

## **WATERSTONE ENVIRONMENTAL, INC.**

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December 16, 2015

Los Angeles Unified School District  
Office of Environmental Health and Safety  
333 South Beaudry Street, 21st Floor  
Los Angeles, California 90017-5156

**Re: Air Testing Results for Porter Ranch Community School in Porter Ranch,  
California**

Waterstone Environmental, Inc. (Waterstone) is pleased to submit this letter report detailing the results of recent air testing and sample collection at the Porter Ranch Community School located at 12450 Mason Avenue, Porter Ranch, California.

Waterstone has collected air samples and conducting real time air monitoring using various handheld monitors. This report summarizes the results of air sample analysis for samples collected on December 10, 2015.

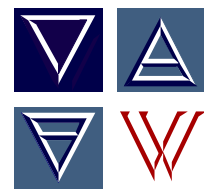
***Sample Collection and Analysis***

Sample collection consisted of both grab samples (approximately 2 minute sample filling period) in tedlar bags as well as an 8-hour samples collected in a summa canisters in the indoor school office. The summa canisters were placed in the breathing zone and allowed to sit undisturbed for a period of 8 hours.

One tedlar bag sample and one summa canister sample were delivered to Quantum Analytical Services Inc., a laboratory certified by the South Coast Air Quality Management District (SCAQMD) and the California Air Resources Board (CARB). Both samples were submitted for analysis of sulfur compounds by SCAQMD Method 307-91, hydrocarbon speciation by modified EPA 18, and BTEX by EPA Method TO-14. The complete laboratory report with analysis results is attached.

One tedlar bag sample and one summa canister sample were delivered to Air Technology Laboratories, Inc., a laboratory accredited by the National Environmental Laboratory Accreditation Program (NELAP). Both samples were submitted for analysis of BTEX by EPA Method TO-15. The complete laboratory report with analysis results is attached.

Three grab samples (approximately 2 minute sample filling period) in tedlar bags were collected on the morning of December 10, 2015 and delivered to ALS Environmental (ALS) in Simi Valley, California. ALS is accredited by the National Environmental Laboratory Accreditation Program (NELAP). Samples were submitted for analysis of BTEX by EPA Method TO-15. The complete laboratory report with analysis results is attached.



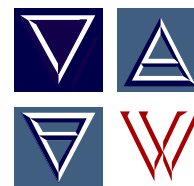
Real time air monitoring was conducted in indoor and outdoor spaces using a Micro Flame Ionization Detector (FID) to measure volatile organic compounds (VOCs) as an indicator of the potential presence of methane, a Jerome J631X for hydrogen sulfide detection, a photo ionization detector (PID) to measure VOCs as an indicator of the potential presence of benzene, and dräger tubes for toluene, ethylbenzene, and xylenes.

### ***Analytical Results***

The sample IDs created to refer to Porter Ranch Community School are designated with a “PR” in the sample ID. The analytical results for Porter Ranch Community School presented in the attached laboratory reports are summarized as follows:

- No sulfur compounds were detected at concentrations above laboratory detection limits.
- Methane was detected at a maximum concentration of 6,340 parts per billion by volume (ppbv) and below the environmental screening limits for methane of 500,000 ppbv used by the Department of Toxic Substances Control (DTSC) and 1,000,000 ppbv used by the National Institute for Occupational Safety (NIOSH). Additionally, methane was not detected at a concentration that requires a fire contingency plan (8,800,000 ppbv) as required by the Los Angeles County Building Code.
- The maximum concentration of benzene detected was 0.29 ppbv and below the environmental screening limits for benzene of 8 ppbv used by OEHHA for a 1-hour acute exposure.
- The maximum concentration of toluene detected was 1.8 ppbv and below the environmental screening limits for toluene of 9,640 ppbv used by OEHHA for a 1-hour acute exposure.
- The maximum concentration of ethylbenzene detected was 0.24 ppbv and below the environmental screening limits for ethylbenzene of 450 ppbv used by OEHHA for a chronic (lifetime) exposure.
- The maximum concentration of xylene detected was 1.1 ppbv and below the environmental screening limits for xylene of 4,970 ppbv used by OEHHA for a 1-hour acute exposure.

<b>Analyte</b>	<b>Maximum On-site Detection (ppbv)</b>	<b>Environmental Regulatory Limit (ppbv)</b>	<b>Environmental Regulatory Limit Description</b>
Sulfide Compounds	None	30 (Hydrogen Sulfide)	California Ambient Air – 1 hour and OEHHA Acute REL (42 ug/m <sup>3</sup> )*
		7 (Hydrogen Sulfide)	OEHHA Chronic REL (10 ug/m <sup>3</sup> )*



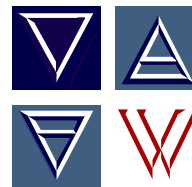
Analyte	Maximum On-site Detection (ppbv)	Environmental Regulatory Limit (ppbv)	Environmental Regulatory Limit Description
Methane	6,340	500,000  1,000,000	DTSC Site-Specific Screening Level (for ambient indoor and outdoor air). <a href="http://www.hawaiidoh.org/references/CalEPA%202005b.pdf">http://www.hawaiidoh.org/references/CalEPA%202005b.pdf</a>  NIOSH maximum recommended safe methane concentration for workers during an 8-hour period. <a href="http://www.cdc.gov/niosh/ipcsneng/neng0291.html">http://www.cdc.gov/niosh/ipcsneng/neng0291.html</a>
Ethane, Ethylene	None	1,000,000  2,000,000	NIOSH maximum recommended safe ethane concentration for workers during an 8-hour period. <a href="http://www.cdc.gov/niosh/ipcsneng/neng0266.html">http://www.cdc.gov/niosh/ipcsneng/neng0266.html</a>  NIOSH maximum recommended safe ethylene concentration for workers during an 8-hour period. <a href="http://www.cdc.gov/niosh/ipcsneng/neng0475.html">http://www.cdc.gov/niosh/ipcsneng/neng0475.html</a>
Other Hydrocarbon Speciations by EPA 18	None	1,950 (Hexane)	OEHHA Chronic REL (7,000 ug/m <sup>3</sup> )*
Benzene	0.29	8 1	OEHHA Acute REL (27 ug/m <sup>3</sup> )* 8-hour and chronic OEHHA RELs (3 ug/m <sup>3</sup> )*
Toluene	1.8	9,640 80	OEHHA Acute REL (37,000 ug/m <sup>3</sup> )* OEHHA Chronic REL (300 ug/m <sup>3</sup> )*
Ethylbenzene	0.24	450	OEHHA Chronic REL (2,000 ug/m <sup>3</sup> )*
Xylenes	1.1	4,970 160	OEHHA Acute REL (22,000 ug/m <sup>3</sup> )* OEHHA Chronic REL (700 ug/m <sup>3</sup> )*

\* OEHHA RELs listed in micrograms per cubic meter (ug/m<sup>3</sup>) have been converted to ppbv using the molecular weight of each specific chemical. <http://oehha.ca.gov/air/allrels.html>

### ***Real Time Monitoring Results***

The real time monitoring logs are attached. Field forms have been clarified to show that the FID and PID measure total VOCs. In-field air monitoring results are summarized as follows:

- Methane (as indicated by total VOCs), toluene, ethylbenzene, and xylenes were not detected during field monitoring.
- VOCs were detected at concentration of 0.1 ppm. Although VOC readings measure all volatile constituents and are not chemical specific, to rule out the potential presence benzene, numerous samples were collected and submitted to the laboratory for benzene analysis. As indicated above, the maximum concentration of benzene detected was 0.29 ppbv and below the environmental screening limits for benzene of 8 ppbv used by OEHHA.



- Hydrogen sulfide was detected at the low concentration of 0.001 ppmv, well below the OEHHA acute REL of 0.03 ppmv.

The majority of the regulatory limits we are comparing against are Reference Exposure Levels (RELs) developed and published by California's Office of Environmental Health Hazards (OEHHA). OEHHA is one of six agencies under the umbrella of the California Environmental Protection Agency (Cal/EPA). OEHHA's overall mission is to protect and enhance public health and the environment by scientific evaluation of risks posed by hazardous substances.

OEHHA evaluates health effects of chemicals found in indoor air, including developing Reference Exposure Levels for use with indoor air exposure scenarios. OEHHA participates in a number of inter-Agency activities designed to evaluate indoor air quality health issues and to move California toward safer indoor air quality. OEHHA provides health-related assistance to the Air Resources Board, air pollution control districts, local health officers and environmental health officers.

Methane was compared to the DTSC Site-Specific Screening Level for ambient indoor and outdoor air as well as the NIOSH maximum recommended safe methane concentration for workers during an 8-hour period.

As shown above, analytical results of the maximum on-site detections are well below the published environmental regulatory limits and no sulfide compounds were detected above laboratory detection limits.

Sincerely,

Elizabeth Gonzalez, P.E.  
Principal Engineer  
**Waterstone Environmental, Inc.**

Grace M. Rinck, CIH  
Vice-President  
**Aurora Industrial Hygiene, Inc.**

Attachments

