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January 12, 2016

Department of General Services
Office of Safety and Health, Facilities Division
2000 14th Street NW, 5th Floor
Washington, DC 20009
Attention: Ms. Kathleen Walsh, Mr. Brian Killian

RE: Shepherd Elementary School Indoor Air Quality Survey
Global Project Number: U0324

Dear Ms. Walsh and Mr. Killian:

On January 08, 2016, Global Consulting, Inc. (GLOBAL) Industrial Hygienist Anthony Fernando conducted an indoor air quality (IAQ) evaluation at the Shepherd Elementary School, a property maintained by the Department of General Services (DGS), located at 7800 14th St NW, Washington, DC 20012. The survey was performed under the supervision of Dr. Channa Bambaradeniya, PhD - the Certified Industrial Hygienist of GLOBAL. Mr. Raymond Lylus, the school custodian, accompanied the team from GLOBAL to view the areas of concern.

Methodology

This evaluation conducted by GLOBAL included a visual assessment, IAQ instrumentation screening, as well as sampling for non-viable mold in representative locations within the building. Additionally, one ambient set of samples was taken for comparison.

Non-viable fungal spore samples were collected on *Air-O-Cell* cassettes using a Buck BioAire calibrated pump. The air sample was taken within the breathing zone and no closer than three feet from the ground. In tandem with collecting mold samples, real time readings for temperature, relative humidity, carbon dioxide, and carbon monoxide were collected using a Fluke 975 Air Meter.

Respirable particulate in air (PM_{2.5} μ , PM₁₀ μ size classes) was measured using an Aerocet 531 Particle Mass Counter, and calibrated prior to sampling.

Microbial samples were delivered to EMSL Analytical, Inc. of Beltsville, Maryland, for analysis. The sample chain-of-custodies and laboratory reports are attached.

Observations

The table below summarizes the main observations at each space visited on January 08, 2016.

Location	Summary of Observations
Ambient	Two occupants at the time of inspection. Slight drizzle Cloudy sky Slightly windy
Main Entrance Hallway (First Floor)	Five occupants at the time of inspection. Drop ceiling and tiled floor. No visible water leaks in room. No visual signs of microbial growth, no odor. No visible dust on floor/ other surfaces.
Room C-110 (First Floor)	Seventeen occupants at the time of inspection. Drop ceiling and tiled floor. No visible water leaks in room. No visual signs of microbial growth, no odor. No visible dust on floor/ other surfaces.
Resource Center (First Floor)	One occupants at the time of inspection. Drop ceiling and carpet floor. No visible water leaks in room. No visual signs of microbial growth, no odor. No visible dust on floor/ other surfaces.
Room 201 (Second Floor)	Twenty-one occupants at the time of inspection. Drop ceiling and wood floor. No visible water leaks in room. No visual signs of microbial growth, no odor. No visible dust on floor/ other surfaces. Two overhead HVAC. Six Plants
Auditorium (First Floor)	Twenty occupants at the time of inspection. Drop ceiling and rubber floor. No visible water leaks in room. No visual signs of microbial growth, no odor. No visible dust on floor/ other surfaces. Five Large windows. Dusty surface.

Measurements of Indoor Environmental Quality Parameters

Temperature

The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) have published recommendations for year round acceptable temperatures in Standard 55-2010 (*Thermal Environmental Conditions for Human Occupancy*). The winter comfort range is 20 to 24°C (68 to 75°F) and 23 to 26°C (73 to 79°F) is the summer comfort range. Table 1 depicts the temperature readings obtained from the survey. Temperature readings all fell within the ASHRAE recommended ranges.

Table 1: Shepherd Elementary School, Temperature Ranges on January 08, 2016 (09:00AM-12:00PM)

Sample Location	Temperature °F			ASHRAE Standard (°F)
	Min	Max	Average	
Ambient	55.4	55.4	55.4	N/A
Main Entrance Hallway	70.7	70.7	70.7	68-75
Room C-110	69.8	69.8	69.8	68-75
Resource Center	68.9	68.9	68.9	68-75
Room 201	71.6	71.6	71.6	68-75
Auditorium	70.7	70.7	70.7	68-75

Relative Humidity

Relative humidity is a key factor for mold growth. Mold has the potential of growing on suitable surfaces with humidity levels above 60%. ASHRAE standard 62.1-2010 (*Ventilation for Acceptable Indoor Air Quality*) recommends a maximum indoor relative humidity of 65% to preclude the likelihood of condensation of cool surfaces encouraging mold growth. Table 2 charts the humidity readings taken during the survey, all of which fell within the ASHRAE recommended range.

Table 2: Shepherd Elementary School, Relative Humidity Ranges on January 08, 2016 (08:00AM-12:00PM)

Sample Location	%RH			ASHRAE Standard
	Min	Max	Average	
Ambient	53.2	60.1	56.6	N/A
Main Entrance Hallway	33.4	33.6	33.5	<65%
Room C-110	36.4	36.6	36.5	<65%
Resource Center	34.7	35.2	34.9	<65%
Room 201	32.9	33.2	33.0	<65%
Auditorium	36.1	36.1	36.1	<65%

Carbon Dioxide

Under conditions of maximum occupancy, ASHRAE Standard 62.1-2010, Appendix C, infers that the acceptable carbon dioxide upper limit is the prevailing outdoor carbon dioxide concentration plus 700 parts per million (ppm). On the day of the space evaluation, the outdoor (ambient) carbon dioxide concentration was approximately 601 ppm so indoor concentrations should not exceed approximately 1301 ppm (700 + 601).

Table 3: Shepherd Elementary School, Carbon Dioxide Ranges on January 08, 2016 (08:00AM-12:00PM)

Sample Location	Concentration (parts per million)			ASHRAE Standard
	Min	Max	Average	
Ambient	587	601	594	N/A
Main Entrance Hallway	652	657	654.5	<1301
Room C-110	739	745	742	<1301
Resource Center	720	722	721	<1301
Room 201	669	758	713.5	<1301
Auditorium	753	758	755.5	<1301

Carbon Monoxide

Carbon monoxide (CO) is a colorless and odorless gas that is produced by the incomplete combustion of carbon containing fuels. Oil, gasoline, diesel fuels, wood, coke, and coal are the major sources of CO. All registered CO concentrations were below the EPA National Ambient Air Quality Standard (NAAQS) of 9 ppm, per Table 4 below.

Table 4: Shepherd Elementary School, Carbon Monoxide Ranges on January 08, 2016 (08:00AM-12:00PM)

Sample Location	Concentration (parts per million)			ASHRAE Standard
	Min	Max	Average	
Ambient	2	2	2	N/A
Main Entrance Hallway	2	2	2	9
Room C-110	2	2	2	9
Resource Center	1	2	1.5	9
Room 201	2	2	2	9
Auditorium	2	2	2	9

Respirable Particulates

Direct reading particulate monitoring did not identify a condition of concern. Particulate concentrations for two mass ranges with EPA ambient air quality guidelines (PM2.5, & PM10) were below their respective National Ambient Air Quality Standard (NAAQS) levels. The highest average PM2.5 concentration during the monitoring period was 0.002 mg/m³ (2µg/m³) in Room C-110. This is compared to the NAAQS primary standard for PM2.5 of 12 µg/m³ annual mean. The highest average PM10 concentration during the same period was 0.019 mg/m³ (19 µg/m³), in the main hallway. This is compared to NAAQS standard for PM10 of 150µg/m³ 24 hr. average. <http://www.epa.gov/air/criteria.html>

Table 5: Shepherd Elementary School, Respirable Particulate Measurements Findings on January 08, 2016 (08:00AM-12:00PM)

Sample Location	2.5 micron particles	10 micron particles
Ambient	0.008	0.016
Main Entrance Hallway	0.000	0.003
Room C-110	0.001	0.009
Resource Center	0.000	0.008
Room 201	0.002	0.005
Auditorium	0.002	0.019

Mold-in-Air Samples

There are no definitive regulations or standardized guidelines for addressing airborne mold in an indoor setting. If building systems (ventilation, envelope) are functioning properly, the indoor population profile should mimic what is encountered outdoors and the concentrations should be below the ambient levels.

Table 6 summarizes airborne mold spore (non-viable) sampling results and locations. On the day of sampling, the interior mold population concentrations (spore count/m³ of air) were below the ambient concentrations (See lab results attached).



**Table 6: Shepherd Elementary School, Mold Spore Findings (per ASTM D7391)
January 08, 2015 (08:00AM-12:00PM)**

Sample Location	Ambient	First Floor Main Entrance	Room C-110	Resource Center	Room 201	Auditorium
<i>Ascospores</i>	600	10		-		
<i>Alternaria</i>			10	-		
<i>Aspergillus/Penicillium</i>	200			-		90
<i>Bipolaris</i>			10	-		
<i>Basidiospores</i>				-	40	
<i>Curvularia</i>				-		10
<i>Cladosporium sp.</i>	200		30	-		90
<i>Unidentifiable Spores</i>				-	10	10
<i>Stachybotrys</i>				-		10
<i>Myxomycetes</i>		40	10	-		40
<i>Pithomyces</i>	10			-		30
<i>Scopulariopsis</i>			10	-		
<i>Bispora</i>			40	-		
<i>Memnoniella</i>	50			-		
Hyphal Fragment	40			-	40	
Pollen				-		
Total Molds	1060	50	110	-	50	280

Conclusions

The indoor comfort parameters (e.g., temperature, relative humidity, carbon dioxide, and carbon monoxide levels) and the respirable particulate concentrations in the locations tested conformed to ASHRAE and/or NAAQS guidelines. Indoor mold spore concentrations in the tested areas were lower than the ambient level, hence no mold growth related concerns exist at the time of survey. Based on the results of the IAQ inspection Shepherd Elementary School building, we have no further recommendations at this time.

Thank you for the opportunity to provide industrial hygiene services for the Department of General Services. If you have any questions, please contact me at 202.832.1433 (office).

Sincerely,



Channa Bambaradeniya, Ph.D., CIH, CHMM, PMP
Certified Industrial Hygienist
Global Consulting, Inc.

Attachment
Mold Spore Sample Analytical Results and Chain-of-Custody
Forms



EMSL Analytical, Inc.

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Phone: (202) 832-1433
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Collected: 01/08/2016
Received: 01/08/2016
Analyzed: 01/09/2016

Proj: SHEPHERD ES V0225

Test Report: Air-O-Cell™ Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods EMSL 05-TP-003, ASTM D7391)

Lab Sample Number:	191600157-0001			191600157-0002			191600157-0003		
Client Sample ID:	A001			A002			A003		
Volume (L):	75			75			75		
Sample Location:	RESOURCE CENTER			MAIN ENTRANCE HALLWAY			C-110		
Spore Types	Raw Count	Count/m ³	% of Total	Raw Count	Count/m ³	% of Total	Raw Count	Count/m ³	% of Total
Alternaria	-	-	-	-	-	-	1*	10*	9.1
Ascospores	-	-	-	1*	10*	20	-	-	-
Aspergillus/Penicillium	-	-	-	-	-	-	-	-	-
Basidiospores	-	-	-	-	-	-	-	-	-
Bipolaris++	-	-	-	-	-	-	1*	10*	9.1
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	-	-	-	2*	30*	27.3
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	1	40	80	1*	10*	9.1
Pithomyces	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis	-	-	-	-	-	-	1*	10*	9.1
Stachybotrys	-	-	-	-	-	-	-	-	-
Torula	-	-	-	-	-	-	-	-	-
Ulocladium	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Bispora	-	-	-	-	-	-	1	40	36.4
Memnoniella	-	-	-	-	-	-	-	-	-
Total Fungi	-	None Detected	-	2	50	100	7	110	100
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	43	-	-	43	-	-	43	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	1	-	-	1	-	-	4	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	1	-

Bipolaris++ = Bipolaris/Drechslera/Exserohilum
 Myxomycetes++ = Myxomycetes/Periconia/Smut

Stefanie Schneider

Stefanie Schneider, Microbiology Lab Manager
 or Other Approved Signatory

High levels of background particulate can obscure spores and other particulates leading to underestimation. Background levels of 5 indicate an overloading of background particulates, prohibiting accurate detection and quantification. Present = Spores detected on overloaded samples. Results are not blank corrected unless otherwise noted. The detection limit is equal to one fungal spore, structure, pollen, fiber particle or insect fragment. "*" Denotes particles found at 300X. "-" Denotes not detected. Due to method stopping rules, raw counts in excess of 100 are extrapolated based on the percentage analyzed. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Beltsville, MD AIHA-LAP, LLC --EMLAP Accredited #102891

Initial report from: 01/12/2016 10:50:18



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Proj: SHEPHERD ES V0225

Test Report: Air-O-Cell™ Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods EMSL 05-TP-003, ASTM D7391)

Lab Sample Number:	191600157-0004			191600157-0005			191600157-0006		
Client Sample ID:	A004			A005			A006		
Volume (L):	75			75			75		
Sample Location:	RM 201			AUDITORIUM			AMBIENT		
Spore Types	Raw Count	Count/m ³	% of Total	Raw Count	Count/m ³	% of Total	Raw Count	Count/m ³	% of Total
Alternaria	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	-	-	-	14	600	56.6
Aspergillus/Penicillium	-	-	-	2	90	32.1	5	200	18.9
Basidiospores	1	40	80	-	-	-	-	-	-
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	2	90	32.1	5	200	18.9
Curvularia	-	-	-	1*	10*	3.6	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	1	40	14.3	-	-	-
Pithomyces	-	-	-	2*	30*	10.7	1*	10*	0.9
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis	-	-	-	-	-	-	-	-	-
Stachybotrys	-	-	-	1*	10*	3.6	-	-	-
Torula	-	-	-	-	-	-	-	-	-
Ulocladium	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	1*	10*	20	1*	10*	3.6	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Bispora	-	-	-	-	-	-	-	-	-
Memnoniella	-	-	-	-	-	-	4*	50*	4.7
Total Fungi	2	50	100	10	280	100	29	1060	100
Hyphal Fragment	1	40	-	-	-	-	1*	10*	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	43	-	-	43	-	-	43	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	3	-	-	4	-	-	1	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	2	-	-	1	-

Bipolaris++ = Bipolaris/Drechslera/Exserohilum
 Myxomycetes++ = Myxomycetes/Periconia/Smut

Stefanie Schneider

Stefanie Schneider, Microbiology Lab Manager
 or Other Approved Signatory

High levels of background particulate can obscure spores and other particulates leading to underestimation. Background levels of 5 indicate an overloading of background particulates, prohibiting accurate detection and quantification. Present = Spores detected on overloaded samples. Results are not blank corrected unless otherwise noted. The detection limit is equal to one fungal spore, structure, pollen, fiber particle or insect fragment. "*" Denotes particles found at 300X. "-" Denotes not detected. Due to method stopping rules, raw counts in excess of 100 are extrapolated based on the percentage analyzed. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted.

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Initial report from: 01/12/2016 10:50:18



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Proj: SHEPHERD ES V0225

Test Report: Air-O-Cell™ Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods EMSL 05-TP-003, ASTM D7391)

Lab Sample Number:	191600157-0007			191600157-0008					
Client Sample ID:	A007			A008					
Volume (L):	0			0					
Sample Location:	FB			FB					
Spore Types	Raw Count	Count/m ³	% of Total	Raw Count	Count/m ³	% of Total			
Alternaria	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	-	-	-	-	-	-
Aspergillus/Penicillium	-	-	-	-	-	-	-	-	-
Basidiospores	-	-	-	-	-	-	-	-	-
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	-	-	-	-	-	-
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis	-	-	-	-	-	-	-	-	-
Stachybotrys	-	-	-	-	-	-	-	-	-
Torula	-	-	-	-	-	-	-	-	-
Ulocladium	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Bispora	-	-	-	-	-	-	-	-	-
Memnoniella	-	-	-	-	-	-	-	-	-
Total Fungi	-	No Trace	-	-	No Trace	-	-	-	-
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	0	-	-	0	-	-	-	-
Analyt. Sensitivity 300x	-	0*	-	-	0*	-	-	-	-
Skin Fragments (1-4)	-	-	-	-	-	-	-	-	-
Fibrous Particulate (1-4)	-	-	-	-	-	-	-	-	-
Background (1-5)	-	-	-	-	-	-	-	-	-

Bipolaris++ = Bipolaris/Drechslera/Exserohilum
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For Information on the fungi listed in this report please visit the Resources section at www.emsl.com



EMSL ANALYTICAL, INC.
LABORATORY-PRODUCTS-TRAINING

Chain of Custody

EMSL Order Number (Lab Use Only):

191600157

PHONE:
FAX:

Company: Global Consulting Inc		EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different <small>If Bill to is Different note instructions in Comments**</small>	
Street: 1818 New York Avenue		Third Party Billing requires written authorization from third party	
City: Washington DC	State/Province: DC	Zip/Postal Code:	Country:
Report To (Name): Channa Babaradeniya		Telephone #:	
Email Address: cbambaradeniya@salutinc.com		Fax #: sfernando@salutinc.com	Purchase Order:
Project Name/Number: Shepherd ES V0225		Please Provide Results: <input type="checkbox"/> Fax <input type="checkbox"/> Email <input type="checkbox"/> Mail	
U.S. State Samples Taken:		Connecticut Samples: <input type="checkbox"/> Commercial <input type="checkbox"/> Residential	

Turnaround Time (TAT) Options* - Please Check

3 Hour
 6 Hour
 24 Hour
 48 Hour
 72 Hour
 96 Hour
 1 Week
 2 Week

*For RUSH TAT's Please Call Ahead to Confirm Lab Hours and Availability. Not all TAT options are valid for every test
Materials Science and IAQ TATs are in Business Days rather than Hours (i.e. 24 Hour = End of Next Business Day)

Asbestos

PCM - Air <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> w/ 8hr. TWA TEM - Air <input type="checkbox"/> 4.5hr TAT(AHERA ONLY) <input type="checkbox"/> AHERA 40 CFR, Part 763 <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II <input type="checkbox"/> ISO 10312 TEM - Water Fibers >10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking	PLM - Bulk <input type="checkbox"/> PLM EPA 600/R-93/116 <input type="checkbox"/> PLM EPA NOB (<1%) <input type="checkbox"/> NYS 198.1 (friable-NY) <input type="checkbox"/> NYS 198.6 (non-friable-NY) Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) Point Count w/ Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) TEM - Dust <input type="checkbox"/> Microvac - ASTM D 5755 <input type="checkbox"/> Wipe-ASTM D6480	TEM - Bulk <input type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (non-friable-NY) <input type="checkbox"/> Chatfield SOP Soil/Rock/Vermiculite <input type="checkbox"/> PLM CARB 435 - A (0.25% sensitivity) <input type="checkbox"/> PLM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> EPA Reg. 1 Screening Protocol (Qualitative) Other:
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Lead (Pb)

Flame Atomic Absorption <input type="checkbox"/> Chips SW846-7000B or AOAC 974.02 <input type="checkbox"/> Soil SW846-7000B/7420 <input type="checkbox"/> Air NIOSH 7082 <input type="checkbox"/> Wastewater SM3111B or SW846-7000B/7420 <input type="checkbox"/> ASTM Wipe SW846-7000B/7420 <input type="checkbox"/> non ASTM Wipe SW846-7000B/7420 <input type="checkbox"/> TCLP SW846-1311/7420/SM 3111B	ICP <input type="checkbox"/> Air NIOSH 7300 Modified <input type="checkbox"/> non ASTM Wipe SW846-6010B or C <input type="checkbox"/> ASTM Wipe SW846-6010B or C <input type="checkbox"/> Soil SW846-6010 B or C <input type="checkbox"/> Waste Water SW846-6010B or C <input type="checkbox"/> TCLP SW846-6010B or C Other: <input type="checkbox"/>
Graphite Furnace Atomic Absorption <input type="checkbox"/> Soil SW846-7421 <input type="checkbox"/> Wastewater EPA 200.9 <input type="checkbox"/> Air NIOSH 7105 <input type="checkbox"/> Drinking Water EPA 200.9	

Materials Science

Common Particle ID (large particles)
 Full Particle ID (environmental dust)
 Basic Material ID (solids)
 Advanced Material ID
 Physical Testing (Tensile, Compression)
 Combustion-by-products (soot, char, etc.)
 X-Ray Fluorescence (elem. analysis)
 X-Ray Diffraction (Crystalline Part.)
 MMVF's (Fibrous glass, RCF's)
 Particle Size (sieve/microscopy/laser)
 Combustible Dust
 Petrographic Examination
Other:

Microbiology

Wipe and Bulk Samples <input type="checkbox"/> Mold & Fungi - Direct Examination <input type="checkbox"/> Mold & Fungi Culture (Genus Only) <input type="checkbox"/> Mold & Fungi Culture (Genus & Species) <input type="checkbox"/> Bacterial Count & ID (Up to Three Types) <input type="checkbox"/> Bacterial Count & ID (Up to Five Types) <input type="checkbox"/> MRSA <input type="checkbox"/> Pseudomonas aeruginosa Water Samples <input type="checkbox"/> Total Coliform & E.coli (P/A) <input type="checkbox"/> Fecal Coliform (SM 9222D) <input type="checkbox"/> Sewage Screen <input type="checkbox"/> Heterotrophic Plate Count (SM 9215)	Air Samples <input checked="" type="checkbox"/> Mold & Fungi (Spore Trap) <input type="checkbox"/> Mold & Fungi Culture (Genus Only) <input type="checkbox"/> Mold & Fungi (Genus & Species) <input type="checkbox"/> Bacterial Culture & ID (Up to Three Types) <input type="checkbox"/> Bacterial Culture & ID (Up to Five Types) <input type="checkbox"/> Endotoxin Testing Real Time Q-PCR (See Analytical Guide for Code) Code: Legionella <input type="checkbox"/> Level 1 <input type="checkbox"/> Level 2 <input type="checkbox"/> Level 3 <input type="checkbox"/> Level 4 Other: <input type="checkbox"/>
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IAQ

Nuisance Dust NIOSH 0500 0600
 Airborne Dust PM10 TSP
 Silica Analysis: All Species
 Silica Analysis - Single Species
 Alpha Quartz Cristobalite Tridymite
 HVAC Efficiency
 Carbon Black
 Airborne Oil Mist
 Radon Testing: Call for Kit and COC
Other:

****Comments/Special Instructions:**

Client Sample #'s	-	Total # of Samples:
Relinquished (Client):	Date:	Time:
Received (Lab): <i>K. Powell</i>	Date: 1/8/16	Time: 3:35pm

Analysis Completed in Accordance with EMSL's Terms and Conditions located in the Analytical Price Guide

