

# 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: 10/8/24  
5:00 PM

To: 10/9/24  
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	787	0	0-0 ppb	0 ppb	9000 ppb 8hr avg
	H2S	No	787	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	CL2	No	1562	0	0-0 ppm	0 ppm	0.5 ppm 1hr avg
SPM Flex	HYDROGEN CHLORIDE (HCL)	No	13739	0	0-0 ppm	0 ppm	1.8 ppm 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	784	108	0-2135 ppb	115.80 ppb	9000 ppb 8hr avg
	H2S	No	784	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	CL2	No	1556	1258	0-0.60 ppm	0.28 ppm	0.5 ppm 1hr avg
SPM Flex	HYDROGEN CHLORIDE (HCL)	No	13740	39	0-0.02 ppm	0.00 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	732	0	0-0 ppb	0 ppb	9000 ppb 8hr avg
	H2S	No	732	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	CL2	No	1454	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	755	690	0-30 ppb	20.48 ppb	9000 ppb 8hr avg
	H2S	No	755	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	CL2	No	1498	174	0-0.70 ppm	0.02 ppm	0.5 ppm 1hr avg
SPM Flex	HYDROGEN CHLORIDE (HCL)	No	13556	0	0-0 ppm	0 ppm	1.8 ppm 1hr avg

Station 13 - 3rd Ave Chekpoint							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRAE Pro	VOC	No	735	88	0-237 ppb	1.81 ppb	9000 ppb 8hr avg
	H2S	No	735	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	CL2	No	1460	1284	0-0.30 ppm	0.09 ppm	0.5 ppm 1hr avg
SPM Flex	HYDROGEN CHLORIDE (HCL)	No	495	0	0-0 ppm	0 ppm	1.8 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	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	936	0	0-0 ppm	0 ppm	0.5 ppm 1hr avg
SPM Flex	HYDROGEN CHLORIDE (HCL)	No	13788	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	773	609	0-183 ppb	73.84 ppb	9000 ppb 8hr avg
	H2S	No	773	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	CL2	No	1534	856	0-0.30 ppm	0.09 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	784	0	0-0 ppb	0 ppb	9000 ppb 8hr avg
	H2S	No	784	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	CL2	No	1556	0	0-0 ppm	0 ppm	0.5 ppm 1hr avg

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From: 10/8/24  
5:00 PM

To: 10/9/24  
5:00 AM



Station 18 - Dogwood and VSW Checkpoint							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRAE Pro	VOC	No	784	30	0-171 ppb	0.58 ppb	9000 ppb 8hr avg
	H2S	No	784	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	CL2	No	1556	12	0-0.10 ppm	0.00 ppm	0.5 ppm 1hr avg
SPM Flex	HYDROGEN CHLORIDE (HCL)	No	2274	0	0-0 ppm	0 ppm	1.8 ppm 1hr avg

Station 19 - Rockdale & Old Cov Hwy Checkpoint							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRAE Pro	VOC	No	753	0	0-0 ppb	0 ppb	9000 ppb 8hr avg
	H2S	No	753	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	CL2	No	1494	1454	0-0.40 ppm	0.26 ppm	0.5 ppm 1hr avg

Station 20 - West Old Cov Hwy Checkpoint							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRAE Pro	VOC	No	756	3	0-11 ppb	0.04 ppb	9000 ppb 8hr avg
	H2S	No	756	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	CL2	No	1502	1184	0-0.40 ppm	0.12 ppm	0.5 ppm 1hr avg

Station 21 - Railroad Crossing Checkpoint							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRAE Pro	VOC	No	756	3	0-11 ppb	0.04 ppb	9000 ppb 8hr avg
	H2S	No	756	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	CL2	No	1554	0	0-0 ppm	0 ppm	0.5 ppm 1hr avg

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

**From:** 10/8/24  
5:00 PM

The logo is a circular seal for the EPA Emergency Response. The top half is dark blue with the text "UNITED STATES" in white. The bottom half is red with the text "EMERGENCY RESPONSE" in white. In the center, there is a white EPA logo (a stylized flower/leaf) and the letters "EPA" in white. The words "ENVIRONMENTAL PROTECTION AGENCY" are written in white around the bottom inner edge of the seal.

% Percent  
< Less than  
> Greater than

AEGL Acute Exposure Guideline Levels for Airborne Chemicals

C/m Counts (ionization events) per minute

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

Analyte	Definition	Action Level Reference
CL <sub>2</sub>	Chlorine	A EGL-1 1hr
H <sub>2</sub> S	Hydrogen Sulfide	A EGL-1 1hr
HYDROGEN CHLORIDE	Hydrogen Chloride	A EGL-1 1hr
VOC	Volatile Organic Compounds	A EGL-1 1hr

Notes:

- \* Exceedances checked against SPM Flex. Confirmed to be sensor drift

# 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 10/8/2024 to 5:00am on 10/9/2024:

- **Station 2:** No issues observed.
- **Station 8:** From 7:30pm to 5:00am there were sustained measurements of Cl<sub>2</sub> with a peak of 0.6ppm; the maximum 1-hour average was 0.4ppm, the maximum 8-hour average was 0.34ppm.
- **Station 10:** No issues observed.
- **Station 11:** From 5:00pm to 8:00pm there were sustained measurements of Cl<sub>2</sub> with a peak of 0.7ppm; the maximum 1-hour average was 0.2ppm, the maximum 8-hour average was 0.05ppm.
- **Station 13:** From 5:00pm to 5:00am there were sustained measurements of Cl<sub>2</sub> with a peak of 0.3ppm; the maximum 1-hour average was 0.1ppm, the maximum 8-hour average was 0.08ppm.
- **Station 14:** No issues observed.
- **Station 16:** From 8:00pm to 5:00am there were sustained measurements of Cl<sub>2</sub> with a peak of 0.3ppm; the maximum 1-hour average was 0.2ppm, the maximum 8-hour average was 0.11ppm.
- **Station 17:** No issues observed.
- **Station 18:** No issues observed.
- **Station 19:** From 8:30pm to 5:00am there were sustained measurements of Cl<sub>2</sub> with a peak of 0.4ppm; the maximum 1-hour average was 0.3ppm, the maximum 8-hour average was 0.29ppm.
- **Station 20:** From 7:00pm to 5:00am there were sustained measurements of Cl<sub>2</sub> with a peak of 0.4ppm; the maximum 1-hour average was 0.2ppm, the maximum 8-hour average was 0.13ppm.
- **Station 21:** 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)
  - **H<sub>2</sub>S:** 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
  - **O<sub>2</sub>:** Oxygen; this is a default sensor for the instrument and is used for industrial safety
  - **Cl<sub>2</sub>:** 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
  - **COCl<sub>2</sub>:** 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](http://EPA.gov/AEGL).