

The Bellwether District Air Monitoring Monthly Data Report

July 2026

3144 Passyunk Avenue, Philadelphia, Pennsylvania

Prepared for

Bellwether District Holdings, LLC
c/o HRP Group
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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 July 2026 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-10¹ continuously and reporting 15-minute, time-weighted averages. The Industrial

¹ NextPM sensor manufactured by Tera Sensor.



Campus PM-10 24-hour average data are depicted in Figure 2.a, and the Innovation Campus PM-10 24-hour average data are depicted in Figure 2.b.

In July 2026, smoke originating from wildfires in Canada and Minnesota affected air quality across the northeastern United States, including the Philadelphia region. This impact is most evident in the elevated PM-10 concentrations measured on July 16, 17, and 18 (Figures 2.a and 2.b). The action level exceedances recorded on July 16 and July 17 resulted from the poor air quality caused by the wildfire smoke rather than activities occurring at the Site. When wildfire smoke had a lesser impact on regional air quality, PM-10 concentrations were lower and more consistent with typical levels observed at the Site.

2.2 VOC Monitoring Data

VOC² 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. 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 July 2026. Dust action level exceedances observed on July 16 and July 17 were associated with smoke originating from wildfires in Canada and Minnesota. Corrective measures taken at the Site would not have mitigated this regional air quality impact.

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.

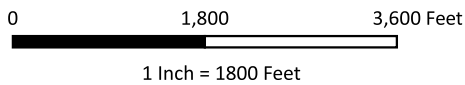
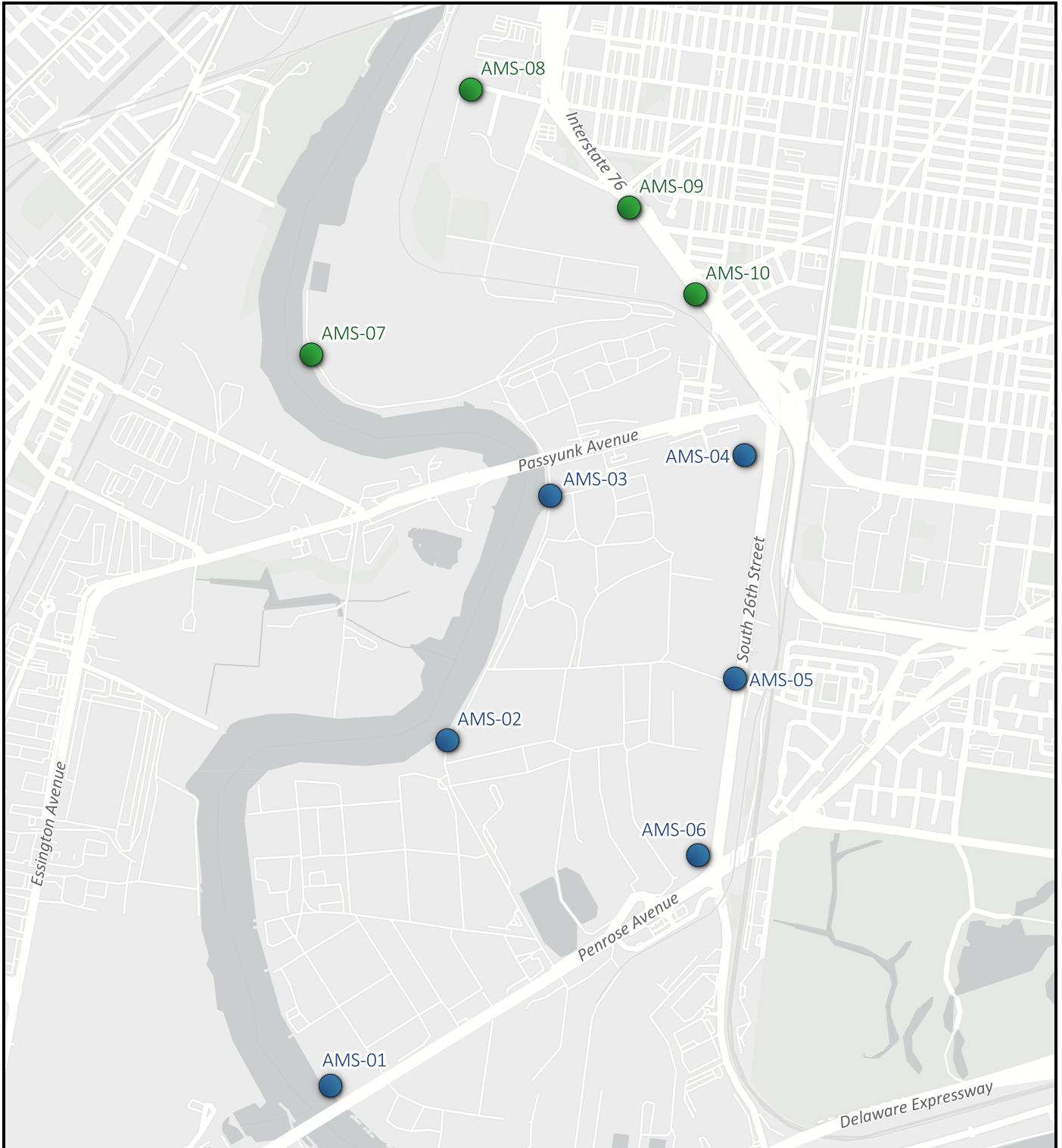


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Legend

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

SAFETY FIRST



CLIENT: Philadelphia Energy Solutions
Refining and Marketing LLC

PROJECT: The Bellwether District
Air Monitoring

PROJECT NUMBER:
P069.002

Air Monitoring Locations

FIGURE 1

Figure 2.a - Dust Concentration 24-Hour Averages
Industrial Campus
Jul. 1, 2026 – Jul. 31, 2026
The Bellwether District

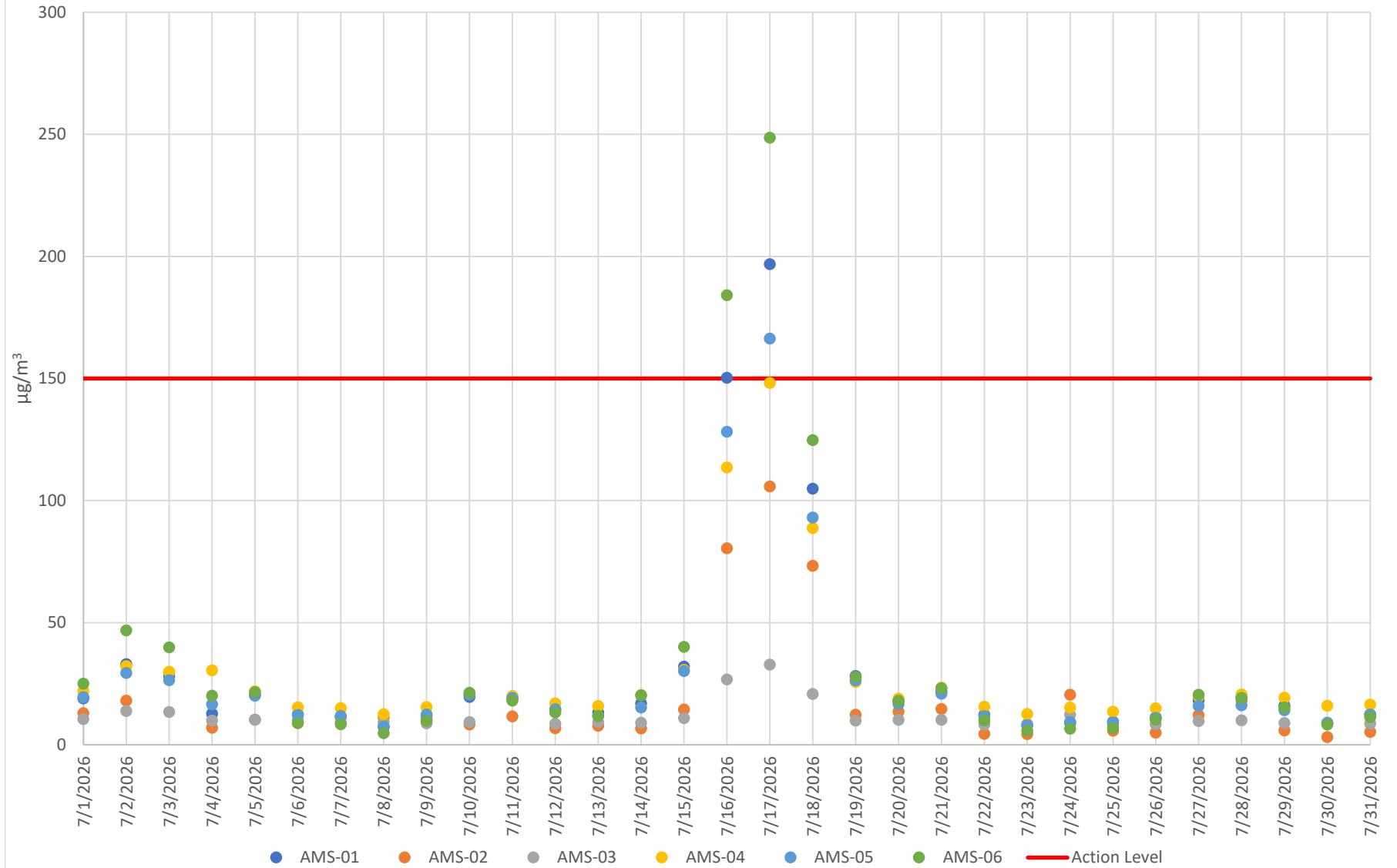


Figure 2.b - Dust Concentration 24-Hour Averages
Innovation Campus
Jul. 1, 2026 – Jul. 31, 2026
The Bellwether District

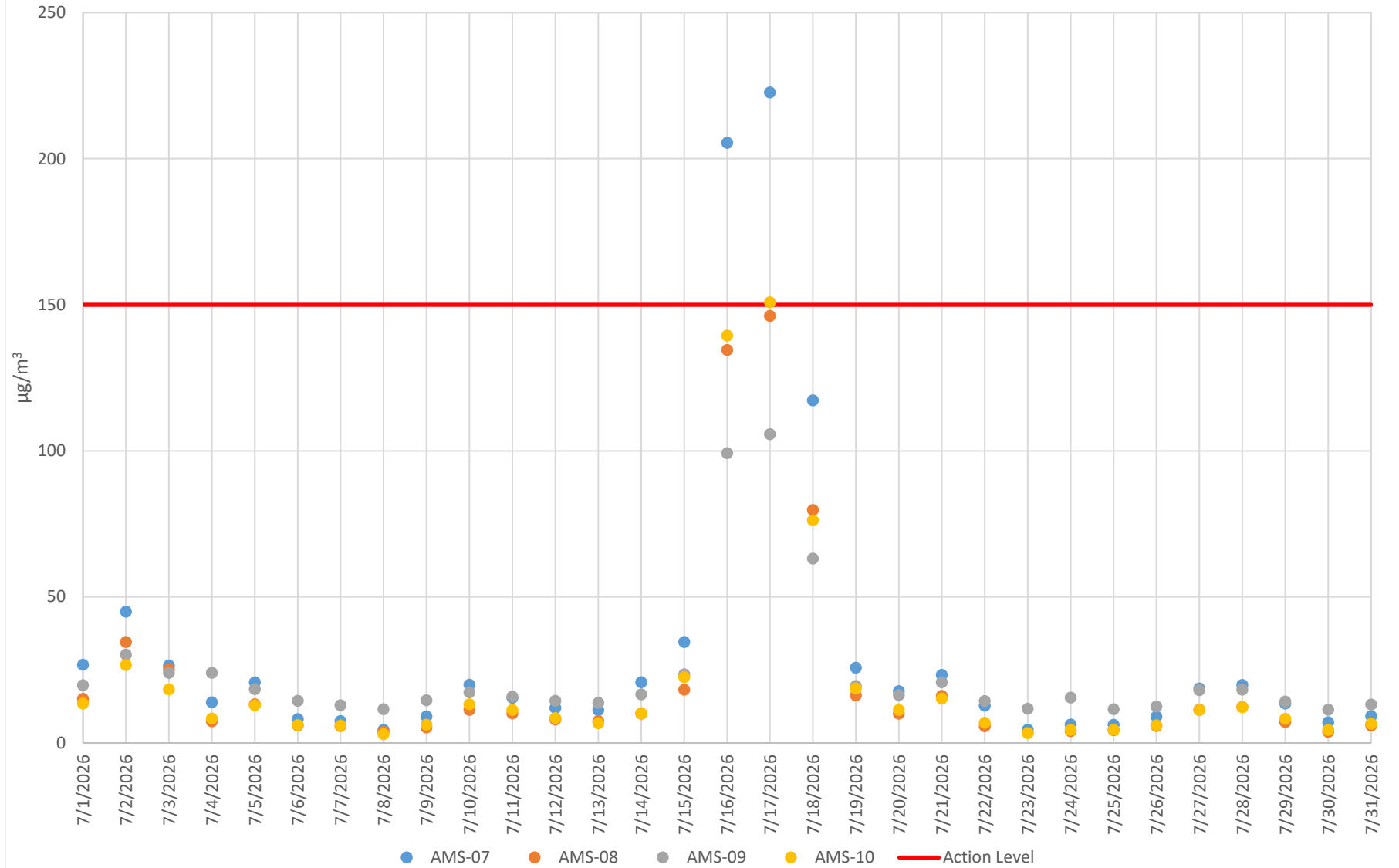
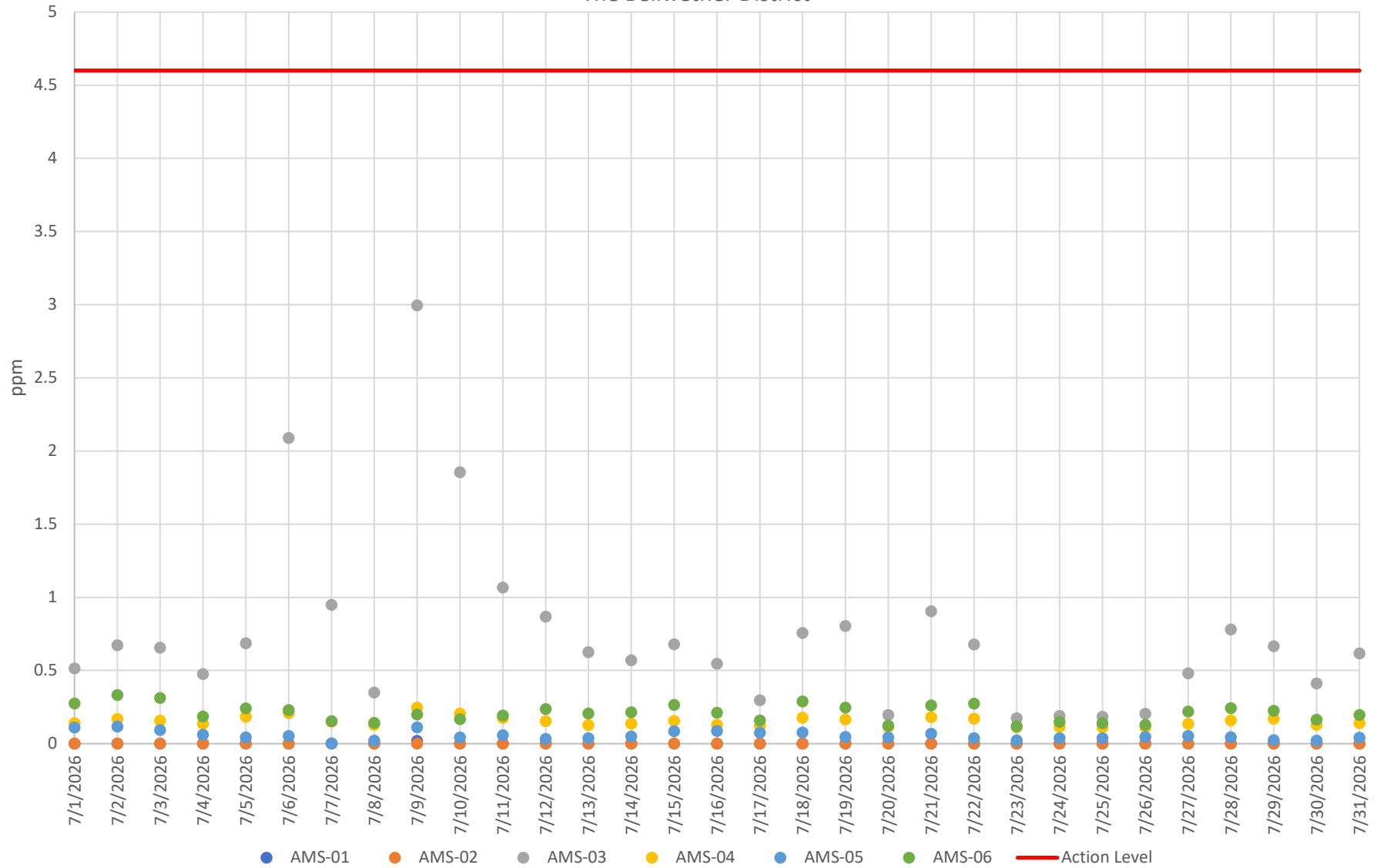
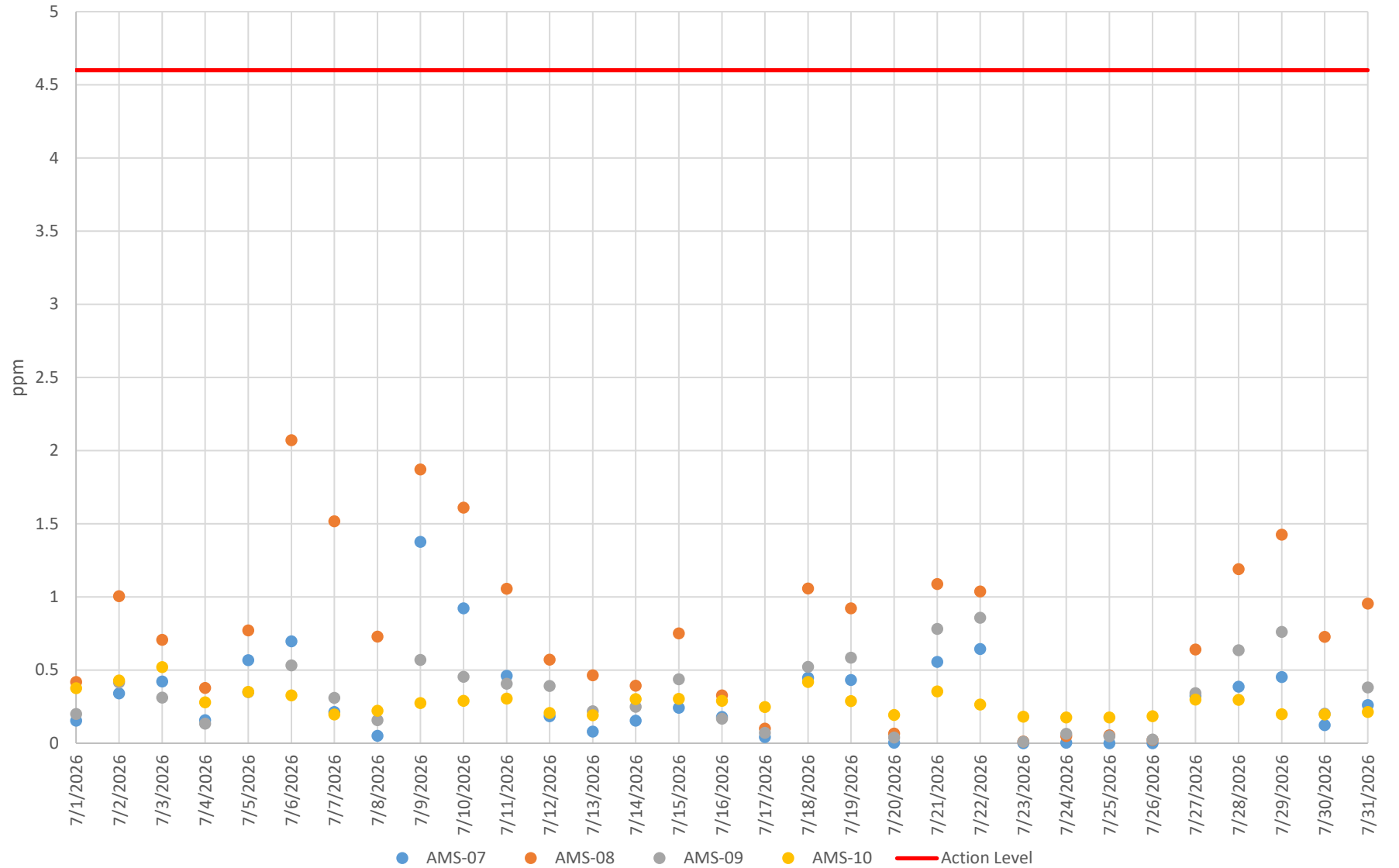


Figure 3.a - VOC Concentration 8-Hour Averages
Industrial Campus
Jul. 1, 2026 – Jul. 31, 2026
The Bellwether District



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
Jul. 1, 2026 – Jul. 31, 2026
The Bellwether District



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