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# Weekly Perimeter Air Monitoring Summary

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|---|---|
| **Client:** | **Massachusetts Department of Conservation and Recreation** |
| **Location:** | **Pittsfield, Massachusetts** |
| **Period:** | **7/28/25 – 8/3/25** |

On behalf of the Massachusetts Department of Conservation and Recreation (MassDCR), AECOM Technical Services, Inc. (AECOM) has prepared this data summary for the Bel Air Dam remediation site (the "Site"). This data summary includes both tabular information and written discussions summarizing the ambient air-quality data collected during the indicated reporting period at the Site. The data was collected during the reporting period at the Site in accordance with the Perimeter Air Monitoring Plan (PAMP) prepared by AECOM (2025). Remedial activities are planned for a 4-day work week, Monday through Thursday, however, occasional work on Fridays may occur to maintain the project schedule.

## Scope

Air monitoring and sampling activities were conducted during the report period to evaluate conditions at the property line (fenceline) to document ambient air quality conditions at the fenceline and ensure that the measures used to control potential fugitive emissions are effective. The monitoring program consists of the following real-time monitoring and constituent-specific sampling:

- Real-time continuous monitoring for total volatile organic compounds (TVOCs) and particulate matter 10 microns or less ($PM_{10}$) performed at four (4) fixed air monitoring stations (AMS) at the sediment processing area and two (2) mobile AMS upwind and downwind of the sediment removal activities during work hours.
- Routine instantaneous hand-held monitoring for TVOCs, $PM_{10}$, and mercury vapor, as well as observational monitoring for odor and visible dust conducted routinely during periods of construction activities.
- Chemical-specific sampling for naphthalene using Summa™ canisters and analyzed in accordance with EPA TO-15. Samples are collected at each AMS for 24-hour periods once per week during sediment removal in the northern portion of the river.
- Continuous meteorological monitoring for wind speed, wind direction, sigma (wind variability, calculated), temperature and relative humidity at an onsite location 24 hours per day, 7 days per week.

The real-time continuous and hand-held monitoring results are compared to a list of Site-specific Alert and Action Levels, and the mercury vapor and chemical-specific sampling results are compared to Acceptable Air Concentrations (AACs) developed for the Site. The Action Levels and AACs are defined in the following tables:

- **Table 1**: Site-Specific Alert and Action Levels; and
- **Table 2**: Acceptable Air Concentrations.

## Real-Time Monitoring Summary

Real-time continuous TVOC and $PM_{10}$ monitoring was conducted at each of the six (6) AMS. In addition, hand-held monitoring for TVOCs, $PM_{10}$, and mercury vapor was conducted, as well as observational odor and visible dust assessments.

During the report period, the TVOC, $PM_{10}$, and mercury vapor concentrations remained less than the Action Levels, there were no off-Site odor complaints, and no observations of visible dust moving off-Site. The results of the real-time air monitoring are presented in the following tables:

- **Table 3:** Real-Time TVOC and $PM_{10}$ Concentrations Summary;
- **Table 4:** Daily Maximum Hand-held Concentrations Summary; and
- **Table 5:** Weekly Alert and Action Level Event Summary.

## Naphthalene Sampling Summary

Chemical-specific sampling for naphthalene is conducted at each of the six (6) AMS for 24-hour periods once per week during sediment removal activities in the northern portion of the work zone. Samples are shipped to the analytical laboratory for USEPA TO-15 analysis. The results of sampling are provided following receipt from the analytical laboratory and are included in the following table:

- **Table 6**: Naphthalene Sampling Results Summary.

## Meteorological Conditions and Site Map

Meteorological monitoring summaries and a Site map for the report period are included in the following figures:

- **Figure 1**: Meteorological Summaries; and
- **Figure 2**: Site Map(s).

### Table 1: Site-Specific Alert and Action Levels

| Target Constituent | Alert Level | Action Level |
|---|---|---|
| **TVOC** (15-minute average or instantaneous concentration) | One (1) concentration > 1.0 ppm | Two (2) concentrations > 1.0 ppm |
| **$PM_{10}$** (15-minute average or instantaneous concentration) | One (1) concentration > 150 µg/$m^3$ | Two (2) concentrations > 150 µg/$m^3$ |
| **Mercury Vapor** (Instantaneous concentration) | Not Applicable | One (1) concentration > 0.05 µg/$m^3$ |
| **Odor** (Instantaneous observation related to Site activities) | Not Applicable | On-Site odor > 3 or public complaints that are verified to be related to construction |
| **Visible Dust** (Instantaneous observation related to Site activities) | Not Applicable | Observation of visible dust moving off-Site |

**Definitions:**
TVOC – Total volatile organic compounds
ppm – Parts per million
$PM_{10}$ – Respirable particulate matter
µg/$m^3$ – Micrograms per cubic meter

### Table 2: Acceptable Air Concentrations

| COC | AAC µg/$m^3$ | Project Goal µg/$m^3$ |
|---|---|---|
| $PM_{10}$ | 150 | 120 |
| Mercury Vapor | 0.05 | -- |
| Naphthalene | 1.43 | 1.14 |

**Definitions:**
AAC – Acceptable Air Concentration
COC – Chemical of concern
$PM_{10}$ – Particulate matter with a diameter of 10 micrometers or less in diameter.
µg/$m^3$ – Micrograms per cubic meter

**Notes:**
- Project Goal is defined as an internal project goal equal to 80% of the AAC.

### Table 3: Real-Time TVOC and $PM_{10}$ Concentrations Summary

| Date | AMS-1 | | AMS-2 | | AMS-3 | | AMS-4 | | AMS-A | | AMS-B | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TVOC (ppm) | $PM_{10}$ ($\mu g/m^3$) | TVOC (ppm) | $PM_{10}$ ($\mu g/m^3$) | TVOC (ppm) | $PM_{10}$ ($\mu g/m^3$) | TVOC (ppm) | $PM_{10}$ ($\mu g/m^3$) | TVOC (ppm) | $PM_{10}$ ($\mu g/m^3$) | TVOC (ppm) | $PM_{10}$ ($\mu g/m^3$) |
| **Mon 7/28/25** | 0.0 | 70.5 | 0.0 | 84.7 | 0.0 | 49.6 | 0.0 | 54.2 | 0.0 | 47.8 | 0.0 | 37.6 |
| **Tue 7/29/25** | 0.0 | 72.3 | 0.0 | 70.7 | 0.0 | 53.3 | 0.0 | 57.1 | 0.0 | 53.1 | 0.0 | 46.5 |
| **Wed 7/30/25** | 0.0 | 26.0 | 0.0 | 60.4 | 0.0 | 28.4 | 0.0 | 26.7 | 0.0 | 51.2 | 0.0 | 34.3 |
| **Thu 7/31/25** | 0.0 | 101.1 | 0.0 | 101.3 | 0.0 | 105.1 | 0.0 | 107.9 | 0.0 | 91.9 | 0.0 | 88.7 |
| **Weekly Summary** | | | | | | | | | | | | |
| **Weekly Maximum** | 0.0 | 101.1 | 0.0 | 101.3 | 0.0 | 105.1 | 0.0 | 107.9 | 0.0 | 91.9 | 0.0 | 88.7 |
| **Weekly Average** | 0.0 | 45.5 | 0.0 | 58.9 | 0.0 | 42.0 | 0.0 | 43.5 | 0.0 | 38.4 | 0.0 | 32.6 |
| **Project Summary** | | | | | | | | | | | | |
| **PTD Average** | 0.0 | 25.6 | 0.0 | 38.0 | 0.0 | 25.8 | 0.0 | 24.2 | 0.0 | 21.1 | 0.0 | 17.1 |

**Definitions:**

AMS – Air Monitoring Station
TVOC – Total Volatile Organic Compounds
ppm – Parts per million
$PM_{10}$ – Particulate Matter 10 micrometers or less
$\mu g/m^3$ – Micrograms per cubic meter
PTD – Project-to-date
ND – No Data
NA – Not Applicable

**Notes:**

- Highlighted concentrations (if any) require further analysis (see **Table 5**).
- AMS reported TVOC and $PM_{10}$ data represent 15-minute average concentrations.
- Project-to-date average $PM_{10}$ concentrations are compared to the $PM_{10}$ AAC to evaluate the effectiveness of the perimeter air monitoring program with relation to particulates. Compliance will be determined at the end of the project.
- Project-to-date average $PM_{10}$ concentrations are calculated from 6/23/25 through the end of the reporting period.
- Baseline results are not included in project-to-date averages.

## Table 4: Daily Maximum Hand-Held Concentrations Summary

| Date | TVOC (ppm) | $PM_{10}$ ($\mu g/m^3$) | Mercury Vapor ($\mu g/m^3$) | Odor (0-8) | Visible Dust (Yes/No) |
|---|---|---|---|---|---|
| **Mon 7/28/25** | 0.0 | 31 | 0 | 0 | No |
| **Tue 7/29/25** | 0.0 | 41 | 0 | 0 | No |
| **Wed 7/30/25** | 0.0 | 25 | 0 | 0 | No |
| **Thu 7/31/25** | 0.0 | 64 | 0 | 0 | No |

**Definitions:**

TVOC – Total Volatile Organic Compounds
ppm – Parts per million
$PM_{10}$ – Particulate Matter 10 micrometers or less
$\mu g/m^3$ – Micrograms per cubic meter
ND – No Data
NA – Not Applicable

**Notes:**

- Highlighted concentrations (if any) require further analysis (see **Table 5**).
- Hand-held data represents instantaneous concentrations unless stated otherwise.

## Table 5: Weekly Alert and Action Level Event Summary

| Parameter | Date | Time | Location | Wind Conditions | Elevated Concentration | Comments/Explanation |
|---|---|---|---|---|---|---|
| **TVOC (ppm)** | NA | NA | NA | NA | NA | TVOC concentrations remained less than the Alert and Action Levels. |
| **$PM_{10}$ ($\mu g/m^3$)** | NA | NA | NA | NA | NA | $PM_{10}$ concentrations remained less than the Alert and Action Levels. |
| **Mercury Vapor ($\mu g/m^3$)** | NA | NA | NA | NA | NA | Mercury vapor concentrations remained less than the Action Level. |
| **Odor (0-8)** | NA | NA | NA | NA | NA | Odor observations remained less than the Action Level. |
| **Visible Dust** | NA | NA | NA | NA | NA | There were no observations of visible dust moving offsite. |

**Definitions:**

AMS – Air Monitoring Station
HH – Hand-Held Location
TVOC – Total Volatile Organic Compounds
ppm – Parts per million
$PM_{10}$ – Particulate Matter ≤ 10 microns in diameter
$\mu g/m^3$ – Micrograms per cubic meter
mph – Miles per hour
ND – No Data
NA – Not Applicable

**Notes:**

- AMS-reported data represent 15-minute block average concentrations.
- Observations represent instantaneous conditions unless stated otherwise.

## Table 6: Naphthalene Sampling Results Summary

| Date | AAC (µg/m³) | Project Goal (µg/m³) | AMS-1 (µg/m³) | AMS-2 (µg/m³) | AMS-3 (µg/m³) | AMS-4 (µg/m³) | AMS-A (µg/m³) | AMS-B (µg/m³) | Dup (µg/m³) |
|---|---|---|---|---|---|---|---|---|---|
| **Wed 5/21/25** | -- | -- | *0.53* | *0.53* | *0.53* | *0.53* | *0.53* | *0.53* | *0.53* |
| **Tue 7/22/25** | -- | -- | TBD[1] | TBD[1] | TBD[1] | TBD[1] | TBD[1] | TBD[1] | TBD[1] |
| **Wed 7/30/25** | -- | -- | TBD[1] | TBD[1] | TBD[1] | TBD[1] | TBD[1] | TBD[1] | TBD[1] |
| **Project Summary** | | | | | | | | | |
| **PTD Average** | 1.43 | 1.14 | TBD | TBD | TBD | TBD | TBD | TBD | -- |

**Definitions:**

AMS – Air Monitoring Station
AAC – Acceptable Air Concentration
PEL – Permissible Exposure Limit
MDL – Method Detection Limit
TBD – To Be Determined
PTD – Project-To-Date
µg/m³ – Micrograms per cubic meter
**Bold** – Results reported above the MDL
*Italics* – Compound was analyzed for, but not detected above the MDL (estimated as ½ the MDL)
NA – Not Applicable
ND – No Data

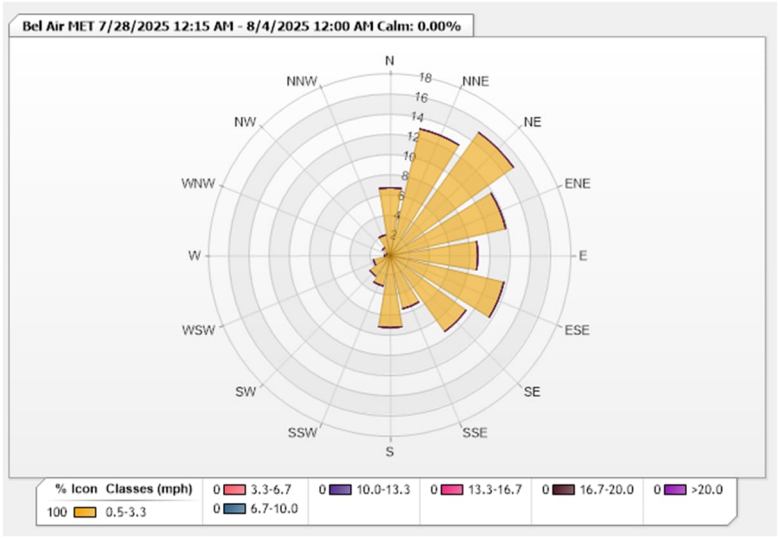
**Notes:**

- Samples are placed in the field at the start of the work activities and collected prior to the start of the following day, unless otherwise stated. The sample date listed represents the day the sample was started.
- Baseline results are not included in project-to-date averages.

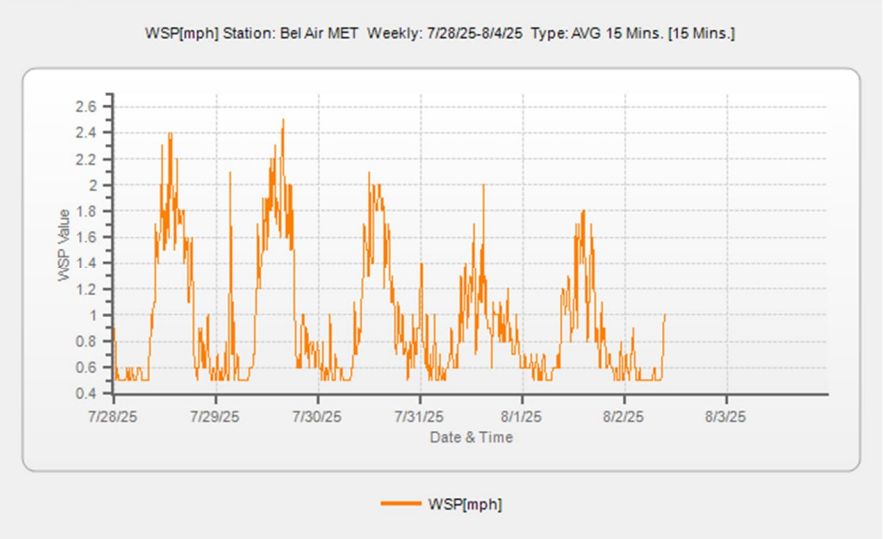
[1] Samples are pending analysis and results will be reported once available from the laboratory.

## Figure 1: Meteorological Summaries

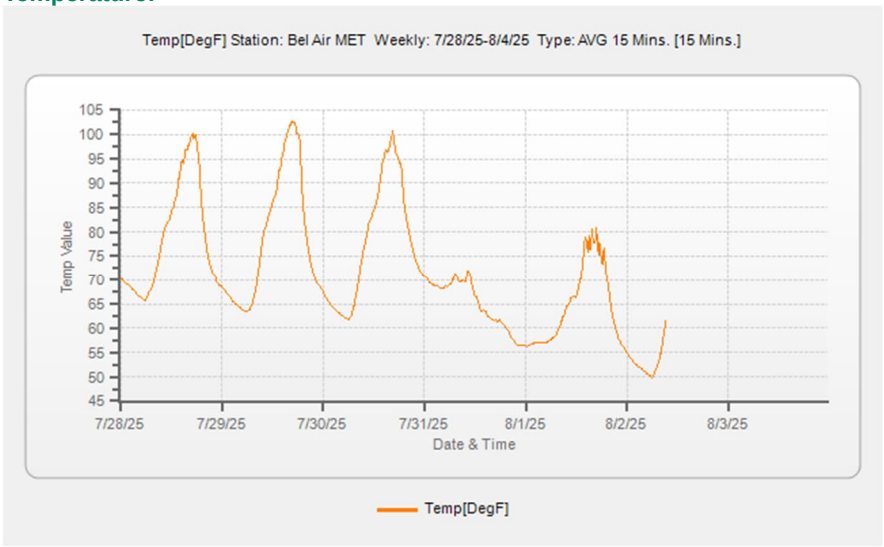
### Wind Rose:



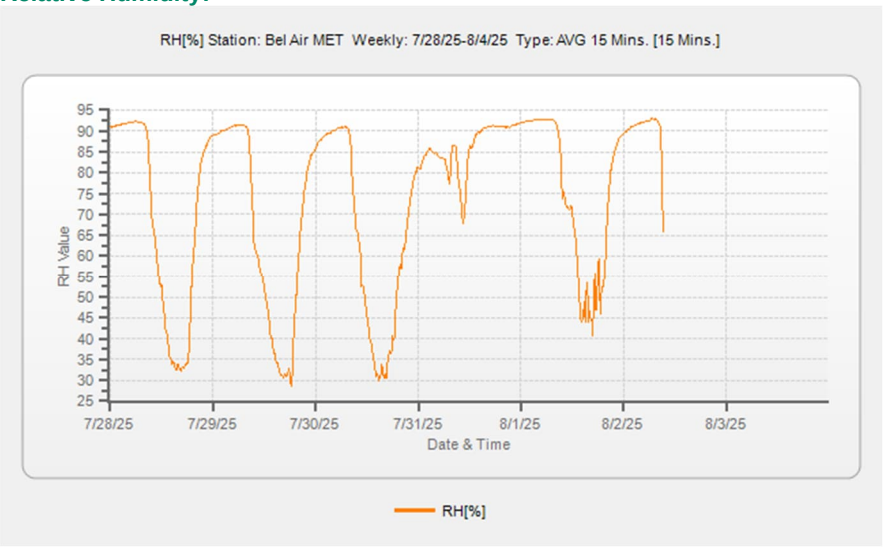

### Wind Speed:




### Temperature:




### Relative Humidity:




Note: Weather data missing 8/2/25 at 9:45 AM until the end of the reporting period due to power failure.

**Figure 2: Site Map (7/28/25 – 7/31/25)**