



MEMORANDUM

TO: SEMASS Fire Site File

cc: Wing Chau, U.S. Environmental Protection Agency, On-Scene Coordinator

FROM: Gerald Hornok, Weston Solutions, Inc., Superfund Technical Assessment and Response Team III

DATE: 19 April 2007

RE: Emergency Response Activities at the SEMASS Fire Site.
TDD No. 01-07-03-0007; Task No. 0289; Document Control No. R-4596.

INTRODUCTION

On 31 March 2007 at approximately 2150 hours, Weston Solutions, Inc. (WESTON®), Superfund Technical Assessment and Response Team III (START) On-Call phone person Paul Callahan was contacted by U.S. Environmental Protection Agency (EPA) On-Scene Coordinator (OSC) Mike Nalipinski and informed of an emergency response (ER) to a fire at the SEMASS energy facility located at 141 Cranberry Highway, Rochester, Plymouth County, Massachusetts (MA) [see Attachment A - Site Location Map (Figure 1)]. OSC Nalipinski requested that START mobilize to the SEMASS Fire site (the site) to provide perimeter air monitoring support. START member Callahan contacted START On-Call responder Gerald Hornok at 2200 hours and instructed him to mobilize directly to the site. In addition, START member Tim Benton mobilized to the EPA Warehouse located in Woburn, MA to obtain necessary instrumentation. START member Mark Hall mobilized from his residence in his personally owned vehicle (POV), while START member John Burton mobilized to the START office to gather necessary equipment.

SITE LOCATION

The site consists of an energy producing facility where refuse is shredded in a warehouse area and then moved throughout the site to be burned in a network of boilers. The geographic coordinates of the site, as measured from its approximate center, are 41° 48' 11.36" north latitude and 70° 47' 21.6" west longitude. The site is bordered to the north and west by Route 28; to the south by a wooded area and cranberry bogs; and to the east by a wooded area [see Attachment B - Site and Perimeter Air Monitoring Location Map (Figure 2)]. According to Covanta Energy Program Manager Daniel Peters, the fire began in the shredder building and spread, via the air circulation system, to other parts of the facility. Covanta Energy operates the SEMASS facility.

RESPONSE ACTIVITIES

At 0000 hours on 1 April 2007, START member Hornok arrived at the site and met with Massachusetts Department of Environmental Protection (MassDEP) Responder Cathy Wiley and Covanta Energy Program Manager Peters.

At 0015 hours, EPA Responder OSC Wing Chau arrived on site and met with MassDEP Responder Wiley and Covanta Energy Program Manager Peters. START member Hornok informed OSC Chau that three additional START members were en route and would be on site within the hour. Covanta Energy Program Manager Peters provided START member Hornok, OSC Chau, and MassDEP Responder Wiley with an overview of the facility's operation and possible cause of the fire. To determine if toxic gases and airborne particulates associated with the fire were affecting the surrounding neighborhoods, OSC Chau decided that AreaRAE and DataRAM instruments would be deployed at six perimeter air monitoring locations, and additional screening of other areas would be conducted with the handheld MultiRAE (oxygen, lower explosive limit, volatile organic compounds, hydrogen sulfide, and carbon monoxide detectors). Due to the prevailing wind direction, OSC Chau decided that air monitoring activities would take place in the neighborhoods located northwest of the site.

At 0030 hours, START members Hall and Benton arrived on site in their POVs and began to calibrate the DataRAMs and AreaRAEs for deployment in the surrounding neighborhoods.

At 0100 hours, START members Hornok, Hall, and Benton, OSC Chau, MassDEP Responder Wiley, and Covanta Energy Program Manager Peters began establishing perimeter air monitoring locations in the neighborhoods located northwest of the site. Throughout air monitoring activities, START personnel dispatched to the six locations to record instrument readings [see Attachment C - Summary of START Perimeter Air Monitoring Location].

At 0505 hours, the DataRAM instrument deployed at Perimeter Air Monitoring Location No. 5 was retrieved, as it was no longer operational.

At 0550 hours, START personnel began collecting the instruments deployed at each perimeter air monitoring location. The readings from the AreaRAE units were recorded, and the data from the DataRAMs were uploaded and provided to OSC Chau and MassDEP Responder Wiley for analysis. The maximum concentration of airborne particulates was detected at Monitoring Location No. 3 [10,414 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$)]. However, the maximum time weighted average (TWA) for airborne particulates was detected at Monitoring Location No. 2 (582.3 $\mu\text{g}/\text{m}^3$). OSC Chau established an action level of 2,500 $\mu\text{g}/\text{m}^3$ for airborne particulates. The TWA for airborne particulates at each of the six perimeter air monitoring locations was well below the established action level. AreaRAE readings did not indicate any toxic gases at concentrations above background [see Attachment D - Summary of Air Monitoring Results, and Attachment E - Summary of START DataRAM Graphs].

At 0800 hours, OSC Chau and START personnel departed the site, thereby concluding ER activities.

Attachment A

Site Location Map (Figure 1)

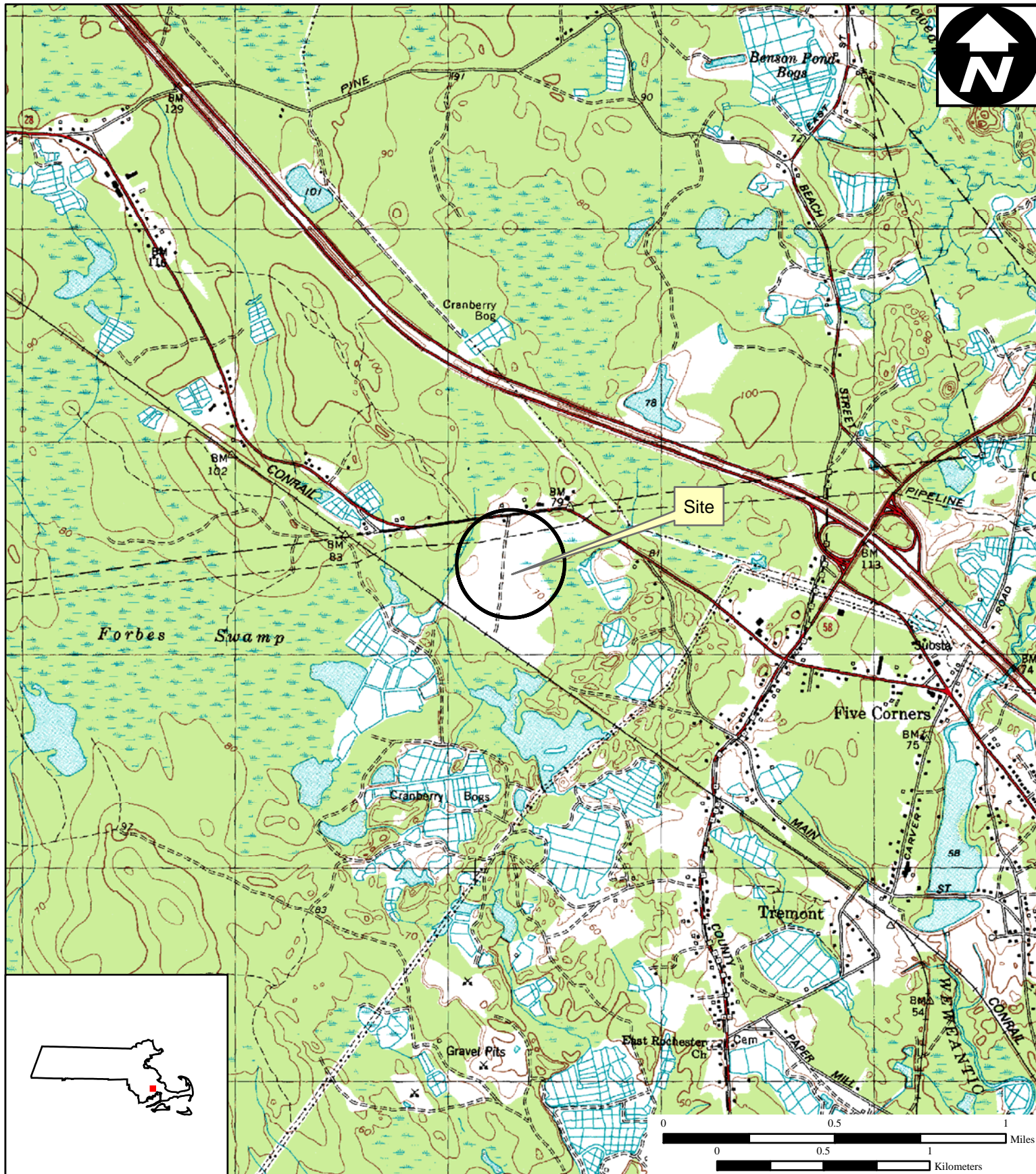


Figure 1

Site Location Map

**SEMASS Fire
141 Cranberry Highway
Rochester, Massachusetts**

**EPA Region I
Superfund Technical Assessment and
Response Team (START) III
Contract No. EP-W-05-042**

TDD Number: 07-03-0007
Created by: T. Benton
Created on: 3 April 2007
Modified by: T. Benton
Modified on: 4 April 2007

Data Sources:

Topos: MicroPath/USGS
Quadrangle Name(s): Snipatuit Pond, 1981
All other data: START



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Attachment B

Site and Perimeter Air Monitoring Location Map (Figure 2)




Figure 2
Site and Perimeter Air
Monitoring Location Map

SEMASS Fire
141 Cranberry Highway
Rochester, Massachusetts

EPA Region I
Superfund Technical Assessment and
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Contract No. EP-W-05-042
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LEGEND

- ☐ Air Sampling Stations
 Site Boundary



0 0.375 0.75
Miles

Data Sources:
Imagery: Massachusetts Geographic
Information Systems
Topos: MicroPath
All other data: START

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Attachment C

Summary of START Perimeter Air Monitoring Locations

Summary of START Perimeter Air Monitoring Locations

| Perimeter Air Monitoring Location Number | Location Description (Unit Serial No.) | Deployment Time | Collection Time | Duration (hours/minutes) |
|--|---|-----------------|-----------------|--------------------------|
| 1 | Colby Street (DataRAM Unit D240) (AreaRAE Unit 3) | 0120 | 0557 | 4:37 |
| 2 | Beach Street and Bobs Street (DataRAM Unit D638) (AreaRAE Unit 6) | 0131 | 0600 | 4:29 |
| 3 | 9 Pine Street (DataRAM Unit D248) (AreaRAE Unit 4) | 0148 | 0614 | 4:26 |
| 4 | 334 Tremont Street/Route 58 (DataRAM Unit D244) (AreaRAE Unit 5) | 0153 | 0615 | 4:22 |
| 5 | Lakeview Street and Route 58 (DataRAM Unit 6162) (AreaRAE Unit 1) | 0202 | 0507 | 3:05 |
| 6 | Wareham Street (DataRAM Unit D254) (AreaRAE Unit 2) | 0215 | 0626 | 4:11 |

Attachment D

Summary of Perimeter Air Monitoring Results

Summary of Perimeter Air Monitoring Results (AreaRAE Instruments)

| Perimeter Air Monitoring Location Number | Time (Military Hours) | CO | LEL | O ₂ | VOC | H ₂ S | Location Description |
|--|-----------------------|----|-----|----------------|-----|------------------|-------------------------------|
| 1 | 0237 | 0 | 0 | 20.9 | 0.0 | 0 | Colby Street |
| | 0410 | 0 | 0 | 20.9 | 0.0 | 0 | |
| | 0450 | 0 | 0 | 20.9 | 0.0 | 0 | |
| | 0555 | 0 | 0 | 20.3 | 0.0 | 0 | |
| 2 | 0245 | 0 | 0 | 20.9 | 0.0 | 0 | Beach Street and Bobs Street |
| | 0415 | 0 | 0 | 20.9 | 0.0 | 0 | |
| | 0455 | 0 | 0 | 20.9 | 0.0 | 0 | |
| | 0600 | 0 | 0 | 20.3 | 0.0 | 0 | |
| 3 | 0256 | 0 | 0 | 20.9 | 0.0 | 0 | 9 Pine Street |
| | 0420 | 0 | 0 | 20.9 | 0.0 | 0 | |
| | 0500 | 0 | 0 | 20.9 | 0.2 | 0 | |
| | 0606 | 0 | 0 | 20.2 | 0.1 | 0 | |
| 4 | 0308 | 0 | 0 | 20.9 | 0.0 | 0 | 334 Tremont Street – Route 58 |
| | 0425 | 0 | 0 | 20.9 | 0.0 | 0 | |
| | 0505 | 0 | 0 | 20.9 | 0.0 | 0 | |
| | 0615 | 0 | 0 | 20.9 | 0.0 | 0 | |
| 5 | 0315 | 0 | 0 | 20.9 | 0.0 | 0 | Lakeview Street and Route 58 |
| | 0430 | 0 | 0 | 20.9 | 0.0 | 0 | |
| | 0510 | 0 | 0 | 20.9 | 0.0 | 0 | |
| | 0620 | 0 | 0 | 20.3 | 0.0 | 0 | |
| 6 | 0321 | 0 | 0 | 20.9 | 0.0 | 0 | Wareham Street |
| | 0435 | 0 | 0 | 20.9 | 0.0 | 0 | |
| | 0515 | 0 | 0 | 20.9 | 0.0 | 0 | |
| | 0625 | 0 | 0 | 20.3 | 0.0 | 0 | |

CO = Carbon Monoxide.
 LEL = Lower Explosive Limit.
 O₂ = Oxygen.
 VOC = Volatile Organic Compound.
 H₂S = Hydrogen Sulfide.

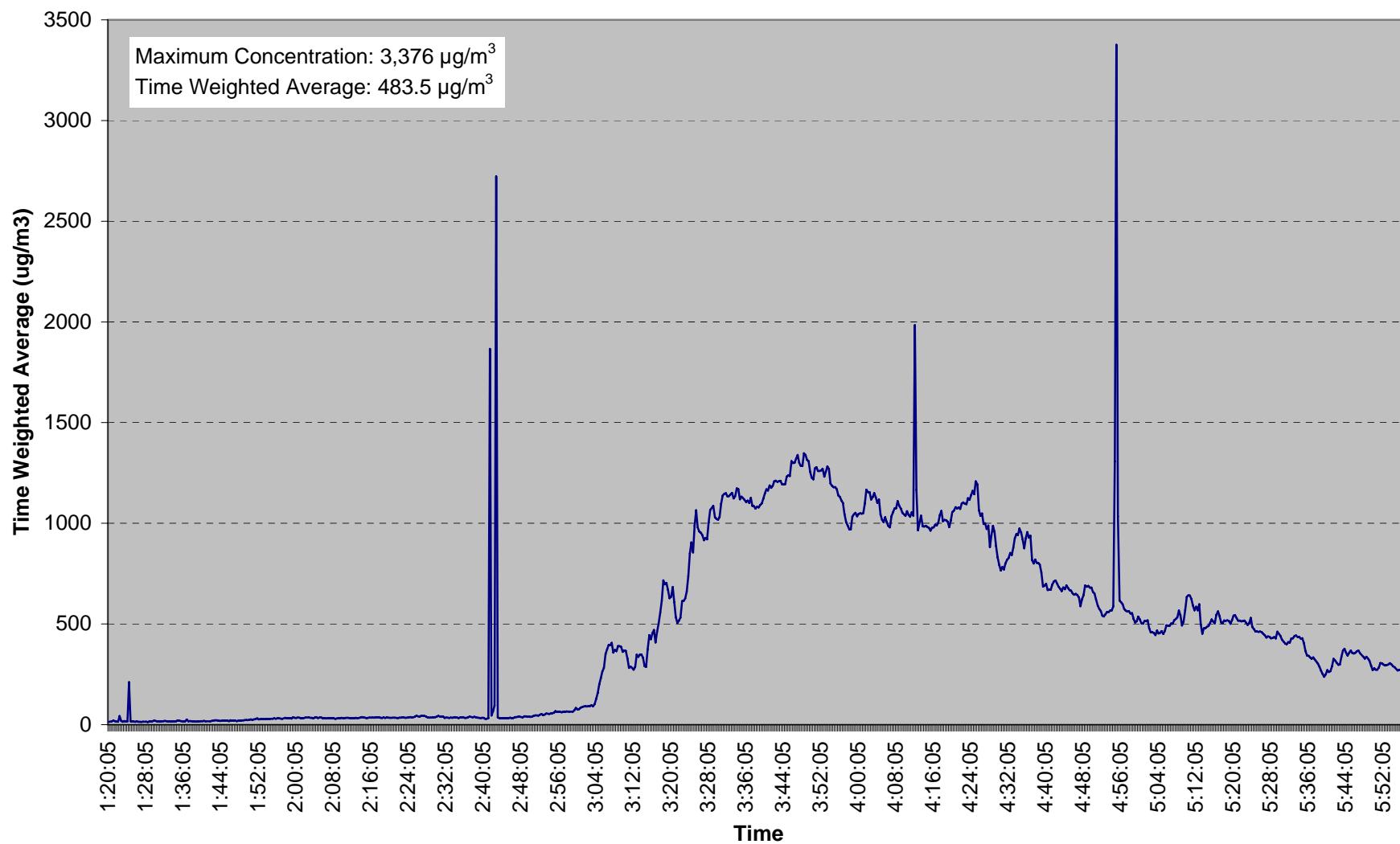
Summary of Perimeter Air Monitoring Results (DataRAM Instruments)

| Perimeter Air Monitoring Location | Maximum Reading $\mu\text{g}/\text{m}^3$ | Time Weighted Average $\mu\text{g}/\text{m}^3$ | Location Description (Unit S. N.) |
|-----------------------------------|--|--|-----------------------------------|
| 1 | 3,376 | 483.5 | Colby Street |
| 2 | 2,022 | 582.3 | Beach Street and Bobs Street |
| 3 | 10,414 | 466.8 | 9 Pine Street |
| 4 | 413.4 | 219.3 | 334 Tremont Street – Route 58 |
| 5 | 607 | 146 | Lakeview Street and Route 58 |
| 6 | 469 | 213 | Wareham Street |

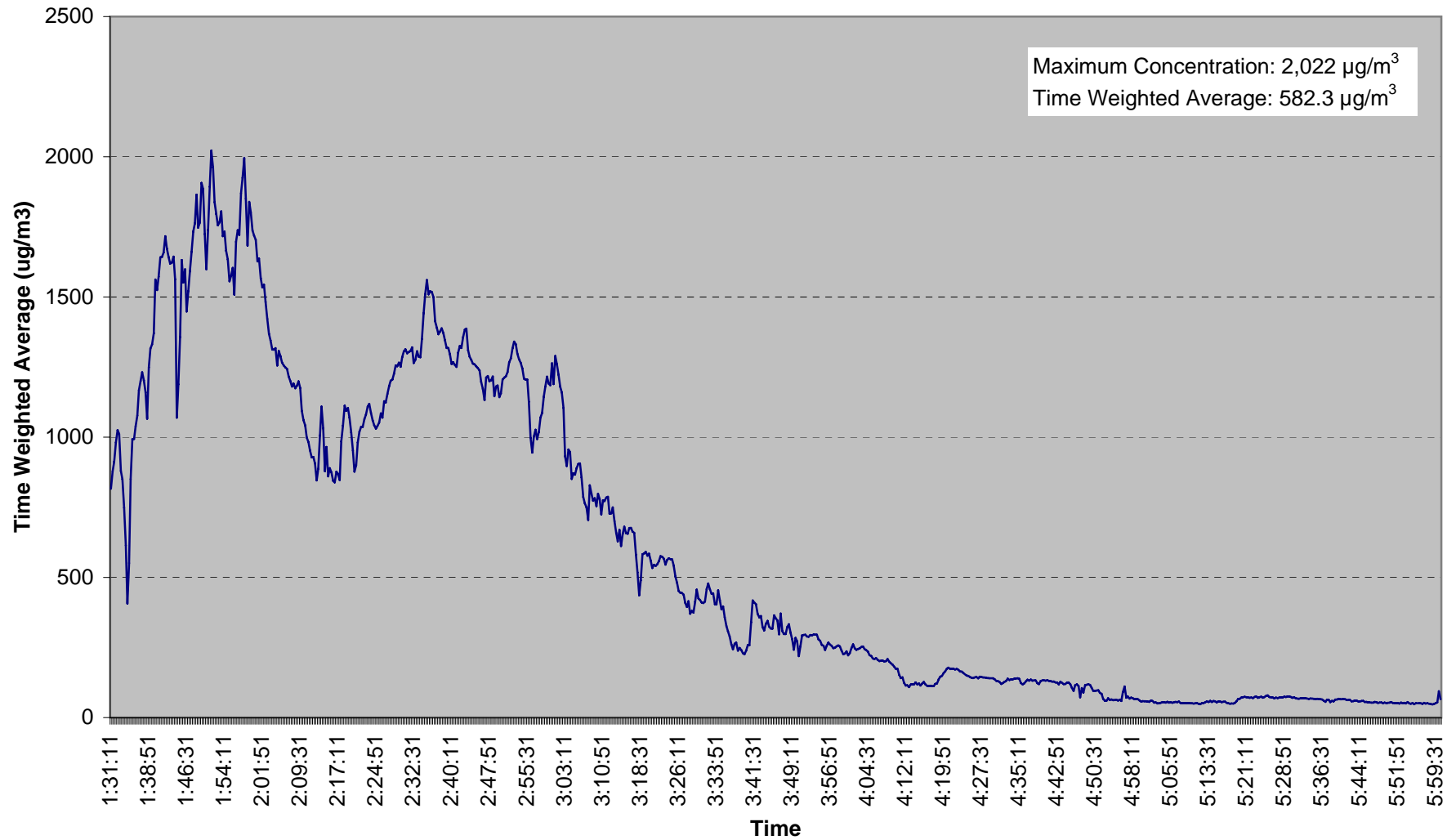
Attachment E

Perimeter Air Monitoring DataRAM Graphs

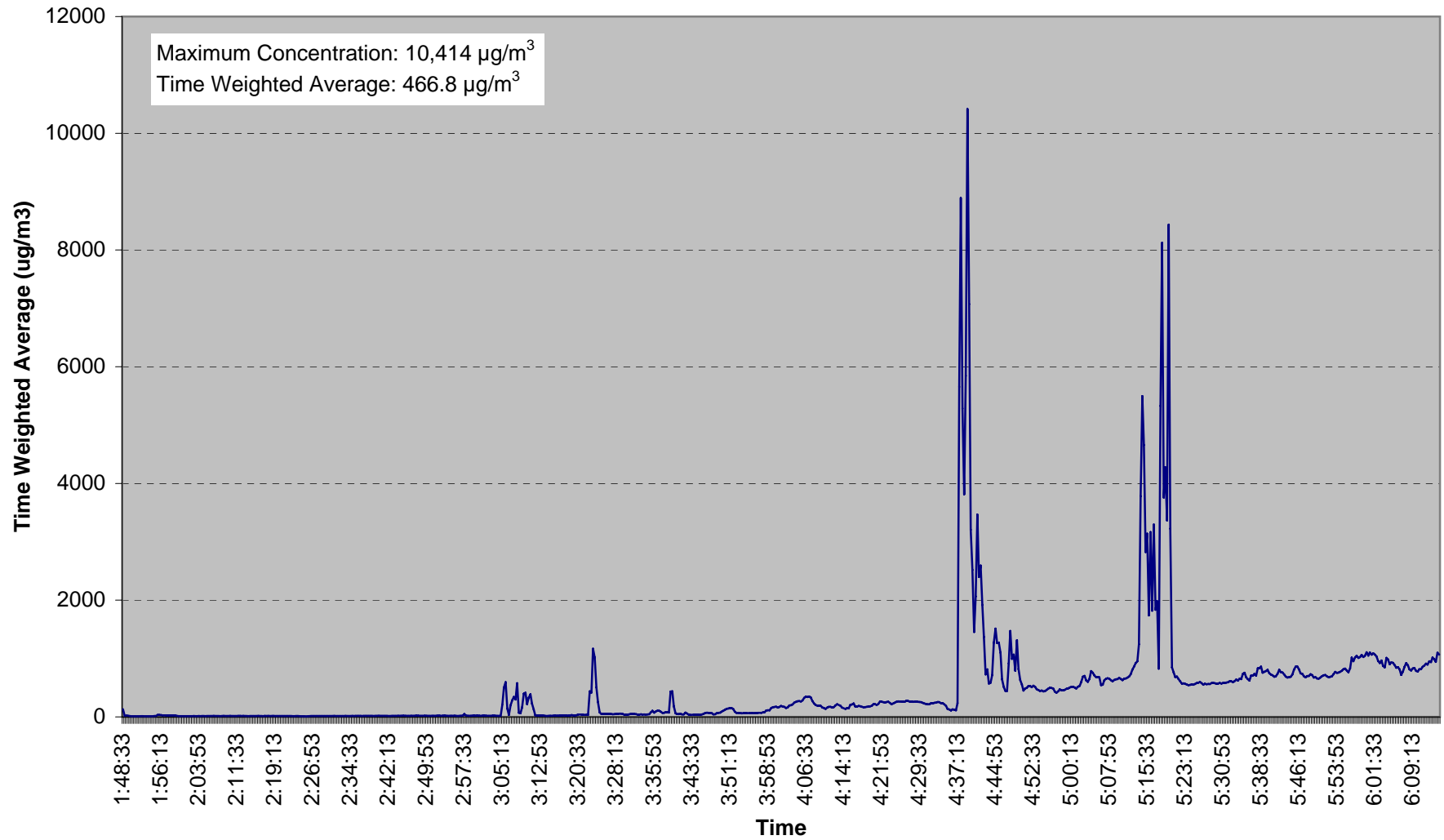
**Monitoring Location 1
Colby Street (Unit D240)**



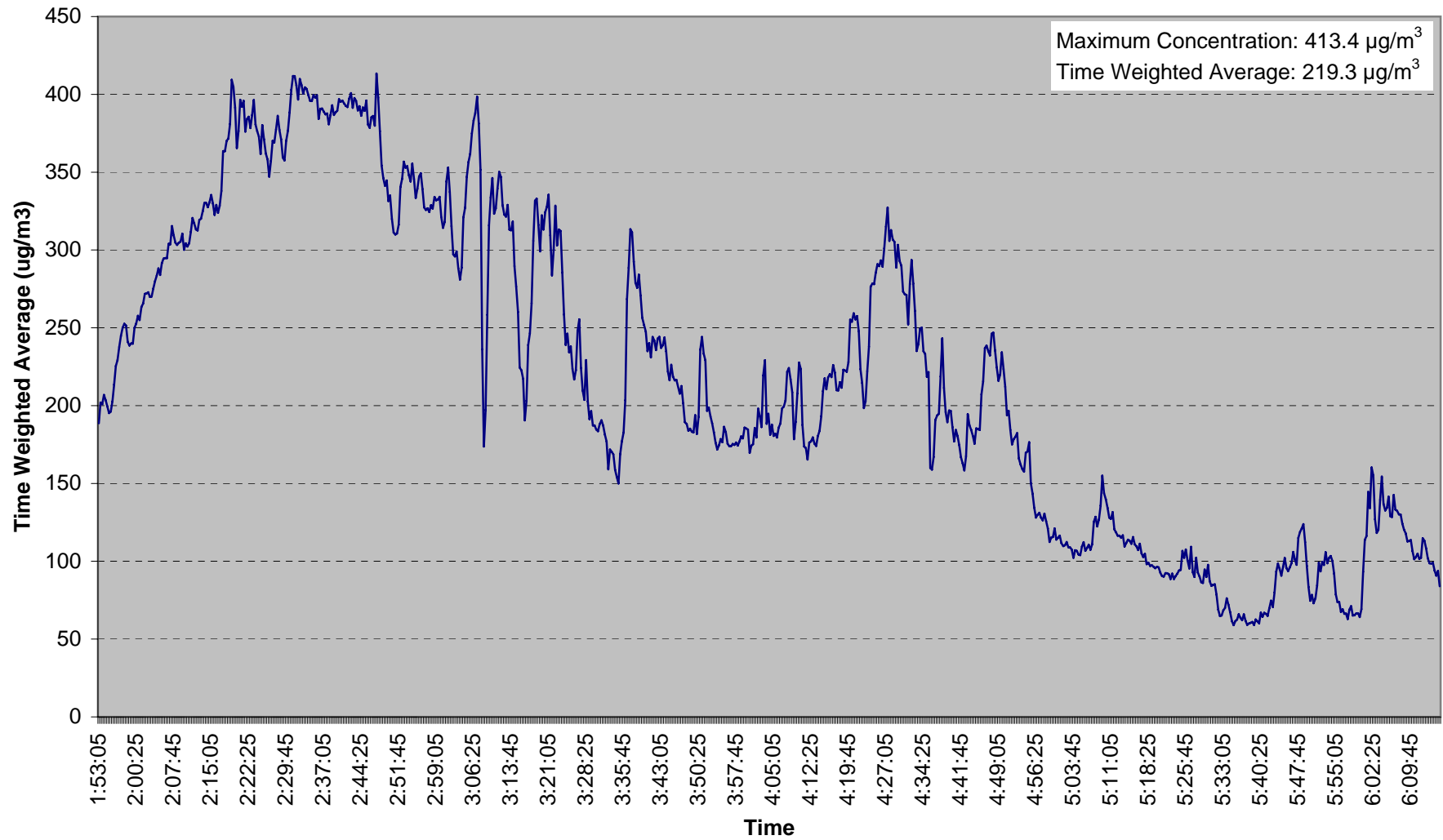
Monitoring Location 2
Beech Street and Bobs Street (Unit D638)



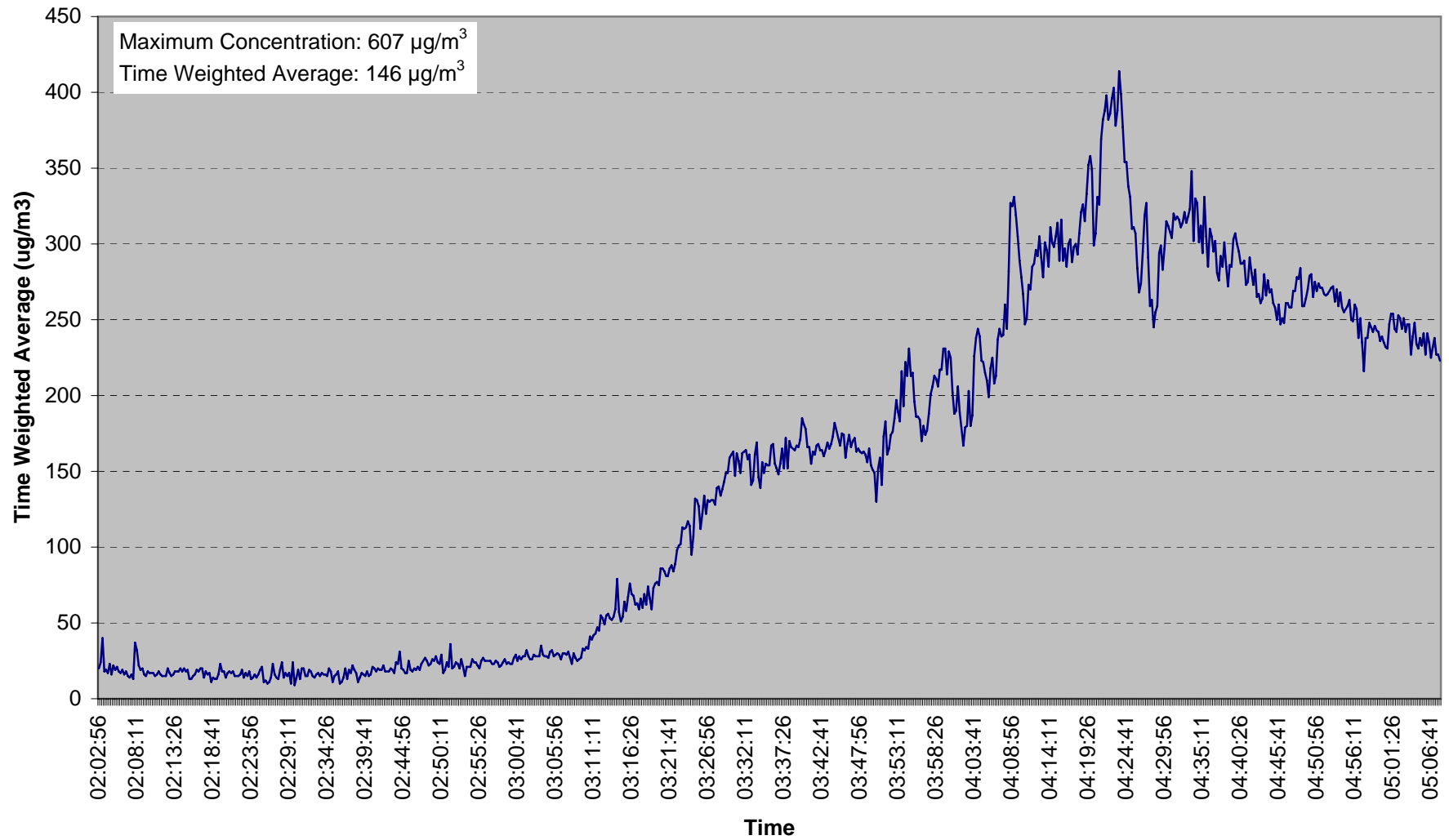
**Monitoring Location 3
9 Pine Street (Unit D248)**



Monitoring Location 4
334 Tremont Street - Route 58 (Unit D244)



Monitoring Location 5
Lakeview Street and Route 58 (Unit 6162)



Monitoring Location 6
Wareham Street (Unit D254)

