

# 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: 9/30/24  
5:00 AM

To: 9/30/24  
5:00 PM



Station 1 - Intersection of VFW Dr and Dogwood Dr - 33.6676025, -84.0353546							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRAE Pro	VOC	No	806	5	0-456 ppb	1.88 ppb	9000 ppb 8hr avg
	CO	No	806	4	0-7 ppm	0.03 ppm	83 ppm 1hr avg
	H2S	No, see review section	806	4	0-0.60 ppm	0.00 ppm	0.51 ppm 1hr avg
	O2	Yes	806	806	2-20.90 %	20.83 %	<19.5 or >23%
	LEL	No	806	0	0-0 %	0 %	0.1
	CL2	No	801	189	0-0.40 ppm	0.03 ppm	0.5 ppm 1hr avg
SPM Flex	HYDROGEN CHLORIDE (HCL)	No	13462	0	0-0 ppm	0 ppm	1.8 ppm 1hr avg
SPM Flex	PHOSGENE (COCL2)	No	13288	0	0-0 ppb	0 ppb	300 ppb 1hr avg

Station 2 - Mammy's - 33.674175, -84.029980							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRAE Pro	VOC	No	1654	10	0-5198 ppb	6.70 ppb	9000 ppb 8hr avg
	CO	No	1666	176	0-10 ppm	0.37 ppm	83 ppm 1hr avg
	H2S	No	1664	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	O2	Yes	1664	1664	2.90-21.30 %	20.78 %	<19.5 or >23%
	LEL	No	1664	0	0-0 %	0 %	0.1
	CL2	No, see review section	1659	17	0-1.50 ppm	0.00 ppm	0.5 ppm 1hr avg
SPM Flex	HYDROGEN CHLORIDE (HCL)	No	13794	3648	0-0.50 ppm	0.03 ppm	1.8 ppm 1hr avg
SPM Flex	PHOSGENE (COCL2)	No	13811	415	0-4 ppb	0.07 ppb	300 ppb 1hr avg

Station 3 - ER Trailer - 33.674217, -84.046940							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRAE Pro	VOC	No	2014	703	0-5182 ppb	51.99 ppb	9000 ppb 8hr avg
	CO	No	2014	392	0-37 ppm	1.27 ppm	83 ppm 1hr avg
	H2S	No, see review section	2014	251	0-3.70 ppm	0.11 ppm	0.51 ppm 1hr avg
	O2	Yes	2014	2014	1.40-20.90 %	20.81 %	<19.5 or >23%
	LEL	No	2014	0	0-0 %	0 %	0.1
	CL2	No, see review section	2004	27	0-0.70 ppm	0.00 ppm	0.5 ppm 1hr avg

Station 4- Lake- Rockbridge Rd- 33.677760, -84.029640							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRAE Pro	VOC	No	883	6	0-872 ppb	1.48 ppb	9000 ppb 8hr avg
	CO	No	883	8	0-11 ppm	0.04 ppm	83 ppm 1hr avg
	H2S	No, see review section	883	6	0-1.10 ppm	0.00 ppm	0.51 ppm 1hr avg
	O2	Yes	883	883	3.20-20.90 %	20.70 %	<19.5 or >23%
	LEL	No	883	0	0-0 %	0 %	0.1
	CL2	No, see review section	881	264	0-1.40 ppm	0.04 ppm	0.5 ppm 1hr avg

Station 5-Park Circle- Lester Rd- 33.674816, -84.037610							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRAE Pro	VOC	No	1912	332	0-530 ppb	2.95 ppb	9000 ppb 8hr avg
	CO	No	1912	0	0-0 ppm	0 ppm	83 ppm 1hr avg
	H2S	No	1912	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	O2	No	1912	1912	20.90-20.90 %	20.90 %	<19.5 or >23%
	LEL	No	1912	0	0-0 %	0 %	0.1

Station 6- Bio Lab Gate- 33.6740723, -84.0453600							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRAE Pro	VOC	No	2001	0	0-0 ppb	0 ppb	9000 ppb 8hr avg
	CO	No	2001	6	0-19 ppm	0.02 ppm	83 ppm 1hr avg
	H2S	No	2001	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	O2	No	2001	2001	21.10-21.50 %	21.25 %	<19.5 or >23%
	LEL	No	2001	0	0-0 %	0 %	0.1

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: 9/30/24  
5:00 AM

To: 9/30/24  
5:00 PM

Station 7- North Main St at Irwin Bridge Rd- 33.674046, -84.025100							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRAE Pro	VOC	No	1256	0	0-0 ppb	0 ppb	9000 ppb 8hr avg
	CO	No	1260	18	0-16 ppm	0.13 ppm	83 ppm 1hr avg
	H2S	No	1260	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	O2	No	1260	1260	20.90-21.20 %	20.90 %	<19.5 or >23%
	LEL	No	1260	0	0-0 %	0 %	0.1

Station 8- MultiRae Pro Roaming							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRAE Pro	VOC	No	1940	0	0-0 ppb	0 ppb	9000 ppb 8hr avg
	O2	No	1940	1940	20.50-20.90 %	20.78 %	<19.5 or >23%
	LEL	No	1940	0	0-0 %	0 %	0.1
	CL2	No, see review section	1940	391	0-25.40 ppm	0.58 ppm	0.5 ppm 1hr avg

Notes:	Analyte	Definition	Action Level Reference
% Percent	CL2	Chlorine	AEGL-1 1hr
< Less than	CO	Carbon Monoxide	AEGL-2 1hr
> Greater than	H2S	Hydrogen Sulfide	AEGL-1 1hr
AEGL Acute Exposure Guideline Levels for Airborne Chemicals	HYDROGEN CHLORIDE (HCL)	Hydrogen Chloride	AEGL-1 1hr
C/m Counts (ionization events) per minute	LEL	Lower Explosive Limit	29 CFR 1910.146, Confined Spaces
µg/m³ Micrograms per cubic meter	O2	Oxygen	29 CFR 1910.146, Confined Spaces
min Minute	PHOSGENE (COCL2)	Phosgene (COCL₂)	AEGL-2 1hr
PAC Protective Action Criteria	VOC	Volatile Organic Compounds	AEGL-1 1hr
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 9/30/2024 to 4:59pm on 9/30/2024:

All instruments were calibrated on 9/30/2024 and those data were included in a previous version of this report. The calibration data showed concentrations of Cl<sub>2</sub> from 14.8ppm to 21.9ppm, VOC concentrations up to 97150ppb, H<sub>2</sub>S concentrations up to 10.1ppm and other elevated readings. The calibration data have been removed from the dataset and the report has been re-issued.

- **Station 1:** There were several measurements of Cl<sub>2</sub> at 0.1 up to 0.2ppm occurring from 5am to 11am, but none were sustained measurements. The hourly average for Cl<sub>2</sub> did not exceed 0.13ppm. There were two brief but not sustained measurements of H<sub>2</sub>S at 0.6ppm at 6am and at 8am; the hourly average for H<sub>2</sub>S did not exceed 0.09ppm
- **Station 2:** There were three brief but not-sustained measurements of Cl<sub>2</sub> with peaks up to 1.5ppm. The hourly average for Cl<sub>2</sub> did not exceed 0.04ppm.
- **Station 3:** There were several measurements of Cl<sub>2</sub> at 0.1ppm up to 0.7ppm occurring from 5am to 9am, but none were sustained measurements. The hourly average for Cl<sub>2</sub> did not exceed 0.02ppm . There were multiple measurements of H<sub>2</sub>S from 12:30pm to 5pm with most below 2ppm and lasting a few seconds but some sustained measurements lasting 2 minutes. The hourly average for H<sub>2</sub>S did not exceed 0.32ppm.
- **Station 4:** There was a Cl<sub>2</sub> peak of 1.4ppm at 2:30pm showing a rise and fall of concentrations. Multiple individual measurements of 0.1ppm were made between 7:30am and 11am. The hourly average for Cl<sub>2</sub> did not exceed 0.11ppm. There were four measurements of H<sub>2</sub>S above 0.5ppm around 3pm on 9/30 but none were sustained and results returned to 0ppm. This occurred at the same approximate time as a low level VOC measurement which peaked at 872ppb.
- **Station 5:** No issues observed. This instrument lacks a Cl<sub>2</sub> sensor
- **Station 6:** No issues observed. This instrument lacks a Cl<sub>2</sub> sensor
- **Station 7:** No issues observed. This instrument lacks a Cl<sub>2</sub> sensor
- **Station 8:** This instrument is not stationary. The MultiRAE is a handheld instrument that was used to measure chlorine readings close to the Site for personnel health and safety and to investigate low-lying areas. The period average for this instrument is not interpreted as an actual exposure.

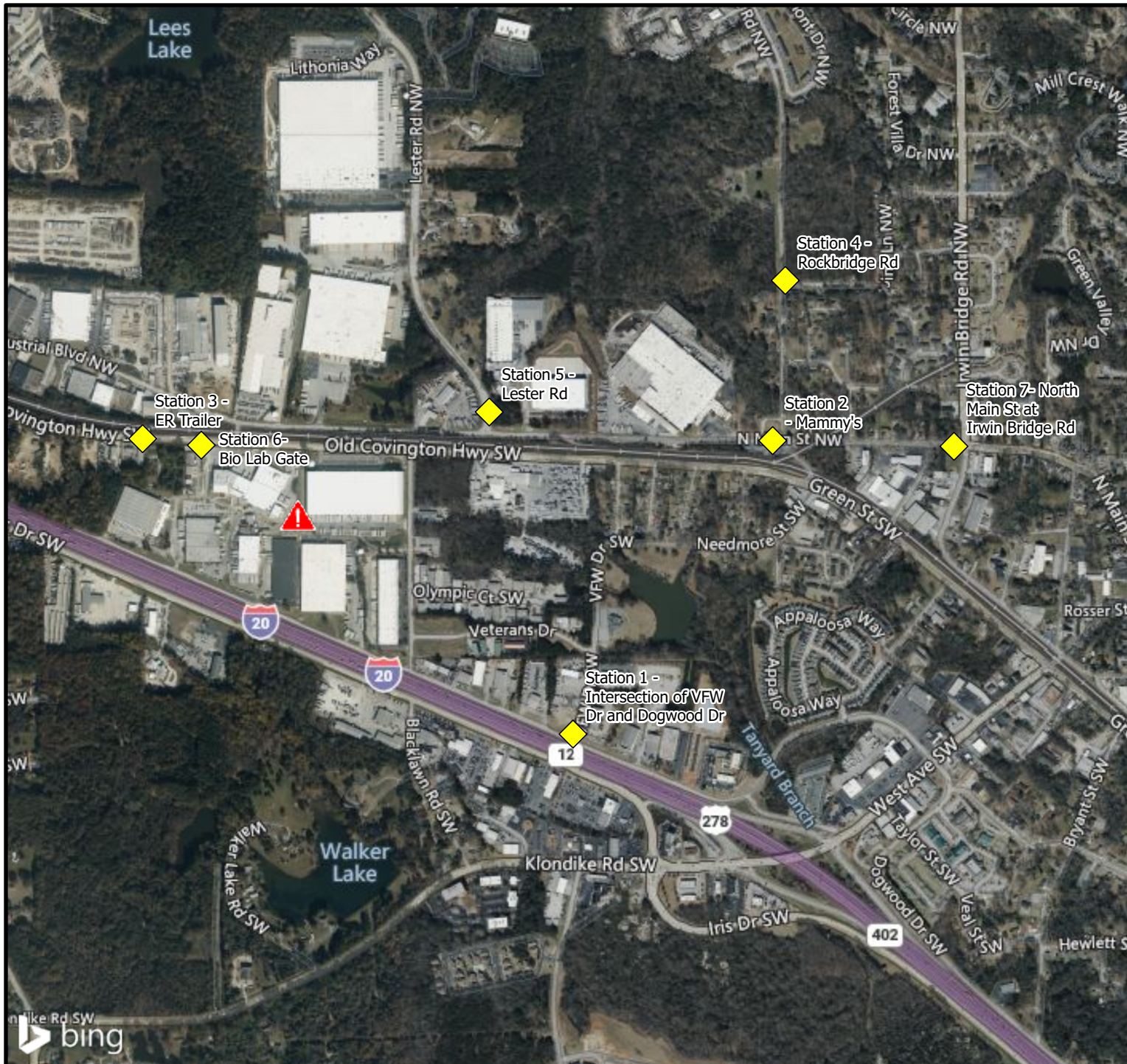
# Air Monitoring Summary Tables – Explanation of Tables

**Project Name:** Bio Lab Chlorine

The following information is provided in each report:

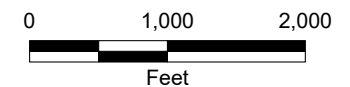
- **Station** – at the top of each table is a name and location for each air monitoring station. These are mobile stations that may change over time.
- **Instrument** – this is the model of instrument being used to measure the air. Some stations may use multiple instruments, and some instruments may 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).



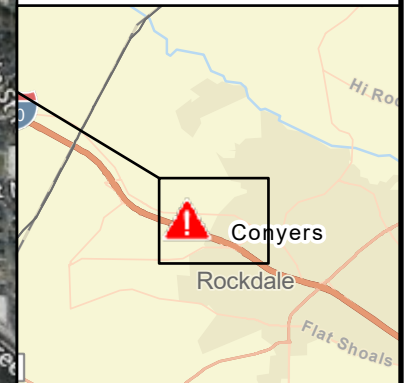


Legend

- Incident Location
- Viper Deployment Locations



Map Source:  
BING Maps Hybrid



United States  
Environmental Protection Agency  
Region 4

VIPER Deployment Locations  
9/30/24 5 AM to 9/30/24 5 PM

Site Name: BIOLABS Fire

City:	County:	State:
Conyers	Rockdale	Georgia



Date:  
10/1/2024  
Analyst:  
NATHAN WARREN