

Air Monitoring Summary Tables

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

Project Name: **BioLab Chlorine**

From: **10/3/24**
5:00 PM

To: **10/4/24**
5:00 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	539	0	0-0 ppb	0 ppb	9000 ppb 8hr avg
	H2S	No	539	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	CL2	No	1078	0	0-0 ppm	0 ppm	0.5 ppm 1hr avg
SPM Flex	HYDROGEN CHLORIDE (HCL)	No	13814	0	0-0 ppm	0 ppm	1.8 ppm 1hr avg
SPM Flex	PHOSGENE (COCL2)	No	13836	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	424	424	19-341 ppb	111.19 ppb	9000 ppb 8hr avg
	H2S	No	424	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	CL2	Yes	848	72	0-2.10 ppm	0.06 ppm	0.5 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	382	0	0-0 ppb	0 ppb	9000 ppb 8hr avg
	H2S	No	382	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	CL2	No	764	0	0-0 ppm	0 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	545	0	0-0 ppb	0 ppb	9000 ppb 8hr avg
	H2S	No	545	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	CL2	No	1090	0	0-0 ppm	0 ppm	0.5 ppm 1hr avg
SPM Flex	PHOSGENE (COCL2)	No	13773	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	472	0	0-0 ppb	0 ppb	9000 ppb 8hr avg
	H2S	No	472	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	CL2	No	944	608	0-0.40 ppm	0.09 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
	Data not recorded in reporting system Data being recovered from instrument and will be included in revised report						

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	168	0	0-0 ppb	0 ppb	9000 ppb 8hr avg
	H2S	No	168	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	CL2	No	336	184	0-0.40 ppm	0.06 ppm	0.5 ppm 1hr avg

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5:00 PM

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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 8hr
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 number of readings per instrument during this period may be reduced due to communications issues with the equipment or because some instruments were moved to a new station in response to changing wind conditions.

The following is a review of station results for the time period from 5:00pm on 10/3/2024 to 5:00am on 10/4/2024:

- **Station 2:** No issues observed.
- **Station 8:** A sustained measurement of Cl₂ was recorded from 11:30pm to 11:45pm with a peak of 1.4ppm and a maximum 1-hour average of 0.33ppm (Cl₂ action level is 0.5ppm for a 1-hour average). Another sustained measurement of Cl₂ was recorded from 12:15am to 1:00am with a peak of 2.1ppm and a maximum 1-hour average of 0.45ppm.
- **Station 10:** No issues observed
- **Station 11:** No issues observed
- **Station 13:** There were multiple measurements of Cl₂ with instant peaks of 0.4ppm between 11:00pm and 5:00am; a sustained concentration of at least 0.1ppm was measured from 8:30pm to 5:00am. The maximum 1-hour average for Cl₂ was 0.16ppm. Because of the extended duration of the sustained measurements, an 8-hour average for the period was calculated and the maximum 8-hour concentration was 0.12ppm.
- **Station 14:** Data were not recorded from this station in the reporting system. Data are being recovered from the instrument and will be included in a revised report.
- **Station 16:** Data from this station were not recorded from 8:28pm to 10:57pm and again from 1:32am to 4:03am due to communications issues. Multiple sustained measurements of 0.1ppm were recorded lasting up to 60 minutes from 11:00pm to 1:30am; one peak of 0.4ppm was recorded. A sustained measurement of at least 0.1ppm with peaks of 0.3ppm was recorded from 3:30am to 5:00am. The maximum 1-hour average for Cl₂ was less than 0.2ppm and the maximum 8-hour average for Cl₂ was 0.1ppm.

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.