The Bellwether District
Air Monitoring Monthly Data Report

March 2025
3144 Passyunk Avenue, Philadelphia, Pennsylvania

Prepared for

Bellwether District Holdings, LLC
c/o HRP Group
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Project Number P069.005

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Acronyms and Abbreviations

PM	particulate matter
Terraphase	Terraphase Engineering Inc.
Site	3144 Passyunk Avenue, Philadelphia, Pennsylvania
VOC	volatile organic compound
AMS	air monitoring station

1 Introduction

On behalf of Bellwether District Holdings, LLC (BDH), formerly known as Philadelphia Energy Solutions Refining and Marketing LLC (PESRM), Terraphase Engineering Inc. (Terraphase) has prepared this *Air Monitoring Monthly Data Report* detailing the monitoring of total volatile organic compounds (VOCs) and particulates (i.e., respirable dust) in support of the earthwork and construction at 3144 West Passyunk Avenue in Philadelphia, Pennsylvania (Site).

A perimeter air monitoring plan (PAMP) previously submitted by Terraphase established project action levels and prescribed protocols for corrective measures should VOC or dust levels approach action levels.

1.1 Background

The Site was formerly operated as a petroleum refinery between 1860 and 2019. Soil and groundwater investigation and remediation activities have been ongoing at the Site for decades. Known soil contaminants at the Site include various VOCs, various semivolatile organic compounds, and lead.

1.2 Purpose and Objective

This report provides monitoring results at the Site in March 2025 as well as any corrective measures that were required per the PAMP.

2 Perimeter Air Monitoring

Ten weather-proof air monitoring stations (AMS) are situated along the perimeter of the Site, as shown in Figure 1, for real-time air monitoring and data collection. The monitors are equipped with telemetry and data logging software, solar panels, and batteries.

Perimeter air monitors began continuously collecting data in November 2022, prior to earthwork activities on the 750 acres south of Passyunk Avenue known as the industrial and logistics campus. In addition, perimeter air monitors began continuously collecting data in January 2024 prior to earthwork activities on the 250-acre innovation campus in the portions of the former refinery north of Passyunk Avenue.

2.1 Dust Monitoring Data

Particulate Matter (PM) concentrations have been monitored at the perimeter air monitoring stations, measuring PM-10[1] continuously and reporting 15-minute, time-weighted averages. The Industrial Campus PM-10 24-hour average data are depicted in Figure 2.a, and the Innovation Campus PM-10 24-

[1] NextPM sensor manufactured by Tera Sensor.

hour average data are depicted in Figure 2.b. High wind speeds on February 17th inflicted unsalvageable damage to the AMS-04 structure and sensors. AMS-04 was rebuilt, and a new air monitoring unit was deployed at the location on March 7th. Therefore, no PM-10 data was recorded at AMS-04 from March 1st through March 6th. Due to a battery malfunction, no PM-10 data was recorded at AMS-07 from March 26th through the end of the month. As shown in the figures, there were no exceedances of the calculated site-specific 24-hour action level of 150 micrograms per cubic meter.

2.2 VOC Monitoring Data

VOC[2] concentrations have been continuously monitored at the perimeter air monitoring stations, reporting 15-minute, time-weighted averages. The Industrial Campus VOC 8-hour average data are depicted in Figure 3.a, and the Innovation Campus VOC 8-hour average data are depicted in Figure 3.b. High wind speeds on February 17th inflicted unsalvageable damage to the AMS-04 structure and sensors. AMS-04 was rebuilt, and a new air monitoring unit was deployed at the location on March 7th. Therefore, no VOC data was recorded at AMS-04 from March 1st through March 6th. Due to a sensor malfunction, there is no available VOC data for AMS-07 from March 1st through March 12th. Due to a battery malfunction, no VOC data was recorded at AMS-07 from March 26th through the end of the month. As shown in the figures, there were no exceedances of the calculated site-specific 8-hour action level of 4.6 parts per million.

2.3 Corrective Measures

No corrective measures were required for dust or VOC mitigation in March 2025 because dust and VOC concentrations remained below the calculated site-specific action level.

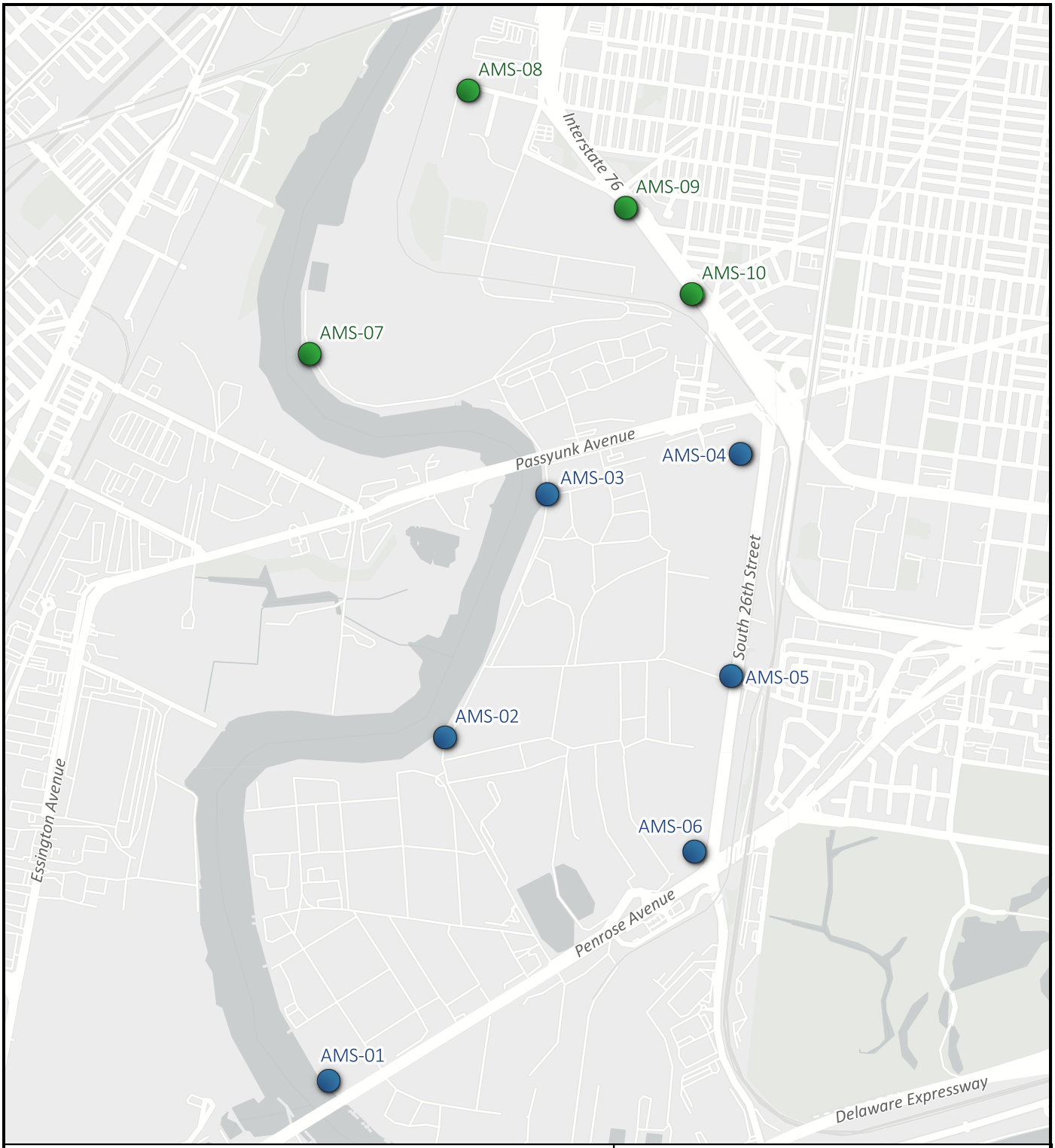
2.4 Equipment Maintenance

Terraphase reviews air monitoring data daily and equipment is programmed to alert failures via email and text messaging. Ongoing monthly maintenance visits to test battery power and assess site conditions in proximity of units are also conducted to minimize impact to continuous operation of the units. Periodic downtime windows are noted in sections 2.1 and 2.2 for each sensor, when applicable.

[2] 10.6-electron volt lamp photoionization detector manufactured by IonScience.

Figures

1 Air Monitoring Locations
2.a Industrial Campus PM-10 24-Hour Averages
2.b Innovation Campus PM-10 24-Hour Averages
3.a Industrial Campus VOC 8-Hour Averages
3.b Innovation Campus VOC 8-Hour Averages



0 1,800 3,600 Feet

1 Inch = 1800 Feet

N

Legend

- Air Monitoring Stations (AMS) Industrial Campus
- Air Monitoring Stations (AMS) Innovation Campus

SAFETY FIRST

terraphase engineering

CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC

PROJECT: The Bellwether District Air Monitoring

PROJECT NUMBER: P069.002

Air Monitoring Locations

FIGURE 1

N:\GIS\Prj\P044.001_PESRM-PES\QGIS_QGZ and GPKG\Branch_Air Monitoring\(20240223) QGZ328_P044.001_PESRM_Air_Monitoring.qgz Air Monitoring - Locations Map - Site-Wide 2021-03-26T15:56:13.000 Created By: S.Lowe

Figure 2.a - Dust Concentration 24-Hour Averages
Industrial Campus
Mar. 1, 2025 – Mar. 31, 2025
The Bellwether District

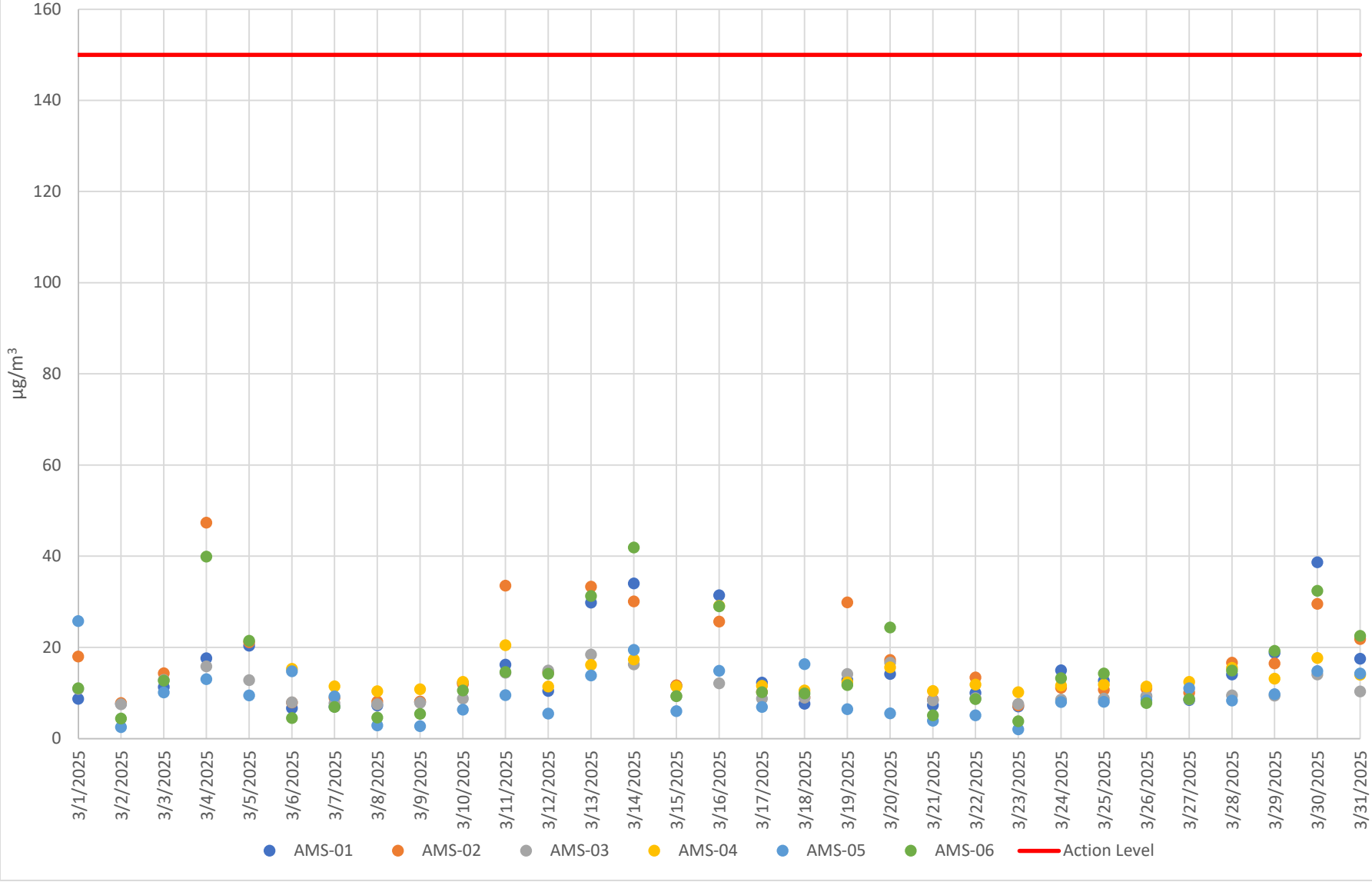


Figure 2.b - Dust Concentration 24-Hour Averages
Innovation Campus
Mar. 1, 2025 – Mar. 31, 2025
The Bellwether District

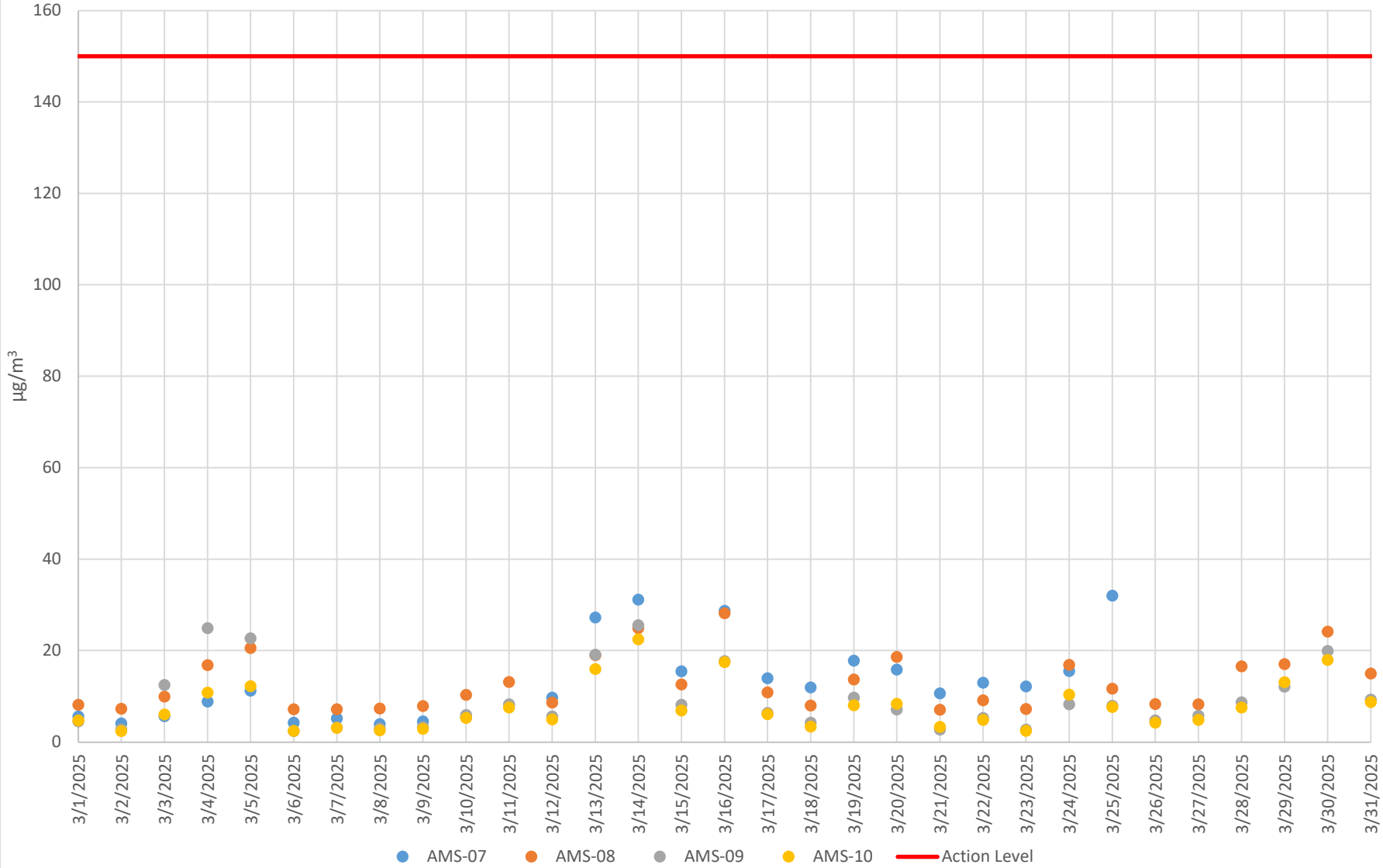
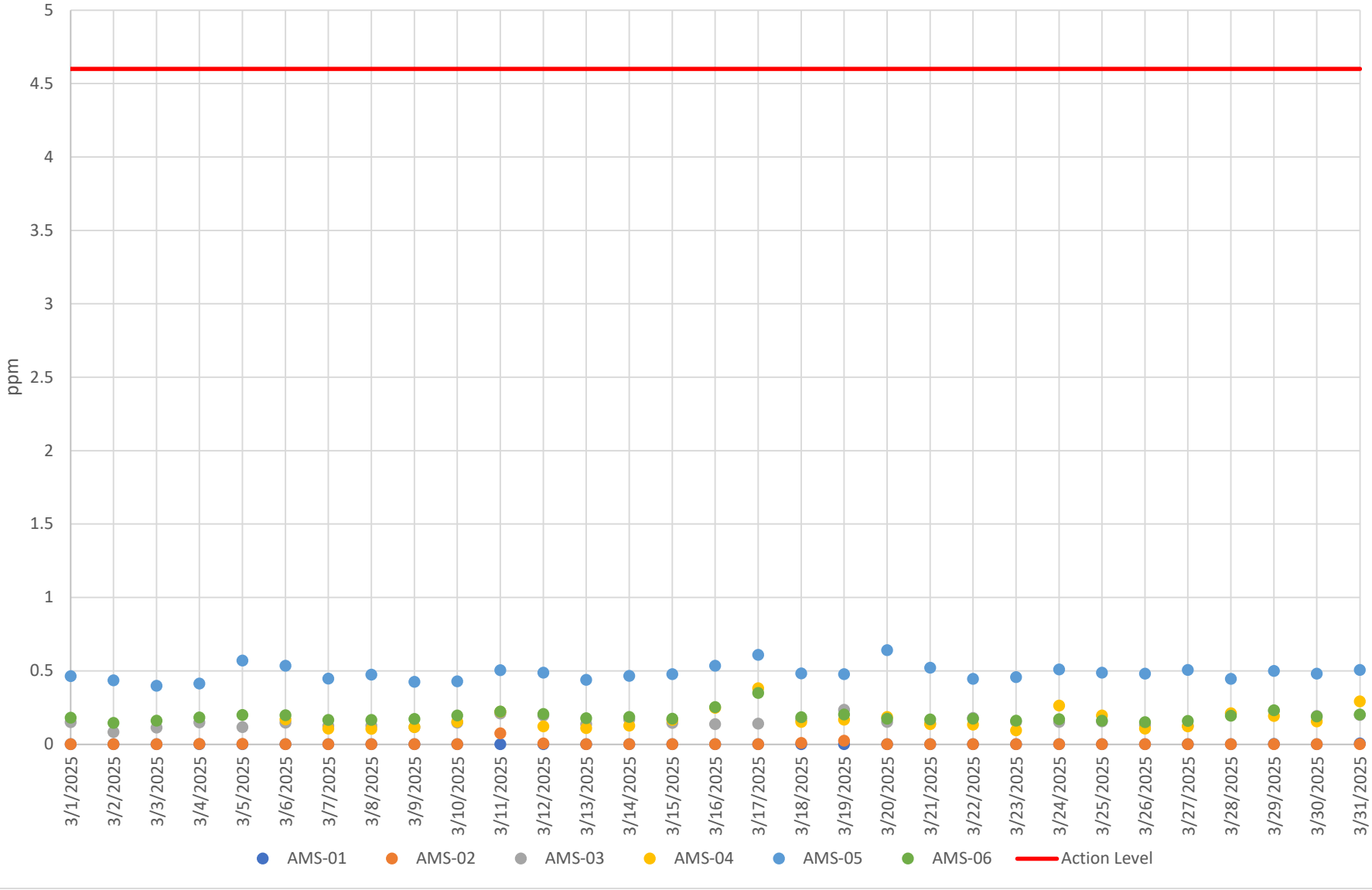
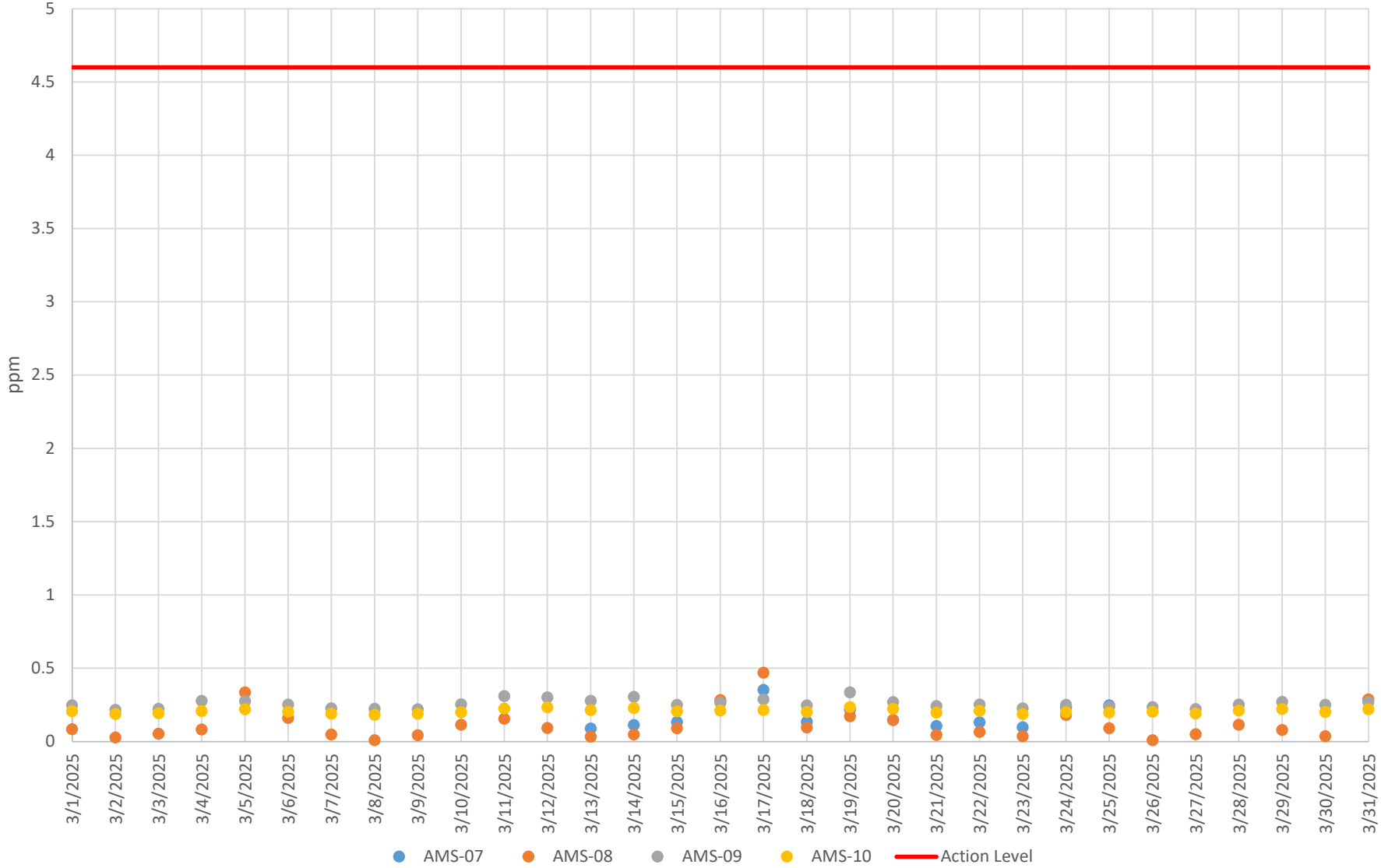


Figure 3.a - VOC Concentration 8-Hour Averages
Industrial Campus
Mar. 1, 2025 – Mar. 31, 2025
The Bellwether District



For visualization purposes, the highest of the 3 TVOC 8-hour average periods per day is shown.

Figure 3.b - VOC Concentration 8-Hour Averages
Innovation Campus
Mar. 1, 2025 – Mar. 31, 2025
The Bellwether District



For visualization purposes, the highest of the 3 TVOC 8-hour average periods per day is shown.