WATERSTONE ENVIRONMENTAL, INC.

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

February 10, 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 Alfred Bernhard Nobel Middle School in Northridge, California

Waterstone Environmental, Inc. (Waterstone) is pleased to submit this letter report detailing the results of recent air testing and sample collection at the Alfred Bernhard Nobel Middle School located at 9950 Tampa Drive, Northridge, California.

Waterstone collected air samples and conducted real time air monitoring using various handheld monitors. This report summarizes the results of air sample analysis for samples collected on February 4, 2016.

Sample Collection and Analysis

Sample collection consisted of both grab samples (approximately 2 minute sample filling period) in tedlar bags as well as 8-hour samples collected in summa canisters in Room 47, the IT storage room. 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, and hydrocarbon speciation by modified EPA 18. 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). 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 Jerome J631X for hydrogen sulfide detection; dräger tubes for benzene, toluene, ethylbenzene, xylenes, and mercaptans; a multi RAE monitor to measure percent lower explosive limit (%LEL) as an indicator of the potential presence of methane; and an ultra RAE monitor used to measure volatile organic compounds (VOCs) as an indicator of the potential presence of benzene as well as for taking benzene specific reading using a benzene sensor tube.

Analytical Results

The sample IDs created to refer to Alfred Bernhard Nobel Middle School are designated with a "AB" in the sample ID. The analytical results for Alfred Bernhard Nobel Middle 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 3,240 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 0.44 ppbv and below the environmental screening limits for benzene of 8 ppbv used by OEHHA for a 1-hour acute exposure and 0.92 ppbv for an 8-hour or chronic exposure.
- The maximum concentration of toluene detected was 12 ppbv and below the environmental screening limit for toluene of 9,640 ppbv used by OEHHA for a 1-hour acute exposure.
- 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 xylene (sum of p-xylene, m-xylene and o-xylene) detected was 3.1 ppbv and below the environmental screening limit for xylene of 4,970 ppbv used by OEHHA for a 1-hour acute exposure.

Analyte	**Maximum On-site Detection (ppbv)**	**Environmental Regulatory Limit (ppbv)**	**Environmental Regulatory Limit Description**
Sulfide Compounds	None	30 (Hydrogen Sulfide) 7 (Hydrogen Sulfide)	California Ambient Air – 1 hour and OEHHA Acute REL (42 ug/m^3)* OEHHA Chronic REL (10 ug/m^3)*
Methane	3,240	500,000 1,000,000	DTSC Site-Specific Screening Level (for ambient indoor and outdoor air). http://www.hawaiidoh.org/references/CalEPA%202005b.pdf NIOSH maximum recommended safe methane concentration for workers during an 8-hour period. http://www.cdc.gov/niosh/ipcsneng/neng0291.html

Analyte	Maximum On-site Detection (ppbv)	Environmental Regulatory Limit (ppbv)	Environmental Regulatory Limit Description
Ethane, Ethylene	None	1,000,000 2,000,000	NIOSH maximum recommended safe ethane concentration for workers during an 8-hour period. http://www.cdc.gov/niosh/ipcsneng/neng0266.html NIOSH maximum recommended safe ethylene concentration for workers during an 8-hour period. http://www.cdc.gov/niosh/ipcsneng/neng0475.html
Other Hydrocarbon Speciations by EPA 18	None	1,950 (Hexane)	OEHHA Chronic REL (7,000 ug/m^3)*
Benzene	0.44	8 0.92	OEHHA Acute REL (27 ug/m^3)* 8-hour and chronic OEHHA RELs (3 ug/m^3)*
Toluene	12	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	3.1	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

Real Time Monitoring Results

The real time monitoring logs are attached. In-field air monitoring results are summarized as follows:

- Methane (as indicated by %LEL), VOCs, benzene, toluene, ethylbenzene, and xylenes were not detected during field monitoring.
- Hydrogen sulfide was detected at a maximum concentration of 0.005 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 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 in the table above, the maximum on-site detections are well below the published environmental regulatory limits.

Sincerely,

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

Grace Rinck, CIH
Principal Industrial Hygienist
Aurora Industrial Hygiene

Attachments