NYC 9/11 Public Portal Document

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

1/21/02

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

Project: Residential Sampling
Ref. Number: 360100619 Revision 120201

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

				Nuisance Dust		*Airborne Silica*			
Sample ID	**Identification**	**Particle ID**	**Volume (L)**	**Sample Weight (mg)**	**Sample Conc. (mg/m³)**	**Silica Weight (mg)**	**Silica Conc. (mg/m³)**	**% Silica**	**Analytical Sensitivity (mg/m³)**
[R]RF-0-1		Quartz	813	0.019	0.0234	<0.004	<AS	N/A	0.0049
		Cristobalite				<0.012	<AS		0.0148
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0049
		Portland/ Lime				<0.02	<AS		0.0246
		Gypsum				0.010	0.0123		0.0049
		Mica				<0.011	<AS		0.0135
		Halite				<0.006	<AS		0.0074
		Fibrous Glass				ND	<AS		1.23
[R]TF-0-1		Quartz	835	3.965	4.7464	<0.004	<AS	N/A	0.0048
		Cristobalite				<0.012	<AS		0.0148
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0049
		Portland/ Lime				<0.02	<AS		0.0246
		Gypsum				0.006	0.0072		0.0049
		Mica				<0.011	<AS		0.0135
		Halite				<0.006	<AS		0.0074
		Fibrous Glass				ND	<AS		1.20
[R]IF-0-1		Quartz	830	0.157	0.1891	<0.004	<AS	N/A	0.0048
		Cristobalite				<0.012	<AS		0.0148
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0049
		Portland/ Lime				<0.02	<AS		0.0246
		Gypsum				<0.004	<AS		0.0049
		Mica				<0.011	<AS		0.0135
		Halite				<0.006	<AS		0.0074
		Fibrous Glass				ND	<AS		1.20

John Newton
Analyst

21 November, 01
Date of Analysis

Disclaimer: 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. 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_003423456
SUBJECT TO PROTECTIVE ORDER NO. 2, SEPT. 2008

NYC-WTC_000242538

NYC 9/11 Public Portal Document

EMSL Analytical, Inc.- 107 Haddon Avenue
Westmont, NJ. 08108
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1/21/02

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

Project: Residential Sampling
Ref. Number: 360100619 Revision 120201

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

				Nuisance Dust		*Airborne Silica*			
Sample ID	Identification	Particle ID	Volume (L)	Sample Weight (mg)	Sample Conc. (mg/m^3)	Silica Weight (mg)	Silica Conc. (mg/m^3)	% Silica	Analytical Sensitivity (mg/m^3)
[R]RF-C-1		Quartz	809	0.039	0.0482	<0.004	<AS	N/A	0.0049
		Cristobalite				<0.012	<AS		0.0148
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0049
		Portland/ Lime				0.068	0.0837		0.0246
		Gypsum				0.008	0.0099		0.0049
		Mica				<0.011	<AS		0.0135
		Halite				<0.006	<AS		0.0074
		Fibrous Glass				ND	<AS		1.24
[R]TF-C-1		Quartz	961	2.977	3.4562	<0.004	<AS	N/A	0.0046
		Cristobalite				<0.012	<AS		0.0148
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0049
		Portland/ Lime				<0.02	<AS		0.0246
		Gypsum				<0.004	<AS		0.0049
		Mica				<0.011	<AS		0.0135
		Halite				<0.006	<AS		0.0074
		Fibrous Glass				ND	<AS		1.16
[R]IF-C-1		Quartz	882	0.053	0.0601	<0.004	<AS	N/A	0.0045
		Cristobalite				<0.012	<AS		0.0148
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0049
		Portland/ Lime				<0.02	<AS		0.0246
		Gypsum				0.005	0.0057		0.0049
		Mica				<0.011	<AS		0.0135
		Halite				<0.006	<AS		0.0074
		Fibrous Glass				ND	<AS		1.13

John Newton
Analyst

21 November, 01
Date of Analysis

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AIHA Accredited - Laboratory ID #100192

NYC-WTC_000242539

NYC 9/11 Public Portal Document

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1/21/02

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

Project: Residential Sampling
Ref. Number: 360100619 Revision 120201

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

				Nuisance Dust		*Airborne Silica*			
Sample ID	Identification	Particle ID	Volume (L)	Sample Weight (mg)	Sample Conc. (mg/m³)	Silica Weight (mg)	Silica Conc. (mg/m³)	% Silica	Analytical Sensitivity (mg/m³)
[R]RF-R1-1		Quartz	820	0.011	0.0134	<0.004	<AS	N/A	0.0049
		Cristobalite				<0.012	<AS		0.0148
		Tridymite				N/A	N/A		N/A
		Calcite				0.005	0.0061		0.0049
		Portland/ Lime				0.056	0.0683		0.0246
		Gypsum				0.008	0.0097		0.0049
		Mica				<0.011	<AS		0.0135
		Halite				<0.006	<AS		0.0074
		Fibrous Glass				ND	<AS		1.22
[R]TF-R1-1		Quartz	838	2.466	2.9419	<0.004	<AS	N/A	0.0048
		Cristobalite				<0.012	<AS		0.0148
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0049
		Portland/ Lime				<0.02	<AS		0.0246
		Gypsum				0.012	0.0143		0.0049
		Mica				<0.011	<AS		0.0135
		Halite				<0.006	<AS		0.0074
		Fibrous Glass				ND	<AS		1.19
[R]IF-R1-1		Quartz	818	0.041	0.0501	<0.004	<AS	N/A	0.0049
		Cristobalite				<0.012	<AS		0.0148
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0049
		Portland/ Lime				<0.02	<AS		0.0246
		Gypsum				<0.004	<AS		0.0049
		Mica				<0.011	<AS		0.0135
		Halite				<0.006	<AS		0.0074
		Fibrous Glass				ND	<AS		1.22

John Newton — Analyst

21 November, 01 — Date of Analysis

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AIHA Accredited - Laboratory ID #100192

CONFIDENTIAL, CITY_21MC100_003423458
SUBJECT TO PROTECTIVE ORDER NO. 2, SEPT. 2008

NYC-WTC_000242540

NYC 9/11 Public Portal Document

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1/21/02

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HQ Financial Services Division
1200 Pennsylvania Avenue
NW Maildrop 2734R
Washington, DC. 20460

Project: Residential Sampling
Ref. Number: 360100619 Revision 120201

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

				Nuisance Dust		*Airborne Silica*			
Sample ID	Identification	Particle ID	Volume (L)	Sample Weight (mg)	Sample Conc. (mg/m^3)	Silica Weight (mg)	Silica Conc. (mg/m^3)	% Silica	Analytical Sensitivity (mg/m^3)
[R]RF-R2-1		Quartz	837	0.113	0.1349	<0.004	<AS	N/A	0.0048
		Cristobalite				<0.012	<AS		0.0148
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0049
		Portland/ Lime				<0.02	<AS		0.0246
		Gypsum				<0.004	<AS		0.0049
		Mica				<0.011	<AS		0.0135
		Halite				<0.006	<AS		0.0074
		Fibrous Glass				ND	<AS		1.19
[R]TF-R2-1		Quartz	822	0.004	0.0049	<0.004	<AS	N/A	0.0049
		Cristobalite				<0.012	<AS		0.0148
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0049
		Portland/ Lime				<0.02	<AS		0.0246
		Gypsum				0.007	0.0085		0.0049
		Mica				<0.011	<AS		0.0135
		Halite				<0.006	<AS		0.0074
		Fibrous Glass				ND	<AS		1.22
[R]IF-R2-1		Quartz	892	0.054	0.0605	<0.004	<AS	N/A	0.0045
		Cristobalite				<0.012	<AS		0.0148
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0049
		Portland/ Lime				<0.02	<AS		0.0246
		Gypsum				<0.004	<AS		0.0049
		Mica				<0.011	<AS		0.0135
		Halite				<0.006	<AS		0.0074
		Fibrous Glass				ND	<AS		1.12

John Newton
Analyst

21 November, 01
Date of Analysis

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AIHA Accredited - Laboratory ID #100192

CONFIDENTIAL, CITY_21MC100_003423459
SUBJECT TO PROTECTIVE ORDER NO. 2, SEPT. 2008

NYC-WTC_000242541

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1/21/02

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Washington, DC. 20460

Project: Residential Sampling
Ref. Number: 360100619 Revision 120201

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

				Nuisance Dust		*Airborne Silica*			
Sample ID	Identification	Particle ID	Volume (L)	Sample Weight (mg)	Sample Conc. (mg/m^3)	Silica Weight (mg)	Silica Conc. (mg/m^3)	% Silica	Analytical Sensitivity (mg/m^3)
[R]BRF-A-1		Quartz	0	A	N/A	<0.004			
		Cristobalite				<0.012			
		Tridymite				N/A			
		Calcite				<0.004			
		Portland/ Lime				<0.02			
		Gypsum				<0.004			
		Mica				<0.011			
		Halite				<0.006			
		Fibrous Glass				ND			
[R]BRF-B-1		Quartz	0	0.013	N/A	<0.004			
		Cristobalite				<0.012			
		Tridymite				N/A			
		Calcite				<0.004			
		Portland/ Lime				<0.02			
		Gypsum				<0.004			
		Mica				<0.011			
		Halite				<0.006			
		Fibrous Glass				ND			
[R]BTF-A-1		Quartz	0	A	N/A	<0.004			
		Cristobalite				<0.012			
		Tridymite				N/A			
		Calcite				<0.004			
		Portland/ Lime				<0.02			
		Gypsum				<0.004			
		Mica				<0.011			
		Halite				<0.006			
		Fibrous Glass				ND			

John Newton
Analyst

21 November, 01
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NYC-WTC_000242542

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Project: Residential Sampling
Ref. Number: 360100619 Revision 120201

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

				Nuisance Dust		*Airborne Silica*			
Sample ID	**Identification**	**Particle ID**	**Volume (L)**	**Sample Weight (mg)**	**Sample Conc. (mg/m³)**	**Silica Weight (mg)**	**Silica Conc. (mg/m³)**	**% Silica**	**Analytical Sensitivity (mg/m³)**
[R]BIF-A-1		Quartz	0	A	N/A	<0.004			
		Cristobalite				<0.012			
		Tridymite				N/A			
		Calcite				<0.004			
		Portland/ Lime				<0.02			
		Gypsum				<0.004			
		Mica				<0.011			
		Halite				<0.006			
		Fibrous Glass				ND			
[R]BIF-B-1		Quartz	0	A	N/A	<0.004			
		Cristobalite				<0.012			
		Tridymite				N/A			
		Calcite				<0.004			
		Portland/ Lime				<0.02			
		Gypsum				<0.004			
		Mica				<0.011			
		Halite				<0.006			
		Fibrous Glass				ND			
[R]RF-0-2		Quartz	0	0.103	N/A	<0.004			
		Cristobalite				<0.012			
		Tridymite				N/A			
		Calcite				<0.004			
		Portland/ Lime				<0.02			
		Gypsum				<0.004			
		Mica				<0.011			
		Halite				<0.006			
		Fibrous Glass				ND			

John Newton
Analyst

21 November, 01
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CONFIDENTIAL, CITY_21MC100_003423461
SUBJECT TO PROTECTIVE ORDER NO. 2, SEPT. 2008

NYC-WTC_000242543

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Westmont, N.J. 08108
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Project: Residential Sampling
Ref. Number: 360100619 Revision 120201

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

				Nuisance Dust		*Airborne Silica*			
Sample ID	Identification	Particle ID	Volume (L)	Sample Weight (mg)	Sample Conc. (mg/m^3)	Silica Weight (mg)	Silica Conc. (mg/m^3)	% Silica	Analytical Sensitivity (mg/m^3)
[R]RF2-O-2	Not Supplied	Quartz							
		Cristobalite							
		Tridymite							
		Calcite							
		Portland/ Lime							
		Gypsum							
		Mica							
		Halite							
		Fibrous Glass							
[R]TF-0-2		Quartz	1168	2.968	2.5421	<0.004	<AS	N/A	0.0034
		Cristobalite				<0.012	<AS		0.0148
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0049
		Portland/ Lime				<0.02	<AS		0.0246
		Gypsum				<0.004	<AS		0.0049
		Mica				<0.011	<AS		0.0135
		Halite				<0.006	<AS		0.0074
		Fibrous Glass				ND	<AS		0.86
[R]IF-0-2		Quartz	1162	0.126	0.1085	<0.004	<AS	N/A	0.0034
		Cristobalite				<0.012	<AS		0.0148
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0049
		Portland/ Lime				<0.02	<AS		0.0246
		Gypsum				<0.004	<AS		0.0049
		Mica				<0.011	<AS		0.0135
		Halite				<0.006	<AS		0.0074
		Fibrous Glass				ND	<AS		0.86

John Newton
Analyst

21 November, 01
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AIHA Accredited - Laboratory ID #100192

CONFIDENTIAL, CITY_21MC100_003423462
SUBJECT TO PROTECTIVE ORDER NO. 2, SEPT. 2008

NYC-WTC_000242544

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

				Nuisance Dust		*Airborne Silica*			
Sample ID	**Identification**	**Particle ID**	**Volume (L)**	**Sample Weight (mg)**	**Sample Conc. (mg/m^3)**	**Silica Weight (mg)**	**Silica Conc. (mg/m^3)**	**% Silica**	**Analytical Sensitivity (mg/m^3)**
[R]RF-C-2		Quartz	757	0.039	0.0516	<0.004	<AS	N/A	0.0053
		Cristobalite				<0.012	<AS		0.0148
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0049
		Portland/ Lime				<0.02	<AS		0.0246
		Gypsum				0.005	0.0066		0.0049
		Mica				<0.011	<AS		0.0135
		Halite				<0.006	<AS		0.0074
		Fibrous Glass				ND	<AS		1.32
[R]RF2-C-2	Not Supplied	Quartz							
		Cristobalite							
		Tridymite							
		Calcite							
		Portland/ Lime							
		Gypsum							
		Mica							
		Halite							
		Fibrous Glass							
[R]TF-C-2		Quartz	1194	A	A	<0.004	<AS	N/A	0.0033
		Cristobalite				<0.012	<AS		0.0148
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0049
		Portland/ Lime				<0.02	<AS		0.0246
		Gypsum				<0.004	<AS		0.0049
		Mica				<0.011	<AS		0.0135
		Halite				<0.006	<AS		0.0074
		Fibrous Glass				ND	<AS		0.64

John Newton
Analyst

21 November, 01
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NYC-WTC_000242545

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Project: Residential Sampling
Ref. Number: 360100619 Revision 120201

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

				Nuisance Dust		*Airborne Silica*			
Sample ID	Identification	Particle ID	Volume (L)	Sample Weight (mg)	Sample Conc. (mg/m^3)	Silica Weight (mg)	Silica Conc. (mg/m^3)	% Silica	Analytical Sensitivity (mg/m^3)
[R]IF-C-2		Quartz	1229	0.085	0.0700	<0.004	<AS	N/A	0.0033
		Cristobalite				<0.012	<AS		0.0148
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0049
		Portland/ Lime				<0.02	<AS		0.0246
		Gypsum				<0.004	<AS		0.0049
		Mica				<0.011	<AS		0.0135
		Halite				<0.006	<AS		0.0074
		Fibrous Glass				ND	<AS		0.81
[R]RF-R1-2		Quartz	849	A	A	<0.004	<AS	N/A	0.0047
		Cristobalite				<0.012	<AS		0.0148
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0049
		Portland/ Lime				<0.02	<AS		0.0246
		Gypsum				<0.004	<AS		0.0049
		Mica				<0.011	<AS		0.0135
		Halite				<0.006	<AS		0.0074
		Fibrous Glass				ND	<AS		1.18
[R]RF2-R1-2	Not Supplied	Quartz							
		Cristobalite							
		Tridymite							
		Calcite							
		Portland/ Lime							
		Gypsum							
		Mica							
		Halite							
		Fibrous Glass							

John Newton
Analyst

21 November, 01
Date of Analysis

Disclaimer: 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. 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.
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NYC-WTC_000242546

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

1/21/02

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

Project: Residential Sampling
Ref. Number: 360100619 Revision 120201

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

				Nuisance Dust		*Airborne Silica*			
Sample ID	**Identification**	**Particle ID**	**Volume (L)**	**Sample Weight (mg)**	**Sample Conc. (mg/m³)**	**Silica Weight (mg)**	**Silica Conc. (mg/m³)**	**% Silica**	**Analytical Sensitivity (mg/m³)**
[R]TF-R1-2		Quartz	1387	A	A	<0.004	<AS	N/A	0.0029
		Cristobalite				<0.012	<AS		0.0148
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0049
		Portland/ Lime				<0.02	<AS		0.0246
		Gypsum				<0.004	<AS		0.0049
		Mica				<0.011	<AS		0.0135
		Halite				<0.006	<AS		0.0074
		Fibrous Glass				ND	<AS		0.72
[R]F-R1-2		Quartz	768	0.036	N/A	<0.004	<AS	N/A	0.0051
		Cristobalite				<0.012	<AS		0.01476
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.00492
		Portland/ Lime				<0.02	<AS		0.02461
		Gypsum				<0.004	<AS		0.00492
		Mica				<0.011	<AS		0.01353
		Halite				<0.006	<AS		0.00738
		Fibrous Glass				ND	<AS		1.30
[R]RF-R2-2		Quartz	760	0.126	N/A	<0.004	<AS	N/A	0.0051
		Cristobalite				<0.012	<AS		0.01476
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.00492
		Portland/ Lime				<0.02	<AS		0.02461
		Gypsum				<0.004	<AS		0.00492
		Mica				<0.011	<AS		0.01353
		Halite				<0.006	<AS		0.00738
		Fibrous Glass				ND	<AS		1.31

John Newton
Analyst

21 November, 01
Date of Analysis

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AIHA Accredited - Laboratory ID #100192

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NYC 9/11 Public Portal Document

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

1/21/02

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

Project: Residential Sampling
Ref. Number: 360100619 Revision 120201

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

				Nuisance Dust		*Airborne Silica*			
Sample ID	**Identification**	**Particle ID**	**Volume (L)**	**Sample Weight (mg)**	**Sample Conc. (mg/m^3)**	**Silica Weight (mg)**	**Silica Conc. (mg/m^3)**	**% Silica**	**Analytical Sensitivity (mg/m^3)**
[R]RF2-R2-2	Not Supplied	Quartz	0	N/A	N/A	<0.004			
		Cristobalite				<0.012			
		Tridymite				N/A			
		Calcite				<0.004			
		Portland/ Lime				<0.02			
		Gypsum				<0.004			
		Mica				<0.011			
		Halite				<0.006			
		Fibrous Glass				ND			
[R]TF-R2-2		Quartz	760	A	A	<0.004	<AS	N/A	0.0051
		Cristobalite				<0.012	<AS		0.01476
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.00492
		Portland/ Lime				<0.02	<AS		0.02461
		Gypsum				<0.004	<AS		0.00492
		Mica				<0.011	<AS		0.01353
		Halite				<0.006	<AS		0.00738
		Fibrous Glass				ND	<AS		1.31
[R]IF-R2-2		Quartz	760	0.031	0.041	<0.004	<AS	N/A	0.0051
		Cristobalite				<0.012	<AS		0.01476
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.00492
		Portland/ Lime				<0.02	<AS		0.02461
		Gypsum				<0.004	<AS		0.00492
		Mica				<0.011	<AS		0.01353
		Halite				<0.006	<AS		0.00738
		Fibrous Glass				ND	<AS		1.31

John Newton
Analyst

21 November, 01
Date of Analysis

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NYC-WTC_000242548

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

1/21/02

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

Project: Residential Sampling
Ref. Number: 360100619 Revision 120201

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

				Nuisance Dust		*Airborne Silica*			
Sample ID	Identification	Particle ID	Volume (L)	Sample Weight (mg)	Sample Conc. (mg/m^3)	Silica Weight (mg)	Silica Conc. (mg/m^3)	% Silica	Analytical Sensitivity (mg/m^3)
[R]BRF-A-2		Quartz	0	A	N/A	<0.004			
		Cristobalite				<0.012			
		Tridymite				N/A			
		Calcite				<0.004			
		Portland/ Lime				<0.02			
		Gypsum				<0.004			
		Mica				<0.011			
		Halite				<0.006			
		Fibrous Glass				ND			
[R]BRF-B-2		Quartz	0	A	N/A	<0.004			
		Cristobalite				<0.012			
		Tridymite				N/A			
		Calcite				<0.004			
		Portland/ Lime				<0.02			
		Gypsum				<0.004			
		Mica				<0.011			
		Halite				<0.006			
		Fibrous Glass				ND			
[R]BTF-A-2		Quartz	0	A	N/A	<0.004			
		Cristobalite				<0.012			
		Tridymite				N/A			
		Calcite				<0.004			
		Portland/ Lime				<0.02			
		Gypsum				<0.004			
		Mica				<0.011			
		Halite				<0.006			
		Fibrous Glass				ND			

John Newton
Analyst

21 November, 01
Date of Analysis

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(856) 858-4800

1/21/02

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

Project: Residential Sampling
Ref. Number: 360100619 Revision 120201

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

				Nuisance Dust		*Airborne Silica*			
Sample ID	**Identification**	**Particle ID**	**Volume (L)**	**Sample Weight (mg)**	**Sample Conc. (mg/m³)**	**Silica Weight (mg)**	**Silica Conc. (mg/m³)**	**% Silica**	**Analytical Sensitivity (mg/m³)**
[R]BTF-B-2		Quartz	0	A	N/A	<0.004			
		Cristobalite				<0.012			
		Tridymite				N/A			
		Calcite				<0.004			
		Portland/ Lime				<0.02			
		Gypsum				<0.004			
		Mica				<0.011			
		Halite				<0.006			
		Fibrous Glass				ND			
[R]BIF-A-2		Quartz	0	A	N/A	<0.004			
		Cristobalite				<0.012			
		Tridymite				N/A			
		Calcite				<0.004			
		Portland/ Lime				<0.02			
		Gypsum				<0.004			
		Mica				<0.011			
		Halite				<0.006			
		Fibrous Glass				ND			
[R]BIF-B-2		Quartz	0	A	N/A	<0.004			
		Cristobalite				<0.012			
		Tridymite				N/A			
		Calcite				<0.004			
		Portland/ Lime				<0.02			
		Gypsum				<0.004			
		Mica				<0.011			
		Halite				<0.006			
		Fibrous Glass				ND			

John Newton
Analyst

21 November, 01
Date of Analysis

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NYC-WTC_000242550

NYC 9/11 Public Portal Document

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

1/21/02

Attention: *Sven Roddenbeck*
U.S.EPA - Residential
ATSDR
Mail Stop E-32
1600 Clifton Road., NE
Atlanta, GA. 30333

Project: Residential Sampling
Ref. Number: 360100663

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

				Nuisance Dust		*Airborne Particulate*			
Sample ID	**Identification**	**Analyte ID**	**Volume (L)**	**Sample Weight (mg)**	**Sample Conc. (mg/m³)**	**Analyte Weight (mg)**	**Analyte Conc. (mg/m³)**	**% Analyte**	**Analytical Sensitivity (mg/m³)**
[R]RF-0-13		Quartz	818	0.213	0.2604	0.006	0.0069	1.9	0.0049
		Cristobalite				<0.012	<AS		0.0147
		Tridymite				N/A	N/A		N/A
		Calcite				0.008	0.0097		0.0049
		Portland/ Lime				0.021	0.0254		0.0245
		Gypsum				0.004	0.0054		0.0049
		Mica				<0.011	<AS		0.0134
		Halite				<0.006	<AS		0.0073
		Fibrous Glass				*ND*	*<AS*		*1.2227*
[R]TF-0-13		Quartz	1325	0.918	0.6928	0.005	0.0041	0.4	0.0030
		Cristobalite				<0.012	<AS		0.0091
		Tridymite				N/A	N/A		N/A
		Calcite				0.007	0.0054		0.0030
		Portland/ Lime				0.021	0.0155		0.0151
		Gypsum				0.004	0.0030		0.0030
		Mica				<0.011	<AS		0.0083
		Halite				<0.006	<AS		0.0045
		Fibrous Glass				*ND*	*<AS*		*0.7547*
[R]IF-0-13		Quartz	1284	0.057	0.0444	0.006	0.0043	7.0	0.0031
		Cristobalite				<0.012	<AS		0.0093
		Tridymite				N/A	N/A		N/A
		Calcite				0.006	0.0050		0.0031
		Portland/ Lime				0.021	0.0167		0.0156
		Gypsum				0.004	0.0032		0.0031
		Mica				<0.011	<AS		0.0086
		Halite				<0.006	<AS		0.0047
		Fibrous Glass				*ND*	*<AS*		*0.7789*

Fibrous Glass Results are in fibers per cubic M

John Newton
Analyst

7 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
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107 Haddon Avenue
Westmont, NJ. 08108
(856) 858-4800

1/21/02

Attention: *Sven Ruddenbeck*
U.S.EPA - Residential
ATSDR
Mail Stop E-32
1600 Clifton Road., NE
Atlanta. GA. 30333

Project: Residential Sampling
Ref. Number: 360100663

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

				Nuisance Dust		*Airborne Particulate*			
Sample ID	Identification	Analyte ID	Volume (L)	Sample Weight (mg)	Sample Conc. (mg/m³)	Analyte Weight (mg)	Analyte Conc. (mg/m³)	% Analyte	Analytical Sensitivity (mg/m³)
[R]RF-C-13		Quartz	1305	0.059	0.0452	<0.004	<AS	N/A	0.0031
		Cristobalite				<0.012	<AS		0.0092
		Tridymite				N/A	N/A		N/A
		Calcite				0.004	0.0032		0.0031
		Portland/ Lime				<0.020	<AS		0.0153
		Gypsum				0.004	0.0032		0.0031
		Mica				<0.011	<AS		0.0084
		Halite				<0.006	<AS		0.0046
		Fibrous Glass				*1.000*	*0.7665*		*0.7665*
[R]TF-C-13		Quartz	1305	1.162	0.8906	<0.004	<AS	N/A	0.0031
		Cristobalite				<0.012	<AS		0.0092
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0031
		Portland/ Lime				<0.020	<AS		0.0153
		Gypsum				0.004	0.0031		0.0031
		Mica				<0.011	<AS		0.0084
		Halite				<0.006	<AS		0.0046
		Fibrous Glass				*1.000*	*0.7665*		*0.7665*
[R]IF-C-13		Quartz	1281	0.035	0.0273	<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		0.0156
		Gypsum				0.004	0.0031		0.0031
		Mica				<0.011	<AS		0.0086
		Halite				<0.006	<AS		0.0047
		Fibrous Glass				*2.000*	*1.5615*		*0.7808*

Fibrous Glass Results are in fibers per cubic M

John Newton
Analyst

7 December, 2001
Date of Analysis

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AIHA Accredited - Laboratory ID #100192

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NYC-WTC_000242552

NYC 9/11 Public Portal Document

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

1/21/02

Attention: *Sven Roddenbeck*
U.S.EPA - Residential
ATSDR
Mail Stop E-32
1600 Clifton Road.. NE
Atlanta, GA. 30333

Project: Residential Sampling
Ref. Number: 360100663

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

				Nuisance Dust		*Airborne Particulate*			
Sample ID	**Identification**	**Analyte ID**	**Volume (L)**	**Sample Weight (mg)**	**Sample Conc. (mg/m³)**	**Analyte Weight (mg)**	**Analyte Conc. (mg/m³)**	**% Analyte**	**Analytical Sensitivity (mg/m³)**
[R]RF-R1-13		Quartz	762	0.089	0.1168	<0.004	<AS	N/A	0.0052
		Cristobalite				<0.012	<AS		0.0157
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0052
		Portland/ Lime				<0.020	<AS		0.0262
		Gypsum				<0.004	<AS		0.0052
		Mica				<0.011	<AS		0.0144
		Halite				<0.006	<AS		0.0079
		Fibrous Glass				ND	<AS		*1.3123*
[R]TF-R1-13		Quartz	1223	0.761	0.6225	<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		0.0164
		Gypsum				<0.004	<AS		0.0033
		Mica				<0.011	<AS		0.0090
		Halite				<0.006	<AS		0.0049
		Fibrous Glass				ND	<AS		*0.8180*
[R]IF-R1-13		Quartz	1211	A	N/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	<AS		0.0165
		Gypsum				<0.004	<AS		0.0033
		Mica				<0.011	<AS		0.0091
		Halite				<0.006	<AS		0.0050
		Fibrous Glass				ND	<AS		*0.8261*

Fibrous Glass Results are in fibers per cubic M

John Newton — Analyst

7 December, 2001 — Date of Analysis

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AIHA Accredited - Laboratory ID #100192

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1/21/02

Attention: *Sven Roddenbeck*
U.S.EPA - Residential
ATSDR
Mail Stop E-32
1600 Clifton Road., NE
Atlanta, GA. 30333

Project: Residential Sampling
Ref. Number: 360100663

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* Sample Weight (mg)	*Nuisance Dust* Sample Conc. (mg/m³)	*Airborne Particulate* Analyte Weight (mg)	*Airborne Particulate* Analyte Conc. (mg/m³)	*Airborne Particulate* % Analyte	*Airborne Particulate* Analytical Sensitivity (mg/m³)
[R]RF-R2-13		Quartz	781	0.119	0.1564	<0.004	<AS	N/A	0.0053
		Cristobalite				<0.012	<AS		0.0158
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0053
		Portland/ Lime				<0.020	<AS		0.0263
		Gypsum				<0.004	<AS		0.0053
		Mica				<0.011	<AS		0.0145
		Halite				<0.006	<AS		0.0079
		Fibrous Glass				*1.000*	*1.3145*		*1.3145*
[R]TF-R2-13		Quartz	1205	0.524	0.4350	<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		0.0166
		Gypsum				<0.004	<AS		0.0033
		Mica				<0.011	<AS		0.0091
		Halite				<0.006	<AS		0.0050
		Fibrous Glass				*ND*	*<AS*		*0.9301*
[R]F-R2-13		Quartz	1184	0.040	0.0338	<0.004	<AS	N/A	0.0034
		Cristobalite				<0.012	<AS		0.0101
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0034
		Portland/ Lime				<0.020	<AS		0.0169
		Gypsum				<0.004	<AS		0.0034
		Mica				<0.011	<AS		0.0093
		Halite				<0.006	<AS		0.0051
		Fibrous Glass				*1.000*	*0.8446*		*0.8446*

Fibrous Glass Results are in fibers per cubic M

John Newton
Analyst

7 December, 2001
Date of Analysis

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

1/21/02

Attention: *Sven Roddenbeck*
U.S.EPA - Residential
ATSDR
Mail Stop E-32
1600 Clifton Road., NE
Atlanta. GA. 30333

Project: Residential Sampling
Ref. Number: 360100663

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

				Nuisance Dust		*Airborne Particulate*			
Sample ID	**Identification**	**Analyte ID**	**Volume (L)**	**Sample Weight (mg)**	**Sample Conc. (mg/m³)**	**Analyte Weight (mg)**	**Analyte Conc. (ng/m³)**	**% Analyte**	**Analytical Sensitivity (mg/m³)**
[R]BRF-A-13		Quartz	0	0.153	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-13		Quartz	0	A	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]BTF-A-13		Quartz	0	A	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*

Fibrous Glass Results are in fibers per cubic M

John Newton
Analyst

7 December, 2001
Date of Analysis

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1/21/02

Attention: *Sven Roddenbeck*
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Mail Stop E-32
1600 Clifton Road., NE
Atlanta, GA. 30333

Project: Residential Sampling
Ref. Number: 360100663

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

				Nuisance Dust		*Airborne Particulate*			
Sample ID	**Identification**	**Analyte ID**	**Volume (L)**	**Sample Weight (mg)**	**Sample Conc. (mg/m³)**	**Analyte Weight (mg)**	**Analyte Conc. (mg/m³)**	**% Analyte**	**Analytical Sensitivity (mg/m³)**
[R]BIF-A-13		Quartz	0	A	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-B-13		Quartz	0	A	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]IF-C-X1-13		Quartz	1298	0.005	0.0039	<0.004	<AS	N/A	0.0031
		Cristobalite				<0.012	<AS		0.0092
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0031
		Portland/ Lime				<0.020	<AS		0.0154
		Gypsum				<0.004	<AS		0.0031
		Mica				<0.011	<AS		0.0085
		Halite				<0.006	<AS		0.0046
		Fibrous Glass				3.000	2.3107		0.7702

Fibrous Glass Results are in fibers per cubic M

John Newton
Analyst

7 December, 2001
Date of Analysis

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1/21/02

Attention: *Sven Roddenbeck*
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Mail Stop E-32
1600 Clifton Road., NE
Atlanta, GA. 30333

Project: Residential Sampling
Ref. Number: 360100663

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

				Nuisance Dust		*Airborne Particulate*			
Sample ID	**Identification**	**Analyte ID**	**Volume (L)**	**Sample Weight (mg)**	**Sample Conc. (mg/m^3)**	**Analyte Weight (ng)**	**Analyte Conc. (ng/m^3)**	**% Analyte**	**Analytical Sensitivity (mg/m^3)**
[R]F-R1-X1-13		Quartz	1203	0.011	0.0091	<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		0.0166
		Gypsum				<0.004	<AS		0.0033
		Mica				<0.011	<AS		0.0091
		Halite				<0.006	<AS		0.0050
		Fibrous Glass				*ND*	*<AS*		*0.8313*
[R]RF-0-14		Quartz	731	0.142	0.1944	<0.004	<AS	N/A	0.0055
		Cristobalite				<0.012	<AS		0.0164
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0055
		Portland/ Lime				<0.020	<AS		0.0274
		Gypsum				<0.004	<AS		0.0055
		Mica				<0.011	<AS		0.0151
		Halite				<0.006	<AS		0.0082
		Fibrous Glass				*ND*	*<AS*		*1.3688*
[R]TF-0-14		Quartz	1155	1.114	0.9642	<0.004	<AS	N/A	0.0035
		Cristobalite				<0.012	<AS		0.0104
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0035
		Portland/ Lime				<0.020	<AS		0.0173
		Gypsum				<0.004	<AS		0.0035
		Mica				<0.011	<AS		0.0095
		Halite				<0.006	<AS		0.0052
		Fibrous Glass				*ND*	*<AS*		*0.8655*

Fibrous Glass Results are in fibers per cubic M

John Newton
Analyst

7 December, 2001
Date of Analysis

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NYC-WTC_000242557

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1/21/02

Attention: *Sven Roddenbeck*
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1600 Clifton Road., NE
Atlanta, GA. 30333

Project: Residential Sampling
Ref. Number: 360100663

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* Sample Weight (mg)	*Nuisance Dust* Sample Conc. (mg/m³)	*Airborne Particulate* Analyte Weight (mg)	*Airborne Particulate* Analyte Conc. (mg/m³)	*Airborne Particulate* % Analyte	*Airborne Particulate* Analytical Sensitivity (mg/m³)
[R]IF-C-14		Quartz	1151	0.030	0.0261	<0.004	<AS	N/A	0.0035
		Cristobalite				<0.012	<AS		0.0104
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0035
		Portland/ Lime				<0.020	<AS		0.0174
		Gypsum				<0.004	<AS		0.0035
		Mica				<0.011	<AS		0.0096
		Halite				<0.006	<AS		0.0052
		Fibrous Glass				*ND*	*<AS*		*0.8686*
[R]RF-R1-14		Quartz	729	0.125	0.1714	<0.004	<AS	N/A	0.0055
		Cristobalite				<0.012	<AS		0.0165
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0055
		Portland/ Lime				<0.020	<AS		0.0274
		Gypsum				<0.004	<AS		0.0055
		Mica				<0.011	<AS		0.0151
		Halite				<0.006	<AS		0.0082
		Fibrous Glass				*ND*	*<AS*		*1.3715*
[R]TF-R1-14		Quartz	1179	0.453	0.3842	<0.004	<AS	N/A	0.0034
		Cristobalite				<0.012	<AS		0.0102
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0034
		Portland/ Lime				<0.020	<AS		0.0170
		Gypsum				<0.004	<AS		0.0034
		Mica				<0.011	<AS		0.0093
		Halite				<0.006	<AS		0.0051
		Fibrous Glass				*ND*	*<AS*		*0.8482*

Fibrous Glass Results are in fibers per cubic M

John Newton
Analyst

7 December, 2001
Date of Analysis

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Attention: *Sven Roddenbeck*
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1600 Clifton Road., NE
Atlanta, GA. 30333

Project: Residential Sampling
Ref. Number: 360100663

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* Sample Weight (mg)	*Nuisance Dust* Sample Conc. (mg/m³)	*Airborne Particulate* Analyte Weight (mg)	*Airborne Particulate* Analyte Conc. (mg/m³)	*Airborne Particulate* % Analyte	*Airborne Particulate* Analytical Sensitivity (mg/m³)
[R]F-R1-14		Quartz	1168	0.014	0.0120	<0.004	<AS	N/A	0.0034
		Cristobalite				<0.012	<AS		0.0103
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0034
		Portland/ Lime				<0.020	<AS		0.0172
		Gypsum				<0.004	<AS		0.0034
		Mica				<0.011	<AS		0.0094
		Halite				<0.006	<AS		0.0051
		Fibrous Glass				*ND*	*<AS*		*0.8578*
[R]RF-R2-14		Quartz	730	0.261	0.3573	<0.004	<AS	N/A	0.0055
		Cristobalite				<0.012	<AS		0.0164
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0055
		Portland/ Lime				<0.020	<AS		0.0274
		Gypsum				<0.004	<AS		0.0055
		Mica				<0.011	<AS		0.0151
		Halite				<0.006	<AS		0.0082
		Fibrous Glass				*ND*	*<AS*		*1.3691*
[R]TF-R2-14		Quartz	1161	0.275	0.2368	<0.004	<AS	N/A	0.0034
		Cristobalite				<0.012	<AS		0.0103
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0034
		Portland/ Lime				<0.020	<AS		0.0172
		Gypsum				<0.004	<AS		0.0034
		Mica				<0.011	<AS		0.0095
		Halite				<0.006	<AS		0.0052
		Fibrous Glass				*ND*	*<AS*		*0.8613*

Fibrous Glass Results are in fibers per cubic M

John Newton
Analyst

7 December, 2001
Date of Analysis

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Atlanta, GA. 30333

Project: Residential Sampling
Ref. Number: 360100663

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

				Nuisance Dust		*Airborne Particulate*			
Sample ID	**Identification**	**Analyte ID**	**Volume (L)**	**Sample Weight (mg)**	**Sample Conc. (mg/m³)**	**Analyte Weight (mg)**	**Analyte Conc. (mg/m³)**	**% Analyte**	**Analytical Sensitivity (mg/m³)**
[R]IF-R2-14		Quartz	1142	0.032	0.0280	<0.004	<AS	N/A	0.0035
		Cristobalite				<0.012	<AS		0.0105
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0035
		Portland/ Lime				<0.020	<AS		0.0175
		Gypsum				<0.004	<AS		0.0035
		Mica				<0.011	<AS		0.0096
		Halite				<0.006	<AS		0.0053
		Fibrous Glass				*ND*	<AS		0.8755
[R]BRF-A-14		Quartz	0	0.146	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-14		Quartz	0	0.213	#DIV/0!	<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*

Fibrous Glass Results are in fibers per cubic M

John Newton
Analyst

7 December, 2001
Date of Analysis

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Project: Residential Sampling
Ref. Number: 360100663

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

				Nuisance Dust		*Airborne Particulate*			
Sample ID	**Identification**	**Analyte ID**	**Volume (L)**	Sample Weight (mg)	Sample Conc. (mg/m³)	Analyte Weight (mg)	Analyte Conc. (mg/m³)	% Analyte	Analytical Sensitivity (mg/m³)
[R]BTF-A-14		Quartz	0	A	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]BTF-B-14		Quartz	0	A	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]TF-C-X-14		Quartz	1138	1.170	1.0279	<0.004	<AS	N/A	0.0035
		Cristobalite				<0.012	<AS		0.0105
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0035
		Portland/ Lime				<0.020	<AS		0.0176
		Gypsum				<0.004	<AS		0.0035
		Mica				<0.011	<AS		0.0097
		Halite				<0.006	<AS		0.0053
		Fibrous Glass				*2.000*	*1.7571*		*0.6785*

Fibrous Glass Results are in fibers per cubic M

John Newton
Analyst

7 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

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NYC 9/11 Public Portal Document

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

1/21/02

Attention: *Sven Roddenbeck*
U.S.EPA - Residential
ATSDR
Mail Stop E-32
1600 Clifton Road., NE
Atlanta, GA. 30333

Project: Residential Sampling
Ref. Number: 360100663

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* Sample Weight (mg)	*Nuisance Dust* Sample Conc. (mg/m³)	*Airborne Particulate* Analyte Weight (mg)	*Airborne Particulate* Analyte Conc. (mg/m³)	*Airborne Particulate* % Analyte	*Airborne Particulate* Analytical Sensitivity (mg/m³)
[R]IF-R2-X-14		Quartz	1149	0.020	0.0174	<0.004	<AS	N/A	0.0035
		Cristobalite				<0.012	<AS		0.0104
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0035
		Portland/ Lime				<0.020	<AS		0.0174
		Gypsum				<0.004	<AS		0.0035
		Mica				<0.011	<AS		0.0096
		Halite				<0.006	<AS		0.0052
		Fibrous Glass				*ND*	*<AS*		*0.6700*
[R]IF-R2-X2-14		Quartz	1171	0.010	0.0085	<0.004	<AS	N/A	0.0034
		Cristobalite				<0.012	<AS		0.0102
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0034
		Portland/ Lime				<0.020	<AS		0.0171
		Gypsum				<0.004	<AS		0.0034
		Mica				<0.011	<AS		0.0094
		Halite				<0.006	<AS		0.0051
		Fibrous Glass				*ND*	*<AS*		*0.8538*
[R]IF-C-X2-13		Quartz	1300	0.005	0.0038	<0.004	<AS	N/A	0.0031
		Cristobalite				<0.012	<AS		0.0092
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0031
		Portland/ Lime				<0.020	<AS		0.0154
		Gypsum				<0.004	<AS		0.0031
		Mica				<0.011	<AS		0.0085
		Halite				<0.006	<AS		0.0046
		Fibrous Glass				*ND*	*<AS*		*0.7693*

Fibrous Glass Results are in fibers per cubic M

John Newton
Analyst

7 December, 2001
Date of Analysis

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NYC-WTC_000242562

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1/21/02

Attention: *Sven Roddenbeck*
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ATSDR
Mail Stop E-32
1600 Clifton Road., NE
Atlanta, GA. 30333

Project: Residential Sampling
Ref. Number: 360100663

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

				Nuisance Dust		*Airborne Particulate*			
Sample ID	Identification	Analyte ID	Volume (L)	Sample Weight (mg)	Sample Conc. (mg/m³)	Analyte Weight (ng)	Analyte Conc. (mg/m³)	% Analyte	Analytical Sensitivity (mg/m³)

John Newton
Analyst

7 December, 2001
Date of Analysis

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(856) 858-4800

1/21/02

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

Project: Residential Sampling
Ref. Number: 360100635 Revision 120201

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

				Nuisance Dust		*Airborne Analyte*			
Sample ID	Identification	Particle ID	Volume (L)	Sample Weight (mg)	Sample Conc. (mg/m^3)	Analyte Weight (mg)	Analyte Conc. (mg/m^3)	% Analyte	Analytical Sensitivity (mg/m^3)
(R)RF-0-9		Quartz	782	0.125	0.1599	<0.004	<AS	N/A	0.0051
		Cristobalite				<0.012	<AS		0.0154
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0051
		Portland/ Lime				<0.02	<AS		0.0256
		Gypsum				<0.004	<AS		0.0051
		Mica				<0.011	<AS		0.0141
		Halite				<0.006	<AS		0.0077
		Fibrous Glass				N/A	N/A		N/A
(R)TF-0-9		Quartz	1217	0.005	0.0041	<0.004	<AS	N/A	0.0033
		Cristobalite				<0.012	<AS		0.0154
		Tridymite				N/A	N/A		N/A
		Calcite				0.005	0.0041		0.0051
		Portland/ Lime				<0.02	<AS		0.0256
		Gypsum				0.007	0.0057		0.0051
		Mica				<0.011	<AS		0.0141
		Halite				<0.006	<AS		0.0077
		Fibrous Glass				N/A	2 fib/m^3		N/A
(R)IF-0-9		Quartz	1218	0.101	0.0829	<0.004	<AS	N/A	0.0033
		Cristobalite				<0.012	<AS		0.0154
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0051
		Portland/ Lime				<0.02	<AS		0.0256
		Gypsum				0.007	0.0057		0.0051
		Mica				<0.011	<AS		0.0141
		Halite				<0.006	<AS		0.0077
		Fibrous Glass				N/A	1 fib/m^3		N/A

John Newton — Analyst

28 November, 01 — Date of Analysis

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Westmont, NJ. 08108
(856) 858-4800

1/21/02

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

Project: Residential Sampling
Ref. Number: 360100635 Revision 120201

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

				Nuisance Dust		*Airborne Analyte*			
Sample ID	**Identification**	**Particle ID**	**Volume (L)**	**Sample Weight (mg)**	**Sample Conc. (mg/m³)**	**Analyte Weight (mg)**	**Analyte Conc. (mg/m³)**	**% Analyte**	**Analytical Sensitivity (mg/m³)**
(R)RF-C-9		Quartz	781	0.043	0.0551	<0.004	<AS	N/A	0.0051
		Cristobalite				<0.012	<AS		0.0154
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0051
		Portland/ Lime				<0.02	<AS		0.0256
		Gypsum				<0.004	<AS		0.0051
		Mica				<0.011	<AS		0.0141
		Halite				<0.006	<AS		0.0077
		Fibrous Glass				N/A	N/A		N/A
[R]TF-C-9		Quartz	1203	0.042	0.0349	<0.004	<AS	N/A	0.0033
		Cristobalite				<0.012	<AS		0.0154
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0051
		Portland/ Lime				<0.02	<AS		0.0256
		Gypsum				<0.004	<AS		0.0051
		Mica				<0.011	<AS		0.0141
		Halite				<0.006	<AS		0.0077
		Fibrous Glass				N/A	N/A		N/A
[R]IF-C-9		Quartz	1214	0.039	0.0321	<0.004	<AS	N/A	0.0033
		Cristobalite				<0.012	<AS		0.0154
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0051
		Portland/ Lime				<0.02	<AS		0.0256
		Gypsum				<0.004	<AS		0.0051
		Mica				<0.011	<AS		0.0141
		Halite				<0.006	<AS		0.0077
		Fibrous Glass				N/A	N/A		N/A

John Newton — Analyst

28 November, 01 — Date of Analysis

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

1/21/02

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

Project: Residential Sampling
Ref. Number: 360100635 Revision 120201

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

				Nuisance Dust		*Airborne Analyte*			
Sample ID	**Identification**	**Particle ID**	**Volume (L)**	**Sample Weight (mg)**	**Sample Conc. (mg/m³)**	**Analyte Weight (mg)**	**Analyte Conc. (mg/m³)**	**% Analyte**	**Analytical Sensitivity (mg/m³)**
[R]RF-R1-9		Quartz	771	0.021	0.0273	<0.004	<AS	N/A	0.0052
		Cristobalite				<0.012	<AS		0.0154
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0051
		Portland/ Lime				<0.02	<AS		0.0256
		Gypsum				<0.004	<AS		0.0051
		Mica				<0.011	<AS		0.0141
		Halite				<0.006	<AS		0.0077
		Fibrous Glass				N/A	N/A		N/A
[R]TF-R1-9		Quartz	1231	0.126	0.1023	<0.004	<AS	N/A	0.0032
		Cristobalite				<0.012	<AS		0.0154
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0051
		Portland/ Lime				<0.02	<AS		0.0256
		Gypsum				<0.004	<AS		0.0051
		Mica				<0.011	<AS		0.0141
		Halite				<0.006	<AS		0.0077
		Fibrous Glass				N/A	N/A		N/A
[R]IF-R1-9	Pump Failure	Quartz	0	N/A	N/A				
		Cristobalite							
		Tridymite							
		Calcite							
		Portland/ Lime							
		Gypsum							
		Mica							
		Halite							
		Fibrous Glass							

John Newton — Analyst

28 November, 01 — Date of Analysis

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

1/21/02

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

Project: Residential Sampling
Ref. Number: 360100635 Revision 120201

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

Sample ID	Identification	Particle ID	Volume (L)	*Nuisance Dust* Sample Weight (mg)	*Nuisance Dust* Sample Conc. (mg/m³)	*Airborne Analyte* Analyte Weight (mg)	*Airborne Analyte* Analyte Conc. (mg/m³)	*Airborne Analyte* % Analyte	*Airborne Analyte* Analytical Sensitivity (mg/m³)
[R]RF-R2-9		Quartz	781	0.040	0.0512	<0.004	<AS	N/A	0.0051
		Cristobalite				<0.012	<AS		0.0154
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0051
		Portland/ Lime				<0.02	<AS		0.0256
		Gypsum				<0.004	<AS		0.0051
		Mica				<0.011	<AS		0.0141
		Halite				<0.006	<AS		0.0077
		Fibrous Glass				N/A	N/A		N/A
[R]TF-R2-9		Quartz	1131	0.089	0.0787	<0.004	<AS	N/A	0.0035
		Cristobalite				<0.012	<AS		0.0154
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0051
		Portland/ Lime				<0.02	<AS		0.0256
		Gypsum				<0.004	<AS		0.0051
		Mica				<0.011	<AS		0.0141
		Halite				<0.006	<AS		0.0077
		Fibrous Glass				N/A	N/A		N/A
[R]IF-R2-9	Pump Failure	Quartz	0	N/A	N/A				
		Cristobalite							
		Tridymite							
		Calcite							
		Portland/ Lime							
		Gypsum							
		Mica							
		Halite							
		Fibrous Glass							

John Newton
Analyst

28 November, 01
Date of Analysis

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

1/21/02

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

Project: Residential Sampling
Ref. Number: 360100635 Revision 120201

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

				Nuisance Dust		*Airborne Analyte*			
Sample ID	**Identification**	**Particle ID**	**Volume (L)**	**Sample Weight (mg)**	**Sample Conc. (mg/m³)**	**Analyte Weight (mg)**	**Analyte Conc. (mg/m³)**	**% Analyte**	**Analytical Sensitivity (mg/m³)**
[R]BRF-A-9		Quartz	0	0.020	N/A	<0.004			
		Cristobalite				<0.012			
		Tridymite				N/A			
		Calcite				<0.004			
		Portland/ Lime				<0.02			
		Gypsum				<0.004			
		Mica				<0.011			
		Halite				<0.006			
		Fibrous Glass				N/A			
[R]BRF-B-9	Initial Weight Greater Than Final Filter Weight	Quartz	0	A	N/A	<0.004			
		Cristobalite				<0.012			
		Tridymite				N/A			
		Calcite				<0.004			
		Portland/ Lime				<0.02			
		Gypsum				<0.004			
		Mica				<0.011			
		Halite				<0.006			
		Fibrous Glass				N/A			
[R]BTF-A-9		Quartz	0	0.089	N/A	<0.004			
		Cristobalite				<0.012			
		Tridymite				N/A			
		Calcite				<0.004			
		Portland/ Lime				<0.02			
		Gypsum				<0.004			
		Mica				<0.011			
		Halite				<0.006			
		Fibrous Glass				N/A			

John Newton
Analyst

28 November, 01
Date of Analysis

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NYC-WTC_000242568

NYC 9/11 Public Portal Document

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(856) 858-4800

1/21/02

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

Project: Residential Sampling
Ref. Number: 360100635 Revision 120201

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

Sample ID	Identification	Particle ID	Volume (L)	*Nuisance Dust* Sample Weight (mg)	*Nuisance Dust* Sample Conc. (mg/m³)	*Airborne Analyte* Analyte Weight (mg)	*Airborne Analyte* Analyte Conc. (mg/m³)	*Airborne Analyte* % Analyte	*Airborne Analyte* Analytical Sensitivity (mg/m³)
[R]BTF-B-8	Initial Weight Greater Than Final Filter Weight	Quartz	0	A	N/A	<0.004			
		Cristobalite				<0.012			
		Tridymite				N/A			
		Calcite				<0.004			
		Portland/ Lime				<0.02			
		Gypsum				<0.004			
		Mica				<0.011			
		Halite				<0.006			
		Fibrous Glass				N/A			
[R]RF-0-10		Quartz	766	N/A	N/A	<0.004	<AS	N/A	0.0052
		Cristobalite				<0.012	<AS		0.0154
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0051
		Portland/ Lime				<0.02	<AS		0.0256
		Gypsum				<0.004	<AS		0.0051
		Mica				<0.011	<AS		0.0141
		Halite				<0.006	<AS		0.0077
		Fibrous Glass				N/A	N/A		N/A
[R]TF-O-10		Quartz	1202	0.015	0.0125	<0.004	<AS	N/A	0.0033
		Cristobalite				<0.012	<AS		0.0154
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0051
		Portland/ Lime				<0.02	<AS		0.0256
		Gypsum				<0.004	<AS		0.0051
		Mica				<0.011	<AS		0.0141
		Halite				<0.006	<AS		0.0077
		Fibrous Glass				N/A	N/A		N/A

John Newton
Analyst

28 November, 01
Date of Analysis

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SUBJECT TO PROTECTIVE ORDER NO. 2, SEPT. 2008

NYC-WTC_000242569

NYC 9/11 Public Portal Document

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Westmont, NJ. 08108
(856) 858-4800

1/21/02

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

Project: Residential Sampling
Ref. Number: 360100635 Revision 120201

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

				Nuisance Dust		*Airborne Analyte*			
Sample ID	Identification	Particle ID	Volume (L)	Sample Weight (mg)	Sample Conc. (mg/m³)	Analyte Weight (mg)	Analyte Conc. (mg/m³)	% Analyte	Analytical Sensitivity (mg/m³)
[R]F-C-10		Quartz	1225	0.411	0.3356	<0.004	<AS	N/A	0.0033
		Cristobalite				<0.012	<AS		0.0154
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0051
		Portland/ Lime				<0.02	<AS		0.0256
		Gypsum				<0.004	<AS		0.0051
		Mica				<0.011	<AS		0.0141
		Halite				<0.006	<AS		0.0077
		Fibrous Glass				N/A	N/A		N/A
[R]RF-C-10		Quartz	757	N/A	N/A	<0.004	<AS	N/A	0.0053
		Cristobalite				<0.012	<AS		0.0154
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0051
		Portland/ Lime				<0.02	<AS		0.0256
		Gypsum				<0.004	<AS		0.0051
		Mica				<0.011	<AS		0.0141
		Halite				<0.006	<AS		0.0077
		Fibrous Glass				N/A	N/A		N/A
[R]TF-C-10		Quartz	1181	0.078	0.0661	<0.004	<AS	N/A	0.0034
		Cristobalite				<0.012	<AS		0.0154
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0051
		Portland/ Lime				<0.02	<AS		0.0256
		Gypsum				<0.004	<AS		0.0051
		Mica				<0.011	<AS		0.0141
		Halite				<0.006	<AS		0.0077
		Fibrous Glass				N/A	N/A		N/A

John Newton
Analyst

28 November, 01
Date of Analysis

Disclaimer: 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. 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
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NYC-WTC_000242570

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

1/21/02

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

Project: Residential Sampling
Ref. Number: 360100635 Revision 120201

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

Sample ID	Identification	Particle ID	Volume (L)	*Nuisance Dust* Sample Weight (mg)	*Nuisance Dust* Sample Conc. (mg/m³)	*Airborne Analyte* Analyte Weight (mg)	*Airborne Analyte* Analyte Conc. (mg/m³)	*Airborne Analyte* % Analyte	*Airborne Analyte* Analytical Sensitivity (mg/m³)
[R]F-C-10		Quartz	1181	0.065	0.0551	<0.004	<AS	N/A	0.0034
		Cristobalite				<0.012	<AS		0.0154
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0051
		Portland/ Lime				<0.02	<AS		0.0256
		Gypsum				<0.004	<AS		0.0051
		Mica				<0.011	<AS		0.0141
		Halite				<0.006	<AS		0.0077
		Fibrous Glass				N/A	N/A		N/A
[R]RF-R1-10		Quartz	762	N/A	N/A	<0.004	<AS	N/A	0.0052
		Cristobalite				<0.012	<AS		0.0154
		Tridymite				N/A	N/A		N/A
		Calcite				0.006	0.0079		0.0051
		Portland/ Lime				<0.02	<AS		0.0256
		Gypsum				<0.004	<AS		0.0051
		Mica				<0.011	<AS		0.0141
		Halite				<0.006	<AS		0.0077
		Fibrous Glass				N/A	N/A		N/A
[R]TF-R1-10		Quartz	1227	0.112	0.0913	<0.004	<AS	N/A	0.0033
		Cristobalite				<0.012	<AS		0.0154
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0051
		Portland/ Lime				<0.02	<AS		0.0256
		Gypsum				<0.004	<AS		0.0051
		Mica				<0.011	<AS		0.0141
		Halite				<0.006	<AS		0.0077
		Fibrous Glass				N/A	N/A		N/A

John Newton — Analyst

28 November, 01 — Date of Analysis

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

1/21/02

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

Project: Residential Sampling
Ref. Number: 360100635 Revision 120201

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

				Nuisance Dust		*Airborne Analyte*			
Sample ID	**Identification**	**Particle ID**	**Volume (L)**	**Sample Weight (mg)**	**Sample Conc. (mg/m³)**	**Analyte Weight (mg)**	**Analyte Conc. (mg/m³)**	**% Analyte**	**Analytical Sensitivity (mg/m³)**
[R]IF-R1-10		Quartz	1220	0.028	0.0230	<0.004	<AS	N/A	0.0033
		Cristobalite				<0.012	<AS		0.0154
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0051
		Portland/ Lime				<0.02	<AS		0.0256
		Gypsum				<0.004	<AS		0.0051
		Mica				<0.011	<AS		0.0141
		Halite				<0.006	<AS		0.0077
		Fibrous Glass				N/A	N/A		N/A
[R]RF-R2-10		Quartz	767	N/A	N/A	<0.004	<AS	N/A	0.0052
		Cristobalite				<0.012	<AS		0.0154
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0051
		Portland/ Lime				<0.02	<AS		0.0256
		Gypsum				<0.004	<AS		0.0051
		Mica				<0.011	<AS		0.0141
		Halite				<0.006	<AS		0.0077
		Fibrous Glass				N/A	N/A		N/A
[R]TF-R2-10		Quartz	1224	0.270	0.2206	<0.004	<AS	N/A	0.0033
		Cristobalite				<0.012	<AS		0.0154
		Tridymite				N/A	N/A		N/A
		Calcite				<0.004	<AS		0.0051
		Portland/ Lime				<0.02	<AS		0.0256
		Gypsum				<0.004	<AS		0.0051
		Mica				<0.011	<AS		0.0141
		Halite				<0.006	<AS		0.0077
		Fibrous Glass				N/A	N/A		N/A

John Newton
Analyst

28 November, 01
Date of Analysis

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EMSL Analytical, Inc.- 107 Haddon Avenue
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1/21/02

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

Project: Residential Sampling
Ref. Number: 360100635 Revision 120201

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

Sample ID	Identification	Particle ID	Volume (L)	*Nuisance Dust* Sample Weight (mg)	*Nuisance Dust* Sample Conc. (mg/m³)	*Airborne Analyte* Analyte Weight (mg)	*Airborne Analyte* Analyte Conc. (mg/m³)	*Airborne Analyte* % Analyte	*Airborne Analyte* Analytical Sensitivity (mg/m³)
[R]BTF-A-10		Quartz	0	0.814	N/A	<0.004			
		Cristobalite				<0.012			
		Tridymite				N/A			
		Calcite				<0.004			
		Portland/ Lime				<0.02			
		Gypsum				<0.004			
		Mica				<0.011			
		Halite				<0.006			
		Fibrous Glass				N/A			
[R]BTF-B-10		Quartz	0	0.082	N/A	<0.004			
		Cristobalite				<0.012			
		Tridymite				N/A			
		Calcite				<0.004			
		Portland/ Lime				<0.02			
		Gypsum				<0.004			
		Mica				<0.011			
		Halite				<0.006			
		Fibrous Glass				N/A			
[R]RF-0-X-10	Sample Not Submitted	Quartz	N/A	N/A	N/A	<0.004	N/A	N/A	N/A
		Cristobalite				<0.012			
		Tridymite				N/A			
		Calcite				<0.004			
		Portland/ Lime				<0.02			
		Gypsum				<0.004			
		Mica				<0.011			
		Halite				<0.006			
		Fibrous Glass				N/A			

John Newton — Analyst

28 November, 01 — Date of Analysis

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