Sampling for Volatile Organic Compounds (VOCs)

None of EPA's air samples showed elevated concentrations of chemicals of concern in the community.

In support of ADEQ, EPA collected 24-hour air samples from 3 locations in the community around the Brown Tree Service property on December 10, 11 and 12, 2018. EPA tested for volatile organic compounds (VOCs) potentially associated with landfill fires potentially containing construction debris, household waste or tires. One community sampling location (Webb Lane) on December 10 failed to meet EPA quality assurance procedures and this data was not used by EPA.

In addition to the community samples, EPA collected samples from 1 location within the Brown Tree Service property. Benzene was detected at a maximum concentration of 0.022 ppm on December 10 and was the only chemical of concern detected above EPA screening levels. No chemicals of concern were detected above EPA screening levels on December 11 or 12.

While Benzene measured 0.022 ppm within the property on December 10 exceeds the lifetime exposure screening level of 0.01 ppm and is below the two-week to seven-year exposure screening level of 0.03 ppm Therefore, EPA does not consider these concentrations to represent an immediate health concern.

In comparison to acute exposure levels, brief exposure (5-10 minutes) to very high levels of benzene in the air (10,000 – 20,000 ppm) can result in death, according to the Agency for Toxic Substances and Disease Registry. Lower levels (700 to 3,000 ppm) can cause drowsiness, dizziness, rapid heart rat, headaches, tremor, confusion and unconsciousness. In most cases, people will stop feeling these effects when they are no longer exposed and begin to breathe fresh air.

Monitoring for Particulate Matter (as $PM_{2.5}$)

Monitoring of particulate matter (as PM2.5) was also conducted. Three 24-hour monitoring events took place between December 10 and 12, 2018 (see table below).

Air Quality Index Cautionary Statements:
Good – No cautionary statement
Moderate – Unusually sensitive people should consider reducing prolonged or heavy exertion
Unhealthy – People with respiratory or heart disease, the elderly and children should avoid prolonged exertion; everyone else should limit prolonged exertion

Fires and Your Health (https://www.epa.gov/pm-pollution/fires-and-your-health):

When smoke is present:

- If it looks smoky outside, it is a good idea to limit exertion (running, yardwork, playing) during outside activity.
- If you have asthma or other lung disease, you should follow your doctor's directions or asthma management plan
- Run your Heating, Ventilation and Air Conditioning (HVAC) system while keeping your air filter clean
- If you have heart or lung disease, if you are an older adult, or if you have a child, talk with your doctor about whether or when you should leave the area

Air Quality Index (AQI) Calculator (concentration to AQI):
https://airnow.gov/index.cfm?action=airnow.calculator

Location	PM2.5 (24 hr average)	AQI	AQI Category
December 10-11, 2018			
BVF-011 - Webb Lane	24 µg/m3	76	Moderate
BVF-012 - Sutherland Lane	62 µg/m3	154	Unhealthy
BVF-013 - On-Site	86 µg/m3	167	Unhealthy
BVF-014 - Mary Ann Lane	28 µg/m3	84	Moderate
December 11-12, 2018			
BVF-011 - Webb Lane	No reading due to detection failure	--	--
BVF-012 - Sutherland Lane	22 µg/m^3	72	Moderate
BVF-013 - On-Site	No reading due to detection failure	--	--
BVF-014 - Mary Ann Lane	9 µg/m^3	38	Good
December 12-13, 2018			
BVF-011 - Webb Lane	8 µg/m^3	33	Good
BVF-012 - Sutherland Lane	No reading due to detection failure	--	--
BVF-013 - On-Site	27 µg/m^3	82	Moderate
BVF-014 - Mary Ann Lane	No reading due to detection failure	--	--