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Attn: Derrick Wills
 Tronox-LLC-Henderson
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Customer ID: TRNX26
 Customer PO: 2027.001
 Received: 5/19/2010 10:05AM
 EMS LAB No: 137821
 Date Prepared: 6/17/2010 12:11PM
 Analysis Date: 8/16/2010 12:00PM

Phone: (947) 375-7004

Project: Tronox LLX Henderson, 560 W. Lake Mead Dr.,
 Henderson, NV/2027.001

Report Date: August 17, 2010

Date Sampled: 5/12/2010 1:05PM

NIOSH 7402/ISO

DRAFT, MODIFIED ELUTRIATOR METHOD FOR THE DETERMINATION OF ASBESTOS IN SOILS AND BULK MATERIAL METHOD

EMS Laboratory Number: 137821	Mass of Respirable Dust on Filter: 130	µg
Customer Sample Number: SSAP8-01-0.00BPC_FD	Area of collection filter: 385	mm ²
Minimum Level of Analysis (chrysotile): CD	Grid openings area: 0.0094	mm ²
Minimum Level of Analysis (amphibole): ADX	Grid Openings Analyzed: 118	
Magnification used for fiber counting: 9,200 x	Min. Str. Length/Max Str. Diameter: >5/<0.4	microns
Aspect ratio for fiber definition: 3:1		

Analyst(s): Radha Singh

Dust Generator - Total Dried Sample Weight-77.7g	Soil % Moisture	4.5	%
Not Used	Air Flow Rate Through ME Opening of Dust Generator:	1370	
Used in Tumbler	Air Flow Rate Through IST Opening of Dust Generator:	130	
	Estimate Total Air Flow Through Elutriator:	1500	

Analytical Sensitivity: 2.67E+06 Structure /g PM 10 Limit of Detection: 8.00E+06 Structure /g PM 10

Test For Uniformity (Chi-Square results)

Structure Class	Min ID Level Required	Counts		Density St/mm ²	Conc. Str/g PM10	Poisson 95% Confidence Interval	
		Primary Str.	Total Str.			Lower Limit Str/g PM10	Upper Limit Str/g PM10
Asbestos Structures >5um, ≤10um	ADX/CD	0	0	0	0	0	8.00E+06
Asbestos Structures >5um, ≤10um (Chrys)	CD	0	0	0	0	0	8.00E+06
Asbestos Structures >5um, ≤10um (Amph)	ADX	0	0	0	0	0	8.00E+06
Asbestos Structure >10um (Long)	ADX/CD	0	0	0	0	0	8.00E+06
Asbestos Structure >10um (Chrys)	CD	0	0	0	0	0	8.00E+06
Asbestos Structure >10um (Amph)	ADX	0	0	0	0	0	8.00E+06
Total Protocol Asbestos Structures	ADX/CD	0	0	0	0	0	8.00E+06
Protocol Asbestos Structures (Chrys)	CD	0	0	0	0	0	8.00E+06
Protocol Asbestos Structures (Amph)	ADX	0	0	0	0	0	8.00E+06
Total Protocol Non Asbestos Structures	NAM	0	0	0	0	0	8.00E+06


 Approved by Technical Director

Elutriator Data

Lab #: 137821

Sample ID: SSAP8-01-0.00 PFC-EP

Time air flow started: 800

IST Flowmeter (mL/min): 130

Date: 6/17/10

Client: Northgate

Sample weight (g): 77.7

Tumbler rpm: 30

ME Flowmeter (mL/min): 1370

Filter No.	Start Time	Tested flow rate (mL/min)	Final Filter Wt (mg)	Initial Filter Wt (mg)	Dust Weight (mg)	Time Value (min)	Avg. rate of deposition (ug/min)	Optimal time (min)
1	1000	139	0.03040	0.02499	11.41	30		
2	1030		0.02930	0.02498	9.32	20		
3	1050		0.03172	0.02494	6.78	25		
4	1115		0.03093	0.02494	5.97	25		
5	1140		0.02949	0.02489	4.60	25		
6	1205							
7								
8								
Time							Dep. Rate	Estimate
1	1057		4.618	4.447	171	12		
2	1121		4.778	4.509	269	13		
3	1146		4.577	4.421	153	10		
4	1211		4.518	4.388	130	11		
5								
6								
7								
8								

Prep: 6/18/10
Prep: 7/13/10

1
2
3
4
5
6
7
8

137867

Moisture content

43

6-9-10

SSA S8-01-0.00 BPC Rush

dish wt. 19.24

dish + sample 119.66 (initial sample wt. 100.42 g)

6:40-7:40 117.98 - 19.24 = 98.74

8:30-9:30 117.94 - 19.24 = 98.70 g (Final wt.)

$$\% \text{ Moisture} \rightarrow 100 \times \frac{100.42 - 98.7}{98.7} = 1.74\%$$

138054 # SSA R3-01-0.00 BPC Rush

dish wt. 31.48

dish + sample 131.44; initial wt 99.96 g

6:40-7:40 123.83 - 31.48 = 92.35 g

8:30-9:30 ~~123.48~~ 123.18 - 31.48 = 92.30 g Final wt

$$\% \text{ Moist.} \rightarrow 100 \times \frac{99.96 - 92.30}{92.30} = 8.3\%$$

137821 # SSA P8-01-0.00 BPC FD

dish. wt. 31.45 g

dish + sample 131.62 $\left\{ \begin{array}{l} 31.45 \\ 100.17 \end{array} \right.$ (initial wt.)

6:40-7:40 127.39 - 31.45 = 95.94

8:30-9:30 127.35 - 31.45 = 95.90 g Final wt

$$\% \text{ moist} \rightarrow 100 \times \frac{100.17 - 95.90}{95.90} = 4.45\%$$

BP

Copy

50 1108

Prep Time: 900 / 1130

Count (Page of) NIOSH 7402/ISO

Report number: 137821
Sample number: SSAP8-01-0.00 BPC-FD
File name: Northgate
Sample Description: 130 mg

Filter Type: PC 385 mm²
Date Sample was Run: 6/17/10

Magnification: 9,200 X

Preparation date: 8/13/10
Analysis date: 6/16/10

By JAP
By RS
(A): ADX, ADQ
Condition of Grid Good

Grid opening dimension: 0.0094 mm²
Level of Analysis: (C): CD, CDX

Grid loading Moderate

Grid	Grid Opening	Number of structures Primary	Number of structures Total	Class	Type of Structure	Width mm	Length mm	Comments
1A	C2-6							
	E2-3							
	E2-6							
	C3-1							
	C3-4							
	E3-1							
	H3-3							
	G3-6							
	I3-3							
	F4-1							
	F4-4							
	L4-1							
	H4-3							
	H4-6							
	C5-1							
	C5-4							
	F5-1							
	C5-2							
	C5-6							
	E5-3							
	E5-6							
	C6-1							
	C6-4							
	I6-1							
1B	C2-3							
	C2-6							
	E2-3							
	C3-4							
	E3-1							
	E3-4							

TEM Asbestos Structure Count (Page of)

Report number: 137621

SAMPLE NO: SSAP8-01-0.00Bpc.FD X 9,200

Grid	Grid Opening	Number of structures primary	Number of structures Total	Class	Type of Structure	Width Mm	Length Mm	Comments
13	G2-3							
	G3-6							
	G3-3							
	G3-6							
	E4-1							
	E4-4				MD11	40	40	EDS Non asb
					MF	6.5	7.5	
	F4-1							
	F4-4							
	H4-3							
	H4-6							
	H4-3							
	H4-6							
	E5-1							
	E5-4							
	F5-1							
	F6-1							
	E6-1							
	F6-1							
1C	E2-3							
	E2-6							
	R2-3							
	E3-1							
	E3-4							
	F3-7							
	F3-4							
	H3-1							
	H3-4							
	C4-1							
	C4-4							
	E4-1							
	E4-4							
	H4-3							
	F4-6							
	G4-3							
	E5-1							

TEM Asbestos Structure Count (Page of)

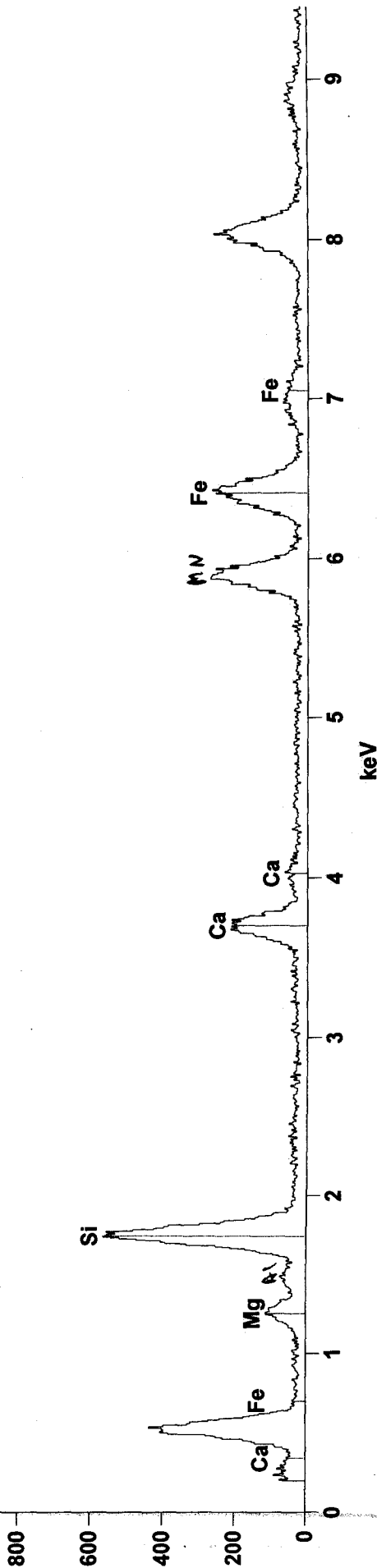
Report number: 137521

SAMPLE NO: SSAP8-01-0.00BPC-FD X 9,200

Grid	Grid Opening	Number of structures primary	Number of structures Total	Class	Type of Structure	Width Mm	Length Mm	Comments
IC	E54							
	F51							
	W56							
	H53							
	G64							
	E64							
ID	C26							
	E23							
	E26							
	F23							
	F31							
	F34							
	G31							
	G34							
	E44							
	F41							
	F44							
	B51							
	G51							
	A54							
	E51							
	F53							
	F56							
	G53							
	H56							
	H53							
H56								
IE	E23							
	E26							
	F23							
	F26							
	E31							

Full scale counts: 825

137821-SSAP8-01-000BPC-FD B-E4-4



Mon Aug 16 08:15:05 2010

Gaussian Fit With Standards Chi Squared:5.034

Correction Method: Cliff-Lorimer (MBTS) w/o Absorbance

Live Time:60.9 sec.

Acc.Voltage: 100.0 KV

Take Off Angle: 35.0 deg.

Detector: Det B- Quantum

Quantitative Results 137821-SSAP8-01-000BPC-FD B-E4-4

Element Line	Net Counts	Weight %	Weight % Error	Atom %	Atom % Error
Mg K	962	7.59	---	11.20	+/- 0.47
Si K	7241	38.10	---	48.65	+/- 0.62
Ca K	2940	20.89	---	18.69	+/- 0.42
Fe K	4380	33.42	---	21.46	+/- 0.38
Total		100.00		100.00	