PBS | Engineering + Environmental

November 30, 2016

Chuck Doan
Yakima School District #7
104 N 4th Avenue
Yakima, WA 98902

Via email: doan.chuck@yakimaschools.org

Regarding: Fungal Sample Results
Blue Wall – Room 509
Eisenhower High School
Yakima, Washington
PBS Project: 64361.001

Dear Mr. Doan:

On November 21, 2016, PBS Engineering and Environmental Inc. (PBS) performed initial destructive investigations into moisture impacted building materials (MDF and plywood) around the upper windows in Room 509 at Eisenhower High School in Yakima, Washington.

Following the destructive investigation and subsequent clean-up of the work areas, bulk sampling was performed for fungal particulate matter in Room 509. The sampling was performed to document possible fungal concentrations following the destructive investigation work.

Bulk Fungal Samples
The suspect fungal bulk sample was submitted to Lab/Cor, Inc., Seattle, Washington, under chain of custody protocols for fungal identification and qualitative spore count by an optical microscopic method. The following Table 1 summarizes the results of the Bulk Fungal Testing. Refer to the attached laboratory reports for more detailed information.

Table 1: Bulk Fungal Testing

Sample Number	Sample Location	Spore Type	Relative Abundance
B-01	Room 509; MDF	Aspergillus/Penicillium-like Hyphal Fragments	Moderate Moderate
B-02	Room 509; plywood block	Hyphal Fragments Ascospores Aspergillus/Penicillium-like	High Moderate Moderate
B-03	Room 509; plywood sheeting	Hyphal Fragments Aspergillus/Penicillium-like	High Moderate
B-04	Room 509; Fiberglass	N/A	No fungi observed

Laboratory analysis of the bulk fungal samples indicates fungi are present on MDF and plywood (CDX) under the sill of the upper windows. Fungal particulate matter identified as high to moderate may be considered elevated beyond background levels.

Refer to the attached laboratory data sheets for additional sample data.

CONCLUSIONS

Laboratory analysis has confirmed fungal growth on the bulk samples of MDF and plywood collected from room 509. Aspergillus/Penicillium-like spores are indicative of moisture intrusion events. No unusual or musty odors were observed during this sampling event.

LIMITATIONS

The findings and conclusions in this report are limited to the areas inspected as well as the professional judgment concerning the significance of the data gathered during the investigation. Only accessible areas and materials were examined during this investigation

Please feel free to contact me at 509.942.1600 or kristen.hunt@pbsenv.com with any questions or comments.

Sincerely,
PBS Engineering and Environmental Inc.

Kristen Hunt

Kristen Hunt
Project Manager - IH

Attachments:

KH/JP

Lab/Cor, Inc.
7619 6th Ave NW
Seattle, WA 98117

Analysis Report Cover

Final Report

A Professional Service Corporation in the Northwest

Phone: (206) 781-0155
http://www.labcor.net

Job Number: 161016 **SEA**

Report Number: 161016R01

Report Date: 11/28/2016

Client: PBS Engineering + Environmental

Address: 400 Bradley Blvd
Richland, WA 99352

Project Name: IKE - Blue Wall

Project No.: 64361.001

PO Number:

Sub Project:

Reference No.:

Enclosed please find results for samples submitted to our laboratory. A list of samples and analyses follows:

Lab/Cor Sample #	Client Sample # and Description	Analysis	Analysis Notes	Date Received:
161016 - S1	B-01 - 509 - MDF	NV, Bulk, Fungal ID Qual.		11/23/2016
161016 - S2	B-02 - 509 - CDX 1	NV, Bulk, Fungal ID Qual.		11/23/2016
161016 - S3	B-03 - 509 - CDX 2	NV, Bulk, Fungal ID Qual.		11/23/2016
161016 - S4	B-04 - 509 - Fiberglass	NV, Bulk, Fungal ID Qual.	No Fungi Observed.	11/23/2016

Nonviable Bulk Bulk samples follow preparation and analysis techniques outlined in Method 6 of the laboratory SOP; this method is based on guidelines from the Pan-American Aerobiology Association Standardized Protocol and ASTM Method 7391-09. Sub-samples were collected from areas of known or suspected microbial growth on the submitted sample. If appropriate, each layer was separated and sampled to determine whether fungal colonization was present.

Characteristic morphologies were observed by optical microscopy at a magnification of 600x. Bulk samples that were analyzed qualitatively were reported in Relative Abundance of fungal and particulate types; High, Moderate, Low, and Trace. The Minimum Reporting Limit for qualitative samples is Trace (1-10 count in sample portion examined). Bulk samples that were analyzed quantitatively were reported as the total concentration for each fungal and particulate type.

Disclaimer The results reported relate only to the samples tested or analyzed; the laboratory is not responsible for data collected by personnel who are not affiliated with the laboratory. Results reported in both structures/cm3 and structures/mm2 are dependent on the sample volume and area. These parameters are measured and recorded by non-laboratory personnel and are not covered by the laboratory's accreditation. Interpretation of these results is the sole responsibility of the client.

If further clarification of these results is needed, please call us. Thank you for allowing the staff at Lab/Cor, Inc. the opportunity to provide you with the analytical services.

Sincerely,

X

Ashley Tonge
Technician/Analyst

Lab/Cor, Inc.
7619 6th Ave NW
Seattle, WA 98117

Final Report

Phone: (206) 781-0155
http://www.labcor.net

A Professional Service Corporation in the Northwest

Nonviable Bulk

Job Number: **161016**
Client: **PBS Engineering + Environmental**
Project Name: IKE - Blue Wall
Project No.: 64361.001
Reference No.:

Report Number: 161016R01
Date Received: 11/23/2016

Lab/Cor ID:	**S1**	**S2**
Sample No.:	B-01	B-02
Description:	509 - MDF	509 - CDX 1
Sample Measure:	1 each	1 each
Media Type:	Bulk	Bulk
Analyst:	AT	AT
Analysis Date:	11/28/2016	11/28/2016
Notes:		

Fungal Identification	**Relative Abundance**	**Relative Abundance**
Ascospores		Moderate
Aspergillus/ Penicillium-like	Moderate	Moderate
Hyphal Fragments	Moderate	High

Lab/Cor ID:	**S3**	**S4**
Sample No.:	B-03	B-04
Description:	509 - CDX 2	509 - Fiberglass
Sample Measure:	1 each	1 each
Media Type:	Bulk	Bulk
Analyst:	AT	AT
Analysis Date:	11/28/2016	11/28/2016
Notes:		No Fungi Observed.

Fungal Identification	**Relative Abundance**	**Relative Abundance**
Ascospores		
Aspergillus/ Penicillium-like	Moderate	
Hyphal Fragments	High	

Trace = <10 counts in examined area
Low = <30% coverage of examined area
Moderate = 30% - 70% coverage of examined area
High = >70% coverage of examined area

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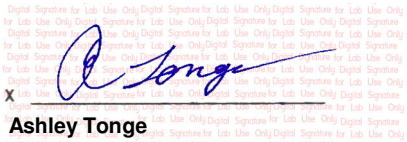
Nonviable Bulk

Job Number: **161016**
Client: **PBS Engineering + Environmental**
Project Name: IKE - Blue Wall
Project No.: 64361.001
Reference No.:

Report Number: 161016R01
Date Received: 11/23/2016

Reviewed by:



Ashley Tonge
Technician/Analyst

Trace = <10 counts in examined area
Low = <30% coverage of examined area
Moderate = 30% - 70% coverage of examined area
High = >70% coverage of examined area

Fungal / Particulate Sample Chain of Custody Record

161016

Lab/Cor, Inc
7619 6th Ave NW
Seattle, WA 98117

Office (206) 781-0155
Fax (206) 789-8424

mail@labcor.net
www.labcor.net

Client: PBS ENGINEERING AND ENVIRONMENTAL
Address: 400 BRADLEY BLVD., STE. 320
City, State, Zip: RICHLAND, WA 99352
Contact: JOHN PRICE
Phone: 208-869-1150 Fax: —
Email: john.price@pbsenv.com
Other Info: —

Analysis Type:
Nonviable Options:
- [X] Fungal ID
- [ ] Fungal & Particulate ID
- [ ] Particulate ID
- [ ] Quantitative Analysis *(Total Count)*
- [X] Qualitative Analysis *(Relative Abundance)*

Viable Options:
- [ ] Complete Analysis
- [ ] Genera Only [ ] Stachy Only

Turnaround Time:
- [ ] 6 hr **RUSH***
- [X] 24 hours*
- [ ] 48 hours
- [ ] 3 days *(NV Std)*
- [ ] 5 days
- [ ] Viable *(7-10 days)*

Project Name: IKE - BLUE WALL **Project Number:** 64361001 **P.O. Number:** —

Sample #	Sample Description	Sample Information: Sample Type: Air NV	Air V	Swab NV	Swab V	Bulk NV	Bulk V	Dust NV	Dust V	Tape NV	Media Type: MEA	Stachy	Other	Sampling Information: Sample Date	Sample Time: On	Off	Sample Flow Rate: Start	End	Avg	Total Volume / Area
B-01	509 - MDF					X							X	11/21/16						
B-02	509 - CDX 1					X							X	11/21/16						
B-03	509 - CDX 2					X							X	11/21/16						
B-04	509 - FIBER GLASS					X							X	11/21/16						

Internal Lab Use Only
Prelim Released By: [ ] Fax [ ] Phone [ ] E-mail [ ] Verbal — Final Results Released By: [ ] Fax [ ] Phone [ ] E-mail — Hardcopy / Invoice Mailed — QC & Data Reviewed By: —

By signing below you are agreeing to comply with Lab/Cor's Requests, Tenders and Contracts.

** Call ahead for TATs of 24hrs or less*

Relinquished by: [signature] Date: 11/21/16 Time: 1400
Received by: [signature] Date: 11/28/16 Time: 1012

Relinquished by: — Date: — Time: —
Received by: — Date: — Time: —