

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: 10/16/23
7:00 AM**

**To: 10/17/23
7:00 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	1308	0	0-0 ppb	0.00 ppb	9000 ppb
	CO	No	1308	2	0-11 ppm	0.02 ppm	83 ppm
	H2S	No	1308	0	0-0 ppm	0.00 ppm	0.51 ppm
	O2	No	1308	1308	20.7-20.9 %	20.9 %	<19.5 or >23 %
	LEL	No	1308	0	0-0 %	0 %	10 %
	HCN	No	1308	0	0-0 ppm	0.00 ppm	2 ppm
DustTrak 1	PM2.5	See PM-2.5 Action Levels	1439	1439	1-29 µg/m3	4.48 µg/m3	See PM-2.5 Action Levels
SPM Flex 1	Ammonia (NH3)	No	1439	6	0-0.01 ppm	0.00 ppm	30 ppm
SPM Flex 2	Nitric Acid (HNO3)	No	1439	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	1301	1301	157-529 ppb	348.36 ppb	9000 ppb
	CO	No	1301	0	0-0 ppm	0.00 ppm	83 ppm
	H2S	No	1301	0	0-0 ppm	0.00 ppm	0.51 ppm
	O2	No	1301	1301	20.9-20.9 %	20.9 %	<19.5 or >23 %
	LEL	No	1301	0	0-0 %	0.0 %	10 %
	HCN	No	1301	2	0-0.1 ppm	0.00 ppm	2 ppm
DustTrak 2	PM2.5	See PM-2.5 Action Levels	1441	1441	5-25 µg/m3	9.15 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	1440	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	1283	992	0-313 ppb	84.56 ppb	9000 ppb
	CO	No	1283	0	0-0 ppm	0.00 ppm	83 ppm
	H2S	No	1283	0	0-0 ppm	0.00 ppm	0.51 ppm
	O2	No	1283	1283	20.5-20.9 %	20.87 %	<19.5 or >23 %
	LEL	No	1283	0	0-0 %	0.00 %	10 %
	HCN	No	1283	0	0-0 ppm	0.00 ppm	2 ppm
DustTrak 3	PM2.5	See PM-2.5 Action Levels	1440	1440	3-21 µg/m3	6.59 µg/m3	See PM-2.5 Action Levels
SPM Flex 5	Ammonia (NH3)	No	1439	43	0-0.04 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	1234	0	0-0 ppb	0.00 ppb	9000 ppb
	CO	No	1234	2	0-7 ppm	0.01 ppm	83 ppm
	H2S	No	1234	0	0-0 ppm	0.00 ppm	0.51 ppm
	O2	No	1234	1234	20.9-20.9 %	20.90 %	<19.5 or >23 %
	LEL	No	1234	0	0-0 %	0.00 %	10 %
	HCN	No	1234	403	0-0.2 ppm	0.04 ppm	2 ppm
DustTrak 4	PM2.5	See PM-2.5 Action Levels	1439	1439	4-21 µg/m3	6.95 µg/m3	See PM-2.5 Action Levels
SPM Flex 7	Ammonia (NH3)	No	1439	255	0-0.16 ppm	0.003 ppm	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	1334	1334	344-729 ppb	510.80 ppb	9000 ppb
	CO	No	1334	0	0-0 ppm	0.00 ppm	83 ppm
	H2S	No	1334	0	0-0 ppm	0.00 ppm	0.51 ppm
	O2	No	1334	1334	20.9-20.9 %	20.90 %	<19.5 or >23 %
	LEL	No	1334	0	0-0 %	0.00 %	10 %
	HCN	No	1334	2	0-0.1 ppm	0.00 ppm	2 ppm
DustTrak 5	PM2.5	See PM-2.5 Action Levels	1440	1440	4-43 µg/m3	9.42 µg/m3	See PM-2.5 Action Levels
SPM Flex 9	Ammonia (NH3)	No	1439	368	0-0.34 ppm	0.01 ppm	30 ppm
SPM Flex 10	Nitric Acid (HNO3)	No	1440	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	1296	0	0-0 ppb	0.00 ppb	9000 ppb
	CO	No	1296	0	0-0 ppm	0.00 ppm	83 ppm
	H2S	No	1296	0	0-0 ppm	0.00 ppm	0.51 ppm
	O2	No	1296	1296	20.9-20.9 %	20.90 %	<19.5 or >23 %
	LEL	No	1296	0	0-0 %	0.00 %	10 %
	HCN	No	1296	6	0-0.1 ppm	0.00 ppm	2 ppm
DustTrak 6	PM2.5	See PM-2.5 Action Levels	1439	1439	2-17 µg/m3	8.15 µg/m3	See PM-2.5 Action Levels
SPM Flex 11	Ammonia (NH3)	No	1440	413	0-0.37 ppm	0.01 ppm	30 ppm
SPM Flex 12	Nitric Acid (HNO3)	No	1439	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	1332	1158	0-196 ppb	103.98 ppb	9000 ppb
	CO	No	1332	1	0-5 ppm	0.00 ppm	83 ppm
	H2S	No	1332	0	0-0 ppm	0	0.51 ppm
	O2	No	1332	1332	20.9-21.3 %	21.01 %	<19.5 or >23 %
	LEL	No	1332	0	0-0 %	0	10 %
	HCN	No	1332	2	0-0.2 ppm	0.00 ppm	2 ppm
DustTrak 7	PM2.5	See PM-2.5 Action Levels	1439	1439	50-66 µg/m3	53.80 µg/m3	See PM-2.5 Action Levels
SPM Flex 13	Ammonia (NH3)	No	1440	409	0-0.24 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	1309	155	0-35 ppb	1.73 ppb	9000 ppb
	CO	No	1309	0	0-0 ppm	0.00 ppm	83 ppm
	H2S	No	1309	0	0-0 ppm	0.00 ppm	0.51 ppm
	O2	No	1309	1309	20.5-20.9 %	20.52 %	<19.5 or >23 %
	LEL	No	1309	0	0-0 %	0.00 %	10 %
	HCN	No	1309	20	0-0.3 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	1324	133	0-77 ppb	2.78 ppb	9000 ppb
	CO	No	1324	0	0-0 ppm	0.00 ppm	83 ppm
	H2S	No	1324	0	0-0 ppm	0.00 ppm	0.51 ppm
	O2	No	1324	1324	20.9-20.9 %	20.90 %	<19.5 or >23 %
	LEL	No	1324	0	0-0 %	0.00 %	10 %
	HCN	No	1324	0	0-0 ppm	0.00 ppm	2 ppm
DustTrak 10	PM2.5	See PM-2.5 Action Levels	1440	1440	1-15 µg/m3	5.19 µg/m3	See PM-2.5 Action Levels
SPM Flex 19	Ammonia (NH3)	No	1439	467	0-0.42 ppm	0.02 ppm	30 ppm
SPM Flex 20	Nitric Acid (HNO3)	No	1439	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	1304	1304	258-548 ppb	427.02 ppb	9000 ppb
	CO	No	1304	0	0-0 ppm	0.00 ppm	83 ppm
	H2S	No	1304	0	0-0 ppm	0.00 ppm	0.51 ppm
	O2	No	1304	1304	20.9-20.9 %	20.90 %	<19.5 or >23 %
	LEL	No	1304	0	0-0 %	0.00 %	10 %
	HCN	No	1304	0	0-0 ppm	0.00 ppm	2 ppm
DustTrak 11	PM2.5	See PM-2.5 Action Levels	1439	1438	0-11 µg/m3	4.93 µg/m3	See PM-2.5 Action Levels
SPM Flex 21	Ammonia (NH3)	No	1439	323	0-0.37 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	1313	91	0-445 ppb	29.62 ppb	9000 ppb
	CO	No	1313	11	0-28 ppm	0.07 ppm	83 ppm
	H2S	No	1313	1	0-0.7 ppm	0.00 ppm	0.51 ppm
	O2	No	1313	1313	20.5-21.4 %	21.04 %	<19.5 or >23 %
	LEL	No	1313	0	0-0 %	0.00 %	10 %
	HCN	No	1313	954	0-0.6 ppm	0.11 ppm	2 ppm
DustTrak 12	PM2.5	See PM-2.5 Action Levels	1440	1440	9-17 µg/m3	11.67 µg/m3	See PM-2.5 Action Levels
SPM Flex 23	Ammonia (NH3)	No	1440	151	0-0.04 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	1330	1330	103-404 ppb	272.38 ppb	9000 ppb
	CO	No	1330	0	0-0 ppm	0.00 ppm	83 ppm
	H2S	No	1330	0	0-0 ppm	0.00 ppm	0.51 ppm
	O2	No	1330	1330	20.9-20.9 %	20.90 %	<19.5 or >23 %
	LEL	No	1330	0	0-0 %	0.00 %	10 %
	HCN	No	1330	0	0-0 ppm	0.00 ppm	2 ppm
DustTrak 13	PM2.5	See PM-2.5 Action Levels	1439	1439	1-10 µg/m3	4.89 µg/m3	See PM-2.5 Action Levels
SPM Flex 25	Ammonia (NH3)	No	1439	1	0-0.01 ppm	0.00 ppm	30 ppm
SPM Flex 26	Nitric Acid (HNO3)	No	1440	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	1324	0	0-0 ppb	0.00 ppb	9000 ppb
	CO	No	1324	3	0-4 ppm	0.01 ppm	83 ppm
	H2S	No	1324	0	0-0 ppm	0.00 ppm	0.51 ppm
	O2	No	1324	1324	20.9-20.9 %	20.90 %	<19.5 or >23 %
	LEL	No	1324	0	0-0 %	0.00 %	10 %
	HCN	No	1324	0	0-0 ppm	0.00 ppm	2 ppm
DustTrak 14	PM2.5	See PM-2.5 Action Levels	1440	1440	3-14 µg/m3	7.20 µg/m3	See PM-2.5 Action Levels
SPM Flex 27	Ammonia (NH3)	No	1439	155	0-0.18 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.

Ammonia Detections: Multiple instruments show low levels of Ammonia detections between 0.01 ppm and 0.42 ppm. This is below the action level of 30 ppm based on the most protective Acute Exposure Guideline Levels for a 1-hour average exposure. EPA has provided this data to the Agency of Toxic Substances and Disease Registry (ASTDR) for review. An assessment on this data will be posted on the notes section of the next Data Summary Report for 10/17/2023 to 10/18/2023.

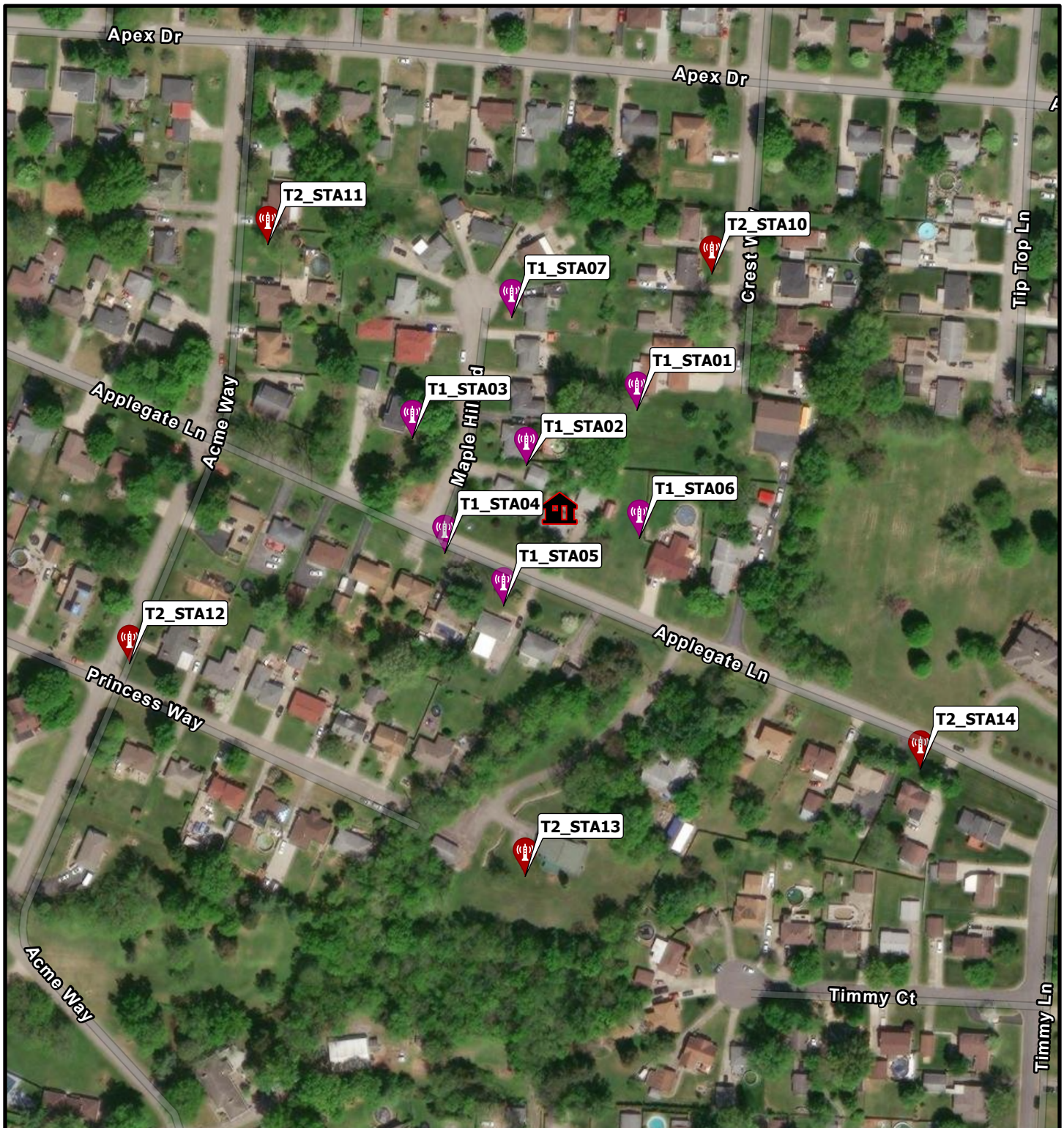
Particulate Readings at Station 07: The instrument measuring airborne particulates, DustTrak 07, recorded a 24-hour average of 53.80 µg/m³ PM-2.5 from Oct 16 at 7am to Oct 17 at 7am with an unusually narrow range of only 50-66 µg/m³. These results are unlikely to be accurate. A zero calibration was conducted on the instrument at 8:45AM on Oct 17 and it has been returning measurements that are more accurate and consistent with other dust monitors around the Site.

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

PM2.5 (Particulate Matter ≤ 2.5 microns) Community Action Threshold Levels				
For Unified Command Use				
1-Hour Average (µg/m3)	24-Hour Average (µg/m3)	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)



Legend



6213 Applegate Lane



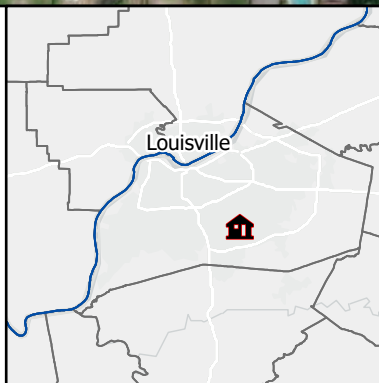
Tier I



Tier II



0 100 200
Feet



United States
Environmental Protection Agency
Region 4

Applegate Lane Container Site Air Monitoring Station Locations

City:
Louisville

County:
Jefferson

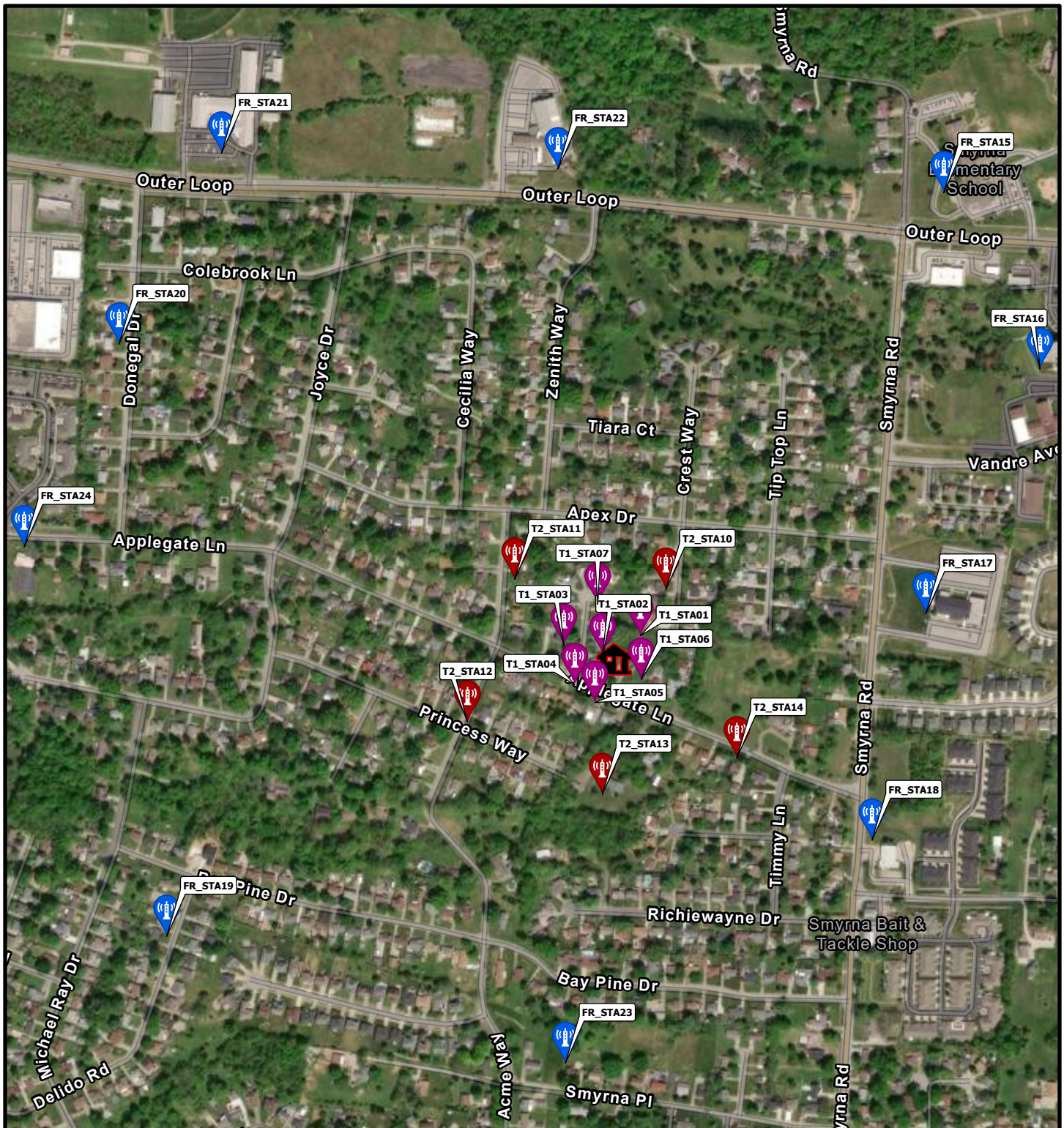
State:
Kentucky



TETRA TECH

Date:
10/10/2023

Analyst:
MORGAN.TORRES



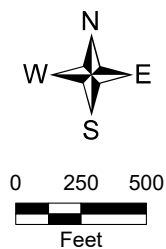
Legend

 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