Preliminary Close Out Report

Ottati & Goss/Great Lakes Container Corporation Superfund Site

September 2008

Prepared by:
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Region 1, New England
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EPA
New England

I. INTRODUCTION

This Preliminary Close Out Report (PCOR) documents the completion of all physical, remedial construction activities which were performed at the Ottati & Goss/Great Lakes Container Corporation Superfund Site (the "Site"). This PCOR was prepared in accordance with *Close Out Procedures for National Priorities List Sites* (OSWER Directive 9320.2-09A-P). EPA and the State of New Hampshire conducted a pre-final inspection of the Site on September 16, 2008. No outstanding construction items were identified. Therefore, no additional construction is anticipated at the Site.

II. SUMMARY OF SITE CONDITIONS

Background

The Site is located in Rockingham County, in the town of Kingston New Hampshire (see Figure 1). The approximately 58-acre Site is divided by Route 125 and is comprised of three distinct sections. The first section is a 5.89-acre parcel, historically referred to as the Great Lakes Container Corporation and Kingston Steel Drum (GLCC/KSD) area. This portion of the Site is fenced and is now owned by the State of New Hampshire. The second section is 29 acres; owned partly by the Senter Transportation Company (BBS Realty Trust parcel north of the State-owned parcel), and partly by Concord Realty Trust or John Peter Sebetes (south of the State-owned parcel). One acre of this 29-acre section was leased to Ottati and Goss, Inc. (O&G). This entire 29-acre parcel is at times referred to as the O&G portion of the Site. The third section is a 23-acre marsh located east of the GLCC/KSD section, between Route 125 and Country Pond. This parcel was purchased by the IMCERA Group, Inc. in 1984 and is referred to as Country Pond Marsh (see Figure 2).

From the late 1950's through 1967, the Conway Barrel and Drum Company (CBD) owned the Site and performed drum reconditioning operations in the GLCC/KSD portion of the Site that is now owned by the State of New Hampshire. The reconditioning operations included caustic rinsing of drums and disposal of the rinse water in a dry well near South Brook. As a result of South Brook and Country Pond pollution, CBD established two leaching pits (lagoons) in areas removed from South Brook. These lagoon areas were known as the "Kingston Swamp" and the "caustic lagoon." Kingston Steel Drum, the operator of the facility from 1967 to 1973, continued the same operations as CBD.

In 1973, International Minerals and Chemicals Corporation (IMC) purchased the drum and reconditioning plant and operated it until 1976. The lagoons were reported to be filled in 1973 and 1974. The property was purchased in 1976 by the GLCC. Beginning in 1978, O&G leased a small part of the Site and conducted operations that were described as "processed hazardous materials brought to the Site in drums." Heavy sludges from the wash tank and from drainings, and residues from incinerator operations

at GLCC were transported to the O&G portion of the Site for processing. O&G operations ceased in 1979. GLCC continued the drum reconditioning operation on its portion of the Site until July 1980.

In September 1983, the Site was added to the EPA's National Priorities List (NPL). In August 1986, the Remedial Investigation/Feasibility Study (RI/FS) was completed under a Cooperative Agreement with the New Hampshire Water Supply and Pollution Control Commission (currently the New Hampshire Department of Environmental Services (NHDES)). In January 1987, a ROD was issued for the entire Site.

Initial Response Activities

From December 1980 to July 1982, EPA conducted emergency removal actions and processed and removed over 4,000 drums from the O&G portion of the Site. In September 1983, the Site was listed on the NPL. IMC also conducted similar cleanup operations at the GLCC/KSD portion of the Site, removing drums and soil between July 1984 and June 1985. The total removal included 12,800 tons of soil, drums, and metals; 101,700 tons of flammable sludge; and 6,000 gallons of flammable liquid.

Basis for Remedial Action

The 1986 RI/FS conclusions were as follows:

- Soil throughout the Site was contaminated with volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), acid/base/neutral compounds (ABNs), metals, and cyanide at high concentrations at numerous locations.
- Surface water in North Brook, South Brook, and Country Pond contained dissolved VOCs.
- Sediments in North Brook, South Brook, and the marsh contained VOCs and PCBs.
- Groundwater contaminated with VOCs, arsenic, nickel, iron and manganese was evident in several plumes. The plumes appeared to merge into one plume which migrated under Route 125 and Country Pond Marsh, eventually discharging into Country Pond.
- There were no significant airborne contaminants.

Selected Remedy

In January 1987, EPA issued a Record of Decision for the entire Site which summarized the evaluation of remedial alternatives presented in the 1986 Feasibility Study (FS). The cleanup alternative selected in the 1987 ROD generally consisted of:

- Excavating approximately 19,000 cubic yards of soil and sediment to be treated on Site using incineration and thermal aeration;
- Mitigation of groundwater contamination by extraction, treatment, and discharge of the treated groundwater to up-gradient groundwater or possibly surface water;
- Site grading, demolition/disposal of above-ground and below-ground structures including a building, utilities, and underground storage tanks;
- A soil cover; and
- Long-term monitoring of the Site and Country Pond.

The groundwater extraction component of the remedy described in the 1987 ROD also included the following components:

- Monitoring on-site wetlands to ensure that groundwater extraction is not negatively impacting the wetlands (*e.g,*. lowering water levels within the wetland);
- Initiating a long-term groundwater monitoring program of on-site and off-site monitoring wells; and
- Monitoring residential wells during implementation of the remedy. The frequency and parameters of the monitoring was to be determined during design.

In 1988 and 1989, several potentially responsible parties (PRPs) excavated and treated approximately 4,700 cubic yards of VOC-contaminated soil at the former O&G area of the Site (see Figure 2). The treatment method used was thermal desorption (thermal aeration in the ROD). This work was designated as operable unit 1 (OU1). The groundwater treatment design, which was being performed by the PRPs, was designated as operable unit 2 (OU2).

In 1993, EPA, the NHDES, and the PRPs entered into a Consent Decree. This agreement resulted in most parties contributing to a cash settlement, rendering the remainder of the costs at the Site to be paid for by the Federal Superfund. Operable units 3 and 4 (OU3 and OU4) were subsequently designated to complete the remediation, with OU3 related to addressing the groundwater contamination and OU4 related to addressing building

demolition and soil and sediment contamination. OU1 (the former O&G area) was considered completed and OU3 superseded OU2 (no groundwater treatment design was completed by the PRPs).

From September 1993 through February 1994, the large building which housed the drum reconditioning operations on the GLCC/KSD portion of the Site was demolished. Hazardous materials were removed from the building and disposed of off-site. Several underground storage tanks were also removed.

In September 1996, a preliminary design for the groundwater extraction and treatment system (OU 3) was completed.

In September 1999, an Explanation of Significant Differences (ESD) to the 1987 ROD was issued. The ESD addressed a change in the treatment technology to be used to remediate the contaminated soils and sediments. The ESD also restricted future use of the former GLCC/KSD property to commercial use (without day care) and addressed an increase in the amount of soil to be excavated and treated.

The NHDES acquired the former 5.89 acre GLCC/KSD property in the Fall of 2000. In 2000, EPA contracted the U.S. Army Corps of Engineers – New England District (USACE) to perform the soil and sediment remediation at the Site. Environmental Chemical Corporation (ECC) was contracted by USACE to complete the OU4 soil and sediment excavation, low temperature thermal desorption (LTTD) treatment, and restoration activities. Between August 2001 and June 2002, approximately 72,347 tons of PCB- and VOC-contaminated soil (not including oversized material > 2-inches) was excavated from the GLCC/KSD area of the Site and treated in an on-site LTTD plant.

Between February 2001 and October 2002, approximately 9,143 tons of sediment from Country Pond Marsh were excavated, transported, and disposed of as non-hazardous waste at a Resource Conservation and Recovery Act (RCRA) Subtitle D disposal facility. Approximately 492 tons of sediment were transported and disposed of as PCB waste (regulated under the Toxic Substances Control Act (TSCA)) at a RCRA Subtitle C landfill facility. The Country Pond Marsh remediation was divided into two areas, a thirty-inch deep excavation area, and a six-inch deep excavation area. Remediation and restoration of OU4, totaling six acres of wetland in Country Pond Marsh, was completed in September 2002.

Small portions of soil contamination with total VOC concentrations greater than the cleanup goal of 1 ppm (1,000 µg/kg) total VOC could not be excavated because it was not possible to dewater the excavation to reach all contaminated soil in the saturated zone. Also, some soil contamination was located very close to Route 125 and further excavation was not possible because of concerns with respect to undermining the road. The quantity of such soil was judged to be relatively small in comparison to the quantities that were successfully excavated, treated, and backfilled. Therefore, it was determined that any residual soil source areas would be managed under the groundwater operable unit (OU3).

In February 2002, an ESD was issued addressing a modification to the handling of residual materials. In March 2003, the Final Remedial Action Report for soil and sediment remediation on the GLCC/KSD and Country Pond Marsh portions of the Site was issued.

From November 2004 through February 2005, EPA completed a groundwater pump test, pilot scale groundwater treatability study and prepared a groundwater treatability study report. From October 2006 through June 2007 the EPA conducted additional groundwater and soil sampling on the GLCC/KSD portion of the Site to gain a better understanding of the horizontal and vertical extent of the primary sources of VOC contamination remaining at the Site and which continue to be on-going sources of groundwater contamination.

In July 2007 the State of New Hampshire recorded a notice to the chain of title for the GLCC/KSD property to document the land use restrictions required to maintain the protectiveness of the soil remedy and to establish institutional controls over 5.89 acres of the Site.

In September 2007, the EPA issued an Amended Record of Decision to change the groundwater restoration component of the remedy from groundwater pump and treat to *in-situ* chemical oxidation (ISCO) and monitoring. The rationale for the fundamental change to the remedy and a description of the new ISCO component to the remedy is provided in the 2007 ROD Amendment.

In July 2008, construction of the numerous ISCO injection wells within the three areas of the site (Area A, B and North Plume, Figure 3) began. The chemical oxidant (activated sodium persulfate) is being delivered into the groundwater using a combination of permanent wells and temporary direct push injection wells. As of September 12, 2008, all the permanent injection wells were installed and oxidant was injected into all the permanent and direct push injection wells. The ISCO performance monitoring wells are also in place. It is anticipated that two more injections (Summer 2009 and Summer 2010) will be needed to achieve the remedial goals established for the Site.

Redevelopment Potential

Future site use is restricted to commercial use, with the exception of day-care facilities on the 5.89 acre, State owned property. The 29 acre section (to the north and south of the state owned section of the site) is zoned commercial and contains a significant amount of wetlands. The 23 acre Country Pond Marsh section (to the east of the state owned section) has limited redevelopment potential due to it being primarily wetland. No formal reuse plans have been developed for the site.

III DEMONSTRATION OF CLEANUP ACTIVITY QUALITY ASSURANCE AND QUALITY CONTROL

The methods, procedures, inspections and tests were performed in accordance with the Construction Quality Assurance Plan prepared as part of the EPA approved design. The construction contractors Quality Control Plans were implemented and verified by the independent Construction Quality Assurance Engineer, the EPA's remedial project managers, the EPA's remedial action oversight contractors, and the NHDES project managers. Construction completion is consistent with the January 1987 ROD and September 2007 Amended ROD.

IV ACTIVITIES SCHEDULED FOR SITE COMPLETION

It is estimated that all activities associated with site completion will be performed according to the schedule below:

Schedule for Site Completion

Task	Date	Responsible Organization
Remedial Action Start, OU3	July 7, 2008	EPA
Pre-Final Inspection, OU3	September 16, 2008	EPA, NHDES
Second Five-Year Review	December 2008	EPA
Interim Remedial Action Report	June 2009	EPA
Operational and Functional (O&F) Complete	June 2009	EPA, NHDES
Long-Term Remedial Action Start	June 2009	EPA, NHDES
Groundwater Institutional Controls Established	June 2010	EPA, NHDES
Operations and Maintenance Start	June 2019	NHDES
Final Site Inspection	September 2038	EPA, NHDES
Final Close Out/Final Remedial Action Report	September 2038	EPA, NHDES
NPL Site Deletion	September 2038	EPA, NHDES

All preliminary completion requirements for the Site have been met as specified in OSWER Directive 9320.2-09A-P. Specifically, a pre-final inspection was conducted on September 16, 2008 by the EPA and the State of New Hampshire which verified that all construction activities scheduled and planned as part of the last operable unit for the Site (OU3) have been completed.

V. SUMMARY OF REMEDIATION COSTS

The costs of the selected remedy are summarized below:

Estimated Remedial Action Construction Costs

Cost Item	Cost
RD Costs, OU3[1]	$1,560,000
Construction Costs to date, OU3[2]	$2,200,000
Construction Costs, OU4	$19,000,000

Notes:

1. The RD costs included a significant amount of subsurface vertical profiling and pilot studies. The actual ISCO design cost was approximately $120,000.

2. This cost is the cost to implement the ISCO remedy in 2008. Two more injections are needed (2009, 2010). The 2009 injections are estimated at approximately $2,000,000 and the 2010 injections are estimated at approximately $1,500,000.

VI. FIVE-YEAR REVIEW

Hazardous substances will remain at the Site above levels that allow unlimited use and unrestricted exposure after the completion of the action. Pursuant to CERCLA §121(c) and as provided in the current guidance on Five-Year Reviews (OSWER Directive 9355.7-03B-P, June 2001), EPA must conduct statutorily required Five-Year Reviews. The first Five-Year Review Report for the Site was issued in December 2003. The Five-Year Review concluded that the remedy is expected to be protective of human health and the environment upon completion, and in the interim, exposure pathways that could result in unacceptable risks are being controlled. Institutional controls to prevent consumption of groundwater and prevent activities that would compromise the integrity of the remedy are in place and are successfully preventing exposures on the 5.89 acre state owned portion of the Site. Additional institutional controls need to be established elsewhere on the Site where there are contaminants present that may pose a risk to human health and the environment. However, currently there are no development or use activities on these properties that would present an exposure risk.

James T. Owens, III, Director
Office of Site Remediation and Restoration

09/19/08
Date

FIGURES

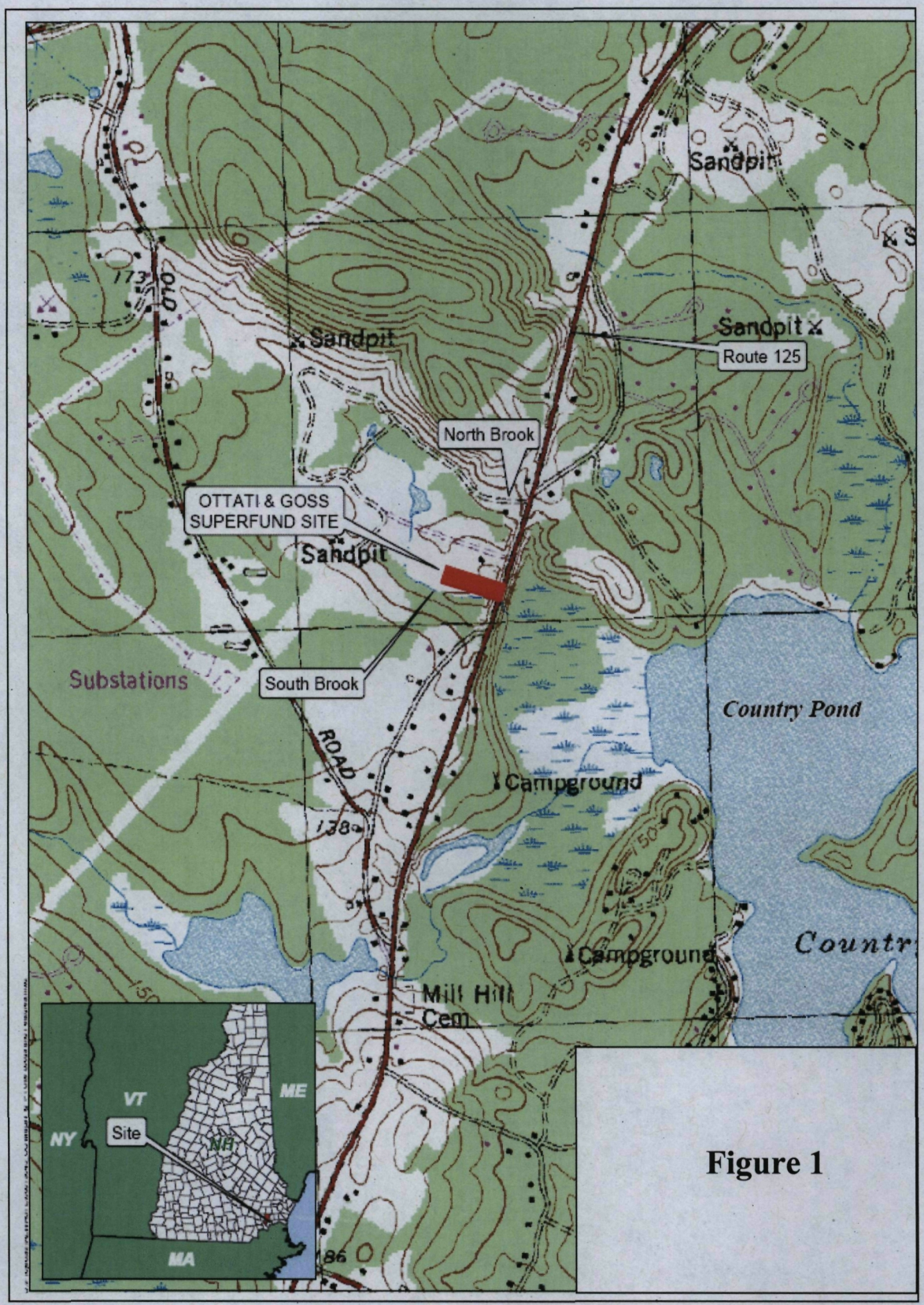

Sandpit
Sandpit
Sandpit
Route 125
North Brook
OTTATI & GOSS
SUPERFUND SITE
Sandpit
South Brook
Substations
Country Pond
Campground
Campground
Mill Hill
Cem
VT
ME
NY
Site
NH
MA

Figure 1

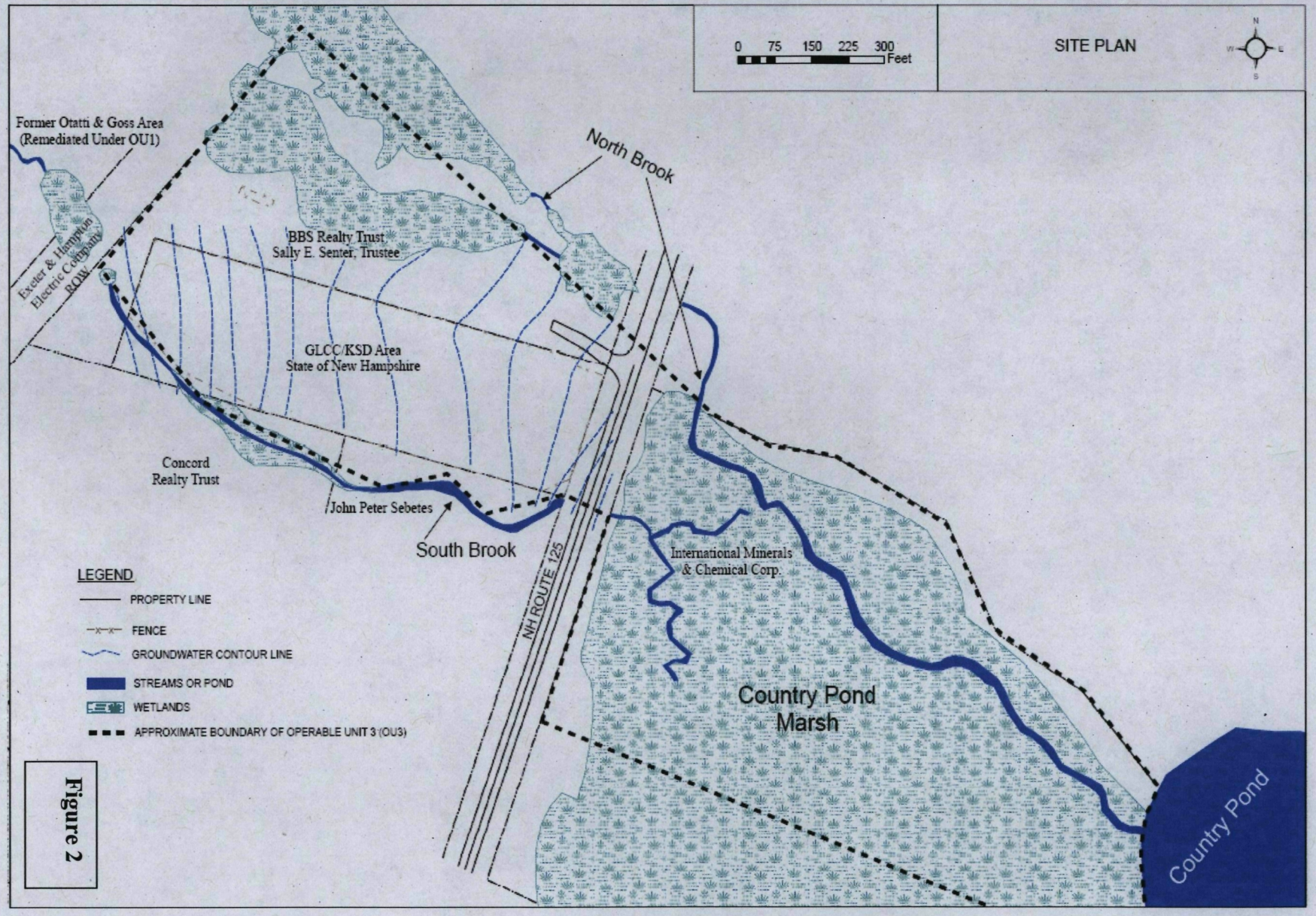

0 75 150 225 300 Feet
SITE PLAN
N
W
E
S
Former Otatti & Goss Area
(Remediated Under OU1)
North Brook
Exeter & Hampton Electric Company ROW
BBS Realty Trust
Sally E. Senter, Trustee
GLCC/KSD Area
State of New Hampshire
Concord
Realty Trust
John Peter Sebetes
South Brook
NH ROUTE 125
International Minerals
& Chemical Corp.
Country Pond
Marsh
Country Pond
LEGEND
PROPERTY LINE
FENCE
GROUNDWATER CONTOUR LINE
STREAMS OR POND
WETLANDS
APPROXIMATE BOUNDARY OF OPERABLE UNIT 3 (OU3)

Figure 2

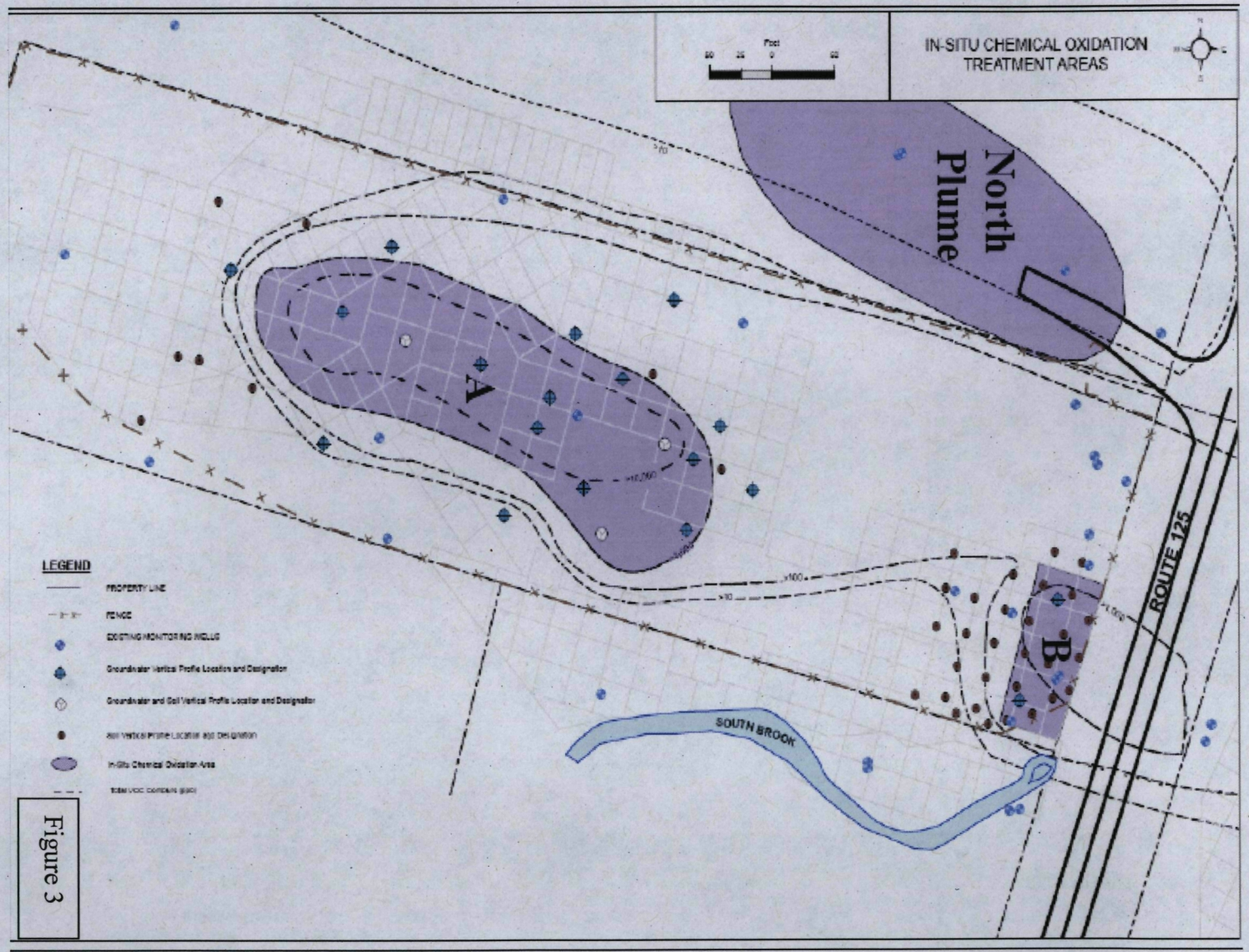

IN-SITU CHEMICAL OXIDATION
TREATMENT AREAS
North
Plume
A
B
ROUTE 125
SOUTH BROOK
LEGEND
PROPERTY LINE
FENCE
EXISTING MONITORING WELLS
Groundwater Vertical Profile Location and Designation
Groundwater and Soil Vertical Profile Location and Designation
In-Situ Chemical Oxidation Area

Figure 3

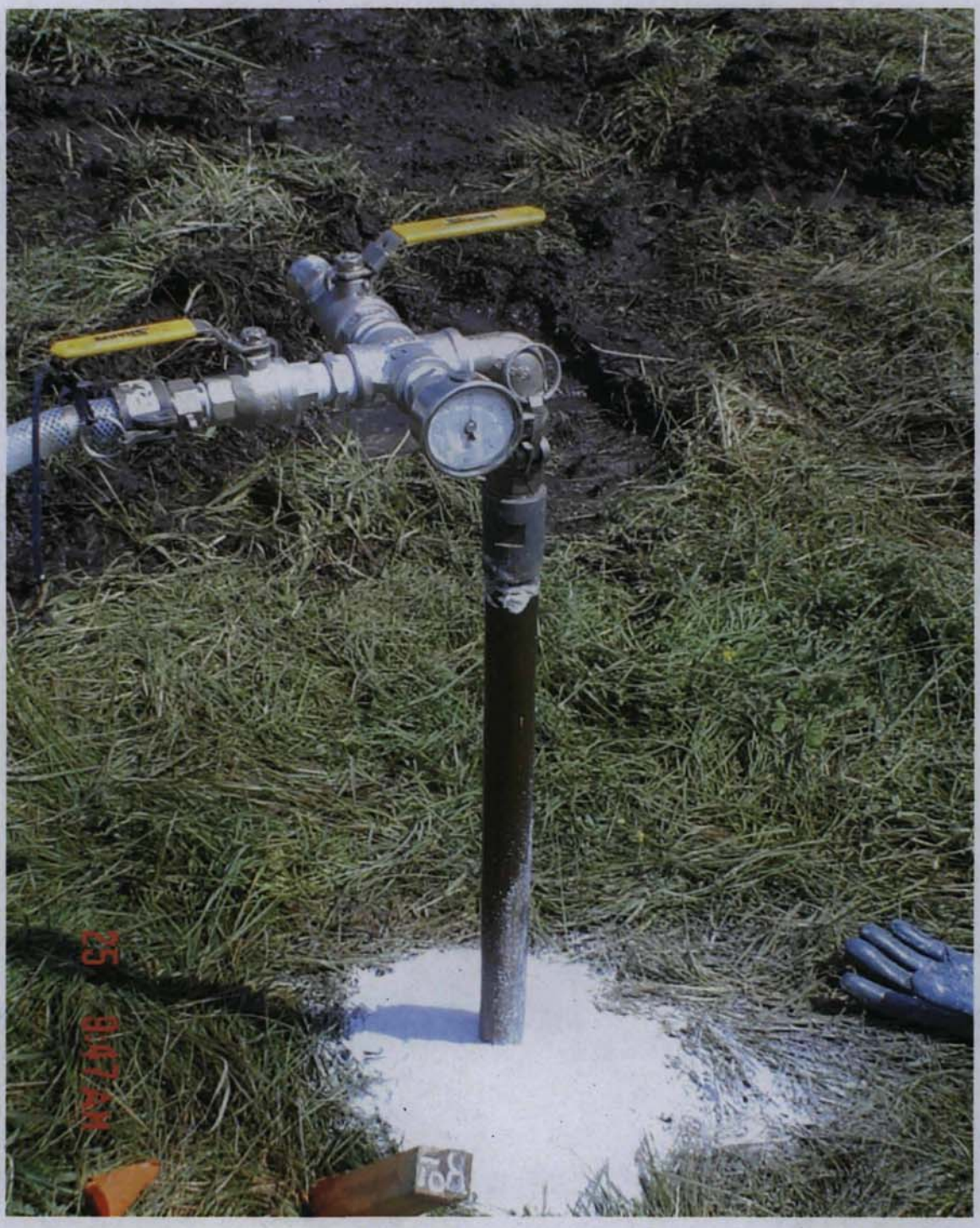
PHOTOS

2,200 Pound Sodium Persulfate "Supersack" Unloaded from Delivery Truck

"Supersack" Removed from On-Site Storage Trailer

Activated Sodium Persulfate Mixing Operation

Injection Platform



Injection Well

Continuous YSI Monitoring Station, South Brook

Injection Area A (background) and B (foreground). Drilling and Injection Operations Demobilized.