



# EMSL Analytical, Inc.

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EMSL Order:	031338224
CustomerID:	ATC62
CustomerPO:	11-81-0030
ProjectID:	

Attn: **Brian Williams**  
**Cardno ATC**  
**73 William Franks Drive**  
**West Springfield, MA 01089**

Phone: (413) 781-0070  
Fax: (413) 781-3734  
Received: 09/27/13 10:05 AM  
Analysis Date: 10/1/2013  
Collected: 9/17/2013

Project: CITY OF SPRINGFIELD/ 495 CHESTNUT ST. SPRINGFIELD, MA

## Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
495C-01A <i>031338224-0001</i>	BUILDING A/ SW - PLASTER SKIM	Pink Non-Fibrous Homogeneous		25% Ca Carbonate 75% Non-fibrous (other)	None Detected
mostly paint					
495C-01B <i>031338224-0002</i>	BUILDING A/ SW CORNER - PLASTER SKIM	White Non-Fibrous Homogeneous		68% Ca Carbonate 32% Non-fibrous (other)	None Detected
495C-01C <i>031338224-0003</i>	BUILDING A/ S - PLASTER SKIM	White Non-Fibrous Homogeneous		58% Ca Carbonate 42% Non-fibrous (other)	None Detected
495C-01D <i>031338224-0004</i>	BUILDING A/ W - PLASTER SKIM	White Non-Fibrous Homogeneous		60% Ca Carbonate 40% Non-fibrous (other)	None Detected
495C-01E <i>031338224-0005</i>	BUILDING A/ NW - PLASTER SKIM	Tan/Various Non-Fibrous Homogeneous		5% Ca Carbonate 95% Non-fibrous (other)	None Detected
Paint					
495C-01F <i>031338224-0006</i>	BUILDING A/ BOILER RM AREA - PLASTER SKIM	Tan/Various Non-Fibrous Homogeneous		4% Ca Carbonate 96% Non-fibrous (other)	None Detected
Paint					
495C-01G <i>031338224-0007</i>	BUILDING A - PLASTER SKIM	Tan/Various Non-Fibrous Homogeneous		3% Ca Carbonate 97% Non-fibrous (other)	None Detected
Paint					

Analyst(s)

Daena Charles (6)

Henry Akintunde (34)

Emily Myint (22)

Keri-Dean Scarlett (17)

James Hall, Laboratory Manager  
or other approved signatory

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
495C-02A <i>031338224-0008</i>	BUILDING A/ SW - PLASTER BASE	Gray Non-Fibrous Homogeneous		40% Quartz 30% Ca Carbonate 30% Non-fibrous (other)	None Detected
495C-02B <i>031338224-0009</i>	BUILDING A/ SW CORNER - PLASTER BASE	Gray Non-Fibrous Homogeneous		55% Quartz 18% Ca Carbonate 27% Non-fibrous (other)	None Detected
495C-02C <i>031338224-0010</i>	BUILDING A/ S - PLASTER BASE	Gray Non-Fibrous Homogeneous		56% Quartz 20% Ca Carbonate 24% Non-fibrous (other)	None Detected
495C-02D <i>031338224-0011</i>	BUILDING A/ W - PLASTER BASE	Gray Non-Fibrous Homogeneous		47% Quartz 22% Gypsum 31% Non-fibrous (other)	None Detected
495C-02E <i>031338224-0012</i>	BUILDING A/ NW - PLASTER BASE	Gray Non-Fibrous Homogeneous	4% Hair	50% Quartz 46% Non-fibrous (other)	None Detected
495C-02F <i>031338224-0013</i>	BUILDING A/ BOILER RM AREA - PLASTER BASE	Gray Non-Fibrous Homogeneous		56% Quartz 44% Non-fibrous (other)	None Detected
495C-02G <i>031338224-0014</i>	BUILDING A - PLASTER BASE	Gray Non-Fibrous Homogeneous		65% Quartz 35% Non-fibrous (other)	None Detected

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## Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
495C-03A <i>031338224-0015</i>	BUILDING A/ SOUTH SIDE - BLACK MASTIC ON METAL	Black Non-Fibrous Homogeneous		30% Quartz 59% Non-fibrous (other)	11% Chrysotile
495C-03B <i>031338224-0016</i>	BUILDING A/ SW CORNER - BLACK MASTIC ON METAL				<b>Stop Positive (Not Analyzed)</b>
495C-04A <i>031338224-0017</i>	BUILDING A/ S - BROWN SAND ROOF SHINGLE	Brown/Black Non-Fibrous Homogeneous	6% Cellulose	94% Non-fibrous (other)	<b>None Detected</b>
495C-04B <i>031338224-0018</i>	BUILDING A - BROWN SAND ROOF SHINGLE	Black Non-Fibrous Homogeneous	3% Cellulose	22% Quartz 75% Non-fibrous (other)	<b>None Detected</b>
495C-04C <i>031338224-0019</i>	BUILDING A - BROWN SAND ROOF SHINGLE	Black Non-Fibrous Homogeneous	4% Glass	96% Non-fibrous (other)	<b>None Detected</b>
495C-05A <i>031338224-0020</i>	BUILDING A - MASTIC UNDER BROWN SAND ROOF SHINGLE	Black Non-Fibrous Homogeneous	3% Cellulose	20% Ca Carbonate 77% Non-fibrous (other)	<b>None Detected</b>
495C-05B <i>031338224-0021</i>	BUILDING A - MASTIC UNDER BROWN SAND ROOF SHINGLE	Black Fibrous Homogeneous	22% Cellulose	78% Non-fibrous (other)	<b>None Detected</b>

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### Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
495C-05C 031338224-0022	BUILDING A - MASTIC UNDER BROWN SAND ROOF SHINGLE	Black Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (other)	<1% Chrysotile
TEM RECOMMENDED					
495C-06A 031338224-0023	BUILDING A - PAPER UNDER BROWN SAND ROOF SHINGLE	Black Fibrous Homogeneous	25% Cellulose	75% Non-fibrous (other)	None Detected
495C-06B 031338224-0024	BUILDING A/ SW - PAPER UNDER BROWN SAND ROOF SHINGLE	Black Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (other)	None Detected
495C-06C 031338224-0025	BUILDING A/ S - PAPER UNDER BROWN SAND ROOF SHINGLE	Black Fibrous Homogeneous	55% Cellulose	35% Matrix 10% Non-fibrous (other)	None Detected
495C-07A 031338224-0026	BUILDING A - BLACK PAPER ON METAL PIPE FLASHING	Black Fibrous Homogeneous	60% Cellulose	38% Non-fibrous (other)	2% Chrysotile
495C-07B 031338224-0027	BUILDING A - BLACK PAPER ON METAL PIPE FLASHING				Stop Positive (Not Analyzed)

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
495C-08A <i>031338224-0028</i>	BUILDING A/ BOILER RM, UTILITY RM. 2 - BREECHING ON WATER TANK	Gray Non-Fibrous Homogeneous		47% Quartz 2% Mica 20% Ca Carbonate 31% Non-fibrous (other)	<b>None Detected</b>
495C-08B <i>031338224-0029</i>	BUILDING A/ BOILER RM, UTILITY RM. 2 - BREECHING ON WATER TANK	Gray Non-Fibrous Homogeneous		50% Quartz 22% Ca Carbonate 28% Non-fibrous (other)	<b>None Detected</b>
495C-08C <i>031338224-0030</i>	BUILDING A/ BOILER RM, UTILITY RM. 2 - BREECHING ON WATER TANK	Non-Fibrous Homogeneous		55% Quartz 25% Gypsum 20% Non-fibrous (other)	<b>None Detected</b>
495C-09A <i>031338224-0031</i>	BUILDING A/ N - BOILER RM ROOF COMPOSITE	Black Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (other)	<b>None Detected</b>
495C-09B <i>031338224-0032</i>	BUILDING A/ UTILITY RM 2 - BOILER RM ROOF COMPOSITE	Black Non-Fibrous Homogeneous		5% Quartz 85% Matrix 10% Non-fibrous (other)	<b>None Detected</b>
495C-10A <i>031338224-0033</i>	BUILDING A/ UTILITY RM 2 - BLACK PAPER UNDER ROOF COMPOSITE	Black Fibrous Homogeneous		40% Matrix 60% Non-fibrous (other)	<b>None Detected</b>

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
495C-10B 031338224-0034	BUILDING A/ UTILITY RM 2 - BLACK PAPER UNDER ROOF COMPOSITE	Black Fibrous Heterogeneous	65% Cellulose	35% Non-fibrous (other)	None Detected
495C-11A 031338224-0035	BUILDING A/ UTILITY RM 2 - WINDOW GLAZING/ 6 PANE	Non-Fibrous Homogeneous		97% Non-fibrous (other)	3% Chrysotile
495C-11B 031338224-0036	BUILDING A/ UTILITY RM 2 - WINDOW GLAZING/ 6 PANE				Stop Positive (Not Analyzed)
495C-12A 031338224-0037	BUILDING A/ UTILITY RM 2 - BLACK SAND ROOF SHINGLE	Black Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (other)	None Detected
495C-12B 031338224-0038	BUILDING A/ UTILITY RM 2 - BLACK SAND ROOF SHINGLE	Black Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (other)	None Detected
495C-12C 031338224-0039	BUILDING A/ EAST COURTYARD - BLACK SAND ROOF SHINGLE	Black Fibrous Heterogeneous	25% Cellulose	30% Quartz 45% Non-fibrous (other)	None Detected

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
495C-13A 031338224-0040	BUILDING A/ UTILITY RM 2 - MASTIC UNDER BLACK SAND ROOF SHINGLE	Black Fibrous Homogeneous	12% Cellulose	88% Non-fibrous (other)	None Detected
495C-13B 031338224-0041	BUILDING A/ UTILITY RM 2 - MASTIC UNDER BLACK SAND ROOF SHINGLE	Black Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (other)	None Detected
495C-13C 031338224-0042	BUILDING A/ EAST COURTYARD - MASTIC UNDER BLACK SAND ROOF SHINGLE	Black Fibrous Heterogeneous	20% Cellulose	10% Quartz 8% Mica 62% Non-fibrous (other)	None Detected
495C-14A 031338224-0043	BUILDING A/ UTILITY RM - BLACK PAPER UNDER BLACK SAND ROOF SHINGLE	Black Fibrous Homogeneous	70% Cellulose	30% Non-fibrous (other)	None Detected
495C-14B 031338224-0044	BUILDING A/ BOILER RM - BLACK PAPER UNDER BLACK SAND ROOF SHINGLE	Black Fibrous Homogeneous	68% Cellulose	32% Non-fibrous (other)	None Detected

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495C-14C 031338224-0045	BUILDING A - BLACK PAPER UNDER BLACK SAND ROOF SHINGLE	Black Fibrous Heterogeneous	45% Cellulose	55% Non-fibrous (other)	None Detected
495C-15A 031338224-0046	BUILDING A/ UTILITY RM 2 - PAPER ON INSULATION BOARD	Black Fibrous Homogeneous	50% Cellulose	50% Non-fibrous (other)	None Detected
495C-15B 031338224-0047	BUILDING A/ UTILITY RM 2 - PAPER ON INSULATION BOARD	Black Fibrous Heterogeneous	85% Cellulose	15% Non-fibrous (other)	None Detected
495C-16A 031338224-0048	BUILDING A/ UTILITY RM 2 - YELLOW MASTIC ON FIBERGLASS INSULATION	Tan/Silver Fibrous Homogeneous	20% Cellulose 30% Glass	50% Non-fibrous (other)	None Detected
495C-16B 031338224-0049	BUILDING A/ UTILITY RM 2 - YELLOW MASTIC ON FIBERGLASS INSULATION	Yellow Non-Fibrous Homogeneous		85% Matrix 15% Non-fibrous (other)	None Detected
495C-17A 031338224-0050	BUILDING A/ N - PAPER ON METAL FLASHING	Black Fibrous Homogeneous	45% Cellulose	55% Non-fibrous (other)	None Detected

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Initial report from 10/01/2013 15:40:19



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EMSL Order:	031338224
CustomerID:	ATC62
CustomerPO:	11-81-0030
ProjectID:	

Attn: **Brian Williams**  
**Cardno ATC**  
**73 William Franks Drive**  
**West Springfield, MA 01089**

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 Fax: (413) 781-3734  
 Received: 09/27/13 10:05 AM  
 Analysis Date: 10/1/2013  
 Collected: 9/17/2013

Project: CITY OF SPRINGFIELD/ 495 CHESTNUT ST. SPRINGFIELD, MA

### Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
495C-17B 031338224-0051	BUILDING A/ CENTRAL COURTYARD - PAPER ON METAL FLASHING	Black Non-Fibrous Heterogeneous	25% Cellulose	72% Non-fibrous (other)	3% Chrysotile
Sample looks different from 17A.					
495C-18A 031338224-0052	BUILDING A/ CENTRAL COURTYARD - RED MASTIC ON METAL FLASHING	Red Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
495C-18B 031338224-0053	BUILDING A - RED MASTIC ON METAL FLASHING	Red Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
495C-19A 031338224-0054	BUILDING A/ CENTRAL COURTYARD - WHITE PAPER/ FL	Gray/White Fibrous Homogeneous	30% Cellulose	10% Non-fibrous (other)	60% Chrysotile
495C-19B 031338224-0055	BUILDING A - WHITE PAPER/ FL				Stop Positive (Not Analyzed)
495C-19C 031338224-0056	BUILDING A - WHITE PAPER/ FL				Stop Positive (Not Analyzed)

## Analyst(s)

Daena Charles (6)

Henry Akintunde (34)

Emily Myint (22)

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### Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
495C-20A 031338224-0057	BUILDING A/ CENTRAL COURTYARD - GRAY PAPER/ FL	Brown/Gray/Black Fibrous Homogeneous	70% Cellulose 15% Synthetic	10% Non-fibrous (other)	5% Chrysotile
On-site contamination. Includes patch of positive insulation					
495C-20B 031338224-0058	BUILDING A - GRAY PAPER/ FL				<b>Stop Positive (Not Analyzed)</b>
495C-20C 031338224-0059	BUILDING A - GRAY PAPER/ FL				<b>Stop Positive (Not Analyzed)</b>
495C-21A 031338224-0060	BUILDING A - PLASTER ON WIRE LATHE	Gray Non-Fibrous Homogeneous	4% Hair 2% Cellulose	35% Quartz 45% Gypsum 14% Non-fibrous (other)	<b>None Detected</b>
495C-21B 031338224-0061	BUILDING A - PLASTER ON WIRE LATHE	Gray Non-Fibrous Homogeneous	5% Hair 3% Cellulose	40% Quartz 45% Gypsum 7% Non-fibrous (other)	<b>None Detected</b>
495C-21C 031338224-0062	BUILDING A - PLASTER ON WIRE LATHE	Tan Non-Fibrous Heterogeneous	4% Hair	35% Quartz 40% Gypsum 21% Non-fibrous (other)	<b>None Detected</b>
495C-22A 031338224-0063	BUILDING A/ N - BLACK PAPER DEBRIS	Black Fibrous Homogeneous		55% Matrix 45% Non-fibrous (other)	<b>None Detected</b>

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Project: CITY OF SPRINGFIELD/ 495 CHESTNUT ST. SPRINGFIELD, MA

## Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
495C-22B 031338224-0064	BUILDING A/ N - BLACK PAPER DEBRIS	Black Fibrous Heterogeneous	65% Cellulose	35% Non-fibrous (other)	None Detected
495C-23A 031338224-0065	BUILDING A/ N - MASTIC UNDER BLACK PAPER DEBRIS	Black Non-Fibrous Homogeneous		22% Matrix 78% Non-fibrous (other)	None Detected
495C-23B 031338224-0066	BUILDING A/ N - MASTIC UNDER BLACK PAPER DEBRIS	Black Non-Fibrous Homogeneous		85% Matrix 15% Non-fibrous (other)	None Detected
495C-24A 031338224-0067	BUILDING A/ BOILER RM - REFRACTORY BOILER COVER	Yellow Fibrous Homogeneous	10% Cellulose 7% Glass	35% Matrix 48% Non-fibrous (other)	None Detected
495C-24B 031338224-0068	BUILDING A/ BOILER RM - REFRACTORY BOILER COVER	Yellow Fibrous Homogeneous	12% Cellulose 8% Glass	30% Matrix 50% Non-fibrous (other)	None Detected
495C-24C 031338224-0069	BUILDING A/ BOILER RM - REFRACTORY BOILER COVER	Non-Fibrous Homogeneous	5% Cellulose 4% Hair	55% Gypsum 36% Non-fibrous (other)	None Detected
495C-25A 031338224-0070	BUILDING A - TAR PAPER ON PEA GRAVEL ROOF	Black Fibrous Homogeneous		60% Matrix 40% Non-fibrous (other)	None Detected

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## Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
495C-25B <i>031338224-0071</i>	BUILDING A - TAR PAPER ON PEA GRAVEL ROOF	Black Fibrous Homogeneous		64% Matrix 36% Non-fibrous (other)	None Detected
495C-25C <i>031338224-0072</i>	BUILDING A/S - TAR PAPER ON PEA GRAVEL ROOF	Non-Fibrous Heterogeneous		25% Quartz 75% Matrix 0% Non-fibrous (other)	None Detected
495C-26A <i>031338224-0073</i>	BUILDING B - TEXTURE COAT ON BLOCK WALL	Gray/White Non-Fibrous Heterogeneous		15% Quartz 55% Ca Carbonate 30% Non-fibrous (other)	None Detected
Analyse textured coat only					
495C-26B <i>031338224-0074</i>	BUILDING B - TEXTURE COAT ON BLOCK WALL	White Non-Fibrous Heterogeneous		10% Quartz 55% Ca Carbonate 35% Non-fibrous (other)	None Detected
Analyse textured coat only					
495C-26C <i>031338224-0075</i>	BUILDING B - TEXTURE COAT ON BLOCK WALL	Gray Non-Fibrous Homogeneous		70% Quartz 5% Mica 25% Non-fibrous (other)	None Detected
495C-27A <i>031338224-0076</i>	BUILDING A/B - ADHESIVE ON BATH STALL DIVIDER	Brown Non-Fibrous Homogeneous	10% Cellulose	85% Matrix 5% Non-fibrous (other)	None Detected

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### Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
495C-27B <i>031338224-0077</i>	BUILDING A/B - ADHESIVE ON BATH STALL DIVIDER	Brown/Silver Fibrous Homogeneous	65% Cellulose	35% Non-fibrous (other)	None Detected
495C-28A <i>031338224-0078</i>	BUILDING A/B/ S - WEB MATERIAL ROOF COVER	Black Fibrous Heterogeneous	35% Glass	55% Matrix 10% Non-fibrous (other)	None Detected
495C-28B <i>031338224-0079</i>	BUILDING A/B/ S - WEB MATERIAL ROOF COVER	Black Non-Fibrous Homogeneous	10% Glass 15% Cellulose	55% Matrix 20% Non-fibrous (other)	None Detected
495C-29A <i>031338224-0080</i>	BUILDING A/B/ S - MASTIC UNDER WEB MATERIAL ROOF COVER	Black Non-Fibrous Homogeneous		85% Matrix 15% Non-fibrous (other)	None Detected
495C-29B <i>031338224-0081</i>	BUILDING A/B/ S - MASTIC UNDER WEB MATERIAL ROOF COVER	Black Non-Fibrous Homogeneous		90% Matrix 10% Non-fibrous (other)	None Detected
495C-30A <i>031338224-0082</i>	BUILDING A/ S - MULTI-LAYER ROOF COVER	Black Fibrous Heterogeneous	45% Cellulose	55% Non-fibrous (other)	None Detected
495C-30B <i>031338224-0083</i>	BUILDING A/ S - MULTI-LAYER ROOF COVER	Black Fibrous Homogeneous	25% Cellulose	60% Matrix 15% Non-fibrous (other)	None Detected

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### Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
495C-31A 031338224-0084	BUILDING A/ S - MASTIC UNDER MULTI-LAYER ROOF COVER	Black Non-Fibrous Homogeneous		85% Matrix 15% Non-fibrous (other)	None Detected
495C-31B 031338224-0085	BUILDING A/ S - MASTIC UNDER MULTI-LAYER ROOF COVER	Black Non-Fibrous Homogeneous		76% Matrix 24% Non-fibrous (other)	None Detected
495C-32A 031338224-0086	BUILDING A/B/ S - CEMENTITIOUS BOARD	Gray Fibrous Homogeneous		45% Ca Carbonate 35% Non-fibrous (other)	20% Chrysotile
495C-32B 031338224-0087	BUILDING A/B/ S - CEMENTITIOUS BOARD				Stop Positive (Not Analyzed)

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