
***Environmental Evaluation
Addendum***

***Shieldalloy Metallurgical
Corporation***

Newfield, New Jersey

June 1994

TRC

TRC Environmental Corporation

**ENVIRONMENTAL EVALUATION
ADDENDUM**

**SHIELDALLOY METALLURGICAL CORPORATION
NEWFIELD, NEW JERSEY**

Prepared for:

Shieldalloy Metallurgical Corporation

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TRC Project No. C7650 -S51-40

TRC

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1.0 INTRODUCTION

This report serves as an addendum to the revised Environmental Evaluation (EE) for the Shieldalloy Metallurgical Corporation (SMC) site in Newfield, New Jersey. The revised EE was prepared by TRC Environmental Corporation (TRC) and submitted to the New Jersey Department of Environmental Protection and Energy (NJDEPE) in April, 1994 (TRC, 1994). This addendum has been prepared in response to and in compliance with the NJDEPE's letter dated April 15, 1994 (NJDEPE, 1994) requesting that the survey for stressed vegetation and the survey for rare and endangered plant species be conducted in early June, 1994. The results of this survey were requested to be submitted as an addendum to the revised EE on June 30, 1994. This addendum also provides the environmental report for the wetlands and state open waters delineation. While the wetland delineation map was provided in the revised EE, the results and conclusions stemming from this activity is provided herein. The wetlands delineation was performed by Schoor, DePalma & Canger Environmental Services, Inc. The discussions provided in this addendum are taken from a report entitled "Environmental Report, Wetlands and State Open Waters Delineation" dated May 1994 submitted to TRC by Schoor, DePalma & Canger Environmental Services, Inc.

The endangered and threatened plant species survey and stressed vegetation survey was performed by Amy S. Greene Environmental Consultants, Inc. The objective of this program is to determine the presence or absence of the following species of concern: Barratt's sedge (*Carex barrattii*), pink tickseed (*Coreopsis rosea*), Pine Barren boneset (*Eupatorium resinosum*) and swamp pink (*Helonias bullata*) and to provide an analysis of the existence of stressed vegetation. These four species were identified in the NJDEPE Natural Heritage Database Search (see TRC, 1994). The discussions provided in this addendum are taken from a letter report

(“Endangered and Threatened Plant Species Survey and Stressed Vegetation Survey”) from Amy S. Greene Environmental Consultants, Inc.” submitted to TRC June, 1994.

2.0 METHODOLOGY

2.1 Introduction

2.1.1 Wetlands Delineation

The study area consists of approximately 100 acres located north of Arbor Avenue, south of Rena Street, east of West Avenue and west of Gloucester County Route 555 (Figure 1).

2.1.2 Threatened and Endangered Plant Species and Stressed Vegetation Survey

The Threatened and Endangered Plant Species and Stressed Vegetation survey was conducted over approximately 100 acres, of which the manufacturing facility occupies approximately 60 acres. The northern property, containing the facility, is an irregularly shaped parcel located predominantly in Newfield Borough (Figure 2). The study area included adjacent wetlands in Newfield and Vineland that are primarily forested and associated with the Hudson Branch (Figure 3). The overall topography of the study area consisted of relatively flat to gently sloping terrain. The study area is located in the Maurice River Watershed within the Delaware Bay Drainage Basin. The wetlands are drained by the Hudson Branch.

According to the State of New Jersey List of Endangered Plant Species and Plant Species of Concern (N.J.A.C. 7:5C-1.1 et seq.), the species of concern have been classified as follows:

- Barratt's sedge - rare (S3)
- pink tickseed - imperiled (S2)
- Pine Barren boneset - endangered (E)
- swamp pink - endangered (E)

Additionally, swamp pink is also classified as threatened according to the Federally Listed Endangered and Threatened Species in New Jersey (50 CFR 17.11 & 17.12, 1990).

Evaluations of the study area were made as to the suitability of existing habitat for these rare species. The stressed vegetation survey was conducted in order to visually identify evidence of the effects of potential contamination on plant species.

2.2 Sampling Methodology

2.2.1 Wetland Delineation

As indicated previously in this report, the methods utilized in this addendum are the same as those described in the revised EE for the wetlands delineation (TRC, 1994). Briefly, the method used to delineate wetlands are presented in the "Federal Manual for Identifying and Delineating Jurisdictional Wetlands" (Federal Interagency Committee for Wetland Delineation, 1989) and are recognized by the NJDEPE. The reader is referred to the revised EE (TRC, 1994) for additional methodological details.

2.2.2 Threatened and Endangered Plant Species and Stressed Vegetation Survey

A habitat evaluation was conducted over the SMC properties including adjacent wetlands associated with the Hudson Branch. In order to perform the biological survey for the species of concern and stressed vegetation survey, a meander survey was conducted to cover the entire study area. During the field investigation, special attention was given to areas with suitable habitat for the species of concern. The Britton and Brown (1970) plant identification key "An Illustrated Flora of the Northern United States and Canada" was used to determine plant species characteristics and to provide habitat information. Other sources to evaluate the habitat onsite included the use of published literature, site maps and topographic maps.

During the course of the investigation items including, but not limited to, chlorosis, stunted growth and abnormal physiological characteristics were used as criteria to evaluate evidence of stressed vegetation.

3.0 RESULTS

3.1 Wetland Delineation

Provided below is a description of the site and the findings of the wetlands delineation.

3.1.1 Background Review

Wetland areas have been identified on the National Wetlands Inventory (NWI) map in the eastern and southwestern sections of the study area (Figure 1). These wetland areas are classified as Palustrine Open Waters (POW), Palustrine Forested Broad-Leaved Deciduous/Needle Evergreen (PF01/4), Palustrine Emergent (PEM) and Palustrine Forested Broad-Leaved Deciduous (PF01) by the U.S. Fish and Wildlife Service. (Note: Mapping was prepared at a 1" = 2000' scale in which aerial photography and vegetation interpretations were used as the primary criteria in estimating wetlands).

The Soil Surveys of Cumberland and Gloucester Counties (Figure 4) indicate that the soils on the subject site are composed of the following (these soils are listed by mapping unit, mapping unit symbol, and depth to seasonal high water table, respectively):

Gloucester County

- Aura sandy loam, 0-5% slopes, ArB, \geq 10 feet
- Aura-Sassafras sandy loam, 5-10% slopes, AuC3 \geq 10 feet
- Downer loamy sand, 0-5% slopes, DoB, 5 to 10 feet
- Muck, Mu, at surface
- Sassafras sandy loam
- Woodstown and Klej loamy sands, 0-5% slopes, WtB, 2 feet

Cumberland County

- Downer loamy sand, 5-10% slopes, DoC, 4 feet
- Hammonton loamy sand, 0-5% slopes, HaA, 1.5-4 feet
- Hammonton sandy loam, 0-2% slopes, HbA, 1.5-4 feet
- Hammonton sandy loam, 2-5% slopes, HbB, 1.5-4 feet
- Pocomoke, sandy loam, Ps, at surface
- Muck, Ms, at surface

The NWI maps and the soils maps are only used for preliminary review and planning due to the scale and methodology used for their preparation. Detailed field investigations were conducted to define the exact limits of the wetlands and Waters of the United States for the subject site.

Wetlands and State Open waters were found to be limited to the area adjacent to the Hudson Branch. The wetlands begin in what is described as the headwaters of the Hudson Branch in the southeastern corner of the study area. The wetlands extend to the west, southwest adjacent to the Hudson Branch varying in width from 40 feet to 400 feet.

3.2 Threatened and Endangered Plant Species and Stressed Vegetation Survey

3.2.1 Habitat Evaluation

The forested wetlands onsite supported a dominant canopy layer of red maple (*Acer rubrum*), black gum (*Nyssa sylvatica*), and black willow (*Salix nigra*). An often dense, understory growth included southern arrowwood (*Viburnum dentatum*), silky dogwood (*Cornus amomum*), highbush blueberry (*Vaccinium corymbosum*), sweet pepperbush (*Clethra alnifolia*), elderberry (*Sambucus canadensis*), and greenbrier (*Smilax rotundifolia*). The herbaceous layer consisted of an abundance of cinnamon fern (*Osmunda cinnamomea*), tussock sedge (*Carex stricta*) and spotted jewelweed (*Impatiens capensis*). Scrub/shrub wetlands also observed onsite were generally overgrown with similar understory species including fetterbush (*Leucothoe racemosa*).

Emergent wetlands located on the facility site, within a wastewater detention pond, and associated with the Hudson Branch contained a dominance of spike rush (*Eleocharis spp.*), bog rush (*Juncus pelocarpus*), common rush, three square (*Scirpus americanus*), whitened sedge (*Carex albolutescens*), Canada rush (*Juncus canadensis*), slender rush (*Juncus tenuis*), common

reedgrass (*Phragmites australis*), tussock sedge (*Carex stricta*), pointed broom sedge (*Carex scoparia*), sallow sedge (*Carex lurida*), larger water-starwort (*Callitriche heterophylla*) and spotted jewelweed.

Forested upland areas throughout the study area contained a dominant canopy layer of southern red oak (*Quercus falcata*), scarlet oak (*Quercus coccinea*), white oak (*Quercus alba*), red maple, black locust (*Robinia pseudoacacia*), mockernut (*Carya tomentosa*) and sand hickory (*Carya pallida*). The understory was supported by similar species in the sapling layer and the dominant vegetation in the shrub layer consisted of black huckleberry (*Gaylussacia baccata*), dangleberry (*Gaylussacia frondosa*), lowbush blueberry (*Vaccinium vacillans*), mountain laurel (*Kalmia latifolia*), sheep laurel (*Kalmia angustifolia*), multiflora rose (*Rosa multiflora*), greenbriar (*Smilax rotundifolia*) and Japanese honeysuckle (*Lonicera Japonica*).

3.2.2 Stressed Vegetation Survey

The forested areas in the study area appeared to be secondary growth, not mature, which have undergone disturbances in the past. Based on professional judgment, the trees appeared to be the proper height for their age. Other vegetation did not show signs of stunted growth or chlorosis.

The stressed vegetation survey conducted in conjunction with the biological survey indicated relatively normal growth over the study area, although the site has been subject to manmade disturbances in the past. These disturbances have led to invasive plant species becoming dominant in some portions of wetland and upland areas.

3.2.3 Endangered and Threatened Plant Species Survey

The biological survey for Barratt's sedge revealed no findings of this rare species within the study area. Habitat requirements are open, undisturbed, emergent wetlands; not usually occurring in standing water. This habitat was not found due to the sites' disturbed nature. Barratt's sedge is commonly associated with Pineland swamps and bogs, blooming and fruiting from late April to July.

No species of pink tickseed were found over the study area. Pink tickseed habitat requirements are vernal ponds (i.e., shallow, isolated ponds not fed by a spring or stream) or open, emergent wetland areas which are ponded for most of the year and dry up in the summer. Pink tickseed flowers from July through late September. The only potential habitat identified within the study area was on the facility site within the wastewater detention basin (Figure 2). This area was observed to contain emergent wetland species and ponding. [Note: Shieldalloy Metallurgical Corporation maintains this area as an open field through annual mowing.]

Pine Barren boneset was not identified within the study area limits. Flowering of this species occurs from July to October. Habitat for this species of concern is open, undisturbed emergent wetland communities and streamsides; located mostly in the Pine Barrens.

The biological survey for swamp pink was conducted at a time of year when this species would be in flower. The evergreen leaves, which grow in a basal rosette, are also readily identifiable. No swamp pink populations were found. The habitat type that supports swamp pink consists of deciduous, forested wetland communities and stands of Atlantic white cedar (*Chamaecyparis thyoides*). The forested wetland areas onsite would not provide habitat for swamp pink due to their disturbed nature and lack of Atlantic white cedar occurrences.

Additionally, dense scrub/shrub wetland areas provide inadequate sunlight and increased competition among plant species thereby creating poor habitat for swamp pink.

4.0 CONCLUSIONS

Habitats specific to the species of concern (Barratt's sedge, pink tickseed, Pine Barren boneset and swamp pink) were searched for thoroughly and no specimens were identified as a result of the detailed biological survey. No habitat was found onsite for Barratt's sedge, Pine Barren boneset and swamp pink. However, based on the field survey, the facility portion of the study area may contain potentially suitable habitat within the wastewater detention basin (emergent wetland) to support pink tickseed; although no individuals were identified during the investigation.

No evidence of stressed vegetation within the wetland and upland communities was observed during the meander study.

Wetlands and State Open waters were found to be limited to the area adjacent to the Hudson Branch. The wetlands begin in what is described as the headwaters of the Hudson Branch in the southeastern corner of the study area. The wetlands extend to the west, southwest adjacent to the Hudson Branch varying in width from 40 feet to 400 feet.

Considering the information presented in this addendum, there are no changes to the conclusions as presented in the revised EE.

5.0 REFERENCES

Amy S. Greene, Environmental Consultants, Inc. (1994). Endangered and Threatened Plant Species Survey and Stressed Vegetation Survey. June 14, 1994.

Federal Interagency Committee for Wetland Delineation (1989). Federal Manual for Identifying and Delineating Jurisdictional Wetlands. U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish & Wildlife Service, and U.S.D.A. Soil Conservation Service, Washington, D.C. Cooperative technical publication.

NJDEPE (1994). Letter to C. Scott Eves (Shieldalloy Metallurgical Corporation) Re: Revised Environmental Evaluation, April 15, 1994.

Schoor, DePalma & Canger Environmental Services, Inc. (1994). Environmental Report. Wetlands and State Open Waters Delineation. May 1994.

TRC Environmental Corporation (1994). Environmental Evaluation. April.

FIGURES



SOURCE: FIGURE 1 - WETLANDS MAP FROM ENVIRONMENTAL REPORT, WETLANDS AND STATE OPEN WATERS DELINEATION FOR SHIELDALLOY METALLURGICAL FACILITY, NEWFIELD, NEW JERSEY; SCHOOR DEPALMA & CANGER ENVIRONMENTAL SERVICES, INC., MAY 1994

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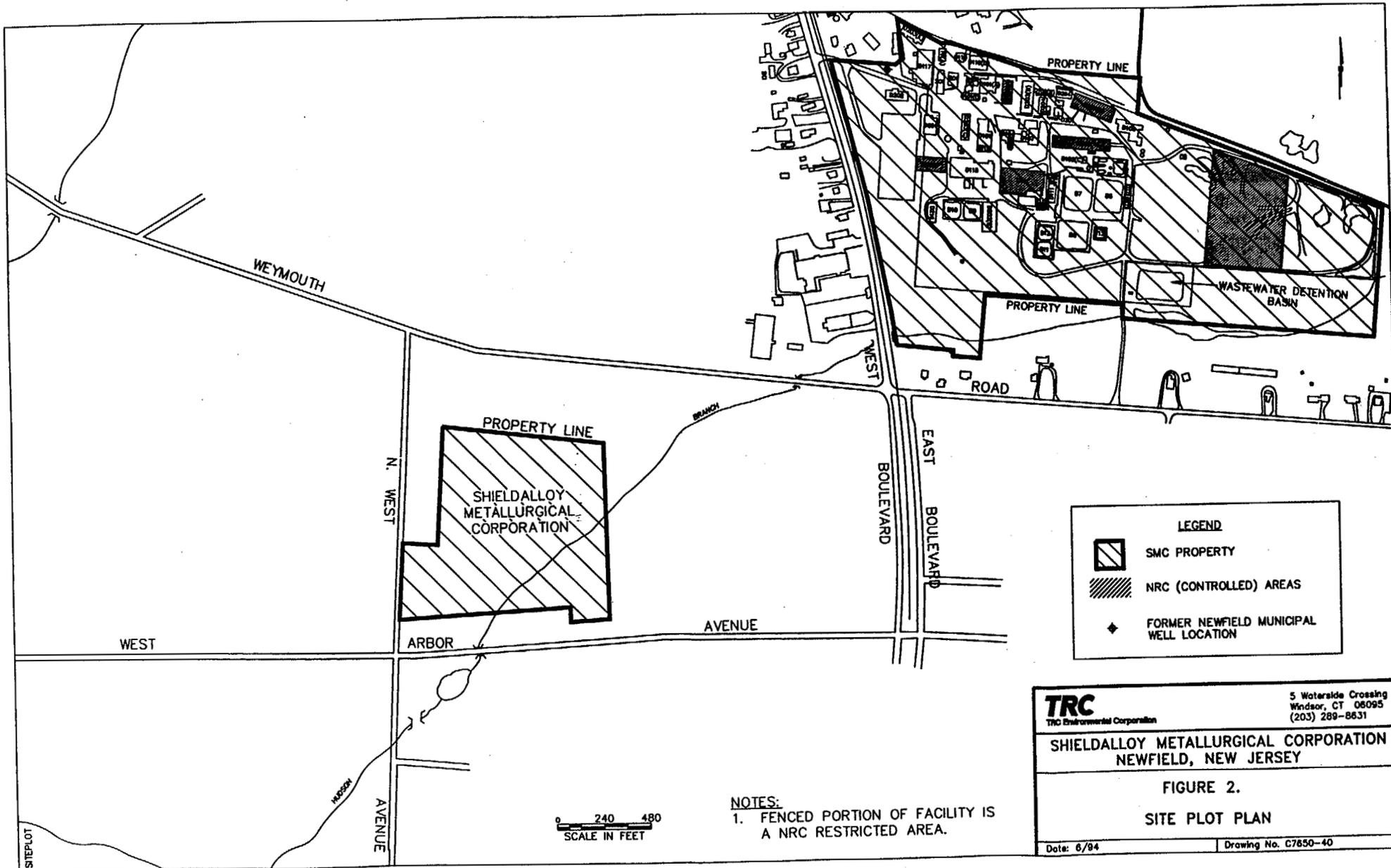
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FIGURE 1.
APPROXIMATE SITE BOUNDARY OUTLINED ON A COPY OF A NATIONAL WETLAND INVENTORY QUAD MAP: NEWFIELD QUAD.

Date: 6/94

Drawing No. C7650-S51-40



LEGEND

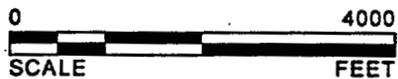
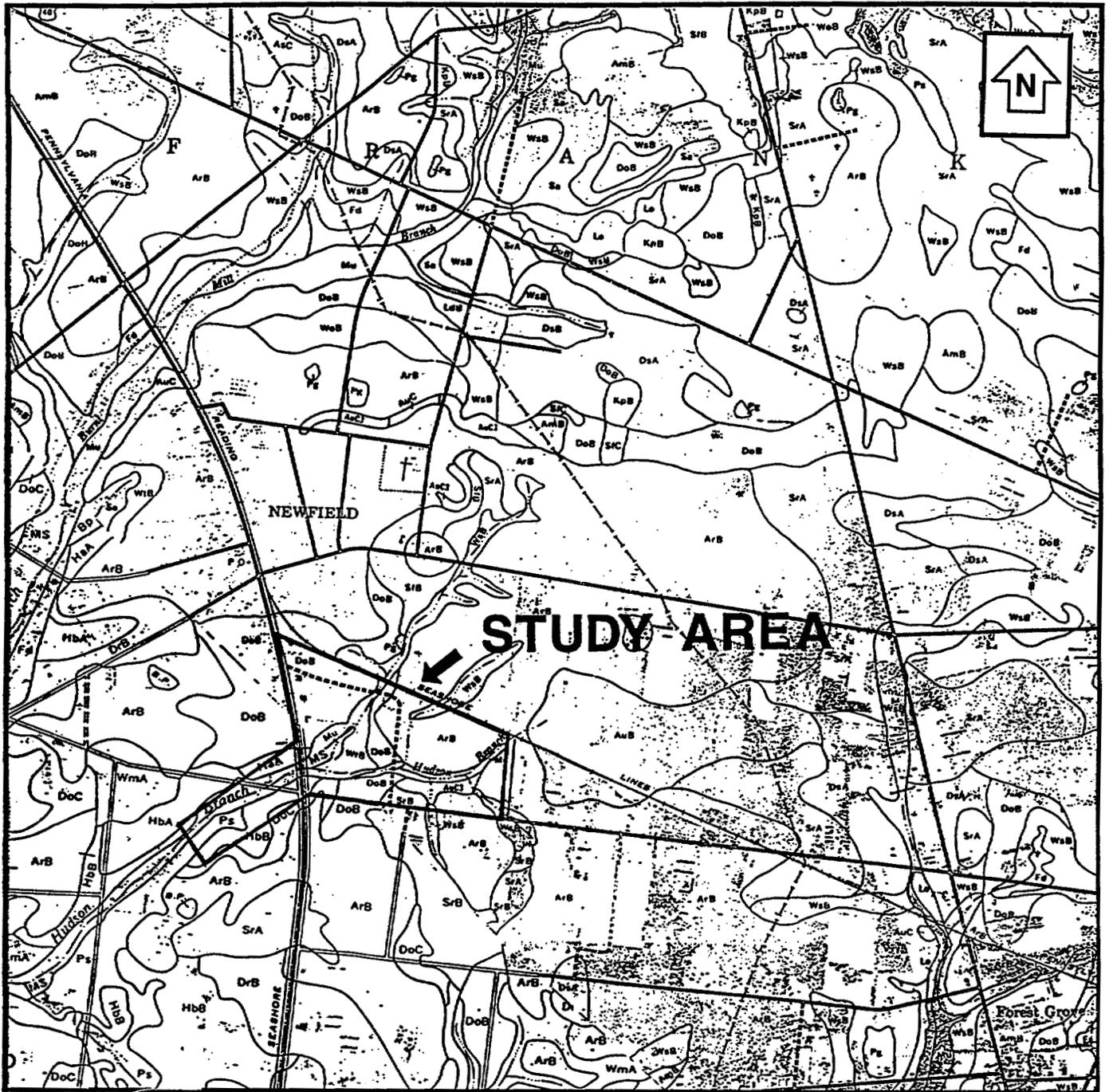
-  SMC PROPERTY
-  NRC (CONTROLLED) AREAS
-  FORMER NEWFIELD MUNICIPAL WELL LOCATION

<p>TRC TRC Environmental Corporation</p>	<p>5 Waterside Crossing Windsor, CT 06095 (203) 289-8631</p>
	<p>SHIELDALLOY METALLURGICAL CORPORATION NEWFIELD, NEW JERSEY</p>
<p>FIGURE 2. SITE PLOT PLAN</p>	
<p>Date: 6/94</p>	<p>Drawing No. C7650-40</p>

NOTES:
1. FENCED PORTION OF FACILITY IS A NRC RESTRICTED AREA.

0 240 480
SCALE IN FEET

STEP PLOT



SOURCE: FIGURE 2 - SOILS MAP FROM ENVIRONMENTAL REPORT, WETLANDS AND STATE OPEN WATERS DELINEATION FOR SHIELDALLOY METALLURGICAL FACILITY, NEWFIELD, NEW JERSEY; SCHOOR DEPALMA & CANGER ENVIRONMENTAL SERVICES, INC., MAY 1994

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FIGURE 4.
APPROXIMATE SITE BOUNDARY OUTLINED ON A COPY OF THE USDA COUNTY SOIL SURVEY; CUMBERLAND & GLOUCESTER CO. MAPS

Date: 6/94

Drawing No. C7650-S51-40