

Appendix C:
Community Air Monitoring Plan (CAMP)

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Final
Community Air Monitoring Plan

for

**Former Niagara Falls – Buffalo Defense Nike Battery BU-34/35
East Aurora and Orchard Park, New York**

**Formerly Used Defense Site (FUDS)
NO. C02NY007701**

**Contract No. W912DR-13-D-0013
Delivery Order No. DB01**

Prepared for:



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LIST OF ACRONYMS

BU	Battery Unit
CAMP	Community Air Monitoring Plan
DER	Division of Environmental Remediation
DO.....	Delivery Order
ft	feet
FUDS	Formerly Used Defense Sites
min	minute
NYSDEC	State of New York Department of Environmental Conservation
NYSDOH.....	New York State Department of Health
mcg/m ³	micrograms per cubic meter
PID	photoionization detector
PM-10	particulate matter less than 10 micrometers in size
ppm	parts per million
RI	Remedial Investigation
SSHP	Site Safety and Health Plan
TI2E	TI2E Joint Venture
USACE	United States Army Corps of Engineers
VOC.....	volatile organic compound



1.0 INTRODUCTION

The TI2E Joint Venture (TI2E) developed this Community Air Monitoring Plan (CAMP) to protect the community from any potential airborne releases that could result from field activities associated with the Remedial Investigation (RI) or any remedial action efforts at the Former Niagara Falls – Buffalo Defense Nike Battery Unit (BU)-34/35 in East Aurora and Orchard Park, New York. This work is being performed as delivery order (DO) No. DB01 under the United States Army Corps of Engineers (USACE) Contract No. W912DR-13-D-0013. It has been prepared in accordance with the New York State Department of Environmental Conservation (NYSDEC) Program Policy Division of Environmental Remediation (DER)-10/Technical Guidance for Site Investigation and Remediation, dated May 3, 2010.

DER-10 (NYSDEC, 2010) includes a Generic CAMP from the New York State Department of Health (NYSDOH) as Appendix 1A. The generic CAMP is sufficient to cover most sites; however, site-specific details and requirements are included in this CAMP. The CAMP is intended to protect off-site receptors and those not directly involved with remedial activities from potential airborne contaminant releases that result directly from investigative or remedial activities. For this reason, CAMP monitoring is limited to the perimeter of the work area and is in addition to any monitoring specified in the Site Safety and Health Plan (SSHP) to protect on-site workers in the investigative or remedial action work zone.

The Former Niagara Falls – Buffalo Defense Nike Battery BU-34/35 is located in Erie County, New York and consists of two principle operational areas located on separate parcels of land. These include the former launch area (Launch Area) with underground missile magazines (also called silos in previous reports) and the former battery control area (Control Area). The Launch Area is a 19.84-acre parcel of land located at 601 Willardshire Road near the intersection of North Davis Road in the Town of Aurora, New York, and is currently vacant with the exception of the former barracks and the six former underground silo/pits. A general site location map is shown in Figure 1-1, and a Launch Area location map is shown in Figure 1-2. The Control Area is not part of the investigation. Remedial investigation activities are expected to consist primarily of soil boring and monitoring well installation, test pit excavation, soil and groundwater sampling, and investigation of existing structures including a detailed evaluation of silo/pits. The CAMP, presents the continuous and periodic monitoring that will be conducted during the investigation activities. Furthermore, the site is greater than 20 feet (ft) from potentially exposed individuals and there is no indoor work with co-located residences or facilities.

The overall objectives of this document are as follows:

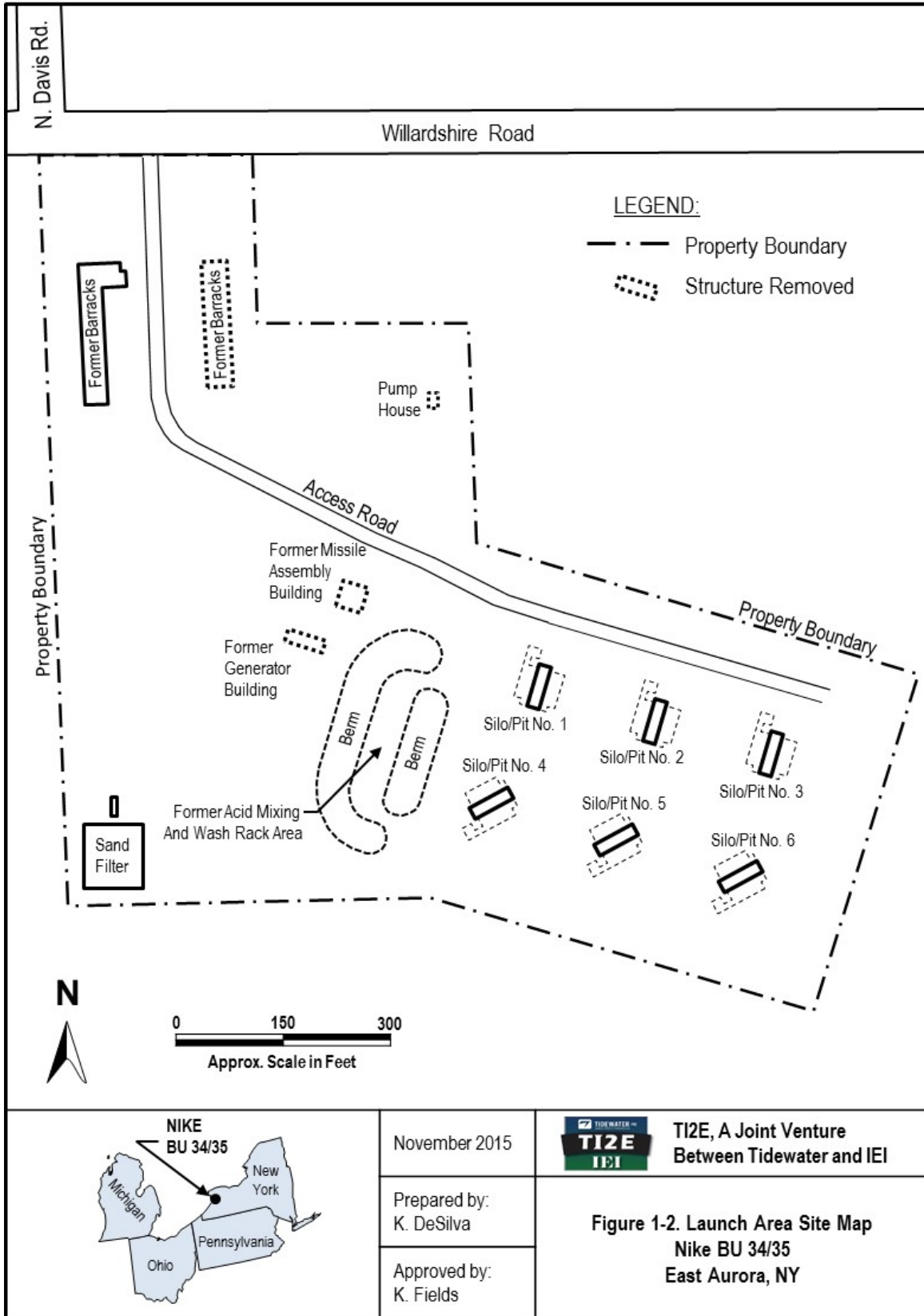
- Prevent exposure to the public from potential contaminant releases resulting from on-site investigative or remedial activities;
- Specify monitoring and documentation requirements; and
- Provide contingency details.

This plan is organized as follows:

- Section 1.0, Introduction – includes a site description and CAMP objectives;
- Section 2.0, VOC Monitoring and Particulate Monitoring – describes monitoring locations, frequency, and methodology for VOC and particulate matter as well as meteorological monitoring;
- Section 3.0, Response Levels and Actions – describes response levels and actions based on VOC and particulate matter monitoring results;
- Section 4.0, Documentation – describes documentation required during monitoring activities; and
- Section 5.0, References – lists the references used in preparing this document



<p>NIKE BU 34/35</p>	<p>November 2015</p>	<p>TI2E, A Joint Venture Between Tidewater and IEI</p>
	<p>Prepared by: K. DeSilva</p>	<p>Figure 1-1. Launch Area Location Map Nike BU 34/35 East Aurora, NY</p>
	<p>Approved by: K. Fields</p>	





2.0 MONITORING

Monitoring at the site will include volatile organic compounds (VOCs) and particulates monitoring with instrumentation, visual monitoring of fugitive dust migration, and monitoring of meteorological conditions. Monitoring locations, frequency, and methodology for VOCs and particulate matter are described in Sections 2.1 and 2.2, respectively. Meteorological monitoring is described in Section 2.3.

2.1 VOC Monitoring

VOC monitoring will take place according to the specifications described in this section. Locations will vary according to wind direction, and frequency will be determined by the type of activity being performed at the site. Table 2-1 summarizes the activities applicable to continuous or to periodic monitoring

Table 2-1. Applicability of Continuous or Periodic Monitoring

Type of Monitoring	Examples of Activities
Continuous Monitoring	Ground Intrusive <ul style="list-style-type: none"> • soil/waste excavation and handling • installation of test pits or trenches • installation of soil borings or monitoring wells • demolition of contaminated or potentially contaminated structures
Periodic Monitoring	Non-intrusive <ul style="list-style-type: none"> • collection of sediment samples • collection of groundwater samples from existing monitoring wells

The general parameters for VOC sampling locations and frequency are outlined in Table 2-2 below. The upwind location will be determined at the start of each work day and a VOC reading taken. If the wind direction changes, another reading will be taken at the new upwind location to establish baseline levels. The downwind measurement will be taken at the downwind perimeter of the work area. If work activities are ground intrusive, continuous monitoring will be required. If they are non-intrusive, periodic monitoring will be conducted.

Table 2-2. VOC Monitoring

Location	Frequency
Upwind of work area	<ul style="list-style-type: none"> • Start of each work day • Additional measurements if wind directions changes or if background levels need to be re-established
Downwind perimeter of the immediate work area	<ul style="list-style-type: none"> • Continuous for ground-intrusive activities • Periodic for non-intrusive activities

An example of periodic monitoring during sample collection would be taking readings as follows:

- Upon arrival at sampling location;



- While opening well cap;
- During purging; and
- Upon leaving location.

VOC readings will be taken with a photoionization detector (PID). The PID will be calibrated on a daily basis prior to use with a contaminant of concern or appropriate surrogate. The PID will be capable of running 15-minute (min) running average concentrations.

2.2 Particulate Monitoring

Particulate monitoring will take place according to the specifications described in this section. Monitoring will take place on a continuous basis, and locations will vary according to wind direction. Refer to Table 2-3 for locations and frequency. The upwind location will be determined at the start of each work day. If wind direction changes, the upwind monitoring station will be changed to a new location to re-establish baseline levels. The downwind location will change in accordance with changes in the upwind location.

Table 2-3. Particulate Monitoring

Location	Frequency
Upwind perimeter of exclusion zone	• Continuously
Downwind perimeter of exclusion zone	• Continuously

Particulate readings will be taken with an instrument that can measure particulate matter less than 10 micrometers in size (PM-10) and be capable of real-time monitoring. The particulate monitoring equipment will have an audible alarm to indicate when action levels have been exceeded. In addition to particulate monitoring with instrumentation, fugitive dust migration will be visually assessed during all work activities. Further detail on fugitive dust and particulate monitoring can be found in Appendix 1B of DER-10 (NYSDEC, 2010).

2.3 Meteorological Monitoring

Meteorological monitoring will take place on a daily basis. It will consist of temperature, wind direction, and general atmospheric conditions (i.e. rain, snow, etc.). These parameters will be evaluated each morning and recorded in the field notebook. Wind direction should be monitored throughout the day so that upwind and downwind sampling locations can be adjusted if necessary.



3.0 RESPONSE LEVELS AND ACTIONS

This section describes the VOC and particulate monitoring response levels and actions.

3.1 VOCs

VOC readings obtained from the monitoring described in Section 2.1 should be evaluated based on the following criteria in Table 3-1 to determine the appropriate response actions. The resulting readings should be in 15-min averages for comparison purposes.

Table 3-1. VOC Response Levels and Actions

Response Levels	Actions
Total VOCs at downwind perimeter of work area exceed upwind background levels by 5 parts per million (ppm) (15-min average)	<ul style="list-style-type: none"> • Work activities temporarily halted and monitoring continued • If instantaneous readings readily drop below 5 ppm over background levels, work activities can continue
Total VOCs at downwind perimeter of work area persistently exceed background levels by between 5 ppm and 25 ppm (15-min average)	<ul style="list-style-type: none"> • Work activities halted, source of vapors identified, corrective actions taken to abate emissions, and monitoring continued • After this occurs, work can continue if total VOCs 200 ft downwind of exclusion zone or ½ the distance to nearest potential receptor or residential/commercial structure, whichever is less, is below 5 ppm (15-min average); note that this distance cannot be less than 20 ft
Total VOCs at the perimeter of work area exceed 25 ppm (15-min average)	<ul style="list-style-type: none"> • Activities must be shut down

3.2 Particulate Matter

Particulate matter readings obtained from the monitoring described in Section 2.2 should be evaluated based on the criteria in Table 3-2 to determine the appropriate response action. The resulting readings will be conducted in 15-min averages for comparison purposes. Further detail on dust suppression techniques can be found in Appendix 1B of DER-10 (NYSDEC, 2010).



Table 3-2. Particulate Response Levels and Actions

Response Levels	Actions
PM-10 particulate level at downwind perimeter 100 micrograms per cubic meter (mcg/m^3) greater than upwind perimeter for 15-min period	<ul style="list-style-type: none">• Employ dust suppression techniques
Airborne dust observed leaving the work area	<ul style="list-style-type: none">• Employ dust suppression techniques
After implementation of dust suppression techniques, PM-10 particulate level at downwind perimeter over $150 \text{ mcg}/\text{m}^3$ greater than upwind perimeter	<ul style="list-style-type: none">• Work must be stopped and activities re-evaluated• Work can only be resumed if measures and controls reduce downwind PM-10 concentration to within $150 \text{ mcg}/\text{m}^3$ of upwind level and visible dust migration is prevented



4.0 DOCUMENTATION

During the implementation of the CAMP, the following information will be recorded and maintained:

- Climatological conditions including temperature, wind direction, and other atmospheric conditions along with the date and time of observations;
- Calibration of field instruments;
- VOC 15-min readings as well as instantaneous readings, if necessary;
- All particulate readings; and
- Any exceedances to the response levels and the respective corrective actions.

VOC 15-min readings will be made available for review by the State (DEC and NYSDOH) if requested. All particulate readings will be made available for review by the State (DEC and NYSDOH) and County Health personnel if requested.



5.0 REFERENCES

Malcolm Pirnie, Inc. (MPI). 1996. *Draft Limited Remedial Investigation Report, Nike BU-34/35 East Aurora, New York*. February.

New York State Department of Environmental Conservation. May 3, 2010. *DER-10/Technical Guidance for Site Investigation and Remediation*.