

Agenda Date: January 19, 2017  
Agenda Placement: Admin.  
Estimated Time: N/A  
Continued Item: No

## Board Agenda Item

TO: Air Pollution Control District Board

FROM: Aeron Arlin Genet, Air Pollution Control Officer

CONTACT: Mary Byrd, Community Programs Supervisor (961-8833)

SUBJECT: Final Report on Air Quality Sensors Study in New Cuyama

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### RECOMMENDATION:

Receive and file the attached report dated December 2, 2016 on the air quality sensors study the District conducted with Sonoma Technology, Inc. at Cuyama Valley High School.

### DISCUSSION:

In May 2016, your Board heard a presentation on this study, which was set up to:

- Gain information on how two different types of low-cost portable air sensors detected particulate matter (PM) levels in a rural setting and in connection with dust events;
- Evaluate data from the portable sensors against co-located expensive, highly accurate federal-equivalent method PM monitoring equipment, and equipment that measures particle size, and wind speed and direction;
- Engage students in understanding the workings of this new technology and the data provided; and
- Provide a strong technical foundation for educational and information-gathering efforts the District could undertake in the future.

Equipment was installed at the school on April 4, 2016, and removed on July 6, 2016. Sonoma Technology, Inc. and District staff took students on a tour of the installation, and visited science classes to discuss the study and hear from students how they could use the data to answer questions about air quality.

Key findings from the study included the following.

- The low-cost PM sensors examined are capable of detecting high PM concentration episodes related to windblown dust.
- Data recovery was sufficiently high for reliably detecting dust events.
- Sensor precision was sufficiently high for use in a network to identify and characterize hotspots, or to obtain localized data to augment information from the regional monitoring system.
- The sensors could be used as part of an early warning system that could inform decisions to limit exposure to PM.

More information about the study is in the attached report. District staff plan to return to your Board at a future meeting to outline future efforts using portable air sensors countywide.

**ATTACHMENT:**

*Evaluation of Small Sensors for Detection of Dust at Cuyama Valley High School, final report prepared for the District, December 2016.*