

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: Biolabs Chlorine Fire



**From: 10/7/24
5:00 PM**

**To: 10/8/24
4:59 AM**

| Station 2 - Mammy's | | | | | | | |
|---------------------|-------------------------|--------------------------|--------------------|----------------------|---------------------|----------------|------------------|
| Instrument | Analyte | Action Level Exceedance? | Number of Readings | Number of Detections | Concentration Range | Period Average | Action Level |
| AreaRAE Pro | VOC | No | 680 | 21 | 0-87 ppb | 0.41 ppb | 9000 ppb 8hr avg |
| | H2S | No | 680 | 0 | 0-0 ppm | 0 ppm | 0.51 ppm 1hr avg |
| | CL2 | No | 1360 | 674 | 0-0.40 ppm | 0.12 ppm | 0.5 ppm 1hr avg |
| SPM Flex | HYDROGEN CHLORIDE (HCL) | No | 13786 | 0 | 0-0 ppm | 0 ppm | 1.8 ppm 1hr avg |
| SPM Flex | PHOSGENE (COCL2) | No | 5175 | 0 | 0-0 ppb | 0 ppb | 300 ppb 1hr avg |

| Station 8- Iris Drive SW Near Pyro Fireworks | | | | | | | |
|--|-------------------------|--------------------------|--------------------|----------------------|---------------------|----------------|------------------|
| Instrument | Analyte | Action Level Exceedance? | Number of Readings | Number of Detections | Concentration Range | Period Average | Action Level |
| AreaRAE Pro | VOC | No | 683 | 95 | 0-493 ppb | 49.65 ppb | 9000 ppb 8hr avg |
| | H2S | No | 683 | 0 | 0-0 ppm | 0.00 ppm | 0.51 ppm 1hr avg |
| | CL2 | No | 1366 | 804 | 0-0.60 ppm | 0.15 ppm | 0.5 ppm 1hr avg |
| SPM Flex | HYDROGEN CHLORIDE (HCL) | No | 2296 | 0 | 0-0 ppm | 0 ppm | 1.8 ppm 1hr avg |

| Station 10 - Gated Community Near Rockdale Plaza Shopping Center | | | | | | | |
|--|---------|--------------------------|--------------------|----------------------|---------------------|----------------|------------------|
| Instrument | Analyte | Action Level Exceedance? | Number of Readings | Number of Detections | Concentration Range | Period Average | Action Level |
| AreaRAE Pro | VOC | No | 638 | 0 | 0-0 ppb | 0 ppb | 9000 ppb 8hr avg |
| | H2S | No | 638 | 0 | 0-0 ppm | 0 ppm | 0.51 ppm 1hr avg |
| | CL2 | Yes | 1580 | 1580 | 0.10-0.70 ppm | 0.42 ppm | 0.5 ppm 1hr avg |

| Station 11 -Patrick & Associates Inc | | | | | | | |
|--------------------------------------|-------------------------|--------------------------|--------------------|----------------------|---------------------|----------------|------------------|
| Instrument | Analyte | Action Level Exceedance? | Number of Readings | Number of Detections | Concentration Range | Period Average | Action Level |
| AreaRAE Pro | VOC | No | 688 | 192 | 0-4 ppb | 0.61 ppb | 9000 ppb 8hr avg |
| | H2S | No | 688 | 1 | 0-1.10 ppm | 0.00 ppm | 0.51 ppm 1hr avg |
| | CL2 | No | 1376 | 972 | 0-0.50 ppm | 0.21 ppm | 0.5 ppm 1hr avg |
| SPM Flex | HYDROGEN CHLORIDE (HCL) | No | 13705 | 154 | 0-0.12 ppm | 0.00 ppm | 1.8 ppm 1hr avg |
| SPM Flex | PHOSGENE (COCL2) | No | 6031 | 0 | 0-0 ppb | 0 ppb | 300 ppb 1hr avg |

| Station 13- Intersection of Old Covington Highway and 3rd Avenue | | | | | | | |
|--|---------|--------------------------|--------------------|----------------------|---------------------|----------------|------------------|
| Instrument | Analyte | Action Level Exceedance? | Number of Readings | Number of Detections | Concentration Range | Period Average | Action Level |
| AreaRAE Pro | VOC | No | 693 | 0 | 0-0 ppb | 0 ppb | 9000 ppb 8hr avg |
| | H2S | No | 693 | 0 | 0-0 ppm | 0 ppm | 0.51 ppm 1hr avg |
| | CL2 | No | 1386 | 1268 | 0-0.40 ppm | 0.17 ppm | 0.5 ppm 1hr avg |

| Station 14 - Smyrna Road | | | | | | | |
|--------------------------|-------------------------|--------------------------|--------------------|----------------------|---------------------|----------------|------------------|
| Instrument | Analyte | Action Level Exceedance? | Number of Readings | Number of Detections | Concentration Range | Period Average | Action Level |
| AreaRAE Pro | VOC | No | 692 | 692 | 2-299 ppb | 220.54 ppb | 9000 ppb 8hr avg |
| | H2S | No | 692 | 0 | 0-0 ppm | 0 ppm | 0.51 ppm 1hr avg |
| | CL2 | No | 1440 | 1436 | 0-0.60 ppm | 0.24 ppm | 0.5 ppm 1hr avg |
| SPM Flex | HYDROGEN CHLORIDE (HCL) | No | 6968 | 0 | 0-0 ppm | 0 ppm | 1.8 ppm 1hr avg |

| Station 16 - Corner of General Arts and Farmers Rd | | | | | | | |
|--|---------|--------------------------|--------------------|----------------------|---------------------|----------------|------------------|
| Instrument | Analyte | Action Level Exceedance? | Number of Readings | Number of Detections | Concentration Range | Period Average | Action Level |
| AreaRAE Pro | VOC | No | 638 | 1 | 0-130 ppb | 0.20 ppb | 9000 ppb 8hr avg |
| | H2S | No | 638 | 1 | 0-1.30 ppm | 0.00 ppm | 0.51 ppm 1hr avg |
| | CL2 | No | 1276 | 490 | 0-0.50 ppm | 0.05 ppm | 0.5 ppm 1hr avg |

| Station 17 - Lester Biolab | | | | | | | |
|----------------------------|---------|--------------------------|--------------------|----------------------|---------------------|----------------|------------------|
| Instrument | Analyte | Action Level Exceedance? | Number of Readings | Number of Detections | Concentration Range | Period Average | Action Level |
| AreaRAE Pro | VOC | No | 692 | 0 | 0-0 ppb | 0 ppb | 9000 ppb 8hr avg |
| | H2S | No | 692 | 0 | 0-0 ppm | 0 ppm | 0.51 ppm 1hr avg |
| | CL2 | No | 1384 | 902 | 0-0.40 ppm | 0.14 ppm | 0.5 ppm 1hr avg |

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: **Biolabs Chlorine Fire**

From: **10/7/24**
5:00 PM

To: **10/8/24**
4:59 AM



| | | | |
|---|-------------------------|-------------------------------|------------------------|
| Notes: | Analyte | Definition | Action Level Reference |
| % Percent | CL2 | Chlorine | AEGL-1 1hr |
| < Less than | H2S | Hydrogen Sulfide | AEGL-1 1hr |
| > Greater than | HYDROGEN CHLORIDE (HCL) | Hydrogen Chloride | AEGL-1 1hr |
| AEGL Acute Exposure Guideline Levels for Airborne Chemicals | PHOSGENE (COCL2) | Phosgene (COCl ₂) | AEGL-2 1hr |
| C/m Counts (ionization events) per minute | VOC | Volatile Organic Compounds | AEGL-1 1hr |
| µg/m³ Micrograms per cubic meter | | | |
| min Minute | | | |
| PAC Protective Action Criteria | | | |
| PEL Permissible exposure limit | | | |
| ppb Parts per billion | | | |
| ppm Parts per million | | | |
| PM Particulate matter | | | |
| SOG Standard Operating Guidelines | | | |
| SPM Single Point Monitor | | | |
| TEEL Temporary Emergency Exposure Limit | | | |
| TLV Threshold limit value | | | |

Air Monitoring Summary Tables – Review

Project Name: Bio Lab Chlorine



The EPA uses air monitoring instruments with real-time alerts to track air quality during an emergency response. This air monitoring summary table report is used by EPA and local responders to review the thousands of measurements that can be collected in a single day.

The following is a review of station results for the time period from 5:00pm on 10/7/2024 to 5:00am on 10/8/2024:

- **Station 2:** From 9:15pm to 3:15am there were sustained measurements of Cl₂ with a peak of 0.4ppm; the maximum 1-hour average was 0.3ppm, the maximum 8-hour average was 0.16ppm.
- **Station 8:** From 7:30pm to 5:00am there were sustained measurements of Cl₂ with a peak of 0.6ppm; the maximum 1-hour average was 0.4ppm, the maximum 8-hour average was 0.19ppm.
- **Station 10:** From 5:00pm to 5:00am there were sustained measurements of Cl₂ with a peak of 0.7ppm; the maximum 1-hour average was 0.7ppm, the maximum 8-hour average was 0.38ppm.
 - 5:45pm to 9:00pm, there were sustained measurements of Cl₂ between 0.5ppm and 0.7ppm.
 - 6:30pm to 9:15pm, the Cl₂ 1-hour average was between 0.5ppm to 0.7ppm.
- **Station 11:** From 5:00pm to 11:00pm there were sustained measurements of Cl₂ with a peak of 0.5ppm; the maximum 1-hour average was 0.4ppm, the maximum 8-hour average was 0.29ppm.
 - At 6:21pm, a brief spike in H₂S concentration was detected, peaking at 1.1ppm for a one second duration. H₂S levels remained 0.0ppm both prior to and following this peak, indicating a possible electrical malfunction.
- **Station 13:** From 5:00pm to 5:00am there were sustained measurements of Cl₂ with a peak of 0.4ppm; the maximum 1-hour average was 0.2ppm, the maximum 8-hour average was 0.21ppm.
- **Station 14:** From 5:00pm to 5:00am there were sustained measurements of Cl₂ with a peak of 0.6ppm; the maximum 1-hour average was 0.5ppm from 8:30pm to 9:30pm, the maximum 8-hour average was 0.24ppm.
- **Station 16:** From 11:45pm to 5:00am there were sustained measurements of Cl₂ with a peak of 0.5ppm; the maximum 1-hour average was 0.2ppm, the maximum 8-hour average was 0.07ppm.
 - At 7:05pm, a brief spike in H₂S concentration was detected, peaking at 1.3ppm for a one second duration. H₂S levels remained 0.0ppm both prior to and following this peak, indicating a possible electrical malfunction.
- **Station 17:** No issues observed.

Air Monitoring Summary Tables – Explanation of Tables



Project Name: Bio Lab Chlorine

The following information is provided in each report:

- **Station** – at the top of each table is a name and location for each air monitoring station. These are mobile stations that may change over time and new station numbers are established. Previously used station numbers will not appear on this report.
- **Instrument** – this is the model of instrument being used to measure the air. Some stations may use multiple instruments, and some instruments may measure multiple things at once
- **Analyte** – these are the chemicals or other compounds that the instrument is measuring:
 - **VOC:** Volatile Organic Compounds; this is not a specific chemical but includes a long list of possible chemicals, many of which have strong odors
 - **CO:** Carbon Monoxide; this compound is commonly associated with combustion (i.e. fires)
 - **H₂S:** Hydrogen Sulfide; this is a default sensor for the instrument and is used for industrial safety
 - **LEL:** Lower-Explosive Limit; this is a default sensor for the instrument and is used for industrial safety
 - **O₂:** Oxygen; this is a default sensor for the instrument and is used for industrial safety
 - **Cl₂:** Chlorine; chlorine gas is an inhalation hazard with a pungent suffocating odor and is a contaminant of concern for the site
 - **HCl:** Hydrogen Chloride; a corrosive gas with a sharp, pungent odor and is a contaminant of concern for the site
 - **COCl₂:** Phosgene; a potential combustion product that EPA monitors for at chemical and industrial fires
- **Action Level Exceedance** – is an easy-to-read determination whether one of the Action Levels in the column on the right *may have* been exceeded. The action levels are based on *averages over time* but this column may say “Yes” whenever a single measurement exceeds that number. This helps responders assess whether further protective measures are needed.
- **Number of Readings** – the number of measurements collected by the sensor, usually collected once every second or every minute.
- **Number of Detections** – the number of measurements greater than zero
- **Concentration Range** – the minimum and maximum measurement that was collected
- **Period Average** – the average measurement for the entire collection period
- **Action Levels** – based on the most protective AEGLs (Acute Exposure Guideline Levels) which are used by emergency responders when dealing with chemical spills or other exposures and describe the human health effects from once-in-a-lifetime, or rare, exposure to airborne chemicals. Further information is available at EPA.gov/AEGL.