

Air Monitoring Summary Tables

The tables below summarize monitoring data collected using EPA's Viper wireless remote monitoring system. The "Number of Readings" are artificially reduced to manage large quantities of data for this report. Further discussion is provided in the notes section on page 5.



Project Name: Applegate Lane Containers

**From: 10/17/23
7:01 AM**

**To: 10/18/23
6:59 AM**

Station 01 - Tier I							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRAE 1	VOC	No	1436	0	0-0 ppb	0.00 ppb	9000 ppb
	CO	No	1436	0	0-0 ppm	0.00 ppm	83 ppm
	H2S	No	1436	0	0-0 ppm	0.00 ppm	0.51 ppm
	O2	No	1436	1436	20.9-20.9 %	20.9 %	<19.5 or >23 %
	LEL	No	1436	0	0-0 %	0 %	10 %
	HCN	No	1436	0	0-0 ppm	0.00 ppm	2 ppm
DustTrak 1	PM2.5	See PM-2.5 Action Levels	1439	1439	1-40 µg/m3	6.32 µg/m3	See PM-2.5 Action Levels
SPM Flex 1	Ammonia (NH3)	No	1439	1	0-0.01 ppm	0.00 ppm	30 ppm
SPM Flex 2	Nitric Acid (HNO3)	No	1440	0	0-0 ppm	0.00 ppm	0.16 ppm

Station 02 - Tier I							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRAE 2	VOC	No	1437	1437	167-867 ppb	494.11 ppb	9000 ppb
	CO	No	1437	1	0-2 ppm	0.00 ppm	83 ppm
	H2S	No	1437	0	0-0 ppm	0.00 ppm	0.51 ppm
	O2	No	1437	1437	20.9-20.9 %	20.9 %	<19.5 or >23 %
	LEL	No	1437	0	0-0 %	0.0 %	10 %
	HCN	No	1437	0	0-0 ppm	0.00 ppm	2 ppm
DustTrak 2	PM2.5	See PM-2.5 Action Levels	1444	1444	6-34 µg/m3	11.33 µg/m3	See PM-2.5 Action Levels
SPM Flex 3	Ammonia (NH3)	No	1439	0	0-0 ppm	0.00 ppm	30 ppm
SPM Flex 4	Nitric Acid (HNO3)	No	1439	0	0-0 ppm	0.00 ppm	0.16 ppm

Station 03 - Tier I							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRAE 3	VOC	No	1440	1009	0-274 ppb	98.23 ppb	9000 ppb
	CO	No	1440	0	0-0 ppm	0.00 ppm	83 ppm
	H2S	No	1440	0	0-0 ppm	0.00 ppm	0.51 ppm
	O2	No	1440	1440	20.5-20.9 %	20.81 %	<19.5 or >23 %
	LEL	No	1440	0	0-0 %	0.00 %	10 %
	HCN	No	1440	1	0-0.1 ppm	0.00 ppm	2 ppm
DustTrak 3	PM2.5	See PM-2.5 Action Levels	1440	1440	3-27 µg/m3	8.35 µg/m3	See PM-2.5 Action Levels
SPM Flex 5	Ammonia (NH3)	No	1439	10	0-0.03 ppm	0.00 ppm	30 ppm
SPM Flex 6	Nitric Acid (HNO3)	No	1439	0	0-0 ppm	0.00 ppm	0.16 ppm

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Station 04 - Tier I							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRae 4	VOC	No	1439	0	0-0 ppb	0.00 ppb	9000 ppb
	CO	No	1439	0	0-0 ppm	0.00 ppm	83 ppm
	H2S	No	1439	0	0-0 ppm	0.00 ppm	0.51 ppm
	O2	No	1439	1439	20.9-20.9 %	20.90 %	<19.5 or >23 %
	LEL	No	1439	0	0-0 %	0.00 %	10 %
	HCN	No	1439	192	0-0.2 ppm	0.01 ppm	2 ppm
DustTrak 4	PM2.5	See PM-2.5 Action Levels	1439	1439	4-26 µg/m3	8.18 µg/m3	See PM-2.5 Action Levels
SPM Flex 7	Ammonia (NH3)	No	1439	28	0-0.07 ppm	0.000298819	30 ppm
SPM Flex 8	Nitric Acid (HNO3)	No	1439	0	0-0 ppm	0	0.16 ppm

Station 05 - Tier I							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRae 5	VOC	No	1438	1438	256-744 ppb	518.16 ppb	9000 ppb
	CO	No	1438	0	0-0 ppm	0.00 ppm	83 ppm
	H2S	No	1438	0	0-0 ppm	0.00 ppm	0.51 ppm
	O2	No	1438	1438	20.9-20.9 %	20.90 %	<19.5 or >23 %
	LEL	No	1438	0	0-0 %	0.00 %	10 %
	HCN	No	1438	0	0-0 ppm	0.00 ppm	2 ppm
DustTrak 5	PM2.5	See PM-2.5 Action Levels	1436	1436	4-43 µg/m3	12.19 µg/m3	See PM-2.5 Action Levels
SPM Flex 9	Ammonia (NH3)	No	1435	95	0-0.24 ppm	0.00 ppm	30 ppm
SPM Flex 10	Nitric Acid (HNO3)	No	1436	0	0-0 ppm	0.00 ppm	0.16 ppm

Station 06 - Tier I							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRae 6	VOC	No	1440	0	0-0 ppb	0.00 ppb	9000 ppb
	CO	No	1440	0	0-0 ppm	0.00 ppm	83 ppm
	H2S	No	1440	0	0-0 ppm	0.00 ppm	0.51 ppm
	O2	No	1440	1440	20.9-20.9 %	20.90 %	<19.5 or >23 %
	LEL	No	1440	0	0-0 %	0.00 %	10 %
	HCN	No	1440	2	0-0.1 ppm	0.00 ppm	2 ppm
DustTrak 6	PM2.5	See PM-2.5 Action Levels	1439	1439	5-35 µg/m3	10.02 µg/m3	See PM-2.5 Action Levels
SPM Flex 11	Ammonia (NH3)	No	1439	113	0-0.34 ppm	0.00 ppm	30 ppm
SPM Flex 12	Nitric Acid (HNO3)	No	1438	0	0-0 ppm	0.00 ppm	0.16 ppm

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Station 07 - Tier I							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRae 7	VOC	No	1438	1438	28-335 ppb	170.25 ppb	9000 ppb
	CO	No	1438	0	0-0 ppm	0.00 ppm	83 ppm
	H2S	No	1438	0	0-0 ppm	0.00 ppm	0.51 ppm
	O2	No	1438	1438	20.9-21.3 %	21.01 %	<19.5 or >23 %
	LEL	No	1438	0	0-0 %	0.00 %	10 %
	HCN	No	1438	0	0-0 ppm	0.00 ppm	2 ppm
DustTrak 7	PM2.5	See PM-2.5 Action Levels	1436	1419	0-64 µg/m3	9.42 µg/m3	See PM-2.5 Action Levels
SPM Flex 13	Ammonia (NH3)	No	1439	135	0-0.4 ppm	0.00 ppm	30 ppm
SPM Flex 14	Nitric Acid (HNO3)	No	1439	0	0-0 ppm	0.00 ppm	0.16 ppm

Station 08 - Crush Box (On Site)							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRae 8	VOC	No	1439	509	0-2653 ppb	9.01 ppb	9000 ppb
	CO	No	1439	2	0-4 ppm	0.01 ppm	83 ppm
	H2S	No	1439	0	0-0 ppm	0.00 ppm	0.51 ppm
	O2	No	1439	1439	20.3-20.9 %	20.50 %	<19.5 or >23 %
	LEL	No	1439	0	0-0 %	0.00 %	10 %
	HCN	No	1439	0	0-0 ppm	0.00 ppm	2 ppm

Station 10 - Tier II							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRae 10	VOC	No	1439	16	0-18 ppb	0.10 ppb	9000 ppb
	CO	No	1439	0	0-0 ppm	0.00 ppm	83 ppm
	H2S	No	1439	0	0-0 ppm	0.00 ppm	0.51 ppm
	O2	No	1439	1439	20.9-20.9 %	20.90 %	<19.5 or >23 %
	LEL	No	1439	0	0-0 %	0.00 %	10 %
	HCN	No	1439	0	0-0 ppm	0.00 ppm	2 ppm
DustTrak 10	PM2.5	See PM-2.5 Action Levels	1439	1439	2-30 µg/m3	7.37 µg/m3	See PM-2.5 Action Levels
SPM Flex 19	Ammonia (NH3)	No	1439	93	0-0.32 ppm	0.00 ppm	30 ppm
SPM Flex 20	Nitric Acid (HNO3)	No	1440	0	0-0 ppm	0.00 ppm	0.16 ppm

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Station 11 - Tier II							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRae 11	VOC	No	1439	1439	294-768 ppb	549.62 ppb	9000 ppb
	CO	No	1439	0	0-0 ppm	0.00 ppm	83 ppm
	H2S	No	1439	0	0-0 ppm	0.00 ppm	0.51 ppm
	O2	No	1439	1439	20.9-20.9 %	20.90 %	<19.5 or >23 %
	LEL	No	1439	0	0-0 %	0.00 %	10 %
	HCN	No	1439	0	0-0 ppm	0.00 ppm	2 ppm
DustTrak 11	PM2.5	See PM-2.5 Action Levels	1439	1439	2-19 µg/m3	7.05 µg/m3	See PM-2.5 Action Levels
SPM Flex 21	Ammonia (NH3)	No	1439	49	0-0.14 ppm	0.00 ppm	30 ppm
SPM Flex 22	Nitric Acid (HNO3)	No	1439	0	0-0 ppm	0.00 ppm	0.16 ppm

Station 12 - Tier II							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRae 12	VOC	No	1437	435	0-97 ppb	16.19 ppb	9000 ppb
	CO	No	1437	0	0-0 ppm	0.00 ppm	83 ppm
	H2S	No	1437	0	0-0 ppm	0.00 ppm	0.51 ppm
	O2	No	1437	1437	20.9-21.9 %	21.29 %	<19.5 or >23 %
	LEL	No	1437	0	0-0 %	0.00 %	10 %
	HCN	No	1437	462	0-0.3 ppm	0.04 ppm	2 ppm
DustTrak 12	PM2.5	See PM-2.5 Action Levels	1439	1439	9-21 µg/m3	12.74 µg/m3	See PM-2.5 Action Levels
SPM Flex 23	Ammonia (NH3)	No	1439	32	0-0.01 ppm	0.00 ppm	30 ppm
SPM Flex 24	Nitric Acid (HNO3)	No	1439	0	0-0 ppm	0.00 ppm	0.16 ppm

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Station 13 - Tier II							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRae 13	VOC	No	1439	1439	93-375 ppb	239.90 ppb	9000 ppb
	CO	No	1439	0	0-0 ppm	0.00 ppm	83 ppm
	H2S	No	1439	0	0-0 ppm	0.00 ppm	0.51 ppm
	O2	No	1439	1439	20.9-20.9 %	20.90 %	<19.5 or >23 %
	LEL	No	1439	0	0-0 %	0.00 %	10 %
	HCN	No	1439	0	0-0 ppm	0.00 ppm	2 ppm
DustTrak 13	PM2.5	See PM-2.5 Action Levels	1439	1439	2-19 µg/m3	7.00 µg/m3	See PM-2.5 Action Levels
SPM Flex 25	Ammonia (NH3)	No	1440	0	0-0 ppm	0.00 ppm	30 ppm
SPM Flex 26	Nitric Acid (HNO3)	No	1439	0	0-0 ppm	0.00 ppm	0.16 ppm

Station 14 - Tier II							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRae 14	VOC	No	1436	0	0-0 ppb	0.00 ppb	9000 ppb
	CO	No	1436	0	0-0 ppm	0.00 ppm	83 ppm
	H2S	No	1436	0	0-0 ppm	0.00 ppm	0.51 ppm
	O2	No	1436	1436	20.9-21.5 %	20.90 %	<19.5 or >23 %
	LEL	No	1436	0	0-0 %	0.00 %	10 %
	HCN	No	1436	0	0-0 ppm	0.00 ppm	2 ppm
DustTrak 14	PM2.5	See PM-2.5 Action Levels	1439	1439	3-58 µg/m3	10.81 µg/m3	See PM-2.5 Action Levels
SPM Flex 27	Ammonia (NH3)	No	1439	26	0-0.3 ppm	0.00 ppm	30 ppm
SPM Flex 28	Nitric Acid (HNO3)	No	1439	0	0-0 ppm	0.00 ppm	0.16 ppm

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Notes:

Air monitoring instruments around the site are continuously operating 24-hours per day and transmitting to a central location. When elevated readings are detected, response personnel at the Site are automatically notified so that confirmation and appropriate actions can take place. Each day, these instruments collect 44 million records and 5GB of data. To generate this summary report, the number of records have been artificially reduced by using one reading per minute from each instrument - this does not affect the period average has no significant effect on the concentration range. No data is lost and elevated concentrations of any analyte being measured at the Site would be sufficiently represented within the data shown here.

DustTrak 13 at Station 13: This instrument returned negative values for particulate matter between 6:44 pm and 6:50 pm on Oct 18. The reason for these unusual values is being explored by the air monitoring group at the Site. If a reason is found, it will be reported in a later data summary report.

Ammonia Detections: Multiple instruments show low levels of ammonia detections below 1.0 ppm. EPA has provided this data to the Agency of Toxic Substances and Disease Registry (ASTDR) for review and received the following technical assistance from ATSDR regarding ammonia at the Site:

ATSDR has developed an acute (up to 14 days) inhalation minimal risk level (MRL) of 1.7 ppm. A MRL is the level of chemical a person can be exposed to without a non-cancer health risk.

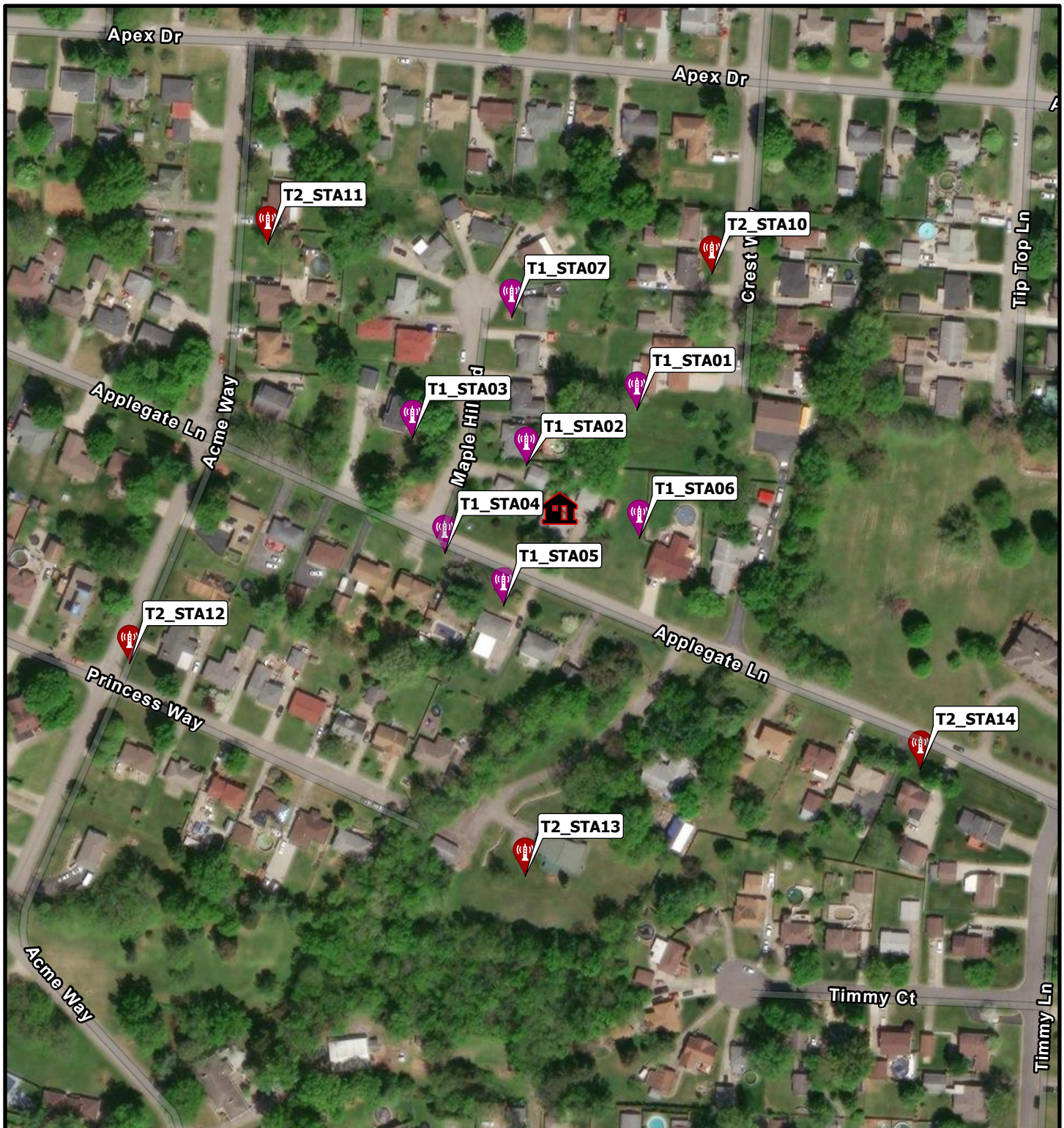
When a substance is released into the environment, it does not always lead to exposure to the substance or health effects from the substance. Ammonia is present in the air from natural sources like breakdown of organic matter. If you are exposed to ammonia, many factors will determine whether you will be harmed. These factors include the dose (how much), the duration (how long), and how you come in contact with it. You must also consider any other chemicals you are exposed to and other factors such as your age, sex, diet, family traits, lifestyle, and state of health.

Ammonia has a very strong odor that is irritating and that you can smell when it is in the air at a level higher than 5 ppm. Therefore, you will probably smell ammonia before you are exposed to a concentration that may harm you. The odor of ammonia is familiar to most people because ammonia is used in smelling salts, household cleaners, and window cleaning products. Ammonia does not last very long in the environment. Because it is recycled naturally, nature has many ways of incorporating and transforming ammonia. For example, in soil or water, plants and microorganisms rapidly take up ammonia. In the air, ammonia will last about 1 week.

Ammonia is a corrosive substance, and the main toxic effects are irritation and are restricted to the sites of direct contact with ammonia (i.e., skin, eyes, respiratory tract, mouth, and digestive tract). Ammonia is made naturally in the body through biological processes. Because it is made in the body, tests cannot determine if you have been exposed to ammonia in the environment. There is no evidence that ammonia causes cancer.

Analyte	Definition	Action Level Reference
VOC	Volatile Organic Compounds	AEGL-1 8hr for Benzene
CO	Carbon Monoxide	AEGL-2 1hr
H2S	Hydrogen Sulfide	AEGL-1 1hr
O2	Oxygen	29 CFR 1910.146, Confined Spaces
LEL	Lower Explosive Limit	29 CFR 1910.146, Confined Spaces
NH3	Ammonia	AEGL-1 1hr
HNO3	Nitric Acid	AEGL-1, 1hr
SO2	Sulfur Dioxide	AEGL-1 1hr
Cl2	Chlorine	AEGL-1 1hr
HCN	Hydrogen Cyanide	AEGL-1 1hr
NO	Nitric Oxide	PAC-1 (compare Cl2 and H2S PAC-1 to AEGL-1)
PM 2.5	Particulate Matter 2.5	See PM-2.5 Action Levels Sheet

%	Percent
<	Less than
>	Greater than
AEGL	Acute Exposure Guideline Levels for Airborne Chemicals
C/m	Counts (ionization events) per minute
mg/m ³	milligrams 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
µg/m ³	Micrograms per cubic meter
µrem/h	Microrem per hour



Legend



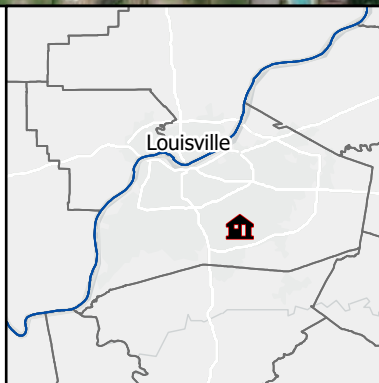
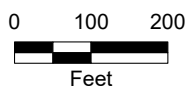
6213 Applegate Lane



Tier I



Tier II



United States
Environmental Protection Agency
Region 4

Applegate Lane Container Site Air Monitoring Station Locations

City:
Louisville

County:
Jefferson

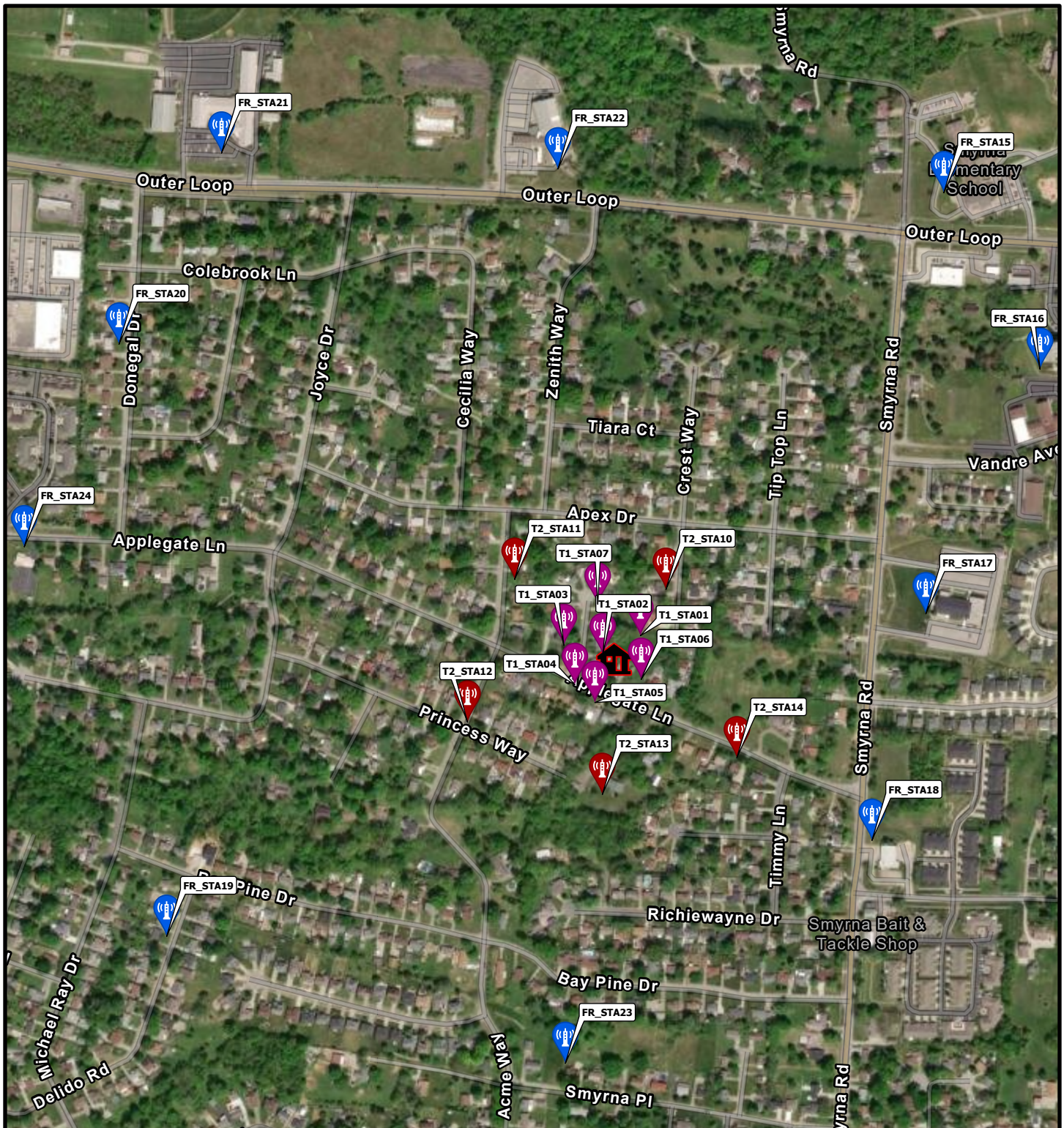
State:
Kentucky



TETRA TECH

Date:
10/10/2023

Analyst:
MORGAN.TORRES



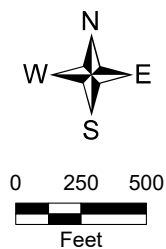
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 6213 Applegate Lane

 Tier I

 Tier II

 Contingency



United States
Environmental Protection Agency
Region 4

Applegate Lane Container Site Air Monitoring Station Locations

City:
Louisville

County:
Jefferson

State:
Kentucky



TETRA TECH

Date:
10/10/2023

Analyst:
MORGAN.TORRES

PM _{2.5} (Particulate Matter ≤ 2.5 microns) Community Action Threshold Levels				
For Unified Command Use				
1-Hour Average (µg/m ³)	24-Hour Average (µg/m ³)	Level of Health Concern	Meaning	Action
0.0 - 40.0	0.0-12.0	Good	Air Quality is considered satisfactory, and air pollution poses little or no risk.	Implement communication plan.
40.1 - 80.0	12.1 - 35.4	Moderate	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.	Issue public announcement about health effects. Stay out of areas with visible smoke.
80.1 - 175.0	35.5 - 55.4	Unhealthy for Sensitive Groups	Members of sensitive groups may experience health effects. The general public is not likely to be affected.	Recommend evacuation or shelter-in-place for sensitive populations.
175.1 - 300.0	55.5 - 150.4	Unhealthy	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.	Consider closing schools and cancelling outdoor events. Recommend shelter-in-place for affected neighborhoods.
300.1 - 500.0	150.5 - 250.4	Very Unhealthy	Health warnings of emergency conditions. The entire population is more likely to be affected.	Consider closing schools and cancel all outdoor events. Recommend shelter-in-place and/or evacuation for affected neighborhoods.
> 500.0	> 250.5	Hazardous	Health alert: everyone may experience more serious health effects.	Recommend closing schools & cancel outdoor events. Recommend closing workplaces and evacuating affected neighborhoods.

See The National Ambient Air Quality Standards for Particle Pollution REVISED AIR QUALITY STANDARDS FOR PARTICLE POLLUTION AND UPDATES TO THE AIR QUALITY INDEX (AQI) (https://www.epa.gov/sites/default/files/2016-04/documents/2012_aqi_factsheet.pdf)