



Digital Opacity Compliance System Second Generation

DOCS II

The DOCS project was initiated by the Department of Defense in 2003, with a goal of reducing the \$15 million per year the DoD spends certifying human Method 9 observers to observe sources regulated with opacity limits. In 2006, VTLLC was contracted to test and validate the DOCS prototype system. Upon completion of the validation tests the USAF decided that the DOCS system required a technology refresh and business process improvement. VTLLC, working with multiple state inspectors, defined the user experience required to gain acceptance from visible emission observers.

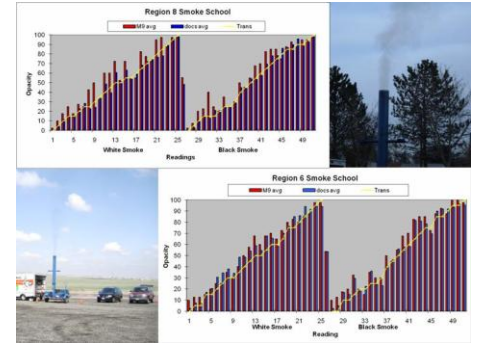


DOCS II ASTM Certification Run SLC

VTLLC completely reengineered the DOCS and released DOCS II in 2008.

DOCS II is a familiar, easy to use program that reduces the time required for a Method 9 observation.

Acceptance of DOCS II required two non-technical components: 1) A consensus standard that would allow the EPA and States to adopt DOCS II for visible emission observations. 2) DOCS II would have to be embraced by the existing smoke school infrastructure, to facilitate training, and distribution.



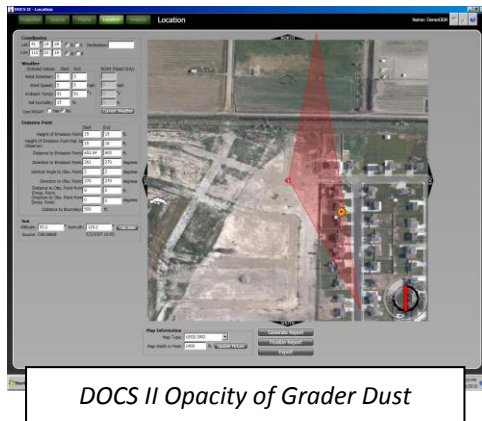
Opacity Readings DOCS II against Humans against a Transmissometer

The ASTM standards committee D22 Air Quality, created ASTM D7520-09 "Standard Test Method to Determine the Opacity of a Plume in the Outdoor Ambient Atmosphere using a Digital Camera Technique". ASTM D7520-09 was approved by ASTM, at the October 2009 semi-annual committee week. ASTM D7520-09, is a performance standard dictating the certification requirements for opacity measurement using digital cameras. DOCS II performed the D7520-09 certification process in 2009.

VTLLC partnered with the nation's largest smoke school operator "Eastern Technical Associates" to train and distribute DOCS II.



DOCS II Opacity of Grader Dust



DOCS II Opacity of Grader Dust

Training of DOCS II users will begin nationally in 2010. DOCS II offers many advantages to the field smoke reader: field data is electronically acquired where possible, images of the visible emission, as well as, their opacity readings are stored, along with the observers position relative to the visible emission, direction of view, distance from the source, weather, and the position of the sun at the date/time/place of the observation.

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