WATERSTONE ENVIRONMENTAL, INC.

2936 E. CORONADO STREET * ANAHEIM * CA 92806
714-414-1122 * FAX: 714-414-1166

February 8, 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 1, 2016 and February 2, 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 concentration of 1.0 ppbv detected in the school library on January 21, 2016 was a persistent issue. Although the benzene concentration of 1.0 ppbv detected on January 21, 2016 is below the environmental screening limits for benzene of 8 ppbv used by OEHHA for a 1-hour acute exposure, the detected concentration was 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 was conducted to verify that the slightly elevated detection of benzene was not a persistent or school wide issue.

As detailed below, to date, ten samples have been collected and all but two of these sample results are below published environmental regulatory limits for benzene as well as for all other constituents sampled. This data shows that the slightly elevated benzene concentrations detected on two different occasions are not persistent nor school wide. Nonetheless, additional air sampling will be conducted at Germain Street Elementary School on February 9, 2016 and on February 10, 2016. The air sampling will consist of three 8-hour samples collected at three separate locations on the school campus during each day of sampling as well as numerous grab (approximately 2-minute collection time) samples. A thorough inquiry and investigation to rule out possible on-campus sources will also be conducted.

Sample Collection and Analysis

Sample collection consisted of three 8-hour samples collected in summa canisters on February 1, 2016 and three 8-hour samples collected in summa canisters on February 2, 2016. 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. On both sampling days, 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.

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 1.2 ppbv and detected in one of two samples collected in the library. 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 1.4 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.
- Total xylenes (sum of p-xylene, m-xylene and o-xylene) were not detected above the laboratory detection limit of 0.20 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	1.2	8 0.92	OEHHA Acute REL (27 ug/m^3)* 8-hour and chronic OEHHA RELs (3 ug/m^3)*
Toluene	1.4	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)*
Xylenes	None	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.

Conclusions and Recommendations

As shown in the table above, the maximum on-site detections on February 1, 2016 and February 2, 2016 are well below the published environmental regulatory limits for all analytes except benzene. The maximum concentration of benzene detected was 1.2 ppbv on February 2, 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 0.9 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. Both of the slightly elevated benzene detections at Germain Street Elementary School (1.0 ppbv detected on January 21, 2016 and 1.2 ppbv detected on February 2, 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; and on February 2, 2016. To date, ten samples have been collected and all but two of these sample results are below published environmental regulatory

limits for benzene as well as for all other constituents sampled. Both of the samples with slightly elevated benzene were collected in the library. However, in total four samples collected on the school campus were collected in the library. This data shows that the slightly elevated benzene concentrations detected on two of four occasions in the library are not persistent nor school wide. Nonetheless, additional air sampling will be conducted at Germain Street Elementary School on February 9, 2016 and on February 10, 2016 to continue to verify that the issue is not persistent and to rule out possible on-campus sources. The air sampling will consist of three 8-hour samples collected at three separate locations on the school campus during each day of sampling as well as numerous grab (approximately 2-minute collection time) samples. A thorough inquiry and investigation to rule out possible on-campus sources will also be conducted.

Sincerely,

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

Grace Rinck, CIH
Principal Industrial Hygienist
Aurora Industrial Hygiene

Attachments