CTEH®

THE SCIENCE OF READY℠

# BIOLABS FACILITY FIRE

## Westlake, LA

## Preliminary Daily Air Monitoring Summary

## August 28, 2020

## Project #113436

90043961

## 1.0 Introduction

On August 27, 2020 at approximately 11:00 Central Standard Time (CST), BioLabs requested that CTEH® provide air monitoring and analytical air sampling support in response to a facility fire at the Westlake, LA facility. CTEH® arrived on-site on August 27, 2020 and began real-time air monitoring at 16:00 CST. Analytical air samples for chlorine and volatile organic compounds (VOCs) were deployed throughout the community, at upwind and downwind locations. This report summarizes real-time air monitoring data collected in the work area and community from August 27, 2020 16:15 CST to August 28, 2020 06:00 CST.

## 2.0 Air Monitoring and Sampling Methods

CTEH® developed and implemented an Air Sampling and Analysis Plan (SAP) to document and quantify the potential release of fugitive emissions from the incident. Real-time air monitoring was conducted in accordance with three plans outlined in the SAP: Community Monitoring, Work Area Monitoring, and Site Assessment Monitoring. Community Monitoring was conducted in areas beyond the work area including residential areas and businesses. Work Area Monitoring was conducted in areas where workers were actively involved in response operations. Unlike Community and Work Area Monitoring, Site Assessment Monitoring does not necessarily represent ambient air monitoring near breathing zone level. Site Assessment may involve a variety of different monitoring tasks intended to provide information that may help to delineate the nature and extent of the release.

CTEH personnel conducted real-time air monitoring in the community and work area for chlorine ($Cl_2$), carbon monoxide (CO), atmospheric flammability measured as the percentage of the lower explosive limit (%LEL), nitrogen dioxide ($NO_2$), oxygen ($O_2$), particulate matter ($PM_{2.5}$), sulfur dioxide ($SO_2$), and volatile organic compounds (VOCs), and using handheld instruments including RAE Systems MultiRAEs, Gastec colorimetric detection tubes, AM520s and AM510s.

All instrumentation was calibrated at least once per day or per manufacturer's recommendations. Roaming air monitoring was generally performed in work areas in the presence of workers performing/supporting mitigation and remediation operations with handheld instruments.

## 3.0 Air Monitoring Results

**Attachment A** provides maps of the locations of handheld air monitoring locations in the community and work area. **Table 1** summarizes the results of handheld air monitoring.

**Table 1: Handheld Real-Time Air Monitoring Results**

| Location Category | Analyte | Instrument | # of Readings | # of Detections | Range* |
|---|---|---|---|---|---|
| Community | $Cl_2$ | Gastec #8LA | 40 | 1 | 0.5 ppm |
| | CO | Gastec #1LC | 3 | 0 | < 0.5 ppm |
| | | MultiRAE | 11 | 0 | < 1 ppm |
| | $NO_2$ | Gastec #9L | 10 | 0 | <0.1 ppm |
| | $PM_{2.5}$ | AM510 | 1 | 1 | 0.009 mg/m$^3$ |
| | | AM520 | 51 | 51 | 0.004 – 1.261 mg/m$^3$ |
| | $SO_2$ | Gastec #5LB | 6 | 0 | < 0.01 ppm |
| | VOCs | MultiRAE | 45 | 3 | 0.1 – 0.2 ppm |
| Work Area Monitoring | $Cl_2$ | MultiRAE | 16 | 1 | 1.2 ppm |
| | %LEL | MultiRAE | 16 | 0 | < 1 % |
| | $NO_2$ | Gastec #9L | 1 | 0 | < 0.1 ppm |
| | | MultiRAE | 14 | 0 | < 0.1 ppm |
| | $O_2$ | MultiRAE | 16 | 15 | 20.9 % |
| | $PM_{2.5}$ | AM510 | 2 | 2 | 0.008 – 0.014 mg/m$^3$ |
| | $PM_{2.5}$ | AM520 | 16 | 16 | 0.017 – 0.098 mg/m$^3$ |
| | $SO_2$ | Gastec #5LB | 11 | 2 | 0.5 ppm |
| | VOCs | MultiRAE | 16 | 0 | < 1.0 ppm |

* If no detection was observed, the instrument detection limit preceded by a "<" symbol is listed. These data have not undergone QAQC and should be considered preliminary at this time. †Volatile organic compounds.

## 4.0 Weather Conditions

**Attachment B** contains wind roses depicting wind speed and direction for this reporting period. Data were acquired from the Chennault International meteorological stations. Chennault International Station is located on 3650 Sen J Bennett Johnston Ave., approximately 10 miles southeast of the incident site. Notably, several meteorological stations were not operational throughout the entire reporting period, so the wind rose illustrated here may not be inclusive of all wind patterns throughout the day.

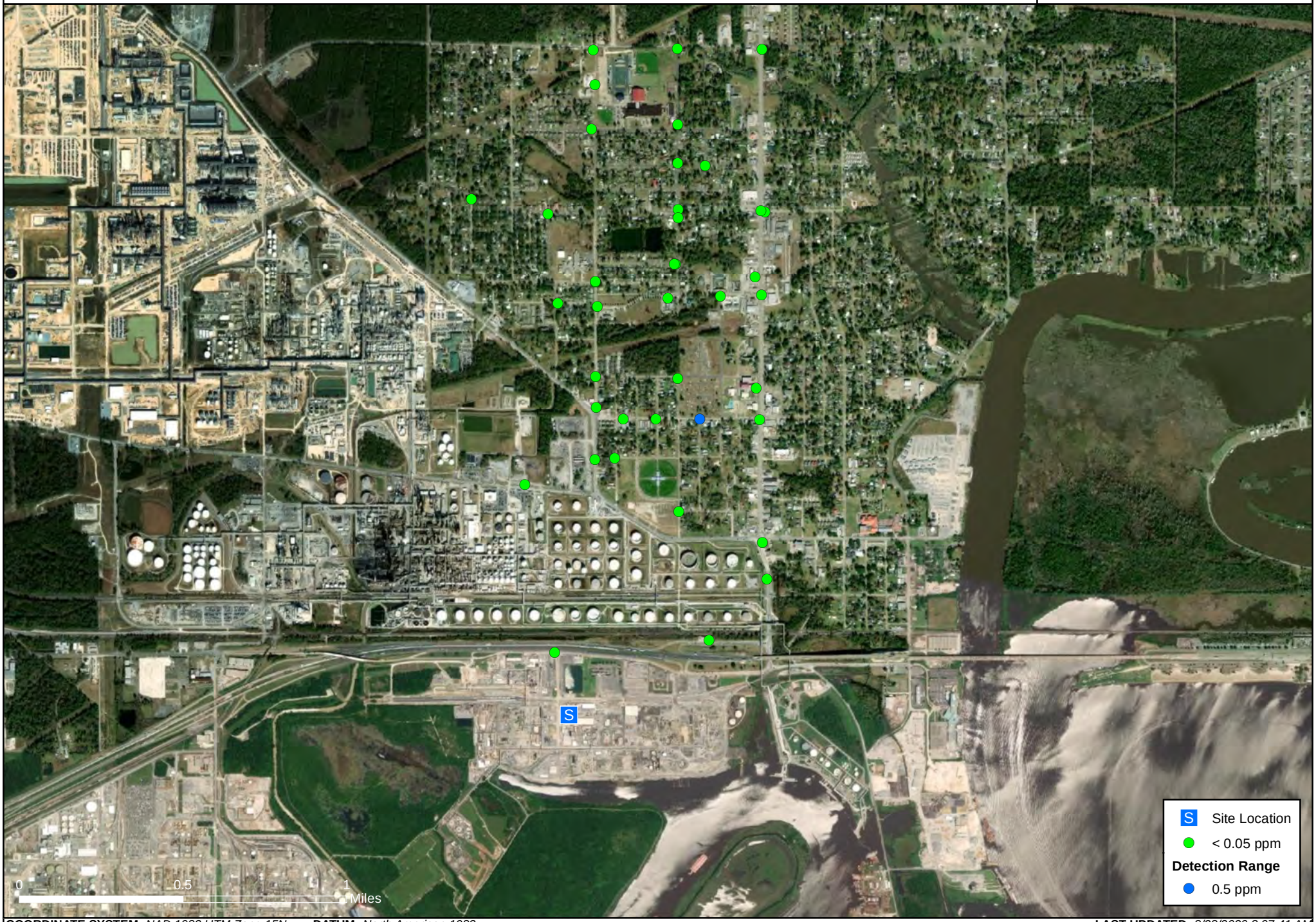
# Attachment A

## CTEH Air Monitoring Locations

# Handheld Real-Time Community Monitoring Locations (Cl2)

BioLabs Fire l Westlake, LA | 8/27/2020 16:00 - 8/28/2020 06:00 CST

Project:113436
Client: BioLab
City: Westlake, LA
Parish: Calcasieu

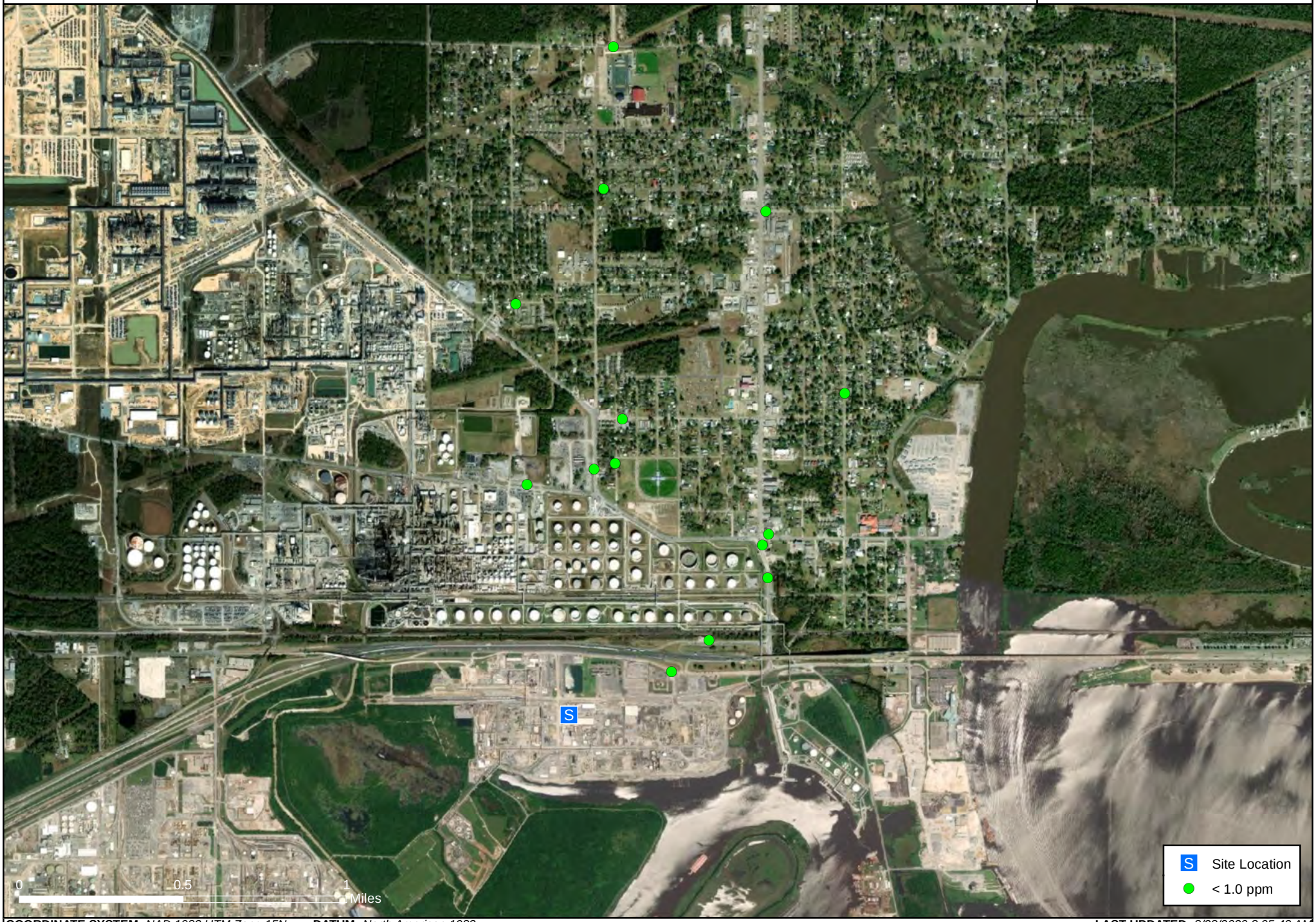



**COORDINATE SYSTEM:** *NAD 1983 UTM Zone 15N* **DATUM:** *North American 1983* **LAST UPDATED:** *8/28/2020 8:07:41 AM*

# Handheld Real-Time Community Monitoring Locations (CO)

BioLabs Fire l Westlake, LA | 8/27/2020 16:00 - 8/28/2020 06:00 CST

Project:113436
Client: BioLab
City: Westlake, LA
Parish: Calcasieu

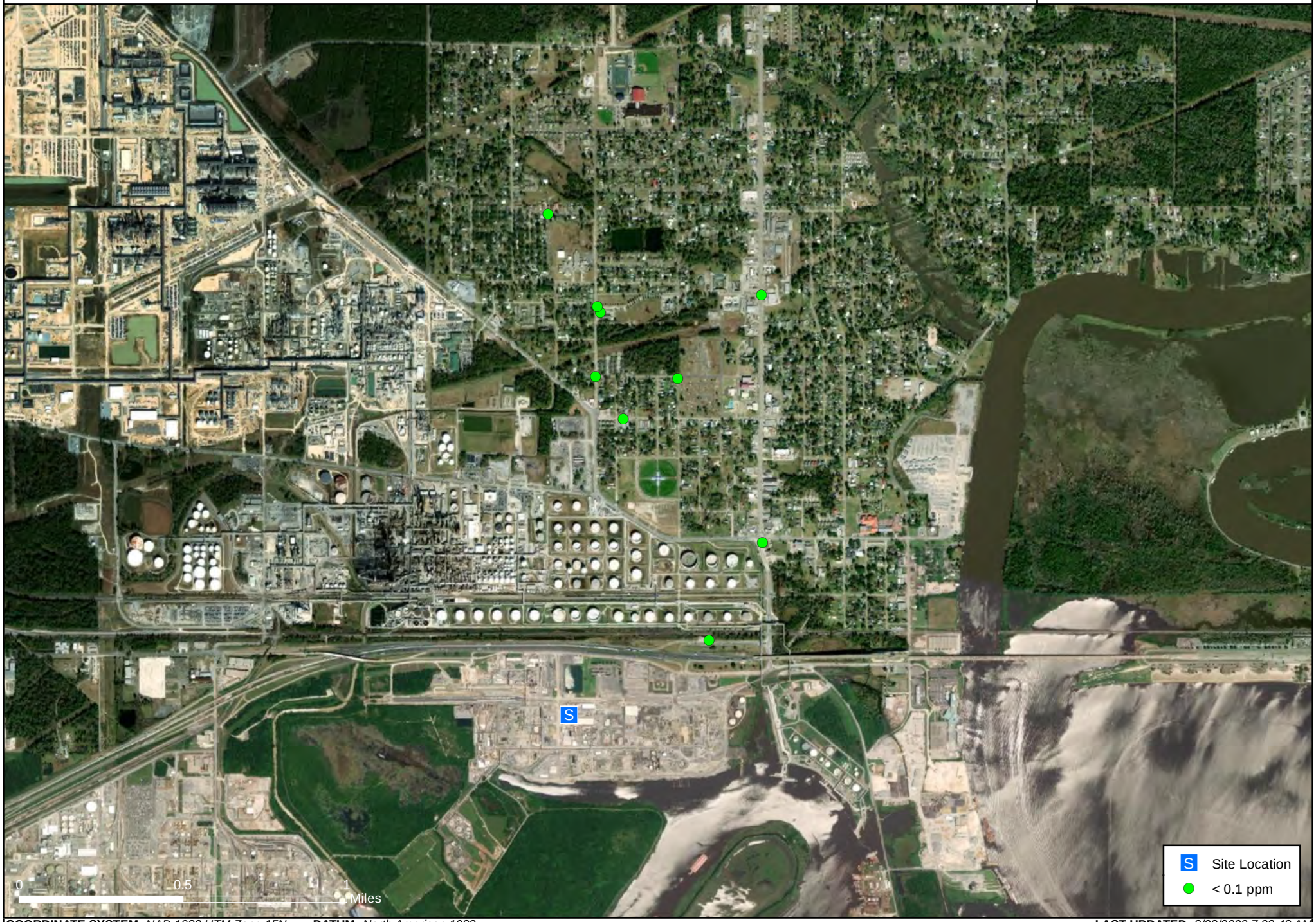



**COORDINATE SYSTEM:** *NAD 1983 UTM Zone 15N* **DATUM:** *North American 1983* **LAST UPDATED:** *8/28/2020 8:05:42 AM*

# Handheld Real-Time Community Monitoring Locations (NO2)

BioLabs Fire l Westlake, LA | 8/27/2020 16:00 - 8/28/2020 06:00 CST

Project:113436
Client: BioLab
City: Westlake, LA
Parish: Calcasieu

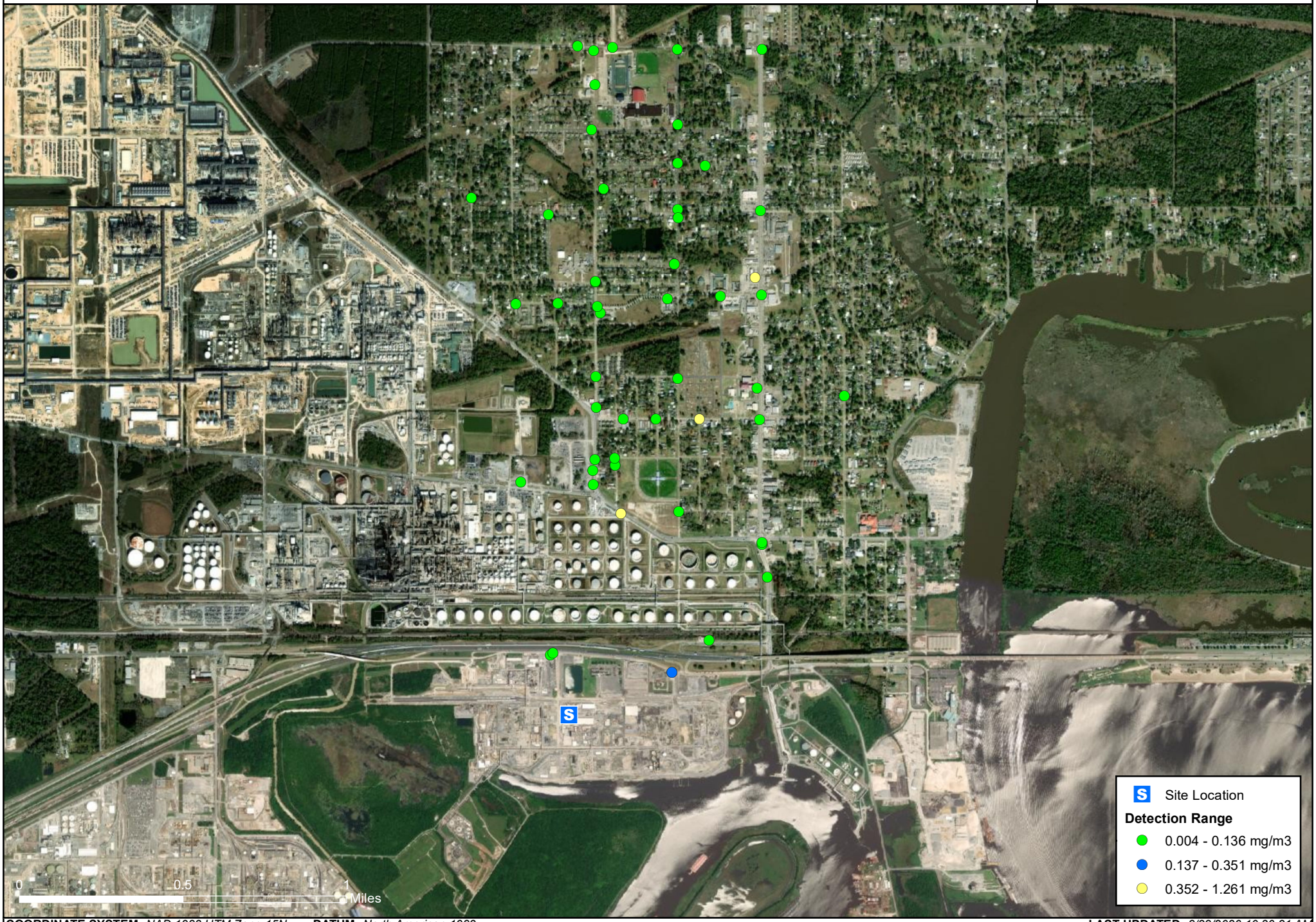



**COORDINATE SYSTEM:** *NAD 1983 UTM Zone 15N* **DATUM:** *North American 1983* **LAST UPDATED:** *8/28/2020 7:33:48 AM*

# Handheld Real-Time Community Monitoring Locations (PM2.5)

BioLabs Fire l Westlake, LA | 8/27/2020 16:00 - 8/28/2020 06:00 CST

Project:113436
Client: BioLab
City: Westlake, LA
Parish: Calcasieu

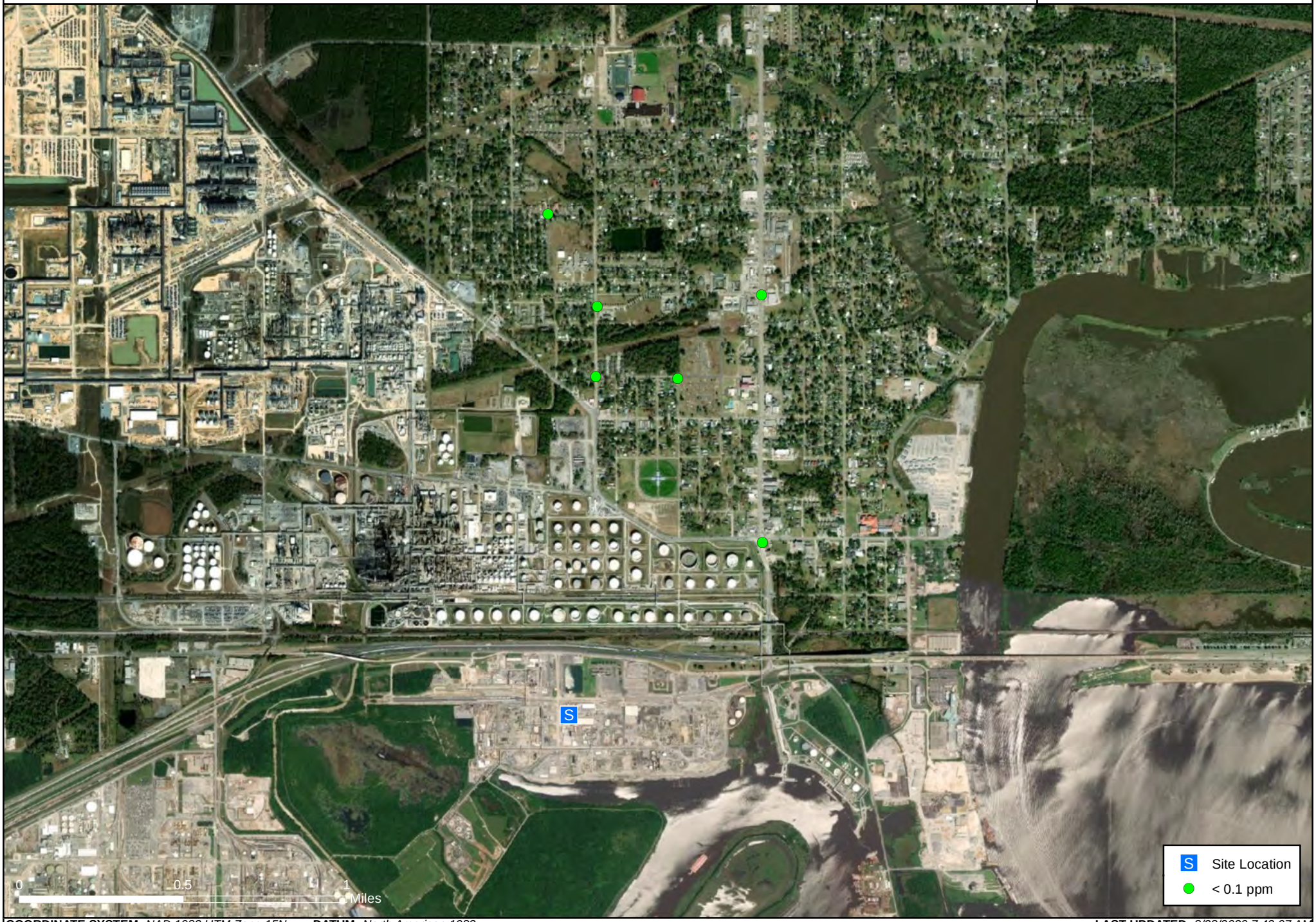



**COORDINATE SYSTEM:** *NAD 1983 UTM Zone 15N* **DATUM:** *North American 1983* **LAST UPDATED:** *8/28/2020 10:30:21 AM*

# Handheld Real-Time Community Monitoring Locations (SO2)

BioLabs Fire l Westlake, LA | 8/27/2020 16:00 - 8/28/2020 06:00 CST

Project:113436
Client: BioLab
City: Westlake, LA
Parish: Calcasieu

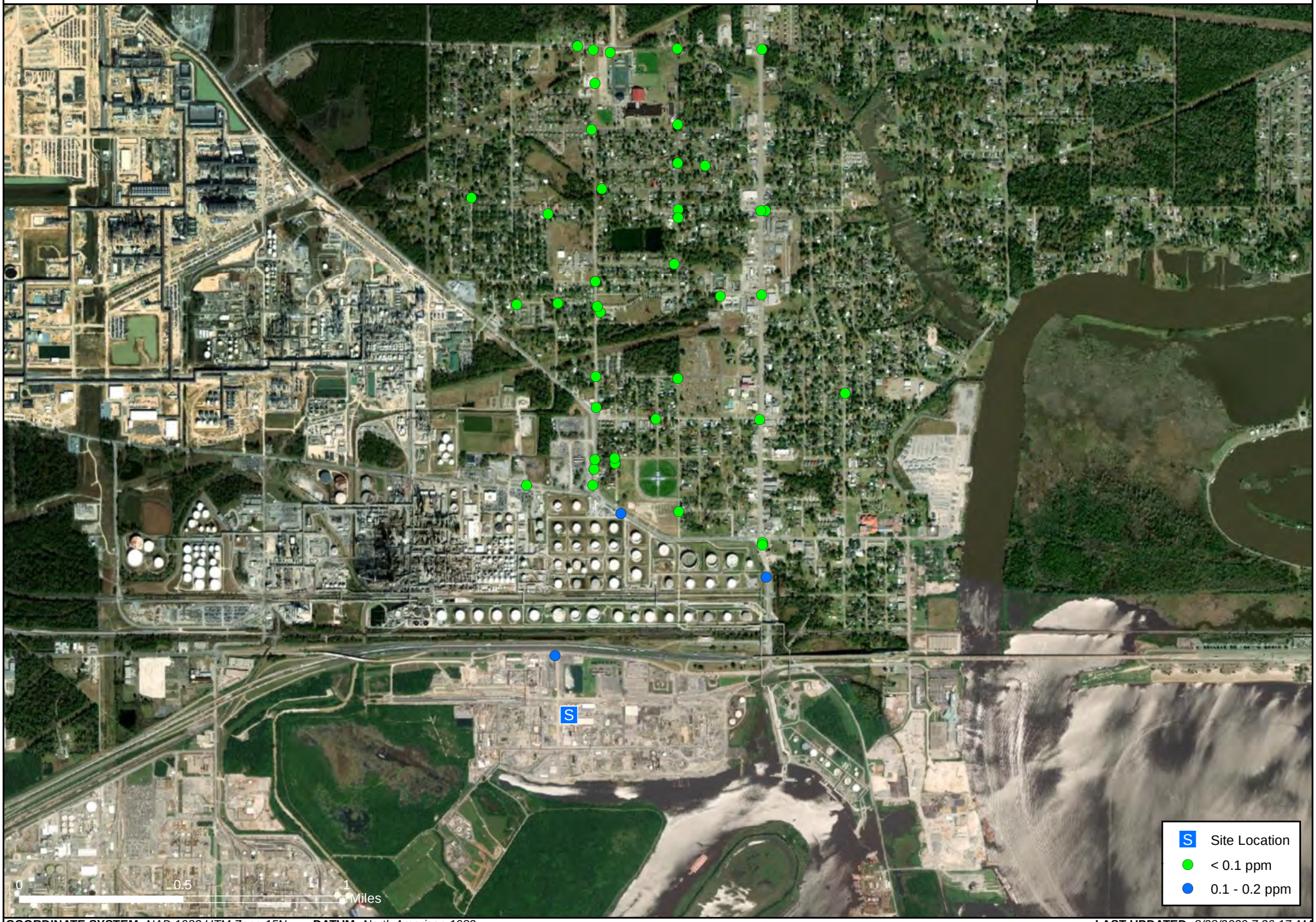



**COORDINATE SYSTEM:** *NAD 1983 UTM Zone 15N* **DATUM:** *North American 1983* **LAST UPDATED:** *8/28/2020 7:42:07 AM*

# Handheld Real-Time Monitoring Community Locations (VOCs)

BioLabs Fire l Westlake, LA | 8/27/2020 16:00 - 8/28/2020 06:00 CST

Project:113436
Client: BioLab
City: Westlake, LA
Parish: Calcasieu




**COORDINATE SYSTEM:** *NAD 1983 UTM Zone 15N* **DATUM:** *North American 1983* **LAST UPDATED:** *8/28/2020 7:36:17 AM*

# Handheld Real-Time Work Area Monitoring Locations (Cl2)

BioLabs Fire l Westlake, LA | 8/27/2020 16:00 - 8/28/2020 06:00 CST

Project:113436
Client: BioLab
City: Westlake, LA
Parish: Calcasieu

**COORDINATE SYSTEM:** *NAD 1983 UTM Zone 15N* **DATUM:** *North American 1983* **LAST UPDATED:** *8/28/2020 8:29:18 AM*

# Handheld Real-Time Monitoring Locations (%LEL)

BioLabs Fire l Westlake, LA | 8/27/2020 16:00 - 8/28/2020 06:00 CST

Project:113436
Client: BioLab
City: Westlake, LA
Parish: Calcasieu

**COORDINATE SYSTEM:** *NAD 1983 UTM Zone 15N* **DATUM:** *North American 1983* **LAST UPDATED:** *8/28/2020 8:00:01 AM*

# Handheld Real-Time Work Area Monitoring Locations (NO2)

BioLabs Fire l Westlake, LA | 8/27/2020 16:00 - 8/28/2020 06:00 CST

Project:113436
Client: BioLab
City: Westlake, LA
Parish: Calcasieu

**COORDINATE SYSTEM:** *NAD 1983 UTM Zone 15N* **DATUM:** *North American 1983* **LAST UPDATED:** *8/28/2020 7:34:52 AM*

# Handheld Real-Time Monitoring Locations (O2)

BioLabs Fire l Westlake, LA | 8/27/2020 16:00 - 8/28/2020 06:00 CST

Project:113436
Client: BioLab
City: Westlake, LA
Parish: Calcasieu

**COORDINATE SYSTEM:** *NAD 1983 UTM Zone 15N* **DATUM:** *North American 1983* **LAST UPDATED:** *8/28/2020 8:26:06 AM*

# Handheld Real-Time Work Area Monitoring Locations (PM2.5)

BioLabs Fire l Westlake, LA | 8/27/2020 16:00 - 8/28/2020 06:00 CST

Project:113436
Client: BioLab
City: Westlake, LA
Parish: Calcasieu

**COORDINATE SYSTEM:** *NAD 1983 UTM Zone 15N* **DATUM:** *North American 1983* **LAST UPDATED:** *8/28/2020 7:54:29 AM*

# Handheld Real-Time Work Area Monitoring Locations (SO2)

BioLabs Fire l Westlake, LA | 8/27/2020 16:00 - 8/28/2020 06:00 CST

Project:113436
Client: BioLab
City: Westlake, LA
Parish: Calcasieu

**COORDINATE SYSTEM:** *NAD 1983 UTM Zone 15N* **DATUM:** *North American 1983* **LAST UPDATED:** *8/28/2020 7:39:16 AM*

# Handheld Real-Time Work Area Monitoring Locations (VOCs)

BioLabs Fire l Westlake, LA | 8/27/2020 16:00 - 8/28/2020 06:00 CST

Project:113436
Client: BioLab
City: Westlake, LA
Parish: Calcasieu

**COORDINATE SYSTEM:** *NAD 1983 UTM Zone 15N* **DATUM:** *North American 1983*

**LAST UPDATED:** *8/28/2020 7:37:01 AM*

# Attachment B

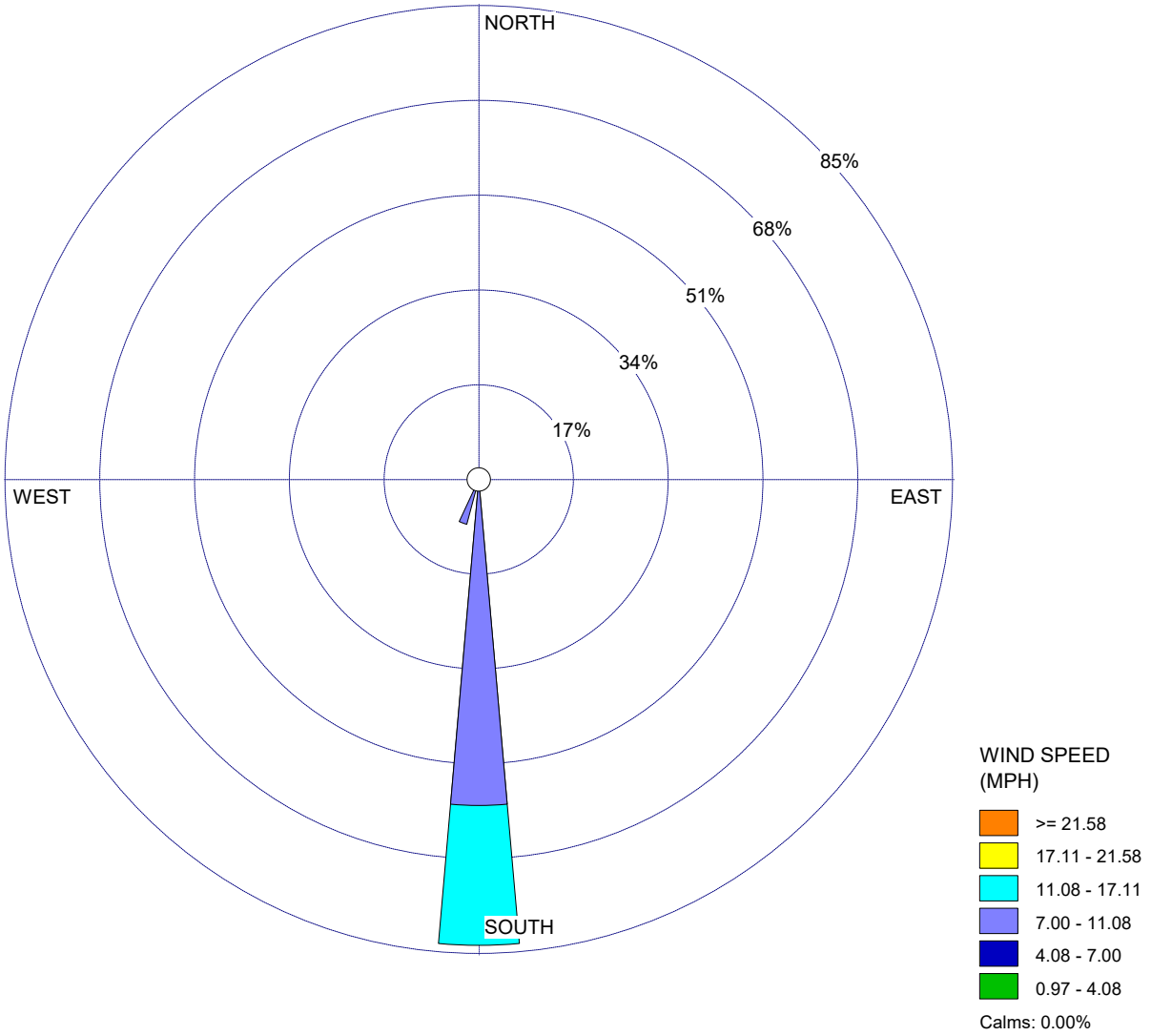
# Meteorological Conditions

WIND ROSE PLOT:

**Station #CHENNAULT INTL STATION**

DISPLAY:

**Wind Speed**
**Direction (blowing from)**




| COMMENTS: | DATA PERIOD: | COMPANY NAME: | |
|---|---|---|---|
| | **Start Date: 8/27/2020 - 19:00**<br>**End Date: 8/28/2020 - 06:00** | MODELER: | |
| | CALM WINDS:<br>**0.00%** | TOTAL COUNT:<br>**11 hrs.** | |
| | AVG. WIND SPEED:<br>**9.27 MPH** | DATE:<br>**8/28/2020** | PROJECT NO.:<br>**113436** |

WRPLOT View - Lakes Environmental Software