Periodic Review Report

3807 Highland Avenue Site
Site No. C932145
Niagara Falls, New York

February 2012 0170-001-900

Prepared for:

Globe Metallurgical, Inc. and Solsil, Inc.

Prepared by:

TurnKey Environmental Restoration, LLC

2558 Hamburg Turnpike, Buffalo, New York | phone: (716) 856-0635 | fax: (716) 856-0583

PERIODIC REVIEW REPORT
for the
3807 HIGHLAND AVENUE SITE
(SITE NO. C932145)

NIAGARA FALLS, NEW YORK

February 2012 0170-001-900

Prepared for:

Globe Metallurgical, Inc. & Solsil, Inc.
1595 Sparling Road
PO Box 157
Beverly, Ohio 45715

Prepared By:

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Buffalo, NY 14218
(716) 856-0635

PERIODIC REVIEW REPORT

3807 Highland Avenue Site

Table of Contents

PERIODIC REVIEW REPORT
3807 Highland Avenue Site
Table of Contents

FIGURES

APPENDICIES

1.0 INTRODUCTION

TurnKey Environmental Restoration, LLC (TurnKey), in association with Benchmark Environmental Engineering and Science, PLLC, has prepared this Periodic Review Report (PRR), on behalf of Globe Metallurgical, Inc. and Solsil, Inc. (Globe/Solsil), to summarize the post-remedial status of New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) 3807 Highland Avenue Site (Site) (C932145).

This PRR has been prepared in accordance with the NYSDEC DER-10 *Technical Guidance for Site Investigation and Remediation* (May 2010) and the NYSDEC's Institutional and Engineering Controls (IC/EC) Certification Form has been completed for the Site (see Appendix A). Globe and Solsil, who are co-applicants for the BCP Site, each received separate Site Management Periodic Report Notices, including Institutional and Engineering Controls Certification Forms. This PRR and the associated IC/EC Certification form have been prepared on behalf of both Globe and Solsil.

This PRR and the associated inspection form have been completed for the post-remedial activities at the Site for the July 1, 2010 to February 1, 2012 reporting period.

1.1 Site Background

The 3807 Highland Avenue Site is located in the City of Niagara Falls, County of Niagara, New York (see Figure 1). The 22.25-acre BCP parcel is composed of 10 contiguous parcels as identified below.

- 3801 Highland Avenue - SBL No. 130.14-2-41
- 4002 Hyde Park – SBL No. 130.15-1-8
- 4024 Hyde Park – SBL No. 130.15-1-17
- 1725 Maple Avenue – SBL No. 130.15-1-13
- 1911 Maple Avenue – SBL No. 130.15-1-6
- 1925 Maple Avenue – SBL No. 130.15-1-16
- 1702 Massachusetts Avenue – SBL No. 130.15-1-12
- 1724 Massachusetts Avenue – SBL No. 130.15-1-11.1
- 1914 Massachusetts Avenue – SBL No. 130.15-1-15

- 1930 Massachusetts Avenue – SBL No. 130.15-1-7

The Site is bordered by College Avenue to the south, Highland Avenue to the west, Maple Avenue to the north, and Hyde Park to the east (see Figure 2).

1.2 Remedial History

Co-applicants Globe and Solsil entered into a Brownfield Cleanup Agreement (BCA), (Index# B9-0793-08-11, Site #C932145) with the NYSDEC in September 2009 to investigate and remediate an approximate 22.25-acre BCP property located in the City of Niagara Falls, Niagara County, New York. Globe/Solsil then completed the investigation and remediation of the Site under the supervision of the NYSDEC and NYSDOH.

The Remedial Investigation/Interim Remedial Measures (RI/IRM) Work Plan was approved by the NYSDEC on September 30, 2009. Remedial activities were performed at the Site between from October 6, 2009 and March 10, 2010.

The remedial program was successful in achieving the remedial objectives for the Site, and the Site Management Plan (SMP) and Final Engineering Report (FER) were approved by the Department in April 2010. The NYSDEC issued a Certificate of Completion (COC) for the Site on June 29, 2010.

1.3 Compliance

At the time of the Site inspection, the Site was compliant with the Department's approved SMP.

1.4 Recommendations

Based on the post-remedial status for the Site, TurnKey makes the following recommendation for the Site.

- Modification of the reporting frequency from annual to bi-annual (every other year). The next PRR would be due in March 2014.

2.0 SITE OVERVIEW

The 3807 Highland Avenue Site is located in the City of Niagara Falls, Niagara County, New York and is an approximate 22-acre Site (see Figures 1 and 2). The Site is bordered by College Avenue to the south, Highland Avenue to the west, Maple Avenue to the north, and Hyde Park to the east.

As stated in the approved FER, the remedial activities were completed from November 11, 2009 through March 10, 2010, and included:

- Removal and cleaning of seven historic aboveground storage tanks (ASTs).
- Removal of approximately 54 drums containing waste materials and 8 additional empty drums.
- Disposal of approximately 2,731-tons of non-hazardous soil/fill/debris to Modern Landfill in Model City, New York.
- Removed approximately 1.35-tons of sediment and debris from on-site catch basins and sumps and disposed at EICS in Niagara Falls, New York.
- Collection, removal, and recycling of approximately 1,150-lbs of electronic wastes (eWaste).
- Collection, removal and disposal of three drums from the factory building containing light ballasts with PCBs, Potassium Hydroxide and Sodium Hydroxide. The material was disposed at CWM Chemical Service, in Model City, NY;
- Collection and removal of five (5) lab-pack drums, identified as LP-01 through LP-05, containing spent laboratory chemicals. These materials were over-packed and transported off-site by Tonawanda Tank Transport Services, Inc. for disposal at Chemtron Corp. located in Avon, Ohio;
- Excavation and off-site disposal of approximately 358-tons of non-hazardous chromium-impacted soil/fill. Excavated soil/fill was transported off-site by RE Lorenz for disposal at Modern Landfill in Model City, New York.
- Excavation of approximately 26-tons of non-hazardous impacted surface soil/fill. Excavated soil/fill was transported off-site for disposal at Modern Landfill in Model City, New York. Additionally, three spent electrodes were direct-loaded and transported off-site for disposal at Chemical Waste Management in Chafee, New York.

- Approximately 250-tons of non-hazardous stack deposits were removed from the western stack. Deposits were loaded and transported off-site by RE Lorenz for disposal at Modern Landfill in Model City, New York.
- Excavation and off-site disposal of approximately 728-tons of non-hazardous arsenic-impacted soil/fill. Excavated soil/fill was transported off-site by RE Lorenz for disposal at Modern Landfill in Model City, New York.
- Placement and compaction of backfill.

Remedial activities were completed in March 2010. The FER and SMP for the Site were approved by the Department in April 2010. The COC was issued for the Site on June 29, 2010.

3.0 SITE MANAGEMENT PLAN

The 3807 Highland Avenue Site post-remedial Site Management Plan (SMP) was approved by the NYSDEC in April 2010. The SMP provides a detailed description of all procedures required to manage remaining contamination at the Site after completion of the Remedial Action, including: (1) implementation and management of all Institutional and Engineering Controls; and, (2) performance of periodic inspections, certification of results, and submittal of Periodic Review Reports.

A brief description of these SMP components is presented below.

3.1 Institutional Control Plan

As a requirement of the SMP a series of Institutional Controls are required to (1) prevent future exposure to remaining contamination by controlling disturbances of the subsurface; (2) limit the use and development of the Site to industrial uses only; and, (3) prohibit the use of groundwater underlying the Site without treatment rendering it safe for the intended purpose.

3.1.1 Excavation Work Plan

The Excavation Work Plan, which is included within the approved-SMP for the Site, provides guidelines for the management of soil/fill material during any future intrusive activities.

During the reporting period, Globe/Solsil began a project to replace the wood-constructed barrier walls in the southern raw material storage area (adjacent to College Avenue) with concrete barrier walls. Analytical results collected during the remedial investigation for surface and subsurface soils in the vicinity of the southern material storage area were all below Industrial SCOs.

Approximately 250-cubic yards (cy) of soil was excavated for the associated concrete footers; no visual or olfactory evidence of impacts were noted by Globe/Solsil. Excavation spoils not used for backfilling the excavation were transported on-Site to the northeast storage yard. No soil was transported off-site for disposal.

A Notification Addendum to the Excavation Work Plan will be submitted to the NYSDEC prior to commencement of the next phase of the wall replacement project.

3.1.2 Site Land Use

The Site is currently utilized as an industrial operation, and is in compliance with the Site's land use criteria (industrial use).

3.2 Annual Inspection and Certification Program

The Annual Inspection and Certification Program outlines the requirements for the Site, to certify and attest that the institutional controls and/or engineering controls employed at the Site are unchanged. The Annual Certification will primarily consist of an annual Site Inspection to complete the auto-generated NYSDEC Institutional and Engineering Controls (IC/EC) Certification Form. The site inspection will verify that the IC/ECs:

- Are in place and effective.
- Are performing as designed.

And that:

- Nothing has occurred that would impair the ability of the controls to protect the public health and environment.
- Nothing has occurred that would constitute a violation or failure to comply with any operation and maintenance plan for such controls.
- Access is available to the Site to evaluate continued maintenance of such controls.

A Site Inspection of the property was conducted by a TurnKey Qualified Environmental Professional (QEP) on February 15, 2012. At the time of the inspection, the property was being used as an industrial operation for the production of metallurgical and chemical-grade silicon metal and silicon-based specialty alloys. The Site includes production, storage, laboratory and office buildings, paved roadways/walkways, raw material storage areas, and parking areas. The Site is connected to municipal water supply, and no observable use of groundwater was noted during the site inspection. Access to the Site is controlled with 24-hr on-Site security personnel monitoring the Site and perimeter fencing.

The completed Site Management Periodic Review Report Notice – Institutional and Engineering Controls Certification Form is included in Appendix A. A photolog of the site inspection is included in Appendix B.

3.3 Engineering and Institutional Control Requirements and Compliance

As detailed in the Environmental Easements, several Institutional Controls (ICs) need to be maintained as a requirement of the BCA for the Site.

3.3.1 Institutional Controls

- Groundwater-Use Restriction – the use of groundwater for potable and non-potable purposes is prohibited, without treatment to render it safe for the intended purpose;
- Land-Use Restriction - the controlled property may be used for industrial use only; and,
- Implementation of the SMP.

3.3.2 Engineering Controls

- Fencing-Access Controls – the use and maintenance of fencing and security to restrict access to site.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Conclusions and recommendations are as follows:

- At the time of the site inspection, the Site was in compliance with the Site Management Plan.

- Based on the IC/ECs which are in place and fully effective, and the nature of the site-use, Globe/Solsil propose a modification of the frequency of submittal of PRR be reduced from annual to bi-annual (every two (2) years), with the next PRR due in March 2014.

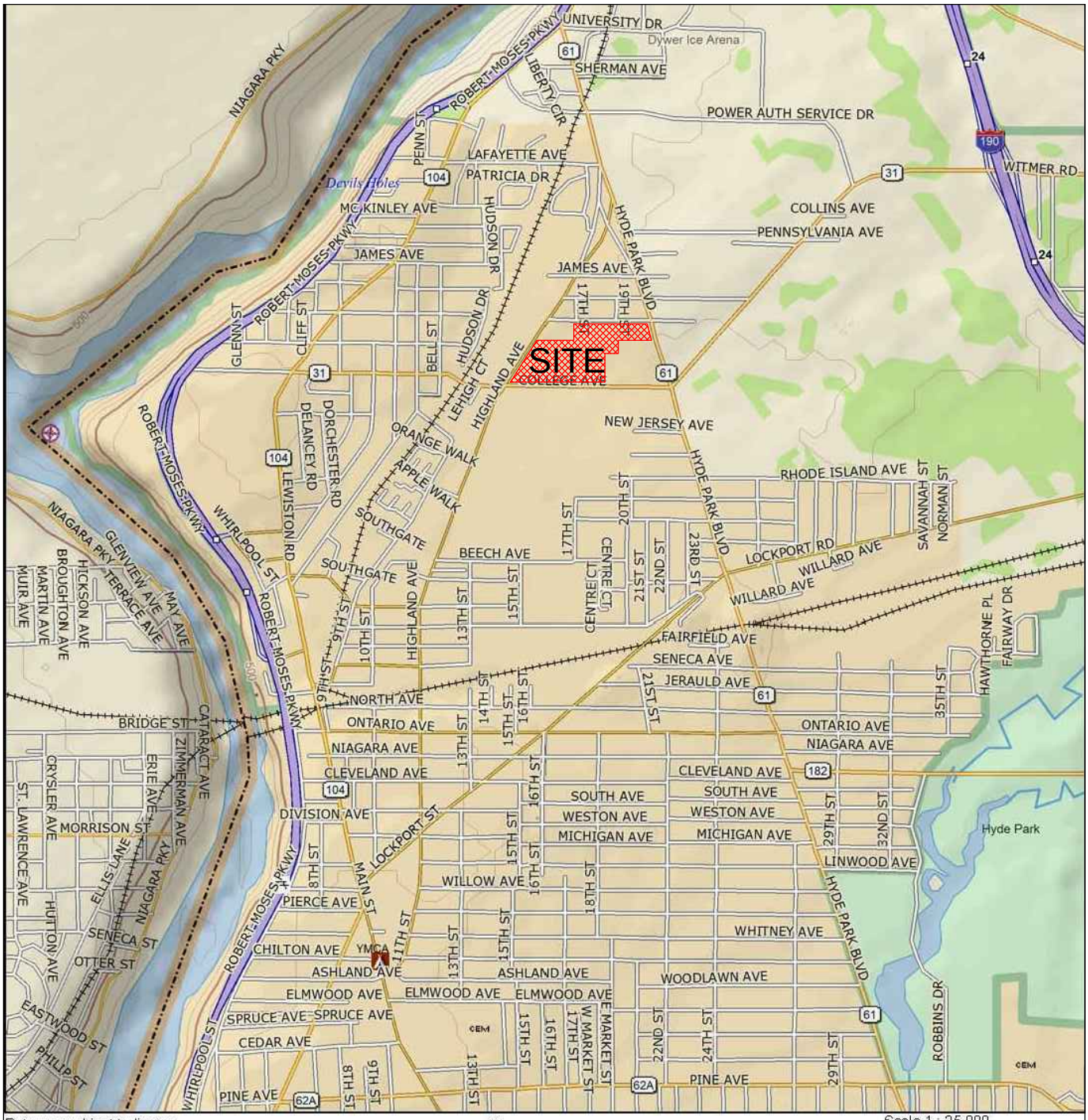
5.0 DECLARATION/LIMITATION

TurnKey Environmental Restoration, LLC in association with Benchmark Environmental Engineering and Science, PLLC, personnel conducted the annual site inspections for Brownfield Cleanup Program Site No. C932145, located in Niagara Falls, New York, according to generally accepted practices. This report complied with the scope of work provided to Globe/Solsil by TurnKey Environmental Restoration, LLC.

This report has been prepared for the exclusive use of Globe/Solsil. The contents of this report are limited to information available at the time of the site inspection. The findings herein may be relied upon only at the discretion of Globe/Solsil. Use of or reliance upon this report or its findings by any other person or entity is prohibited without written permission of TurnKey Environmental Restoration, LLC.

FIGURES

FIGURE 1



TurnKey Environmental Restoration, LLC

2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0635

PROJECT NO.: 0170-001-900

DATE: FEBRUARY 2012

DRAFTED BY: JGT

SITE LOCATION AND VICINITY MAP

PERIODIC REVIEW REPORT

3807 HIGHLAND AVENUE SITE

NIAGARA FALLS, NEW YORK

PREPARED FOR

GLOBE METALLURGICAL, INC. & SOLSIL, INC.

BASE IMAGE PER GOOGLE

BCP PROPERTY BOUNDARY (APPROXIMATE)

NOT TO SCALE

N

TurnKey Environmental Restoration, LLC

2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0635

PROJECT NO.: 0170-001-900

DATE: FEBRUARY 2012

DRAFTED BY: JGT

SITE PLAN (AERIAL)

PERIODIC REVIEW REPORT

3807 HIGHLAND AVENUE SITE

NIAGARA FALLS, NEW YORK

PREPARED FOR

GLOBE METALLURGICAL, INC. & SOLSIL, INC.

FIGURE 2

APPENDIX A

INSTITUTIONAL CONTROLS CERTIFICATION FORM

Enclosure 2

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. C932145

Site Name 3807 Highland Avenue Site

Site Address: 3807 Highland Avenue Zip Code: 14305
City/Town: Niagara Falls
County: Niagara
Site Acreage: 22.3

Reporting Period: July 01, 2010 to February 01, 2012

	YES	NO
1. Is the information above correct?	☒	☐
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☒
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☒
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☒
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	☐	☒

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Industrial	☒	☐
7. Are all ICs/ECs in place and functioning as designed?	☒	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative Date

Box 2A

	YES	NO
8. Has any new information revealed that assumptions made in the Qualitative Exposure Assessment regarding offsite contamination are no longer valid?	☐	☒
9. Are the assumptions in the Qualitative Exposure Assessment still valid? (The Qualitative Exposure Assessment must be certified every five years)	☒	☐

If you answered YES to question 8, include documentation or evidence that documentation has been previously submitted with this certification form.

If you answered NO to question 9, the Periodic Review Report must include an updated Qualitative Exposure Assessment based on the new assumptions.

SITE NO. C932145 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
130.15-1-11.1	Globe Metallurgical, Inc.	Ground Water Use Restriction IC/EC Plan Landuse Restriction Site Management Plan
130.15-1-12	Globe Metallurgical, Inc.	Ground Water Use Restriction IC/EC Plan Landuse Restriction Site Management Plan
130.15-1-13	Globe Metallurgical, Inc.	Ground Water Use Restriction IC/EC Plan Landuse Restriction Site Management Plan
130.15-1-15	Globe Metallurgical, Inc.	Ground Water Use Restriction IC/EC Plan Landuse Restriction Site Management Plan
130.15-1-16	Globe Metallurgical, Inc.	Ground Water Use Restriction IC/EC Plan Landuse Restriction Site Management Plan
130.15-1-17	Globe Metallurgical, Inc.	Ground Water Use Restriction IC/EC Plan Landuse Restriction Site Management Plan
130.15-1-6	Globe Metallurgical, Inc.	Ground Water Use Restriction IC/EC Plan Landuse Restriction Site Management Plan
130.15-1-7	Globe Metallurgical, Inc.	Ground Water Use Restriction IC/EC Plan Landuse Restriction Site Management Plan
130.15-1-8	Globe Metallurgical, Inc.	Ground Water Use Restriction IC/EC Plan Landuse Restriction

		Site Management Plan
130.14-2-41	Globe Metallurgical, Inc.	Ground Water Use Restriction IC/EC Plan Landuse Restriction Site Management Plan

Description of Engineering Controls

Parcel	Engineering Control
130.15-1-11.1	Fencing/Access Control
130.15-1-12	Fencing/Access Control
130.15-1-13	Fencing/Access Control
130.15-1-15	Fencing/Access Control
130.15-1-16	Fencing/Access Control
130.15-1-17	Fencing/Access Control
130.15-1-6	Fencing/Access Control
130.15-1-7	Fencing/Access Control
130.15-1-8	Fencing/Access Control
130.14-2-41	Fencing/Access Control

Engineering Control Details for Site No. C932145

Parcel: 130.14-2-41

Environmental Easement submitted restricting use of groundwater and placing an Industrial use restriction on the property. Easement requires compliance with the Site Management Plan. Future intrusive activities and soil fill handling at the facility must be in accordance with the Excavation Work Plan found in the SMP.

Parcel: 130.15-1-11.1

Environmental Easement submitted restricting use of grounwater and placing an Industrial use restriction on the property. Easement requires compliance with the Site Management Plan. Future intrusive activities and soil fill handling at the facility must be in accordance with the Excavation Work Plan found in the SMP.

Parcel: 130.15-1-12

Environmental Easement submitted restricting use of grounwater and placing an Industrial use restriction on the property. Easement requires compliance with the Site Management Plan. Future intrusive activities and soil fill handling at the facility must be in accordance with the Excavation Work Plan found in the SMP.

Parcel: 130.15-1-13

Environmental Easement submitted restricting use of grounwater and placing an Industrial use restriction on the property. Easement requires compliance with the Site Management Plan. Future intrusive activities and soil fill handling at the facility must be in accordance with the Excavation Work Plan found in the SMP.

Parcel: 130.15-1-15

Environmental Easement submitted restricting use of grounwater and placing an Industrial use restriction on the property. Easement requires compliance with the Site Management Plan. Future intrusive activities and soil fill handling at the facility must be in accordance with the Excavation Work Plan found in the SMP.

Engineering Control Details for Site No. C932145

Parcel: 130.15-1-16

Environmental Easement submitted restricting use of grounwater and placing an Industrial use restriction on the property. Easement requires compliance with the Site Management Plan. Future intrusive activities and soil fill handling at the facility must be in accordance with the Excavation Work Plan found in the SMP.

Parcel: 130.15-1-17

Environmental Easement submitted restricting use of grounwater and placing an Industrial use restriction on the property. Easement requires compliance with the Site Management Plan. Future intrusive activities and soil fill handling at the facility must be in accordance with the Excavation Work Plan found in the SMP.

Parcel: 130.15-1-6

Environmental Easement submitted restricting use of grounwater and placing an Industrial use restriction on the property. Easement requires compliance with the Site Management Plan. Future intrusive activities and soil fill handling at the facility must be in accordance with the Excavation Work Plan found in the SMP.

Parcel: 130.15-1-7

Environmental Easement submitted restricting use of grounwater and placing an Industrial use restriction on the property. Easement requires compliance with the Site Management Plan. Future intrusive activities and soil fill handling at the facility must be in accordance with the Excavation Work Plan found in the SMP.

Parcel: 130.15-1-8

Environmental Easement submitted restricting use of grounwater and placing an Industrial use restriction on the property. Easement requires compliance with the Site Management Plan. Future intrusive activities and soil fill handling at the facility must be in accordance with the Excavation Work Plan found in the SMP.

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
☒	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
☒	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

Date

IC CERTIFICATIONS
SITE NO. C932145

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I RICHARD W CLARK at P.O.BOX 157, BEVERLY, OH 45715
print name print business address

am certifying as V.P. FINANCE (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

R.W Clark 3-1-12
Signature of Owner, Remedial Party, or Designated Representative Rendering Certification — Date

IC/EC CERTIFICATIONS

Box 7

Qualified Environmental Professional Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Michael Lesakowski (print name) at 2558 Hamburg Turnpike, Buffalo NY 14218 (print business address)

am certifying as a Qualified Environmental Professional for the Owner (Owner or Remedial Party)

Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification	Stamp (Required for PE)	Date
		3/1/12

APPENDIX B

SITE PHOTOGRAPH LOG

SITE PHOTOGRAPHS

Photo 1:

Photo 2:

Photo 3:

Photo 4:

Photo 1: Site Conditions – (looking west toward Highland Avenue)

Photo 2: Site Conditions – (looking east)

Photo 3: Site Conditions – northeast raw material storage area (looking east)

Photo 4: Site Conditions – northeast area (looking northeast)

SITE PHOTOGRAPHS

Photo 5:

Photo 6:

Photo 7:

Photo 8:

Photo 5: Site Conditions – northeast area (looking north)

Photo 6: Site Conditions – northeast raw material storage area (looking west)

Photo 7: Site Conditions – southern boundary adjacent to College Avenue (looking east)

Photo 8: Site Conditions – southern raw material storage area (looking south)

SITE PHOTOGRAPHS

Photo 9:

Photo 10:

Photo 9: Site Conditions – fence along western boundary adjacent to Highland Avenue (looking west)

Photo 10: Site Conditions – fence surrounding Stack (looking southeast)