United States Environmental Protection Agency

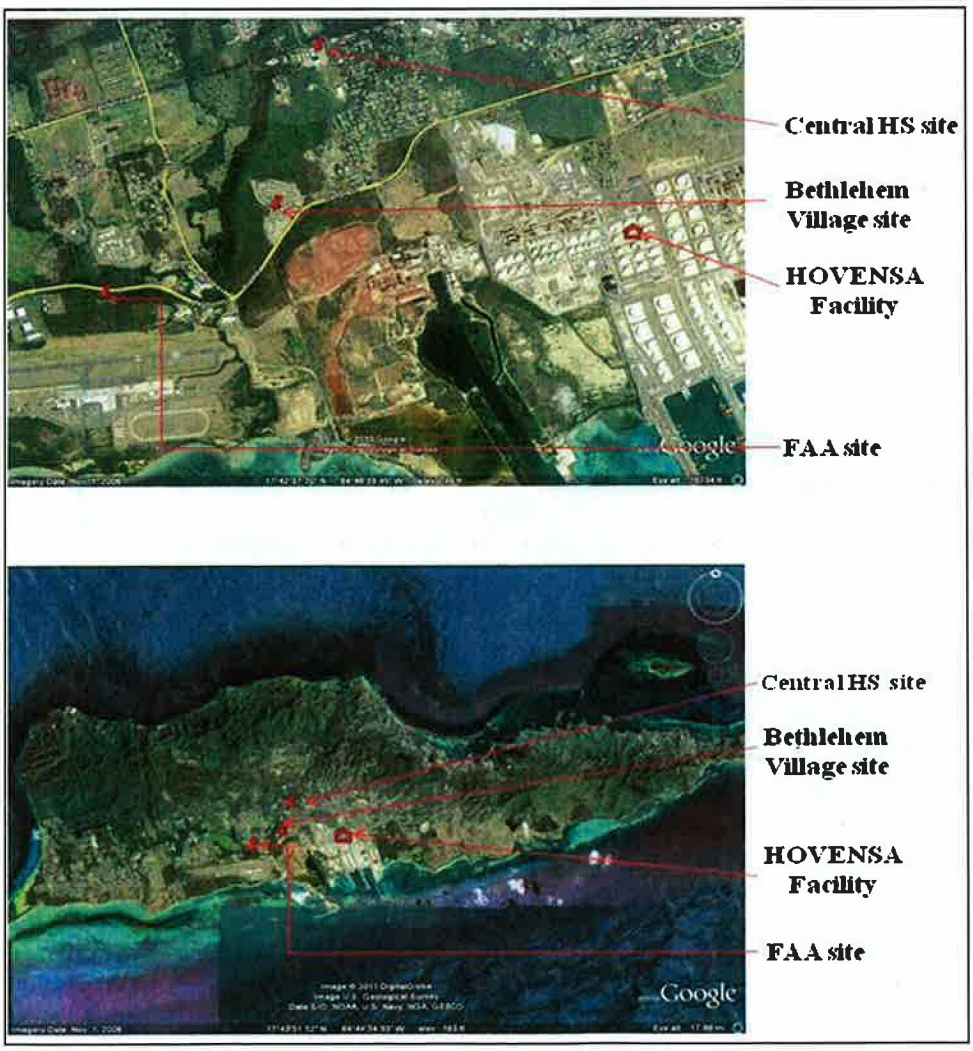
Special Air Toxics Monitoring Study
St. Croix,United States Virgin Islands
August 2011

What was the purpose of EPA's Special Air Toxics Monitoring Study?

The U.S. Environmental Protection Agency (EPA) conducted an Air Toxics Monitoring Study to assess the risks to the community from air toxics emitted from industrial sources on the south coast of St. Croix. Based on community concerns, EPA, in conjunction with the Virgin Islands Department of Planning and Natural Resources (VIDPNR), conducted a special air toxics monitoring study to screen and assess the levels of certain toxics in neighboring communities downwind of several industrial sources in the southern area of St. Croix.

Where did the monitoring take place?

Monitoring took place at three locations downwind of several industrial sources including the HOVENSA oil refinery, Diageo rum distillery, St Croix International Airport, and the Anguilla landfill. Air monitoring equipment was installed at the Bethlehem Village Housing Management Office, the Federal Aviation Administration Pump Station and at Central High School.



When did the monitoring take place?

Monitoring started on February 14, 2011 and ended on June 2, 2011. One sample was taken every six days, for a minimum of 15 samples. In response to community concerns, an additional sample was taken on May 10, 2011

What pollutants were sampled?

EPA sampled for more than 50 pollutants known as volatile organic compounds (VOCs). VOCs are chemical compounds that easily volatize or evaporate into the air. (Some examples of VOCs are gasoline, paint thinners and other solvents.) These chemicals are typically found near large industrial facilities such as refineries, chemical plants and factories; smaller facilities gas stations and dry cleaners; and roads and highways due to the combustion of gasoline in vehicles. EPA sampled these compounds to assess the long and short term health risks to nearby residents.

What were the monitoring results?

The levels of all of the VOCs that were measured fell below screening values for short term and long term non-carcinogenic health effects. In addition the levels were well below EPA cancer screening levels.

Glossary:

Air toxics-
Air toxics, also known as hazardous air pollutants, are pollutants known to, or suspected of, causing cancer and other serious health effects.

VOCs-
Volatile organic compounds (VOCs) are human-made chemicals that are emitted as gases from certain solids or liquids. Many VOCs are used and produced in the manufacture of paints, pharmaceuticals, and refrigerants. Fuels are also made up of VOCs

How do the results compare to other areas?

While some VOC levels measured were higher compared to other locations within the study area, they were still consistent with levels near the type of industry in the area, all well below any levels that presented a significantly increased risk.

How did the study address odors?

The study did not specifically address odors. The study was designed to measure the concentration and assess the health risks of air toxics that may be emitted from nearby industrial sources. While it isn't scientifically possible to measure all of the compounds that are capable of producing odors EPA did examine the air quality measurements looking for clues to the source of the odors.

Did the study measure air toxics on days where there were odors?

Yes - while the study was not designed to address odors, samples were taken on May 9 and 10, 2011 – when the community complained about odors. Based on these limited number of samples on days where there were odor complaints, some pollutants associated with odors were slightly elevated compared to other samples taken during the study.

Did the study explain the reason for the odors?

No. EPA's monitoring study does not conclusively prove the origin of the odors. However EPA continues to coordinate with our emergency response group and the enforcement group as well as Virgin Islands officials to develop follow up actions.

What are the next steps based on the monitoring study?

EPA and the Virgin Islands have entered into a consent decree with HOVENSA that should significantly reduce emissions from the facility and provide EPA and the Virgin Islands with enhanced compliance monitoring capability for the long term.

EPA will continue to explore with Virgin Islands officials the ability to expand their existing monitoring network to sample for other air pollutants. EPA does not believe that more VOC monitoring similar to this study will provide additional technical information. EPA is also working with the Virgin Islands to identify practical ways of enhancing local air monitoring capabilities during emergency responses and odor complaints. EPA and the Virgin Islands will continue to oversee industrial facilities in the area through air permits and other compliance program

How can I get more information about what EPA is doing about pollution in St. Croix?

EPA encourages public participation throughout the various pollution reduction initiatives occurring in St. Croix. If you have any questions, or would like additional information, please contact:

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