

# Air Monitoring Summary Tables

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

Project Name: **Bio Lab Chlorine ER**

From: **10/1/24**  
5:00 AM

To: **10/1/24**  
4:59 PM



Station 1 - Intersection of VFW Dr and Dogwood Dr							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRAE Pro	VOC	No	1074	0	0-0 ppb	0 ppb	9000 ppb 8hr avg
	CO	No	1074	1	0-6 ppm	0.01 ppm	83 ppm 1hr avg
	H2S	No	1074	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	O2	No	1074	1074	20.90-20.90 %	20.90 %	<19.5 or >23%
	LEL	No	1074	0	0-0 %	0 %	0.1
	CL2	Max 1-hour avg was 0.49ppm	1074	480	0-5 ppm	0.15 ppm	0.5 ppm 1hr avg
SPM Flex	HYDROGEN CHLORIDE (HCL)	No	13803	7659	0-4.36 ppm	0.12 ppm	1.8 ppm 1hr avg
SPM Flex	PHOSGENE (COCL2)	No	13825	623	0-4 ppb	110 ppb	300 ppb 1hr avg

Station 2 - Mammy's Kitchen - Intersection of Rockdale Industrial Blvd and Rockbridge Rd							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRAE Pro	VOC	No	1097	21	0-56512 ppb	158.77 ppb	9000 ppb 8hr avg
	CO	No	1097	228	0-56 ppm	1.23 ppm	83 ppm 1hr avg
	H2S	No	1097	5	0-10.80 ppm	0.03 ppm	0.51 ppm 1hr avg
	O2	No	1097	1097	2.80-20.90 %	20.83 %	<19.5 or >23%
	LEL	No	1097	3	0-50 %	0.13 %	0.1
	CL2	No	1097	10	0-0.30 ppm	0.00 ppm	0.5 ppm 1hr avg
SPM Flex	HYDROGEN CHLORIDE (HCL)	No	13184	635	0-0.27 ppm	0.00 ppm	1.8 ppm 1hr avg
SPM Flex	PHOSGENE (COCL2)	No	13777	143	0-3 ppb	30 ppb	300 ppb 1hr avg

Station 3 - ER Trailer - Old Covington Hwy							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRAE Pro	VOC	No	1181	28	0-1746 ppb	8.76 ppb	9000 ppb 8hr avg
	CO	No	1181	396	0-47 ppm	2.61 ppm	83 ppm 1hr avg
	H2S	Max 1-hour avg was 0.5ppm	1181	241	0-4.30 ppm	0.20 ppm	0.51 ppm 1hr avg
	O2	No	1181	1181	20.60-20.90 %	20.90 %	<19.5 or >23%
	LEL	No	1181	0	0-0 %	0 %	0.1
	CL2	No	1181	32	0-0.20 ppm	0.00 ppm	0.5 ppm 1hr avg

Station 4 - Intersection of Rockbridge Rd and Harvell St							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRAE Pro	VOC	No	530	1	0-758 ppb	1.43 ppb	9000 ppb 8hr avg
	CO	No	530	19	0-6 ppm	0.14 ppm	83 ppm 1hr avg
	H2S	No	530	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	O2	No	530	530	20.60-20.90 %	20.71 %	<19.5 or >23%
	LEL	No	530	0	0-0 %	0 %	0.1
	CL2	No	530	338	0-0.30 ppm	0.13 ppm	0.5 ppm 1hr avg

Station 5 - Intersection of Lester Rd and Old Covington Hwy							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRAE Pro	VOC	No	566	0	0-0 ppb	0 ppb	9000 ppb 8hr avg
	CO	No	566	0	0-0 ppm	0 ppm	83 ppm 1hr avg
	H2S	No	566	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	O2	No	566	566	20.90-20.90 %	20.90 %	<19.5 or >23%
	LEL	No	566	0	0-0 %	0 %	0.1
	CL2	No	31	0	0-0 ppm	0 ppm	0.5 ppm 1hr avg

Station 6 - Bio Lab Gate							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRAE Pro	VOC	No	895	0	0-0 ppb	0 ppb	9000 ppb 8hr avg
	CO	No	895	1	0-4 ppm	0.00 ppm	83 ppm 1hr avg
	H2S	No	895	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	O2	No	895	895	21.10-21.50 %	21.21 %	<19.5 or >23%
	LEL	No	895	0	0-0 %	0 %	0.1



# 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 10/1/2024 to 4:59pm on 10/1/2024:

- **Station 1:** From 10:40am to 11:00am there was a rise and fall of Cl<sub>2</sub> concentrations that peaked at 5ppm; the resulting Cl<sub>2</sub> hourly average reached 0.49ppm. From 9:30am to 9:50am there was a rise and fall of Cl<sub>2</sub> concentrations that peaked at 1.4ppm; the resulting Cl<sub>2</sub> hourly average reached 0.14ppm. There were six sustained measurements of HCl lasting 30 to 60 minutes, four peaked below 1ppm and one peaked up to 4.36ppm; the hourly average for HCl did not exceed 0.55ppm.
- **Station 2:** From 6:45am to 7:00am there was a brief peak of VOCs above 50,000ppb; the hourly average for VOCs did not exceed 1201ppb.
- **Station 3:** There were frequent but not sustained measurements of H<sub>2</sub>S throughout the operational period with a maximum concentration of 4.3ppm; the hourly average for H<sub>2</sub>S did not exceed 0.50ppm (the action level for H<sub>2</sub>S is 0.51ppm for a 1-hour average).
- **Station 4:** No issues observed
- **Station 5:** No issues observed. The Cl<sub>2</sub> sensor for this instrument was installed around 4:00pm
- **Station 6:** No issues observed. This instrument lacks a Cl<sub>2</sub> sensor
- **Station 7:** No issues observed. The Cl<sub>2</sub> sensor for this instrument was installed around 4:00pm

# 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)
  - **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](http://EPA.gov/AEGL).