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: **10/14/24**
5:00 AM

To: **10/14/24**
5:00 PM

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	953	144	0-575 ppb	3.96 ppb	9000 ppb 8hr avg
	H2S	No	953	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	CL2	No	1906	908	0-0.70 ppm	0.15 ppm	0.5 ppm 1hr avg
SPM Flex	HYDROGEN CHLORIDE (HCL)	No	13780	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	1063	2	0-78 ppb	0.10 ppb	9000 ppb 8hr avg
	H2S	No	1063	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	CL2	No	2125	0	0-0 ppm	0 ppm	0.5 ppm 1hr avg
SPM Flex	HYDROGEN CHLORIDE (HCL)	No	13818	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
AreaRAE Pro	VOC	No	991	1	0-152 ppb	0.15 ppb	9000 ppb 8hr avg
	H2S	No	991	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	CL2	No	1982	690	0-0.20 ppm	0.04 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	1052	0	0-0 ppb	0 ppb	9000 ppb 8hr avg
	CL2	No	2104	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
SPM Flex	HYDROGEN CHLORIDE (HCL)	No	13696	0	0-0 ppm	0 ppm	0.5 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	1008	0	0-0 ppb	0 ppb	9000 ppb 8hr avg
	CL2	No	2015	1655	0-0.40 ppm	0.13 ppm	0.51 ppm 1hr avg
SPM Flex	HYDROGEN CHLORIDE (HCL)	No	13740	0	0-0 ppm	0 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
AreaRAE Pro	VOC	No	624	0	0-0 ppb	0 ppb	9000 ppb 8hr avg
	H2S	No	624	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	CL2	No	1248	0	0-0 ppm	0 ppm	0.5 ppm 1hr avg
SPM Flex	HYDROGEN CHLORIDE (HCL)	No	13813	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	928	0	0-0 ppb	0 ppb	9000 ppb 8hr avg
	H2S	No	928	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	CL2	No	1856	0	0-0 ppm	0 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	1057	0	0-0 ppb	0 ppb	9000 ppb 8hr avg
	H2S	No	1057	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	CL2	No	2114	958	0-0.40 ppm	0.11 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
AreaRAE Pro	VOC	No	992	1	0-6 ppb	0.01 ppb	9000 ppb 8hr avg
	H2S	No	992	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	CL2	No	1982	1416	0-0.20 ppm	0.07 ppm	0.5 ppm 1hr avg
SPM Flex	HYDROGEN CHLORIDE (HCL)	No	13788	0	0-0 ppm	0 ppm	1.8 ppm 1hr avg

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Project Name: **Biolabs Chlorine Fire**

From: **10/14/24**
5:00 AM

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5:00 PM

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	854	0	0-0 ppb	0 ppb	9000 ppb 8hr avg
	H2S	No	854	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	CL2	No	1707	694	0-0.20 ppm	0.07 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	1046	0	0-0 ppb	0 ppb	9000 ppb 8hr avg
	H2S	No	1046	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	CL2	No	2092	856	0-0.20 ppm	0.04 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	1046	0	0-0 ppb	0 ppb	9000 ppb 8hr avg
	H2S	No	1046	0	0-0 ppm	0 ppm	0.51 ppm 1hr avg
	CL2	No	2113	778	0-0.50 ppm	0.08 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: **10/14/24 5:00 AM** ***To:*** **10/14/24 *5:00 PM***

Notes:

% 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
CL2	Chlorine	AEGL-1 1hr avg
H2S	Hydrogen Sulfide	AEGL-1 1hr avg
HYDROGEN CHLORIDE	Hydrogen Chloride	AEGL-1 1hr avg
VOC	Volatile Organic Compounds	AEGL-1 8hr (for benzene)

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 10/14/2024 to 5:00pm on 10/14/2024:

- **Station 2:** From 5:00am to 11:00am there were sustained measurements of Cl2 with a peak of 0.7ppm; the maximum 1-hour average was 0.4ppm, the maximum 8-hour average was 0.29ppm.
- **Station 8:** No issues observed.
- **Station 10:** No issues observed.
- **Station 11:** No issues observed.
- **Station 13:** From 5:00am to 10:00am there were sustained measurements of Cl2 with a peak of 0.4ppm; the maximum 1-hour average was 0.3ppm, the maximum 8-hour average was 0.21ppm.
- **Station 14:** No issues observed.
- **Station 16:** No issues observed.
- **Station 17:** From 5:00am to 11:00am there were sustained measurements of Cl2 with a peak of 0.4ppm; the maximum 1-hour average was 0.3ppm, the maximum 8-hour average was 0.23ppm.
- **Station 18:** No issues observed.
- **Station 19:** No issues observed.
- **Station 20:** No issues observed.
- **Station 21:** From 5:00am to 10:00am there were sustained measurements of Cl2 with a peak of 0.5ppm; the maximum 1-hour average was 0.2ppm, the maximum 8-hour average was 0.22ppm.

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.