



EMSL Analytical, Inc. - 107 Haddon Avenue
Westmont, NJ. 08108
(856) 858-4800

12/4/01

Attention: **U.S.EPA**
HQ Financial Services Division
1200 Pennsylvania Avenue
NW Maildrop 2734R
Washington, DC. 20460

Project: Residential Sampling
Ref. Number: 360100623

Silica Analysis Performed by Method NIOSH 7500
Crystalline Particle Analysis Performed by
X-Ray Diffraction (XRD)

Sample ID	Identification	Analyte ID	Volume (L)	Nuisance Dust		Airborne Particulate			
				Sample Weight (mg)	Sample Conc. (mg/m ³)	Analyte Weight (mg)	Analyte Conc. (mg/m ³)	% Analyte	Analytical Sensitivity (mg/m ³)
[RJRF-0-4]		Quartz	793	0.000	0.0000	0.005	0.0067	N/A	0.0050
		Cristobalite				<0.012	<AS		0.0151
		Tridymite				N/A	N/A		N/A
		Calcite				0.005	0.0061		0.0050
		Portland/ Lime				0.022	0.0272		0.0252
		Gypsum				0.004	0.0052		0.0050
		Mica				0.011	0.0139		0.0199
		Halite				0.008	0.0076		0.0076
		Fibrous Glass				ND	<AS		1.2604
[RJTF-0-4]		Quartz	1288	0.174	0.1353	0.005	0.0037	2.3	0.0031
		Cristobalite				<0.012	<AS		0.0093
		Tridymite				N/A	N/A		N/A
		Calcite				0.004	0.0033		0.0031
		Portland/ Lime				0.022	0.0169		0.0155
		Gypsum				0.004	0.0033		0.0031
		Mica				<0.011	<AS		0.0088
		Halite				0.006	0.0047		0.0047
		Fibrous Glass				ND	<AS		0.7774
[RJIF-0-4]		Quartz	1288	0.022	0.0171	0.005	0.0037	18.2	0.0031
		Cristobalite				<0.012	<AS		0.0093
		Tridymite				N/A	N/A		N/A
		Calcite				0.005	0.0037		0.0031
		Portland/ Lime				0.020	0.0158		0.0155
		Gypsum				0.004	0.0031		0.0031
		Mica				0.011	0.0085		0.0085
		Halite				0.006	0.0047		0.0047
		Fibrous Glass				ND	<AS		0.7755

Fibrous Glass Results are in fibers per cubic M

John Newton
Analyst

4 December, 2001
Date of Analysis

Disclaimer: The laboratory can only verify the concentrations of analytes on the filter and not the final concentrations due to data obtained by non-laboratory personnel. In the absence of a bulk dust sample, the specific form of crystalline silica can not be determined.

Hence, alpha-quartz, the most prevalent form of crystalline silica, will be assumed. "<" = Less than the stated value

The lowest reportable value is equivalent to the Analytical Sensitivity which is calculated from the lowest reproducible concentration of silica detectable by the instrument.
AIHA Accredited - Laboratory ID #100192

CONFIDENTIAL,

CITY_21MC100_003433958

SUBJECT TO PROTECTIVE ORDER NO. 2, SEPT. 2008

NYC-WTC_000176066


EMSL Analytical, Inc.

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 Ref. Number: 360100623

Silica Analysis Performed by Method NIOSH 7500
Crystalline Particle Analysis Performed by
X-Ray Diffraction (XRD)

Sample ID	Identification	Analyte ID	Volume (L)	Nuisance Dust		Airborne Particulate			
				Sample Weight (mg)	Sample Conc. (mg/m ³)	Analyte Weight (mg)	Analyte Conc. (mg/m ³)	% Analyte	Analytical Sensitivity (mg/m ³)
[R]RF-C-4		Quartz	751	0.018	0.0240	<0.004	<AS	N/A	0.0053
		Cristobalite				<0.012	<AS		0.0160
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0053
		Portland/ Lime				0.020	0.0267		0.0266
		Gypsum				0.004	0.0055		0.0053
		Mica				<0.011	<AS		0.0146
		Halite				<0.006	<AS		0.0080
		Fibrous Glass				1.000	1.3316		1.3316
[R]TF-C-4		Quartz	1216	A	A	<0.004	<AS	N/A	0.0033
		Cristobalite				<0.012	<AS		0.0099
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0033
		Portland/ Lime				0.020	0.0165		0.0164
		Gypsum				0.004	0.0034		0.0033
		Mica				<0.011	<AS		0.0090
		Halite				<0.006	<AS		0.0049
		Fibrous Glass				ND	<AS		0.8213
[R]IF-C-4		Quartz	1230	0.025	0.0203	<0.004	<AS	N/A	0.0033
		Cristobalite				<0.012	<AS		0.0098
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0033
		Portland/ Lime				<0.020	<AS		0.0163
		Gypsum				0.004	0.0034		0.0033
		Mica				<0.011	<AS		0.0089
		Halite				<0.006	<AS		0.0049
		Fibrous Glass				3.000	2.4397		0.8132

 John Newton
 Analyst

 4 December, 2001
 Date of Analysis

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Hence, alpha-quartz, the most prevalent form of crystalline silica, will be assumed. "<" = Less than the stated value

The lowest reportable value is equivalent to the Analytical Sensitivity which is calculated from the lowest reproducible concentration of silica detectable by the instrument.
 AIIIA Accredited - Laboratory ID #100192

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CITY_21MC100_003433959

SUBJECT TO PROTECTIVE ORDER NO. 2, SEPT. 2008

NYC-WTC_000176067



EMSL Analytical, Inc. - 107 Haddon Avenue
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Washington, DC. 20460

Project: Residential Sampling
Ref. Number: 360100623

Silica Analysis Performed by Method NIOSH 7500
Crystalline Particle Analysis Performed by
X-Ray Diffraction (XRD)

Sample ID	Identification	Analyte ID	Volume (L)	Nuisance Dust		Airborne Particulate			
				Sample Weight (mg)	Sample Conc. (mg/m ³)	Analyte Weight (mg)	Analyte Conc. (mg/m ³)	% Analyte	Analytical Sensitivity (mg/m ³)
[R]RF-R1-4		Quartz	804	0.002	0.0025	<0.004	<AS	N/A	0.0050
		Cristobalite				<0.012	<AS		0.0149
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0050
		Portland/ Lime				<0.020	<AS		0.0249
		Gypsum				0.004	0.0051		0.0050
		Mica				<0.011	<AS		0.0137
		Halite				<0.008	<AS		0.0075
		Fibrous Glass				ND	<AS		1.2440
[R]TF-R1-4		Quartz	1294	0.151	0.1167	<0.004	<AS	N/A	0.0031
		Cristobalite				<0.012	<AS		0.0093
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0031
		Portland/ Lime				<0.020	<AS		0.0155
		Gypsum				0.004	0.0032		0.0031
		Mica				<0.011	<AS		0.0085
		Halite				<0.006	<AS		0.0046
		Fibrous Glass				2.000	1.5461		0.7731
[R]IF-R1-4		Quartz	1276	0.051	0.0399	<0.004	<AS	N/A	0.0031
		Cristobalite				<0.012	<AS		0.0094
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0031
		Portland/ Lime				<0.020	<AS		0.0157
		Gypsum				<0.004	<AS		0.0031
		Mica				<0.011	<AS		0.0086
		Halite				<0.006	<AS		0.0047
		Fibrous Glass				ND	<AS		0.7627

John Newton
Analyst

4 December, 2001
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Hence, alpha-quartz, the most prevalent form of crystalline silica, will be assumed. "C" = Less than the stated value

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AIHA Accredited - Laboratory ID #100192

CONFIDENTIAL,

CITY_21MC100_003433960

SUBJECT TO PROTECTIVE ORDER NO. 2, SEPT. 2008



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12/4/01

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 Washington, DC. 20460

Project: Residential Sampling
 Ref. Number: 360100623

Silica Analysis Performed by Method NIOSH 7500
Crystalline Particle Analysis Performed by
X-Ray Diffraction (XRD)

Sample ID	Identification	Analyte ID	Volume (L)	Nuisance Dust		Airborne Particulate			
				Sample Weight (mg)	Sample Conc. (mg/m ³)	Analyte Weight (mg)	Analyte Conc. (mg/air ³)	% Analyte	Analytical Sensitivity (mg/m ³)
[R]RF-R2-4		Quartz	757	0.039	0.0515	<0.004	<AS	N/A	0.0053
		Cristobalite				<0.012	<AS		0.0159
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0053
		Portland/ Lime				<0.020	<AS		0.0264
		Gypsum				<0.004	<AS		0.0053
		Mica				<0.011	<AS		0.0145
		Halite				<0.008	<AS		0.0079
		Fibrous Glass				2.000	2.6421		1.3211
[R]TF-R2-4		Quartz	1201	A	A	<0.004	<AS	N/A	0.0033
		Cristobalite				<0.012	<AS		0.0100
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0033
		Portland/ Lime				<0.020	<AS		0.0167
		Gypsum				<0.004	<AS		0.0033
		Mica				<0.011	<AS		0.0092
		Halite				<0.006	<AS		0.0050
		Fibrous Glass				ND	<AS		0.8528
[R]IF-R2-4		Quartz	1221	0.016	0.0131	<0.004	<AS	N/A	0.0023
		Cristobalite				<0.012	<AS		0.0098
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0033
		Portland/ Lime				<0.020	<AS		0.0164
		Gypsum				0.004	0.0033		0.0033
		Mica				<0.011	<AS		0.0090
		Halite				0.006	0.0048		0.0048
		Fibrous Glass				1.000	0.8193		0.8193

John Newton
 Analyst

4 December, 2001
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 AIHA Accredited - Laboratory ID #100192

CONFIDENTIAL,

CITY_21MC100_003433961

SUBJECT TO PROTECTIVE ORDER NO. 2, SEPT. 2008



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12/4/01

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Washington, DC. 20460

Project: Residential Sampling
Ref. Number: 360100623

Silica Analysis Performed by Method NIOSH 7500
Crystalline Particle Analysis Performed by
X-Ray Diffraction (XRD)

Sample ID	Identification	Analyte ID	Volume (L)	Nuisance Dust		Airborne Particulate			
				Sample Weight (mg)	Sample Conc. (mg/m ³)	Analyte Weight (mg)	Analyte Conc. (mg/m ³)	% Analyte	Analytical Sensitivity (mg/m ³)
[R]BRF-A-4		Quartz	0	0.000	N/A	<0.004	N/A	N/A	N/A
		Cristobalite				<0.012	N/A		N/A
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	N/A		N/A
		Portland/ Lime				<0.020	N/A		N/A
		Gypsum				<0.004	N/A		N/A
		Mica				<0.011	N/A		N/A
		Halite				<0.006	N/A		N/A
		Fibrous Glass				ND	N/A		N/A
[R]BRF-B-4		Quartz	0	0.000	N/A	<0.004	N/A	N/A	N/A
		Cristobalite				<0.012	N/A		N/A
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	N/A		N/A
		Portland/ Lime				<0.020	N/A		N/A
		Gypsum				<0.004	N/A		N/A
		Mica				<0.011	N/A		N/A
		Halite				<0.006	N/A		N/A
		Fibrous Glass				ND	N/A		N/A
[R]BIF-A-4		Quartz	0	0.000	N/A	<0.004	N/A	N/A	N/A
		Cristobalite				<0.012	N/A		N/A
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	N/A		N/A
		Portland/ Lime				<0.020	N/A		N/A
		Gypsum				<0.004	N/A		N/A
		Mica				<0.011	N/A		N/A
		Halite				<0.006	N/A		N/A
		Fibrous Glass				ND	N/A		N/A

John Newton
Analyst

4 December, 2001
Date of Analysis

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Arla Accredited - Laboratory ID #100192

CONFIDENTIAL,

CITY_21MC100_003433962

SUBJECT TO PROTECTIVE ORDER NO. 2, SEPT. 2008

NYC-WTC_000176070



EMSL Analytical, Inc. - 107 Haddon Avenue
Westmont, NJ. 08108
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12/4/01

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Project: Residential Sampling
Ref Number: 360100623

Silica Analysis Performed by Method NIOSH 7500
Crystalline Particle Analysis Performed by
X-Ray Diffraction (XRD)

Sample ID	Identification	Analyte ID	Volume (L)	Nuisance Dust		Airborne Particulate			
				Sample Weight (mg)	Sample Conc. (mg/m ³)	Analyte Weight (mg)	Analyte Conc. (mg/m ³)	% Analyte	Analytical Sensitivity (mg/m ³)
(R)BIF-B-4		Quartz	0	0.000	N/A	<0.004	N/A	N/A	N/A
		Cristobalite				<0.012	N/A		N/A
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	N/A		N/A
		Portland/ Lime				<0.020	N/A		N/A
		Gypsum				<0.004	N/A		N/A
		Mica				<0.011	N/A		N/A
		Halite				<0.008	N/A		N/A
		Fibrous Glass				ND	N/A		N/A
		Fibrous Glass Results are in fibers per cubic M							

John Newton
Analyst

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Hence, alpha-quartz, the most prevalent form of crystalline silica, will be assumed. " $<$ " = Less than the stated value

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ATHA Accredited - Laboratory ID #100192

CONFIDENTIAL,

CITY_21MC100_003433963

SUBJECT TO PROTECTIVE ORDER NO. 2, SEPT. 2008

NYC-WTC_000176071