



AIRBORNE ASBESTOS ANALYSIS BY TRANSMISSION ELECTRON MICROSCOPY

CLIENT: Warren & Panzer Engineers, P.C.
LABORATORY ID #: T02-10-122
ANALYT. METHODOLOGY: AHERA
FILTER TYPE: M.C.E.
AVERAGE G.O. AREA (mm²): 0.013838

PROJECT: NYC DEP, 18 John Street
DATE OF REPORT: 10/20/02
DATE OF ANALYSIS: 10/20/02
EFFECTIVE FILTER AREA (mm²): 385

LABORATORY RESULTS

CLIENT #	LAB. ID #	LOCATION	VOLUME (lt)	G.O.'s ANALYZED	AREA ANALYZED (mm ²)	ANALYT. SENSITIV. (struct./cm ³)	TOTAL ASBESTOS AIR CONC. (struc./cm ³)	TOTAL ASBESTOS FILTER CONC. (str./mm ²)	AIR CONC. FOR STRUCT. 0.5 ≤ S < 5 μm	AIR CONC. FOR STRUCT. S ≥ 5.0 μm	ASBEST. TYPE CHRYS.	AMPHIB. ASBEST TYPE SPECIFY
01IWA	T02-10-122-3297	IWA basement center of work area	1300	5	0.0692	0.0043	<0.0043	<14.45	NA	NA	NA	NA
02IWA	T02-10-122-3298	IWA basement north section of WA	1300	5	0.0692	0.0043	<0.0043	<14.45	NA	NA	NA	NA
03IWA	T02-10-122-3299	IWA basement south section of WA	1300	5	0.0692	0.0043	<0.0043	<14.45	NA	NA	NA	NA
04IWA	T02-10-122-3300	IWA basement west section of WA	1300	5	0.0692	0.0043	<0.0043	<14.45	NA	NA	NA	NA
05OWA	T02-10-122-3301	OWA basement on stairwell leading to WA 8ft. of door entrance	1300	5	0.0692	0.0043	<0.0043	<14.45	NA	NA	NA	NA



ANALYST
E. Sioukri



LABORATORY DIRECTOR
Spiro Dongaris

LABORATORY CERTIFICATION NUMBERS: NVLAP 101958, ELAP 10955

- Athenica Environmental Services Inc. (AES), is responsible only for information pertaining to samples taken by its employees.
- Air sampling cassettes will be stored for sixty (60) days. AES Inc., should be notified within this time frame for a true duplicate analysis.
- If AES Inc., did not conduct the sampling, the reported airborne concentration was derived based on information provided by the client. Under these circumstances, the air concentration data is supplied solely for the convenience of the client.
- The report relates only to items tested. This report must not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government. Test reports may not be reproduced except in full and with prior approval of AES Inc.
- The liability of Athenica Environmental Services Inc. with respect to the services charged, shall in no event exceed the amount of the invoice.



ATHENICA
ENVIRONMENTAL SERVICES INC.

45-09 Greenpoint Avenue
Long Island City, N.Y. 11104

TEM DEPARTMENT

Tel. (718) 784-7490
Fax (718) 784-4066

TEM AHERA COUNTSHEET

CLIENT : WARREN & PANZER	DATE : 10/20/02
PROJECT : NYCDER/18 JOHN ST.	ANALYST : E.S.
BATCH # : T02-10-122	CLIENT ID # : 1
SAMPLE ID # : T02-10-122-3297	VOLUME (lt) : 1300
G.O. AREA (mm²) : 0.013838	GO's TO ANALYZE : 5
MAGNIFICATION : 19K	ACC. VOLTAGE (KeV) : 100
INSTRUMENT : JEOL 100CX II	FILTER AREA (mm²) : 385
ANALYTICAL METHODOLOGY: EPA FEDERAL REGISTER, VOL. 52, No 210, OCT. 30, 1987, #40 CFR, PART 763, APPENDIX A TO SUBPART E	

GRI D	GO ID	Str. #	Str. Classf.	L (µm)	W (µm)	Structure sketch	SAE D	EDXA	PHO TO#	ID
A	H3	NSD								
	D7	NSD								
B	G4	NSD								
	C6	NSD								
	D2	NSD								

Analytical Sensitivity (str/cm³): 0.0043	Eucentricity check :
Concentration (str/cm³): <0.043	*Grid acceptance criteria check : (A).... (B)....
Concentration (str/mm²): <14.45	**CHR. # STRUCT.: F M C B
Number of Asbestos Structures : 0.5 ≤ S < 5µm ... 0.	**AMPH. # STRUCT.: F M C B
S ≥ 5µm 0.	Specify AMPH. Type : AM. ACT. TRE.
Number of Non-asbestos Structures: 0.	CRO. ANTH.

*Replica covers >50%, at least 20 GO's with no overlapping or folded replica, intact GO's have >50% coverage, <50% Undissolved filter, <5% holes or opaque areas, <10% particulate coverage.

** CHR.=chrysotile, AMPH.=amphibole, AM.=amosite, ACT.=actinolite, TRE.=tremolite, CRO.=crocidolite, ANTH.=anthophyllite

ENVIRONMENTAL SERVICES INC.

Tel. (718) 784-7480
Fax (718) 784-4085

TEM AHERA COUNTSHEET

[illegible]

Analytical Sensitivity (str/cm ²):	0.0043	Eucentricity check :	
Concentration (str/cm ²) :	<0.0043	*Grid acceptance criteria check :	(A) ✓ (B) ✓
Concentration (str/mm ²) :	<14.45	**CHR. # STRUCT.:	F M C B
Number of Asbestos Structures :	0.5 ≤ S < 5 μm 0...	**AMPH. # STRUCT.:	F M C B
	S ≥ 5 μm 0...	Specify AMPH. Type :	AM. ACT. TRE.
Number of Non-asbestos Structures:	 0.....	CRO. ANTH.	

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TEM AHERA COUNTSHEET

[illegible]

Analytical Sensitivity (str/cm ³):	0.0043	Eucentricity check :	
Concentration (str/cm ³):	<0.0043	*Grid acceptance criteria check :	(A)...✓(B)...✓
Concentration (str/mm ³):	<14.45	**CHR. # STRUCT.:	F M C B
Number of Asbestos Structures :	0.5 ≤ S < 5 μm : 0.	**AMPH. # STRUCT.:	F M C B
	S ≥ 5 μm 0..	Specify AMPH. Type :	AM. ACT. TRE.
Number of Non-asbestos Structures:	 0...	CRO. ANTH.	

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TEM AHERA COUNTSHEET

CLIENT : WARREN & PANZER	DATE : 10/20/02
PROJECT : NYCDER/18 JOHN ST.	ANALYST : E.S.
BATCH # : T02-10-122	CLIENT ID # : 4
SAMPLE ID # : T02-10-122-3300	VOLUME (lt) : 1300
G.O. AREA (mm ²) : 0.013838	GO's TO ANALYZE : 5
MAGNIFICATION : 19K	ACC. VOLTAGE (KeV) : 100
INSTRUMENT : JEOL 100CX II	FILTER AREA (mm ²) : 385
ANALYTICAL METHODOLOGY: EPA FEDERAL REGISTER, VOL. 52, No 210, OCT. 30, 1987, #40 CFR, PART 763, APPENDIX A TO SUBPART E	

GRI D	GO ID	Str. #	Str. Classf.	L (μm)	W (μm)	Structure sketch	SAE D	EDXA	PHO TO#	ID
A	C5	NSD								
	F3	NSD								
	G6	NSD								
B	D4	NSD								
	H3	NSD								

Analytical Sensitivity (str/cm ²): 0.0043	Eucentricity check :
Concentration (str/cm ²) : <0.0043	*Grid acceptance criteria check : (A)...✓(B)....✓
Concentration (str/mm ²) : <14.45	**CHR. # STRUCT. : F M C B
Number of Asbestos Structures : 0.5 ≤ S < 5 μm : 0...	**AMPH. # STRUCT. : F M C B
S ≥ 5 μm : 0...	Specify AMPH. Type : AM. ACT. TRE.
Number of Non-asbestos Structures : 0...	CRO. ANTH.

*Replica covers >50% at least 20 GO's with no overlapping or folded replica, intact GO's have >50% coverage, <50% Undissolved filter, <5% holes or opaque areas, <10% particulate coverage.

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TEM DEPARTMENT

TEM AHERA COUNTSHEET

CLIENT : WARREN & PANZER	DATE : 10/20/02
PROJECT : NYCDER/18 JOHN ST.	ANALYST : E.S.
BATCH # : T02-10-122	CLIENT ID # : 5
SAMPLE ID # : T02-10-122-3301	VOLUME (lt) : 1300
G.O. AREA (mm ²) : 0.013838	GO's TO ANALYZE : 5
MAGNIFICATION : 19K	ACC. VOLTAGE (KeV) : 100
INSTRUMENT : JEOL 100CX II	FILTER AREA (mm ²) : 385
ANALYTICAL METHODOLOGY: EPA FEDERAL REGISTER, VOL. 52, No 210, OCT. 30, 1987, #40 CFR, PART 763, APPENDIX A TO SUBPART E	

GRI D	GO ID	Str. #	Str. Classf.	L (μm)	W (μm)	Structure sketch	SAE D	EDXA	PHO TO#	ID
B	F6	NPD								
	C4	NPD								
	G2	NPD								
A	G8	NPD								
	E5	NPD								

Analytical Sensitivity (str/cm ²): 0.0043	Eucentricity check :
Concentration (str/cm ²): 20.0043	*Grid acceptance criteria check : (A)...✓ (B)...✓
Concentration (str/mm ²): 14.45	**CHR. # STRUCT.: F M C B
Number of Asbestos Structures : 0.5 ≤ S < 5 μm : 0...	**AMPH. # STRUCT.: F M C B
S ≥ 5 μm : 0....	Specify AMPH. Type : AM. ACT. TRE.
Number of Non-asbestos Structures : 0....	CRO. ANTH.

* Replica covers >50%, at least 20 GO's with no overlapping or folded replica, intact GO's have >50% coverage, <50% Undissolved filter, <5% holes or opaque areas, <10% particulate coverage.

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