

The logo for CTEH, consisting of the letters 'CTEH' in a bold, white, sans-serif font with a registered trademark symbol, set against a dark blue rectangular background.

**CTEH**<sup>®</sup>

THE SCIENCE OF READY<sup>SM</sup>

**ENVIRONMENTAL RESOURCES  
MANAGEMENT (ERM)  
BELLA VISTA TRAFALGAR ROAD FIRE –  
PHASE I REMEDIAL ACTION**

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**Daily Summary  
Bella Vista, Arkansas  
May 26, 2019  
Project #111327**

## 1.0 Introduction

Environmental Resources Management (ERM) requested that CTEH conduct air monitoring in the community surrounding the Trafalgar Road Fire located in Bella Vista, Arkansas during the Phase I Remedial Action. CTEH arrived on-site on May 15, 2019 and began air monitoring operations. Activities were comprised of real-time air monitoring.

This report summarizes air monitoring data collected from May 26, 2019 07:00 CDT to May 27, 2019 07:00 CDT.

## 2.0 Air Monitoring and Sampling Methods

CTEH developed and implemented an Air Monitoring and Sampling, Noise Monitoring, and Hazard Communication Plan (SAP) to document and quantify the release of fugitive emissions (if any) produced by the fire. All instrumentation was calibrated at least once per day or per manufacturer's recommendations. Target analytes were measured as carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), 2.5-micron particulate matter (PM<sub>2.5</sub>), sulfur dioxide (SO<sub>2</sub>), and volatile organic compounds (VOCs) using handheld instruments such as RAE Systems MultiRAEs and TSI SidePak™ AM520 Aerosol Monitors.

Hand-held air monitoring consisted of roaming air monitoring in the surrounding community. Additionally, fixed monitoring locations were established for periodic visitation by field personnel to track trends in air quality (if any). All hand-held air monitoring was conducted in the breathing zone.

## 3.0 Air Monitoring Results

**Figures 1 – 6** in **Attachment A** depicts the site location and hand-held monitoring locations for this reporting period.

**Table 1** summarizes the results for hand-held air monitoring readings and **Table 2** summarizes hand-held air monitoring results by their respecting fixed real-time location (FRT).

**Table 1: Community Monitoring Hand-Held Real-Time Air Monitoring Results**

| Location             | Analyte           | Instrument | # of Readings | # of Detections | Detection Range                 |
|----------------------|-------------------|------------|---------------|-----------------|---------------------------------|
| Community Monitoring | CO                | MultiRAE   | 240           | 0               | < 1 ppm                         |
|                      | NO <sub>2</sub>   | MultiRAE   | 1             | 0               | < 0.1 ppm                       |
|                      | PM <sub>2.5</sub> | AM520      | 127           | 127             | 0.003 – 0.103 mg/m <sup>3</sup> |
|                      | PM <sub>2.5</sub> | DustTrak   | 111           | 111             | 0.003 – 0.042 mg/m <sup>3</sup> |
|                      | SO <sub>2</sub>   | MultiRAE   | 1             | 0               | < 0.1 ppm                       |
|                      | Sound Level       | SLM        | 10            | 10              | 75.2 – 77.4 db(A)               |
|                      | VOCs              | MultiRAE   | 241           | 0               | < 0.1 ppm                       |

<sup>1</sup>Maximum detections preceded by the “<” symbol are considered non-detections below the limit of detection (LoD) value to the right.

**Table 2: Fixed Monitoring Location Air Monitoring Results**

| Location Code | Analyte           | Instrument | # of Readings | # of Detections | Average of Detections   | Detection Range                 |
|---------------|-------------------|------------|---------------|-----------------|-------------------------|---------------------------------|
| AS-002        | CO                | MultiRAE   | 1             | 0               | -                       | < 1 ppm                         |
|               | PM <sub>2.5</sub> | DustTrak   | 1             | 1               | 0.007 mg/m <sup>3</sup> | 0.007 mg/m <sup>3</sup>         |
|               | VOCs              | MultiRAE   | 1             | 0               | -                       | < 0.1 ppm                       |
| AS-005        | CO                | MultiRAE   | 1             | 0               | -                       | < 1 ppm                         |
|               | PM <sub>2.5</sub> | AM520      | 1             | 0               | 0.028 mg/m <sup>3</sup> | 0.028 mg/m <sup>3</sup>         |
| FRT-001       | CO                | MultiRAE   | 10            | 0               | -                       | < 1 ppm                         |
|               | PM <sub>2.5</sub> | AM520      | 4             | 4               | 0.017 mg/m <sup>3</sup> | 0.011 - 0.023 mg/m <sup>3</sup> |
|               | PM <sub>2.5</sub> | DustTrak   | 6             | 6               | 0.02 mg/m <sup>3</sup>  | 0.014 - 0.026 mg/m <sup>3</sup> |
|               | VOCs              | MultiRAE   | 10            | 0               | -                       | < 0.1 ppm                       |
| FRT-002       | CO                | MultiRAE   | 11            | 0               | -                       | < 1 ppm                         |
|               | PM <sub>2.5</sub> | AM520      | 4             | 4               | 0.015 mg/m <sup>3</sup> | 0.006 - 0.023 mg/m <sup>3</sup> |
|               | PM <sub>2.5</sub> | DustTrak   | 6             | 6               | 0.02 mg/m <sup>3</sup>  | 0.015 - 0.024 mg/m <sup>3</sup> |
|               | VOCs              | MultiRAE   | 11            | 0               | -                       | < 0.1 ppm                       |
| FRT-003       | CO                | MultiRAE   | 14            | 0               | -                       | < 1 ppm                         |
|               | PM <sub>2.5</sub> | AM520      | 11            | 11              | 0.023 mg/m <sup>3</sup> | 0.005 - 0.047 mg/m <sup>3</sup> |
|               | PM <sub>2.5</sub> | DustTrak   | 3             | 3               | 0.022 mg/m <sup>3</sup> | 0.02 - 0.024 mg/m <sup>3</sup>  |
|               | VOCs              | MultiRAE   | 14            | 0               | -                       | < 0.1 ppm                       |
| FRT-004       | CO                | MultiRAE   | 10            | 0               | -                       | < 1 ppm                         |
|               | PM <sub>2.5</sub> | AM520      | 10            | 10              | 0.028 mg/m <sup>3</sup> | 0.005 - 0.06 mg/m <sup>3</sup>  |
|               | VOCs              | MultiRAE   | 10            | 0               | -                       | < 0.1 ppm                       |
| FRT-005       | CO                | MultiRAE   | 12            | 0               | -                       | < 1 ppm                         |
|               | PM <sub>2.5</sub> | AM520      | 12            | 12              | 0.034 mg/m <sup>3</sup> | 0.005 - 0.053 mg/m <sup>3</sup> |
|               | VOCs              | MultiRAE   | 14            | 0               | -                       | < 0.1 ppm                       |
| FRT-006       | CO                | MultiRAE   | 11            | 0               | -                       | < 1 ppm                         |
|               | NO <sub>2</sub>   | MultiRAE   | 1             | 0               | -                       | < 0.1 ppm                       |
|               | PM <sub>2.5</sub> | AM520      | 11            | 11              | 0.03 mg/m <sup>3</sup>  | 0.007 - 0.103 mg/m <sup>3</sup> |

| Location Code | Analyte         | Instrument | # of Readings | # of Detections | Average of Detections   | Detection Range                 |
|---------------|-----------------|------------|---------------|-----------------|-------------------------|---------------------------------|
|               | SO <sub>2</sub> | MultiRAE   | 1             | 0               | -                       | < 0.1 ppm                       |
|               | VOCs            | MultiRAE   | 11            | 0               | -                       | < 0.1 ppm                       |
| FRT-007       | CO              | MultiRAE   | 10            | 0               | -                       | < 1 ppm                         |
|               | PM2.5           | AM520      | 4             | 4               | 0.012 mg/m <sup>3</sup> | 0.009 - 0.015 mg/m <sup>3</sup> |
|               | PM2.5           | DustTrak   | 6             | 6               | 0.018 mg/m <sup>3</sup> | 0.011 - 0.023 mg/m <sup>3</sup> |
|               | VOCs            | MultiRAE   | 10            | 0               | -                       | < 0.1 ppm                       |
| FRT-008       | CO              | MultiRAE   | 10            | 0               | -                       | < 1 ppm                         |
|               | PM2.5           | AM520      | 4             | 4               | 0.017 mg/m <sup>3</sup> | 0.01 - 0.025 mg/m <sup>3</sup>  |
|               | PM2.5           | DustTrak   | 6             | 6               | 0.019 mg/m <sup>3</sup> | 0.012 - 0.024 mg/m <sup>3</sup> |
|               | VOCs            | MultiRAE   | 10            | 0               | -                       | < 0.1 ppm                       |
| FRT-009       | CO              | MultiRAE   | 10            | 0               | -                       | < 1 ppm                         |
|               | PM2.5           | AM520      | 4             | 4               | 0.021 mg/m <sup>3</sup> | 0.01 - 0.038 mg/m <sup>3</sup>  |
|               | PM2.5           | DustTrak   | 6             | 6               | 0.02 mg/m <sup>3</sup>  | 0.017 - 0.023 mg/m <sup>3</sup> |
|               | VOCs            | MultiRAE   | 10            | 0               | -                       | < 0.1 ppm                       |
| FRT-010       | CO              | MultiRAE   | 12            | 0               | -                       | < 1 ppm                         |
|               | PM2.5           | AM520      | 6             | 6               | 0.02 mg/m <sup>3</sup>  | 0.003 - 0.028 mg/m <sup>3</sup> |
|               | PM2.5           | DustTrak   | 6             | 6               | 0.022 mg/m <sup>3</sup> | 0.015 - 0.025 mg/m <sup>3</sup> |
|               | VOCs            | MultiRAE   | 12            | 0               | -                       | < 0.1 ppm                       |
| FRT-011       | CO              | MultiRAE   | 10            | 0               | -                       | < 1 ppm                         |
|               | PM2.5           | AM520      | 4             | 4               | 0.02 mg/m <sup>3</sup>  | 0.009 - 0.032 mg/m <sup>3</sup> |
|               | PM2.5           | DustTrak   | 6             | 6               | 0.022 mg/m <sup>3</sup> | 0.015 - 0.026 mg/m <sup>3</sup> |
|               | VOCs            | MultiRAE   | 10            | 0               | -                       | < 0.1 ppm                       |
| FRT-012       | CO              | MultiRAE   | 9             | 0               | -                       | < 1 ppm                         |
|               | PM2.5           | AM520      | 3             | 3               | 0.019 mg/m <sup>3</sup> | 0.011 - 0.025 mg/m <sup>3</sup> |
|               | PM2.5           | DustTrak   | 6             | 6               | 0.021 mg/m <sup>3</sup> | 0.016 - 0.028 mg/m <sup>3</sup> |
|               | VOCs            | MultiRAE   | 9             | 0               | -                       | < 0.1 ppm                       |
| FRT-013       | CO              | MultiRAE   | 9             | 0               | -                       | < 1 ppm                         |
|               | PM2.5           | AM520      | 4             | 4               | 0.012 mg/m <sup>3</sup> | 0.003 - 0.023 mg/m <sup>3</sup> |
|               | PM2.5           | DustTrak   | 6             | 6               | 0.02 mg/m <sup>3</sup>  | 0.014 - 0.026 mg/m <sup>3</sup> |
|               | VOCs            | MultiRAE   | 9             | 0               | -                       | < 0.1 ppm                       |
| FRT-014       | CO              | MultiRAE   | 10            | 0               | -                       | < 1 ppm                         |
|               | PM2.5           | AM520      | 4             | 4               | 0.013 mg/m <sup>3</sup> | 0.005 - 0.023 mg/m <sup>3</sup> |
|               | PM2.5           | DustTrak   | 6             | 6               | 0.023 mg/m <sup>3</sup> | 0.02 - 0.028 mg/m <sup>3</sup>  |
|               | VOCs            | MultiRAE   | 10            | 0               | -                       | < 0.1 ppm                       |
| FRT-015       | CO              | MultiRAE   | 9             | 0               | -                       | < 1 ppm                         |
|               | PM2.5           | AM520      | 9             | 9               | 0.032 mg/m <sup>3</sup> | 0.007 - 0.051 mg/m <sup>3</sup> |
|               | VOCs            | MultiRAE   | 9             | 0               | -                       | < 0.1 ppm                       |

<sup>1</sup>Maximum detections preceded by the "<" symbol are considered non-detections below the limit of detection (LoD) value to the right.

<sup>2</sup>Particulate matter averages are provided for additional context. Due to the uneven temporal distribution of particulate matter monitoring data at these locations, averages may be biased and are not directly comparable to National Ambient Air Quality Standards (NAAQS).

## 4.0 Weather Conditions

**Attachment B** contains a wind rose depicting wind speed and direction for this reporting period.

# Attachment A

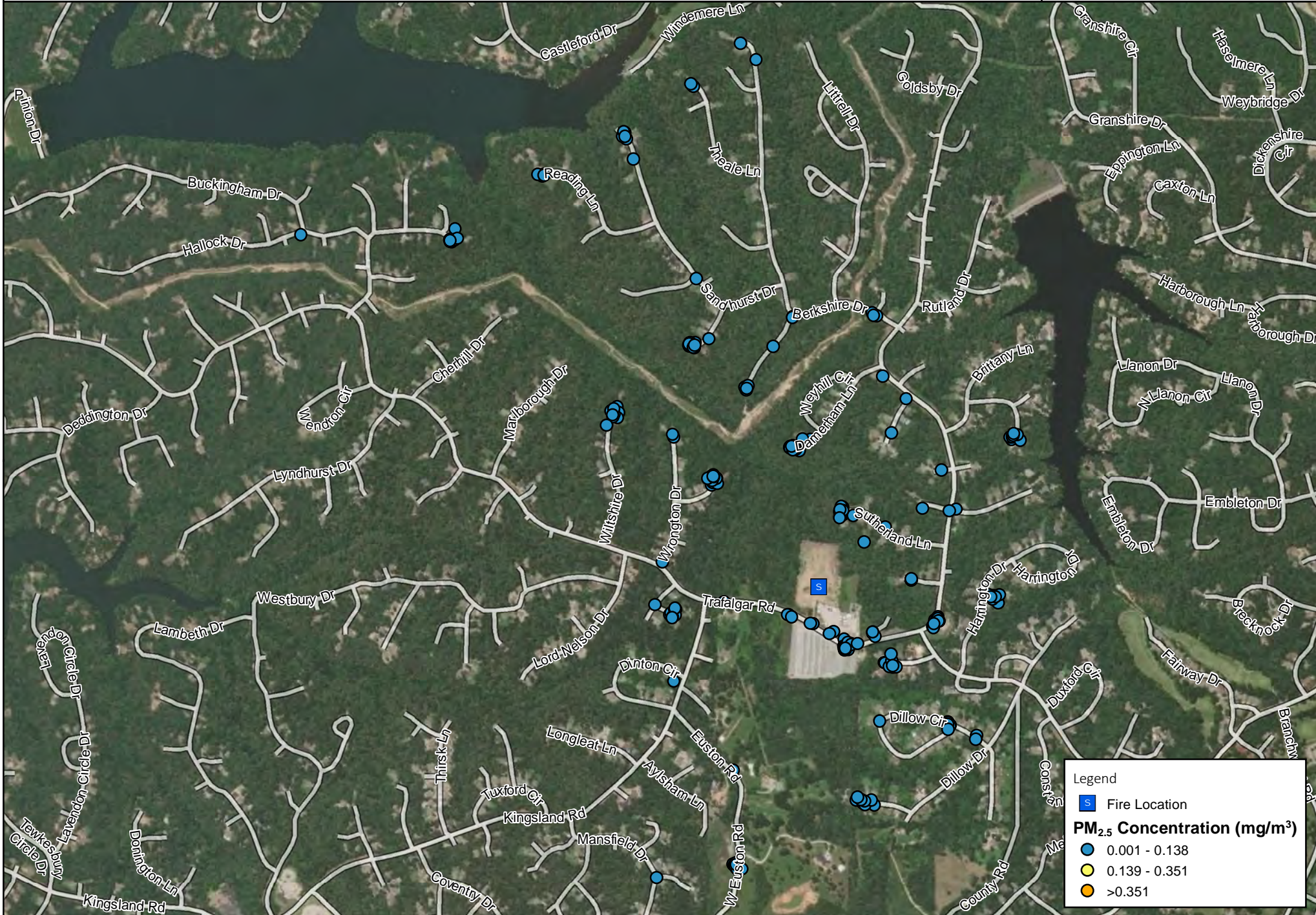
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## CTEH Air Sampling and Monitoring Locations

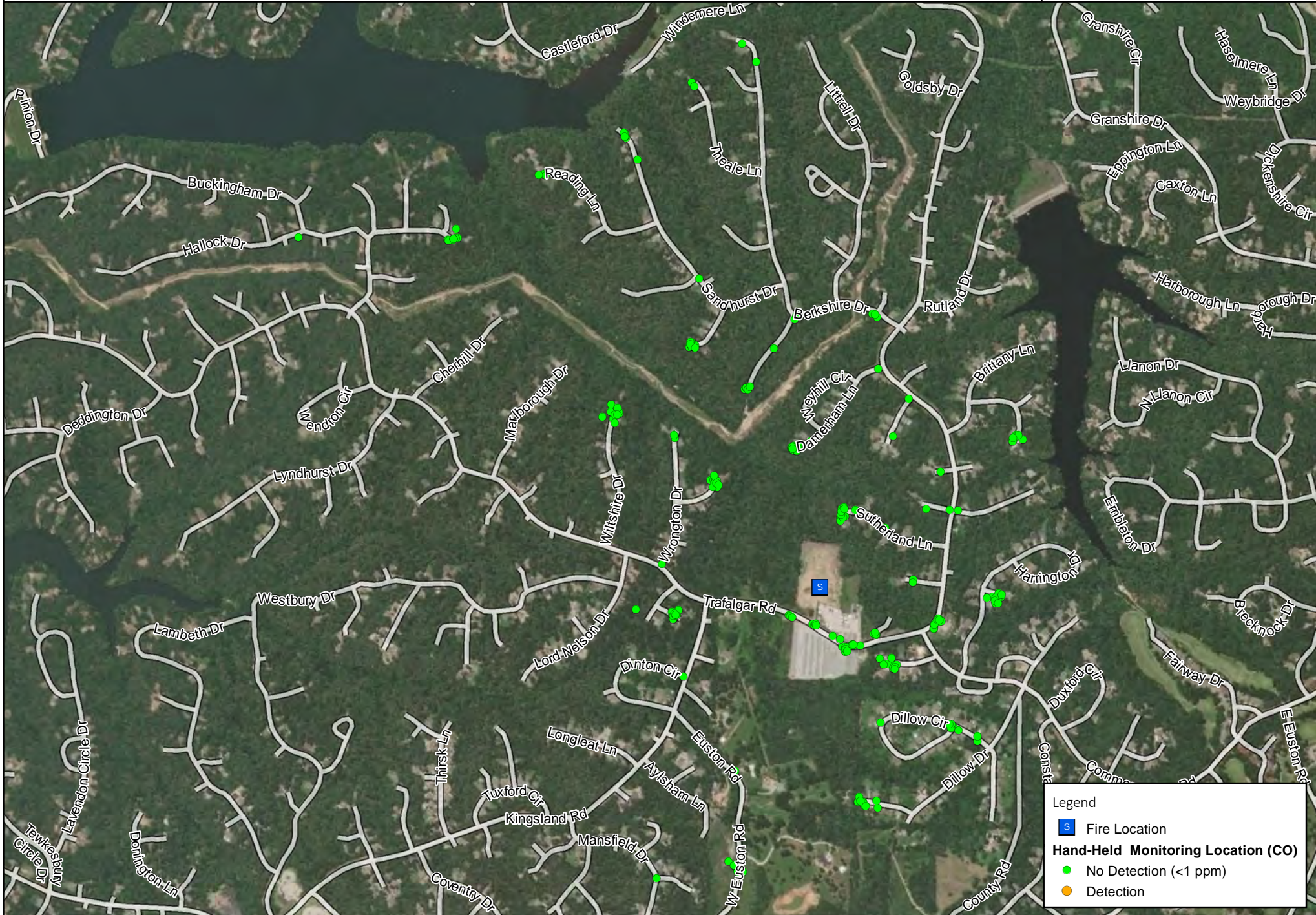








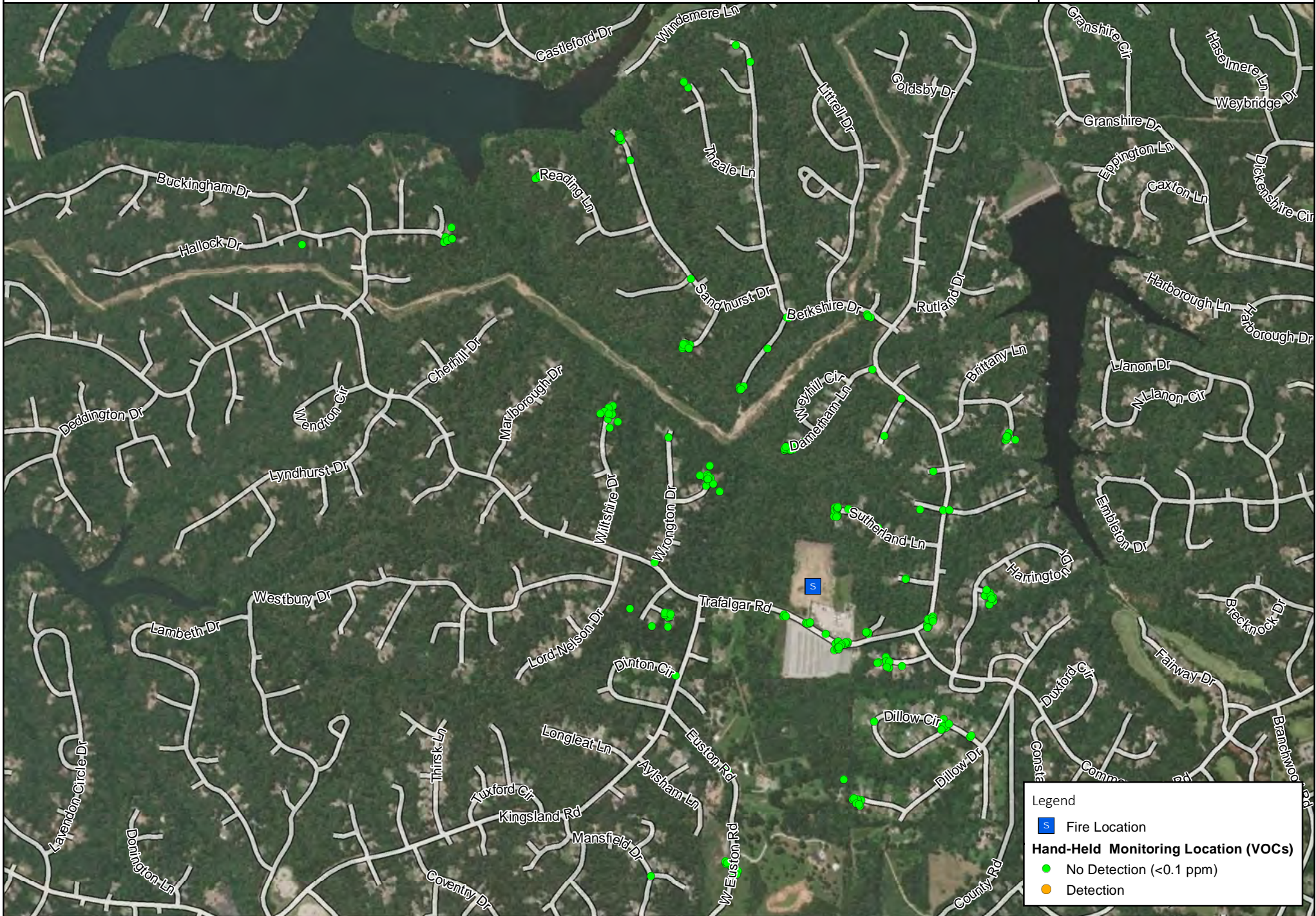




Legend

- Fire Location
- Hand-Held Monitoring Location (CO)**
  - No Detection (<1 ppm)
  - Detection





Legend

- Fire Location
- Hand-Held Monitoring Location (VOCs)**
  - No Detection (<0.1 ppm)
  - Detection





# Attachment B

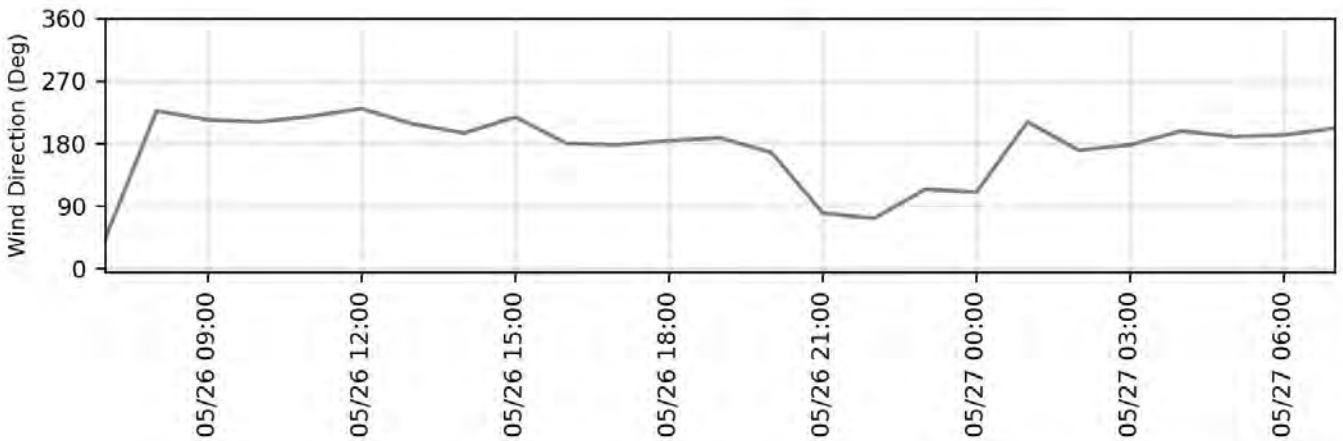
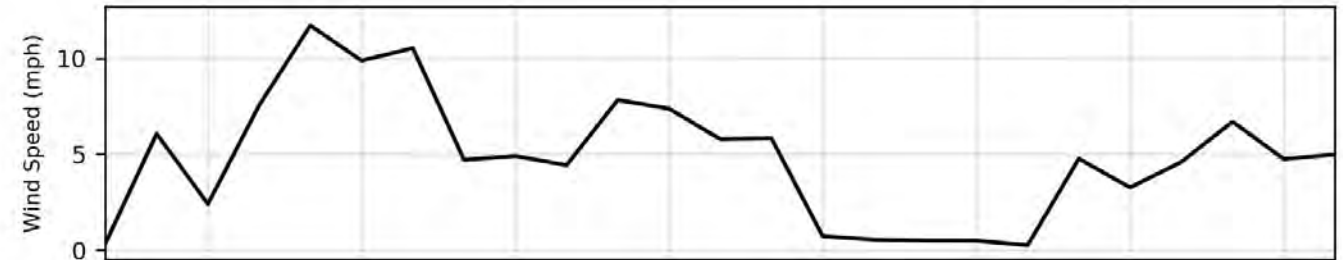
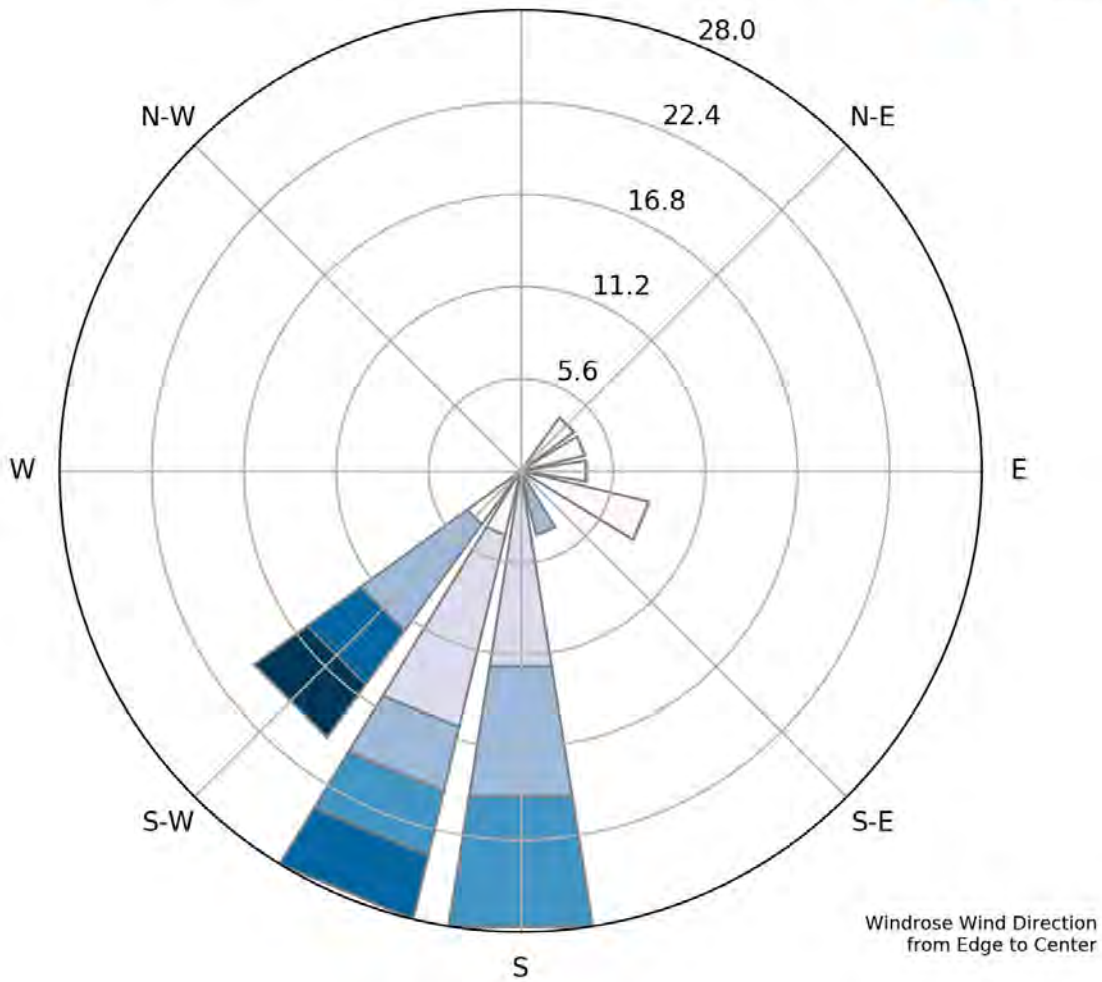
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## Meteorological Conditions



Project #111327  
 May 26, 2019 07:00 to May 27, 2019 07:00  
 N

- 0.3 - 2.5 mph
- 2.5 - 4.8 mph
- 4.8 - 7.1 mph
- 7.1 - 9.4 mph
- 9.4 - 11.7 mph



\*Wind bearing shown as "blowing from"  
 \*Data Provided By DarkSky API for 34.80477,-92.351267