

November 30, 2017

via email: jserraino@qep.com

Mr. John Serraino
QEP
Vice President Product Management & Development
1001 Broken Sound Parkway, NW
Boca Raton, FL 33487

Re: Respirable Silica Dust Sampling During the Use of Three (3) QEP Wet Saws at the Facility located at 1001 Broken Sound Parkway NW, Boca Raton, Florida 33487 (“the Site”).

AQ#: 13214

Dear Mr. Serraino:

AirQuest Environmental, Inc. (“AirQuest”) is pleased to provide you with this letter summarizing the results of respirable silica dust sampling at the construction site located at 1001 Broken Sound Parkway NW, Boca Raton, Florida 33487 (“the Site”).

Background

The client requested personal air sampling for the determination of respirable airborne silica dust exposure during the use of three (3) QEP Wet Saws at the site. The purpose of this sampling was to determine whether the use of these wet saws for a duration of one (1) hour to cut silica containing ceramic tiles results in a respirable silica exposure that is in compliance with the new silica rule (Occupational Exposures to Respirable Crystalline Silica in Construction, 29 CFR 1926.1153). Respirable crystalline silica dust includes quartz, cristobalite and /or tridymite.

The ceramic tiles that were cut during the testing were Daltile Porcelain Tiles. The Safety Data Sheet (SDS) for these tiles indicates that they contain up to 30% crystalline silica as quartz.

The wet saws tested were identified as:

- QEP 22650 (7-inch blade wet tile saw)
- QEP 22750 (7-inch blade wet tile saw)
- QEP 22900 (7-inch blade wet tile saw)

The location of sampling during the use of each saw was at the threshold of a large loading area door at the site. Weather conditions at the site at the time of the sampling were 77° (F) and a relative humidity of 54%.

Sampling Protocol

Personal air sampling pumps operating at a flow of 2.5 liters per minute equipped to sample respirable airborne silica dust using 5 µm PVC filter cassettes and cyclone assemblies were fitted

on the saw operators during the use of the QEP wet saws for a period of one (1) hour. Sampling and analysis for respirable free silica was conducted in accordance with National Institute of Occupational Safety and Health (NIOSH) Method 7500. The samples were submitted under chain of custody to EMSL Analytical Laboratories (“EMSL”), an industrial hygiene laboratory accredited by the American Industrial Hygiene Association (AIHA) for analysis.

Results

The sampling results are presented in Table 1. The results are calculated and reported as 8-hour time weighted averages (TWAs) based on the assumption that the saws would be used for a period of one (1) hour during a typical 8-hour work shift. The results obtained indicated that the saw operator exposure was well below the action level for all three (3) QEP wet saws tested. Representative photos taken at the time of sampling are included in Attachment I. The laboratory report and chain of custody record are presented in Attachment II.

Table 1 – Respirable Silica Results

Sample No.	Wet Saw Model	Operator	Sampling Time	Respirable Silica (as Quartz) $\mu\text{g}/\text{m}^3$ 8-hour TWA
AQ-1	QEP 22650	C. Ortega	1.0 hour	<4.1 $\mu\text{g}/\text{m}^3$
AQ-2	QEP 22750	J. Serraino	1.0 hour	<4.1 $\mu\text{g}/\text{m}^3$
AQ-3	QEP 22900	C. Ortega	1.0 hour	<4.1 $\mu\text{g}/\text{m}^3$
Action Level				25 $\mu\text{g}/\text{m}^3$
PEL				50 $\mu\text{g}/\text{m}^3$

$\mu\text{g}/\text{m}^3$ – micrograms per cubic meter

Action Level – the concentration below which respiratory protection is not required

PEL – permissible exposure limit

Discussion

The new silica rule (Occupational Exposures to Respirable Crystalline Silica in Construction, 29 CFR 1926.1153) does not require respiratory protection for workers exposed to respirable silica concentrations below the action level, which is 25 $\mu\text{g}/\text{m}^3$ as an 8-hour TWA. Laboratory analysis of the air samples did not detect the presence of crystalline silica. Based on the limits of detection of the laboratory analysis and the assumption that the saws are used one (1) hour per 8-hour work shift, the calculated 8-hour TWA is less than 4.1 $\mu\text{g}/\text{m}^3$, which is significantly lower than the action level specified by the new silica rule (25 $\mu\text{g}/\text{m}^3$).

Conclusions

The results obtained indicated that the saw operator 8-hour TWA exposure was well below the action level for all three (3) QEP wet saws tested when using the saws for a period of one (1) hour during an 8-hour work shift. Therefore, under these conditions, respiratory protection is not required.

Sincerely,
AirQuest Environmental, Inc.



Andrew Puccetti, Ph.D
Senior Project Consultant

Attachment I – Photos

Attachment II – Laboratory Report and Chain of Custody Record

ATTACHMENT I

PHOTOS

QEP
1001 Broken Sound Parkway, NW
Boca Raton, FL 33487
11/27/2017



Operation of QEP 22650 Wet Saw



Operation of QEP 22650 Wet Saw



Operation of QEP 22750 Wet Saw



Operation of QEP 22750 Wet Saw



Operation of QEP 22900 Wet Saw



Operation of QEP 22900 Wet Saw

ATTACHMENT II
LABORATORY REPORT AND CHAIN OF CUSTODY RECORD



EMSL ANALYTICAL, INC.
LABORATORY PRODUCTS TRAINING

Industrial Hygiene Chain of Custody

EMSL Order Number (Lab Use Only):

-281705516

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (800) 220-3675
FAX: (856) 858-3502

Report To Contact Name: ANDREW PUCETTI		Bill To Company: SAME		Client ID #:	
Company Name: AIRQUEST ENVIRONMENTAL INC.		Attention To: ACCOUNTS PAYABLE			
Street: 6851 SOUTHWEST 45TH STREET		Street:			
City: FORT LAUDERDALE	State/Province: FL	Zip/Postal Code: 33314	City:	State/Province:	Zip/Postal Code:
Phone: 954-792-4549 Fax:		Phone:		Fax:	
Project Name: QEP		Email Results To: APUCETTI@AIRQUESTINC.COM		U.S. State where Samples Collected: FL	
# Samples in Shipment: 4	Date of Shipment: 11-27-17	Purchase Order: 13214	Sampled By (Signature): <i>[Signature]</i>		

Turnaround Time (TAT) - Please Check: If No Selection Made, Standard 2 Week TAT Will Apply						Media Type:		
<input type="checkbox"/> 2 Week	<input type="checkbox"/> 1 Week	<input type="checkbox"/> 4 Day	<input checked="" type="checkbox"/> 3 Day	<input type="checkbox"/> 2 Day	<input type="checkbox"/> 1 Day	<input type="checkbox"/> Other (Call Lab)	Manufacturer/Part #:	Lot #:

Client Sample ID	Location/Description	Analyte / Method	Media	Flow (lpm)	Sample Time		Volume / Area	Sample Type	Sample Date	Comments
					On	Off				
AQ-1	QEP 22650 7 INCH TILE WET SAW	RESPIRABLE SILICA NIOSH 7500	PVC FILTER	2.5	10:45	11:45	150 LITERS	<input type="checkbox"/> Area <input checked="" type="checkbox"/> Personal	11-27-17	
AQ-2	QEP 22750 7 INCH TILE WET SAW	↓	↓	↓	11:10	12:10	↓	<input checked="" type="checkbox"/> Area <input checked="" type="checkbox"/> Personal	↓	2017 NOV 28 RECEIVED EMSL CINNAMINSON, N.J. A 11:45
AQ-3	QEP 22900 7 INCH TILE WET SAW	↓	↓	↓	12:07	13:07	↓	<input type="checkbox"/> Area <input checked="" type="checkbox"/> Personal	↓	
BLANK	—	↓	↓	↓				<input type="checkbox"/> Area <input type="checkbox"/> Personal	↓	
								<input type="checkbox"/> Area <input type="checkbox"/> Personal		

Note: Most NIOSH and OSHA methods require field blanks. It is the IH field sampler's responsibility to submit the proper number of field blanks and duplicates.

Released By: <i>[Signature]</i>	Date: 11-27-17	Received By: <i>[Signature]</i>	Date: 11/28/17 10:00a
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Comments: **RESPIRABLE SILICA - NIOSH 7500**

OrderID: 281705516

Page 1 of 1



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077
Phone/Fax: (800) 220-3675 /
<http://www.EMSL.com> / IndustrialHygienelab@emsl.com

EMSL Order ID: 281705516
Customer ID: AQE63
Customer PO: 13214
Project ID:

Attn: Andrew Puccetti
AirQuest Environmental, Inc.
6851 Southwest 45th Street
Fort Lauderdale, FL 33314

Phone: (954) 792-4549
Fax: (954) 792-2221
Collected: 11/27/2017
Received: 11/28/2017
Analyzed: 11/29/2017

Proj: QEP

Test Report: Respirable Silica, Crystalline Analysis of Air Samples Performed by X-Ray Diffraction and Respirable Dust Analysis (Gravimetric) of Air Samples NIOSH 0600, Issue 3, 1/15/98 Via NIOSH Method 7500 (Modified), Issue 4, 3/15/2003

XRD-Silica

Sample ID	Collected	Location / Description	Volume (L)	Respirable Dust (mg) (mg/m ³)		Silica	% Silica	Weight (mg)	Conc. (mg/m ³)	Analytical Sensitivity (mg/m ³)
AQ-1 281705516-0001	11/27/2017	QEP 22650 7 Inch Tile Wet Saw	150	<0.050	<0.33	α-Quartz	N/A	<0.005	<0.033	0.033
						Cristobalite	N/A	<0.010	<0.067	0.067
						Tridymite	N/A	<0.010	<0.067	0.067
Comment: Customer										
AQ-2 281705516-0002	11/27/2017	QEP 22650 7 Inch Tile Wet Saw	150	0.050	0.33	α-Quartz	N/A	<0.005	<0.033	0.033
						Cristobalite	N/A	<0.010	<0.067	0.067
						Tridymite	N/A	<0.010	<0.067	0.067
Comment: Customer										
AQ-3 281705516-0003	11/27/2017	QEP 22650 7 Inch Tile Wet Saw	150	<0.050	<0.33	α-Quartz	N/A	<0.005	<0.033	0.033
						Cristobalite	N/A	<0.010	<0.067	0.067
						Tridymite	N/A	<0.010	<0.067	0.067
Comment: Customer										
Blank 281705516-0004	11/27/2017	Field Blank	N/A	<0.050	N/A	α-Quartz	10.0	0.0050	N/A	N/A
						Cristobalite	N/A	<0.010	N/A	N/A
						Tridymite	N/A	<0.010	N/A	N/A
Comment: Field Blank										

Field Blank submitted with sample set. Results are not blank corrected.

Analyst(s)

Katherine Foster

Scott Van Etten, CIH, Laboratory Manager
or Other Approved Signatory

Any questions please contact Scott VanEtten.

The laboratory can only verify the concentration of silica on the filter and not the final concentration due to data obtained by non-laboratory personnel. 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 - Industrial Hygiene Cinnaminson, NJ

Initial report from: 11/30/2017 14:34:38



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077
Phone/Fax: (800) 220-3675 /
<http://www.EMSL.com> / IndustrialHygienelab@emsl.com

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QC Batch ID: 28Q171130-004

XRD-Silica

Collected	Location / Description	Volume (L)	Respirable Dust (mg) (mg/m ³)	Silica	% Silica	Weight (mg)	Conc. (mg/m ³)	Analytical Sensitivity (mg/m ³)
			<0.050 N/A	α-Quartz	N/A	<0.005		N/A
Method Blank				Cristobalite	N/A	<0.010		N/A
				Tridymite	N/A	<0.010		N/A

Reference Standards	% Silica	Weight (mg)	Conc. (mg/m ³)	Analytical Sensitivity (mg/m ³)
α-Quartz (0.250 mg)	N/A	0.204		N/A
α-Quartz (0.005 mg)	N/A	0.005		N/A
Cristobalite (0.010 mg)	N/A	0.010		N/A

Analyst(s)

Katherine Foster

Scott Van Etten, CIH, Laboratory Manager
or Other Approved Signatory

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