NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION
Site Classification Report

DATE: 9/7/2012

Site Code: 754012 **Site Name:** Tioga Casting Facilities
City: Owego **Town:** Owego
Region: 7 **County:** Tioga
Current Classification: 02 **Proposed Classification:** 04
Estimated Size (acres): 1.00 **Disposal Area:** Landfill
Significant Threat: Previously **Site Type:** GPRA
Priority ranking Score: **Project Manager:** Payson Long

Summary of Approvals

Originator/Supervisor: Susan Edwards **08/02/2012**

RHWRE: Harry Warner: **08/13/2012**

BEEI of NYSDOH: **09/07/2012**

CO Bureau Director: Michael Cruden, Director, Remedial Bureau E:

Assistant Division Director: Robert W. Schick, P.E.:

Basis for Classification Change

Hazardous waste disposal at this site was addressed by implementation of the remedy identified for the site by one or more Records of Decision. All construction of the components of the site-wide remedy was completed no later than 2000. The Final Engineering Report(s) (FER) (or its equivalent) confirms that the remedy has been constructed consistent with the requirements in the ROD(s). Management of contamination remaining at the site, including any required monitoring, is and has been controlled pursuant to a Site Management Plan (SMP) (or its equivalent). Institutional controls were required to ensure the protectiveness of the site. The required control, in the form of an Environmental Notice, is in place. A significant threat to public health and the environment no longer exists at the site. The site is properly remediated and requires site management, therefore, it qualifies for Class 4 status on the Registry of Inactive Hazardous Waste disposal sites.

Site Description - Last Review: 08/30/2012

Location: The Tioga Casting site is approximately 1 acres in size and located on Foundry Street, off of McMaster Street, in the Village of Owego, Tioga County.

Site Features: The main site feature is a capped landfill enclosed by a fence. The Landfill was closed in accordance with Part 360, with a final cover layer over the fill material, a 60-mil geomembrane, a geocomposite drainage layer, an 18-inch thick barrier protection layer, a 6-inch-thick vegetative layer and vegetative cover material. Owego Creek is located approximately one-half mile to the west and the

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Susquehanna River is located approximately one-half mile to the south.

Current Zoning/Use(s): The site is currently inactive and is zoned as industrial. The site is adjacent to the former Owego-Appalachin Middle School, which is now vacant. The surrounding properties are commercial and residential.

Historical Use(s): In 1946, the Tioga Casting Facility started operation as a cupola type foundry. Operations ceased in 1988. Until 1979, waste from the facility produced: iron smelting waste, scrap iron, coke, limestone, phenol-formaldehyde tainted sand mold, bentonite, fly ash, iron grindings, fine baghouse ash, and cupola dust. These wastes were reportedly disposed of at an off-site landfill until March 1979. The facility then operated an on-site landfill for the disposal of its foundry wastes. The facility ceased operations in 1988. The following materials were left onsite: sand casts, various drums, a number of one-ton plastic lined bags of cupola dust as well as the material contained in the on-site landfill.

In July 1989, the foundary structure was destroyed by fire. Subsequently, a fence was installed to limit access to the property. The Tioga Casting facility was listed as a Class 2 site in July 1989. As part of an interim remedial measure, approximately 100 drums of waste and contaminated soil were removed from the property. In 1991 a temporary cover was placed over the onsite landfill.

In 1994, the DEC completed a remedial investigation and feasibility study. In March 2005 a Record of Decision (ROD) was signed by the DEC which called for a remedy that included demolition of all of the onsite structures and consolidation of waste in a capped landfill. Construction of the remedy was completed by DEC State superfund contractor Clean Venture in 1997.

The State continues to maintain and monitor the site to ensure the remedy is effective. Additional removal and investigation took place subsequent to the remedial action. In June 2001 EPA performed a removal of asbestos containing material (block, brick, wood, and building). In July 2008 DEC investigated the site to determine if any contamination remained onsite outside of the capped landfill.

In 2009 the site perimeter fence was removed by DEC as it was deemed unnecessary. The fence around the landfill remains intact. In September 2010 a temporary use and occupancy agreement was signed allowing the installation of an up-gradient monitoring well (MW-6).

In November 2010 an expanded sampling event of the groundwater and soil vapor, was conducted and document that the remediation at the site is complete.

In August 2011 the site boundary was modified from 7 acres to 1 acre. The seven acres inclded the former foundry building which occupied the front (eastern) portion of the facility and the former landfill located at the western edge of the former facility. The remaining slab remnants of the onsite facility are all that remain of the former foundry building. The current 1 acre foot print of the site includes only the capped landfill.

Site Geology and Hydrogeology : Soils at the site consist of sands and gravels.

Groundwater below the site is encountered at approximately 10 to 15 feet below the ground surface (bgs).

Groundwater flow direction is generally to the south-southeast. There is no surface water near the site; the topography is very flat and surface drainage from the site is in the form of sheet flow or infiltration.

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Contaminants of Concern (Including Materials Disposed)	**Quantity Disposed**
OU 00	
CADMIUM	
CHROMIUM	
LEAD	
LEAD	
OU 01	
LEAD	0.00
CHROMIUM	0.00

Analytical Data Available for : Groundwater, Soil, Sediment, Soil Vapor

Applicable Standards Exceeded for: Groundwater, Soil

Site Environmental Assessment- Last Review: 08/30/2012

The RI was completed in two phases. The first phase field work was completed between April 5, 1993 and May 4, 1993. The second phase field work was carried out in December, 1993.

Prior to remediation:
Soils: The analysis of on-site surface soil samples indicated lead concentrations from approximately 10 - 917 ppm with one exception (22,200 ppm). Subsurface soil sample results indicated lead concentrations from 15 – 2600 ppm; lead concentrations in off-site surface soil samples ranged from approximately 25 - 800 ppm. This site's cleanup level for lead was set at 250 ppm (for surface soils).

The on-site surface soil results indicated cadmium concentrations from 0.4 - 3.7 ppm with one exception (48.6 ppm). Cadmium levels in off-site surface soils ranged from 0.2 - 3.4 ppm with one exception (9.5 ppm).

Subsurface soil concentrations of cadmium ranged from 0.35 - 3 ppm with one exception (5.6 ppm).

During the RI, three subsurface soil samples collected from inside the landfill were analyzed for TCLP metals. Although the RI samples did not exceed TCLP regulatory levels, historical analyses for total lead indicated that there was still material on site which would likely be classified as hazardous waste (i.e. samples from the surface of the landfill and from the south-central perimeter of the site indicated lead concentrations of 15,000 ppm and 22,200 ppm, respectively).

Sediment: There were floor drains and a septic tank present on site. Sediment samples were collected from these areas. Lead concentrations ranged from 7.6 - 410 ppm; cadmium was present at concentration of 4.1 - 6.8 ppm.

Groundwater: As a part of the RI, five monitoring wells were installed around the perimeter of the site. Two rounds of groundwater samples were collected (April '93 and December '93). The analysis of groundwater samples indicated concentrations of site related contaminants above groundwater standards. In the first round of groundwater samples, one sample exceeded the 25 µg/l standard for lead (26.7 µg/l). The results of the second round indicated that three of the five groundwater samples exceeded the standard for lead with concentrations of 26.8, 39.6, and 41.8 µg/l. Two of the samples exceeded the 10 µg/l standard for cadmium

with concentrations of 12.8 and 14 µg/l.

Post-Remediation: All known contamination on the site has been consolidated into the onsite landfill which was subsequently capped.

In July 2008, additional groundwater monitoring and a subsurface soil investigation was initiated to evaluate if groundwater and/or subsurface soil contained concentration of volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), or metals at concentrations greater than the respective NYSDEC Standards or site-specific cleanup criteria. Sub-slab soil vapor samples were also collected from beneath the former foundry building slab to evaluate potential soil vapor intrusion pathways. In addition, three new groundwater monitoring wells were installed to provide additional information on groundwater quality.

In April 2009, NYSDEC collected groundwater samples from all new and existing groundwater monitoring wells at the site for analysis of VOCs, semi-volatile organic compounds (SVOCs), and metals. Based on the results provided by NYSDEC, none of the samples contained concentrations of VOCs or SVOCs greater than corresponding NYSDEC Class GA Standards.

In July 2009, surface soil samples were collected from the site to evaluate the potential for surface soil to be an exposure route to site related contaminants. Six surface soil samples were collected from the site in areas known to have contained piles of debris, coal, or concentrations of metals in subsurface soil or groundwater greater than the respective 6NYCRR Part 375, NYSDEC Class GA, or site-specific cleanup goals. None of the surface soil samples contained concentrations of metals greater than the corresponding 6NYCRR Part 375 Commercial SCOs.

In August 2011 the site boundary was modified from 7 acres to 1 acre. The seven acres were the former foundry building which occupied the front (eastern) portion of the facility while the former landfill is located at the western edge of the former facility. The remaining slab remnants of the onsite facility are all that remain of the former foundry building. The Landfill was closed in accordance with part 360, With final cover layer over the fill material, a 60-mil geomembrane, a geocomposite drainage layer, an 18-inch thick barrier protection layer, a 6-inch-thick vegetative layer and vegetative cover material. The current 1 acre foot print of the site includes only the capped landfill.

Site Health Assessment - Last Update: 08/22/2012

The landfill was properly capped when it was closed and a fence is installed; therefore, people are not expected to come into contact with contaminated soils. Contaminated groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source not affected by this contamination. Volatile organic compounds in the groundwater may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Because the site is vacant, the inhalation of site?related contaminants due to soil vapor intrusion does not represent a current concern. Furthermore, environmental sampling indicates soil vapor intrusion is not a concern for future exposures.

	Start		End	
OU 00				
OGC Docket - Access	11/3/10	ACT	12/13/10	ACT

OGC Docket - Environmental Notice	9/19/11	ACT	7/24/12	ACT
Periodic Review	1/29/09	ACT	2/24/11	ACT
Periodic Review	1/29/14	PLN	3/14/14	PLN
Site Management	7/1/97	ACT	3/31/76	PLN
OU 01				
OGC Docket - Deed Restriction	3/11/11	ACT	9/19/11	TRM
OGC Docket - Other	4/1/06	ACT	3/31/08	TRM
Reclass Pkg.	10/18/10	ACT	10/12/12	PLN
Remedial Action	11/1/96	ACT	7/1/97	ACT
Remedial Design	8/1/95	ACT	3/1/96	ACT
Remedial Investigation	10/1/92	ACT	3/1/95	ACT
OU 01A				
Remedial Action	8/1/89	ACT	4/1/90	ACT
OU 01B				
Remedial Action	4/1/93	ACT	5/1/93	ACT
OU 01C				
Remedial Action	4/26/00	ACT	9/1/00	ACT
Remedial Design	5/1/99	ACT	12/1/99	ACT

Remedy Description and Cost

Remedy Description for Operable Unit 01

OU-1 March 1995 - A Record of Decision (ROD) was signed for the site in 1995. The remedy included the following items:

•Consolidation of on-site and off-site soil and waste piles that contained concentrations greater than the cleanup goals for the site in the on-site landfill.
•Restrictions to prevent site development in areas of the site where contaminated material was present.
•Placement of a low permeability cover over the on-site landfill.
•Maintenance of a fence around the on-site landfill to limit site access.
•Operation and maintenance of the remedy.
•Groundwater monitoring.

Previous IRMs included:
•Placement of a fence around the former foundry
•Removal of abandoned waste material
•Placement of a temporary cap on the landfill prior to final remediation
•removal of soil beneath the subslab (after removal of the slab (in 1999-2000)

Total Cost $1,090,000

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Remedy Description for Operable Unit 01A

IRM - Feb. 1990 - A perimeter fence is placed around the former foundry to limit access. An IRM, to remove waste material abandoned at the site, was completed. The IRM was initiated by the responsible party; however, it became necessary for the State to complete the work.

Total Cost

Remedy Description for Operable Unit 01B

IRM - July 1991 - Prior to the demolition of the onsite building, grid sampling was conducted to characterize the dust that blanketed the floor of the former foundry building. Samples were collected and analyzed for lead. Twenty eight of the samples had concentrations at or below 210 ppm; three of the samples had elevated concentrations of lead (1,400, 9,300, and 28,000 ppm). Dust from these areas was containerized and disposed of prior to the demolition of the building.

IRM - August 1991 - An IRM was conducted to place a temporary cap over the landfill.

Total Cost

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Remedy Description for Operable Unit 01C

IRM 1999 – 2000 – Removal of subslab soils .

Total Cost

OU 00 **Site Management Plan Approval: 07/01/1997** **Status: ACT**

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SITE DESCRIPTION

SITE NO. 754012

SITE NAME Tioga Casting Facilities

SITE ADDRESS: Foundry Street ZIP CODE: 13827

CITY/TOWN: Owego

COUNTY: Tioga

ALLOWABLE USE: Commercial and Industrial

SITE MANAGEMENT DESCRIPTION

SITE MANAGEMENT PLAN INCLUDES:	YES	NO
IC/EC Certification Plan	☑	☐
Monitoring Plan	☑	☐
Operation and Maintenance (O&M) Plan	☑	☐

Periodic Review Frequency: every three years

Periodic Review Report Submittal Date: 01/29/2014

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Description of Institutional Control

John Sweet III
2065 Carmichael St
MC MASTER
Environmental Notice
Block: 2
Lot: 7
Sublot:
Section: 128
Subsection: 07
S_B_L Image: 128.07-2-7
Ground Water Use Restriction
IC/EC Plan
Landuse Restriction
Monitoring Plan
O&M Plan
Site Management Plan
Soil Management Plan

Description of Engineering Control

John Sweet III
2065 Carmichael St
MC MASTER
Environmental Notice - Institutional Control Instrument
Block: 2
Lot: 7
Sublot:
Section: 128
Subsection: 07
S_B_L Image: 128.07-2-7
Cover System
Fencing/Access Control