

The logo for CTEH, featuring the letters 'CTEH' in a bold, white, sans-serif font with a registered trademark symbol (®) to the upper right. The text is set against a dark blue rectangular background. A decorative graphic of light blue, wavy, vertical lines is on the left side of the page.

CTEH[®]

THE SCIENCE OF READYSM

INTERCONTINENTAL TERMINALS COMPANY - TANK FIRE

Preliminary Data Summary

Deer Park, TX

March 20, 2019

Project #111356

1.0 Introduction

On March 17, 2019 Intercontinental Terminals Company (ITC) requested that CTEH® conduct air monitoring in the surrounding community after a tank fire at the Deer Park, TX terminal. CTEH® arrived on-site on March 17, 2019 and began air monitoring and air sampling operations. This report summarizes air monitoring data collected from March 17, 2019 17:02 CDT to March 20, 2019 09:00 CDT.

2.0 Air Monitoring and Sampling Methods

CTEH® developed and implemented an Air Sampling and Analysis Plan (SAP) to document and quantify the release of fugitive emissions, if any, from the fire at ground level. All instrumentation was calibrated at least once per day or per manufacturer's recommendations. Target analytes were measured as listed in **Table 1**, below. Hand-held air monitoring consisted of roaming air monitoring in the surrounding community. All hand-held air monitoring was conducted in the breathing zone.

CTEH® has also collected analytical air samples for a suite of volatile organic compounds (VOCs) at 4 locations in the surrounding area. These samples will be sent to a 3rd-party laboratory for rush chemical analysis.

3.0 Air Monitoring Results

Attachment A depicts the site location and hand-held monitoring locations for this reporting period.

Table 1 summarizes the results for community hand-held air monitoring readings.

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

Analyte	Instrument	No. Readings	No. Detections	Range ¹	Action Level Value*	Basis for Action Level
Benzene	Gastec #121L	7	0	< 0.05 ppm	2.25ppm	¼ EPA 8hr AEGL-1
	UltraRAE	434	0	< 0.05 ppm	2.25ppm	¼ EPA 8hr AEGL-1
Carbon Monoxide	MultiRAE	106	0	< 1 ppm	25ppm	½ TEEL-O
Formaldehyde	Gastec #91L	1	0	< 0.05 ppm	0.45ppm	½ EPA 8hr AEGL-1
Hexane	Gastec #102L	15	0	< 1 ppm	25ppm	½ DOE SCAPA TEEL-O Value
Hydrogen Sulfide	Gastec #4LL	25	0	< 0.1 ppm	0.25ppm	½ PAC-1 Value
	MultiRAE	290	0	< 0.1 ppm	0.25ppm	½ PAC-1 Value
LEL	MultiRAE	456	0	< 1 %	1% (2.5% corrected value)	Elevated LEL

Analyte	Instrument	No. Readings	No. Detections	Range ¹	Action Level Value*	Basis for Action Level
Naphtha	Gastec #106	71	0	< 0.1 mg/L	50ppm	½ DOE SCAPA TEEL-0 Value
Naphthalene	Gastec #60	48	0	< 0.1 ppm	5ppm	½ ACGIH TLV-TWA
Nitrogen Dioxide	Gastec #9L	31	0	< 0.1 ppm	0.25ppm	½ EPA 8hr AEGL-1
	MultiRAE	134	0	< 0.1 ppm	0.25ppm	½ EPA 8hr AEGL-1
Oxygen	MultiRAE	235	235	20.90%	19.5%	
	AM510	330	330	0.001 - 0.472 mg/m ³	0.138 mg/m ³	Wildfire Smoke Guidelines for 1 hr. avg. upper-bound breakpoint for unhealthy or sensitive groups AQI
PM2.5						
	DustTrak DRK	5	5	0.019 - 0.029 mg/m ³	0.138 mg/m ³	
Sulfur Dioxide	Gastec	2	0	< 0.1 ppm	0.1ppm	½ EPA 8hr AEGL-1
	MultiRAE	128	0	< 0.1 ppm	0.1ppm	½ EPA 8hr AEGL-1
Toluene	Gastec #122L	91	0	< 0.5 ppm	33.5ppm	½ EPA 8hr AEGL-1
VOCs	MultiRAE	527	6	0.1 - 0.7 ppm	0.5ppm	Approximate background level
Xylene	Gastec #123L	106	0	< 1 ppm	65ppm	½ EPA 8hr AEGL-1

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

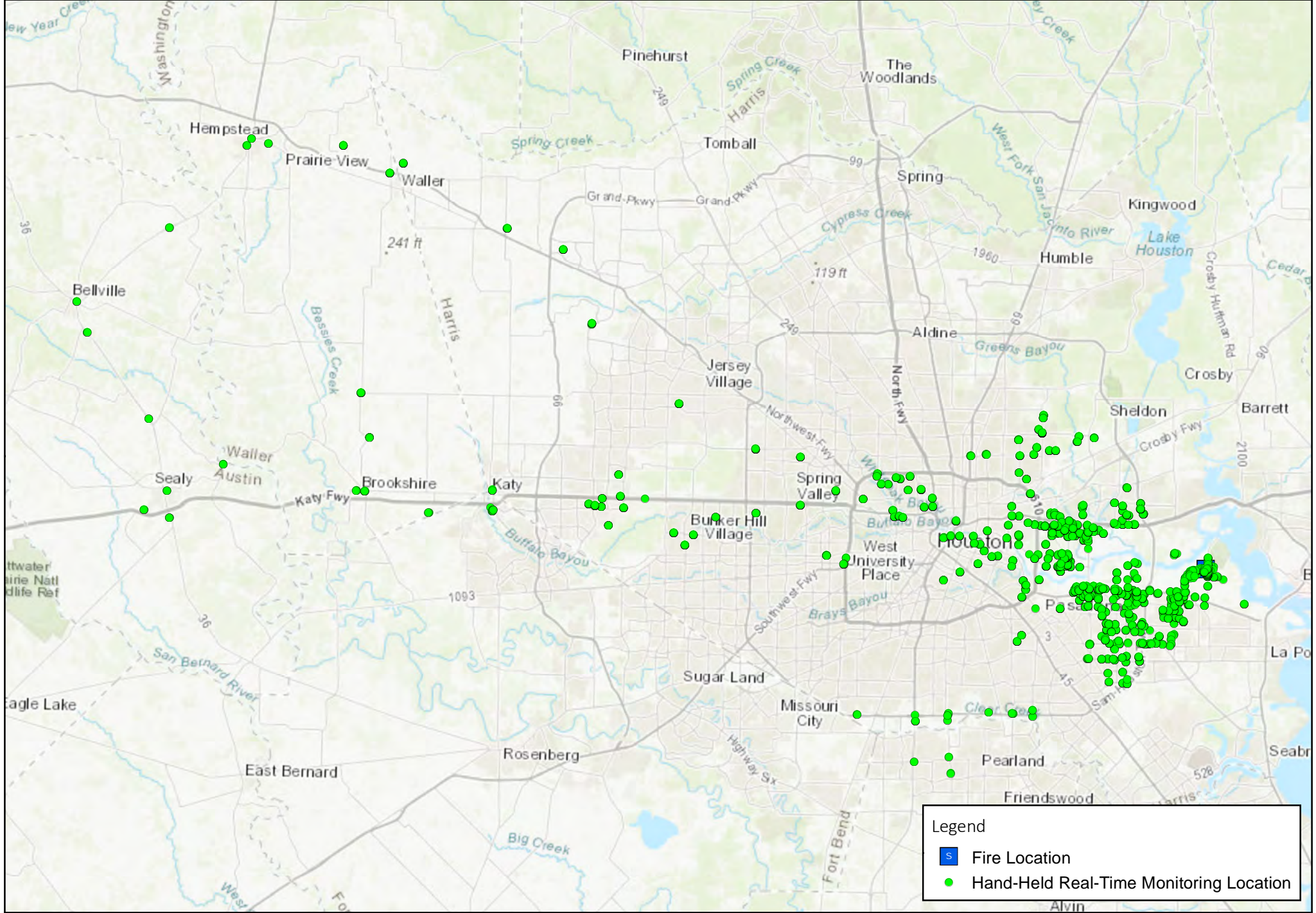
The maximum VOC detection of 0.7 ppm was noted on Independence Parkway at the barricade. A subsequent benzene reading was immediately taken and benzene was not detected. A single elevated detection of PM_{2.5} was observed at the intersection of Market & Port Wall and was associated with nearby construction-related activity. Some additional action levels (i.e., PM_{2.5}) have a time-component associated with them (i.e., sustained over 1 hr. or 8 hrs.). Total VOCs and PM_{2.5} have been below levels that would represent a public health concern.

4.0 Weather Conditions

Attachment B contains a wind rose depicting wind speed and direction for this reporting period. Data was acquired from the Texas Commission on Environmental Quality (TCEQ) Lynchburg Ferry meteorological station located on Tidal Road approximately 2 mi NNE of the fire.

Attachment A

CTEH Monitoring Locations





Attachment B

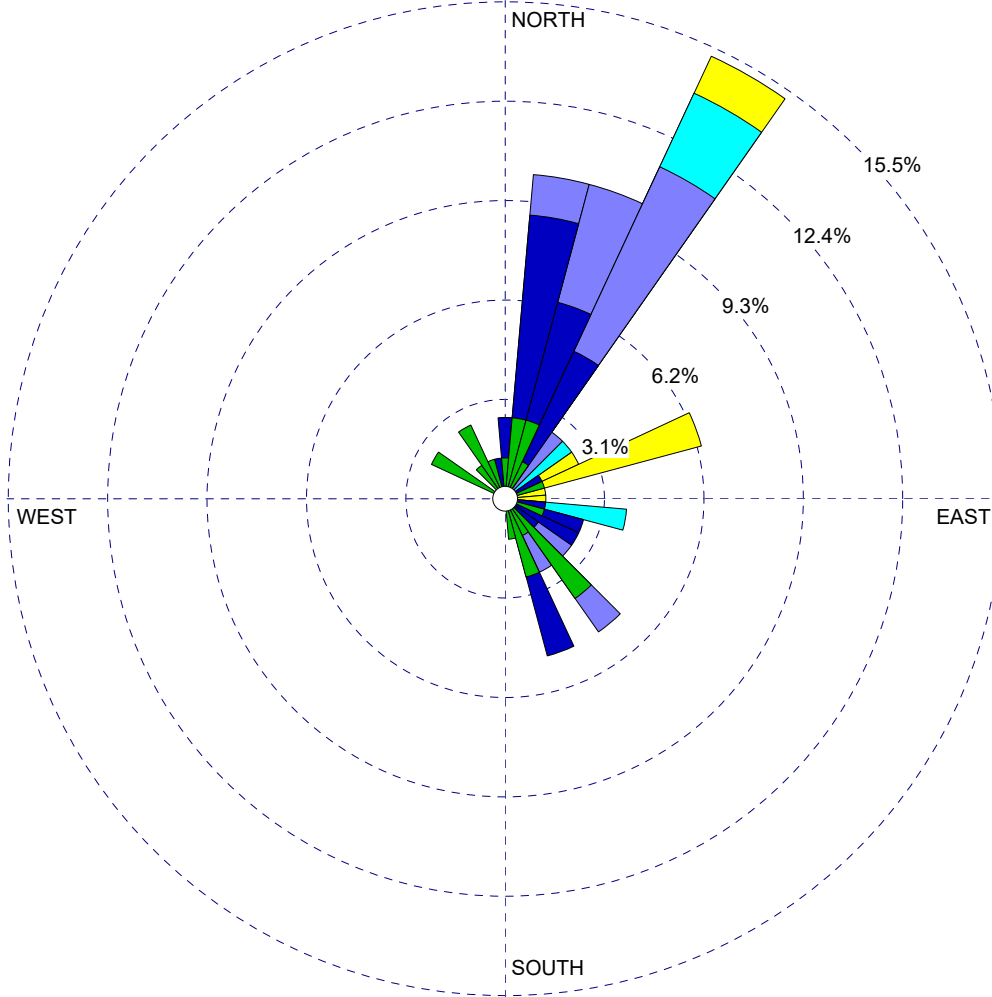
Meteorological Conditions

WIND ROSE PLOT:

Station #Lynchburg Ferry

DISPLAY:

**Wind Speed
Direction (blowing from)**



WIND SPEED
(MPH)

- >= 21.58
 - 9.72 - 21.58
 - 7.78 - 9.72
 - 5.83 - 7.78
 - 3.89 - 5.83
 - 1.94 - 3.89
- Calms: 3.80%

COMMENTS:

DATA PERIOD:

**Start Date: 3/17/2019 - 00:00
End Date: 3/20/2019 - 06:00**

COMPANY NAME:

MODELER:

CALM WINDS:

3.80%

TOTAL COUNT:

73 hrs.

AVG. WIND SPEED:

5.12 MPH

DATE:

3/20/2019

PROJECT NO.:

111356