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INDOOR AIR QUALITY AND DUST ASSESSMENT REPORT

INCLUDING RESPIRABLE/TOTAL DUST, SILICA, MOLD, FIBERS, METALS, VOCs, PCBs, CO, COMFORT PARAMETERS, and LEAD-IN-WATER

(Results of Assessment Conducted on November 29-30, 2017)

PERFORMANCE ENVIRONMENTAL SERVICES
Project # 172462

FOR

Mr. Nicholas Perry, Superintendent
Central Valley School District
160 Baker Road
Monaca, PA 15061

AT

Todd Lane Elementary School
113 Todd Lane
Monaca, PA 15061

December 18, 2017

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1.0 SUMMARY OF FINDINGS

In accordance with the request of Mr. Nicholas Perry, Superintendent of the Central Valley School District (CVSD), Performance Environmental Services, Inc. (*Performance*) conducted indoor air quality (IAQ), surface dust, and water quality testing during renovation activities on November 29-30, 2017, in the Todd Lane Elementary School building located at 113 Todd Lane in Monaca, Beaver County, Pennsylvania 15061.

The purpose of the assessment was to document airborne and surface dust concentrations and water quality related to defined construction-related contaminants during the on-going renovation activities. The study included a limited visual inspection of the facility, and the collection of representative air, surface dust, and water samples. The air and surface dust sampling was conducted concurrently and 'side-by-side' with Allegheny Mountain Research. The results are as follows:

No construction-related odors were detected in the classrooms of the facility. A slight concrete, drywall or paint odor was detected in the main floor corridors near the construction areas. Surface dust was observed on the main level corridor floor, though it did appear to be significantly reduced from the time of the pre-assessment meeting on November 21, 2017. Several water damaged suspended ceiling tiles (SCT) were observed, mainly in the upper level corridors. No other evidence of moisture, stains, dampness, or mold was observed. The construction barriers were mainly intact, though several areas were observed where the plastic had come loose or where plywood doors were not shut completely. Air flow was noted to be moving from the construction area to the corridor outside the kitchen counter serving area.

Airborne respirable dust (particulates), total dust, mold and fibers were well below regulatory limits and within recommended ranges. No airborne crystalline silica or lead were detected.

Surface dust sampling indicated common indoor/outdoor constituents primarily composed of general building dust at low levels. Minor (trace) amounts of lead, metals and mold were identified at low levels. No polychlorinated biphenyls (PCBs) were detected.

Lead in drinking water screening levels were well below the EPA recommended limit for schools.

In addition, *Performance* measured concentrations of total volatile organic compounds (TVOCs), particulate matter (PM10 and PM2.5), carbon monoxide (CO), and the 'comfort parameters' of carbon dioxide (CO_2), temperature and relative humidity concentrations using direct reading monitors. These parameters were all within generally accepted levels.

The result of the air surface and water quality testing did not indicate issues with the IAQ, and there is no need for response actions at this time to reduce exposure for the sampled analytes. No restrictions or limitations for the occupied areas were indicated.

Performance recommends regular continued cleaning to maintain surface dust levels, at a minimum, in both the occupied areas and constructions zones. Maintain engineering control barrier doors, walls and plastic coverings over penetrations. Windows adjacent to the construction zones should remain closed. Engineering control barriers should be inspected at least daily. Air moving devices such as exhaust fans and filtered units may be used to direct air from the construction zones away from occupied areas,

especially during dust or odor producing activities. Air monitoring for particulates and other contaminants, such as VOCs if needed, should be conducted periodically throughout the remainder of the construction activities to document conditions and verify that the areas remain within acceptable levels.

Enclosed, please find the IAQ and dust assessment report. If there are any questions or comments concerning this report or our recommendations, please do not hesitate to contact us.

Respectfully,

PERFORMANCE ENVIRONMENTAL SERVICES, INC.

Joseph L. Kuchnicki, CIE, CHMM
Project Manager

Curtis V. Wagner
Senior Project Manager

2.0 BACKGROUND & SCOPE OF WORK

Central Valley School District contracted Performance Environmental Services, Inc. (*Performance*) to conduct an Indoor Air Quality (IAQ) and Surface Dust Assessment with water testing during renovation and construction activities in the Todd Lane Elementary School facility located at 113 Todd Lane in Monaca, Pennsylvania. The testing was conducted to document airborne and surface dust concentrations and water quality related to defined construction-related contaminants during the on-going renovation activities.

The study included a limited visual inspection of the facility and the collection of representative air, surface dust, and water samples using area sampling pumps, appropriate sampling media, direct-reading monitors and sampling containers.

In accordance with the scope discussed at the site walkthrough meeting of November 21, 2017 and the *Performance* Sampling Plan developed for the project dated November 22, 2017, samples were collected for the following parameters and quantities:

Air Samples

Each defined parameter was sampled one time in each designated location with laboratory analysis.

- respirable dust (particulates) and crystalline silica (quartz, cristobalite and tridymite) – 16 areas.
- total dust – 8 areas
- airborne mold (fungal spores) – 5 areas
- airborne fibers – 4 areas
- airborne metals (lead) – 4 areas

Surface Dust Wipe Samples

- full particle ID of common indoor/outdoor contaminants – 1 area
- surface metals (RCRA 8) – 5 areas
- surface mold/fungi – 5 areas
- surface polychlorinated biphenyls (PCBs) – 5 areas

Drinking Water Sample Screening

- lead – 5 potable water outlets

Air Monitoring

The following airborne contaminants / parameters were monitored in multiple locations (>50 areas) throughout the facility. These were short-term, spot check, 'grab samples' collected in each designated location.

- respirable airborne particulates (dust), <10 microns (PM10)
- total volatile organic compounds (TVOCs)
- 'comfort parameters' – carbon dioxide (CO_2), temperature and relative humidity (RH%)
- carbon monoxide (CO)

Performance conducted the IAQ, dust and water testing on November 29-30, 2017.

3.0 ASSESSMENT METHODOLOGY

3.1 Limited Visual Inspection

Performance conducted the assessment, air and surface dust sampling concurrently and 'side-by-side' with Mr. Gary Miller of Allegheny Mountain Research. Our inspectors, Mr. Joseph Kuchnicki, CIE, CHMM, and Mr. Dylan Kopnitsky were escorted by Mr. Rick Lapishka, Facilities Manager for Central Valley School District. A parent representative, Ms. Michele Buford, Education Program Specialist for *Women for a Healthy Environment*, was also present as an observer during the sampling.

During the sampling, *Performance* conducted a limited visual inspection of occupied accessible areas of the subject site for evidence of odors, dust, construction barriers, water damage, and stains. No assessment of areas above ceilings and no intrusive investigation (such as within wall cavities) or inside air-handling units (AHUs), ductwork or other equipment was conducted.

3.2 Airborne Respirable Dust (Particulates Not Otherwise Regulated) and Crystalline Silica

Performance implemented industrial hygiene sampling methodologies to collect representative airborne concentrations of respirable dust. The samples were collected over an approximate 3-4 hour sampling period using constant-flow low volume sampling pumps, which were calibrated to an average flow rate of 2.5 liters per minute each with a 37-mm sampling cassette with an aluminum cyclone and tared PVC membranes having a 5-µm pore size. The samples were analyzed gravimetrically by an independent laboratory accredited by the American Industrial Hygiene Association (AIHA) in accordance with modified NIOSH Method 0600 for respirable dust, and NIOSH Method 7500 for crystalline silica (quartz, cristobalite and tridymite). Refer to Appendix A for the certificate of laboratory analysis, analytical results and chain-of-custody records and certificates of calibration.

3.3 Airborne Total Dust (Particulate)

Performance implemented industrial hygiene sampling methodologies to collect representative airborne concentrations of total dust (particulate). The samples were collected over an approximate 6-8 hour sampling period using constant-flow low volume sampling pumps, which were calibrated to an average flow rate of 2.0 liters per minute each with a 37-mm sampling cassette with tared PVC membranes having a 5-µm pore size. The samples were analyzed gravimetrically by an AIHA accredited laboratory, in accordance with modified NIOSH Method 0500. Refer to the Appendix A for the certificate of laboratory analysis, analytical results and chain-of-custody record.

3.4 Airborne Metals

Performance implemented industrial hygiene sampling methodologies to collect representative airborne concentrations of metals (lead, barium, cadmium and chromium). The samples were collected over an approximate 5-6 hour sampling period using constant-flow low volume sampling pumps, which were calibrated to an average flow rate of 2.5 liters per minute each with a 37-mm sampling cassette with MEC membranes having a 0.8-µm pore size. The samples were analyzed by Atomic Absorption (AA) by an AIHA accredited laboratory in accordance with NIOSH Method 7082. Refer to the Appendix A for the certificate of laboratory analysis, analytical results and chain-of-custody record.

3.5 Airborne Mold (Fungal Spores)

Airborne microbial sampling included collection using an Allergenco slide impaction sampler and a high-volume sampling pump calibrated to fifteen (15) liters per minute. The samples were allowed to collect a total volume of 75 liters of air. Samples were collected from five representative areas within the subject building and one ambient outdoor sample was collected for comparative purposes. The samples were maintained under a chain-of-custody record and submitted and analyzed via direct microscopic examination by an AIHA Environmental Microbiology Laboratory Accreditation Program (EMLAP) accredited laboratory. Refer to Appendix A for the certificate of laboratory analysis, analytical results, and chain-of-custody record.

3.6 Airborne Fibers (Asbestos)

Airborne fiber samples were collected over an approximate 3 to 5 hour sampling period using constant-flow high volume sampling pumps, which were calibrated to an average flow rate of 8.1 liters per minute, each with a 25-mm sampling cassette with MEC membrane having a 0.8-µm pore size. The samples were analyzed for airborne fiber concentration using phase contrast microscopy (PCM) by a NIOSH 582 trained microscopist, in accordance with NIOSH Method 7400. Refer to Appendix A for the certificate of laboratory analysis, analytical results, and chain-of-custody record.

3.7 Surface Dust Wipe Samples

Surface dust wipe samples were collected using clean/sterile laboratory-supplied swabs/wipes to 'wipe' a defined surface area. Samples were collected from accessible occupied interior locations where visible dust was observed, such as floors, window sills, unit ventilators and bookshelves.

Five surfaces were selected for sampling for the RCRA 8 metals, poly-chlorinated biphenyls (PCBs), and mold (fungal spores). In addition, one area (main corridor hallway floor), which was presumed to have the heaviest dust impact, was also sampled for a full particle identification of common indoor and outdoor contaminants.

The metals wipe samples were collected using sterile gauze pads wetted with deionized water wiping from a sampling area ranging between approximately 100 cm^2 to 1 ft^2. The samples were submitted under chain of custody provisions to EMSL, an AIHA accredited laboratory. They were analyzed for the eight RCRA metals including: arsenic (As), barium (Ba), cadmium (Cd), chromium (Cr), lead (Pb), mercury (Hg), selenium (Se) and silver (Ag) by Method 6010C/7471.

The PCB wipe samples were collected using sterile gauze pads wetted with hexane wiping from a 100 cm^2 sampling area. The samples were submitted under chain of custody provisions to EMSL for analysis of PCBs including Aroclor-1016, 1221, 1232, 1242, 1248, 1254, 1260, 1626 and 1268, by method EPA SW846.

The full particle identification sample was collected using sterile alcohol wipes wiping from an approximate 100 cm^2 sampling area. The sample was analyzed by EMSL for common indoor and outdoor contaminants using polarized light microscopy (PLM), reflected light microscopy (RLM), stereo microscopy, scanning electron microscopy (SEM) and energy-dispersive x-ray spectrometry (EDX).

The surface mold spore samples were collected using laboratory supplied Lift Tape Mold Analysis Strips. IMS Laboratory, an AIHA Environmental Microbiology Laboratory Accreditation Program (EMLAP) accredited laboratory, performed the mold analysis via direct microscopic examination, which provides a genus level identification of mold spore concentrations but does not distinguish between viable and non-viable spores and does not identify individual species.

Refer to Appendix B for the certificate of laboratory analysis, analytical results, and chain-of-custody record.

3.8 Air Monitoring – Direct Reading Instruments

Short-term spot check air monitoring was conducted in 54 locations throughout the facility using direct reading instruments. The monitors were allowed to equilibrate in each selected sampling area prior to recording the concentration of each parameter. The selected rooms/areas were monitored once each day for two days. The following compounds/contaminants were measured using direct reading instruments:

Total Volatile Organic Compounds (TVOCs)

Performance measured concentrations of total VOC's using a Rae™ ppmRAE, which is a direct read meter equipped with a photo ionization detector (PID).

Comfort Parameters & Carbon Monoxide

Concentrations of the comfort parameters including carbon dioxide (CO_2), temperature and relative humidity (%RH), and carbon monoxide (CO) were measured using a calibrated TSI Q Trak, electronic direct-reading monitor.

Airborne Dust (PM10) and (PM2.5)

Concentrations of airborne dust particulate matter less than 10 microns in size (PM10), was measured using a calibrated TSI Side Pak, electronic direct-reading monitor. In addition, some areas were also monitored one time for fine particles less than 2.5 microns in size (PM2.5) with the TSI Side Pak meter using the attached 2.5 micron particle impactor.

Refer to Appendix C for the data tables with detailed information on sample locations and results.

3.9 Lead in Drinking Water

Lead in drinking water samples were collected directly into clean laboratory-supplied 250 ml plastic bottles containing a HCL preservative. 'First draw' water samples were collected in the morning prior to school starting from selected potable cold water outlets. Samples were collected from potable water outlets such as kitchen sinks and drinking water fountains. The samples were submitted in an ice-packed cooler under chain-of-custody to EMSL, a Pennsylvania Certified drinking water laboratory for analysis of lead concentration in accordance with ICP-MS method 200.8/6020A. Refer to Appendix D for the certificate of laboratory analysis, analytical results, and chain-of-custody record.

4.0 RESULTS

4.1 Visual Observations

The limited visual inspection conducted during the sampling activities on November 29 & 30, 2017, indicated the following:

- No significant obvious construction-related odors were detected in the occupied portions of the facility. A slight concrete, drywall or paint odor was detected in the main floor corridor by the construction area and near stairwell 3.

- Surface dust was observed on the main level corridor floor during the November 29-30 inspection, though it did appear to be significantly reduced from the time of the pre-assessment meeting on November 21, 2017.

- Some water damaged suspended ceiling tiles were observed, mainly in the upper level corridors. No other evidence of moisture, stains, dampness, or mold was observed.

- The construction barriers were mainly intact, though several areas were observed where the plastic had come loose or where plywood doors were not shut completely. Also, air flow (positive pressure) from the construction area to the occupied area was noted by observing the billowing construction barrier plastic in the corridor outside the kitchen counter serving area.

4.2 Airborne Respirable Dust and Crystalline Silica

Sixteen (16) interior samples were collected for respirable dust and crystalline silica (quartz and cristobalite) and were submitted with one (1) field blank quality control sample.

Sample #	Date	Location	Result Respirable Dust (mg/m^3)	Result Crystalline Silica ($\mu g/m^3$)[1]	Regulatory / Recommended Limits (mg/m^3)
Si-01	11/29/17	Lower level – 3rd grade, corridor by room G6	<0.032	<8.0	**Respirable Dust** OSHA PEL = 5.0 mg/m^3 1/10th exposure limit 'rule of thumb' 0.5 mg/m^3 EPA NAAQS (PM-10) 0.150 mg/m^3 (24 hr) LEED 'Green Bldg' (PM-10) 0.050 mg/m^3 **Crystalline silica** OSHA PEL 50 $\mu g/m^3$ (0.050 mg/m^3) OSHA Action Level 25 $\mu g/m^3$ (0.025 mg/m^3)
Si-02	11/29/17	Main level – 3rd grade, corridor by POD 3Y	0.097	<8.1	
Si-03	11/29/17	Main level – kitchen counter area	0.073	<8.1	
Si-04	11/29/17	Upper level – 5th grade, corridor by B Pod	<0.030	<7.6	
Si-05	11/29/17	Lower level – 3rd grade, room G6	<0.038	<9.5	
Si-06	11/29/17	Main level – 3rd grade, room 106	<0.040	<10	
Si-07	11/29/17	Main level – corridor near stair 3	<0.041	<10	
Si-08	11/29/17	Upper level – 4th grade, room 203	<0.044	<11	
Si-09	11/30/17	Main level – administration offices	<0.039	<9.8	
Si-10	11/30/17	Construction work area, main level boiler room	0.67	<9.6	
Si-11	11/30/17	Upper level – 4th grade, corridor by room 204	<0.038	<9.5	
Si-12	11/30/17	Upper level – 5th grade, room B4	<0.038	<9.6	
Si-13	11/30/17	Main level – 5th grade, corridor by A POD	<0.028	<7.1	
Si-14	11/30/17	Main level – corridor near music & boiler rooms	0.16	<7.7	
Si-15	11/30/17	Main level – 3rd grade, room 102	<0.032	<8.0	
Si-16	11/30/17	Main level – gym (cafeteria) – near entrance	0.085	<8.1	
Si-FB	11/30/17	Field blank quality control	NA	NA	

[1] Quartz concentrations – no cristobalite or tridymite were detected.

No airborne respirable crystalline silica was detected above the laboratory reporting limit. All samples were well below the OSHA Permissible Exposure Limit (PEL) and Action level. In addition, 11 of 16 respirable dust samples were below the laboratory detection limit. All respirable dust samples were well below the OSHA PEL, and all of the occupied area samples were below the 'rule-of-thumb' recommended level for non-industrial environments of 1/10th of the exposure limit or <0.5 mg/m^3. All classroom areas and 14 of 15 occupied locations sampled were below the EPA 24-hour ambient air quality level, the exception being the main level corridor directly between the boiler room and music room work areas, which was at 0.16

mg/m^3. All classrooms and 11 of the 15 occupied areas tested were also below the USGBC LEED Green Building limit (for post-construction unoccupied buildings prior to occupancy).

4.3 Total Airborne Dust

Eight (8) interior samples were collected for total airborne dust and were submitted with one (1) field blank quality control sample. The samples were collected in the general locations where three previous sampling episodes were conducted by Allegheny Mountain Research.

Sample #	Date	Location	Result Total Dust (mg/m^3)	Regulatory / Recommended Limits (mg/m^3)
TD-01	11/29/17	Lower level – 3rd grade, corridor by room G6	<0.026	OSHA PEL = 15 mg/m^3 ACGIH TLV = 10 mg/m^3 Recommend 1/10 TLV = 1.0 mg/m^3
TD-02	11/29/17	Main level – 3rd grade, corridor by POD 3Y	0.035	
TD-03	11/29/17	Upper level – 5th grade, corridor by B Pod	Void *	
TD-04	11/29/17	Upper level – 4th grade, corridor by room 204	0.11	
TD-05	11/30/17	Construction work area, main level boiler room	0.99	
TD-06	11/30/17	Main level – 5th grade, corridor by A POD	0.044	
TD-07	11/30/17	Main level – corridor near music & boiler rooms	0.35	
TD-08	11/30/17	Main level – administration offices	<0.025	
TD-FB	11/30/17	Field Blank Quality Control	NA	

* Pump fault

All occupied area samples had total dust concentrations that were below the OSHA PEL of 15 mg/m^3, the American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV) of 10.0 mg/m^3, and the recommended 1/10th TLV level for 'non-industrial' areas of 1.0 mg/m^3. The interior construction zone sample had a concentration below the OSHA PEL and the ACGIH TLV.

4.4 Airborne Metals

Four (4) interior samples were collected for airborne metals (lead, barium, cadmium and chromium) and were submitted with one (1) field blank quality control sample. Following is a summary of the results of the sampling:

Sample #	Date	Location	Result Lead (µg/m^3)	Regulatory Limits (mg/m^3)
PbA-01	11/29/17	Main level – corridor by music & boiler room	ND	OSHA PEL = 50 µg/m^3 OSHA Action Level = 30 µg/m^3
PbA-02	11/29/17	Main level – 3rd grade, classroom 102	ND	
PbA-03	11/29/17	Lower level – 3rd grade, corridor by G7	ND	
PbA-04	11/29/17	Upper level – 4th grade, Lab A	ND	
PbA-FB	11/29/17	Field Blank Quality Control	NA	

ND = Not detected at the laboratory reporting limit

All samples had airborne barium, cadmium, chromium and lead concentrations that were below the laboratory's analytical reporting limits (<0.06 µg/m^3), and were well below the OSHA PEL of 50 µg/m^3, and the OSHA action level of 30 µg/m^3.

4.5 Airborne Mold (Fungal Spores)

Five (5) interior samples and one outdoor control comparison sample were collected for airborne mold (fungal spores). Following is a summary of the results of the sampling:

Sample #	Date / Time	Location	Result Total Mold (spores/m^3)	Regulatory Limits (mg/m^3)
11.30.17*01	11.30.17 / 10:22	Outdoor Control/Comparison Sample – near front entrance	2,240	No regulatory levels for mold Compare indoor to outdoor levels
11.30.17*02	11.29.17 / 10:35	Lower level – 3rd grade, corridor near G2/G6	160	
11.30.17*03	11.29.17 / 10:44	Main level – 3rd grade, classroom 106	160	
11.30.17*04	11.30.17 / 10:55	Main level – corridor near music & boiler room	53	
11.30.17*05	11.30.17 / 11:03	Main level – gym (Cafeteria)	53	
11.30.17*06	11.30.17 / 11:13	Upper level – corridor near art room	266	

All interior samples had total airborne mold spore concentrations well below the level recorded outdoors. There are currently no regulatory limits for airborne mold spores. There were no target molds, such as Stachybotrys spp., identified, and individual mold types were at very low levels. Penicillium/Aspergillus group spores were not detected in the outdoor sample, but were at very low levels in several of the indoor air samples (1 to 2 raw spore count). These levels are not considered to be indicative of an interior fungal amplification.

The results from the air samples demonstrate there was a normal airborne fungal ecology at the time of the testing. The interior samples had fungal results that were generally similar in types with concentrations that were well less than that of the outside ambient air.

With respect to evaluating air sample results for mold, numerical guidelines and recommendations have been published; however, the criterion varies over orders of magnitude. In addition, current state and federal regulatory provisions do not address the presence or quantity of microbials allowed in residential or commercial settings. Susceptibility to mold varies with the genetic predisposition, age, state of health, and concurrent exposures. For these reasons, and because measurements of exposure are not standardized, it is not possible to determine "safe" or "unsafe" levels of exposure for people in general.

4.6 Airborne Fibers (Asbestos)

Four (4) interior samples were collected for airborne fibers (including asbestos) and were submitted with one (1) field blank quality control sample. Following is a summary of the results of the sampling:

Sample #	Date	Location	Result (fibers/cc)	Regulatory Limits (fibers/cc)
PCM-01	11/29/17	Main level – corridor by elevator	0.0027	OSHA PEL 0.1 f/cc EPA Clearance Level 0.01 f/cc
PCM-02	11/29/17	Main level – 3rd grade, classroom 102	<0.0017	
PCM-03	11/30/17	Lower level – 3rd grade, corridor by G7	<0.0013	
PCM-04	11/30/17	Upper level – 4th grade, Lab A	0.0051	
PCM-FB	11/30/17	Field Blank Quality Control	NA	

The airborne fiber levels were below the OSHA 8-hour PEL of 0.1 fibers per cubic centimeter of air (f/cc), and were also well below the US EPA clearance limit following an abatement activity of 0.01 f/cc.

4.7 Surface Dust Wipe Samples

4.7.1 RCRA 8 Metals

Five (5) surface dust samples were collected for the RCRA 8 metals: arsenic (As), barium (Ba), cadmium (Cd), chromium (Cr), lead (Pb), mercury (Hg), selenium (Se) and silver (Ag).

Sample ID	Location	Result[1] ($\mu g/ft^2$)	Recommended Limit
RM-01	Lower level – 3rd Grade Rm G13 – book shelf (NE corner of Room)	ND	HUD/EPA (Pb): Floors 40 $\mu g/ft^2$ Sills 250 $\mu g/ft^2$ HUD OLHCHH (Pb) Floors 10 $\mu g/ft^2$ Sills 100 $\mu g/ft^2$ No Regulatory Limits for surface dusts for other metals
RM-02	Main level – 3rd Grade Rm 102 – rolling book shelf (blue)	Cr 0.69 Pb 1.3	
RM-03	Main level – corridor floor near music room / boiler room	Ba 7.5 Cr 1.1 Pb 0.52	
RM-04	Upper level – Rm 204 – window sill	Cr 0.88 Pb 1.3	
RM-05	Upper level – Lab A – top of unit ventilator	Cd 47 Cr 1.9 Pb 1.4	

[1] Metals Detected. No As, Hg, Se or Ag detected in the samples
ND = Not detected at the laboratory reporting limit

- Lead was detected in 4 of the 5 surface dust samples. The highest concentration was 1.4 $\mu g/ft^2$. All samples were below the US Department of Housing and Urban Development (HUD) Office of Lead Hazard Control and Healthy Homes (OLHCHH) limit of 10 $\mu g/ft^2$ and the HUD limit of 40 $\mu g/ft^2$ for floors.
- Barium was detected in 1 sample at 7.5 $\mu g/ft^2$ – no regulatory level for surface dust currently exists.

- Cadmium was detected in 1 sample at 47 µg/ft^2 (Lab A – which had the windows open to the outside courtyard construction zone) – no regulatory level for surface dust currently exists.
- Chromium was detected in 4 of the 5 surface dust samples. The highest concentration was 1.9 µg/ft^2 – no regulatory level for surface dust currently exists.
- No mercury, arsenic, selenium or silver were detected in the surface dust samples.

The surface dust metals detected were at very low levels and below regulatory standards where applicable.

4.7.2 Polychlorinated biphenyls (PCBs)

Five (5) surface dust wipe samples were collected for PCBs. PCBs were not detected above the laboratory's analytical detection limit in the five (5) samples that were collected.

Sample ID	Location	Result (µg/100 cm^2)	Recommended Limit
PCB-01	Lower level – 3rd Grade Rm G1 – window sill	ND	<10 µg/100 cm^2 (EPA Spill Cleanup level)
PCB-02	Main level – corridor floor near music room / boiler room	ND	
PCB-03	Main level – Library – window sill	ND	
PCB-04	Upper level – Rm B4 – window sill	ND	
PCB-05	Upper level – Rm 201 – window sill	ND	

ND = not detected above the laboratory detection limit (<0.5 µg/100 cm^2)

4.7.3 Mold / Fungal Spores

Five (5) tape lift samples were collected for mold spores. There are no regulatory levels for mold spores in dust. The analytical results indicated no evidence of microbial amplification present on the surfaces tested. The tested surfaces had very low levels of mold spores detected.

Sample ID	Location	Result
11.30.17*07	Lower level – 3rd Grade Rm G6 – iPad charging station	Present on <5% of sample area
11.30.17*08	Main level 3rd Grade Rm 106 – window sill	Present on <5% of sample area
11.30.17*09	Main level – corridor floor near music room / boiler room	Present on <5% of sample area
11.30.17*10	Main level – gym (cafeteria) floor, black cove base near entrance	No fungal spores observed. Pollen present on <5% of sample area
11.30.17*11	Upper level – locker 561 – top of door	Present on <5% of sample area

4.7.4 Full Particle Identification

One (1) surface dust swab sample was collected for a total particle identification.

Sample ID	Location	Result
TPID-01	Main level – corridor floor near music room / boiler room	Sample is predominantly composed of building dust including quartz and calcite consistent with concrete dust and gypsum from wallboards and joint compounds. Lesser amounts of insulation fibers (fibrous glass and mineral wool) were observed along with particles consistent with outdoors environmental contaminants (e.g. natural plant matter and starch grains).

4.8 Air Monitoring – Direct Reading Instruments

Performance measured concentrations of TVOC's, the comfort parameters of [carbon dioxide (CO_2), temperature and relative humidity (%RH), and carbon monoxide (CO)], airborne particulate matter less than 10 microns in size (PM10), and fine particles less than 2.5 microns in size (PM2.5). The short-term spot check monitoring was conducted on both 11/29/17 and 11/30/17. Detailed sample data tables with the sampled locations and results of the 54 areas monitored are provided in Appendix C.

4.8.1 Total Volatile Organic Compounds (TVOCs)

The total VOC's ranged from 0 to 0.2 ppm in the occupied portions of the facility (outside of the construction zones). A high reading of 0.3 ppm was recorded on 11/30/17 in the main floor boiler room construction area. These results were well less than 100 ppm which is a medium of the established permissible limits of the VOCs commonly scanned for under Method TO-15. In addition, 0.2 ppm corresponds to about 500 $\mu g/m^3$ (reference ASHRAE Journal, February 2010: 30-41, Sharp G.) and 500 $\mu g/m^3$ is the USGBC LEED recommended level for green building certification.

4.8.2 Comfort Parameters (CO_2, Temperature, Relative Humidity)

Carbon Dioxide (CO_2)

Results ranged from 530 to 950 ppm in the occupied interior locations sampled both days. The outdoor level was about 530 ppm. General outdoor air has a normal concentration of approximately 350 to 450 parts per million (ppm). The indoor environment generally reflects this level with any buildup associated with human respiration. Levels less than about 1,000 ppm (600 to 700 ppm above the outdoor concentration) is generally considered by industry professionals to be adequate for indoor environments with the level of gas being controlled by the amount of outside air being introduced to the area. The CO_2 levels recorded in the facility were within this acceptable level.

Temperature

The relative humidity ranged between approximately 65° F and 78° F in the interior occupied locations. Most indoor temperature readings were found to be within the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) recommended comfort zone at the associated relative humidity, which is approximately 68-74 degrees Fahrenheit (°F) in the winter and 73-79°F in the summer.

Relative humidity (RH%)

The relative humidity ranged between approximately 11% and 35% in the interior occupied locations. It is recommended that humidity be maintained between approximately 30 and 60 percent for maximum comfort and to maintain a normal fungal ecology.

4.8.3 Carbon Monoxide (CO)

No carbon monoxide was detected in the subject space on either day of the monitoring. The EPA outdoor standard for CO is 9 ppm (8-hr. average).

4.8.4 Airborne Particulate Matter (PM10 and PM2.5)

PM10

Airborne particulate PM10 levels ranged from 0.002 to 0.025 mg/m^3 in the occupied portions of the facility during the two days of monitoring. A high reading of 0.248 mg/m^3 was recorded on 11/30/17 in the main floor boiler room construction area. The US EPA National Ambient Air Quality Standard (NAAQS) for PM10 (24-hour average) is 0.150 mg/m^3. All occupied areas (outside of the construction zones) had readings that were well below this level. Additionally, the US Green Building Council has a recommended limit for green building certification of buildings following construction but prior to occupancy for PM10 of 0.050 mg/m^3. All recorded readings in the occupied portions of the building (outside of the construction zones) were below this level as well.

PM2.5

Airborne fine particulate PM2.5 levels ranged from 0.008 to 0.031 mg/m^3 in the occupied portions of the facility during the monitoring conducted on 11/30/17. Most rooms of the facility ranged between 0.012 and 0.017 mg/m^3. The outdoor level was 0.017mg/m^3 and the construction zone areas had readings of 0.030 to 0.036 mg/m^3. A high reading of 0.058 to 0.084 mg/m^3 was recorded in room 201; however, an air diffuser (Radha Beauty Diffuser) was in operation in the room at the time generating a fine mist and appeared to be the source of the particulates. A reading directly above the diffuser indicated levels >400 mg/m^3. The US EPA NAAQS for PM2.5 (24-hour average) is 0.035 mg/m^3. The occupied areas outside the construction zone, other than where the air diffuser was in use, had readings that were below this level.

4.9 Lead in Drinking Water Screening

Performance conducted drinking water testing at the Todd Lane Elementary School facility on November 29, 2017 in the morning between 8:15 AM and 8:30 AM prior to the start of school. The purpose of the testing was to document the absence or presence of potential health hazards associated with the exposure of lead in the drinking water. The study included the collection of representative first draw drinking water samples. The results are as follows:

LEAD RESULTS:

Sample ID	Location	Result µg/L (ppb)	EPA Action Level (ppb)
TLES-PbDW-01	Main floor kitchen – prep sink	4.24	20 (schools)
TLES-PbDW-02	Main floor 3rd Grade POD 3Y – drinking water cooler (right)	ND	
TLES-PbDW-03	Lower level – 3rd Grade POD 3X – drinking water cooler (left)	ND	
TLES-PbDW-04	Upper level – 4th Grade – drinking water cooler by Rm 207 (left)	2.32	
TLES-PbDW-05	Main level – 4th Grade – drinking water cooler by girl's restroom	1.13	

ND = not detected above the laboratory detection limit (<1.00 µg/L)

The results of the drinking water testing do not indicate a need for response actions to reduce lead exposure at this time. EPA does recommend periodic testing of all potable water sources in schools.

5.0 CONCLUSION & RECOMMENDATION

The result of the air quality, surface dust and water quality testing does not indicate a need for response actions to reduce exposure at this time for the sampled analytes. All parameters tested were below regulatory limits and also within recommended levels. Based on the visual observations and the results of the testing, *Performance* recommends the following:

Housekeeping

- Occupied areas
  - Clean regularly, including shelves, window sills, etc.
  - Keep surface dust levels to a minimum.
- Construction Zones
  - Maintain clean, debris free work areas.
  - Regularly clean to keep surface dust levels down.
  - Place tack mats at the entrance/exit and remove used sheets when they are no longer sticky.

Engineering Controls

- Maintain construction barriers (doors, walls and polyethylene barriers at penetrations) and inspect daily.
- Windows in rooms adjacent to the construction areas should remain closed.
- When needed, provide air flow (exhaust fans) to keep any airborne particulates/contaminants away from occupied areas, and/or use air filtration devices to reduce dust levels, especially during dust or odor producing activities.

Air Monitoring

- Conduct air monitoring periodically during the remainder of renovations/construction for airborne particulates and VOCs (as needed).

6.0 LIMITATIONS

The results of our tests represent conditions only at the time testing or sampling occurred. Thus, this report should not be relied on to represent conditions at other locations, times, or dates. Our opinions are based upon findings and upon our professional expertise with no warranty or guarantee implied herein. This report is intended for the sole use of your firm and its assigned agents. *Performance* accepts no responsibility for interpretation of this report by others. Its content shall not be used or relied on by other parties without prior written authorization of *Performance.*

APPENDIX A

AIR SAMPLE ANALYTICAL RESULTS

CONTENTS

ANALYTICAL REPORT

Report Date: December 05, 2017

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Workorder: **34-1733504**
Client Project ID: Central Valley S.D.-Todd Lane
Purchase Order: 172462
Project Manager: Paul Pope

Analytical Results

Sample ID: **Si-01** Collected: 11/29/2017
Lab ID: 1733504001 Sampling Location: Central Valley S.D.- Received: 12/01/2017

Method: NIOSH 0600 Mod., MW PVC Filter **Media:** PVC Filter **Instrument:** GRAV02
Sampling Info: Air Volume 622.5 L **Analyzed:** 12/04/2017 (204144)

Analyte	Result (mg/sample)	Result (mg/m³)	RL (mg/sample)
Respirable Dust	<0.020	<0.032	0.020

Method: NIOSH 7500 Mod. **Media:** PVC Filter **Instrument:** XRAY01
Sampling Info: Air Volume 622.5 L **Analyzed:** 12/05/2017 (204303)

Analyte	Result (ug/sample)	Result (ug/m³)	RL (ug/sample)
Quartz	<5.0	<8.0	5.0
Cristobalite	<5.0	<8.0	5.0
Tridymite	<30	<48	30
Total Silica	ND		

Sample ID: **Si-02** Collected: 11/29/2017
Lab ID: 1733504002 Sampling Location: Central Valley S.D.- Received: 12/01/2017

Method: NIOSH 0600 Mod., MW PVC Filter **Media:** PVC Filter **Instrument:** GRAV02
Sampling Info: Air Volume 620 L **Analyzed:** 12/04/2017 (204144)

Analyte	Result (mg/sample)	Result (mg/m³)	RL (mg/sample)
Respirable Dust	**0.060**	**0.097**	0.020

Method: NIOSH 7500 Mod. **Media:** PVC Filter **Instrument:** XRAY01
Sampling Info: Air Volume 620 L **Analyzed:** 12/05/2017 (204303)

Analyte	Result (ug/sample)	Result (ug/m³)	Result (%)	RL (ug/sample)
Quartz	<5.0	<8.1	<8.3	5.0
Cristobalite	<5.0	<8.1	<8.3	5.0

Results Continued on Next Page

ANALYTICAL REPORT

Workorder: **34-1733504**
Client Project ID: Central Valley S.D.-Todd Lane
Purchase Order: 172462
Project Manager: Paul Pope

Analytical Results

Sample ID: **Si-02** Collected: 11/29/2017
Lab ID: 1733504002 Sampling Location: Central Valley S.D.- Received: 12/01/2017

Method: NIOSH 7500 Mod. **Media:** PVC Filter **Instrument:** XRAY01
Sampling Info: Air Volume 620 L **Analyzed:** 12/05/2017 (204303)

Analyte	Result (ug/sample)	Result (ug/m³)	Result (%)	RL (ug/sample)
Tridymite	<30	<48	<50	30
Total Silica	ND			

Sample ID: **Si-03** Collected: 11/29/2017
Lab ID: 1733504003 Sampling Location: Central Valley S.D.- Received: 12/01/2017

Method: NIOSH 0600 Mod., MW PVC Filter **Media:** PVC Filter **Instrument:** GRAV02
Sampling Info: Air Volume 617.5 L **Analyzed:** 12/04/2017 (204144)

Analyte	Result (mg/sample)	Result (mg/m³)	RL (mg/sample)
Respirable Dust	**0.045**	**0.073**	0.020

Method: NIOSH 7500 Mod. **Media:** PVC Filter **Instrument:** XRAY01
Sampling Info: Air Volume 617.5 L **Analyzed:** 12/05/2017 (204303)

Analyte	Result (ug/sample)	Result (ug/m³)	Result (%)	RL (ug/sample)
Quartz	<5.0	<8.1	<11	5.0
Cristobalite	<5.0	<8.1	<11	5.0
Tridymite	<30	<49	<67	30
Total Silica	ND			

Sample ID: **Si-04** Collected: 11/29/2017
Lab ID: 1733504004 Sampling Location: Central Valley S.D.- Received: 12/01/2017

Method: NIOSH 0600 Mod., MW PVC Filter **Media:** PVC Filter **Instrument:** GRAV02
Sampling Info: Air Volume 657.5 L **Analyzed:** 12/04/2017 (204144)

Analyte	Result (mg/sample)	Result (mg/m³)	RL (mg/sample)
Respirable Dust	<0.020	<0.030	0.020

Method: NIOSH 7500 Mod. **Media:** PVC Filter **Instrument:** XRAY01
Sampling Info: Air Volume 657.5 L **Analyzed:** 12/05/2017 (204303)

Analyte	Result (ug/sample)	Result (ug/m³)	RL (ug/sample)
Quartz	<5.0	<7.6	5.0
Cristobalite	<5.0	<7.6	5.0
Tridymite	<30	<46	30
Total Silica	ND		

ANALYTICAL REPORT

Workorder: **34-1733504**
Client Project ID: Central Valley S.D.-Todd Lane
Purchase Order: 172462
Project Manager: Paul Pope

Analytical Results

Sample ID: **Si-05** Collected: 11/29/2017
Lab ID: 1733504005 Sampling Location: Central Valley S.D.- Received: 12/01/2017

Method: NIOSH 0600 Mod., MW PVC Filter **Media:** PVC Filter **Instrument:** GRAV02
Sampling Info: Air Volume 527.5 L **Analyzed:** 12/04/2017 (204144)

Analyte	Result (mg/sample)	Result (mg/m³)	RL (mg/sample)
Respirable Dust	<0.020	<0.038	0.020

Method: NIOSH 7500 Mod. **Media:** PVC Filter **Instrument:** XRAY01
Sampling Info: Air Volume 527.5 L **Analyzed:** 12/05/2017 (204303)

Analyte	Result (ug/sample)	Result (ug/m³)	RL (ug/sample)
Quartz	<5.0	<9.5	5.0
Cristobalite	<5.0	<9.5	5.0
Tridymite	<30	<57	30
Total Silica	ND		

Sample ID: **Si-06** Collected: 11/29/2017
Lab ID: 1733504006 Sampling Location: Central Valley S.D.- Received: 12/01/2017

Method: NIOSH 0600 Mod., MW PVC Filter **Media:** PVC Filter **Instrument:** GRAV02
Sampling Info: Air Volume 497.5 L **Analyzed:** 12/04/2017 (204144)

Analyte	Result (mg/sample)	Result (mg/m³)	RL (mg/sample)
Respirable Dust	<0.020	<0.040	0.020

Method: NIOSH 7500 Mod. **Media:** PVC Filter **Instrument:** XRAY01
Sampling Info: Air Volume 497.5 L **Analyzed:** 12/05/2017 (204303)

Analyte	Result (ug/sample)	Result (ug/m³)	RL (ug/sample)
Quartz	<5.0	<10	5.0
Cristobalite	<5.0	<10	5.0
Tridymite	<30	<60	30
Total Silica	ND		

Sample ID: **Si-07** Collected: 11/29/2017
Lab ID: 1733504007 Sampling Location: Central Valley S.D.- Received: 12/01/2017

Method: NIOSH 0600 Mod., MW PVC Filter **Media:** PVC Filter **Instrument:** GRAV02
Sampling Info: Air Volume 487.5 L **Analyzed:** 12/04/2017 (204144)

Analyte	Result (mg/sample)	Result (mg/m³)	RL (mg/sample)
Respirable Dust	<0.020	<0.041	0.020

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ANALYTICAL REPORT

Workorder: **34-1733504**
Client Project ID: Central Valley S.D.-Todd Lane
Purchase Order: 172462
Project Manager: Paul Pope

Analytical Results

Sample ID: **Si-07**
Lab ID: 1733504007
Sampling Location: Central Valley S.D.-
Collected: 11/29/2017
Received: 12/01/2017

Method: NIOSH 7500 Mod. | **Media:** PVC Filter | **Sampling Info: Air Volume 487.5 L** | **Instrument:** XRAY01 | **Analyzed:** 12/05/2017 (204303)

Analyte	Result (ug/sample)	Result (ug/m³)	RL (ug/sample)
Quartz	<5.0	<10	5.0
Cristobalite	<5.0	<10	5.0
Tridymite	<30	<62	30
Total Silica	ND		

Sample ID: **Si-08**
Lab ID: 1733504008
Sampling Location: Central Valley S.D.-
Collected: 11/29/2017
Received: 12/01/2017

Method: NIOSH 0600 Mod., MW PVC Filter | **Media:** PVC Filter | **Sampling Info: Air Volume 450 L** | **Instrument:** GRAV02 | **Analyzed:** 12/04/2017 (204144)

Analyte	Result (mg/sample)	Result (mg/m³)	RL (mg/sample)
Respirable Dust	<0.020	<0.044	0.020

Method: NIOSH 7500 Mod. | **Media:** PVC Filter | **Sampling Info: Air Volume 450 L** | **Instrument:** XRAY01 | **Analyzed:** 12/05/2017 (204303)

Analyte	Result (ug/sample)	Result (ug/m³)	RL (ug/sample)
Quartz	<5.0	<11	5.0
Cristobalite	<5.0	<11	5.0
Tridymite	<30	<67	30
Total Silica	ND		

Sample ID: **Si-09**
Lab ID: 1733504009
Sampling Location: Central Valley S.D.-
Collected: 11/30/2017
Received: 12/01/2017

Method: NIOSH 0600 Mod., MW PVC Filter | **Media:** PVC Filter | **Sampling Info: Air Volume 510 L** | **Instrument:** GRAV02 | **Analyzed:** 12/04/2017 (204144)

Analyte	Result (mg/sample)	Result (mg/m³)	RL (mg/sample)
Respirable Dust	<0.020	<0.039	0.020

Method: NIOSH 7500 Mod. | **Media:** PVC Filter | **Sampling Info: Air Volume 510 L** | **Instrument:** XRAY01 | **Analyzed:** 12/05/2017 (204303)

Analyte	Result (ug/sample)	Result (ug/m³)	RL (ug/sample)
Quartz	<5.0	<9.8	5.0
Cristobalite	<5.0	<9.8	5.0

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ANALYTICAL REPORT

Workorder: **34-1733504**
Client Project ID: Central Valley S.D.-Todd Lane
Purchase Order: 172462
Project Manager: Paul Pope

Analytical Results

Sample ID: **Si-09** Collected: 11/30/2017
Lab ID: 1733504009 Sampling Location: Central Valley S.D.- Received: 12/01/2017

Method: NIOSH 7500 Mod. **Media:** PVC Filter **Instrument:** XRAY01
Sampling Info: Air Volume 510 L **Analyzed:** 12/05/2017 (204303)

Analyte	Result (ug/sample)	Result (ug/m³)	RL (ug/sample)
Tridymite	<30	<59	30
Total Silica	ND		

Sample ID: **Si-10** Collected: 11/30/2017
Lab ID: 1733504010 Sampling Location: Central Valley S.D.- Received: 12/01/2017

Method: NIOSH 0600 Mod., MW PVC Filter **Media:** PVC Filter **Instrument:** GRAV02
Sampling Info: Air Volume 522.5 L **Analyzed:** 12/04/2017 (204144)

Analyte	Result (mg/sample)	Result (mg/m³)	RL (mg/sample)
Respirable Dust	**0.35**	**0.67**	0.020

Method: NIOSH 7500 Mod. **Media:** PVC Filter **Instrument:** XRAY01
Sampling Info: Air Volume 522.5 L **Analyzed:** 12/05/2017 (204303)

Analyte	Result (ug/sample)	Result (ug/m³)	Result (%)	RL (ug/sample)
Quartz	<5.0	<9.6	<1.4	5.0
Cristobalite	<5.0	<9.6	<1.4	5.0
Tridymite	<30	<57	<8.6	30
Total Silica	ND			

Sample ID: **Si-11** Collected: 11/30/2017
Lab ID: 1733504011 Sampling Location: Central Valley S.D.- Received: 12/01/2017

Method: NIOSH 0600 Mod., MW PVC Filter **Media:** PVC Filter **Instrument:** GRAV02
Sampling Info: Air Volume 527.5 L **Analyzed:** 12/04/2017 (204144)

Analyte	Result (mg/sample)	Result (mg/m³)	RL (mg/sample)
Respirable Dust	<0.020	<0.038	0.020

Method: NIOSH 7500 Mod. **Media:** PVC Filter **Instrument:** XRAY01
Sampling Info: Air Volume 527.5 L **Analyzed:** 12/05/2017 (204303)

Analyte	Result (ug/sample)	Result (ug/m³)	RL (ug/sample)
Quartz	<5.0	<9.5	5.0
Cristobalite	<5.0	<9.5	5.0
Tridymite	<30	<57	30
Total Silica	ND		

ANALYTICAL REPORT

Workorder: **34-1733504**
Client Project ID: Central Valley S.D.-Todd Lane
Purchase Order: 172462
Project Manager: Paul Pope

Analytical Results

Sample ID: **Si-12** Collected: 11/30/2017
Lab ID: 1733504012 Sampling Location: Central Valley S.D.- Received: 12/01/2017

Method: NIOSH 0600 Mod., MW PVC Filter **Media:** PVC Filter **Instrument:** GRAV02
Sampling Info: Air Volume 522.5 L **Analyzed:** 12/04/2017 (204144)

Analyte	Result (mg/sample)	Result (mg/m³)	RL (mg/sample)
Respirable Dust	<0.020	<0.038	0.020

Method: NIOSH 7500 Mod. **Media:** PVC Filter **Instrument:** XRAY01
Sampling Info: Air Volume 522.5 L **Analyzed:** 12/05/2017 (204303)

Analyte	Result (ug/sample)	Result (ug/m³)	RL (ug/sample)
Quartz	<5.0	<9.6	5.0
Cristobalite	<5.0	<9.6	5.0
Tridymite	<30	<57	30
Total Silica	ND		

Sample ID: **Si-13** Collected: 11/30/2017
Lab ID: 1733504013 Sampling Location: Central Valley S.D.- Received: 12/01/2017

Method: NIOSH 0600 Mod., MW PVC Filter **Media:** PVC Filter **Instrument:** GRAV02
Sampling Info: Air Volume 707.5 L **Analyzed:** 12/04/2017 (204144)

Analyte	Result (mg/sample)	Result (mg/m³)	RL (mg/sample)
Respirable Dust	<0.020	<0.028	0.020

Method: NIOSH 7500 Mod. **Media:** PVC Filter **Instrument:** XRAY01
Sampling Info: Air Volume 707.5 L **Analyzed:** 12/05/2017 (204303)

Analyte	Result (ug/sample)	Result (ug/m³)	RL (ug/sample)
Quartz	<5.0	<7.1	5.0
Cristobalite	<5.0	<7.1	5.0
Tridymite	<30	<42	30
Total Silica	ND		

Sample ID: **Si-14** Collected: 11/30/2017
Lab ID: 1733504014 Sampling Location: Central Valley S.D.- Received: 12/01/2017

Method: NIOSH 0600 Mod., MW PVC Filter **Media:** PVC Filter **Instrument:** GRAV02
Sampling Info: Air Volume 652.5 L **Analyzed:** 12/04/2017 (204144)

Analyte	Result (mg/sample)	Result (mg/m³)	RL (mg/sample)
Respirable Dust	**0.11**	**0.16**	0.020

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ANALYTICAL REPORT

Workorder: **34-1733504**
Client Project ID: Central Valley S.D.-Todd Lane
Purchase Order: 172462
Project Manager: Paul Pope

Analytical Results

Sample ID: **Si-14** Collected: 11/30/2017
Lab ID: 1733504014 Sampling Location: Central Valley S.D.- Received: 12/01/2017

Method: NIOSH 7500 Mod. **Media:** PVC Filter **Instrument:** XRAY01
Sampling Info: Air Volume 652.5 L **Analyzed:** 12/05/2017 (204303)

Analyte	Result (ug/sample)	Result (ug/m³)	Result (%)	RL (ug/sample)
Quartz	<5.0	<7.7	<4.7	5.0
Cristobalite	<5.0	<7.7	<4.7	5.0
Tridymite	<30	<46	<28	30
Total Silica	ND			

Sample ID: **Si-15** Collected: 11/30/2017
Lab ID: 1733504015 Sampling Location: Central Valley S.D.- Received: 12/01/2017

Method: NIOSH 0600 Mod., MW PVC Filter **Media:** PVC Filter **Instrument:** GRAV02
Sampling Info: Air Volume 622.5 L **Analyzed:** 12/04/2017 (204144)

Analyte	Result (mg/sample)	Result (mg/m³)	RL (mg/sample)
Respirable Dust	<0.020	<0.032	0.020

Method: NIOSH 7500 Mod. **Media:** PVC Filter **Instrument:** XRAY01
Sampling Info: Air Volume 622.5 L **Analyzed:** 12/05/2017 (204303)

Analyte	Result (ug/sample)	Result (ug/m³)	RL (ug/sample)
Quartz	<5.0	<8.0	5.0
Cristobalite	<5.0	<8.0	5.0
Tridymite	<30	<48	30
Total Silica	ND		

Sample ID: **Si-16** Collected: 11/30/2017
Lab ID: 1733504016 Sampling Location: Central Valley S.D.- Received: 12/01/2017

Method: NIOSH 0600 Mod., MW PVC Filter **Media:** PVC Filter **Instrument:** GRAV02
Sampling Info: Air Volume 615 L **Analyzed:** 12/04/2017 (204144)

Analyte	Result (mg/sample)	Result (mg/m³)	RL (mg/sample)
Respirable Dust	**0.052**	**0.085**	0.020

Method: NIOSH 7500 Mod. **Media:** PVC Filter **Instrument:** XRAY01
Sampling Info: Air Volume 615 L **Analyzed:** 12/05/2017 (204303)

Analyte	Result (ug/sample)	Result (ug/m³)	Result (%)	RL (ug/sample)
Quartz	<5.0	<8.1	<9.6	5.0
Cristobalite	<5.0	<8.1	<9.6	5.0

Results Continued on Next Page

ANALYTICAL REPORT

Workorder: **34-1733504**
Client Project ID: Central Valley S.D.-Todd Lane
Purchase Order: 172462
Project Manager: Paul Pope

Analytical Results

Sample ID: **Si-16** Collected: 11/30/2017
Lab ID: 1733504016 Sampling Location: Central Valley S.D.- Received: 12/01/2017

Method: NIOSH 7500 Mod. **Media:** PVC Filter **Instrument:** XRAY01
Sampling Info: Air Volume 615 L **Analyzed:** 12/05/2017 (204303)

Analyte	Result (ug/sample)	Result (ug/m³)	Result (%)	RL (ug/sample)
Tridymite	<30	<49	<58	30
Total Silica	ND			

Sample ID: **Si-FB** Collected: 11/30/2017
Lab ID: 1733504017 Sampling Location: Central Valley S.D.- Received: 12/01/2017

Method: NIOSH 0600 Mod., MW PVC Filter **Media:** PVC Filter **Instrument:** GRAV02
Sampling Info: Air Volume Not Applicable **Analyzed:** 12/04/2017 (204144)

Analyte	Result (mg/sample)	Result (mg/m³)	RL (mg/sample)
Respirable Dust	<0.020	NA	0.020

Method: NIOSH 7500 Mod. **Media:** PVC Filter **Instrument:** XRAY01
Sampling Info: Air Volume Not Applicable **Analyzed:** 12/05/2017 (204303)

Analyte	Result (ug/sample)	Result (ug/m³)	RL (ug/sample)
Quartz	<5.0	NA	5.0
Cristobalite	<5.0	NA	5.0
Tridymite	<30	NA	30
Total Silica	ND		

Report Authorization (/S/ is an electronic signature that complies with 21 CFR Part 11)

Method	Analyst	Peer Review
NIOSH 0600 Mod., MW PVC Filter	/S/ Andrew Wilson 12/04/2017 15:13	/S/ Megan Allen 12/04/2017 15:44
NIOSH 7500 Mod.	/S/ Kim Clymer 12/05/2017 17:48	/S/ Paul M. Megerdichian 12/05/2017 18:40

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ANALYTICAL REPORT

Workorder: **34-1733504**
Client Project ID: Central Valley S.D.-Todd Lane
Purchase Order: 172462
Project Manager: Paul Pope

General Lab Comments

The results provided in this report relate only to the items tested.
Samples were received in acceptable condition unless otherwise noted.
Samples have not been blank corrected unless otherwise noted.
This test report shall not be reproduced, except in full, without written approval of ALS.

ALS provides professional analytical services for all samples submitted. ALS is not in a position to interpret the data and assumes no responsibility for the quality of the samples submitted.

All quality control samples processed with the samples in this report yielded acceptable results unless otherwise noted.

ALS is accredited for specific fields of testing (scopes) in the following testing sectors. The quality system implemented at ALS conforms to accreditation requirements and is applied to all analytical testing performed by ALS. The following table lists testing sector, accreditation body, accreditation number and website. Please contact these accrediting bodies or your ALS project manager for the current scope of accreditation that applies to your analytical testing.

Testing Sector	Accreditation Body (Standard)	Certificate Number	Website
Environmental	PJLA (DoD ELAP)	L17-288	http://www.pjlabs.com
	PJLA (ISO 17025)	L17-291	http://www.pjlabs.com
	Utah (TNI)	DATA1	http://health.utah.gov/lab/labimp/
	Nevada	UT00009	http://ndep.nv.gov/bsdw/labservice.htm
	Oklahoma	UT00009	http://www.deq.state.ok.us/CSDnew/
	Iowa	IA# 376	http://www.iowadnr.gov/InsideDNR/RegulatoryWater.aspx
	Florida (TNI)	E871067	http://www.dep.state.fl.us/labs/bars/sas/qa/
	Texas (TNI)	T104704456-11-1	http://www.tceq.texas.gov/field/qa/lab_accred_certif.html
Industrial Hygiene	AIHA (ISO 17025 & AIHA IHLAP/ELLAP)	101574	http://www.aihaaccreditedlabs.org
Lead Testing:			
CPSC	PJLA (ISO 17025)	L17-291	http://www.pjlabs.com
Soil, Dust, Paint	AIHA (ISO 17025, AIHA ELLAP and NLLAP)	101574	http://www.aihaaccreditedlabs.org
Dietary Supplements	PJLA (ISO 17025)	L17-291	http://www.pjlabs.com

Definitions

LOD = Limit of Detection = MDL = Method Detection Limit, A statistical estimate of method/media/instrument sensitivity.
LOQ = Limit of Quantitation = RL = Reporting Limit, A verified value of method/media/instrument sensitivity.
ND = Not Detected, Testing result not detected above the LOD or LOQ.
NA = Not Applicable.
** No result could be reported, see sample comments for details.
< This testing result is less than the numerical value.
( ) This testing result is between the LOD and LOQ and has higher analytical uncertainty than values at or above the LOQ.

ANALYTICAL REPORT

Report Date: December 04, 2017

Joseph Kuchnicki
Performance Environmental Services, Inc.
105 Bradford Rd.
Suite 320
Wexford, PA 15090

Phone: (412) 463-6576

E-mail: Joseph.Kuchnicki@perform-env.com

Workorder: **34-1733505**
Client Project ID: Central Valley S.D.-Todd Lane
Purchase Order: 172462
Project Manager: Paul Pope

Analytical Results

Sample ID: **Td-01** Collected: 11/29/2017
Lab ID: 1733505001 Sampling Location: Central Valley S.D.- Received: 12/01/2017
Method: **NIOSH 0500 Mod., MW PVC Filter** **Media:** PVC Filter **Instrument:** GRAV01
Sampling Info: **Air Volume 784 L** **Analyzed:** 12/04/2017 (204142)

Analyte	Result (mg/sample)	Result (mg/m³)	RL (mg/sample)
Total Dust	<0.020	<0.026	0.020

Sample ID: **Td-02** Collected: 11/29/2017
Lab ID: 1733505002 Sampling Location: Central Valley S.D.- Received: 12/01/2017
Method: **NIOSH 0500 Mod., MW PVC Filter** **Media:** PVC Filter **Instrument:** GRAV01
Sampling Info: **Air Volume 768 L** **Analyzed:** 12/04/2017 (204142)

Analyte	Result (mg/sample)	Result (mg/m³)	RL (mg/sample)
Total Dust	**0.027**	**0.035**	0.020

Sample ID: **Td-04** Collected: 11/29/2017
Lab ID: 1733505003 Sampling Location: Central Valley S.D.- Received: 12/01/2017
Method: **NIOSH 0500 Mod., MW PVC Filter** **Media:** PVC Filter **Instrument:** GRAV01
Sampling Info: **Air Volume 730 L** **Analyzed:** 12/04/2017 (204142)

Analyte	Result (mg/sample)	Result (mg/m³)	RL (mg/sample)
Total Dust	**0.082**	**0.11**	0.020

ANALYTICAL REPORT

Workorder: **34-1733505**
Client Project ID: Central Valley S.D.-Todd Lane
Purchase Order: 172462
Project Manager: Paul Pope

Analytical Results

Sample ID: **Td-05**
Lab ID: 1733505004
Sampling Location: Central Valley S.D.-
Collected: 11/30/2017
Received: 12/01/2017

Method: NIOSH 0500 Mod., MW PVC Filter
Media: PVC Filter
Sampling Info: Air Volume 858 L
Instrument: GRAV01
Analyzed: 12/04/2017 (204142)

Analyte	Result (mg/sample)	Result (mg/m³)	RL (mg/sample)
Total Dust	**0.85**	**0.99**	0.020

Sample ID: **Td-06**
Lab ID: 1733505005
Sampling Location: Central Valley S.D.-
Collected: 11/30/2017
Received: 12/01/2017

Method: NIOSH 0500 Mod., MW PVC Filter
Media: PVC Filter
Sampling Info: Air Volume 810 L
Instrument: GRAV01
Analyzed: 12/04/2017 (204142)

Analyte	Result (mg/sample)	Result (mg/m³)	RL (mg/sample)
Total Dust	**0.036**	**0.044**	0.020

Sample ID: **Td-07**
Lab ID: 1733505006
Sampling Location: Central Valley S.D.-
Collected: 11/30/2017
Received: 12/01/2017

Method: NIOSH 0500 Mod., MW PVC Filter
Media: PVC Filter
Sampling Info: Air Volume 792 L
Instrument: GRAV01
Analyzed: 12/04/2017 (204142)

Analyte	Result (mg/sample)	Result (mg/m³)	RL (mg/sample)
Total Dust	**0.28**	**0.35**	0.020

Sample ID: **Td-08**
Lab ID: 1733505007
Sampling Location: Central Valley S.D.-
Collected: 11/30/2017
Received: 12/01/2017

Method: NIOSH 0500 Mod., MW PVC Filter
Media: PVC Filter
Sampling Info: Air Volume 810 L
Instrument: GRAV01
Analyzed: 12/04/2017 (204142)

Analyte	Result (mg/sample)	Result (mg/m³)	RL (mg/sample)
Total Dust	<0.020	<0.025	0.020

Sample ID: **Td-FB**
Lab ID: 1733505008
Sampling Location: Central Valley S.D.-
Collected: 11/30/2017
Received: 12/01/2017

Method: NIOSH 0500 Mod., MW PVC Filter
Media: PVC Filter
Sampling Info: Air Volume 0 L
Instrument: GRAV01
Analyzed: 12/04/2017 (204142)

Analyte	Result (mg/sample)	Result (mg/m³)	RL (mg/sample)
Total Dust	<0.020	NA	0.020

ANALYTICAL REPORT

Workorder: **34-1733505**
Client Project ID: Central Valley S.D.-Todd Lane
Purchase Order: 172462
Project Manager: Paul Pope

Report Authorization (/S/ is an electronic signature that complies with 21 CFR Part 11)

Method	Analyst	Peer Review
NIOSH 0500 Mod., MW PVC Filter	/S/ Megan Allen 12/04/2017 13:17	/S/ Andrew Wilson 12/04/2017 15:38

Laboratory Contact Information

ALS Environmental
960 W Levoy Drive
Salt Lake City, Utah 84123

Phone: (801) 266-7700
Email: alslt.lab@ALSGlobal.com
Web: www.alsslc.com

General Lab Comments

The results provided in this report relate only to the items tested.
Samples were received in acceptable condition unless otherwise noted.
Samples have not been blank corrected unless otherwise noted.
This test report shall not be reproduced, except in full, without written approval of ALS.

ALS provides professional analytical services for all samples submitted. ALS is not in a position to interpret the data and assumes no responsibility for the quality of the samples submitted.

All quality control samples processed with the samples in this report yielded acceptable results unless otherwise noted.

ALS is accredited for specific fields of testing (scopes) in the following testing sectors. The quality system implemented at ALS conforms to accreditation requirements and is applied to all analytical testing performed by ALS. The following table lists testing sector, accreditation body, accreditation number and website. Please contact these accrediting bodies or your ALS project manager for the current scope of accreditation that applies to your analytical testing.

Testing Sector	Accreditation Body (Standard)	Certificate Number	Website
Environmental	PJLA (DoD ELAP)	L17-288	http://www.pjlabs.com
	PJLA (ISO 17025)	L17-291	http://www.pjlabs.com
	Utah (TNI)	DATA1	http://health.utah.gov/lab/labimp/
	Nevada	UT00009	http://ndep.nv.gov/bsdw/labservice.htm
	Oklahoma	UT00009	http://www.deq.state.ok.us/CSDnew/
	Iowa	IA# 376	http://www.iowadnr.gov/InsideDNR/RegulatoryWater.aspx
	Florida (TNI)	E871067	http://www.dep.state.fl.us/labs/bars/sas/qa/
	Texas (TNI)	T104704456-11-1	http://www.tceq.texas.gov/field/qa/lab_accred_certif.html
Industrial Hygiene	AIHA (ISO 17025 & AIHA IHLAP/ELLAP)	101574	http://www.aihaaccreditedlabs.org
Lead Testing:			
CPSC	PJLA (ISO 17025)	L17-291	http://www.pjlabs.com
Soil, Dust, Paint	AIHA (ISO 17025, AIHA ELLAP and NLLAP)	101574	http://www.aihaaccreditedlabs.org
Dietary Supplements	PJLA (ISO 17025)	L17-291	http://www.pjlabs.com

ANALYTICAL REPORT

Workorder: **34-1733505**
Client Project ID: Central Valley S.D.-Todd Lane
Purchase Order: 172462
Project Manager: Paul Pope

Definitions

LOD = Limit of Detection = MDL = Method Detection Limit, A statistical estimate of method/media/instrument sensitivity.
LOQ = Limit of Quantitation = RL = Reporting Limit, A verified value of method/media/instrument sensitivity.
ND = Not Detected, Testing result not detected above the LOD or LOQ.
NA = Not Applicable.
** No result could be reported, see sample comments for details.
< This testing result is less than the numerical value.
( ) This testing result is between the LOD and LOQ and has higher analytical uncertainty than values at or above the LOQ.

W 1733504

ANALYTICAL REQUEST FORM

1733504

1. ☐ **REGULAR Status**

☒ **RUSH Status Requested - ADDITIONAL CHARGE**
RESULTS REQUIRED BY 12.5.2017 (or 12.6.17 AM)
DATE
CONTACT ALS SALT LAKE PRIOR TO SENDING SAMPLES

2. Date 11.30.17 Purchase Order No. 172402

3. Company Name Performance Environmental Svc
Address 105 Bradford Rd, Suite 320
Wexford, PA 15090
Person to Contact Joe Kuchnicki
Telephone (412) 874-3439
Fax Telephone ( )
E-mail Address Labdata@perform-env.com
Billing Address (if different from above)

4. Quote No.
ALS Project Manager P. Pope

5. **Sample Collection**
Sampling Site Central Valley SD - Todd Lane ES
Industrial Process N/A
Date of Collection 11/29/17 + 11/30/17
Time Collected
Date of Shipment 11.30.17
Chain of Custody No.

6. How did you first learn about ALS?

7. **REQUEST FOR ANALYSES**

Client Sample Number	Matrix*	Sample/Area Volume	ANALYSES REQUESTED - Use method number if known	Units**	Lab Comments
Si-01 11.29.17	AIR SOR PVC	622.5 L	Resp Dust (N0600) + Cryst. Silica (N7500)	2	
Si-02		620			
Si-03		617.5			
Si-04		657.5			
Si-05		527.5			
Si-06		497.5			
Si-07		487.5			
Si-08		450			
Si-09 11.30.17		510			
Si-10		522.5			
Si-11		527.5			
Si-12		522.5			
Si-13		707.5			
Si-14		652.5			

* Specify: Solid sorbent tube, e.g. Charcoal; Filter type; Impinger solution; Bulk sample; Blood; Urine; Tissue; Soil; Water; Other

** 1. µg/sample 2. mg/m^3 3. ppm 4. % 5. µg/m^3 6.____ (other) Please indicate one or more units in the column entitled Units**

Comments

Possible Contamination and/or Chemical Hazards

7. **Chain of Custody (Optional)**

Relinquished by	Joseph L Kuchnicki	Date/Time	11.30.15 5:30pm
Received by		Date/Time	12/1/17 930
Relinquished by		Date/Time	
Received by		Date/Time	

960 West LeVoy Drive / Salt Lake City, UT 84123 800-356-9135 or 801-266-7700 / FAX: 801-268-9992
ALS Environmental

[For lab use only]

ANALYTICAL REQUEST FORM

1. ☐ **REGULAR Status**

☒ **RUSH Status Requested - ADDITIONAL CHARGE**
RESULTS REQUIRED BY 12.5.2017 (or 12.6.17 AM)
DATE
CONTACT ALS SALT LAKE PRIOR TO SENDING SAMPLES

2. Date 11.30.17 Purchase Order No. 172462

3. Company Name Performance Env Services
Address 105 Bradford Rd, Suite 320
Wexford PA 15090
Person to Contact Joe Kuchnicki
Telephone (412) 874-3439
Fax Telephone ( )
E-mail Address LabData@perform-env.com
Billing Address (If different from above)

4. Quote No.
ALS Project Manager Paul Pope

5. **Sample Collection**
Sampling Site Central Valley SD, Todd Lane ES
Industrial Process –
Date of Collection 11.29.17 + 11.30.17
Time Collected
Date of Shipment 11.30.17
Chain of Custody No.

6. How did you first learn about ALS?

7. **REQUEST FOR ANALYSES**

Client Sample Number	Matrix*	Sample/Area Volume	ANALYSES REQUESTED - Use method number if known	Units**	Lab Comments
1 Si-15 11.30.17	AIR 5.0µ PVC	622.5 L	Resp. Dust (0600) + Silica (7500)	2	
1 Si-16	↓	615	↓		
1 Si-FB	↓	0	↓		Field Blank
Td-01 11.29.17		784 L	Total Dust (N0500)		
Td-02		768			
VOID Td-03					VOID
Td-04		720			
Td-05 11.30.17		858			
Td-06		810			
Td-07		792			
Td-08		810			
Td-FB	↓	0	↓		Field Blank

* Specify: Solid sorbent tube, e.g. Charcoal; Filter type; Impinger solution; Bulk sample; Blood; Urine; Tissue; Soil; Water; Other

** 1. µg/sample 2. mg/m³ 3. ppm 4. % 5. µg/m³ 6. _____ (other) Please indicate one or more units in the column entitled Units**

Comments VOIDED Sample received, will not log on. ME 12/1/17

Possible Contamination and/or Chemical Hazards

7. **Chain of Custody (Optional)**

Relinquished by	[signature]	Date/Time	11.30.15 5:30 pm
Received by	[signature]	Date/Time	12/1/17 9AM
Relinquished by		Date/Time	
Received by		Date/Time	

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (856) 303-2500 Fax: (856) 858-4571 Email: EnvChemistry2@emsl.com

Attn: **Joe Kuchnicki** 12/8/2017
Performance Environmental Services, Inc.
105 Bradfor Rd, Suite 320
Wexford, PA 15090
Phone: (412) 463-6576
Fax:

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 11/30/2017. The results are tabulated on the attached data pages for the following client designated project:

CVSD Todd Lane ES Renovation

The reference number for these samples is EMSL Order #011709541. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (856) 303-2500.

Approved By:

Phillip Worby, Environmental Chemistry Laboratory Director

AIHA LAP, LLC
ACCREDITED LABORATORY
INDUSTRIAL HYGIENE
ISO/IEC 17025:2005
www.aihaaccreditedlabs.org

AIHA-LAP, LLC-IHLAP Lab # 100194
NELAP Certification: NJ 03036; NY 10872

Report amended 12/08/2017 14:27:00 Replaces initial report from 12/05/2017 17:32:00

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 858-4571
http://www.EMSL.com EnvChemistry2@emsl.com

EMSL Order:	011709541
CustomerID:	PERF52A
CustomerPO:	172462
ProjectID:	

Attn: **Joe Kuchnicki**
Performance Environmental Services, Inc.
105 Bradfor Rd, Suite 320
Wexford, PA 15090

Phone: (412) 463-6576
Fax:
Received: 11/30/17 9:20 AM

Project: **CVSD Todd Lane ES Renovation**

Analytical Results

Client Sample Description PBA-01 ***Collected:*** 11/29/2017 ***Lab ID:*** *011709541-0001*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
7300 Modified	Barium	ND	0.00059	mg/m³	12/1/2017	LY	12/4/2017	DM
7300 Modified	Cadmium	ND	0.000059	mg/m³	12/1/2017	LY	12/4/2017	DM
7300 Modified	Chromium	ND	0.0012	mg/m³	12/1/2017	LY	12/4/2017	DM
7300 Modified	Lead	ND	0.000059	mg/m³	12/1/2017	LY	12/4/2017	DM

Client Sample Description PBA-02 ***Collected:*** 11/29/2017 ***Lab ID:*** *011709541-0002*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
7300 Modified	Barium	ND	0.00061	mg/m³	12/1/2017	LY	12/4/2017	DM
7300 Modified	Cadmium	ND	0.000061	mg/m³	12/1/2017	LY	12/4/2017	DM
7300 Modified	Chromium	ND	0.0012	mg/m³	12/1/2017	LY	12/4/2017	DM
7300 Modified	Lead	ND	0.000061	mg/m³	12/1/2017	LY	12/4/2017	DM

Client Sample Description PBA-03 ***Collected:*** 11/29/2017 ***Lab ID:*** *011709541-0003*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
7300 Modified	Barium	ND	0.00063	mg/m³	12/1/2017	LY	12/4/2017	DM
7300 Modified	Cadmium	ND	0.000063	mg/m³	12/1/2017	LY	12/4/2017	DM
7300 Modified	Chromium	ND	0.0013	mg/m³	12/1/2017	LY	12/4/2017	DM
7300 Modified	Lead	ND	0.000063	mg/m³	12/1/2017	LY	12/4/2017	DM

Client Sample Description PBA-04 ***Collected:*** 11/29/2017 ***Lab ID:*** *011709541-0004*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
7300 Modified	Barium	ND	0.00061	mg/m³	12/1/2017	LY	12/4/2017	DM
7300 Modified	Cadmium	ND	0.000061	mg/m³	12/1/2017	LY	12/4/2017	DM
7300 Modified	Chromium	ND	0.0012	mg/m³	12/1/2017	LY	12/4/2017	DM
7300 Modified	Lead	ND	0.000061	mg/m³	12/1/2017	LY	12/4/2017	DM

Client Sample Description PBA-FB ***Collected:*** 11/29/2017 ***Lab ID:*** *011709541-0005*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 858-4571
http://www.EMSL.com EnvChemistry2@emsl.com

EMSL Order:	011709541
CustomerID:	PERF52A
CustomerPO:	172462
ProjectID:	

Attn: **Joe Kuchnicki**
Performance Environmental Services, Inc.
105 Bradfor Rd, Suite 320
Wexford, PA 15090

Phone: (412) 463-6576
Fax:
Received: 11/30/17 9:20 AM

Project: **CVSD Todd Lane ES Renovation**

Analytical Results

Client Sample Description PBA-FB ***Collected:*** 11/29/2017 ***Lab ID:*** *011709541-0005*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date*	*Analyst*	*Analysis Date*	*Analyst*
7300 Modified	Barium	ND	0.00050	mg/filter	12/1/2017	LY	12/4/2017	DM
7300 Modified	Cadmium	ND	0.000050	mg/filter	12/1/2017	LY	12/4/2017	DM
7300 Modified	Chromium	ND	0.0010	mg/filter	12/1/2017	LY	12/4/2017	DM
7300 Modified	Lead	ND	0.000050	mg/filter	12/1/2017	LY	12/4/2017	DM

Definitions:
ND - indicates that the analyte was not detected at the reporting limit
RL - Reporting Limit (Analytical)

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Environmental Chemistry Chain of Custody

EMSL Order Number (*Lab Use Only*): 011709541

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (800) 220-3675
FAX: (856) 786-5974

OrderID: 011709541

Report To Contact Name: Joe Kuchnicki		**Bill To Company:** Performance Env. Services Inc	
Company Name: Performance Environmental Services Inc		**Attention To:** Joe Kuchnicki	
Street: 105 Bradford Rd Suite 320		**Street:** 105 Bradford Rd, Suite 320	
City: Wexford **State/Province:** PA **Zip/Postal Code:** 15090		**City:** Wexford **State/Province:** PA **Zip/Postal Code:** 15090	
Phone : 412-463-6576 **Fax :**		**Phone:** 412-874-3439 **Fax:**	
Project Name: CUSD Todd Lane ES Renovation	**Email Results To:** Labdata@perform-env.com	**U.S. State where Samples Collected:**	
Number of Samples in Shipment:	**Date of Shipment:** 11.29.17 **Purchase Order:** 172462	**Sampled By (Signature):** Joseph L Kell	

Standard Turnaround Time: ☐ 2 Weeks — **The following TAT's are subject to lab approval:** ☐ 1 Week ☒ 4 Days ☐ 3 Days ☐ 2 Days ☐ 1 Day (by 12/5/17)

Failure to complete will hinder processing of samples

	Client Sample ID	Comp	Grab	Collect Date/Time	Matrix (W=Water S=Soil A=Air SL=Sludge O= Other)	Preservative (1=HCL 2=HNO3 3=H2SO4 4=ICE 5=Other)	List Test(s) Needed: Lead (Pb)	Comments: Vol (L)
1	PBA-01	☐	☐	11/29/17	A		X	845
2	PBA-02	☐	☐	↓	↓		X	817.5
3	PBA-03	☐	☐				X	787.5
4	PBA-04	☐	☐				X	822.5
5	PBA-FB	☐	☐	↓	↓		X	0
		☐	☐					

Released By (Signature)	Date & Time	Received By	Date & Time
	11/29/17 4:30pm		11/29/17 ~~1650~~
	11/29/17 600pm	19.4	11/30/17 0920

Please indicate reporting requirements: ☐ Results Only ☐ Results and QC ☐ Reduced Deliverables ☐ Disk Deliverable ☐ Other _____

Instructions or Comments:.

IMS Laboratory

3130 Old Farm Lane, Suite 1
Commerce Twp., MI 48390

877-665-3373

Laboratory Report

Prepared Exclusively For:

Performance Environmental Services
Dylan Kopnitsky
30553 Wixom Rd Suite 500
Wixom, MI 48393
248-926-3800
labdata@perform-env.com

AIHA LAP, LLC
ACCREDITED LABORATORY
ENVIRONMENTAL MICROBIOLOGY
ISO/IEC 17025:2005
LAB # 172958

Project: CVSD - Todd Lane Elementary - Renovation **Project # 172462 Lab # E110196**

Report Date: 12/04/2017 **Sampled: 11/30/2017** **Received: 12/01/2017** **Analyzed: 12/01/2017**

IMS Laboratory

Report Prepared For: Performance Environmental Services
Project Name: CVSD - Todd Lane Elementary - Renovation
Project Number: 172462
Report Date: 12/04/2017
Lab Number: E110196

1 - Laboratory Results

Location: Outdoor Control-Near Front Entrance

Sample # E110196 - 1

Medium Type: AllergencoD
Serial # 11.30.17*01
Exposure: 15.00 l/min. for 5.00 min.
Reporting Limit: 53 Spores/cu. m

Sample Identification	Raw Count	Spores/cu. m	Percent(%)
- Fungi -			
Basidiospores	32	1,710	76.24%
Cladosporium	7	373	16.63%
Smuts/Periconia/Myxomycetes	2	107	4.77%
Mitospores	1	53	2.36%
Total Fungi	42	2,240	100.00%
- Other -			
Hyphal Fragment	1	53	100.00%

Background Item	Level
Dust / Debris	Medium
Hyphal Fragments	Very Low
Opaque Particles	Medium

Location: Lower Level 3rd Grade Corridor Near G2

Sample # E110196 - 2

Medium Type: AllergencoD
Serial # 11.30.17*02
Exposure: 15.00 l/min. for 5.00 min.
Reporting Limit: 53 Spores/cu. m

Sample Identification	Raw Count	Spores/cu. m	Percent(%)
- Fungi -			
Pen/Asp group	2	107	66.88%
Basidiospores	1	53	33.13%
Total Fungi	3	160	100.00%
- Other -			
Hyphal Fragment	1	53	100.00%

Background Item	Level
Dust / Debris	Medium
Hyphal Fragments	Very Low
Opaque Particles	Low

Location: Main Level 3rd Grade Classroom 106

Sample # E110196 - 3

Medium Type: AllergencoD
Serial # 11.30.17*03
Exposure: 15.00 l/min. for 5.00 min.
Reporting Limit: 53 Spores/cu. m

Sample Identification	Raw Count	Spores/cu. m	Percent(%)
- Fungi -			
Basidiospores	3	160	100.00%

Background Item	Level
Dust / Debris	Medium
Opaque Particles	Low

Location: Main Level Corridor Near Music/Boiler Rm

Sample # E110196 - 4

Medium Type: AllergencoD
Serial # 11.30.17*04
Exposure: 15.00 l/min. for 5.00 min.
Reporting Limit: 53 Spores/cu. m

NOTE: Background material interfered with analysis. Spore levels and types may be underestimates.

Sample Identification	Raw Count	Spores/cu. m	Percent(%)
- Fungi -			
Pen/Asp group	1	53	100.00%
- Other -			
Hyphal Fragment	2	107	100.00%

Background Item	Level
Dust / Debris	Very High
Hyphal Fragments	Very Low
Opaque Particles	Very High

Location: Main Level Cafeteria/Gym Near Entrance

Sample # E110196 - 5

Medium Type: AllergencoD
Serial # 11.30.17*05
Exposure: 15.00 l/min. for 5.00 min.
Reporting Limit: 53 Spores/cu. m

Sample Identification	Raw Count	Spores/cu. m	Percent(%)
- Fungi -			
Cladosporium	1	53	100.00%

Background Item	Level
Dust / Debris	Low
Opaque Particles	Low

Location: Upper Level Corridor Near Art Room

Sample # E110196 - 6

Medium Type: AllergencoD
Serial # 11.30.17*06
Exposure: 15.00 l/min. for 5.00 min.
Reporting Limit: 53 Spores/cu. m

Sample Identification	Raw Count	Spores/cu. m	Percent(%)
- Fungi -			
Basidiospores	2	107	40.23%
Cladosporium	1	53	19.92%
Pen/Asp group	1	53	19.92%
Smuts/Periconia/Myxomycetes	1	53	19.92%
Total Fungi	5	266	100.00%

Background Item	Level
Dust / Debris	Very High
Opaque Particles	High

2 - Spore Trap Comparison Chart

SAMPLING LOCATIONS

1: Outdoor Control-Near Front Entrance
2: Lower Level 3rd Grade Corridor Near G2
3: Main Level 3rd Grade Classroom 106
4: Main Level Corridor Near Music/Boiler Rm
5: Main Level Cafeteria/Gym Near Entrance
6: Upper Level Corridor Near Art Room

Spores per Cubic Meter

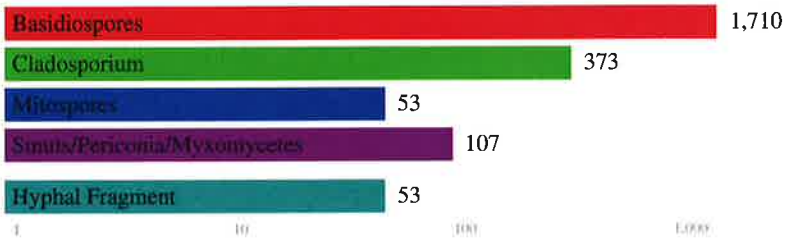
Mold Name \ Location #	1	2	3	4	5	6
Alternaria						
Arthrinium						
Ascospores						
Basidiospores	1,710	53	160			107
Bipolaris / Drechslera group						
Chaetomium						
Cladosporium	373				53	53
Curvularia						
Erysiphe/Oidium						
Fusarium						
Ganoderma						
Mitospores	53					
Pen/Asp group		107		53		53
Pithomyces						
Polythrincium						
Rust						
Smuts/Periconia/Myxomycetes	107					53
Stachybotrys						
Stemphylium						
Torula						
Unknown Fungi						
FUNGAL TOTAL	**2,240**	**160**	**160**	**53**	**53**	**266**
Hyphal Fragment	53	53		107		
Pollen						

Please refer to the Laboratory Results section for additional details.

3 - Sample Comparison Graph

Spore Trap Samples - Spores per Cubic Meter

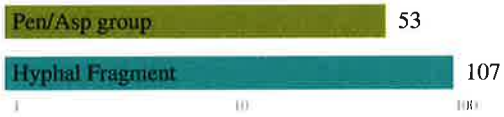
Outdoor Control-Near Front Entrance



Lower Level 3rd Grade Corridor Near G2

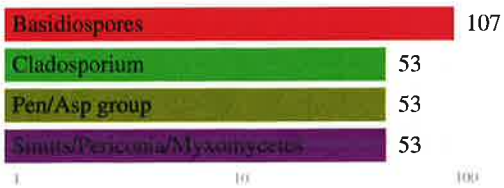
Main Level 3rd Grade Classroom 106

Main Level Corridor Near Music/Boiler Rm



Main Level Cafeteria/Gym Near Entrance

Upper Level Corridor Near Art Room



4 - Warranties, Legal Disclaimers, and Limitations

IMS's scope of accreditation through the AIHA-LAP, LLC is for the following FoT(s) / Method(s): Fungal Air - Direct Examination (SOP 2.2 and 2.3); Fungal Bulk - Direct Examination (SOP 2.6); and Fungal Surface - Direct Examination (SOP 2.1).

The study and understanding of molds is a progressing science. Because different methods of sampling, collection and analysis exist within the indoor air quality industry, different inspectors or analysts may not always agree on the mold concentrations present in a given environment. Additionally, the airborne levels of mold change frequently and by large amounts due to many factors including activity levels, weather, air exchange rates (indoors), and disturbance of growth sites. It is possible for report interpretations and ranges of accuracy to vary since comprehensive, generally accepted industry standards do not currently exist for indoor air quality inspections of mold in residential indoor environments. This report is intended to provide an analysis based upon samples taken at the site at the time of the inspection. Mold levels can and do change rapidly, especially if home building materials or contents remain wet for more than 24 hours, or if they are wet frequently. This report is not intended to provide medical or healthcare advice. All allergy or medical-related questions and concerns, including health concerns relating to possible mold exposure, should be directed to a qualified physician. If this report indicates indoor mold levels that are higher than in typical indoor living spaces relative to the outdoor environment, or indicates any findings that are of concern to you, further evaluation by a trained mold professional or a Certified Industrial Hygienist (CIH) may be advisable.

Results pertain only to the items tested. Unless otherwise noted in the body of this report, the condition of samples upon receipt was acceptable. Blank samples are reported in the same manner as all other samples. The results are not corrected for contamination.

This report is generated by IMS at the request of, and for the exclusive use of, the IMS client named on this report. The analysis of the test samples is performed by IMS. This report applies only to the samples taken at the time, place and location referenced in the report and received by IMS, and to the property and weather conditions existing at that time only. Please be aware, however, that property conditions, inspection findings and laboratory results can and do change over time relative to the original sampling due to changing conditions, the normal fluctuation of airborne mold, and many other factors. IMS does not furnish, and has no responsibility for, the inspector or inspection service that performs the inspection or collects the test samples. It is the responsibility of the end-user of this report to select a properly trained professional to conduct the inspection and collect appropriate samples for analysis and interpretation. Neither IMS, nor its affiliates, subsidiaries, suppliers, employees, agents, contractors and attorneys ("IMS related party") are able to make and do not make any determinations as to the safety or health condition

of a property in this report. The client and client's customer are solely responsible for the use of, and any determinations made from, this report, and no IMS related party shall have any liability with respect to decisions or recommendations made or actions taken by either the client or the client's customer based on the report.

Samples analyzed by IMS are disposed the day that they are analyzed. Storage may be available for a fee with written request at the time the samples are submitted for analysis.

IMS hereby expressly disclaims any and all representations and warranties of any kind or nature, whether express, implied or statutory, related to the testing services or this report including, but not limited to, damages for loss of profit or goodwill regardless of the negligence (either sole or concurrent) of IMS and whether IMS has been informed of the possibility of such damages, arising out of or in connection with IMS's services or the delivery, use, reliance upon or interpretation of test results by client or any third party. In no event will IMS be liable for any special, indirect, incidental, punitive, or consequential damages of any kind regardless of the form of action whether in contract, tort (including negligence), strict product liability or otherwise, arising from or related to the testing services or this report.

IMS accepts no legal responsibility for the purposes for which the client uses the test results. IMS will not be held responsible for the improper selection of sampling devices even if we supply the device to the user. The user of the sampling device has the sole responsibility to select the proper sampler and sampling conditions to insure that a valid sample is taken for analysis. Additionally, neither this report nor IMS makes any express or implied warranty or guarantee regarding the inspection or sampling done by the inspector, the qualifications, training or sampling methodology used by the inspector performing the sampling and inspection reported herein, or the accuracy of any information provided to IMS serving as a basis for this report. The total liability of IMS related to or arising from this report to a client or any third party, whether under contract law, tort law, warranty or otherwise, shall be limited to direct damages not to exceed the fees actually received by IMS from the client for the report. The invalidity or unenforceability, in whole or in part, of any provision, term or condition herein shall not invalidate or otherwise affect the enforceability of the remainder of these provisions, terms and conditions. Client shall indemnify IMS and its officers, directors and employees and hold each of them harmless for any liability, expense or cost, including reasonable attorney's fees, incurred by reason of any third party claim in connection with IMS's services, the test result data or its use by client.

- End of Lab Report Number E110196 -

PERFORMANCE
Environmental Services, Inc.

30553 Wixom Road, Suite 500, Wixom, Michigan 48393
(248) 926.3800; Fax (248) 926.3838

105 Bradford Road, Suite 320, Wexford, Pennsylvania 15090
(412) 463.6576

E110196

CHAIN OF CUSTODY – MOLD

PROJECT:	CVSD - Todd Lane Elementary - Renovation Monitoring	**PROJECT #:**	172462
CLIENT:	Central Valley School District	**DATE COLLECTED:**	11-30-17
LOCATION:	Monaca, Pennsylvania	**FIELD PERSONNEL:**	J Kuchnicki

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE MEDIA	SAMPLE DESCRIPTION AND LOCATION	FUNGAL/MOLD SPORES	ENVIRONMENTAL BACTERIA	OTHER/VOLUME
Air	11.30.17* 01	Allergenco D	Outdoor Control - Near front entrance	X		5min @ 15L/min
Air	11.30.17* 02	Allergenco D	Lower level 3rd grade corridor near G2	X		
Air	11.30.17* 03	Allergenco D	Main level 3rd grade Classroom 106	X		
Air	11.30.17* 04	Allergenco D	Main level corridor near music room/boiler room	X		
Air	11.30.17* 05	Allergenco D	Main level cafeteria/gymnasium near entrance	X		
Air	11.30.17* 06	Allergenco D	Upper level corridor near art room	X		
Tape lift	11.30.17* 07	IMS Tapelift	Lower level third grade room G6 Ipad charging station	X		
Tape lift	11.30.17* 08	IMS Tapelift	Main level 3rd grade room 106 window sill	X		
Tape lift	11.30.17* 09	IMS Tapelift	Main level corridor near music room floor	X		

SAMPLES RELINQUISHED BY:	DATE	TIME	SAMPLES ACCEPTED BY:	DATE	TIME
	11-30-17	3:10		11-30-17	3:10 pm
	11-30-17	6:00 pm			

RECEIVED
DEC 01 2017

NOTIFY WITH RESULTS VIA:	**Email: labdata@perform-env.com**	**TURNAROUND TIME:**	72 Hour

Performance

Environmental Services, Inc.

PHASE CONTRAST MICROSCOPY LABORATORY REPORT

PROJECT#: 172463 CLIENT: Central Valley School District DATE COLLECTED: 11/29/17

PROJECT: CVSD - Todd Lane Elementary - Renovation Monitoring METHOD: NIOSH 7400

CITY, STATE: Monaca, Pennsylvania CONTRACTOR: N/A MATERIAL: FIBERS

Sample Type	Sample #	TWA Group	Name	ID #	General Description of Activity	Pump ID	Time (min)	Flow (liters/min)	Volume (liters)	Fibers/Field (F/f)	RESULT* (f/cc)
BKG	PCM-01				Main level near elevator	57-332	205	8.1	1661	11 / 100	0.0027
BKG	PCM-02				Serving area near kitchen	57-350	197	8.1	1596	5.5 / 100	<0.0017

SAMPLE TYPES	
PBZ = Personal Breathing Zone	BKG = Background
STEL = Short Term Exposure Limit	CL = Clearance
IWA = Inside Work Area	IWA/CL = Inside Work Area/Clearance
OWA = Outside Work Area	OWA/CL = Outside Work Area/Clearance

MICROSCOPE CALIBRATION	Yes / No
1. Field Iris Checked	Yes
2. Phase Rings Checked	Yes
3. Resolution (HSE-NPL Test Slide)	Yes

QUALITY CONTROL	NUMBER	FIBERS/FIELD	FIBERS/CC
FIELD BLANKS	A	0 / 100	NA
	B	3.5 / 100	NA
BLIND RECOUNT	PCM-01	9 / 100	0.0021

* Results based on a laboratory Limit of Detection (LOD) of 5.5 fibers. Field Blanks are subtracted from fiber counts prior to the calculation of the final result, except when the fiber count is below the LOD. NOTE: f/cc = fibers/cubic centimeter.

8 HOUR TIME WEIGHTED AVERAGE

GROUP 1	GROUP 2	GROUP 3
RESPIRATOR:	RESPIRATOR:	RESPIRATOR:
REPRESENTS:	REPRESENTS:	REPRESENTS:
TOTAL TIME (minutes)	TOTAL TIME (minutes)	TOTAL TIME (minutes)
8-HR TWA (f/cc) [no respirator]	8-HR TWA (f/cc) [no respirator]	8-HR TWA (f/cc) [no respirator]
8-HR TWA (f/cc) [with respirator] -------	8-HR TWA (f/cc) [with respirator] -------	8-HR TWA (f/cc) [with respirator] -------

Technician 1: Dylan Kopnitsky

Technician 2:

NOTES:

Performance

Environmental Services, Inc.

PHASE CONTRAST MICROSCOPY LABORATORY REPORT

PROJECT#: 172426 CLIENT: Central Valley School District DATE COLLECTED: 11/30/17

PROJECT: CVSD - Todd Lane Elementary - Renovation Monitoring METHOD: NIOSH 7400

CITY, STATE: Monaca, Pennsylvania CONTRACTOR: N/A MATERIAL: FIBERS

Sample Type	Sample #	TWA Group	Name	ID #	General Description of Activity	Pump ID	Time (min)	Flow (liters/min)	Volume (liters)	Fibers/Field (F/f)	RESULT* (f/cc)
BKG	PCM-03				Upper level 4th grade classroom 203	57-332	251	8.1	2033	4 / 100	<0.0013
BKG	PCM-04				Lower level 3rd grade corridor to faculty lounge	57-350	258	8.1	2090	23.5 / 100	0.0051

SAMPLE TYPES	
PBZ = Personal Breathing Zone	BKG = Background
STEL = Short Term Exposure Limit	CL = Clearance
IWA = Inside Work Area	IWA/CL = Inside Work Area/Clearance
OWA = Outside Work Area	OWA/CL = Outside Work Area/Clearance

MICROSCOPE CALIBRATION	Yes / No
1. Field Iris Checked	Yes
2. Phase Rings Checked	Yes
3. Resolution (HSE-NPL Test Slide)	Yes

QUALITY CONTROL	NUMBER	FIBERS/FIELD	FIBERS/CC
FIELD BLANKS	A	0 / 100	NA
	B	3.5 / 100	NA
BLIND RECOUNT	PCM-04	20 / 100	0.0043

* Results based on a laboratory Limit of Detection (LOD) of 5.5 fibers. Field Blanks are subtracted from fiber counts prior to the calculation of the final result, except when the fiber count is below the LOD. NOTE: f/cc = fibers/cubic centimeter.

8 HOUR TIME WEIGHTED AVERAGE

GROUP 1	GROUP 2	GROUP 3
RESPIRATOR:	RESPIRATOR:	RESPIRATOR:
REPRESENTS:	REPRESENTS:	REPRESENTS:
TOTAL TIME (minutes)	TOTAL TIME (minutes)	TOTAL TIME (minutes)
8-HR TWA (f/cc) [no respirator]	8-HR TWA (f/cc) [no respirator]	8-HR TWA (f/cc) [no respirator]
8-HR TWA (f/cc) [with respirator] -------	8-HR TWA (f/cc) [with respirator] -------	8-HR TWA (f/cc) [with respirator] -------

Technician 1: Dylan Kopnitsky

Technician 2:

NOTES:

APPENDIX B

SURFACE DUST SAMPLE ANALYTICAL RESULTS

CONTENTS

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (856) 303-2500 Fax: (856) 858-4571 Email: EnvChemistry2@emsl.com

Attn: **Joe Kuchnicki** 12/6/2017
Performance Environmental Services, Inc.
105 Bradfor Rd, Suite 320
Wexford, PA 15090
Phone: (412) 463-6576
Fax:

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 11/30/2017. The results are tabulated on the attached data pages for the following client designated project:

CVSD - Todd Lane Elementary - Renovation

The reference number for these samples is EMSL Order #011709556. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (856) 303-2500.

Approved By:

Phillip Worby, Environmental Chemistry
Laboratory Director

The test results contained within this report meet the requirements of NELAP and/or the specific certification program that is applicable, unless otherwise noted.
NELAP Certifications: NJ 03036, NY 10872, PA 68-00367, CA ELAP 1877

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 858-4571
http://www.EMSL.com EnvChemistry2@emsl.com

EMSL Order:	011709556
CustomerID:	PERF52A
CustomerPO:	17Z46Z
ProjectID:	

Attn: **Joe Kuchnicki**
Performance Environmental Services, Inc.
105 Bradfor Rd, Suite 320
Wexford, PA 15090

Phone: (412) 463-6576
Fax:
Received: 11/30/17 10:00 AM

Project: **CVSD - Todd Lane Elementary - Renovation**

Analytical Results

Client Sample Description TLES-PbDW-01 ***Collected:*** 11/29/2017 ***Lab ID:*** *011709556-0001*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
200.8	Lead	4.24	1.00	µg/L	12/5/2017	JW	12/5/2017	JW

Client Sample Description TLES-PbDW-02 ***Collected:*** 11/29/2017 ***Lab ID:*** *011709556-0002*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
200.8	Lead	ND	1.00	µg/L	12/5/2017	JW	12/5/2017	JW

Client Sample Description TLES-PbDW-03 ***Collected:*** 11/29/2017 ***Lab ID:*** *011709556-0003*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
200.8	Lead	ND	1.00	µg/L	12/5/2017	JW	12/5/2017	JW

Client Sample Description TLES-PbDW-04 ***Collected:*** 11/29/2017 ***Lab ID:*** *011709556-0004*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
200.8	Lead	2.32	1.00	µg/L	12/5/2017	JW	12/5/2017	JW

Client Sample Description TLES-PbDW-05 ***Collected:*** 11/29/2017 ***Lab ID:*** *011709556-0005*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
200.8	Lead	1.13	1.00	µg/L	12/5/2017	JW	12/5/2017	JW

Client Sample Description PCB-01
10cm x 10 cm ***Collected:*** 11/29/2017 ***Lab ID:*** *011709556-0006*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3550C/8082A	Aroclor-1016	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1221	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1232	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1242	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1248	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1254	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1260	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1262	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1268	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL

EMSL Analytical, Inc.
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CustomerPO:	17Z46Z
ProjectID:	

Attn: **Joe Kuchnicki**
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Wexford, PA 15090

Phone: (412) 463-6576
Fax:
Received: 11/30/17 10:00 AM

Project: **CVSD - Todd Lane Elementary - Renovation**

Analytical Results

Client Sample Description PCB-02
10cm x 10 cm
Collected: 11/29/2017 ***Lab ID:*** *011709556-0007*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3550C/8082A	Aroclor-1016	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1221	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1232	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1242	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1248	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1254	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1260	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1262	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1268	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL

Client Sample Description PCB-03
10cm x 10 cm
Collected: 11/29/2017 ***Lab ID:*** *011709556-0008*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3550C/8082A	Aroclor-1016	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1221	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1232	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1242	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1248	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1254	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1260	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1262	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1268	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL

Client Sample Description PCB-04
10cm x 10 cm
Collected: 11/29/2017 ***Lab ID:*** *011709556-0009*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3550C/8082A	Aroclor-1016	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1221	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1232	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1242	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1248	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1254	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1260	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1262	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	IL
3550C/8082A	Aroclor-1268	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL

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Wexford, PA 15090

Phone: (412) 463-6576
Fax:
Received: 11/30/17 10:00 AM

Project: **CVSD - Todd Lane Elementary - Renovation**

Analytical Results

Client Sample Description PCB-05
10cm x 10 cm
Collected: 11/29/2017 ***Lab ID:*** *011709556-0010*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3550C/8082A	Aroclor-1016	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1221	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1232	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1242	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1248	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1254	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1260	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1262	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1268	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL

Client Sample Description RM-01a
10cm x 10 cm
Collected: 11/29/2017 ***Lab ID:*** *011709556-0011*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	ND	9.3	µg/ft²	12/4/2017	TD	12/4/2017	BB
3050B/6010C	Barium	ND	46	µg/ft²	12/4/2017	TD	12/4/2017	BB
3050B/6010C	Cadmium	ND	1.9	µg/ft²	12/4/2017	TD	12/4/2017	BB
3050B/6010C	Chromium	ND	4.6	µg/ft²	12/4/2017	TD	12/4/2017	BB
3050B/6010C	Lead	ND	4.6	µg/ft²	12/4/2017	TD	12/4/2017	BB
3050B/6010C	Selenium	ND	9.3	µg/ft²	12/4/2017	TD	12/4/2017	BB
3050B/6010C	Silver	ND	9.3	µg/ft²	12/4/2017	TD	12/4/2017	BB

Client Sample Description RM-01b
10cm x 10 cm
Collected: 11/29/2017 ***Lab ID:*** *011709556-0012*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
7471B	Mercury	ND	0.020	ug/100 cm2	12/5/2017	LY	12/5/2017	LY

Client Sample Description RM-02a
1ft x 1ft
Collected: 11/29/2017 ***Lab ID:*** *011709556-0013*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	ND	1.0	µg/ft²	12/4/2017	TD	12/4/2017	BB
3050B/6010C	Barium	ND	5.0	µg/ft²	12/4/2017	TD	12/4/2017	BB
3050B/6010C	Cadmium	ND	0.20	µg/ft²	12/4/2017	TD	12/4/2017	BB
3050B/6010C	Chromium	0.69	0.50	µg/ft²	12/4/2017	TD	12/4/2017	BB
3050B/6010C	Lead	1.3	0.50	µg/ft²	12/4/2017	TD	12/4/2017	BB
3050B/6010C	Selenium	ND	1.0	µg/ft²	12/4/2017	TD	12/4/2017	BB
3050B/6010C	Silver	ND	1.0	µg/ft²	12/4/2017	TD	12/4/2017	BB

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 858-4571
http://www.EMSL.com EnvChemistry2@emsl.com

EMSL Order:	011709556
CustomerID:	PERF52A
CustomerPO:	17Z46Z
ProjectID:	

Attn: **Joe Kuchnicki**
Performance Environmental Services, Inc.
105 Bradfor Rd, Suite 320
Wexford, PA 15090

Phone: (412) 463-6576
Fax:
Received: 11/30/17 10:00 AM

Project: **CVSD - Todd Lane Elementary - Renovation**

Analytical Results

Client Sample Description RM-02b 1ft x 1ft — ***Collected:*** 11/29/2017 — ***Lab ID:*** *011709556-0014*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
7471B	Mercury	ND	0.020	ug/ft²	12/5/2017	LY	12/5/2017	LY

Client Sample Description RM-03a 1ft x 1ft — ***Collected:*** 11/29/2017 — ***Lab ID:*** *011709556-0015*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	ND	1.0	µg/ft²	12/4/2017	TD	12/4/2017	BB
3050B/6010C	Barium	7.5	5.0	µg/ft²	12/4/2017	TD	12/4/2017	BB
3050B/6010C	Cadmium	ND	0.20	µg/ft²	12/4/2017	TD	12/4/2017	BB
3050B/6010C	Chromium	1.1	0.50	µg/ft²	12/4/2017	TD	12/4/2017	BB
3050B/6010C	Lead	0.52	0.50	µg/ft²	12/4/2017	TD	12/4/2017	BB
3050B/6010C	Selenium	ND	1.0	µg/ft²	12/4/2017	TD	12/4/2017	BB
3050B/6010C	Silver	ND	1.0	µg/ft²	12/4/2017	TD	12/4/2017	BB

Client Sample Description RM-03b 1ft x 1ft — ***Collected:*** 11/29/2017 — ***Lab ID:*** *011709556-0016*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
7471B	Mercury	ND	0.020	ug/ft²	12/5/2017	LY	12/5/2017	LY

Client Sample Description RM-04a 4in x 2ft — ***Collected:*** 11/29/2017 — ***Lab ID:*** *011709556-0017*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	ND	1.5	µg/ft²	12/4/2017	TD	12/4/2017	BB
3050B/6010C	Barium	ND	7.5	µg/ft²	12/4/2017	TD	12/4/2017	BB
3050B/6010C	Cadmium	ND	0.30	µg/ft²	12/4/2017	TD	12/4/2017	BB
3050B/6010C	Chromium	0.88	0.75	µg/ft²	12/4/2017	TD	12/4/2017	BB
3050B/6010C	Lead	1.3	0.75	µg/ft²	12/4/2017	TD	12/4/2017	BB
3050B/6010C	Selenium	ND	1.5	µg/ft²	12/4/2017	TD	12/4/2017	BB
3050B/6010C	Silver	ND	1.5	µg/ft²	12/4/2017	TD	12/4/2017	BB

Client Sample Description RM-04b 4in x 2ft — ***Collected:*** 11/29/2017 — ***Lab ID:*** *011709556-0018*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
7471B	Mercury	ND	0.030	ug/ft²	12/5/2017	LY	12/5/2017	LY

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http://www.EMSL.com EnvChemistry2@emsl.com

EMSL Order:	011709556
CustomerID:	PERF52A
CustomerPO:	17Z46Z
ProjectID:	

Attn: **Joe Kuchnicki**
Performance Environmental Services, Inc.
105 Bradfor Rd, Suite 320
Wexford, PA 15090

Phone: (412) 463-6576
Fax:
Received: 11/30/17 10:00 AM

Project: **CVSD - Todd Lane Elementary - Renovation**

Analytical Results

Client Sample Description RM-05a
4in x 2ft

Collected: 11/29/2017 ***Lab ID:*** *011709556-0019*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date*	*Analyst*	*Analysis Date*	*Analyst*
3050B/6010C	Arsenic	ND	1.5	µg/ft²	12/4/2017	TD	12/4/2017	BB
3050B/6010C	Barium	ND	7.5	µg/ft²	12/4/2017	TD	12/4/2017	BB
3050B/6010C	Cadmium	47	0.30	µg/ft²	12/4/2017	TD	12/4/2017	BB
3050B/6010C	Chromium	1.9	0.75	µg/ft²	12/4/2017	TD	12/4/2017	BB
3050B/6010C	Lead	1.4	0.75	µg/ft²	12/4/2017	TD	12/4/2017	BB
3050B/6010C	Selenium	ND	1.5	µg/ft²	12/4/2017	TD	12/4/2017	BB
3050B/6010C	Silver	ND	1.5	µg/ft²	12/4/2017	TD	12/4/2017	BB

Client Sample Description RM-05b
4in x 2ft

Collected: 11/29/2017 ***Lab ID:*** *011709556-0020*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date*	*Analyst*	*Analysis Date*	*Analyst*
7471B	Mercury	ND	0.030	ug/ft²	12/5/2017	LY	12/5/2017	LY

Definitions:
ND - indicates that the analyte was not detected at the reporting limit
RL - Reporting Limit (Analytical)

EMSL Analytical, Inc.

200 Route 130 North, Cinnaminson, NJ 08077
Phone: (856) 858-4800

Attn.: *Reports/Joe Kuchnicki*
Performance Environmental Services, Inc.
105 Bradford Avenue
Suite 320
Wexford, PA. 15090
Phone: 412-463-6576

EMSL Order ID: 361702940
Sample(s) Received: 11/30/2017
Date of Reporting: 12/6/2017
Date Printed: 12/6/2017
Reported By: J.Newton
Email: labdata@performenv.com

- Laboratory Report -

Full Particle Identification ™

Project: CVSD – Todd Lane Elementary - Renovation

Conclusions:

The data obtained during the analysis of sample TPID-01 indicates the following.

- The sample is predominantly composed of building dust including quartz and calcite consistent with concrete and gypsum from wallboard and joint compounds. Lesser amounts of insulation fibers were also observed along with particles consistent with environmental contaminants.

Procurement of Samples and Analytical Overview:

The material for analysis arrived at EMSL Analytical (Cinnaminson, NJ) on 11/30/2017. The package arrived in satisfactory condition with no evidence of damage to the contents. The purpose of the analysis is to determine the identification of the individual components. The data reported herein has been obtained using the following equipment and methodologies.

Methods & Equipment:
Polarized Light Microscopy (PLM)
Reflected Light Microscopy (RLM)
Stereo Microscopy
Scanning Electron Microscopy (SEM)
Energy-dispersive X-Ray Spectrometry (EDX)

Analyzed by: *John Newton*, *Senior Materials Scientist* — 6 December 2017 (*Date*)

Reviewed/Approved: *Eugenia Mirica, Ph.D.*, *Laboratory Manager* — 6 December 2017 (*Date*)

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Phone: 412-463-6576

EMSL Order ID: 361702940
Sample(s) Received: 11/30/2017
Date of Reporting: 12/6/2017
Date Printed: 12/6/2017
Reported By: J.Newton
Email: labdata@performenv.com

Results:

EMSL Sample Identification:	361702940-0001
Sample Identification:	TPID-01
Sample Description:	11/29/17 15:30

Common Building/Construction Dust:	**(%)**	**Fibrous Particulate:**		**(%)**
Gypsum/Anhydrite	10	Asbestos:	Total	ND
Quartz	30	MMVF's:	Fibrous Glass	5
Calcite/Dolomite	20		Mineral Wool	<1
Feldspar	2		RCF's	ND
Clay/ Mica	<1			
Rust/Iron Oxides	<1	Paper Fiber:	(Total)	2
Zinc Oxide	ND			
Aluminum Oxide/Hydroxides	ND	Textiles:	Cotton	<1
Paint/ Pigments	2		Polyester	<1
Wood/ Lumber Fragments	<1		Nylon	ND

	Biological:	**(%)**	**Additional Particulate:**		**(%)**
Natural Plant Matter:	Cellulose	2	Hair:	Human	ND
	Trichomes	<1		Animal	ND
	Starch Grains	<1		Skin Fragments	ND
	Pollen	ND			
Fungal:	Mold Spores/ Hyphae	ND	Sample Specific:	None	N/A
	Diatoms/ Algae	ND			
Insects:	Insect Fragments	ND			
	Moth Scales	ND			
	Dust Mites	ND			
	Unidentified Inert Organics:	10		**Unidentified Inorganics:**	9

Comments: LOQ ~1% by visual area estimation (VAE)

The data indicates that the sample is predominantly composed of building dust including quartz and calcite consistent with concrete dust and gypsum from wallboards and joint compounds. Lesser amounts of insulation fibers (fibrous glass and mineral wool) were also observed along with particles consistent with outdoors environmental contaminants (natural plant matter and starch grains).

Unidentified organics/inorganics are particles that have decomposed beyond the methods ability for identification. These particles are commonly composed of the remains of the larger particles that have been identified in the sample.

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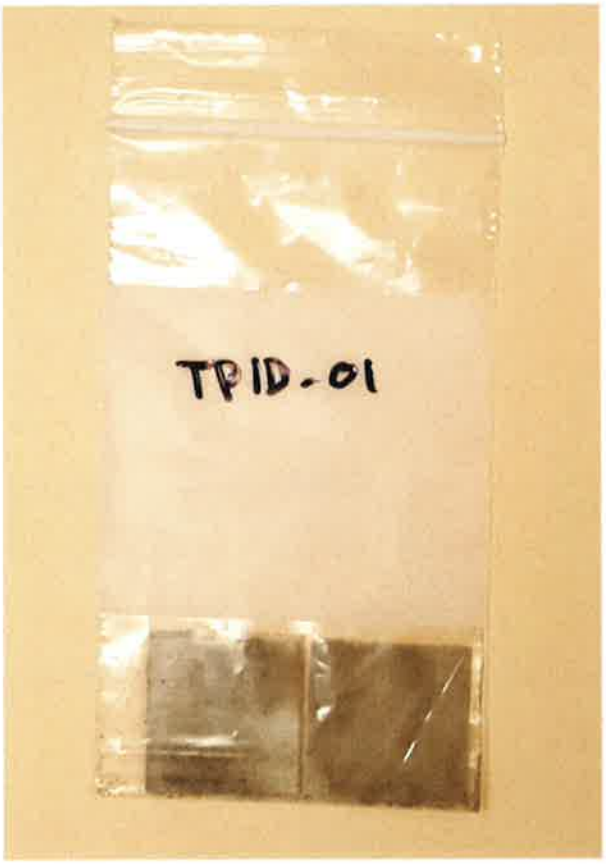

Figure 1: One wipe sample (TPID-01) as received for analysis.

Sample Preparation:

The wipe sample was initially analyzed in its as-received condition. The wipe material was then sonicated in 2-propanol and the resulting suspension filtered through a 0.45µm mixed cellulose ester filter in order to collect the fine particles for further analysis.

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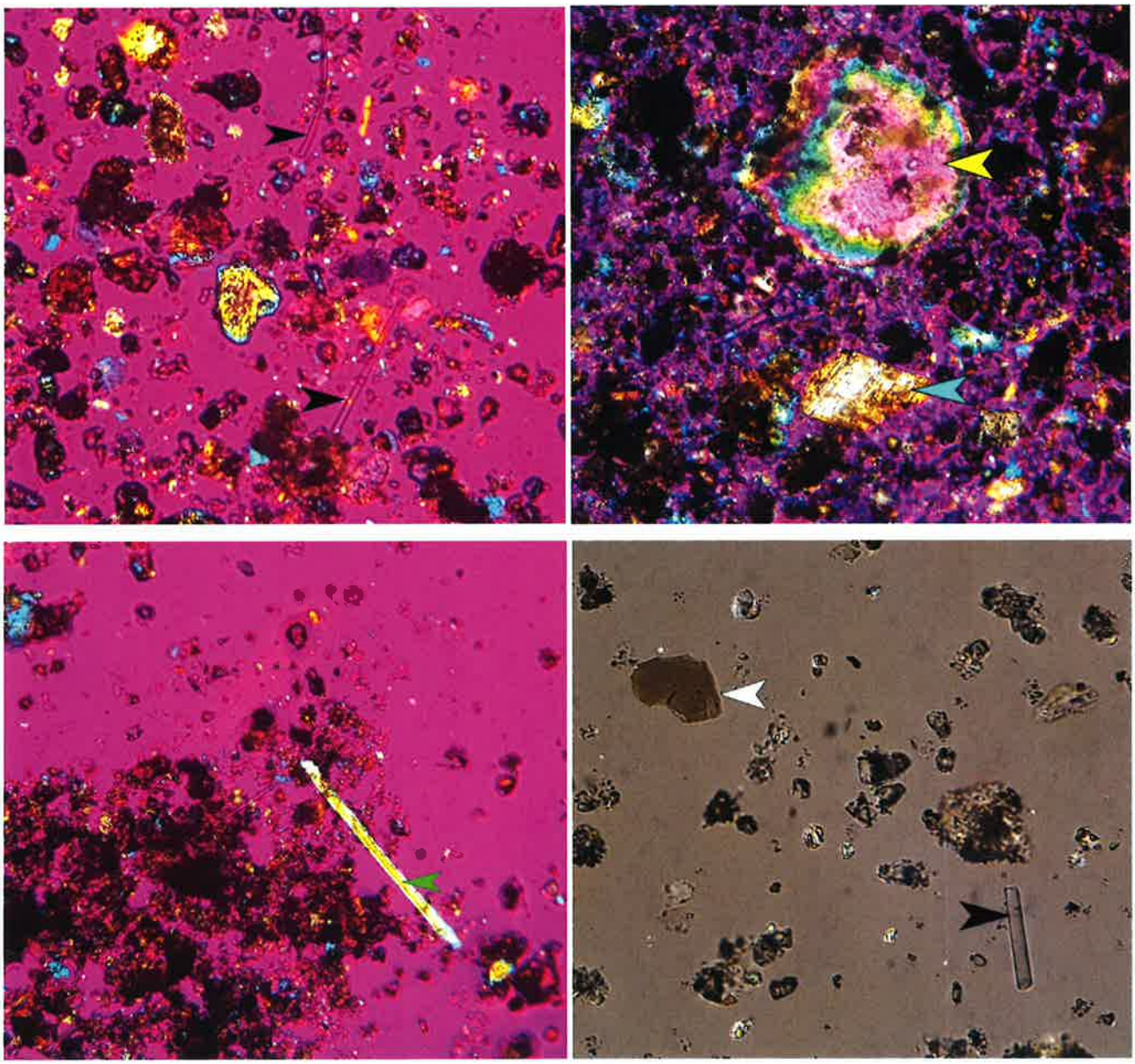

Figure 2: PLM images of material from sample TPID-01 showing a mixture of quartz (yellow arrow), calcite, feldspar (blue arrow), mica (white arrow), fibrous glass (black arrow), gypsum and natural plant matter (green arrow).

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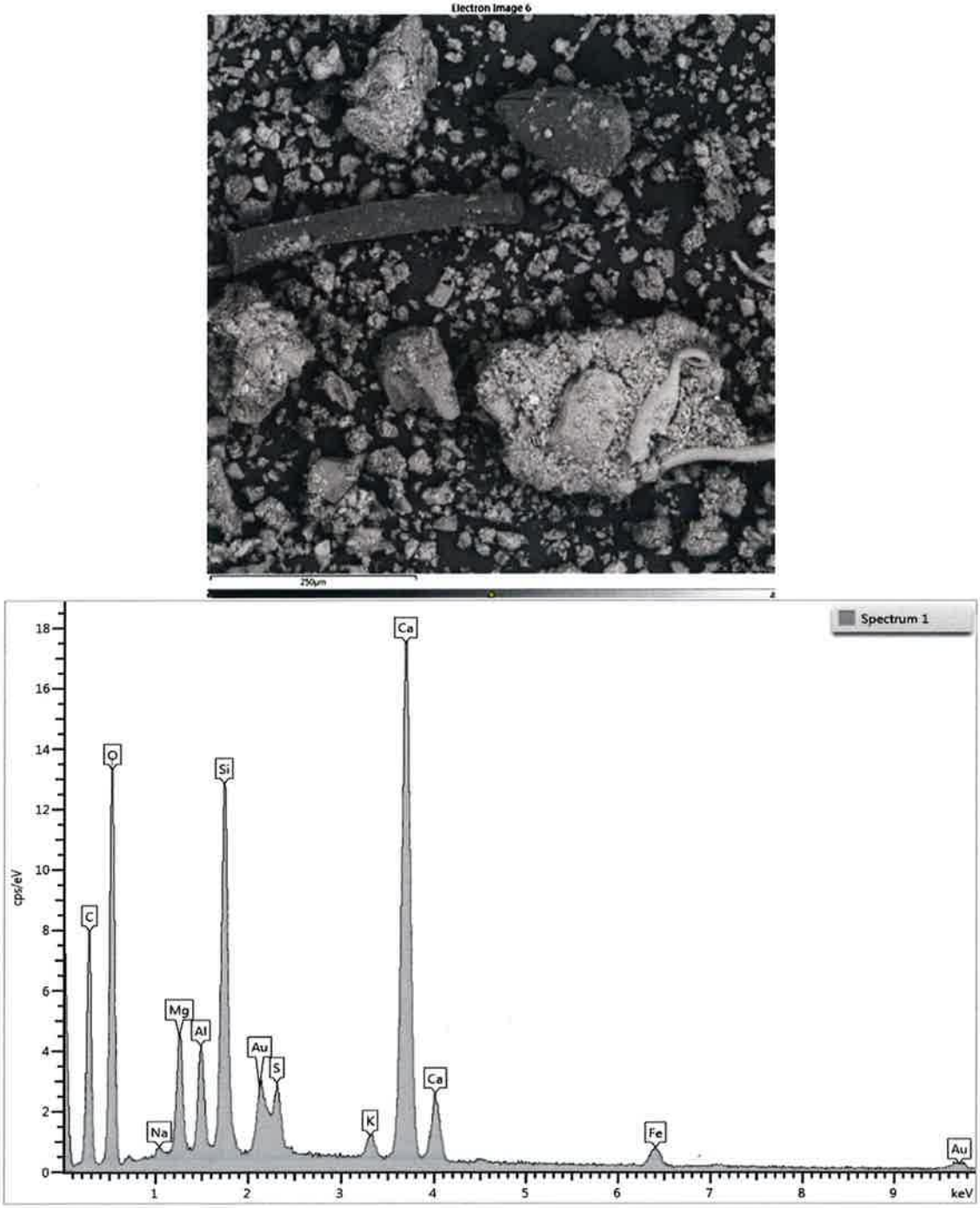

Figure 3: SEM image and associated EDX spectrum showing the elemental composition of sample TPID-01 (elements associated with calcite, quartz, feldspars, and gypsum as primary components).

EMSL Analytical, Inc.

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Wexford, PA. 15090
Phone: 412-463-6576

EMSL Order ID: 361702940
Sample(s) Received: 11/30/2017
Date of Reporting: 12/6/2017
Date Printed: 12/6/2017
Reported By: J.Newton
Email: labdata@performenv.com

Descriptions & Definitions:

None Detected (ND) denotes the absence of analyte in the subsample analyzed. Trace levels of the analyte may be present in the sample below the limit of detection (LOD).

Limit of Detection (LOD): The minimum concentration that can be theoretically achieved for a given analytical procedure in the absence of matrix or sample processing effects. Particle analysis is limited to a single occurrence of an analyte particle in the sub-sample analyzed.

Limit of Quantitation (LOQ): The minimum concentration of an analyte that can be measured within specified limits of precision and accuracy during routine laboratory operating conditions

Trace concentration: Denotes the presence of an analyte above LOD but below LOQ. When results are reported as Trace Concentration, at least one particle was detected in the collection of particles that represents the sample.

Concentrations for bulk samples are derived from Visual Area Estimation (VAE) unless otherwise noted. Air sample concentrations are calculated to particles per unit volume.

Visual Area Estimation (VAE) technique estimates the relative projected area of a certain type of particulate from a mixture of particulate by comparison to data derived from analysis of calibration materials having similar texture and particulate content. Due to bi-dimensional nature of the measurements, in some cases the particle thickness could affect the results.

Important Terms, Conditions, and Limitations:

Sample Retention: Samples analyzed by EMSL will be retained for 60 days after analysis date. Storage beyond this period is available for a fee with written request prior to the initial 30 day period. Samples containing hazardous/toxic substances which require special handling may be returned to the client immediately. EMSL reserves the right to charge a sample disposal or return shipping fee.

Change Orders and Cancellation: All changes in the scope of work or turnaround time requested by the client after sample acceptance must be made in writing and confirmed in writing by EMSL. If requested changes result in a change in cost the client must accept payment responsibility. In the event work is cancelled by a client, EMSL will complete work in progress and invoice for work completed to the point of cancellation notice. EMSL is not responsible for holding times that are exceeded due to such changes.

Warranty: EMSL warrants to its clients that all services provided hereunder shall be performed in accordance with established and recognized analytical testing procedures, when available. The foregoing express warranty is exclusive and is given in lieu of all other warranties, expressed or implied. EMSL disclaims any other warranties, express or implied, including a warranty of fitness for particular purpose and warranty of merchantability.

Limits of Liability: In no event shall EMSL be liable for indirect, special, consequential, or incidental damages, including, but not limited to, damages for loss of profit or goodwill regardless of the negligence (either sole or concurrent) of EMSL and whether EMSL has been informed of the possibility of such damages, arising out of or in connection with EMSL's services thereunder or the delivery, use, reliance upon or interpretation of test results by client or any third party. We accept no legal responsibility for the purposes for which the client uses the test results. EMSL will not be held responsible for the improper selection of sampling devices even if we supply the device to the user. The user of the sampling device has the sole responsibility to select the proper sampler and sampling conditions to insure that a valid sample is taken for analysis. Any resampling performed will be at the sole discretion of EMSL, the cost of which shall be limited to the reasonable value of the original sample delivery group (SDG) samples. In no event shall EMSL be liable to a client or any third party, whether based upon theories of tort, contract or any other legal or equitable theory, in excess of the amount paid to EMSL by client thereunder.

The data and other information contained in this report, as well as any accompanying documents, represent only the samples analyzed. They are reported upon the condition that they are not to be reproduced wholly or in part for advertising or other purposes without the written approval from the laboratory.

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Environmental Chemistry Chain of Custody

EMSL Order Number (*Lab Use Only*):

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (800) 220-3675
FAX: (856) 786-5974

Report To Contact Name: Joe Kuchnicki			**Bill To Company:** Performance Environmental / Services Inc.		
Company Name: Performance Environmental Services Inc.			**Attention To:** Joe Kuchnicki		
Street: 105 Bradford drive Suite 320			**Street:** 105 Bradford Drive Suite 320		
City: Wexford	**State/Province:** PA	**Zip/Postal Code:** 15090	**City:** Wexford, PA	**State/Province:** PA	**Zip/Postal Code:** 15090
Phone: 412-463-6576 **Fax:**			**Phone:** 412-874-3439 **Fax:**		
Project Name: CUSD-Todd Lane Elementary - Renovation		**Email Results To:** Lab data@performanceenv.com	**U.S. State where Samples Collected:** PA		
Number of Samples in Shipment:	**Date of Shipment:** 11.29.2017	**Purchase Order:** 172462	**Sampled By (Signature):** Joseph Kuchnicki		
Standard Turnaround Time: ☐ 2 Weeks	**The following TAT's are subject to lab approval:** ☐ 1 Week ☒ 4 Days ☐ 3 Days ☐ 2 Days ☐ 1 Day (by 12/5)				

Failure to complete will hinder processing of samples

Client Sample ID	Comp	Grab	Collect Date/Time	Matrix (W=Water S=Soil A=Air SL=Sludge O= Other)	Preservative (1=HCL 2=HNO3 3=H2SO4 4=ICE 5=Other)	List Test(s) Needed: Pb in drinking	Pb in drinking water	PCB						Comments
TLES-PbDW-01	☐	☒	11-29-17/900	W	2		X							
TLES-PbDW-02	☐	☒	11-29-17/900	W	2		X							
TLES-PbDW-03	☐	☒	11-29-17/900	W	2		X							
TLES-PbDW-04	☐	☒	11-29-17/900	W	2		X							
TLES-PbDW-05	☐	☒	11-29-17/900	W	2		X							
PCB-01	☐	☐	~~11-29-17~~ 11-29-17/~~1456~~	O	—			X						10 cm x 10 cm

Released By (Signature)	Date & Time	Received By	Date & Time
	11-29-17 4:30		11-30-~~17~~ 4:20pm
	11-29-17 6:30pm		

Please indicate reporting requirements: ☒ Results Only ☐ Results and QC ☐ Reduced Deliverables ☐ Disk Deliverable ☐ Other _____

Instructions or Comments: Revised COC → Note Area of Wipe testing in Comment Section

EMSL ANALYTICAL, INC.
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Environmental Chemistry Chain of Custody

EMSL Order Number (*Lab Use Only*):

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CINNAMINSON, NJ 08077
PHONE: (800) 220-3675
FAX: (856) 786-5974

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Failure to complete will hinder processing of samples				Matrix	Preservative	List Test(s) Needed								
Client Sample ID	Comp	Grab	Collect Date/Time	W=Water S=Soil A=Air SL=Sludge O= Other	1=HCL 2=HNO3 3=H2SO4 4=ICE 5=Other	PCB	RCRA metals	RCRA Hg	Full Particle ID.					Comments
PCB-02	☐	☐	11/29/17 300			X								10cm x 10cm
PCB-03	☐	☐	11/29/17 305			X								↓
PCB-04	☐	☐	11/29/17 310			X								
PCB-05	☐	☐	11/29/17 315			X								
RM-01a	☐	☐	11/29/17 12:30				X							10cm x 10cm
RM-01b	☐	☐	11/29/17 12:30					X						↓
RM-02a	☐	☐	11/29/17 12:40				X							1' x 1'
RM-02b	☐	☐	11/29/17 12:40					X						↓
RM-03a	☐	☐	11/29/17 12:50				X							
~~RM-04b~~ RM-03b	☐	☐	11/29/17 12:50					X						↓
~~RM-05a~~ RM-04a	☐	☐	11/29/17 12:58				X							4" x 2'
~~RM-06b~~ RM-04b	☐	☐	11/29/17 12:58					X						↓
RM-05a	☐	☐	11/29/17 13:10				X							
RM-05b	☐	☐	11/29/17 13:10					X						↓
TP1D-01	☐	☐	11/29/17 15:30						X					1' x 1'
	☐	☐												"
	☐	☐												

IMS Laboratory

3130 Old Farm Lane, Suite 1
Commerce Twp., MI 48390

877-665-3373

Laboratory Report

Prepared Exclusively For:

Performance Environmental Services
Dylan Kopnitsky
30553 Wixom Rd Suite 500
Wixom, MI 48393
248-926-3800
labdata@perform-env.com

AIHA LAP, LLC
ACCREDITED LABORATORY
ENVIRONMENTAL MICROBIOLOGY
ISO/IEC 17025:2005
LAB # 172958

Project: CVSD - Todd Lane Elementary - Renovation **Project # 172462 Lab # E110196**

Report Date: 12/04/2017 **Sampled: 11/30/2017** **Received: 12/01/2017** **Analyzed: 12/01/2017**

Location: LL 3rd Grade Rm G6 Ipad Charging Station

Sample # E110196 - 7

Medium Type: Tape Lift
Serial # 11.30.17*07

Sample Identification	Prevalence
- Fungi -	
Cladosporium	Present on less than 5% of sample area.
Smuts/Periconia/Myxomycetes	Present on less than 5% of sample area.

Background Item	Level
Dust / Debris	Low
Hyphal Fragments	Very Low
Opaque Particles	Very Low

Location: Main Level 3rd Grade Rm 106 Window Sill

Sample # E110196 - 8

Medium Type: Tape Lift
Serial # 11.30.17*08

Sample Identification	Prevalence
- Fungi -	
Bipolaris / Drechslera group	Present on less than 5% of sample area.
Cladosporium	Present on less than 5% of sample area.
Smuts/Periconia/Myxomycetes	Present on less than 5% of sample area.

Background Item	Level
Dust / Debris	Very Low
Hyphal Fragments	Very Low
Opaque Particles	Very Low

Location: Main Level Corridor Near Music Rm Floor

Sample # E110196 - 9

Medium Type: Tape Lift
Serial # 11.30.17*09

Sample Identification	Prevalence
- Fungi -	
Smuts/Periconia/Myxomycetes	Present on less than 5% of sample area.

Background Item	Level
Dust / Debris	Medium
Opaque Particles	Medium

IMS Laboratory

Report Prepared For: Performance Environmental Services
Project Name: CVSD - Todd Lane Elementary - Renovation
Project Number: 172462
Report Date: 12/04/2017
Lab Number: E110196

Location: Main Level Gym/Cafeteria Black Coverbase

Sample # E110196 - 10

Medium Type: Tape Lift
Serial # 11.30.17*10

Sample Identification	Prevalence
- Fungi -	
No Fungal Spores Observed	
- Other -	
Pollen	Present on less than 5% of sample area.

Background Item	Level
Dust / Debris	High
Hyphal Fragments	Very Low
Opaque Particles	Low

Location: Upper Level Locker 561 Top of Door

Sample # E110196 - 11

Medium Type: Tape Lift
Serial # 11.30.17*11

Sample Identification	Prevalence
- Fungi -	
Cladosporium	Present on less than 5% of sample area.
Mitospores	Present on less than 5% of sample area.
Pithomyces	Present on less than 5% of sample area.
Smuts/Periconia/Myxomycetes	Present on less than 5% of sample area.

Background Item	Level
Dust / Debris	Medium
Hyphal Fragments	Low
Opaque Particles	Very Low

Analytic Methods and Formulas:

Calculated results may include one more significant figure than is mathematically justified in order to accommodate the client's needs.
IMS Analytical Method: 2.6.1 (method for analyzing abundant organisms tape lift)
IMS Laboratory Analytical Method: 2.2 (method for analyzing spore trap)
Spores per cubic meter is determined by: Total Spore Count x 4000 / (sampling rate x sampling time)

Note that this report may use mold-specific units of measure, such as Spores/cu. m and CFU/cu. m, for Sample Identifications which are not mold. Examples include pollen, fabric and fiberglass fibers, insect particles, and ash. In this context, "CFU" and "Spore" refer to individual pieces of the identified material.

IMS Laboratory, LLC is accredited through the AIHA-LAP, LLC and participates in Environmental Microbiology Proficiency Testing, EMPAT #172958. Data is provided in compliance with AIHA-LAP, LLC policy modules and ISO/IEC 17025 guidelines.

Analyst

12/01/2017

Jonathan Panzer, Lab Analyst

AIHA LAP, LLC ACCREDITED LABORATORY ENVIRONMENTAL MICROBIOLOGY ISO/IEC 17025:2005 LAB # 172958

Reviewer

12/04/2017

Maria Iley, Lab Analyst

4 - Warranties, Legal Disclaimers, and Limitations

IMS's scope of accreditation through the AIHA-LAP, LLC is for the following FoT(s) / Method(s): Fungal Air - Direct Examination (SOP 2.2 and 2.3); Fungal Bulk - Direct Examination (SOP 2.6); and Fungal Surface - Direct Examination (SOP 2.1).

The study and understanding of molds is a progressing science. Because different methods of sampling, collection and analysis exist within the indoor air quality industry, different inspectors or analysts may not always agree on the mold concentrations present in a given environment. Additionally, the airborne levels of mold change frequently and by large amounts due to many factors including activity levels, weather, air exchange rates (indoors), and disturbance of growth sites. It is possible for report interpretations and ranges of accuracy to vary since comprehensive, generally accepted industry standards do not currently exist for indoor air quality inspections of mold in residential indoor environments. This report is intended to provide an analysis based upon samples taken at the site at the time of the inspection. Mold levels can and do change rapidly, especially if home building materials or contents remain wet for more than 24 hours, or if they are wet frequently. This report is not intended to provide medical or healthcare advice. All allergy or medical-related questions and concerns, including health concerns relating to possible mold exposure, should be directed to a qualified physician. If this report indicates indoor mold levels that are higher than in typical indoor living spaces relative to the outdoor environment, or indicates any findings that are of concern to you, further evaluation by a trained mold professional or a Certified Industrial Hygienist (CIH) may be advisable.

Results pertain only to the items tested. Unless otherwise noted in the body of this report, the condition of samples upon receipt was acceptable. Blank samples are reported in the same manner as all other samples. The results are not corrected for contamination.

This report is generated by IMS at the request of, and for the exclusive use of, the IMS client named on this report. The analysis of the test samples is performed by IMS. This report applies only to the samples taken at the time, place and location referenced in the report and received by IMS, and to the property and weather conditions existing at that time only. Please be aware, however, that property conditions, inspection findings and laboratory results can and do change over time relative to the original sampling due to changing conditions, the normal fluctuation of airborne mold, and many other factors. IMS does not furnish, and has no responsibility for, the inspector or inspection service that performs the inspection or collects the test samples. It is the responsibility of the end-user of this report to select a properly trained professional to conduct the inspection and collect appropriate samples for analysis and interpretation. Neither IMS, nor its affiliates, subsidiaries, suppliers, employees, agents, contractors and attorneys ("IMS related party") are able to make and do not make any determinations as to the safety or health condition

of a property in this report. The client and client's customer are solely responsible for the use of, and any determinations made from, this report, and no IMS related party shall have any liability with respect to decisions or recommendations made or actions taken by either the client or the client's customer based on the report.

Samples analyzed by IMS are disposed the day that they are analyzed. Storage may be available for a fee with written request at the time the samples are submitted for analysis.

IMS hereby expressly disclaims any and all representations and warranties of any kind or nature, whether express, implied or statutory, related to the testing services or this report including, but not limited to, damages for loss of profit or goodwill regardless of the negligence (either sole or concurrent) of IMS and whether IMS has been informed of the possibility of such damages, arising out of or in connection with IMS's services or the delivery, use, reliance upon or interpretation of test results by client or any third party. In no event will IMS be liable for any special, indirect, incidental, punitive, or consequential damages of any kind regardless of the form of action whether in contract, tort (including negligence), strict product liability or otherwise, arising from or related to the testing services or this report.

IMS accepts no legal responsibility for the purposes for which the client uses the test results. IMS will not be held responsible for the improper selection of sampling devices even if we supply the device to the user. The user of the sampling device has the sole responsibility to select the proper sampler and sampling conditions to insure that a valid sample is taken for analysis. Additionally, neither this report nor IMS makes any express or implied warranty or guarantee regarding the inspection or sampling done by the inspector, the qualifications, training or sampling methodology used by the inspector performing the sampling and inspection reported herein, or the accuracy of any information provided to IMS serving as a basis for this report. The total liability of IMS related to or arising from this report to a client or any third party, whether under contract law, tort law, warranty or otherwise, shall be limited to direct damages not to exceed the fees actually received by IMS from the client for the report. The invalidity or unenforceability, in whole or in part, of any provision, term or condition herein shall not invalidate or otherwise affect the enforceability of the remainder of these provisions, terms and conditions. Client shall indemnify IMS and its officers, directors and employees and hold each of them harmless for any liability, expense or cost, including reasonable attorney's fees, incurred by reason of any third party claim in connection with IMS's services, the test result data or its use by client.

- End of Lab Report Number E110196 -

PERFORMANCE
Environmental Services, Inc.

30553 Wixom Road, Suite 500, Wixom, Michigan 48393
(248) 926.3800; Fax (248) 926.3838

105 Bradford Road, Suite 320, Wexford, Pennsylvania 15090
(412) 463.6576

E110196

CHAIN OF CUSTODY – MOLD

PROJECT:	CVSD - Todd Lane Elementary - Renovation Monitoring	**PROJECT #:**	172462
CLIENT:	Central Valley School District	**DATE COLLECTED:**	11-30-17
LOCATION:	Monaca, Pennsylvania	**FIELD PERSONNEL:**	J Kuchnicki

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE MEDIA	SAMPLE DESCRIPTION AND LOCATION	FUNGAL/MOLD SPORES	ENVIRONMENTAL BACTERIA	OTHER/VOLUME
Air	11.30.17* 01	Allergenco D	Outdoor Control - Near front entrance	X		5min @ 15L/min
Air	11.30.17* 02	Allergenco D	Lower level 3rd grade corridor near G2	X		
Air	11.30.17* 03	Allergenco D	Main level 3rd grade Classroom 106	X		
Air	11.30.17* 04	Allergenco D	Main level corridor near music room/boiler room	X		
Air	11.30.17* 05	Allergenco D	Main level cafeteria/gymnasium near entrance	X		
Air	11.30.17* 06	Allergenco D	Upper level corridor near art room	X		
Tape lift	11.30.17* 07	IMS Tapelift	Lower level third grade room G6 Ipad charging station	X		
Tape lift	11.30.17* 08	IMS Tapelift	Main level 3rd grade room 106 window sill	X		
Tape lift	11.30.17* 09	IMS Tapelift	Main level corridor near music room floor	X		

SAMPLES RELINQUISHED BY:	DATE	TIME	SAMPLES ACCEPTED BY:	DATE	TIME
	11-30-17	3:10		11-30-17	3:10pm
	11-30-17	6:00 pm			

RECEIVED
DEC 01 2017

NOTIFY WITH RESULTS VIA:	**Email: labdata@perform-env.com**	**TURNAROUND TIME:**	72 Hour

PERFORMANCE
Environmental Services, Inc.

30553 Wixom Road, Suite 500, Wixom, Michigan 48393
(248) 926.3800; Fax (248) 926.3838

105 Bradford Road, Suite 320, Wexford, Pennsylvania 15090
(412) 463.6576

E110196

CHAIN OF CUSTODY – MOLD

PROJECT:	CVSD - Todd Lane Elementary - Renovation Monitoring	**PROJECT #:**	172462
CLIENT:	Central Valley School District	**DATE COLLECTED:**	11-30-17
LOCATION:	Monaca, Pennsylvania	**FIELD PERSONNEL:**	J. Kuchinski

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE MEDIA	SAMPLE DESCRIPTION AND LOCATION	FUNGAL/MOLD SPORES	ENVIRONMENTAL BACTERIA	OTHER/VOLUME
Tape Lift	11.30.17*-10	IMS Tapelift	Main level gym/cafeteria black covebase	X		
Tape Lift	11.30.17*-11	IMS Tapelift	Upper level locker 561 top of door	X		

SAMPLES RELINQUISHED BY:	DATE	TIME	SAMPLES ACCEPTED BY:	DATE	TIME
	11-30-17	3:10		11-30-17	3:10 pm
	11-30-17	6:00 pm			

RECEIVED
DEC 01 2017

NOTIFY WITH RESULTS VIA: Email: labdata@perform-env.com **TURNAROUND TIME:** 72 Hour

APPENDIX C

AIR MONITORING DATA

CONTENTS

PERFORMANCE
Environmental Services, Inc.

IAQ 'Comfort Parameter' + TVOCs + Dust Grab Sampling Data Sheet

Project Name: Central Valley School District

Project Location: Todd Lane Elementary School

Project #: 172462

Date: 11/29/17

Inspector: JK / DK

Equipment (make/model): TSI Q Trak (comfort parameters); TSI Side Pak (dust); PID (tvocs)

Sample #	Sample Location	Time	CO_2 (ppm)	Temp. (°F)	Rel Hum %	CO (ppm)	TVOCs (ppm)	Dust (PM10)	Dust (PM2.5)
1	Main level Admin office	1135-1138	730	77.1	16.3	0	0.1	0.004	N/A
2	Main level health office	1138-1140	755	77.1	18.4	0	0.1	0.003	N/A
3	Upper level corridor	1235-1238	613	73.7	14.5	0	0	0.004	N/A
4	Room 204	1238-1240	530	72	11	0	0	0.003	N/A
5	Room 203	1240-1242	530	70.5	12.4	0	0	0.003	N/A
6	Upper level locker alcove	1242-1244	587	73.7	12.4	0	0	0.003	N/A
7	Art room	1244-1246	587	73.7	12.4	0	0	0.003	N/A
8	Room 208	1246-1248	665	75.6	14.2	0	0	0.004	N/A
9	Room 207	1248-1250	549	77	13	0	0	0.003	N/A
10	Lab A	1250-1252	549	77	11.4	0	0	0.003	N/A
11	Pod B Corridor	1252-1254	570	74.4	12.1	0	0	0.003	N/A
12	Upper level B4	1254-1256	580	74.4	12	0	0	0.003	N/A
13	Room B1	1256-1257	580	72.1	13	0	0	0.003	N/A
14	Room B2	1257-1258	605	71.8	13.5	0	0	0.003	N/A
15	Room B3	1258-1303	700	71.8	15.4	0	0	0.003	N/A
16	Lab B	1303-1304	595	75.8	12.7	0	0	0.004	N/A
17	Room 206	1304-1306	650	76.1	12.1	0	0	0.004	N/A
18	Room 201	1306-1308	725	75.2	13.2	0	0	0.005	N/A
19	Room 205	1308-1309	690	74.4	13.6	0	0	0.003	N/A
20	Room 204	1309-1312	675	74.5	13.1	0	0	0.004	N/A
21	2nd floor Pod D	1312-1315	635	75.2	14.1	0	0	0.015	N/A

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22	Main level corridor near elevator	1315-1320	780	71.7	17.7	0	0.1	0.005	N/A
23	Main level corridor stair 4	1320-1322	675	70.9	18.2	0	0	0.002	N/A
24	Room 101	1322-1324	605	71.8	15	0	0	0.002	N/A
25	Room 102	1324-1326	615	71.8	15.2	0	0	0.002	N/A
26	Room 103	1326-1327	612	70.7	16.1	0	0	0.003	N/A
27	Custodian room 104	1327-1328	580	70.9	15.3	0	0.1	0.002	N/A
28	Room 105	1328-1330	575	70.2	14.8	0	0	0.002	N/A
29	Main floor corridor (100s)	1330-1331	660	71.4	18.4	0	0.1	0.003	N/A
30	Room 106	1331-1333	700	70.8	18.3	0	0.1	0.003	N/A
31	Room 107	1333-1336	710	70.9	18.9	0	0.1	0.002	N/A
32	Computer Lab	1336-1338	790	71.3	17.8	0	0.1	0.003	N/A
33	Lower level corridor near elevator	1338-1340	720	71.5	20	0	0.1	0.002	N/A
34	Lower level corridor (G)	1340-1342	780	70.5	20.6	0	0.1	0.005	N/A
35	Room G1	1342-1344	773	71.4	19.3	0	0.1	0.003	N/A
36	Room G2	1344-1347	686	71.8	18.2	0	0.1	0.003	N/A
37	Room G3	1347-1349	718	71.3	19.1	0	0.1	0.002	N/A
38	Lower level faculty lounge	1349-1351	780	71.3	24.2	0	0.1	0.002	N/A
39	Headstart	1351-1352	860	70.9	24.8	0	0.1	0.001	N/A
40	Room G5	1352-1355	807	70.4	21.9	0	0.1	0.006	N/A
41	Room G6	1355-1357	725	69.6	20.3	0	0.1	0.003	N/A
42	Room G7	1357-1359	730	69.6	21.1	0	0.1	0.004	N/A
43		1359-1402	770	70.5	22	0	0.2	0.014	N/A
44	Main level near serving area	1402-1403	852	71.8	20	0	0.1	0.011	N/A
45	Kitchen	1403-1406	660	73.8	19.4	0	0.1	0.006	N/A
46	Gymnasium	1406-1410	760	73.7	21.8	0	0.1	0.013	N/A
47	Entrance foyer	1410-1412	684	73.9	16.4	0	0	0.003	N/A
48	Library	1412-1412	630	73.6	15.6	0	0	0.003	N/A
49	Learning Support	1412-1414	610	74.2	14.2	0	0	0.003	N/A
50	Room A1	1414-1415	770	73.8	16.9	0	0	0.003	N/A
51	Eoom A2	1415-1417	790	73.1	17.6	0	0.1	0.003	N/A
52	Room A3	1417-1419	800	73.7	17.5	0	0	0.002	N/A
53	Room A4	1419-1421	795	72.6	17.2	0	0	0.003	N/A

54	Pod A Corridor	1421-1422	800	73.4	17.2	0	0	0.004	N/A

PERFORMANCE
Environmental Services, Inc

IAQ 'Comfort Parameter' + TVOCs + Dust Grab Sampling Data Sheet

Project Name: Central Valley School District

Project Location: Todd Lane Elementary School

Project #: 172462

Date: 11/30/17

Inspector: JK / DK

Equipment (make/model): TSI Q Trak (comfort parameters); TSI Side Pak (dust); PID (tvocs)

Sample #	Sample Location	Time	CO_2 (ppm)	Temp. (°F)	Rel Hum %	CO (ppm)	TVOCs (ppm)	Dust (PM10)
1	Main Corridor near construction	1018-1020	788	74.6	21.8	0	0.1	0.025
2	Upper level construction zone	1020-1028	730	72.1	22.3	0	0	0.03
3	Upper level corridor	1028-1030	780	73.6	23.5	0	0	0.012
4	Room B3	1030-1031	816	73.8	24.3	0	0	0.01
5	Room B2	1031-1032	817	73.1	23.9	0	0	0.01
6	Room B1	1032-1032	800	72.5	23.8	0	0	0.011
7	Room B4	1032-1033	785	71.9	23.8	0	0	0.01
8	Upper level ASAP room	1033-1035	630	71.3	22.7	0	0	0.01
9	Lab A	1035-1037	680	74.7	22.6	0	0	0.012
10	Room 208	1037-1039	760	75.2	23.6	0	0	0.011
11	Room 207	1039-1041	690	76.8	21.4	0	0	0.012
12	Art Room	1041-1043	650	77.3	19.6	0	0	0.012
13	Room 206	1043-1044	728	76.7	20.7	0	0	0.013
14	Lab B	1044-1045	645	76.5	19.4	0	0	0.012
15	Room 201	1045-1046	800	75	21	0	0.1	0.024
16	Upper level Stairwell 2	1046-1048	760	74.4	22.4	0	0	0.016
17	Room 205	1048-1050	720	74	22.1	0	0	0.012
18	Room 203	1050-1052	600	70.7	22.2	0	0	0.013
19	Room 202	1052-1054	720	71.6	24.6	0	0	0.013

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20	Upper Level Construction Zone	1054-1057	656	71.8	25.4	0	0	0.042
21	Room 105	1057-1058	703	78.2	25.7	0	0	0.009
22	Custodian Lounge	1058-1100	700	70.9	25.8	0	0	0.009
23	Room 103	1100-1101	790	71.5	27.2	0	0	0.01
24	Room 106	1101-1103	800	72.2	26.6	0	0	0.009
25	Room 107	1103-1104	830	71.4	27.2	0	0.2	0.012
26	Room 102	1104--1106	770	71.7	26.5	0	0	0.011
27	Main level 3rd grade corridor	1106-1107	790	71.4	26.6	0	0	0.009
28	Room 101	1107-1116	680	73	23.5	0	0	0.01
29	Computer Lab	1116-1118	660	70.2	26.6	0	0	0.01
30	Stairwell 4	1118-1120	800	69.3	28.1	0	0	0.009
31	Main level corridor near music room	1120-1122	830	69.3	29.4	0	0.1	0.018
32	Boiler Room Construction Zone	1122-1125	760	69.7	32.3	0	0.3	.120-.248
33	Outdoor - Main Entrance	1125-1130	550	62	29.9	0	0	0.016
34	Outdoor - Staff parking lot	1130-1133	530	57.1	39.9	0	0	0.015
35	Cafeteria	1133-1135	674	64.6	35.8	0	0	0.013
36	Gymnasium	1133-1135	660	67.5	31.1	0	0	0.013
37	Serving counter area corridor	1135-1137	776	69.2	33.2	0	0.1	0.028
38	5th grade main level corridor	1137-1138	680	71.6	26.8	0	0.1	0.014
39	Room A2	1138-1140	616	71.6	25.4	0	0	0.012
40	Room A1	1140-1142	640	71.5	25.7	0	0.1	0.012
41	Room A3	1142-1144	760	72.6	27.1	0	0.1	0.012
42	Room A4	1144-1145	745	73	26.2	0	0.1	0.014
43	Learning Support	1145-1147	600	74.2	23.5	0	0.1	0.012
44	Library	1147-1148	600	73.6	22.4	0	0	0.011
45	Main level corridor near boiler	1148-1150	743	73.6	24.9	0	0.1	0.025
46	Lower level stairwell 4	1150-1153	830	70.7	27.6	0	0.1	0.011
47	Headstart	1153-1154	950	71.3	31.6	0	0.1	0.008
48	Faculty Lounge	1154-1156	800	71.3	28.7	0	0.1	0.008

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49	Room G5	1156-1158	630	70.4	27.6	0	0	0.008
50	Room G2	1158-1159	675	70.8	28.2	0	0	0.013
51	Room G6	1159-1206	930	70.9	30.2	0	0.1	0.008
52	Room G1	1206-1208	745	71.1	27.7	0	0.1	0.014
53	Room G7	1208-1210	840	70.5	29.3	0	0.1	0.007
54	Main level corridor near boiler room	1210-1213	730	70.4	28.3	0	0	0.018
55	Main level Admin offices	1213-1215	708	73.5	25.8	0	0	0.015

PERFORMANCE
Environmental Services, Inc.

IAQ 'Comfort Parameter' + TVOCs + Dust Grab Sampling Data Sheet

Project Name: Central Valley School District

Project Location: Todd Lane Elementary School

Project #: 172462

Date: 11/30/17

Inspector: JK / DK

Equipment (make/model): TSI Q Trak (comfort parameters); TSI Side Pak (dust); PID (tvocs)

Sample #	Sample Location	Time	CO_2 (ppm)	Temp. (°F)	Rel Hum %	CO (ppm)	TVOCs (ppm)	Dust (PM10)	Dust (PM2.5)
1	Main corridor near music	1427							0.014
2	Main Corridor Near Stair 3	1429							0.013
3	Lower level 3rd grade room G1	1430							0.012
4	Lower level 3rd grade corridor	1431							0.012
5	Lower level 3rd grade Room G7	1432							0.008
6	Lowe Level 3rd Grade Room G5	1433							0.014
7	Lower level 3rd grade room G3	1434							0.012
8	Lower level 3rd grade room G6	1435							0.012
9	Outdoor by lower level art room	1439							0.017
10	Main level - 3rd grade corridor	1441							0.013
11	Main level 3rd grade learning suppo	1442							0.014
12	Main level 3rd grade computer lab	1443							0.015
13	Main level 3rd grade room 103	1445							0.013
14	Main level 3rd grade Room 106	1447							0.015
15	Main level 3rd grade Room 105	1448							0.013
16	Main level 3rd grade Room 102	1451							0.014
17	Main level corridor near stairwell 3	1453							0.031
18	Upper level corridor near stairwell 3	1455							0.027
19	Construction Zone Stairwell 3 Landi	1456							0.036

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20	Main level Cafeteria (gym)	1501							0.027
21	Main Gym	1502							0.027
22	Construction Zone boiler room	1504							0.03
23	Main - admin office	1508							0.011
24	Main- library	1511							0.012
25	Main - corridor Pod A entrance	1513							0.015
26	Main - Room A1	1514							0.015
27	Main - Room A2	1515							0.013
28	Main - Room A4	1516							0.016
29	Upper level - Room B 2	1519							0.017
30	Upper level - Room B3	1520							0.014
31	Upper level - Corridor near B pod	1521							0.015
32	Upper level - Lab A	1522							0.014
33	Upper level Room 207	1523							0.018
34	Upper level Art Room	1524							0.013
35	Upper level Corridor near Art room	1524							0.019
36	Upper level Room 201	1527							.058-.084
37	Upper level Room 206	1530							0.017
38	Upper Level Room 202	1534							0.023
39	Upper level Room 203	1536							0.017
40	Upper level Room 204	1538							0.014
41	Upper level Room 205	1540							0.019

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC

1450 Elmhurst Road
Elk Grove Village, Illinois 60007
Tel: 847-718-1246

Pine Environmental Services, Inc.

Instrument ID R11369
Description TSI 7565 Q-Trak
Calibrated 11/27/2017 2:12:46PM

Manufacturer	Tsi	**State Certified**	
Model Number	7565-X	**Status**	Pass
Serial Number/ Lot Number	7565X0752002	**Temp °C**	23
Location	Illinois	**Humidity %**	44
Department			

Calibration Specifications

Group # 1
Group Name
Test Performed: N/A **As Found Result:** **As Left Result:**

Test Instruments Used During the Calibration **(As Of Cal Entry Date)**

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Next Cal Date / Last Cal Date/ Expiration Date Opened Date

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Rudy Maldonado

All instruments are calibrated by Pine Environmental Services LLC according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services LLC of any defect within 24 hours of receipt of equipment
Please call 800-301-9663 for Technical Assistance

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC
1450 Elmhurst Road
Elk Grove Village, Illinois 60007
Tel: 847-718-1246

Pine Environmental Services, Inc.

Instrument ID R11600
Description TSI Q-TRAK PROBE
Calibrated 11/27/2017 2:13:23PM

Manufacturer Tsi
Model Number 982
Serial Number/ Lot Number p11290036
Location Illinois
Department

State Certified
Status Pass
Temp °C 23
Humidity % 44

Calibration Specifications

Group # 1
Group Name Carbon Dioxide
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
1000.00 / 1000.00	PPM	1000.00	PPM	1,000.00	1,000.00	0.00%	Pass

Group # 2
Group Name Carbon Monoxide
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
50.00 / 50.00	PPM	50.00	PPM	50.00	50.00	0.00%	Pass

Test Instruments Used During the Calibration (As Of Cal Entry Date)

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
IL CO 50 PPM	Carbonmonoxide	Porta Gas	10125000	BAQ-49-50-5		1/15/2020
IL CO2 PINE	C02 - 1000ppm, N2 - Bal	Gasco	C02 - 1000ppm, N2 - Bal	GAO-34-1000-2		6/6/2018
IL NITROGEN	Nitrogen 99.999% - 103L	Gasco	Nitrogen 99.999%	MAN-114-18		2/4/2018
IL ZERO AIR	Zero Grade Air	Gasco	Zero Grade Air THC<1.0ppm	JAO-1-12		10/6/2018

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Rudy Maldonado

TSI P/N 2300157

CERTIFICATE OF CALIBRATION AND TESTING

TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA
Tel: 1-800-874-2811 1-651-490-2811 Fax: 1-651-490-3824 http://www.tsi.com

R11600

ENVIRONMENT CONDITIONS		
TEMPERATURE	75.2 (24.0)	°F (°C)
RELATIVE HUMIDITY	40	%RH
BAROMETRIC PRESSURE	28.83 (976.3)	inHg (hPa)

MODEL	982
SERIAL NUMBER	P11290036

☒ AS LEFT ☐ AS FOUND
☒ IN TOLERANCE ☐ OUT OF TOLERANCE

– CALIBRATION VERIFICATION RESULTS –

TEMPERATURE VERIFICATION — SYSTEM T-101 — *Unit: °F (°C)*

#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	32.0 (0.0)	32.1 (0.1)	31.0~33.0 (−0.6~0.6)	2	140.0 (60.0)	140.2 (60.1)	139.0~141.0 (59.4~60.6)

HUMIDITY VERIFICATION — SYSTEM H-102 — *Unit: %RH*

#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	10.0	9.0	7.8~12.2	4	70.0	69.4	67.8~72.2
2	30.0	29.1	27.8~32.2	5	90.0	89.0	87.8~92.2
3	50.0	49.5	47.8~52.2				

CO_2 GAS VERIFICATION — SYSTEM G-101 — *Unit: ppm*

#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	0	0	0~50	4	3002	3033	2912~3092
2	481	469	431~531	5	5000	5011	4850~5150
3	985	1004	935~1035				

CO GAS VERIFICATION — SYSTEM G-101 — *Unit: ppm*

#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	34	35	31~37	2	100	99	97~103

TSI does hereby certify that the above described instrument conforms to the original manufacturer's specification (not applicable to As Found data) and has been calibrated using standards whose accuracies are traceable to the United States National Institute of Standards and Technology (NIST) or has been verified with respect to instrumentation whose accuracy is traceable to NIST, or is derived from accepted values of physical constants. TSI's calibration system is registered to ISO-9001:2015.

Measurement Variable	System ID	Last Cal.	Cal. Due
Temperature	E003986	03-15-17	09-30-17
Humidity	E003539	08-11-16	08-11-17
200 CO	EB0005686	01-09-17	08-30-24
Air	A79293	03-09-17	02-06-20
Flow	E003341	07-27-16	07-27-17
Flow	E003502	02-21-17	02-28-18
100 C4H8	EB0060998	02-19-15	02-19-18

Measurement Variable	System ID	Last Cal.	Cal. Due
Temperature	E003987	03-15-17	09-30-17
5000 CO_2	HP-T-074712	04-12-17	04-11-20
N2	T-0689	05-04-17	04-28-22
Flow	E003342	07-27-16	07-27-17
Flow	E003501	08-18-16	08-18-17
2000 C4H8	EB0013899	06-02-15	06-02-18

Chao Vang
CALIBRATED

May 16, 2017
DATE

DOC ID: CERT_GEN_WCC

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R113 69

ENVIRONMENT CONDITIONS		
TEMPERATURE	75.8 (24.3)	°F (°C)
RELATIVE HUMIDITY	18	%RH
BAROMETRIC PRESSURE	29.01 (982.4)	inHg (hPa)

MODEL	7565-X
SERIAL NUMBER	7565X0752002

☒ AS LEFT ☐ AS FOUND

☒ IN TOLERANCE ☐ OUT OF TOLERANCE

CALIBRATION VERIFICATION RESULTS

THERMO COUPLE			SYSTEM PRESSURE01-02				Unit: °F (°C)
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	72.8 (22.7)	72.9 (22.7)	70.8~74.8 (21.6~23.8)				

BAROMETRIC PRESSURE			SYSTEM PRESSURE01-02				Unit: inHg (hPa)
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	29.06 (984.1)	29.07 (984.4)	28.48~29.64 (964.4~1003.7)				

TSI does hereby certify that the above described instrument conforms to the original manufacturer's specification (not applicable to As Found data) and has been calibrated using standards whose accuracies are traceable to the United States National Institute of Standards and Technology (NIST) or has been verified with respect to instrumentation whose accuracy is traceable to NIST, or is derived from accepted values of physical constants. TSI's calibration system is registered to ISO-9001:2008.

Measurement Variable	System ID	Last Cal.	Cal. Due	Measurement Variable	System ID	Last Cal.	Cal. Due
Temperature	E002416	05-20-16	05-20-17	Pressure	E005254	10-11-16	10-11-17
Pressure	E003982	08-11-16	02-11-17	DC Voltage	E003493	10-21-16	10-31-17

Chao Vang
CALIBRATED

December 12, 2016
DATE

Doc. ID: CERT_GEN_WCC

TSI P/N 2900157

APPENDIX D

WATER SAMPLE ANALYTICAL RESULTS

CONTENTS

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (856) 303-2500 Fax: (856) 858-4571 Email: EnvChemistry2@emsl.com

Attn: **Joe Kuchnicki** 12/6/2017
Performance Environmental Services, Inc.
105 Bradfor Rd, Suite 320
Wexford, PA 15090
Phone: (412) 463-6576
Fax:

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 11/30/2017. The results are tabulated on the attached data pages for the following client designated project:

CVSD - Todd Lane Elementary - Renovation

The reference number for these samples is EMSL Order #011709556. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (856) 303-2500.

Approved By:

Phillip Worby, Environmental Chemistry
Laboratory Director

The test results contained within this report meet the requirements of NELAP and/or the specific certification program that is applicable, unless otherwise noted.
NELAP Certifications: NJ 03036, NY 10872, PA 68-00367, CA ELAP 1877

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 858-4571
http://www.EMSL.com EnvChemistry2@emsl.com

EMSL Order: 011709556
CustomerID: PERF52A
CustomerPO: 17Z46Z
ProjectID:

Attn: **Joe Kuchnicki**
Performance Environmental Services, Inc.
105 Bradfor Rd, Suite 320
Wexford, PA 15090

Phone: (412) 463-6576
Fax:
Received: 11/30/17 10:00 AM

Project: **CVSD - Todd Lane Elementary - Renovation**

Analytical Results

Client Sample Description TLES-PbDW-01 ***Collected:*** 11/29/2017 ***Lab ID:*** *011709556-0001*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
200.8	Lead	4.24	1.00	µg/L	12/5/2017	JW	12/5/2017	JW

Client Sample Description TLES-PbDW-02 ***Collected:*** 11/29/2017 ***Lab ID:*** *011709556-0002*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
200.8	Lead	ND	1.00	µg/L	12/5/2017	JW	12/5/2017	JW

Client Sample Description TLES-PbDW-03 ***Collected:*** 11/29/2017 ***Lab ID:*** *011709556-0003*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
200.8	Lead	ND	1.00	µg/L	12/5/2017	JW	12/5/2017	JW

Client Sample Description TLES-PbDW-04 ***Collected:*** 11/29/2017 ***Lab ID:*** *011709556-0004*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
200.8	Lead	2.32	1.00	µg/L	12/5/2017	JW	12/5/2017	JW

Client Sample Description TLES-PbDW-05 ***Collected:*** 11/29/2017 ***Lab ID:*** *011709556-0005*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
200.8	Lead	1.13	1.00	µg/L	12/5/2017	JW	12/5/2017	JW

Client Sample Description PCB-01
10cm x 10 cm ***Collected:*** 11/29/2017 ***Lab ID:*** *011709556-0006*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3550C/8082A	Aroclor-1016	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1221	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1232	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1242	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1248	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1254	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1260	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1262	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL
3550C/8082A	Aroclor-1268	ND	0.50	µg/100 cm²	12/4/2017	SD	12/5/2017	TL

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Environmental Chemistry Chain of Custody

EMSL Order Number (*Lab Use Only*):

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (800) 220-3675
FAX: (856) 786-5974

Report To Contact Name: Joe Kuchnicki			**Bill To Company:** Performance Environmental Services Inc.		
Company Name: Performance Environmental Services Inc.			**Attention To:** Joe Kuchnicki		
Street: 105 Bradford drive Suite 320			**Street:** 105 Bradford Drive Suite 320		
City: Wexford	**State/Province:** PA	**Zip/Postal Code:** 15090	**City:** Wexford, PA	**State/Province:** PA	**Zip/Postal Code:** 15090
Phone: 412-463-6576 **Fax:**			**Phone:** 412-874-3439 **Fax:**		
Project Name: CVSD-Todd Lane Elementary - Renovation		**Email Results To:** Lab data@performanceenv.com	**U.S. State where Samples Collected:** PA		
Number of Samples in Shipment:	**Date of Shipment:** 11.29.2017	**Purchase Order:** 172462	**Sampled By (Signature):** Joseph Kuchnicki		
Standard Turnaround Time: ☐ 2 Weeks	**The following TAT's are subject to lab approval:** ☐ 1 Week ☒ 4 Days ☐ 3 Days ☐ 2 Days ☐ 1 Day (by 12/5)				

Failure to complete will hinder processing of samples

Client Sample ID	Comp	Grab	Collect Date/Time	Matrix (W=Water S=Soil A=Air SL=Sludge O= Other)	Preservative (1=HCL 2=HNO3 3=H2SO4 4=ICE 5=Other)	List Test(s) Needed: Pb in drinking	Pb in drinking water	PCB	Comments
TLES-PbDW-01	☐	☒	11-29-17/900	W	2		X		
TLES-PbDW-02	☐	☒	11-29-17/900	W	2		X		
TLES-PbDW-03	☐	☒	11-29-17/900	W	2		X		
TLES-PbDW-04	☐	☒	11-29-17/900	W	2		X		
TLES-PbDW-05	☐	☒	11-29-17/900	W	2		X		
PCB-01	☐	☐	~~11-29-17~~ 11-29-17/~~1456~~	O	—			X	10cm x 10cm

Released By (Signature)	Date & Time	Received By	Date & Time
	11-29-17 4:30		11-30-~~17~~ 4:20pm
	11-29-17 ~~6~~:30pm		

Please indicate reporting requirements: ☒ Results Only ☐ Results and QC ☐ Reduced Deliverables ☐ Disk Deliverable ☐ Other _____

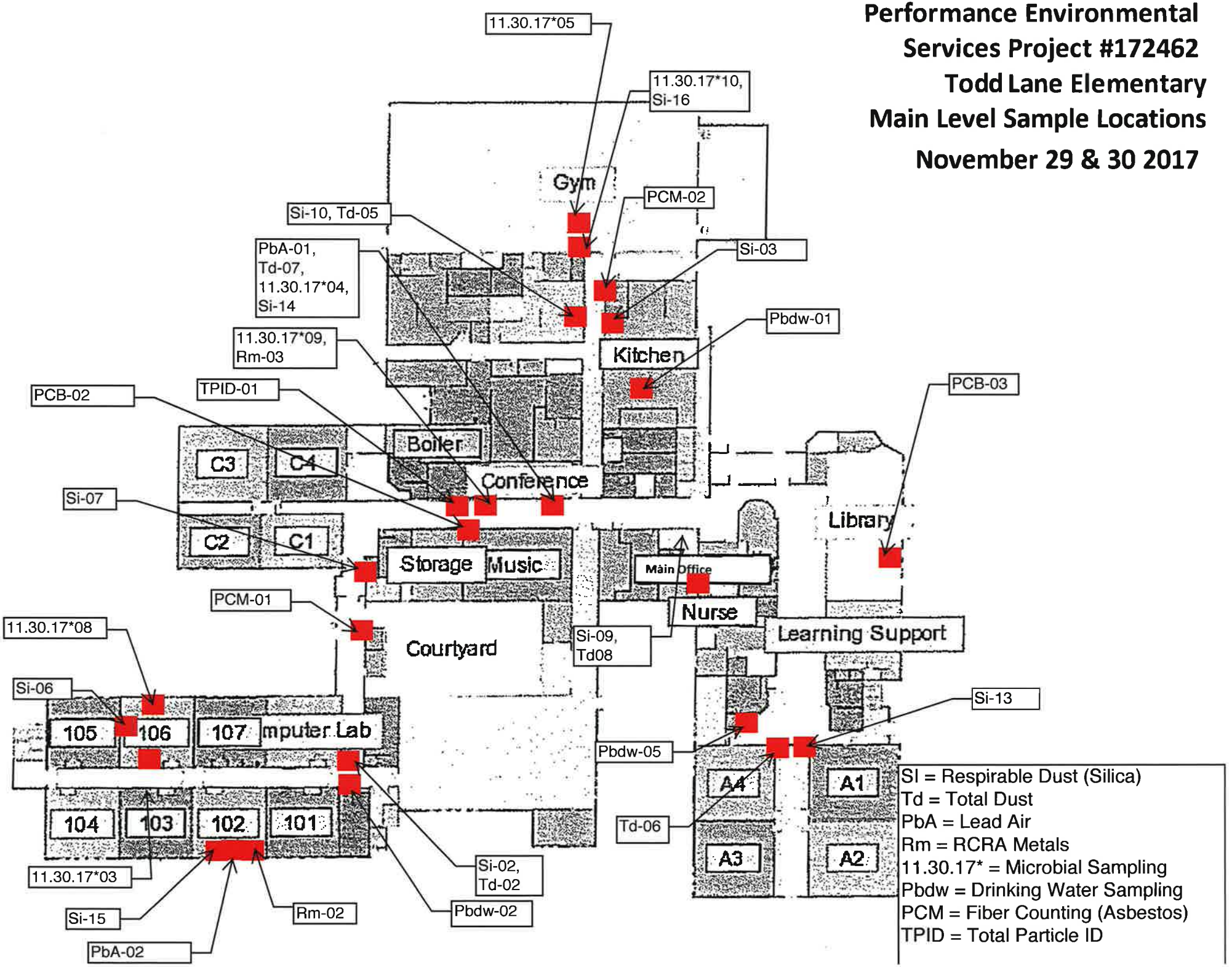
Instructions or Comments: Revised COC → Note Area of Wipe testing in Comment Section

APPENDIX E

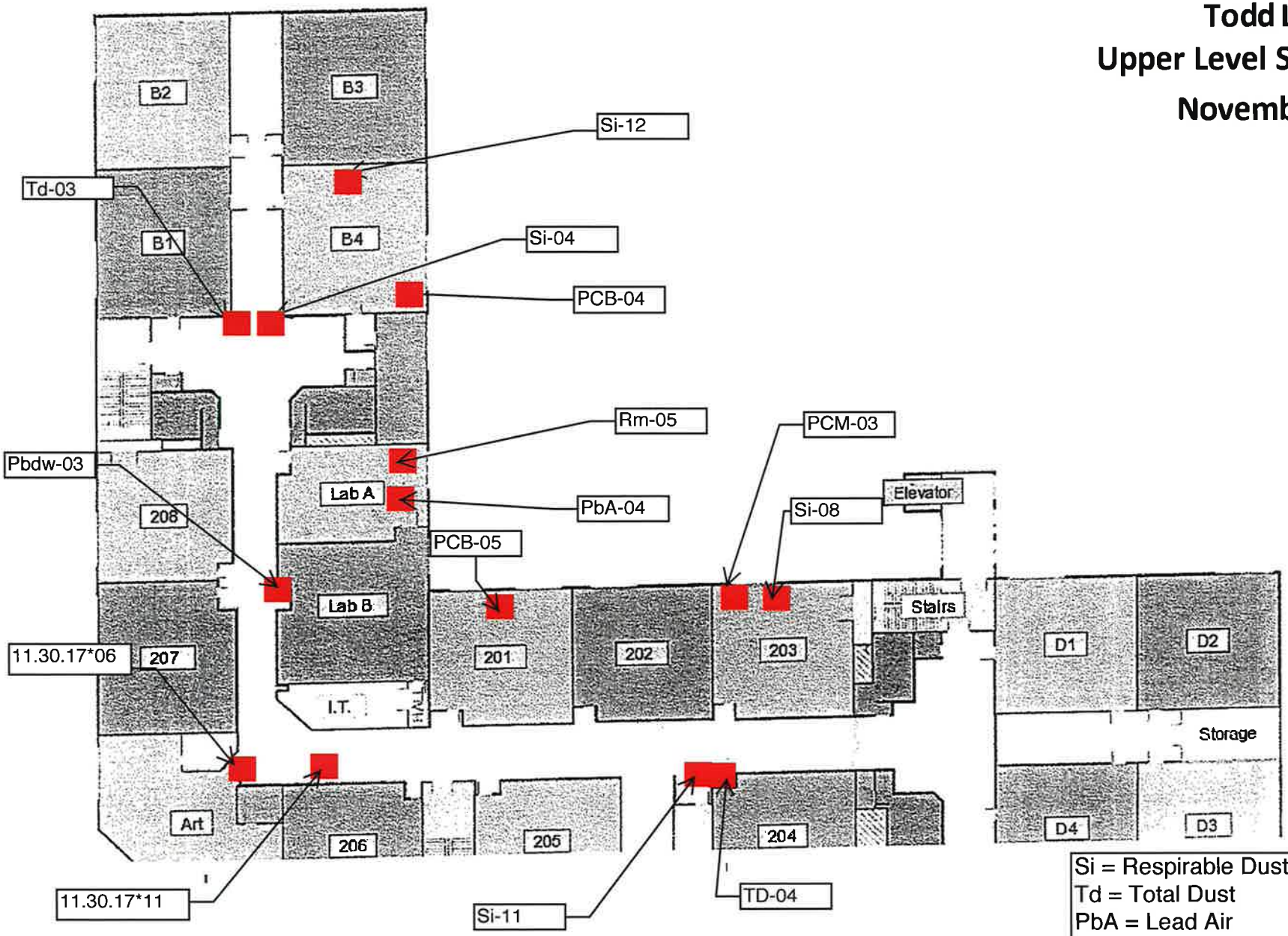
SAMPLE LOCATION DIAGRAMS

CONTENTS

Performance Environmental Services Project #172462
Todd Lane Elementary
Main Level Sample Locations
November 29 & 30 2017



Performance Environmental Services Project #172462
Todd Lane Elementary
Upper Level Sample Locations
November 29 & 30 2017



Si = Respirable Dust (Silica)
Td = Total Dust
PbA = Lead Air
Rm = RCRA Metals
11.30.17* = Microbial Sampling
Pbdw = Drinking Water Sampling
PCM = Fiber Counting (Asbestos)
TPID = Total Particle ID

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