INTERCONTINENTAL TERMINALS

CONTINENTAL TANK FIRE

Deer Park, TX
March 18, 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 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 7:42 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>
<thead>
<tr>
<th>Analyte</th>
<th>Instrument</th>
<th>Num Readings</th>
<th>Num Detections</th>
<th>Range¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene</td>
<td>Gastec #121L</td>
<td>6</td>
<td>0</td>
<td>&lt; 0.05 ppm</td>
</tr>
<tr>
<td></td>
<td>UltraRAE</td>
<td>64</td>
<td>0</td>
<td>&lt; 0.5 ppm</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>Gastec #91L</td>
<td>1</td>
<td>0</td>
<td>&lt; 0.05 ppm</td>
</tr>
<tr>
<td>Hexane</td>
<td>Gastec #102L</td>
<td>2</td>
<td>0</td>
<td>&lt; 1 ppm</td>
</tr>
<tr>
<td>Hydrogen Sulfide</td>
<td>Gastec #4LL</td>
<td>3</td>
<td>0</td>
<td>&lt; 0.1 ppm</td>
</tr>
<tr>
<td></td>
<td>MultiRAE</td>
<td>53</td>
<td>0</td>
<td>&lt; 0.1 ppm</td>
</tr>
<tr>
<td>LEL</td>
<td>MultiRAE</td>
<td>109</td>
<td>0</td>
<td>&lt; 1 %</td>
</tr>
<tr>
<td>Naphtha</td>
<td>Gastec #106</td>
<td>21</td>
<td>0</td>
<td>&lt; 0.1 mg/L</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>Gastec #60</td>
<td>14</td>
<td>0</td>
<td>&lt; 0.1 ppm</td>
</tr>
</tbody>
</table>
### Analyte Instrument Num Readings Num Detections Range¹

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Instrument</th>
<th>Num Readings</th>
<th>Num Detections</th>
<th>Range¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen Dioxide</td>
<td>Gastec #9L</td>
<td>6</td>
<td>0</td>
<td>&lt; 0.1 ppm</td>
</tr>
<tr>
<td></td>
<td>MultiRAE</td>
<td>32</td>
<td>0</td>
<td>&lt; 0.1 ppm</td>
</tr>
<tr>
<td>Oxygen</td>
<td>MultiRAE</td>
<td>25</td>
<td>25</td>
<td>20.9 - 20.9 %</td>
</tr>
<tr>
<td>PM2.5</td>
<td>AM510</td>
<td>44</td>
<td>44</td>
<td>0.007 - 0.043 mg/m3</td>
</tr>
<tr>
<td>Sulfur Dioxide</td>
<td>MultiRAE</td>
<td>21</td>
<td>0</td>
<td>&lt; 0.1 ppm</td>
</tr>
<tr>
<td>Toluene</td>
<td>Gastec #122L</td>
<td>12</td>
<td>0</td>
<td>&lt; 0.5 ppm</td>
</tr>
<tr>
<td>VOCs</td>
<td>MultiRAE</td>
<td>137</td>
<td>1</td>
<td>0.1 ppm</td>
</tr>
<tr>
<td>Xylene</td>
<td>Gastec #123L</td>
<td>24</td>
<td>0</td>
<td>&lt; 1 ppm</td>
</tr>
</tbody>
</table>

¹Maximum 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 outline in the CTEH® SAP. One detection of VOCs was recorded approximately 5.5 miles WSW from the fire.

### 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
Hand-Held Real-Time Monitoring Locations (Xylene)
ITC Tank Fire Deerpark, TX

- Fire Location
- Real-Time Monitoring Location (Xylene)
  - No Detection (<1 ppm)

COORDINATE SYSTEM: NAD 1983 UTM Zone 15N
DATUM: North American 1983
LAST UPDATED: 3/12/2018 8:28:02 AM
Attachment B

Meteorological Conditions
# Wind Rose Plot

**Station #Lynchburg Ferry**

**Display:**
- Wind Speed
- Direction (blowing from)

## Comments:

**Company Name:**

**Modeler:**

**Date:** 3/18/2019

**Project No.:** 111356

## Data Period:

- **Start Date:** 3/17/2019 - 16:00
- **End Date:** 3/18/2019 - 06:00

## Average Wind Speed:

- **2.40 Knots**

## Total Count:

- **15 hrs.**

## Calm Winds:

- **6.67%**

## Wind Speed (Knots):

- **>= 11.66**
- **5.00 - 11.66**
- **4.00 - 5.00**
- **3.00 - 4.00**
- **2.00 - 3.00**
- **1.00 - 2.00**
- **Calm:** 6.67%

---

WRPLOT View - Lakes Environmental Software