## **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

UNITEDSTATES
EPA :
SENTAL PROTECTION

From:	10/8/24 5:00 AM	То:	10/8/24 5:00 PM		OT RE	PROTECTION		
Station 2 - Mammy's								
		Number of	Manage and					

Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level		
	VOC	No	942	24	0-265 ppb	1.31 ppb	9000 ppb 8hr avg		
AreaRAE Pro	H2S	No	942	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg		
	CL2	No	1659	408	0-0.20 ppm	0.03 ppm	0.5 ppm 1hr avg		
SPM Flex	HYDROGEN CHLORIDE (HCL)	No	13763	0	0-0 ppm	0 ppm	1.8 ppm 1hr avg		
Station 8- Iris Drive SW Near Pyro Fireworks									
			Station 8- Iris	Drive SW Near I	Pyro Fireworks				
Instrument	Analyte	Action Level Exceedance?	Station 8- Iris Number of Readings	Drive SW Near F Number of Detections	Pyro Fireworks Concentration Range	Period Average	Action Level		
Instrument	Analyte VOC	Action Level Exceedance? No	Station 8- Iris Number of Readings 935	Drive SW Near F Number of Detections 534	Pyro Fireworks Concentration Range 0-2122 ppb	Period Average 743.46 ppb	Action Level 9000 ppb 8hr avg		
Instrument AreaRAE Pro	Analyte VOC H2S	Action Level Exceedance? No No	Station 8- Iris Number of Readings 935 935	Drive SW Near P Number of Detections 534 0	Pyro Fireworks Concentration Range 0-2122 ppb 0-0 ppm	Period Average 743.46 ppb 0 ppm	Action Level 9000 ppb 8hr avg 0.51 ppm 1hr avg		
Instrument AreaRAE Pro	Analyte VOC H2S CL2	Action Level Exceedance? No No No	Station 8- Iris Number of Readings 935 935 1646	Drive SW Near F Number of Detections 534 0 462	Pyro Fireworks Concentration Range 0-2122 ppb 0-0 ppm 0-0.30 ppm	Period Average 743.46 ppb 0 ppm 0.05 ppm	Action Level 9000 ppb 8hr avg 0.51 ppm 1hr avg 0.5 ppm 1hr avg		

SPM Flex	HYDROGEN CHLORIDE (HCL)	No	13779	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		
	VOC	No	768	6	0-9 ppb	0.04 ppb	9000 ppb 8hr avg		
AreaRAE Pro	H2S	No	768	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg		
	CL2	No	1318	14	0-0.00 ppm	0.00 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			
	VOC	No	965	443	0-29 ppb	2.74 ppb	9000 ppb 8hr avg			
AreaRAE Pro	H2S	No	964	0	0-0 ppm	0.00 ppm	0.51 ppm 1hr avg			
	CL2	No	1705	848	0-0.50 ppm	0.07 ppm	0.5 ppm 1hr avg			
SPM Flex	HYDROGEN CHLORIDE (HCL)	No	13712	1198	0-0.05 ppm	0.00 ppm	1.8 ppm 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	922	7	0-2 ppb	0.01 ppb	9000 ppb 8hr avg			
	H2S	No	922	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg			
	CL2	No	1643	656	0-0.50 ppm	0.10 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			
	VOC	No	535	5	0-31 ppb	0.13 ppb	9000 ppb 8hr avg			
AreaRAE Pro	H2S	No	535	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg			
	CL2	No	966	200	0-0.00 ppm	0.00 ppm	0.5 ppm 1hr avg			
SPM Flex	HYDROGEN CHLORIDE (HCL)	No	13748	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			
	VOC	No	752	107	0-535 ppb	10.75 ppb	9000 ppb 8hr avg			
AreaRAE Pro	H2S	No	752	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg			
	CL2	No	1282	150	0-0.20 ppm	0.03 ppm	0.5 ppm 1hr avg			
			Stat	ion 17 - Lester Bi	iolab					
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level			
	VOC	No	935	167	0-191 ppb	1.19 ppb	9000 ppb 8hr avg			
AreaRAE Pro	H2S	No	935	1	0-0.40 ppm	0.00 ppm	0.51 ppm 1hr avg			
	CL2	No	1645	272	0-0.00 ppm	0.00 ppm	0.5 ppm 1hr avg			

	Station 18 - Dogwood and VSW Checkpoint									
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level			
	VOC	No	336	0	0-0 ppb	0 ppb	9000 ppb 8hr avg			
AreaRAE Pro	H2S	No	336	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg			
	CL2	No	455	0	0-0 ppm	0 ppm	0.5 ppm 1hr avg			

	Station 19 - Rockdale & Old Cov Hwy Checkpount									
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level			
-	VOC	No	323	0	0-0 ppb	0 ppb	9000 ppb 8hr avg			
AreaRAE Pro	H2S	No	323	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg			
ľ	CL2	No	438	0	0-0 ppm	0 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:	10/8/24		
	5:00 AM		



	Station 20 - West Old Cov Hwy Checkpount									
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level			
	VOC	No	298	37	0-2 ppb	0.15 ppb	9000 ppb 8hr avg			
AreaRAE Pro	H2S	No	298	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg			
	CL2	No	404	124	0-0.20 ppm	0.03 ppm	0.5 ppm 1hr avg			

*To:* 10/8/24

5:00 PM

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	298	37	0-2 ppb	0.15 ppb	9000 ppb 8hr avg
	H2S	No	298	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	CL2	No	467	0	0-0 ppm	0 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

## *To:* 10/8/24 From: 10/8/24 RESP SENTAL PROTECT 5:00 AM 5:00 PM



Notes:		Analyte	Definition	Action Level Reference
	% Percent	CL2	Chlorine	AEGL-1 1hr
	< Less than	H2S	Hydrogen Sulfide	AEGL-1 1hr
	> Greater than	HYDROGEN CHLORIDE	Hydrogen Chloride	AEGL-1 1hr
	AEGL Acute Exposure Guideline Levels for Airborne Chemicals	VOC	Volatile Organic Compounds	AEGL-1 1hr
	C/m Counts (ionization events) per minute			
	μg/m <sup>3</sup> Micrograms per cubic meter	Notes:	* Calibated to be bias high. Readings attritubed to sensor drift.	
	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 5:00am on 10/8/2024 to 5:00pm on 10/8/2024:

- **Station 2:** From 5:00am to 9:00am there were sustained measurements of Cl2 with a peak of 0.2ppm; the maximum 1-hour average was 0.1ppm, the maximum 8-hour average was 0.18ppm.
- **Station 8:** From 5:00am to 9:30am there were sustained measurements of Cl2 with a peak of 0.2ppm; the maximum 1-hour average was 0.1ppm, the maximum 8-hour average was 0.17ppm.
- Station 10: No issues observed.
- Station 11: From 5:00am to 9:00am there were sustained measurements of Cl2 with a peak of 0.3ppm; the maximum 1-hour average was 0.1ppm, the maximum 8-hour average was 0.19ppm. From 11:40am to 5:00pm there were sustained measurements of Cl2 with a peak of 0.5ppm; the maximum 1-hour average was 0.1ppm, the maximum 8-hour average was 0.06ppm.
- **Station 13:** From 5:00am to 10:30am there were sustained measurements of Cl2 with a peak of 0.5ppm; the maximum 1-hour average was 0.3ppm, the maximum 8-hour average was 0.27ppm.
- Station 14: No issues observed.
- Station 16: No issues observed.
- Station 17: No issues observed.
- Station 18: No issues observed.
- Station 19: No issues observed.
- **Station 20:** From 3:30pm to 5:00pm there were sustained measurements of Cl2 with a peak of 0.2ppm; the maximum 1-hour average was 0.1ppm, the maximum 8-hour average was 0.10ppm.
- 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)
  - 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
  - o **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
  - **HCI:** 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.