to Nicholson, regarding soil removal from Ellison.
11/24/93	Memo, Carella(DFW) to Pietraszek, review of sediment analysis.
12/10/93	Letter, Erickson (Whiteman Osterman & Hanna) to Pietraszek, offsite removal vs. stabilization.
12/20/93	Letter, Desmond to Erickson, agreement with Treatability Study concept.
2/17/94	Letter, Desmond to Erickson, concern over delays.
3/9/94	Letter, Erickson to Desmond, response to 2/17/94 letter.
3/30/94	Conference Call, DEC/Ellison.
6/13/94	Letter, Desmond to Erickson, DEC comments on Treatability Study results.
7/20/94	Memo, Pietraszek to File, Notes of conference call of 7/19/94.
7/25/94	Letter, Erickson to Desmond, regarding conference call of 7/19/94.
8/3/94	Letter, Pietraszek to Erickson, treatability Study/Scope of Work.
11/3/94	Letter, O'Connor to Pietraszek, comments on Health and Safety Plan.
12/19/94	Letter, Pietraszek to Kay, notes of meeting of 12/14/94 (DEC & Ellison).
1/24/95	Letter, O'Connor to Pietraszek, comments on Work Plan for Soil Stabilization.
2/9/95	Letter, Pietraszek to Kay, comments on IRM Work Plan with tentative approval.

2/17/95	Letter, Charles to Kryzan, Order on Consent.
6/15/95	Letter, Charles to Kryzan, transmittal of duplicate, signed copy of Order on Consent.
7/27/95	Letter, Carlson (NYS DOH) to Buechi (DEC), concurrence with IRM Decision Document.
10/31/95	Letter, O'Connor to Pietraszek, approval of Soil Stabilization Project report.
12/28/95	Letter, Pietraszek to Stoltz (CRA), comments on Soil/Sediment Stabilization Summary Report.
2/2/96	Letter, Stoltz to Pietraszek, response to DEC comments of 12/28/95.
2/21/96	Letter, Pietraszek to Nicholson, approval of Soil/Sediment Summary report dated 1/96.
2/22/96	NYS DOH concurrence with PRAP.
3/13/96	Public Meeting on PRAP.
3/14/96	Letter, Stoltz to Pietraszek, re: Long-term Monitoring.

APPENDIX B
RESPONSIVENESS SUMMARY
FOR THE
RECORD OF DECISION

ELLISON BRONZE INACTIVE HAZARDOUS WASTE SITE
VILLAGE OF FALCONER, CHAUTAUQUA COUNTY
SITE NO. 907018

Release of the Proposed Remedial Action Plan was announced via a public mailing on February 23, 1996. At the same time, the public was informed of a meeting to discuss the proposal. The meeting was held on March 13, 1996, at 7 PM, at the Senior Citizen's Meeting Room, Town Hall, Ellicott, New York. The public comment period ran from February 26, 1996 to March 26, 1996.

This Responsiveness Summary responds to all questions and comments raised at the March 13, 1996 public meeting and received in writing by NYSDEC. Comments received have become part of the Administrative Record for this site.

The following are comments related to the ROD and the State's responses:

1. Q. **Was the entire area shown on the map (overhead) excavated?**

   A. Yes. The depth of excavation ranged from 0.5 feet to 9.0 feet deep over the area indicated on Figure 3 of the PRAP.

2. Q. **After solidification, was the material put back into the excavated area?**

   A. After the foundry wastes and stream sediments were stabilized/solidified, they were placed in the excavated area. Sediments did not go back into the stream.

3. Q. **Was anything done to remove the sediment? Was the soil treated chemically before it was mixed with cement? What brought the lead levels down?**

   A. Sediments from the stream, with copper concentrations above 65 parts per million, were excavated, treated, and placed within the excavation on dry land.

   The wastes were not treated with any chemical prior to mixing with cement. The wastes and sediments were mixed with cement and water which created a mixture very much like concrete. This type of treatment encapsulates each grain of soil with a cement coating, thereby binding it in place.

   There is no actual reduction in metals concentration, but the metals are incorporated into the cement matrix and are less leachable.

4. Q. **How did you define the area in the River to be excavated?**

A. Areas to be excavated within the streams were defined by doing cross-section sampling of sediments along each stream.

5. Q. **What are silt curtains and jersey barriers? When silt curtains are put in, do they have to be at the depth of the water?**

A. A silt curtain is typically a black synthetic fabric about 3 feet high and comes in rolls usually 100 feet long. A silt curtain is put in place very much like a fence. Water can move through the fabric, but silt and sand is retained. In shallow water courses such as encountered at this site, the bottom of the silt curtain is buried in the stream bottom. The top of the curtain was not covered with water.

Jersey barriers are sections of concrete usually 3 feet high, 1 to 2 feet wide, and about 20 feet long. Jersey barriers are typically seen on expressway access ramps. At this site, these barriers were used to divert water away from the work zones in the streams and to contain treated soils after mixing with cement.

6. Q. **Did they do the stream excavation from the shore?**

A. Excavation of Moon Brook was done from shore. Excavation of the Chadakoin River was done by driving a large back hoe into protected work zones within the water course.

7. Q. **What are the phenolics?**

A. Phenolics are a group of organic compounds which make up the binder which holds the sand forms together during the casting process of foundry work.

8. Q. **Can you sample on site or do you have to send samples off site for analysis?**

A. Analysis of samples is typically done off site at an approved lab, such as was done for this project.

9. Q. **Who analyzes the samples? Does DEC have their own lab?**

A. Soil and water analysis for this project was done by four different laboratories:

Advanced Environmental Services	Recra Environmental, Inc.
General Testing Corporation	Ross Analytical Services, Inc.

The remedial consultant was responsible for sampling and shipping the samples to the analytical laboratory. The DEC lab was not used on this project. Typically, samples collected by DEC are sent to the NYSDEC lab, NYS DOH lab in Albany, or to a contract laboratory.

10. Q. Does DEC feel the project is complete?

A. The DEC believes that the remedial work at this site is complete. Long-term monitoring is necessary.