CTEH®

THE SCIENCE OF READY℠

INTERCONTINENTAL TERMINALS COMPANY - TANK FIRE

Deer Park, TX

March 18, 2019

Project #111356

9963574

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 Deerpark, TX terminal. CTEH® arrived on-site on March 17, 2019 and began air monitoring operations. Activities were comprised of real-time air monitoring.

This report summarizes air monitoring data collected from March 17, 2019 17:02 CDT to March 18, 2019 3:49 CDT.

2.0 Air Monitoring and Sampling Methods

CTEH® developed and implemented an air sampling and analysis work plan (SAP) to document and quantify the release of fugitive emissions from the fire. All instrumentation was calibrated at least once per day or per manufacturer's recommendations. Target analytes were measured as benzene, percent of the lower explosive limit (%LEL), Naphtha, 2.5-Micron particulate matter ($PM_{2.5}$), toluene, volatile organic compounds (VOCs), and Xylene using handheld instruments such as RAE Systems MultiRAEs, TSI SidePak™ AM510 Aerosol Monitors and Gastec GV-100 pumps with chemical-specific colorimetric detection tubes.

Hand-held air monitoring consisted of roaming air monitoring in the surrounding community. All hand-held air monitoring was conducted in the breathing zone.

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	Num Readings	Num Detections	Range[1]
Benzene	Gastec #121L	6	0	< 0.05 ppm
	UltraRAE	27	0	< 0.5 ppm
Hydrogen Sulfide	Gastec #4LL	1	0	< 0.1 ppm
	MultiRAE	14	0	< 0.1 ppm
LEL	MultiRAE	77	0	< 1 %
Naphtha	Gastec #106	17	0	< 0.1 mg/L
Naphthalene	Gastec #60	4	0	< 0.1 ppm
Nitrogen Dioxide	Gastec #9L	1	0	< 0.1 ppm
	MultiRAE	7	0	< 0.1 ppm

Analyte	Instrument	Num Readings	Num Detections	Range[1]
Oxygen	MultiRAE	10	10	20.9 - 20.9 %
PM2.5	AM510	17	17	0.007 - 0.028 mg/m3
Sulfur Dioxide	MultiRAE	5	0	< 0.1 ppm
Toluene	Gastec #122L	8	0	< 0.5 ppm
VOCs	MultiRAE	88	1	0.1 ppm
Xylene	Gastec #123L	22	0	< 1 ppm

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

No detections during this reporting period exceeded the action levels as outlined in the CTEH® SAP. One detection of VOCs was recorded in the community.

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

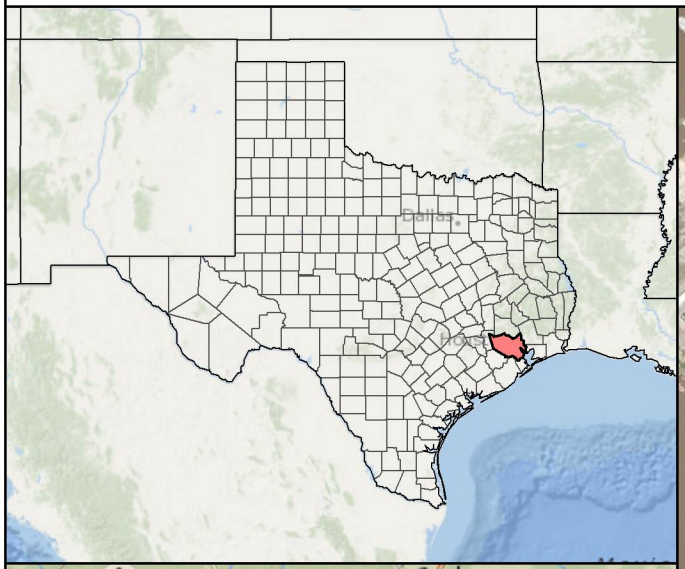
CTEH

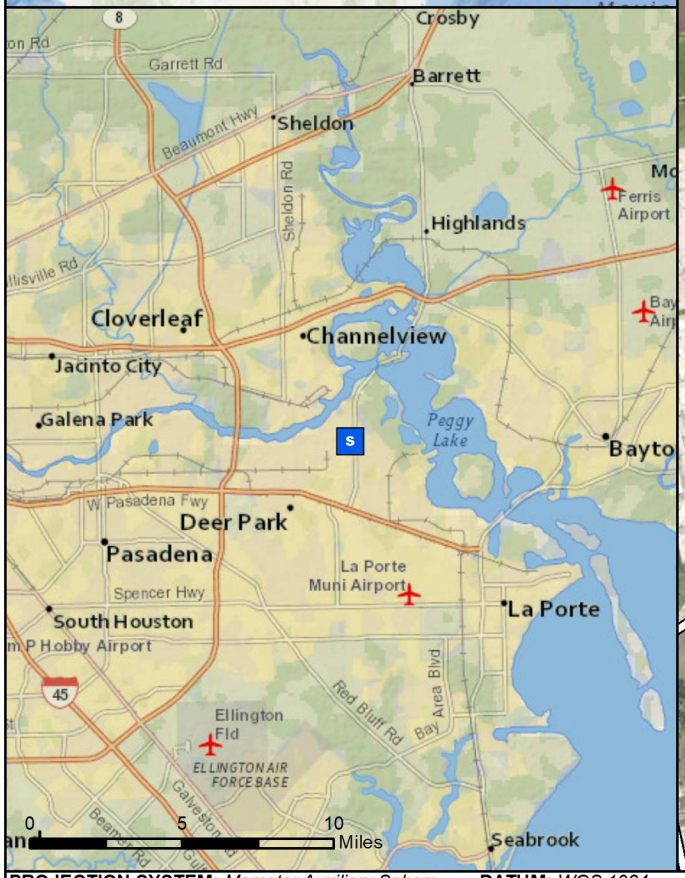
Incident Location

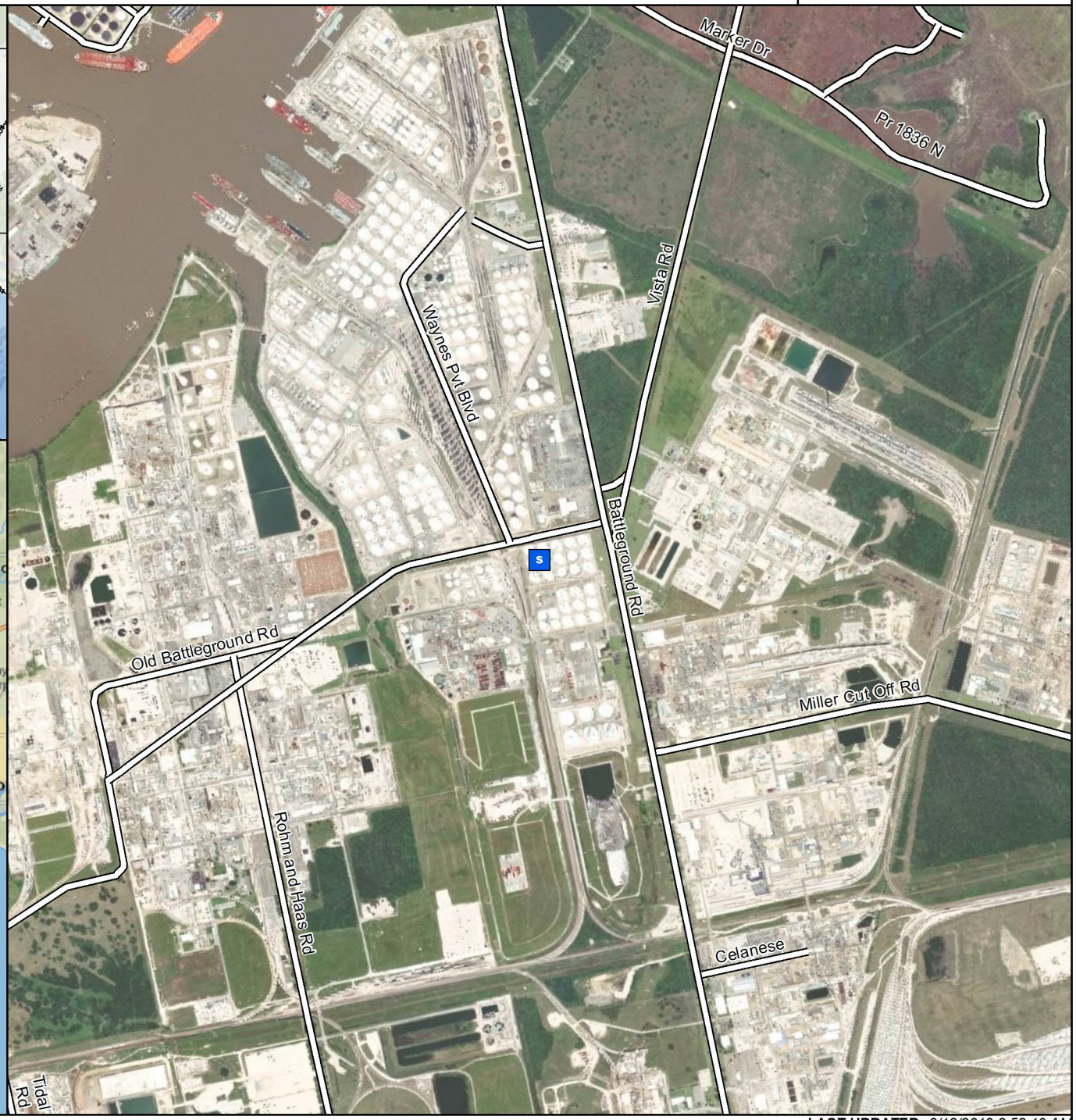
ITC Tank Fire

0 0.25 0.5 1 Miles

Project: 111356
Client: ITC
City: Deerpark, TX
County: Harris







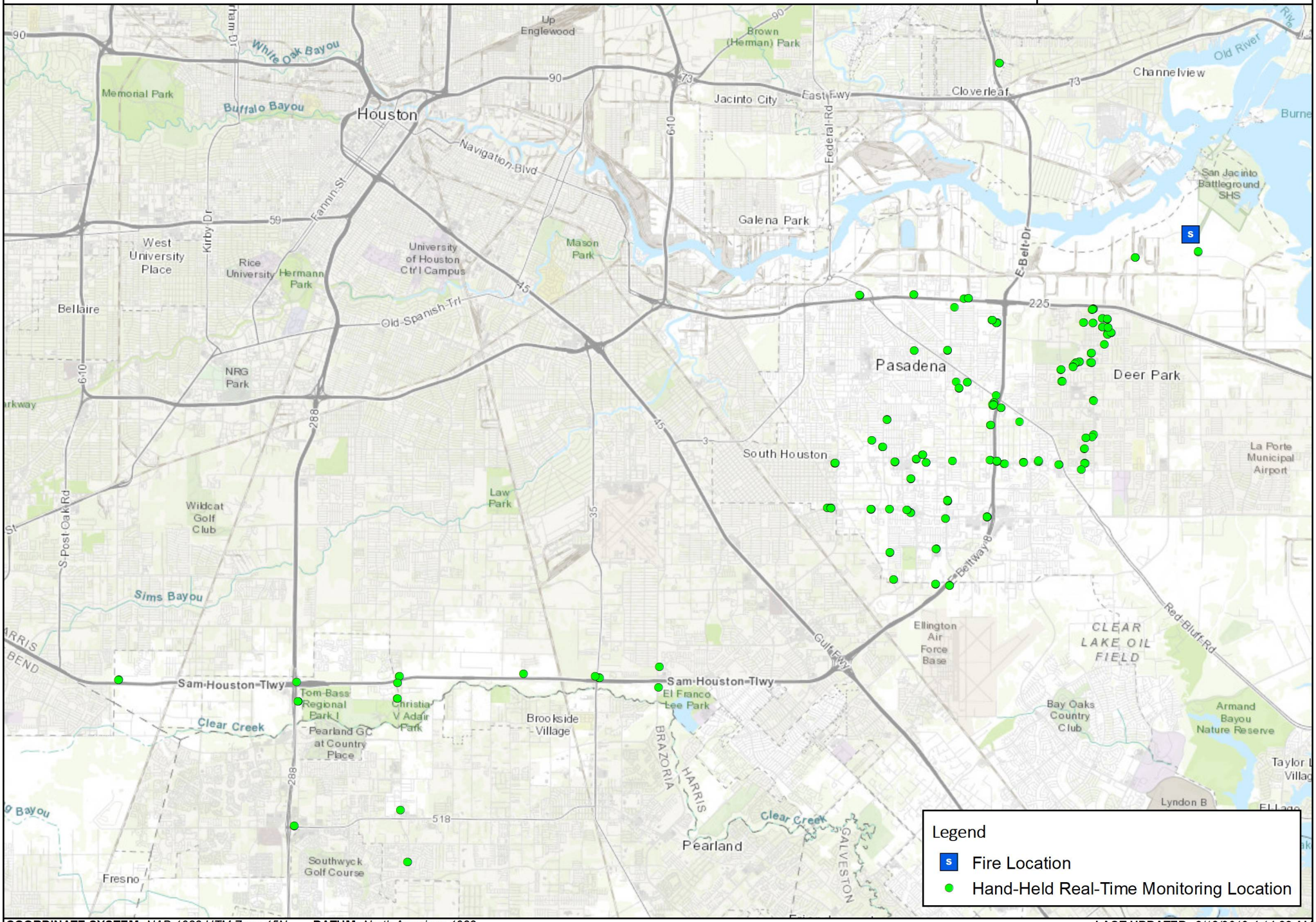
PROJECTION SYSTEM: *Mercator Auxiliary Sphere* **DATUM:** *WGS 1984* **LAST UPDATED:** *3/18/2019 2:58:19 AM*

Hand-Held Real-Time Monitoring Locations

ITC Tank Fire Deerpark, TX

0 2.5 5 Miles

Project:111356
Client: ITC
City: Deerpark, TX
County: Harris



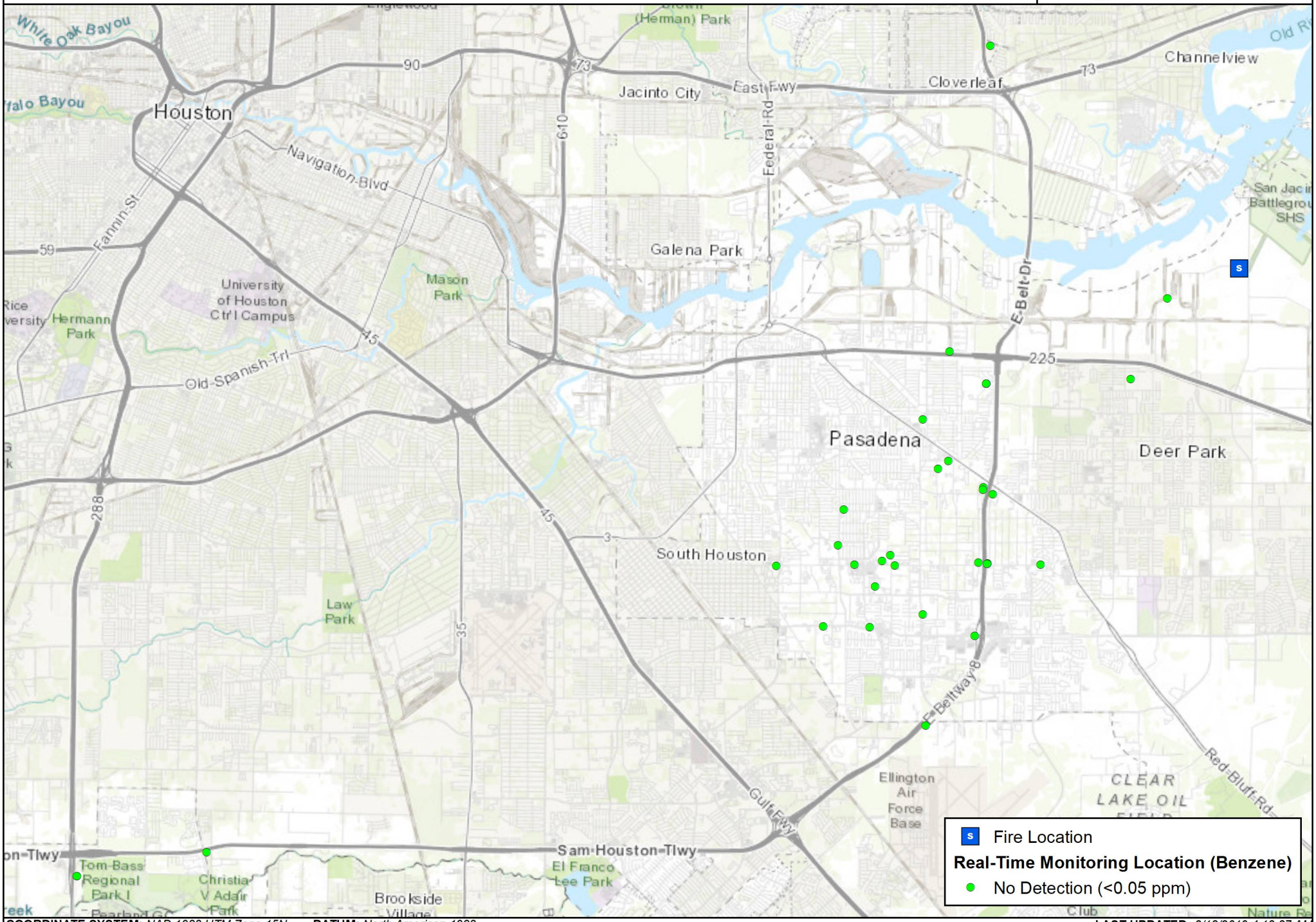
COORDINATE SYSTEM: *NAD 1983 UTM Zone 15N* **DATUM:** *North American 1983* **LAST UPDATED:** *3/18/2019 4:14:22 AM*

Hand-Held Real-Time Monitoring Locations (Benzene)

ITC Tank Fire Deerpark, TX

0 1.5 3 Miles

Project:111356
Client: ITC
City: Deerpark, TX
County: Harris



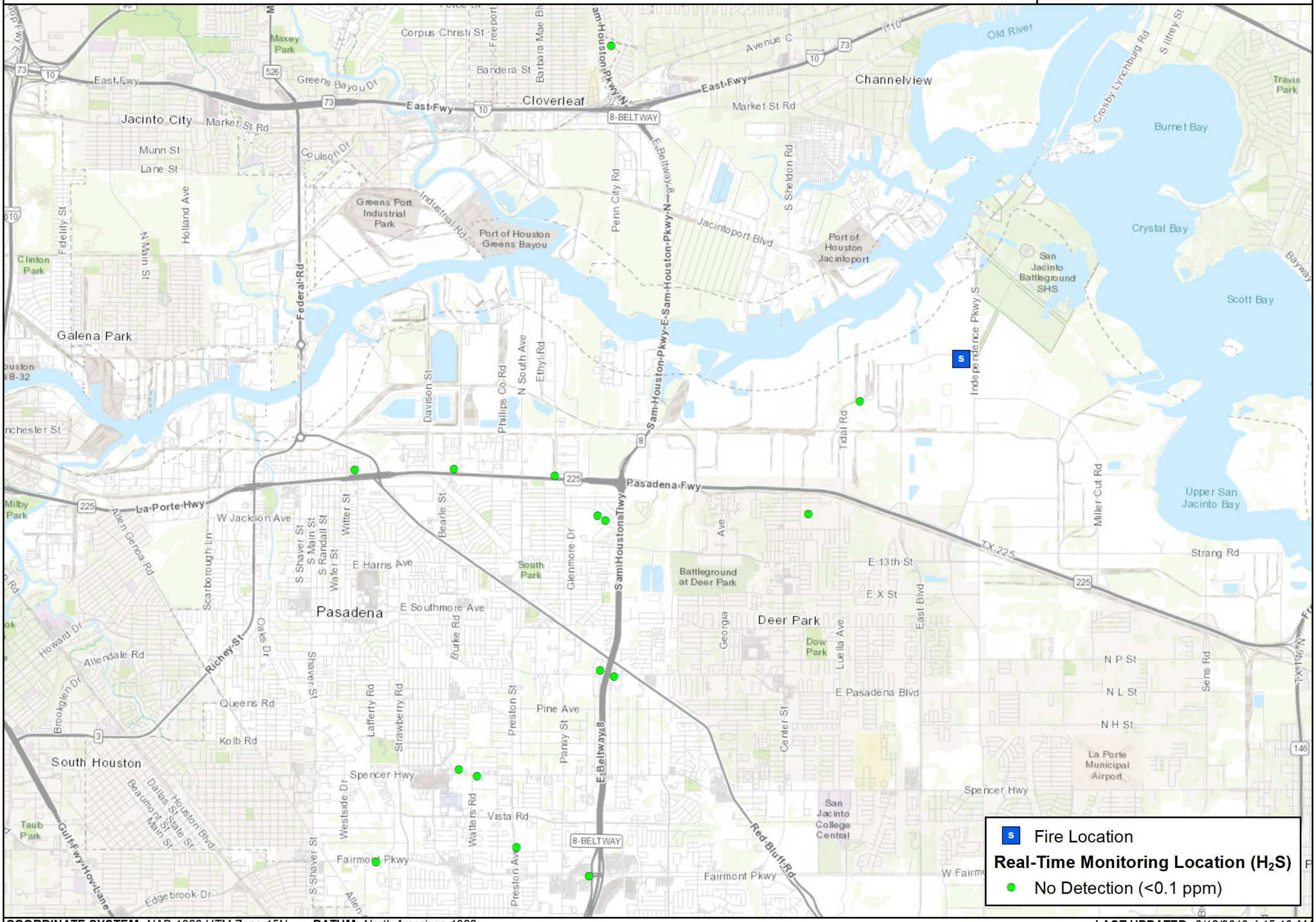
COORDINATE SYSTEM: *NAD 1983 UTM Zone 15N* **DATUM:** *North American 1983* **LAST UPDATED:** *3/18/2019 4:13:37 AM*

Hand-Held Real-Time Monitoring Locations (H_2S)

ITC Tank Fire Deerpark, TX

0 1.5 3 Miles

Project:111356
Client: ITC
City: Deerpark, TX
County: Harris



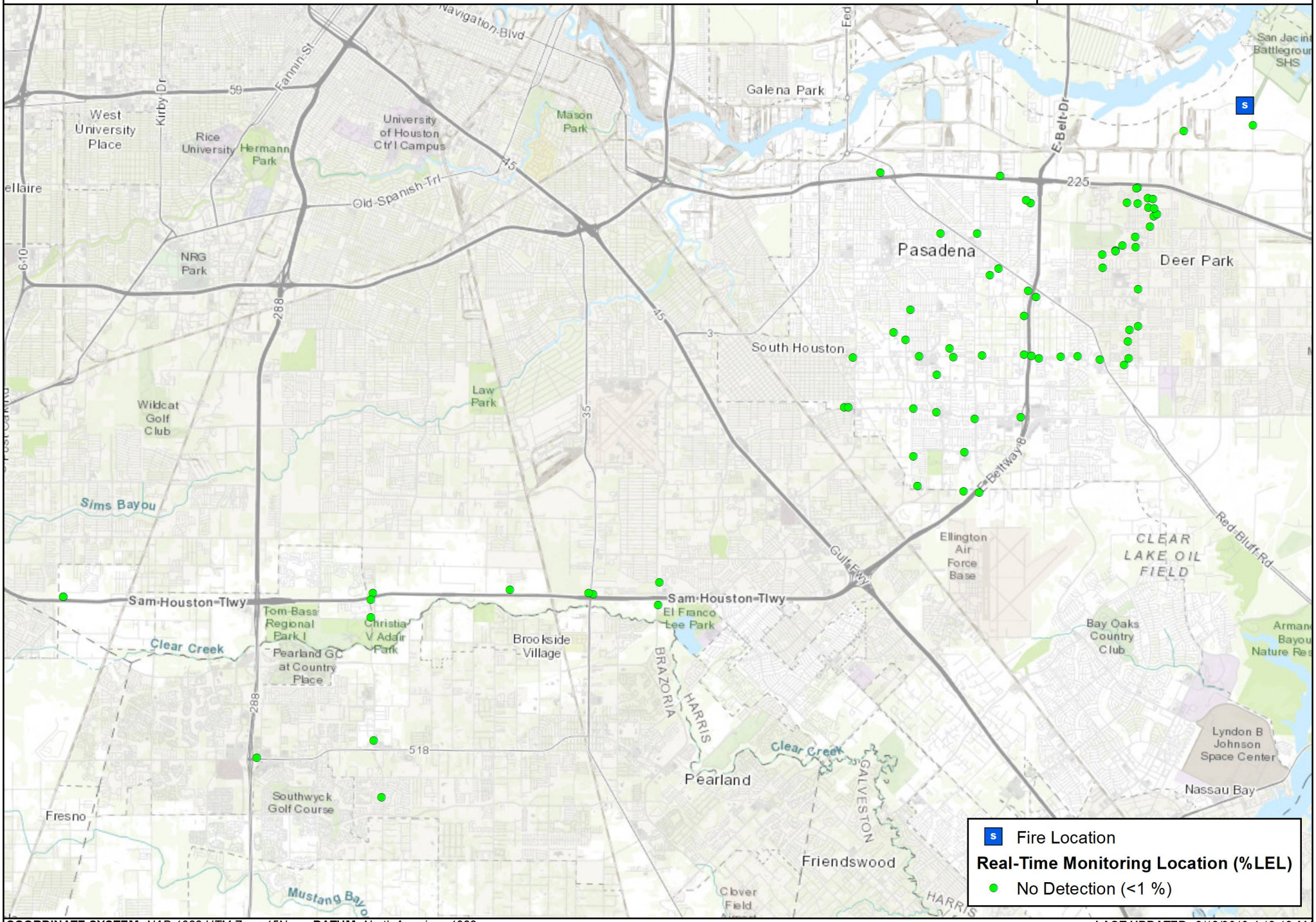
COORDINATE SYSTEM: *NAD 1983 UTM Zone 15N* **DATUM:** *North American 1983* **LAST UPDATED:** *3/18/2019 4:15:10 AM*

Hand-Held Real-Time Monitoring Locations (% LEL)

ITC Tank Fire Deerpark, TX

0 1.5 3 Miles

Project:111356
Client: ITC
City: Deerpark, TX
County: Harris



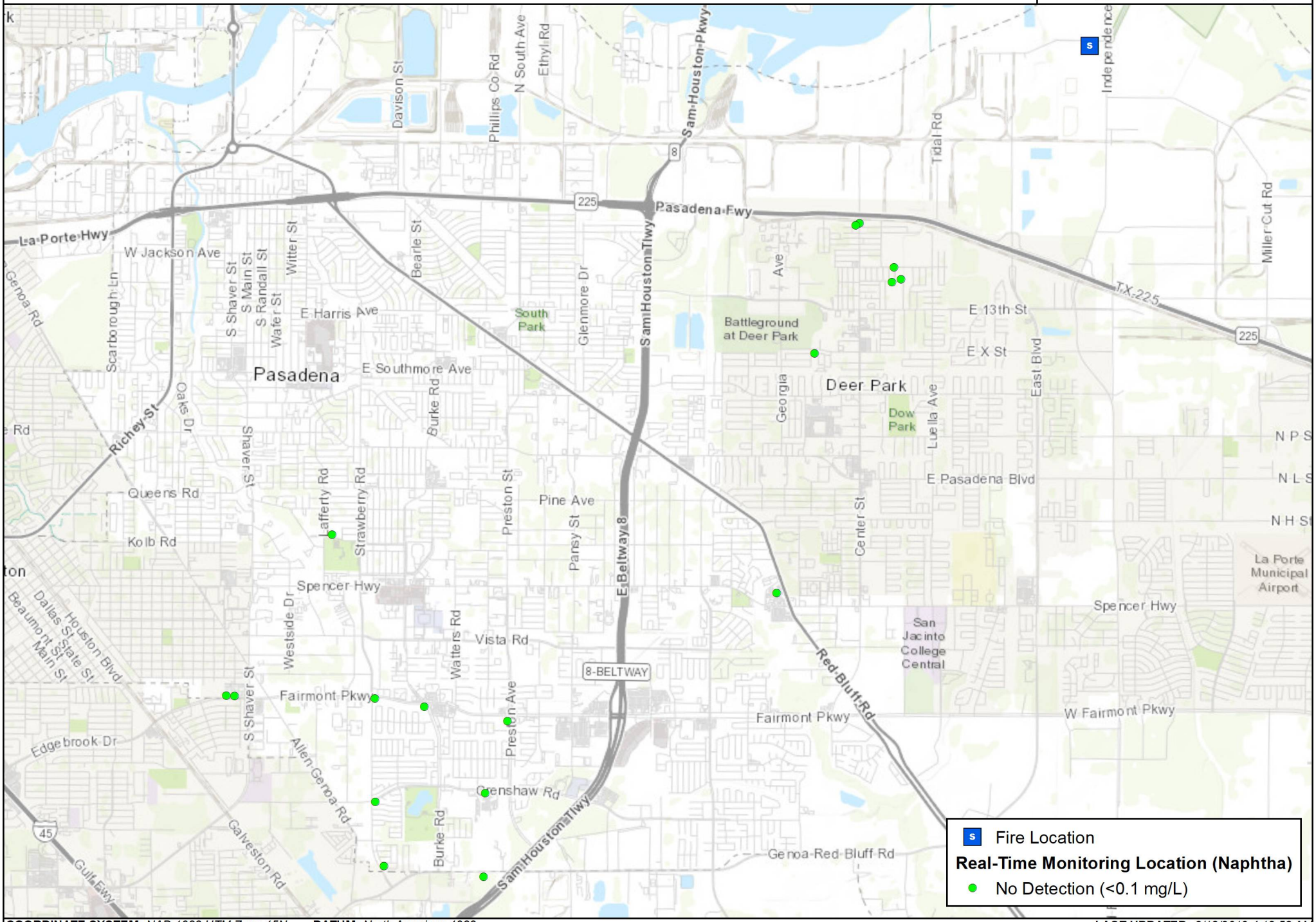
COORDINATE SYSTEM: *NAD 1983 UTM Zone 15N* **DATUM:** *North American 1983* **LAST UPDATED:** *3/18/2019 4:12:13 AM*

Hand-Held Real-Time Monitoring Locations (Naphtha)

ITC Tank Fire Deerpark, TX

0 1 2 Miles

Project:111356
Client: ITC
City: Deerpark, TX
County: Harris



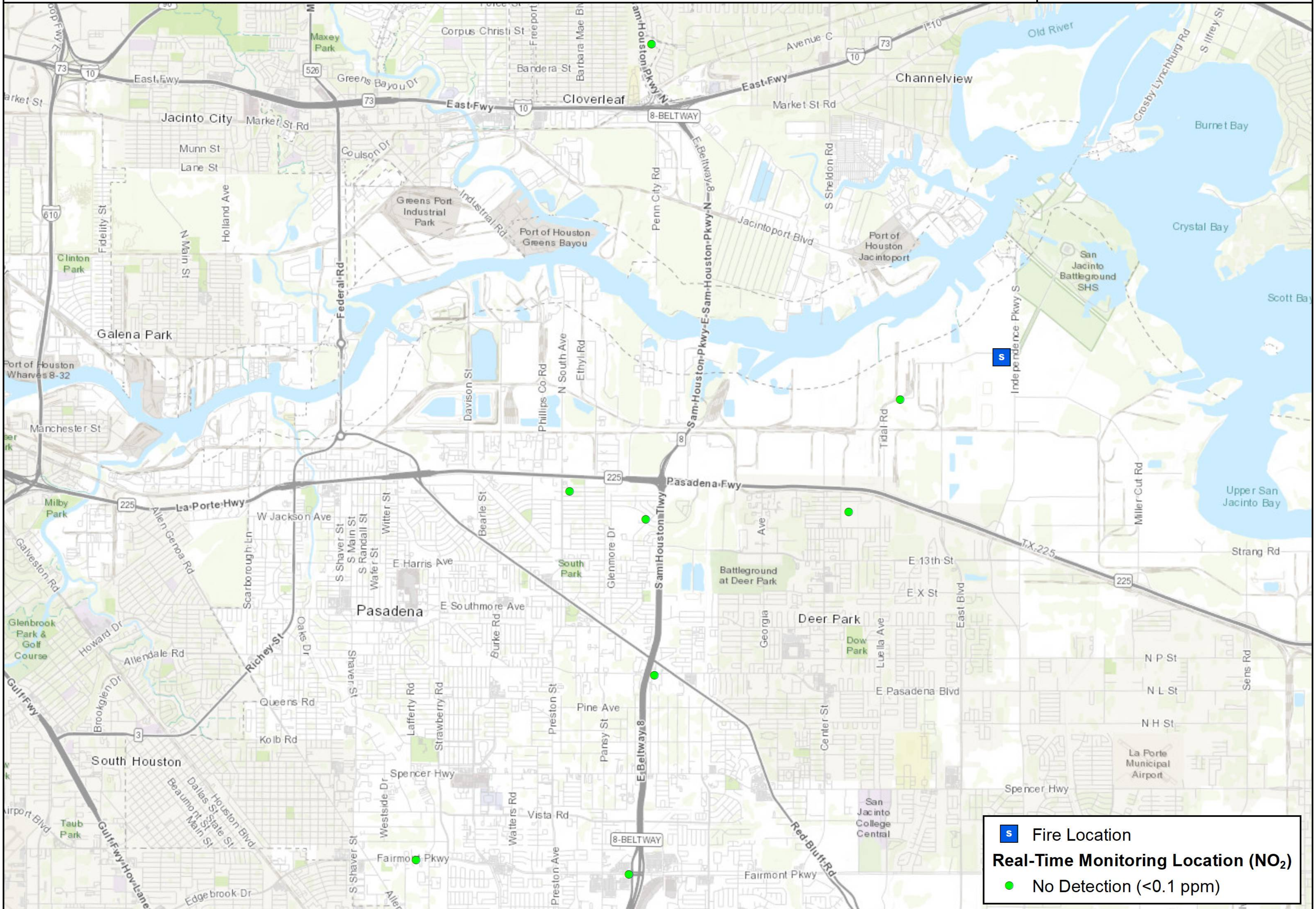
COORDINATE SYSTEM: *NAD 1983 UTM Zone 15N* **DATUM:** *North American 1983* **LAST UPDATED:** *3/18/2019 4:12:58 AM*

Hand-Held Real-Time Monitoring Locations (NO_2)

ITC Tank Fire Deerpark, TX

0 1.5 3 Miles

Project:111356
Client: ITC
City: Deerpark, TX
County: Harris



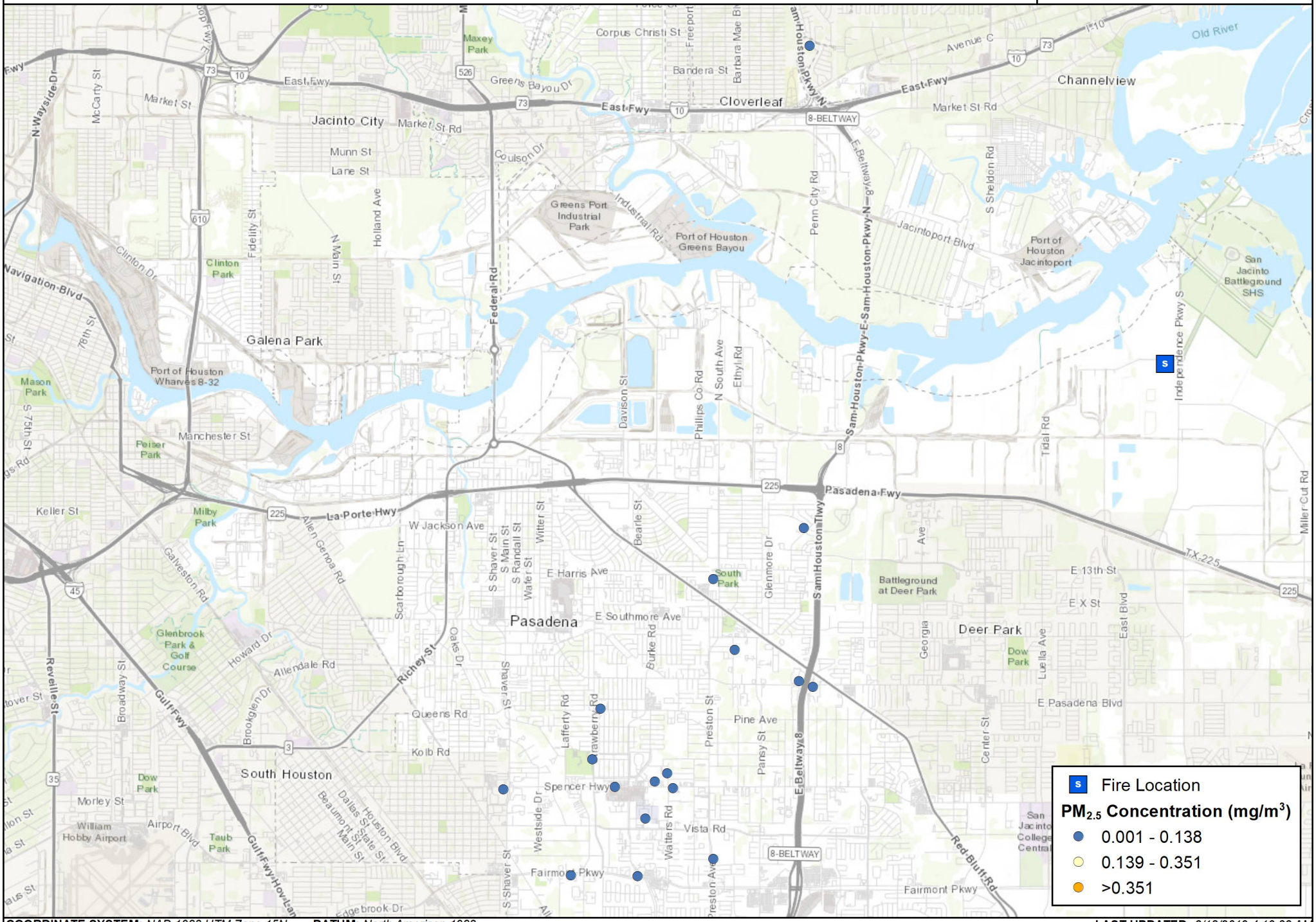
COORDINATE SYSTEM: *NAD 1983 UTM Zone 15N* **DATUM:** *North American 1983* **LAST UPDATED:** *3/18/2019 4:13:15 AM*

Hand-Held Real-Time Monitoring Locations ($PM_{2.5}$)

ITC Tank Fire Deerpark, TX

0 1.5 3 Miles

Project:111356
Client: ITC
City: Deerpark, TX
County: Harris



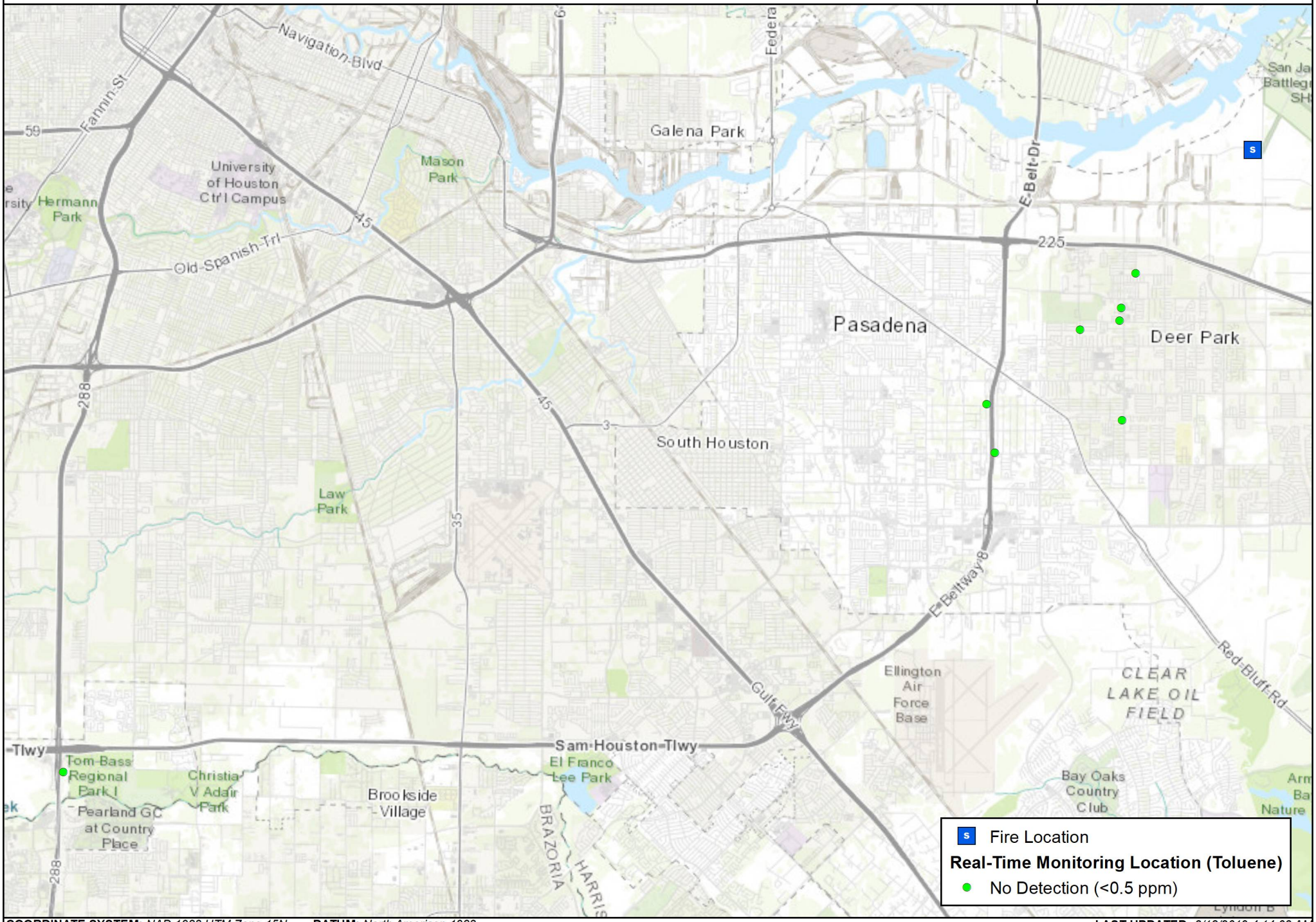
COORDINATE SYSTEM: *NAD 1983 UTM Zone 15N* **DATUM:** *North American 1983* **LAST UPDATED:** *3/18/2019 4:10:33 AM*

Hand-Held Real-Time Monitoring Locations (Toluene)

ITC Tank Fire Deerpark, TX

0 1.5 3 Miles

Project:111356
Client: ITC
City: Deerpark, TX
County: Harris



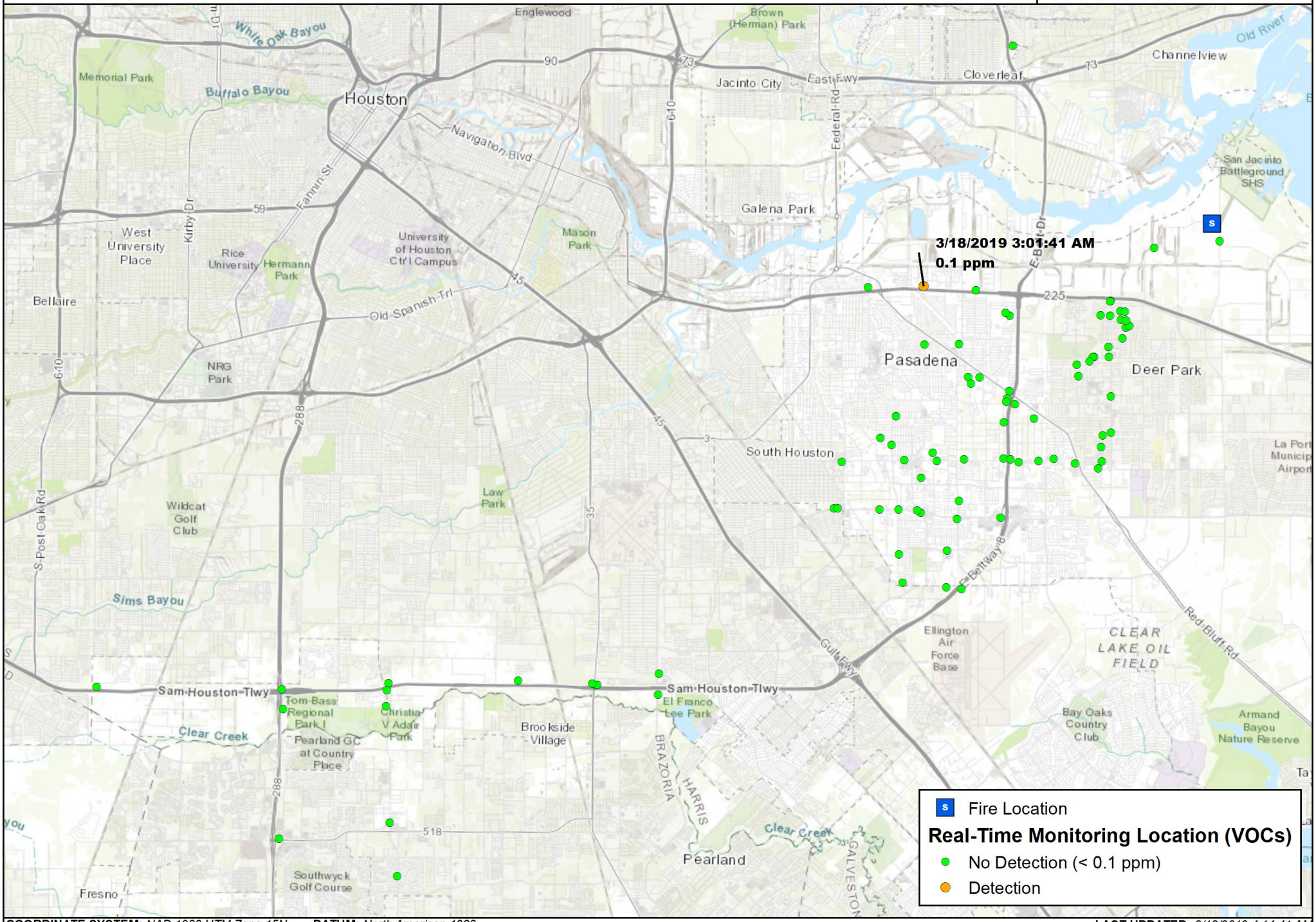
COORDINATE SYSTEM: *NAD 1983 UTM Zone 15N* **DATUM:** *North American 1983* **LAST UPDATED:** *3/18/2019 4:14:03 AM*

Hand-Held Real-Time Monitoring Locations (VOCs)

ITC Tank Fire Deerpark, TX

0 1.5 3 Miles

Project:111356
Client: ITC
City: Deerpark, TX
County: Harris



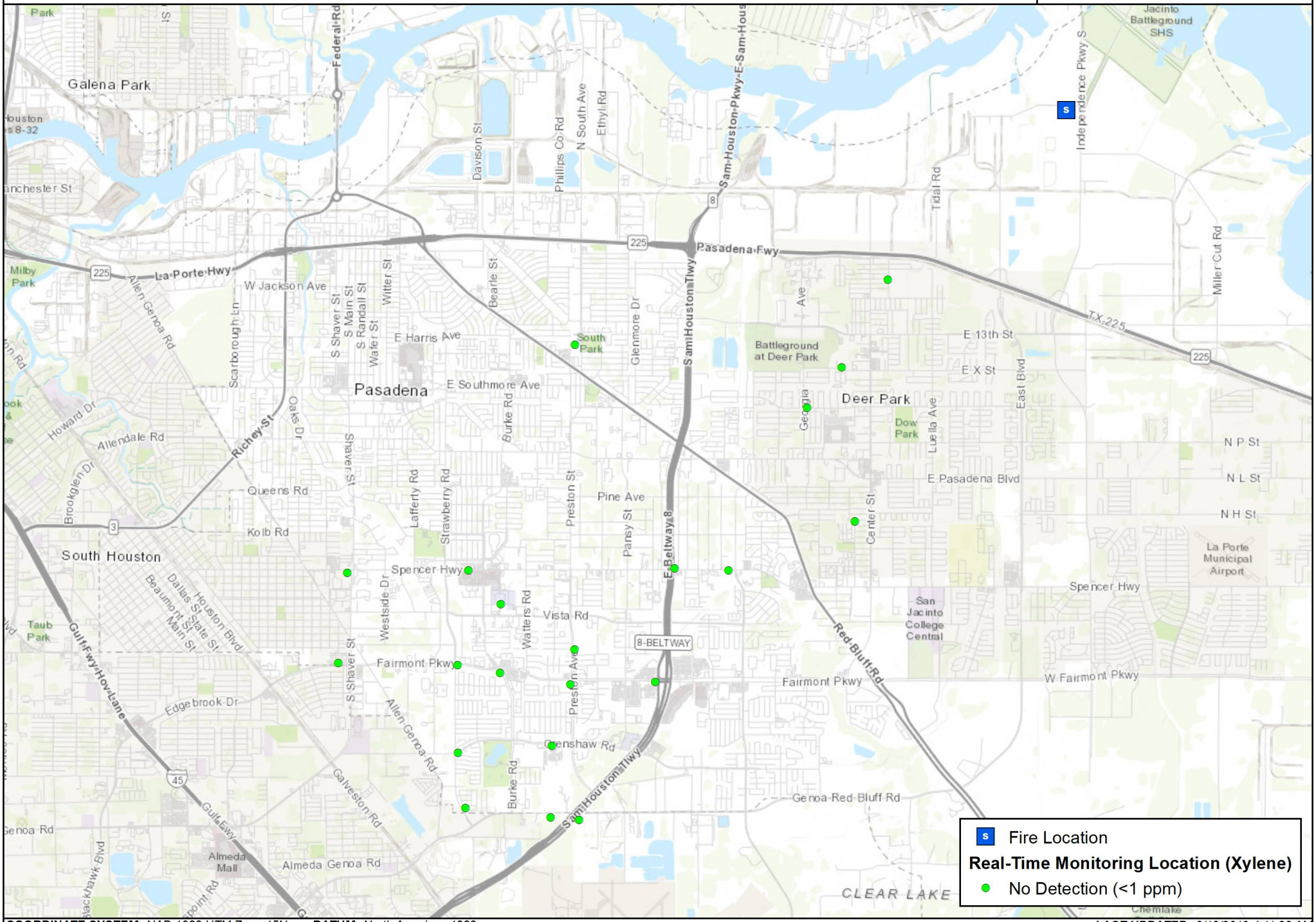
COORDINATE SYSTEM: *NAD 1983 UTM Zone 15N* **DATUM:** *North American 1983* **LAST UPDATED:** *3/18/2019 4:14:41 AM*

Hand-Held Real-Time Monitoring Locations (Xylene)

ITC Tank Fire Deerpark, TX

0 1 2 Miles

Project:111356
Client: ITC
City: Deerpark, TX
County: Harris



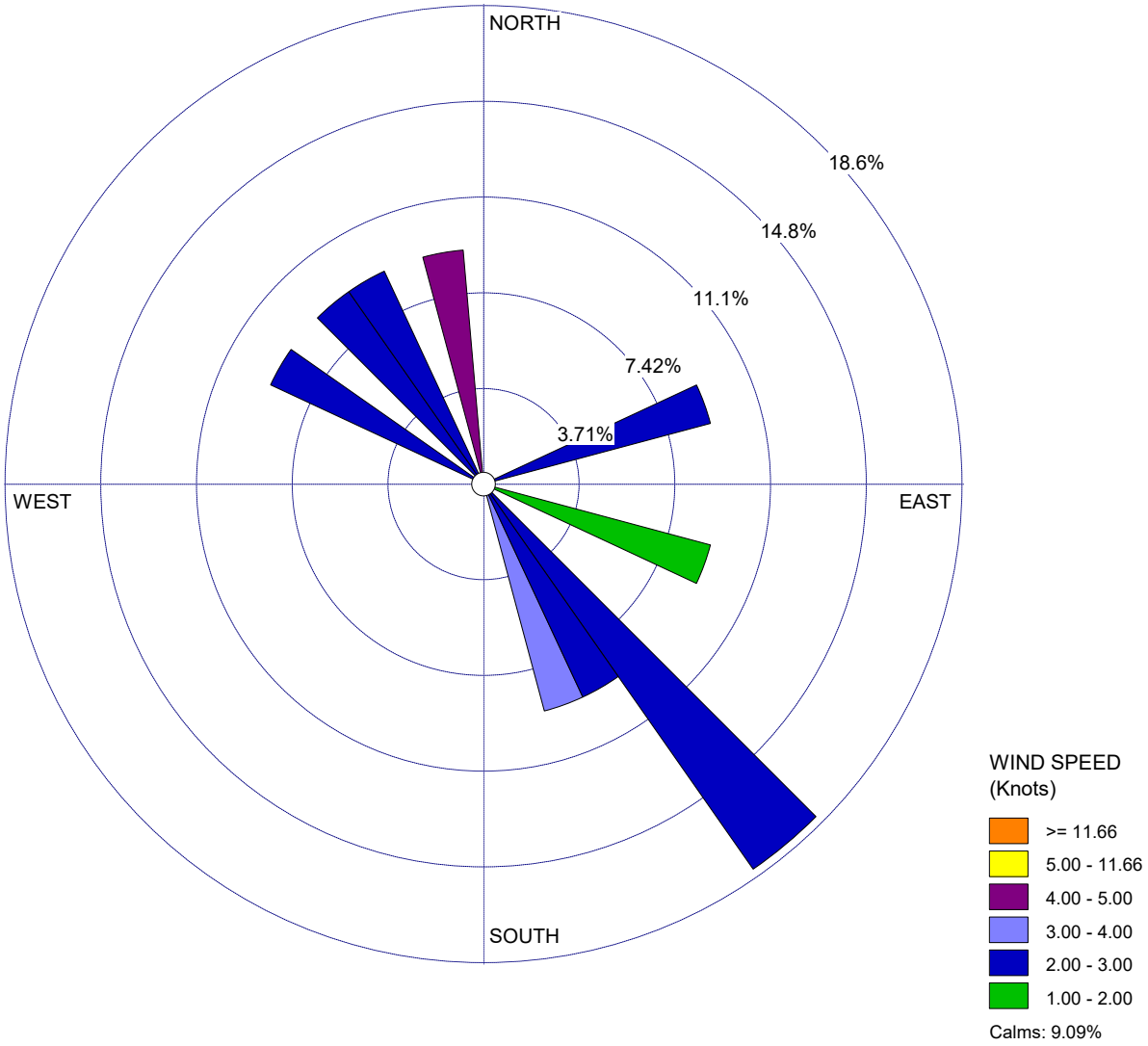
COORDINATE SYSTEM: *NAD 1983 UTM Zone 15N* **DATUM:** *North American 1983* **LAST UPDATED:** *3/18/2019 4:11:33 AM*

Attachment B

Meteorological Conditions

WIND ROSE PLOT:

DISPLAY:
Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD:	COMPANY NAME:	
	Start Date: 3/17/2019 - 16:00 **End Date: 3/18/2019 - 02:00**	MODELER:	
	CALM WINDS: **9.09%**	TOTAL COUNT: **11 hrs.**	
	AVG. WIND SPEED: **2.00 Knots**	DATE: **3/18/2019**	PROJECT NO.: **111356**

WRPLOT View - Lakes Environmental Software