

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.

During the operational period from 5:00am to 5:00pm on October 4 there was a planned outage on the monitoring system to move equipment to a more stable location. Manual air monitoring continued throughout the reporting period. Live monitoring was online during most of this period. Logged information was downloaded to generate a full data summary report – but the summary reporting could not be adequately reconciled with the downloaded data. The results presented here include only known and verified data.

The following is a review of station results for the time period from 5:00am on 10/4/2024 to 5:00pm on 10/4/2024:

- **Station 2 – Mammy’s:** A rise and fall of HCl was recorded for two minutes at 3:34pm with a peak concentration of 0.24ppm; the maximum 1-hour average was calculated at 0.005ppm. No other issues observed in available data at this time.
- **Station 8 – Iris Drive SW near Pyro Fireworks:** An instrument calibration between 3:32pm and 3:36pm was recorded in the dataset and had to be manually removed. No detections of Cl₂ were found in the remaining data for this instrument.
- **Station 10 – Gated Community near Rockdale Plaza Shopping Center:** No issues observed
- **Station 11 – Patrick & Associates:** No issues observed
- **Station 13 – Intersection of Old Covington Highway and 3rd Avenue:** From 5:00am to 9:30am there were sustained measurements of Cl₂ between 0.1ppm and 0.4ppm. The maximum 8-hour average for this period was 0.17ppm and the maximum 1-hour average for this period was 0.21ppm. No other issues were observed.
- **Station 14 – Smyrna Road:** Sustained measurements of Cl₂ were recorded from 4:23pm to 5:00pm at 0.1ppm with a maximum 1-hour average of 0.05ppm. No other issues were observed in the available data at this time.
- **Station 16 – Corner of General Arts and Farmers Road:** From 5:00am to 9:30am there were sustained measurements of Cl₂ between 0.1ppm and 0.4ppm. The maximum 8-hour average for this period was 0.17ppm and the maximum 1-hour average for this period was 0.21ppm. No other issues were observed in the available data at this time.

Air Monitoring Summary Tables – Explanation of Tables



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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.