



CHRIS BURNS
START COORDINATOR

September 29, 2015

Mr. Brian Kelly
On-Scene Coordinator
U.S. Environmental Protection Agency Region 5
9311 Groh Road
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**Subject: Final Site Assessment Report for the
Calumet Stampmill Site
Detroit, Wayne County, Michigan
EPA Contract No. EP-S5-13-01
EPA Technical Direction Document (TDD) No. S05-0001-1508-201
Document Tracking No.: 0394**

Dear Mr. Kelly:

Tetra Tech, Inc. (Tetra Tech) is submitting this Final Site Assessment Report summarizing the site assessment work conducted at the Calumet Stampmill Site on August 26, 2015. The report findings show that asbestos is present in site soils and bulk material at levels that may present a risk to the nearby community.

If you have any questions regarding this report, please contact me at (312) 201-7719 or Christopher.Burns@tetrattech.com.

Respectfully,

A handwritten signature in black ink, appearing to read 'CHRIS BURNS'.

Chris Burns
START Coordinator/Project Manager

Enclosure

cc: Kevin Scott, Tetra Tech Program Manager
TDD File

**FINAL SITE ASSESSMENT REPORT FOR THE
CALUMET STAMPMILL SITE
53150 M-25 LAKE LINDEN,
HOUGHTON COUNTY, MICHIGAN 499945**

U.S. Environmental Protection Agency
Emergency Response Branch
Region 5
9311 Groh Road
Grosse Ile, MI 48138

Submitted by

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EPA Contract No. EP-S5-13-01

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September 29, 2015

Prepared by



Chris Burns
START Coordinator/Project Manager

Approved by



Kevin Scott
START QC Reviewer

CONTENTS

<u>Section</u>	<u>Page</u>
1.0 INTRODUCTION	2
2.0 SITE BACKGROUND	2
3.0 FIELD INVESTIGATION.....	3
3.1 SITE OBSERVATIONS	3
3.2 SAMPLING ACTIVITIES.....	3
4.0 ANALYTICAL RESULTS.....	5
5.0 POTENTIAL THREATS TO HUMAN HEALTH AND THE ENVIRONMENT	6

Appendix

- A FIGURES
 - 1 – SITE LOCATION MAP
 - 2 – SITE LAYOUT MAP
 - 3 – SAMPLE LOCATION AND RESULTS MAP
- B PHOTOGRAPHIC LOG
- C SOIL AND BULK SAMPLE ANALYTICAL RESULTS

Attachment

- 1 Michigan Department of Environmental Quality Sampling Results

1.0 INTRODUCTION

Under Superfund Technical Assessment and Response Team (START) Contract No. EP-S5-13-01, Technical Direction Document (TDD) No. S05-0001-1508-201, the U.S. Environmental Protection Agency (EPA) tasked Tetra Tech, Inc. (Tetra Tech), to perform a site assessment at the Calumet Stampmill Site in Lake Linden, Houghton County, Michigan (Figure 1). EPA requested that Tetra Tech collect bulk samples of suspect asbestos-containing materials (SACMs) from waste piles at the site, and collect soil samples near existing site structures. The sampling was conducted to determine if asbestos was present in the waste piles and soils, and whether the amount of asbestos constituted a potential threat to nearby residents.

2.0 SITE BACKGROUND

The Calumet Stampmill Site is located at 53150 M-25 in Lake Linden, Houghton County, Michigan (Appendix A, Figure 1). The geographic coordinates of the approximate center of the site are 47°11'13.7" North latitude and -88°24'40.2" West longitude. The site is located in a mixed residential and commercial area, and is bound by Lake Linden to the west; residential homes to the south; and Highway 26 to the east and northeast, with residential properties beyond (Appendix A, Figure 2). The site is the location of a former copper ore property used by the mining industry. Many of the original building structures have been previously demolished, but some original structures are still intact. Piles of bricks, wood, metal, and other debris from demolition activities are located around the site.

The site was previously owned and operated by the Calumet and Hecla Mining Companies. Historic buildings at the site date back to the late 1800's and early 1900's. Portions of the facility are currently maintained for historical purposes. The only remnants of the former stampmill buildings are a grouping of foundations separated by drainage canals. Each foundation contains a stamp base that was used to break down ore.

Between June 29 and July 1, 2015 the Michigan Department of Environmental Quality (MDEQ) and its contractor WESTON Solutions (Weston) completed sampling across the site of both soil and potential ACM bulk material. Results of that sampling event can be found in Attachment 1. In summery bulk samples collected by MDEQ and Weston were found to contain 2% to 90% asbestos (chrysotile and amosite) and soil samples contained <1% to 2% asbestos (chrysotile and amosite). Predominantly chrysotile was found to be the primary fiber species across the site.

3.0 FIELD INVESTIGATION

On August 26, 2015, Tetra Tech START performed the site assessment, which consisted of a site reconnaissance, identification and collection of potential ACMs samples, soil sample collection, and photographic documentation of site features.

3.1 SITE OBSERVATIONS

During the site assessment, the property was found to be unsecured with no signage for keeping trespassers off site or asbestos warning signage. The visitor center and gift shop were the only business currently opened at the site. Appendix B contains a photographic log of all sample and general site observations.

3.2 SAMPLING ACTIVITIES

Tetra Tech collected 15 bulk samples (BK prefix samples) and 16 soil samples (SO prefix samples) in the area around the former stampmill building. Each foundation segment was numbered 1-11 from south to north respectively. The sample numbers, sample description, and sample locations are as follows:

- BK-001 – Bulk sample of brownish gray fiber board south of stamp base at location 1.
- BK-002 – Bulk sample of blackish gray fiber board collected east of stamp base at location 2 between the two drainage canals. Material was rigid.
- BK-003 – Bulk sample of soil like material with whitish fiber collected at location 3 at the east end of the foundation pad. Fibers appeared degraded.
- BK-004 – Bulk sample of gasket material collected from mill base at location 4.
- BK-005 – Bulk sample of grayish fiber board collected from drainage canal between location 4 and location 5.
- BK-006 – Bulk sample of whitish fibers collected from the east portion of the foundation pad at location 6
- BK-007 – Bulk sample of brownish gray fiber board collected from the east portion of the foundation pad at location 7
- BK-008 – Bulk sample of black tar like gasket material collected from drainage canal immediately east of the mill base at location 8.
- BK-009A – Bulk sample of blueish fiber board collected in canal between location 8 and location 9. A suffix was for the initial sample collected around the stamp base 9 and B suffix indicates the second bulk sample collected around stamp base 9.
- BK-009B – Bulk sample of brown-white fibrous material collected immediately east of mill base at location 9.

- BK-010 – Bulk sample of black and white layered fibrous material collected from middle of stamp base at location 10.
- BK-011A – Bulk sample of fiber board material collected from east end of foundation pad at location 11.
- BK-011B – Bulk sample of fiber board material collected from east end of foundation pad at location 11.
- BK-012 – Bulk sample of white fiber board material collected north of location 6 outside of an existing building structure.
- BK-013 – Bulk sample of insulation type material collected north of location 6 outside of an existing building structure.
- SO-001 – Soil sample collected from the east end of the drainage canal at location 1.
- SO-002 – Soil sample collected from point where two drainage canals connect east of mill base at location 2.
- SO-003 – Soil sample collected from east edge of foundation base at location 3.
- SO-004 – Soil sample collected from drainage canal east of mill base at location 4.
- SO-005 – Soil sample collected from east end of drainage canal separating location 4 and location 5.
- SO-006 – Soil sample collected from drainage canal east of mill base at location 6.
- SO-007 – Soil sample collected from east end of foundation pad at location 07
- SO-008 – Soil sample collected immediately east of mill base in drainage canal at location 8.
- SO-010 – Soil sample collected from location 10.
- SO-012 – Soil sample collected 30 feet south of location 9.
- SO-013 – Soil sample collected 35 feet south of location 7.
- SO-014 – Soil sample collected 35 feet south of location 6.
- SO-015 – Soil sample collected 25 feet south of location 4.
- SO-016 – Soil sample collected 20 feet south of location 2.
- SO-017 – Soil sample collected 20 feet south of location 1.
- SO-018 – Soil sample collected immediately west of the first mill base across the railroad tracks to the south of location 1.

Bulk and soil samples were placed into plastic bags. Each sample was labeled, packaged and shipped to EMSL Analytical Inc. at 200 Route 130 North, Cinnaminson, New Jersey 08077. A chain of custody accompanied samples to the laboratory. All bulk samples were analyzed in accordance with EPA Method 600/R-93/116 with California Air Resource Board (CARB) 435 prep (milling) using Polarized Light Microscopy (PLM). All soil samples were analyzed in accordance with CARB 435 Level A using PLM,

if a sample was found to be non-detect the sample was also run for CARB 435 Level B using Transmission Electron Microscopy (TEM) to verify percentage of asbestos was not less than 1 percent.

The analytical results for the samples collected during the site assessment are presented in Appendix C

4.0 ANALYTICAL RESULTS

Bulk sample results:

- BK-002 was a bulk sample of blackish gray fiber board. Test results found this material contained 25% chrysotile.
- BK-003 was a bulk sample with a mixture of soil type material mixed with white fibers. Test results found this material contained 25% chrysotile.
- BK-009B was a bulk sample of brownish white fibrous material. Test results found this material contained 40% chrysotile.
- BK-010 was a bulk sample of a black and white layered board. Test results found this material contained 20% chrysotile.
- BK-011A was a bulk sample of fiber board material. Test results found this material contained 75% chrysotile.

The remaining 10 samples tested negative for asbestos.

Soil sample results:

- SO-005 was a soil sample from a drainage canal between mill bases 4 and 5. Test results found the soil contained 20% chrysotile.
- Soil samples SO-003, SO-002, and SO-007 contained between 0.25-1.00% chrysotile. Sample SO-002 also contained 0.25% amosite.
- Sample SO-010 was initially tested under CARB 435 Level A and contained 0.75% chrysotile. A second level B test found the soil to contain 5.7% chrysotile amosite by weight.

The remaining 11 soil samples tested negative for asbestos. Samples which tested as non-detect for asbestos in the PLM CARB 435 Level A test were further tested under TEM CARB 435 Level B. Results for the Level B test showed all samples except SO-010 had <0.1% asbestos by weight.

5.0 POTENTIAL THREATS TO HUMAN HEALTH AND THE ENVIRONMENT

Factors to be considered in determining the appropriateness of a removal action at a site are delineated in the NCP at 40 CFR, Part 300.415(b)(2). Based on the asbestos and soil samples collected, asbestos appears to be present at the site in levels that may present a risk to nearby residents and the community. These criteria include, but are not limited to, the following:

A. Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants

During the August 26, 2015 EPA site investigation, EPA documented bulk debris containing asbestos. Laboratory analytical results can be found in Appendix B.

The toxicological effects of asbestos have been studied by the Agency for Toxic Substances and Disease Registry (ATSDR). Toxicological information is provided below.

Asbestos – Significant exposure to any type of asbestos will increase the risk of lung cancer, mesothelioma and nonmalignant lung and pleural disorders, including asbestosis, pleural plaques, pleural thickening, and pleural effusions.. (ATSDR 2008).

Commercial businesses and residential areas are located next to and near the Site. The Site has a history of visitors and trespassing that continues to occur. Adjacent to the site is a boat access point that is utilized by the public.

There is potential exposure to nearby human receptors, including nearby commercial occupants and residents in their homes from the hazardous substances, pollutants, or contaminants on-site.

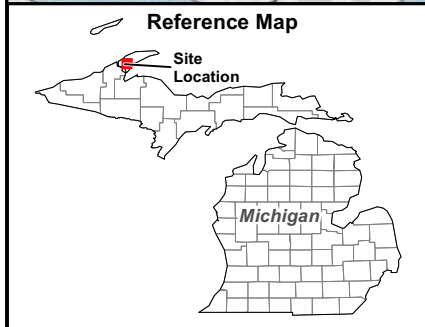
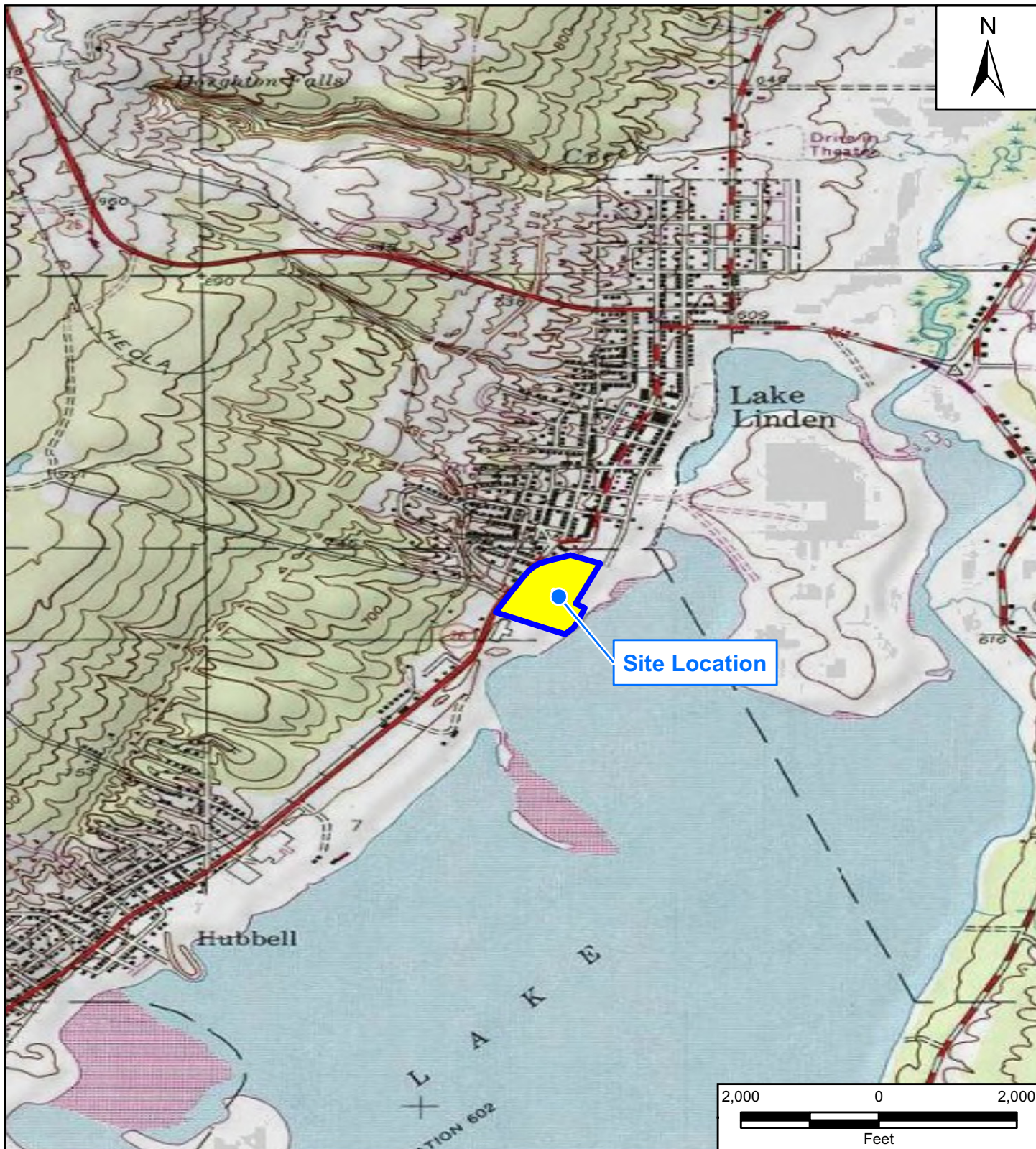
B. Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;

Due to the nature of asbestos, there is the likelihood that wind may transport asbestos fibers off site. Additionally, natural degradation of the bulk material containing asbestos will continue to degrade and be released.

APPENDIX A

FIGURES

- 1 – SITE LOCATION MAP
- 2 – SITE LAYOUT MAP
- 3 – SAMPLE LOCATION AND RESULTS MAP




Legend

Approximate Site Boundary

Source: USGS 7.5-Minute Topographic Quadrangle Map:
Laurium, MI 1975

Calumet Stampwill Site
53150 Highway M-26
Lake Linden, Houghton County, Michigan

Figure 1
Site Location Map

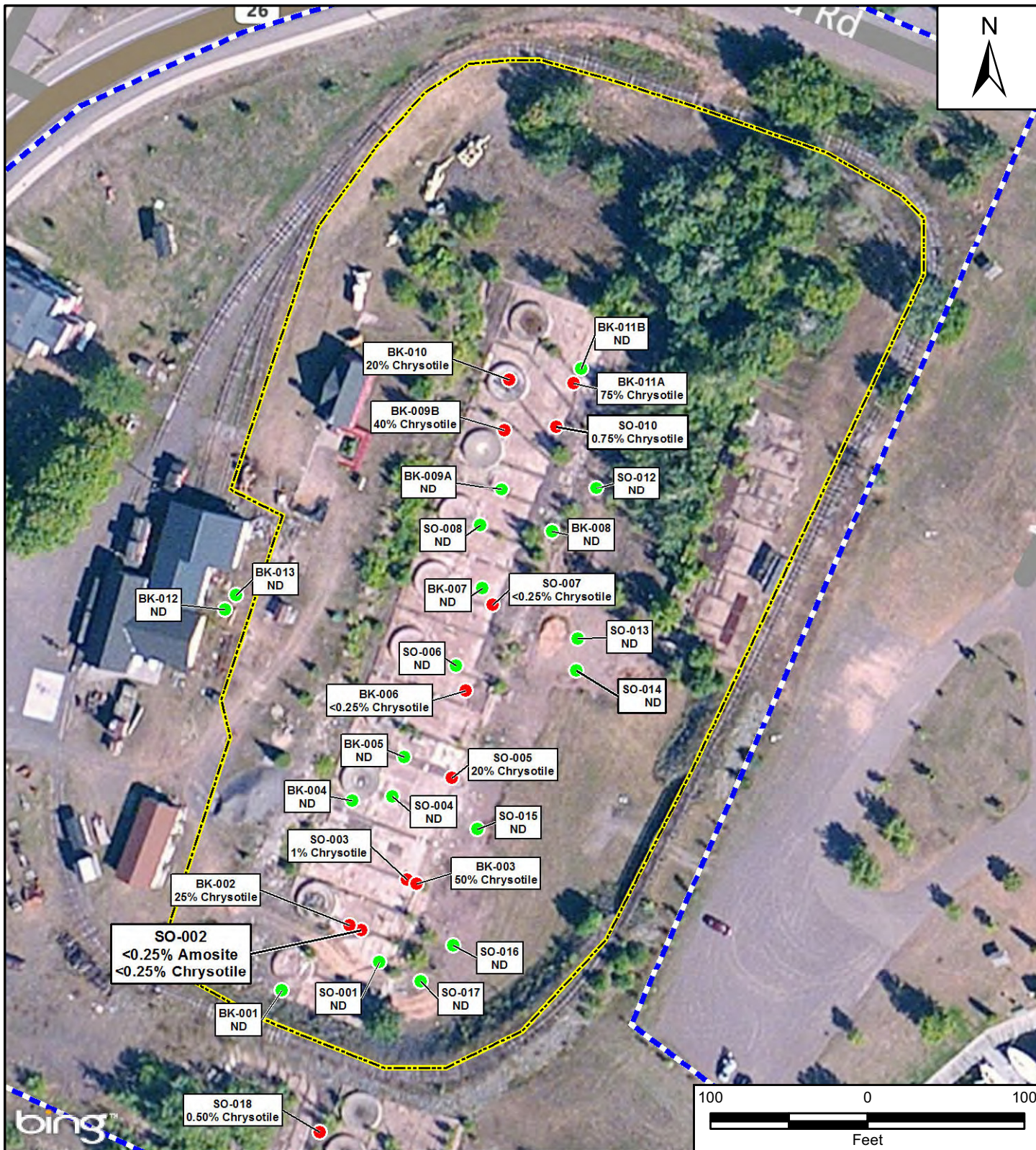
 **TETRA TECH**

Prepared For: EPA Prepared By: Tetra Tech, Inc.

File Path: G:\G9026-START IV\Michigan\Calumet Stampwill\mxd\Fig1-SiteLocation.mxd



Reference Map 	Legend Sample Area Approximate Site Boundary		Calumet Stampwill Site 53150 Highway M-26 Lake Linden, Houghton County, Michigan
			Figure 2 Site Layout Map
			 TETRA TECH
Prepared For: EPA			Prepared By: Tetra Tech Inc.



Legend

- Sample Location (Asbestos detected)
- Sample Location (No asbestos detected)
- Sample Area
- Approximate Site Boundary

Calumet Stampwill Site
53150 Highway M-26
Lake Linden, Houghton County, Michigan

Figure 3 Sampling Location and Asbestos Sample Results



Prepared For: EPA

Prepared By: Tetra Tech, Inc.

Source: Bing Maps Hybrid - 2013

APPENDIX B
PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG

US EPA R5 START – TDD 0001/S05-0001-1508-201
Calumet Stampmill Site Removal Assessment
53150 M-26, Lake Linden, Michigan

Photograph: 1

Direction: NA

Date: 8/26/15

Photographer:
Chris Burns

Description:
Mixed waste located on site. Representative sample.



Photograph: 2

Direction: East

Date: 8/26/15

Photographer:
Chris Burns

Description:
Former trough from stamp bases. Material for samples was collected from several of these troughs.



PHOTOGRAPHIC LOG

US EPA R5 START – TDD 0001/S05-0001-1508-201
Calumet Stampmill Site Removal Assessment
53150 M-26, Lake Linden, Michigan

Photograph: 3

Direction: Overview

Date: 8/26/15

Photographer:
Chris Burns

Description:
Example of mixed waste
on site with soils.



Photograph: 4

Direction: North

Date: 8/26/15

Photographer:
Chris Burns

Description:
Overview of trough
layout across the site.



PHOTOGRAPHIC LOG

US EPA R5 START – TDD 0001/S05-0001-1508-201
Calumet Stampmill Site Removal Assessment
53150 M-26, Lake Linden, Michigan

Photograph: 5

Direction: West

Date: 8/26/15

Photographer:
Chris Burns

Description:
Stamp base and trough.
Eleven of these bases
makeup the main portion
of the site within the
confines of the railroad
tracks.



Photograph: 6

Direction: North

Date: 8/26/15

Photographer:
Chris Burns

Description:
Overview of the site
with bases and troughs.



PHOTOGRAPHIC LOG

US EPA R5 START – TDD 0001/S05-0001-1508-201
Calumet Stampmill Site Removal Assessment
53150 M-26, Lake Linden, Michigan

Photograph: 7

Direction: South

Date: 8/26/15

Photographer:
Chris Burns

Description:
Overview of site looking
at stamp bases and
troughs.



Photograph: 8

Direction: North /
Northeast

Date: 8/26/15

Photographer:
Chris Burns

Description:
Overview of site,
specifically looking at
site soils to the east of
the bases and troughs.



PHOTOGRAPHIC LOG

US EPA R5 START – TDD 0001/S05-0001-1508-201
Calumet Stampmill Site Removal Assessment
53150 M-26, Lake Linden, Michigan

Photograph: 9

Direction: Southwest

Date: 8/26/15

Photographer:
Chris Burns

Description:
View from site boundary. Adjacent site is the Former C&H Powerplant. Remediation of asbestos was completed at this site.



Photograph: 10

Direction: South

Date: 8/26/15

Photographer:
Chris Burns

Description:
Stamp bases at the former C&H Power Plant adjacent to the site.



PHOTOGRAPHIC LOG

US EPA R5 START – TDD 0001/S05-0001-1508-201
Calumet Stampmill Site Removal Assessment
53150 M-26, Lake Linden, Michigan

Photograph: 11

Direction: North

Date: 8/26/15

Photographer:
Chris Burns

Description:
Overview of site, view
of site soils and local rail
line the is located on
site.



Photograph: 12

Direction: North

Date: 8/26/15

Photographer:
Chris Burns

Description:
Site overview looking at
stamp bases and troughs.



PHOTOGRAPHIC LOG

US EPA R5 START – TDD 0001/S05-0001-1508-201
Calumet Stampmill Site Removal Assessment
53150 M-26, Lake Linden, Michigan

Photograph: 13

Direction: Northeast

Date: 8/26/15

Photographer:
Chris Burns

Description:
Overview of site troughs
and adjacent site soils.



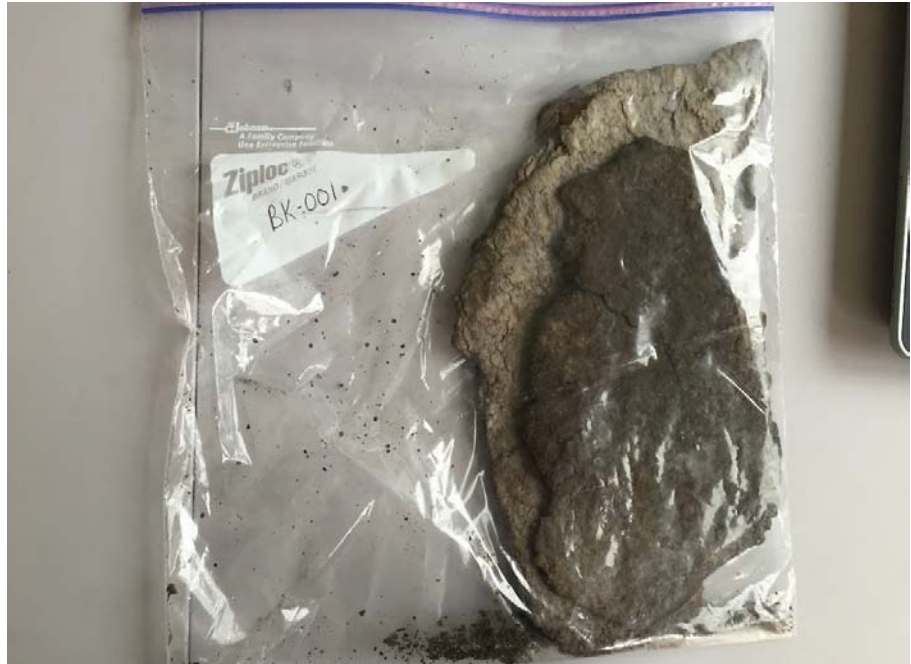
Photograph: 14

Direction: Overview

Date: 8/26/15

Photographer:
Chris Burns

Description:
Bulk Sample 001



PHOTOGRAPHIC LOG

US EPA R5 START – TDD 0001/S05-0001-1508-201
Calumet Stampmill Site Removal Assessment
53150 M-26, Lake Linden, Michigan

Photograph: 15

Direction: Overview

Date: 8/26/15

Photographer:
Chris Burns

Description:
Bulk Sample 002



Photograph: 16

Direction: Overview

Date: 8/26/15

Photographer:
Chris Burns

Description:
Bulk sample 003



PHOTOGRAPHIC LOG

US EPA R5 START – TDD 0001/S05-0001-1508-201
Calumet Stampmill Site Removal Assessment
53150 M-26, Lake Linden, Michigan

Photograph: 17

Direction: Overview

Date: 8/26/15

Photographer:
Chris Burns

Description:
Bulk sample 005



Photograph: 18

Direction: Overview

Date: 8/26/15

Photographer:
Chris Burns

Description:
Bulk sample 006



PHOTOGRAPHIC LOG

US EPA R5 START – TDD 0001/S05-0001-1508-201
Calumet Stampmill Site Removal Assessment
53150 M-26, Lake Linden, Michigan

Photograph: 19

Direction: Overview

Date: 8/26/15

Photographer:
Chris Burns

Description:
Bulk sample 007



Photograph: 20

Direction: Overview

Date: 8/26/15

Photographer:
Chris Burns

Description:
Bulk sample 008



PHOTOGRAPHIC LOG

US EPA R5 START – TDD 0001/S05-0001-1508-201
Calumet Stampmill Site Removal Assessment
53150 M-26, Lake Linden, Michigan

Photograph: 21

Direction: East

Date: 8/26/15

Photographer:
Chris Burns

Description:
Bulk sample 009A



Photograph: 22

Direction: Overview

Date: 8/26/15

Photographer:
Chris Burns

Description:
Bulk sample 009B



PHOTOGRAPHIC LOG

US EPA R5 START – TDD 0001/S05-0001-1508-201
Calumet Stampmill Site Removal Assessment
53150 M-26, Lake Linden, Michigan

Photograph: 23

Direction: Overview

Date: 8/26/15

Photographer:
Chris Burns

Description:
Bulk sample 010



Photograph: 24

Direction: Overview

Date: 8/26/2015

Photographer:
Chris Burns

Description:
Bulk sample 011B



PHOTOGRAPHIC LOG

US EPA R5 START – TDD 0001/S05-0001-1508-201
Calumet Stampmill Site Removal Assessment
53150 M-26, Lake Linden, Michigan

Photograph: 25

Direction: Overview

Date: 8/26/15

Photographer:
Chris Burns

Description:
Bulk sample 012



Photograph: 26

Direction: Overview

Date: 8/26/15

Photographer:
Chris Burns

Description:
Bulk sample 013

