WATERSTONE ENVIRONMENTAL, INC.

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February 17, 2016

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 Germain Street Elementary School in Chatsworth, California

Waterstone Environmental, Inc. (Waterstone) is pleased to submit this letter report detailing the results of air sample collection conducted on February 9, 2016 and February 10, 2016, at the Germain Street Elementary School located at 20730 Germain Street, Chatsworth, California.

The air sampling summarized in this letter report was conducted to determine if the slightly elevated benzene concentrations detected in the school library of 1.0 ppbv on January 21, 2016 and 1.2 ppbv on February 2 were a persistent issue. Although the benzene concentrations of 1.0 ppbv detected on January 21, 2016 and 1.2 ppbv detected on February 2 are below the environmental screening limits for benzene of 8 ppbv used by OEHHA for a 1-hour acute exposure, the detected concentrations were slightly above the 8-hour and chronic REL of 0.92 ppbv. Because the chronic REL is designed to address continuous exposures for up to a lifetime (http://oehha.ca.gov/air/allrels.html) it is not a limit that a one-time detection should be compared to, however, in an abundance of caution, additional sampling and a thorough on-site inquiry and investigation were conducted to verify that the slightly elevated detections of benzene were not a persistent or school wide issue.

As detailed below, to date, 27 samples have been collected and all but three of these sample results are below published environmental regulatory limits for benzene as well as for all other constituents sampled. This data show that the slightly elevated benzene concentrations detected on now three different occasions is not persistent nor school wide. Air sampling is scheduled to be conducted at Germain Street Elementary School on February 17, 2016 and on February 18, 2016. The air sampling will consist of three 8-hour samples and one grab sample collected at four separate locations on the school campus during each day of sampling.

Sample Collection and Analysis

Sample collection consisted of three 8-hour samples collected in summa canisters and eleven (11) two-minute grab samples collected in tedlar bags on February 9, 2016 and three 8-hour samples collected in summa canisters on February 10, 2016. The grab samples were collected in the main office, in the HVAC room, near the HVAC intake, in a custodial room, in a supply room, in the library, in Room 15, and in a hallway. The summa canisters were placed in the breathing zone and allowed to sit undisturbed for a period of 8 hours on each day of sample

collection. One summa canister was placed in the library, one summa canister was placed in the main school office, and one summa canister was placed in Room 15 each day.

The samples collected on each day were delivered to Air Technology Laboratories, Inc., a laboratory accredited by the National Environmental Laboratory Accreditation Program (NELAP). Samples were submitted for analysis of BTEX by EPA Method TO-15. The complete laboratory reports with analysis results are attached.

Analytical Results

The sample IDs created to refer to Germain Street Elementary School are designated with a "GE" in the sample ID. The analytical results for Germain Street Elementary School presented in the attached laboratory reports are summarized as follows:

- The maximum concentration of benzene detected was 0.98 ppbv from the 8-hour sample collected in Room #15. This detected concentration is below the environmental screening limits for benzene of 8 ppbv used by for a 1-hour acute exposure and slightly above the 8-hour and chronic REL of 0.92 ppbv. The chronic REL is designed to address continuous exposures for up to a lifetime. (http://oehha.ca.gov/air/allrels.html) OEHHA defines a lifetime as 70 years (http://www.oehha.ca.gov/air/hot_spots/pdf/2012tsd/Chapter1_2012.pdf).
- The maximum concentration of toluene detected was 9.9 ppbv and below the environmental screening limits for toluene of 9,640 ppbv used by OEHHA for a 1-hour acute exposure and below the chronic (lifetime) REL of 80 ppbv.
- Ethylbenzene was not detected above the laboratory detection limit of 0.20 ppbv which is below the environmental screening limit for ethylbenzene of 450 ppbv used by OEHHA for a chronic (lifetime) exposure.
- The maximum concentration of total xylenes (sum of p-xylene, m-xylene and o-xylene) detected was 2.4 ppbv which is below the environmental screening limit for xylene of 4,970 ppbv used by OEHHA for a 1-hour acute exposure and below the chronic (lifetime) REL of 160 ppbv.

Analyte	**Maximum On-site Detection (ppbv)**	**Environmental Regulatory Limit (ppbv)**	**Environmental Regulatory Limit Description**
Benzene	0.98	8 0.92	OEHHA Acute REL (27 ug/m^3)* 8-hour and chronic OEHHA RELs (3 ug/m^3)*
Toluene	9.9	9,640 80	OEHHA Acute REL (37,000 ug/m^3)* OEHHA Chronic REL (300 ug/m^3)*
Ethylbenzene	None	450	OEHHA Chronic REL (2,000 ug/m^3)*

Analyte	Maximum On-site Detection (ppbv)	Environmental Regulatory Limit (ppbv)	Environmental Regulatory Limit Description
Xylenes	2.4	4,970 160	OEHHA Acute REL (22,000 ug/m^3)* OEHHA Chronic REL (700 ug/m^3)*

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

The regulatory limits tabulated above 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 health officers.

On-Site Source Inquiry

The identification of additional indoor sources of potential air contamination is an important activity because chemicals present in the building may be attributed to consumer products or building heating and cooling processes. In order to more thoroughly investigate potential on-site sources, Waterstone interviewed the plant manager, Jose Rodriguez, regarding potential benzene sources. According to Mr. Rodriguez, there has been no re-paving or asphalting in the last two to three years, no suspect chemicals were identified at the school, no smoking is allowed on campus, and there has been no re-painting of the school's interior or exterior in the last two to three years. Each building has its own HVAC unit although they have common halls. No potential sources were identified as a result of this inquiry.

Conclusions and Recommendations

As shown in the table above, the maximum on-site detections on February 9, 2016 and February 10, 2016 are well below the published environmental regulatory limits for all analytes except benzene. The maximum concentration of benzene detected was 0.98 ppbv on February 10, 2016, which is below the environmental screening limits for benzene of 8 ppbv used by OEHHA for a 1-hour acute exposure and slightly above the 8-hour and chronic REL of 0.92 ppbv.

There are three important points that must be considered when comparing a detected concentration to the corresponding OEHHA REL. First, because uncertainty factors are incorporated into each REL limit for the purpose of addressing scientific data gaps and uncertainties in the calculation of the REL, a detected concentration of a chemical that is found to exceed an OEHHA REL does not automatically indicate that an adverse health impact has

occurred or will occur (http://oehha.ca.gov/air/hot_spots/2008/NoncancerTSD_final.pdf). Second, OEHHA has defined a "lifetime" as 70 years (http://www.oehha.ca.gov/air/hot_spots/pdf/2012tsd/Chapter1_2012.pdf). Finally, there are many sources of benzene which may have contributed to the two 8-hour samples, including the use of commonly used products in the vicinity including natural gas or gasoline powered equipment or vehicles, solvent based glues or adhesives, solvent based paints or paint removers, and detergents (http://www.bt.cdc.gov/agent/benzene/basics/facts.asp).

A compilation of data from 2012 by the South Coast Air Quality Management District (SCAQMD) reported in *Multiple Air Toxics Exposure Study in the South Coast Air Basin MATES IV, May 2015* (http://www.aqmd.gov/docs/default-source/air-quality/air-toxic-studies/mates-iv/mates-iv-final-draft-report-4-1-15.pdf?sfvrsn=7) shows that the daily concentrations of benzene at the SCAQMD Burbank weather station range from a minimum of 0.17 ppbv to a maximum of 1.23 ppbv. All three of the slightly elevated benzene detections at Germain Street Elementary School (1.0 ppbv detected on January 21, 2016; 1.2 ppbv detected on February 2, 2016; and 0.98 ppbv detected on February 10, 2016) are within the range of normal, daily ambient benzene concentrations in air in the San Fernando Valley area.

Air sampling has been conducted at Germain Street Elementary School on January 21, 2016; January 22, 2016; February 1, 2016; February 2, 2016; February 9, 2016; and February 10, 2016. To date, twenty-seven samples have been collected and all but three of these sample results are below published environmental regulatory limits for benzene as well as for all other constituents sampled. Two of the samples with slightly elevated benzene were collected in the library and one was collected in Room #15. However, in total six samples from the school campus were collected in the library and five were collected in Room #15. This data shows that the slightly elevated benzene concentrations detected on two of six occasions in the library and one of five occasions in Room #15 are not persistent nor school wide, as sampling has also been conducted at several other locations throughout the school. The plant manager was interviewed regarding potential on-site sources but none were identified.

Additional air sampling will be conducted at Germain Street Elementary School on February 17, 2016 and on February 18, 2016. The air sampling will consist of three 8-hour samples and one grab (approximately 2-minute collection time) collected at four separate locations on the school campus during each day of sampling.

Sincerely,

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Grace Rinck, CIH
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Attachments

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