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REPORT

INVESTIGATIVE SURVEY FOR ASBESTOS-CONTAINING MATERIALS BRADLEY INTERNATIONAL AIRPORT TERMINAL B - ROOF WINDSOR LOCKS, CONNECTICUT

PROJECT NO. 165-310

Prepared for

Connecticut Department of Transportation
Newington, Connecticut

Prepared by

TRC Environmental Corporation
Windsor, Connecticut

November, 1997

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November, 1997

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1.0 INTRODUCTION

TRC Environmental Corporation (TRC) of Windsor, Connecticut was retained by the Connecticut Department of Transportation (CONNDOT) under Contract No. 5.23-04(94), Office of Facilities to perform an asbestos survey of the roofs of Terminal B, also known as the Murphy Terminal, located at Bradley International Airport in Windsor Locks, Connecticut (CONNDOT Project No. 165-310. Terminal B consists of Building 575, Building 575-Concourse A and Concourse B and the International Arrival Building. This area encompasses the original airport building and several newer additions. Some roofs were not included because they were beyond the scope of the renovation project. For information regarding which roofs were included in this survey refer to the drawings located as an attachment to this report. The property was inspected by TRC for asbestos-containing materials (ACM) on March 24 & 25 and April 16, 1997. This report serves to provide the CONNDOT with detailed information concerning the location, condition and overall assessment of the ACM.

The asbestos survey was conducted by a State of Connecticut licensed asbestos inspector as a walk-through visual inspection combined with the collection of bulk samples from all accessible suspect ACM. The suspect ACM was sampled and analyzed in accordance with current United States Environmental Protection Agency (U.S. EPA) Asbestos Hazardous Emergency Response Act (AHERA) guidelines (40 CFR Part 763 Subpart E). Bulk samples were collected from homogeneous materials within defined areas. Bulk samples were transported, following proper chain-of-custody procedures, to TRC laboratory in Windsor, Connecticut for analysis by Polarized Light Microscopy with dispersion staining (PLM/ds). TRC is certified to perform bulk sample analysis by the State of Connecticut Department of Public Health (CT DPH) and is an active participant in the National Institute for Standards and Technology's (NIST) National Voluntary Laboratory Accreditation Program (NVLAP). Refer to **Appendix A** for copies of laboratory and inspector's training certification.

2.0 SITE HISTORY AND DESCRIPTION

The subject property is part of Bradley International Airport located in Windsor Locks, Connecticut. In addition to the various airlines which operate out of the Terminal B, tenants such as shops, restaurants, banks, automobile rental services, and grounds transportation services are located in the building. The Federal Aviation Administration (FAA), State Police, and CONNDOT also reside in this building. Heat, air conditioning, electrical power and water are supplied to the building through two boiler rooms, electrical rooms, and mechanical rooms. The area included in this survey consists of Terminal B, formerly the Murphy Terminal, which includes buildings 575, Building 575-Concourse A and Concourse B and the International Arrival Building. The roofs included in this survey are effected by proposed airport renovations. The roofs were composed of various materials. Material composition was dependent upon building type, age, and renovation activities. In general, roofs were stone ballasted layered roofing, non-ballasted layered roofing, or rubberized roofing. Layered and built-up roofing material varied in composition.

3.0 ASBESTOS SURVEY

On March 24, 25, and April 18, 1997, TRC representative Henry Laliberte, a State of Connecticut licensed asbestos inspector (license no.000030), performed an inspection and bulk sampling program for the identification of asbestos-containing materials (ACM) on the roofs of the subject building.

3.1 Observations and Findings

During the asbestos survey, non-friable suspect ACM were visually identified and sampled according to current AHERA guidelines. The following forms of suspect ACM were identified and sampled accordingly: built-up roofing; roof flashing; pitch pockets; expansion joints; and layered roofing. TRC collected a total of one hundred and forty-one (141) bulk samples of the suspect ACM referenced above and transferred the samples to the TRC laboratory for PLM/ds analysis. Results of the PLM/ds analysis indicate that, of the homogenous materials sampled, flashing and pitch pocket materials were, most often found to contain asbestos in quantities greater than 1 % by weight. Refer to **Appendix B** for chain-of-custody records and laboratory analytical results which document the transfer of bulk asbestos samples from the subject property in Windsor Locks, Connecticut to TRC's laboratory in Windsor, Connecticut.

As recommended by the U.S. EPA, all non-friable, organically bound material such as certain roofing product, floor covers, and associated mastic types which were found to contain less than 1 % asbestos by PLM methods of analysis were transported to EMSL of Westmont, New Jersey for analysis by Transmission Electron Microscopy (TEM) methods. TEM analysis utilizes a higher degree of magnification and consequently produces more accurate asbestos quantification than PLM/ds analysis. Upon reanalyzing, bulk samples of flashing materials located at the Terminal B-North side lower roof (sample no. 02-0235) was confirmed to contain greater than 1 % asbestos. Layered roofing at the Concourse A-Jetbridge upper roof was found to contain trace amounts of asbestos.

Refer to **Appendix C** for chain-of-custody records and laboratory analytical results which document the transfer of bulk asbestos samples from the subject property in Windsor Locks, Connecticut to EMSL's laboratory in New Jersey. A summary sheet of bulk samples collected for analysis for asbestos including locations, descriptions and analytical results is presented in **Table 3-1**. A summary of those materials identified as ACM and the respective quantities is included in **Table 3-2**.

TABLE 3-1
BULK SAMPLE SUMMARY OF SUSPECT ASBESTOS-CONTAINING MATERIALS
BRADLEY INTERNATIONAL AIRPORT
TERMINAL B - ROOF
WINDSOR LOCKS, CONNECTICUT

Sample No.	Location	Material	% and Type Asbestos
01-0235	Concourse A-upper roof	Built-up roofing material	ND < 1 %[1]
02-0235	Concourse A-upper roof	Built-up roofing material	ND < 1 %
03-0235	Concourse A-upper roof	Built-up roofing material	ND < 1 %
04-0235	Concourse A-upper roof	Perimeter flashing	5% chrysotile
05-0235	Concourse A-upper roof	Perimeter flashing	NA/PS
06-0235	Concourse A-upper roof	Perimeter flashing	NA/PS
07-0235	Concourse A-upper roof	Vent flashing	15% chrysotile
08-0235	Concourse A-upper roof	Roof drain flashing	8% chrysotile
09-0235	Concourse A-upper roof	Pitch pocket	15% chrysotile
10-0235	Concourse A-upper roof	Pitch pocket	NA/PS
11-0235	Concourse A-midsection	Built-up roofing material	ND < 1%[1]
12-0235	Concourse A-midsection	Built-up roofing material	ND < 1%
13-0235	Concourse A-midsection	Built-up roofing material	ND < 1%
14-0235	Concourse A-midsection	Flashing-expansion joint	3% chrysotile
15-0235	Concourse A-midsection	Perimeter flashing	15% chrysotile
16-0235	Concourse A-midsection	Perimeter flashing	ND < 1%
17-0235	Concourse A-midsection	Vent flashing	10% chrysotile
18-0235	Concourse A-midsection	Roof hatch flashing	NA/PS
19-0235	Concourse A-midsection	Pitch pocket	25% chrysotile
20-0235	Concourse A-midsection	Pitch pocket	NA/PS
21-0235	Concourse A-midsection, connects to low section	Built-up roofing material	ND < 1%[1]
22-0235	Concourse A-midsection, connects to low section	Built-up roofing material	ND < 1%
23-0235	Concourse A-midsection, connects to low section	Perimeter flashing	5% chrysotile
24-0235	Concourse A-midsection, connects to low section	Perimeter flashing	NA/PS
25-0235	Concourse A-lower section	Roof drain flashing	ND < 1%
26-0235	Concourse A-lower section	Built-up roofing material	ND < 1%[1]
27-0235	Concourse A-lower section	Built-up roofing material	ND < 1%
28-0235	Concourse A-lower section	Built-up roofing material	ND < 1%
29-0235	Concourse A-lower section	Perimeter flashing	3% chrysotile

ND<1% - Non-detected, less than 1%
NA/PS - Not analyzed positive stop, homogeneous to sample proven to contain asbestos
1 - Result confirmed by TEM analysis. Refer to Appendix C for results

TABLE 3-1
BULK SAMPLE SUMMARY OF SUSPECT ASBESTOS-CONTAINING MATERIALS
BRADLEY INTERNATIONAL AIRPORT
TERMINAL B - ROOF
WINDSOR LOCKS, CONNECTICUT

Sample No.	Location	Material	% and Type Asbestos
30-0235	Concourse A-lower section	Perimeter flashing	NA/PS
31-0235	Concourse A-lower section	Perimeter flashing	NA/PS
32-0235	Concourse A-lower section	Air handler flashing	5% chrysotile
33-0235	Concourse A-lower section	Air handler flashing	NA/PS
34-0235	Concourse A-lower section	Roof drain flashing	ND < 1%
35-0235	Concourse A-lower section	Antenna-pitch pocket	8% chrysotile
36-0235	Concourse B-midsection	Built-up roofing material	ND <1%[1]
37-0235	Concourse B-midsection	Built-up roofing material	ND <1%
38-0235	Concourse B-midsection	Built-up roofing material	ND < 1%
39-0235	Concourse B-midsection	Perimeter flashing	5% chrysotile
40-0235	Concourse B-midsection	Perimeter flashing	NA/PS
41-0235	Concourse B-midsection	Perimeter flashing	NA/PS
42-0235	Concourse B-midsection	Vent flashing	7% chrysotile
43-0235	Concourse B-midsection	Roof drain flashing	7% chrysotile
44-0235	Concourse B-mid to upper connector	Built-up roofing material	ND < 1%[1]
45-0235	Concourse B-mid to upper connector	Built-up roofing material	ND < 1%
46-0235	Concourse B-mid to upper connector	Perimeter flashing	15% chrysotile
47-0235	Concourse B-mid to upper connector	Perimeter flashing	NA/PS
48-0235	Concourse B-mid to upper connector	Roof drain flashing	%10 chrysotile
49-0235	Concourse B-upper section	Built-up roofing material	ND <1%[1]
50-0235	Concourse B-upper section	Built-up roofing material	ND <1%
51-0235	Concourse B-upper section	Built-up roofing material	ND <1%
52-0235	Concourse B-upper section	Perimeter flashing	10% chrysotile
53-0235	Concourse B-upper section	Perimeter flashing	NA/PS
54-0235	Concourse B-upper section	Perimeter flashing	NA/PS
55-0235	Concourse B-upper section	Vent flashing	12% chrysotile
56-0235	Concourse B-S.E. roof at upper section	Built-up roofing material	ND < 1%[1]
57-0235	Concourse B-S.E. roof at upper section	Built-up roofing material	ND < 1%
58-0235	Concourse B-S.E. roof at upper section	Built-up roofing material	ND < 1%

ND<1% - Non-detected, less than 1%
NA/PS - Not analyzed positive stop, homogeneous to sample proven to contain asbestos
1 - Result confirmed by TEM analysis. Refer to Appendix C for results

TABLE 3-1
BULK SAMPLE SUMMARY OF SUSPECT ASBESTOS-CONTAINING MATERIALS
BRADLEY INTERNATIONAL AIRPORT
TERMINAL B - ROOF
WINDSOR LOCKS, CONNECTICUT

Sample No.	Location	Material	% and Type Asbestos
59-0235	Concourse B-S.E. roof at upper section	Perimeter flashing	12% chrysotile
60-0235	Concourse B-S.E. roof at upper section	Perimeter flashing	NA/PS
61-0235	Concourse B-S.E. roof at upper section	Perimeter flashing	NA/PS
62-0235	Concourse B-S.E. roof at upper section	Vent flashing	8% chrysotile
63-0235	Terminal B-North side lower roof	Built-up roofing material	ND < 1%[1]
64-0235	Terminal B-North side lower roof	Built-up roofing material	ND < 1%
65-0235	Terminal B-North side lower roof	Built-up roofing material	ND < 1%[1]
66-0235	Terminal B-North side lower roof	Built-up roofing material	ND < 1%
67-0235	Terminal B-North side lower roof	Built-up roofing material	ND < 1%[1]
68-0235	Terminal B-North side lower roof	Perimeter flashing	10% chrysotile
69-0235	Terminal B-North side lower roof	Perimeter flashing	NA/PS
70-0235	Terminal B-North side lower roof	Perimeter flashing	NA/PS
71-0235	Terminal B-North side lower roof	Perimeter flashing	ND < 1%[1]
72-0235	Terminal B-North side lower roof	Perimeter flashing	3.2% chrysotile[1]
73-0235	Terminal B-North side lower roof	Conduit flashing	20% chrysotile
74-0235	Terminal B-North side lower roof	Conduit flashing	NA/PS
75-0235	Terminal B-North side lower roof	Roof drain flashing	5% chrysotile
76-0235	Terminal B-North side lower roof	Perimeter flashing	ND < 1%
77-0235	Terminal B-North side lower roof	Conduit flashing	8% chrysotile
78-0235	Terminal B-North side lower roof	Roof drain flashing	10% chrysotile
79-0235	IAB-Entry roof under west canopy (north)	Built-up roofing material	ND < 1%[1]
80-0235	IAB-Entry roof under west canopy (north)	Built-up roofing material	ND < 1%
81-0235	IAB-Entry roof under west canopy (north)	Built-up roofing material	ND < 1%
82-0235	IAB-Entry roof under west canopy (north)	Perimeter flashing	ND < 1%[1]
83-0235	IAB-Entry roof under west canopy (north)	Perimeter flashing	ND < 1%
84-0235	IAB-Entry roof under west canopy (north)	Perimeter flashing	ND < 1%
85-0235	IAB-Entry roof under west canopy (north)	Roof drain flashing	ND < 1%[1]
86-0235	IAB-Entry roof under west canopy (north)	Air vent handler flashing	ND < 1%
87-0235	IAB-Entry roof under west canopy (north)	Pitch pocket	8% chrysotile

ND<1% - Non-detected, less than 1%
NA/PS - Not analyzed positive stop, homogeneous to sample proven to contain asbestos
1 - Result confirmed by TEM analysis. Refer to Appendix C for results

TABLE 3-1
BULK SAMPLE SUMMARY OF SUSPECT ASBESTOS-CONTAINING MATERIALS
BRADLEY INTERNATIONAL AIRPORT
TERMINAL B - ROOF
WINDSOR LOCKS, CONNECTICUT

Sample No.	Location	Material	% and Type Asbestos
88-0235	IAB-Entry roof under west canopy (north)	Pitch pocket	NA/PS
89-0235	IAB-Entry roof under west canopy (south)	Built-up roofing material	ND < 1%[1]
90-0235	IAB-Entry roof under west canopy (south)	Built-up roofing material	ND < 1%
91-0235	IAB-Entry roof under west canopy (south)	Built-up roofing material	ND < 1%
92-0235	IAB-Entry roof under west canopy (south)	Perimeter flashing	10% chrysotile
93-0235	IAB-Entry roof under west canopy (south)	Perimeter flashing	NA/PS
94-0235	IAB-Entry roof under west canopy (south)	Perimeter flashing	NA/PS
95-0235	IAB-Entry roof under west canopy (south)	Roof drain flashing	ND < 1%
96-0235	IAB-Entry roof under west canopy (south)	Vent flashing	ND < 1%[1]
97-0235	IAB-Entry roof under west canopy (south)	Pitch pocket	10% chrysotile
98-0235	IAB-Entry roof under west canopy (south)	Pitch pocket	10% chrysotile
99-0235	Concourse A-lower section (south)	Layered roofing material	ND < 1%[1]
100-0235	Concourse A-lower section (south)	Layered roofing material	ND < 1%[1]
101-0235	Concourse A-lower section (south)	Layered roofing material	ND < 1%[1]
102-0235	Concourse A-lower section (south)	Layered roofing material-depressed area	ND < 1%[1]
103-0235	Concourse A-lower section (south)	Layered roofing material-depressed area	ND < 1%[1]
104-0235	Concourse A-lower section (south)	Perimeter flashing	ND < 1%[1]
105-0235	Concourse A-lower section (south)	Perimeter flashing	5% chrysotile
106-0235	Concourse A-lower section (south)	Flashing at air handler	30% chrysotile
107-0235	Concourse A-lower section (south)	Perimeter flashing-depressed area	ND < 1%[1]
108-0235	Concourse A-lower section (south)	Perimeter flashing-depressed area	15% chrysotile
109-0235	Concourse A-lower section (south)	Air handler pitch pocket	35% chrysotile
110-0235	Jet bridge-upper roof	Layered roofing material	Trace chrysotile[1]
111-0235	Jet bridge-upper roof	Layered roofing material	ND < 1%
112-0235	Jet bridge-upper roof	Layered roofing material	ND < 1%
113-0235	Jet bridge-upper roof	Perimeter flashing	10% chrysotile
114-0235	Jet bridge-upper roof	Perimeter flashing	NA/PS
115-0235	Jet bridge-upper roof	Vent flashing	15% chrysotile
116-0235	Lower section-S.W. low side roof	Layered roofing material	ND< 1%[1]

ND<1% - Non-detected, less than 1%
NA/PS - Not analyzed positive stop, homogeneous to sample proven to contain asbestos
1 - Result confirmed by TEM analysis. Refer to Appendix C for results

TABLE 3-1
BULK SAMPLE SUMMARY OF SUSPECT ASBESTOS-CONTAINING MATERIALS
BRADLEY INTERNATIONAL AIRPORT
TERMINAL B - ROOF
WINDSOR LOCKS, CONNECTICUT

Sample No.	Location	Material	% and Type Asbestos
117-0235	Lower section-S.W. low side roof	Layered roofing material	ND < 1%
118-0235	Lower section-S.W. low side roof	Layered roofing material	ND < 1%
119-0235	Lower section-S.W. low side roof	Perimeter flashing	5% chrysotile
120-0235	Lower section-S.W. low side roof	Perimeter flashing	NA/PS
121-0235	Lower section-S.W. low side roof	Vent flashing	ND < 1%[1]
122-0235	Mid-section connector-west overhang at tunnel	Layered roofing material	ND < 1%[1]
123-0235	Mid-section connector-west overhang at tunnel	Layered roofing material	ND < 1%
124-0235	Mid-section connector-west overhang at tunnel	Perimeter flashing	20% chrysotile
125-0235	Mid-section connector-west overhang at tunnel	Perimeter flashing	NA/PS
126-0235	Mid-section connector-west overhang at tunnel	Layered roofing material	ND < 1%[1]
127-0235	Mid-section connector-west overhang at tunnel	Layered roofing material	ND < 1%
128-0235	Mid-section connector-west overhang at tunnel	Perimeter flashing	2% chrysotile
129-0235	Mid-section connector-west overhang at tunnel	Perimeter flashing	NA/PS
130-0235	Jet bridge-lower roof	Layered roofing material	ND < 1%[1]
131-0235	Jet bridge-lower roof	Layered roofing material	ND < 1%
132-0235	Jet bridge-lower roof	Layered roofing material	ND < 1%
133-0235	Jet bridge-lower roof	Perimeter flashing	5% chrysotile
134-0235	Jet bridge-lower roof	Perimeter flashing	NA/PS
135-0235	Terminal B-restroom & stair landing roof	Roof drain flashing	15% chrysotile
136-0235	Terminal B-restroom & stair landing roof	Layered roofing material	ND < 1%[1]
137-0235	Terminal B-restroom & stair landing roof	Layered roofing material	ND < 1%
138-0235	Terminal B-restroom & stair landing roof	Layered roofing material	ND < 1%
139-0235	Terminal B-restroom & stair landing roof	Perimeter flashing	ND < 1%[1]
140-0235	Terminal B-restroom & stair landing roof	Perimeter flashing	40% chrysotile
141-0235	Terminal B-restroom & stair landing roof	Roof drain flashing	15% chrysotile

ND<1% - Non-detected, less than 1%
NA/PS - Not analyzed positive stop, homogeneous to sample proven to contain asbestos
1 - Result confirmed by TEM analysis. Refer to Appendix C for results

TABLE 3-2
QUANTITIES OF ASBESTOS CONTAINING MATERIALS
BRADLEY INTERNATIONAL AIRPORT
TERMINAL B-ROOFS
WINDSOR LOCKS, CONNECTICUT

Location	Material	NESHAP Category	Square Feet (SF)/ Linear Feet (LF)	Square Meters (SM)
Phase 1-Concourse A-upper, middle and lower sections	Flashing	Category I Non-friable	4,050 SF	381 SM
	Pitch pockets, roof patch materials		55 SF	5 SM
Phase II-Concourse A-lower section, south end	Flashing	Category I Non-friable	1,898 SF	176 SM
	Pitch pockets, roof patch materials		25 SF	2.3 SM
Phase III-Concourse A-Jetbridge (upper roof)	Flashing	Category I Non-friable	778 SF	72 SM
Phase IV-Concourse A-Jetbridge (lower roof)	Flashing	Category I Non-friable	677 SF	63 SM
Phase V-Concourse A-midsection connector (south skylight)	Flashing, pitch pockets, roof patch materials	Category I Non-friable	200 SF	19 SM
Phase VI-Concourse A-midsection connector (north skylight)	Flashing, pitch pockets, roof patch materials	Category I Non-friable	200 SF	19 SM
Phase VII-Concourse A-south side, lower roof	Flashing, pitch pockets, roof patch materials	Category I Non-friable	540 SF	50 SM
Phase VIII-North roof	Flashing	Category I Non-friable	4,854 SF	451 SM
	Pitch pockets, roof patch materials		20 SF	2 SM
Phase IX-Tower annex roof	Flashing, pitch pockets, roof patch materials	Category I Non-friable	102 SF	9 SM
Phase X-Concourse B-roof plan	Flashing	Category I Non-friable	3,122 SF	2,905 SM
	Pitch pockets, roof patch materials		50 SF	5 SM
Phase XI-Concourse B-southeast upper roof	Flashing, pitch pockets, roof patch materials	Category I Non-friable	679 SF	63 SM
Phase XII-Terminal building, south roof plan (west side)	Pitch pockets, roof patch materials	Category I Non-friable	200 SF	19 SM
Phase XIII-Terminal building, south roof plan (east side)	Flashing	Category I Non-friable	1,100 SF	102 SM
	Pitch pockets, roof patch materials		50 SF	5 SM

The phases presented above correspond with the asbestos removal phases outlined in the design specification.

4.0 DISCUSSIONS AND TRC RECOMMENDATIONS

4.1 Categorization of Asbestos-Containing Materials

Based on the asbestos survey performed at Bradley International Airport Terminal B roofs, the majority of the flashing materials located at roof perimeters, roof penetrations, and roof expansion joints; and pitch pocket materials were found to contain asbestos. The ACM was categorized in accordance with USEPA National Standards for Hazardous Air Pollutants (NESHAPS) regulations (40 CFR Part 61). The roof flashing and pitch pocket materials are considered Category 1, non-friable ACM. By definition, a Category I non-friable ACM means "*asbestos-containing packings, gaskets, resilient floor covering and asphalt roofing products containing greater than one (1) percent asbestos.*" The Categorization of the material is made to help facilitate proper response actions needed to be taken with respect to the ACM prior to demolition and/or renovation activities. The current NESHAP regulations require that regulated asbestos-containing material (RACM) be removed from a facility prior to any renovation activity that would break-up, dislodge, or similarly disturb the material or preclude the access to the material for subsequent removal. The NESHAP regulations define a RACM as "*(a) friable asbestos-material, (b) Category I non-friable ACM that has become friable, Category I non-friable ACM that will be or has been subject to sanding, grinding, cutting or abrading, or © Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized or reduced to powder by forces expected to act on the material in the course of demolition or renovation operations...*". Using this definition and the data collected from this survey, TRC recommends that a proper asbestos abatement plan which addresses the impact of the future renovations to the subject property be created in order to minimize the disturbance of the identified ACM.

It is the responsibility of the building owner or the operator of the demolition/renovation activity to comply with all applicable requirements of the federal NESHAP regulation Section 61.145 prior to any demolition and/or renovation activity. This report meets the requirements of NESHAP Section 61.145 (a) and can be used for the notification requirements of Section 61.145(b). TRC recommends that technical specifications and drawings be created for the removal of RACM to obtain competitive bids from area contractors.

4.1.2 Discussion and Recommendations Regarding ACM Removal

The removal of ACM within the buildings is strictly regulated by the State of Connecticut Department of Public Health (CT DPH) as well as the EPA and Occupational Safety and Health

Administration (OSHA). The CT DPH regulations for asbestos removal within interiors of buildings are quite stringent, requiring a containment structure consisting of two (2) layers of polyethylene sheeting on floors and walls as well as other specific engineering controls (refer to the State of Connecticut Standards for Asbestos Abatement Regulations, 19a-332a Parts 1 through 16 inclusive.)

Removal practices involving ACM found on the exterior of building structures is not regulated by the CT DPH; however, EPA and OSHA regulations do apply. The EPA has provided exceptions for certain non-friable ACM (Category I) in that the material need not be removed prior to renovation/demolition, if the renovation/demolition activity work does no render it friable. The non-friable roofing materials fall into this category. However, the disposal costs may be affected if the demolished material cannot be separated and, therefore, be disposed of as ACM, as required by the State of Connecticut and NESHAP.

In consideration of the varying demolition and renovation practices utilized by contractors as well as the variations which exist between federal and state regulating agencies, TRC further recommends that all identified ACM be considered as RACM and be removed and disposed of accordingly prior to renovations of the facility. This recommendation will allow contractors to submit a more competitive bid based on a standard scope of work.

5.0 ESTIMATED COST FOR ASBESTOS ABATEMENT

TRC recommends that all RACM located at Bradley International Airport-Terminal B roofs in Windsor Locks, Connecticut be properly removed prior to building renovations. TRC estimates the cost for the proper removal and disposal of the RACM to be approximately $79,900.00. This cost is an estimate and final costs could be lower with competitive bids. Selection of unit costs were based on standard estimating guides and discussions with local contractors who are familiar with asbestos abatement procedures and specific requirements. **Appendix D** contains a detailed cost estimate.

APPENDIX A
LABORATORY AND INSPECTOR ACCREDITATIONS

IEE

INSTITUTE FOR ENVIRONMENTAL EDUCATION, INC.

86 Cummings Park, Woburn, MA 01801
(617)935-7370

This is to certify that

Henry Laliberte

has completed the requisite training,
and has passed an examination for reaccreditation as:

Asbestos Inspector

pursuant to Title II of the Toxic Substance Control Act, 15 U.S.C. 2646

July 30, 1996
Course Date

July 30, 1996
Examination Date

96-723-106-123
Certificate Number

July 30, 1997
Expiration Date

President/Director of Training

APPENDIX B
PLM BULK ASBESTOS SAMPLE ANALYSIS RESULTS/CHAIN-OF-CUSTODY FORMS

BULK ASBESTOS ANALYSIS REPORT

TRC Environmental Corporation
5 Waterside Crossing
Windsor, Connecticut 06095

Client: Bradley International Airport
Address: Terminal B Roof
Windsor, CT

Date Received: 3/28/97
Date Analyzed: 4/15/97

ANALYST(S):

Lance R. Cotton (Print) Lance R. Cotton (Signature)
Danute J. Simpson (Print) Danute J Simpson (Signature) Qc'd 4/23/97 mc

Project No.: 13707-0235-00001
Log No.: 17811 Qc'd 4/23/97 mc

Field I.D.	01-0235	02-0235	03-0235	04-0235
Reference No.	1-8/DS	1-9/DS	1-9/DS	1-9/DS
Homogeneous	Yes	Yes	Yes	Yes
M-Layered	No	No	No	No
Layer No.	—	—	—	—
Color	Black	Black	Black	Black
Asbestos Present	No	No	No	Yes
Asbestos Type & %				
Chrysotile				5%
Amosite				
Crocidolite				
Anthophyllite				
Tremolite				
Actinolite				
Total Asbestos	ND<1%	ND<1%	ND<1%	5%
Other Fibrous Material & %				
Fiberglass				
Cellulose	10%	3%	3%	2%
Mineral Wool	15%	10%	10%	
Other				
Non-Fibrous Materials %:	75%	87%	87%	93%

Note: Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

Reviewed by: _____ or Lance R. Cotton
Margaret F. Flanagan, Quality Control Manager
Lance R. Cotton, Laboratory Supervisor

Method: 40 CFR Interim Method of the Determination of Asbestos in Bulk Insulation Samples
U.S. Environmental Protection Agency "Method for the Determination of Asbestos in Bulk Building Materials" (EPA/600/R-93/116), July 1993, R.L. Perkins and B.W. Harvey.

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TRC LABORATORY ASBESTOS ANALYTICAL CERTIFICATIONS
CT #PH-0426 MA #AA000052 NY #10980 RI #AAL-007C3 AIHA #6940 NVLAP #1424 VT #AAS-2095

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Qc'd 4/23/97 MC

Field I.D.	07-0235	08-0235	09-0235	11-0235
Reference No.	1-10/DS	1-11/DS	1-11/DS	1-12/DS
Homogeneous	Yes	Yes	Yes	Yes
M-Layered	No	No	No	No
Layer No.	—	—	—	—
Color	Black	Black	Black	Black
Asbestos Present	Yes	Yes	Yes	No
Asbestos Type & %				
Chrysotile	15%	8%	15%	
Amosite				
Crocidolite				
Anthophyllite				
Tremolite				
Actinolite				
Total Asbestos	15%	8%	15%	ND < 1%
Other Fibrous Material & %				
Fiberglass				
Cellulose	5%	5%	5%	5%
Mineral Wool	10%	5%		5%
Other				
Non-Fibrous Materials %:	70%	82%	80%	90%

Note: Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

Method: 40 CFR Interim Method of the Determination of Asbestos in Bulk Insulation Samples

U.S. Environmental Protection Agency "Method for the Determination of Asbestos in Bulk Building Materials" (EPA/600/R-93/116), July 1993, R.L. Perkins and B.W. Harvey.

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	Qc'd 4/23/97 ME	Qc'd 4/23/97 ME	Qc'd 4/23/97 TM	
Field I.D.	12-0235	13-0235	14-0235	15-0235
Reference No.	1-12/DS	1-13/DS	1-14/DS	47-25/LRC
Homogeneous	Yes	Yes	Yes	Yes
M-Layered	No	No	No	No
Layer No.	—	—	—	—
Color	Black	Black	Black	Black
Asbestos Present	No	No	Yes	Yes
Asbestos Type & %				
Chrysotile			3%	15%
Amosite				
Crocidolite				
Anthophyllite				
Tremolite				
Actinolite				
Total Asbestos	ND<1%	ND<1%	3%	15%
Other Fibrous Material & %				
Fiberglass				
Cellulose	5%	5%	5%	5%
Mineral Wool		5%	5%	
Other				
Non-Fibrous Materials %:	95%	90%	87%	80%

Note: Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

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Q'd 4/23/97 mc

Field I.D.	16-0235	17-0235	19-0235	21-0235
Reference No.	1-13/DS	1-14/DS	1-14/DS	1-14/DS
Homogeneous	Yes	Yes	Yes	Yes
M-Layered	No	No	No	No
Layer No.	—	—	—	—
Color	Black	Black	Black	Black
Asbestos Present	No	Yes	Yes	No
Asbestos Type & %				
Chrysotile		10%	25%	
Amosite				
Crocidolite				
Anthophyllite				
Tremolite				
Actinolite				
Total Asbestos	ND < 1%	10%	25%	ND < 1%
Other Fibrous Material & %				
Fiberglass				
Cellulose	5%	5%	5%	5%
Mineral Wool	10%	5%	5%	
Other				
Non-Fibrous Materials %:	85%	80%	65%	95%

Note: Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

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Qc'd 4/23/97 MC

Field I.D.	22-0235	23-0235	25-0235	26-0235
Reference No.	1-15/DS	1-15/DS	1-15/DS	1-16/DS
Homogeneous	Yes	Yes	Yes	Yes
M-Layered	No	No	No	No
Layer No.	—	—	—	—
Color	Black	Black	Black	Black
Asbestos Present	No	Yes	No	No
Asbestos Type & %				
Chrysotile		5%		
Amosite				
Crocidolite				
Anthophyllite				
Tremolite				
Actinolite				
Total Asbestos	ND<1%	5%	ND<1%	ND<1%
Other Fibrous Material & %				
Fiberglass				
Cellulose	5%	10%	2%	5%
Mineral Wool				
Other				
Non-Fibrous Materials %:	95%	85%	98%	95%

Note: Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

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QC'd 4/23/97 MC

Field I.D.	27-0235	28-0235	29-0235	32-0235
Reference No.	1-16/DS	1-16/DS	1-17/DS	1-17/DS
Homogeneous	Yes	Yes	Yes	Yes
M-Layered	No	No	No	No
Layer No.	—	—	—	—
Color	Black	Black	Black	Black
Asbestos Present	No	No	Yes	Yes
Asbestos Type & %				
Chrysotile			3%	5%
Amosite				
Crocidolite				
Anthophyllite				
Tremolite				
Actinolite				
Total Asbestos	ND<1%	ND<1%	3%	5%
Other Fibrous Material & %				
Fiberglass				
Cellulose	10%	5%	5%	5%
Mineral Wool				
Other				
Non-Fibrous Materials %:	90%	95%	92%	90%

Note: Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

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Qc'd 4/23/97 MC

Field I.D.	34-0235	35-0235	36-0235	37-0235
Reference No.	1-17/DS	1-18/DS	1-18/DS	1-18/DS
Homogeneous	Yes	Yes	Yes	Yes
M-Layered	No	No	No	No
Layer No.	—	—	—	—
Color	Black	Black	Black	Black
Asbestos Present	No	Yes	No	No
Asbestos Type & %				
Chrysotile		8%		
Amosite				
Crocidolite				
Anthophyllite				
Tremolite				
Actinolite				
Total Asbestos	ND<1%	8%	ND<1%	ND<1%
Other Fibrous Material & %				
Fiberglass				
Cellulose		5%	10%	10%
Mineral Wool		5%	10%	15%
Other				
Non-Fibrous Materials %:	100%	82%	80%	75%

Note: Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

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Log No.: 17811

Qcld 4/23/97 mc Qcld 4/23/97 mc

Field I.D.	38-0235	39-0235	42-0235	43-0235
Reference No.	1-19/DS	1-19/DS	1-19/DS	1-20/DS
Homogeneous	Yes	Yes	Yes	Yes
M-Layered	No	No	No	No
Layer No.	—	—	—	—
Color	Black	Black	Black	Black
Asbestos Present	No	Yes	Yes	Yes
Asbestos Type & %				
Chrysotile		5%	7%	7%
Amosite				
Crocidolite				
Anthophyllite				
Tremolite				
Actinolite				
Total Asbestos	ND<1%	5%	7%	7%
Other Fibrous Material & %				
Fiberglass				
Cellulose	10%	25%	10%	20%
Mineral Wool	20%	10%	15%	
Other				
Non-Fibrous Materials %:	70%	60%	68%	73%

Note: Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

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Log No.: 17811
Qc'd 4/23/97TM

Field I.D.	44-0235	45-0235	46-0235	48-0235
Reference No.	1-20/DS	1-20/DS	1-21/DS	47-28/LRC
Homogeneous	Yes	Yes	Yes	Yes
M-Layered	No	No	No	No
Layer No.	—	—	—	—
Color	Black	Black	Black	Black
Asbestos Present	No	No	Yes	No
Asbestos Type & %				
Chrysotile			15%	10%
Amosite				
Crocidolite				
Anthophyllite				
Tremolite				
Actinolite				
Total Asbestos	ND < 1%	ND < 1%	15%	10%
Other Fibrous Material & %				
Fiberglass				
Cellulose	20%		20%	10%
Mineral Wool	10%	25%		
Other				
Non-Fibrous Materials %:	70%	75%	65%	75%

Note: Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

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Log No.: 17811

Field I.D.	49-0235	50-0235	51-0235	52-0235
Reference No.	1-21/DS	1-22/DS	1-22/DS	1-22/DS
Homogeneous	Yes	Yes	Yes	Yes
M-Layered	No	No	No	No
Layer No.	—	—	—	—
Color	Black	Black	Black	Black
Asbestos Present	No	No	No	Yes
Asbestos Type & %				
Chrysotile				10%
Amosite				
Crocidolite				
Anthophyllite				
Tremolite				
Actinolite				
Total Asbestos	ND < 1%	ND < 1%	ND < 1%	10%
Other Fibrous Material & %				
Fiberglass				
Cellulose	15%	20%	20%	15%
Mineral Wool	20%	20%	20%	15%
Other				
Non-Fibrous Materials %:	65%	60%	60%	60%

Note: Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

Method: 40 CFR Interim Method of the Determination of Asbestos in Bulk Insulation Samples Page 10 of 29
U.S. Environmental Protection Agency "Method for the Determination of Asbestos in Bulk Building Materials" (EPA/600/R-93/116), July 1993, R.L. Perkins and B.W. Harvey.

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Log No.: 17811

Rec'd 4/23/97 MC

Field I.D.	55-0235	56-0235	57-0235	58-0235
Reference No.	1-23/DS	1-23/DS	1-23/DS	1-24/DS
Homogeneous	Yes	Yes	Yes	Yes
M-Layered	No	No	No	No
Layer No.	—	—	—	—
Color	Black	Black	Black	Black
Asbestos Present	Yes	No	No	No
Asbestos Type & %				
Chrysotile	12%			
Amosite				
Crocidolite				
Anthophyllite				
Tremolite				
Actinolite				
Total Asbestos	12%	ND<1%	ND<1%	ND<1%
Other Fibrous Material & %				
Fiberglass				
Cellulose	10%	5%	5%	5%
Mineral Wool	10%	5%	5%	5%
Other				
Non-Fibrous Materials %:	68%	90%	90%	90%

Note: Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

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Log No.: 17811

Qc'd 4/23/97 mc Qc'd 4/23/97 mc

Field I.D.	59-0235	62-0235	63-0235	64-0235
Reference No.	1-24/DS	1-24/DS	1-25/DS	1-25/DS
Homogeneous	Yes	Yes	Yes	Yes
M-Layered	No	No	No	No
Layer No.	—	—	—	—
Color	Black	Black	Black	Black
Asbestos Present	Yes	Yes	No	No
Asbestos Type & %				
Chrysotile	12%	8%		
Amosite				
Crocidolite				
Anthophyllite				
Tremolite				
Actinolite				
Total Asbestos	12%	8%	ND < 1%	ND < 1%
Other Fibrous Material & %				
Fiberglass				
Cellulose		10%	25%	5%
Mineral Wool	15%		20%	
Other				
Non-Fibrous Materials %:	73%	82%	55%	95%

Note: Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

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Log No.: 17811

Rcld 4/23/91 TM

Field I.D.	65-0235	66-0235	67-0235	68-0235
Reference No.	1-26/DS	1-26/DS	1-26/DS	1-27/DS
Homogeneous	Yes	Yes	Yes	Yes
M-Layered	No	No	No	No
Layer No.	—	—	—	—
Color	Black	Black	Grey	Black
Asbestos Present	No	No	No	Yes
Asbestos Type & %				
Chrysotile				10%
Amosite				
Crocidolite				
Anthophyllite				
Tremolite				
Actinolite				
Total Asbestos	ND<1%	ND<1%	ND<1%	10%
Other Fibrous Material & %				
Fiberglass				
Cellulose	25%	5%	15%	10%
Mineral Wool		5%		10%
Other				
Non-Fibrous Materials %:	75%	90%	85%	70%

Note: Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

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Log No.: 17811
QC 04/23/97 TM

Field I.D.	71-0235	72-0235	73-0235	75-0235
Reference No.	1-27/DS	1-27/DS	1-28/DS	1-28/DS
Homogeneous	Yes	Yes	Yes	Yes
M-Layered	No	No	No	No
Layer No.	—	—	—	—
Color	Black	Black	Black	Black
Asbestos Present	No	No	Yes	Yes
Asbestos Type & %				
Chrysotile			20%	5%
Amosite				
Crocidolite				
Anthophyllite				
Tremolite				
Actinolite				
Total Asbestos	ND < 1%	ND < 1%	20%	5%
Other Fibrous Material & %				
Fiberglass				
Cellulose	20%	5%	20%	15%
Mineral Wool		10%		
Other				
Non-Fibrous Materials %:	80%	85%	60%	80%

Note: Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

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Log No.: 17811
Qcld 4/23/97 MRC

Field I.D.	76-0235	77-0235	78-0235	79-0235
Reference No.	1-30/DS	1-28/DS	1-29/DS	1-33/DS
Homogeneous	Yes	Yes	Yes	Yes
M-Layered	No	No	No	No
Layer No.	—	—	—	—
Color	Black	Black	Black	Black
Asbestos Present	No	Yes	Yes	No
Asbestos Type & %				
Chrysotile		8%	10%	
Amosite				
Crocidolite				
Anthophyllite				
Tremolite				
Actinolite				
Total Asbestos	ND<1%	8%	10%	ND<1%
Other Fibrous Material & %				
Fiberglass				
Cellulose	15%	10%	10%	10%
Mineral Wool				
Other				
Non-Fibrous Materials %:	85%	82%	80%	90%

Note: Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

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Log No.: 17811

Rcvd 4/23/97 TM

Field I.D.	80-0235	81-0235	82-0235	83-0235
Reference No.	1-31/DS	1-31/DS	47-30/LRC	1-90/DS
Homogeneous	Yes	Yes	Yes	Yes
M-Layered	No	No	No	No
Layer No.	—	—	—	—
Color	Black	Black	Black	Grey
Asbestos Present	No	No	No	No
Asbestos Type & %				
Chrysotile				
Amosite				
Crocidolite				
Anthophyllite				
Tremolite				
Actinolite				
Total Asbestos	ND < 1%	ND < 1%	ND < 1%	ND < 1%
Other Fibrous Material & %				
Fiberglass				
Cellulose	10%	5%		10%
Mineral Wool				
Other				
Non-Fibrous Materials %:	90%	95%	100%	90%

Note: Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

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Log No.: 17811

Rcvd 4/23/97 MC

Field I.D.	86-0235	87-0235	89-0235	90-0235
Reference No.	1-32/DS	1-32/DS	1-33/DS	1-33/DS
Homogeneous	Yes	Yes	Yes	Yes
M-Layered	No	No	No	No
Layer No.	—	—	—	—
Color	Black	Black	Black	Black
Asbestos Present	No	Yes	No	No
Asbestos Type & %				
Chrysotile		8%		
Amosite				
Crocidolite				
Anthophyllite				
Tremolite				
Actinolite				
Total Asbestos	ND<1%	8%	ND<1%	ND<1%
Other Fibrous Material & %				
Fiberglass				
Cellulose	40%	10%	10%	5%
Mineral Wool			10%	
Other				
Non-Fibrous Materials %:	60%	82%	80%	95%

Note: Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

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Log No.: 17811

Qc'd 4/23/97 mc

Field I.D.	91-0235	92-0235	95-0235	96-0235
Reference No.	1-34/DS	1-34/DS	1-34/DS	1-35/DS
Homogeneous	Yes	Yes	Yes	Yes
M-Layered	No	No	No	No
Layer No.	—	—	—	—
Color	Black	Black	Black	Black
Asbestos Present	No	Yes	No	No
Asbestos Type & %				
Chrysotile		10%		
Amosite				
Crocidolite				
Anthophyllite				
Tremolite				
Actinolite				
Total Asbestos	ND<1%	10%	ND<1%	ND<1%
Other Fibrous Material & %				
Fiberglass				
Cellulose	5%	10%	5%	10%
Mineral Wool				
Other				
Non-Fibrous Materials %:	95%	80%	95%	90%

Note: Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

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Log No.: 17811 & 17938

Qcld 4/23/97 mc

Field I.D.	97-0235	98-0235	99-0235	100-0235
Reference No.	1-35/DS	1-35/DS	31-47/TM	31-47/TM
Homogeneous	Yes	Yes	Yes	Yes
M-Layered	No	No	No	No
Layer No.	—	—	—	—
Color	Black	Black	Black	Black
Asbestos Present	Yes	Yes	No	No
Asbestos Type & %				
Chrysotile	10%	10%		
Amosite				
Crocidolite				
Anthophyllite				
Tremolite				
Actinolite				
Total Asbestos	10%	10%	ND < 1%	ND < 1%
Other Fibrous Material & %				
Fiberglass			25%	10%
Cellulose	10%	10%	25%	
Mineral Wool				
Other				
Non-Fibrous Materials %:	80%	80%	50%	90%

Note: Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

Method: 40 CFR Interim Method of the Determination of Asbestos in Bulk Insulation Samples Page 19 of 29
U.S. Environmental Protection Agency "Method for the Determination of Asbestos in Bulk Building Materials" (EPA/600/R-93/116), July 1993, R.L. Perkins and B.W. Harvey.

TRC Environmental Corporation
5 Waterside Crossing
Windsor, Connecticut 06095

Log No.: 17938
Qc'd 4/23/97

Field I.D.	101-0235	102-0235	103-0235	104-0235
Reference No.	31-47/TM	31-48/TM	31-48/TM	31-48/TM
Homogeneous	Yes	Yes	Yes	Yes
M-Layered	No	No	No	No
Layer No.	—	—	—	—
Color	Black	Black	Black	Black
Asbestos Present	No	No	No	No
Asbestos Type & %				
Chrysotile				
Amosite				
Crocidolite				
Anthophyllite				
Tremolite				
Actinolite				
Total Asbestos	ND<1%	ND<1%	ND<1%	ND<1%
Other Fibrous Material & %				
Fiberglass				
Cellulose	30%	10%	30%	30%
Mineral Wool				
Other				
Non-Fibrous Materials %:	70%	90%	70%	70%

Note: Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

Method: 40 CFR Interim Method of the Determination of Asbestos in Bulk Insulation Samples
U.S. Environmental Protection Agency "Method for the Determination of Asbestos in Bulk Building Materials" (EPA/600/R-93/116), July 1993, R.L. Perkins and B.W. Harvey.

TRC Environmental Corporation
5 Waterside Crossing
Windsor, Connecticut 06095

Log No.: 17938

Field I.D.	105-0235	107-0235	109-0235	110-0235
Reference No.	31-49/TM	31-49/TM	31-49/TM	31-50/TM
Homogeneous	Yes	Yes	Yes	Yes
M-Layered	No	No	No	No
Layer No.	—	—	—	—
Color	Black	Black	Black	Black
Asbestos Present	Yes	No	Yes	No
Asbestos Type & %				
Chrysotile	5%		35%	
Amosite				
Crocidolite				
Anthophyllite				
Tremolite				
Actinolite				
Total Asbestos	5%	ND <1%	35%	ND<1%
Other Fibrous Material & %				
Fiberglass				
Cellulose	5%	15%		30%
Mineral Wool				
Other				
Non-Fibrous Materials %:	95%	85%	65%	70%

Note: Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

Method: 40 CFR Interim Method of the Determination of Asbestos in Bulk Insulation Samples Page 21 of 29
U.S. Environmental Protection Agency "Method for the Determination of Asbestos in Bulk Building Materials" (EPA/600/R-93/116), July 1993, R.L. Perkins and B.W. Harvey.

TRC Environmental Corporation
5 Waterside Crossing
Windsor, Connecticut 06095

Log No.: 17938

Field I.D.	111-0235	112-0235	113-0235	115-0235
Reference No.	31-50/TM	31-50/TM	31-59/TM	31-51/TM
Homogeneous	Yes	Yes	Yes	Yes
M-Layered	No	No	No	No
Layer No.	—	—	—	—
Color	Black	Black	Black	Black
Asbestos Present	No	No	Yes	Yes
Asbestos Type & %				
Chrysotile			10%	15%
Amosite				
Crocidolite				
Anthophyllite				
Tremolite				
Actinolite				
Total Asbestos	ND < 1%	ND < 1%	10%	15%
Other Fibrous Material & %				
Fiberglass				
Cellulose	10%		10%	10%
Mineral Wool				
Other				
Non-Fibrous Materials %:	90%	100%	80%	75%

Note: Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

Method: 40 CFR Interim Method of the Determination of Asbestos in Bulk Insulation Samples
U.S. Environmental Protection Agency "Method for the Determination of Asbestos in Bulk Building Materials" (EPA/600/R-93/116), July 1993, R.L. Perkins and B.W. Harvey.

TRC Environmental Corporation
5 Waterside Crossing
Windsor, Connecticut 06095

Log No.: 17938
QCd 4/23/97 ME

Field I.D.	116-0235	106-0235	108-0235	117-0235
Reference No.	31-51/TM	31-52/TM	31-52/TM	31-53/TM
Homogeneous	Yes	Yes	Yes	Yes
M-Layered	No	No	No	No
Layer No.	—	—	—	—
Color	Black	Black	Black	Black
Asbestos Present	No	Yes	Yes	No
Asbestos Type & %				
Chrysotile		30%	15%	
Amosite				
Crocidolite				
Anthophyllite				
Tremolite				
Actinolite				
Total Asbestos	ND<1%	30%	15%	ND<1%
Other Fibrous Material & %				
Fiberglass				15%
Cellulose			20%	15%
Mineral Wool				
Other				
Non-Fibrous Materials %:	100%	70%	65%	70%

Note: Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

Method: 40 CFR Interim Method of the Determination of Asbestos in Bulk Insulation Samples
U.S. Environmental Protection Agency "Method for the Determination of Asbestos in Bulk Building Materials" (EPA/600/R-93/116), July 1993, R.L. Perkins and B.W. Harvey.

TRC Environmental Corporation
5 Waterside Crossing
Windsor, Connecticut 06095

Log No.: 17938

Field I.D.	118-0235	119-0235	121-0235	122-0235
Reference No.	31-53/TM	31-53/TM	31-54/TM	31-54/TM
Homogeneous	Yes	Yes	Yes	Yes
M-Layered	No	No	No	No
Layer No.	—	—	—	—
Color	Black	Black	Black	Black
Asbestos Present	No	Yes	No	No
Asbestos Type & %				
Chrysotile		5%		
Amosite				
Crocidolite				
Anthophyllite				
Tremolite				
Actinolite				
Total Asbestos	ND < 1%	5%	ND < 1%	ND < 1%
Other Fibrous Material & %				
Fiberglass				20%
Cellulose	25%			
Mineral Wool				
Other				
Non-Fibrous Materials %:	75%	95%	100%	80%

Note: Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

Method: 40 CFR Interim Method of the Determination of Asbestos in Bulk Insulation Samples
U.S. Environmental Protection Agency "Method for the Determination of Asbestos in Bulk Building Materials" (EPA/600/R-93/116), July 1993, R.L. Perkins and B.W. Harvey.

TRC Environmental Corporation
5 Waterside Crossing
Windsor, Connecticut 06095

Log No.: 17938

Qcld 4/23/97 mc

Field I.D.	123-0235	124-0235	126-0235	127-0235
Reference No.	31-54/TM	31-55/TM	31-55/TM	31-55/TM
Homogeneous	Yes	Yes	Yes	Yes
M-Layered	No	No	No	No
Layer No.	—	—	—	—
Color	Black	Black	Black	Black
Asbestos Present	No	Yes	No	No
Asbestos Type & %				
Chrysotile		20%		
Amosite				
Crocidolite				
Anthophyllite				
Tremolite				
Actinolite				
Total Asbestos	ND<1%	20%	ND<1%	ND<1%
Other Fibrous Material & %				
Fiberglass				
Cellulose		15%	10%	30%
Mineral Wool				
Other				
Non-Fibrous Materials %:	100%	65%	90%	70%

Note: Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

Method: 40 CFR Interim Method of the Determination of Asbestos in Bulk Insulation Samples

U.S. Environmental Protection Agency "Method for the Determination of Asbestos in Bulk Building Materials" (EPA/600/R-93/116), July 1993, R.L. Perkins and B.W. Harvey.

TRC Environmental Corporation
5 Waterside Crossing
Windsor, Connecticut 06095

Log No.: 17938

Field I.D.	128-0235	130-0235	131-0235	132-0235
Reference No.	31-56/TM	31-56/TM	31-56/TM	31-57/TM
Homogeneous	Yes	Yes	Yes	Yes
M-Layered	No	No	No	No
Layer No.	—	—	—	—
Color	Black	Black	Black	Black
Asbestos Present	Yes	No	No	No
Asbestos Type & %				
Chrysotile	2%			
Amosite				
Crocidolite				
Anthophyllite				
Tremolite				
Actinolite				
Total Asbestos	2%	ND<1%	ND<1%	ND<1%
Other Fibrous Material & %				
Fiberglass				20%
Cellulose	15%			
Mineral Wool				
Other				
Non-Fibrous Materials %:	83%	100%	100%	80%

Note: Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

Method: 40 CFR Interim Method of the Determination of Asbestos in Bulk Insulation Samples
U.S. Environmental Protection Agency "Method for the Determination of Asbestos in Bulk Building Materials" (EPA/600/R-93/116), July 1993, R.L. Perkins and B.W. Harvey.

TRC Environmental Corporation
5 Waterside Crossing
Windsor, Connecticut 06095

Log No.: 17938

Field I.D.	133-0235	135-0235	136-0235	137-0235
Reference No.	31-57/TM	31-57/TM	31-58/TM	31-58/TM
Homogeneous	Yes	Yes	Yes	Yes
M-Layered	No	No	No	No
Layer No.	—	—	—	—
Color	Black	Black	Black	Black
Asbestos Present	Yes	Yes	No	No
Asbestos Type & %				
Chrysotile	5%	15%		
Amosite				
Crocidolite				
Anthophyllite				
Tremolite				
Actinolite				
Total Asbestos	5%	15%	ND<1%	ND<1%
Other Fibrous Material & %				
Fiberglass				
Cellulose	10%	10%		
Mineral Wool				
Other				
Non-Fibrous Materials %:	85%	75%	100%	100%

Note: Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

Method: 40 CFR Interim Method of the Determination of Asbestos in Bulk Insulation Samples

U.S. Environmental Protection Agency "Method for the Determination of Asbestos in Bulk Building Materials" (EPA/600/R-93/116), July 1993, R.L. Perkins and B.W. Harvey.

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Windsor, Connecticut 06095

Log No.: 17938

Rcvd 4/23/97 MC

Field I.D.	138-0235	139-0235	140-0235	141-0235
Reference No.	31-58/TM	31-59/TM	31-60/TM	31-59/TM
Homogeneous	Yes	Yes	Yes	Yes
M-Layered	No	No	No	No
Layer No.	—	—	—	—
Color	Black	Black	Black	Black
Asbestos Present	No	No	Yes	Yes
Asbestos Type & %				
Chrysotile			40%	15%
Amosite				
Crocidolite				
Anthophyllite				
Tremolite				
Actinolite				
Total Asbestos	ND < 1%	ND < 1%	40%	15%
Other Fibrous Material & %				
Fiberglass				
Cellulose				
Mineral Wool				
Other				
Non-Fibrous Materials %:	100%	100%	60%	85%

Note: Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

Method: 40 CFR Interim Method of the Determination of Asbestos in Bulk Insulation Samples Page 28 of 29
U.S. Environmental Protection Agency "Method for the Determination of Asbestos in Bulk Building Materials" (EPA/600/R-93/116), July 1993, R.L. Perkins and B.W. Harvey.

TRC Environmental Corporation
5 Waterside Crossing
Windsor, Connecticut 06095

Log No.: 17938

Field I.D.	84-0235	85-0235		
Reference No.	1-90/DS	1-32/DS		
Homogeneous	Yes	Yes		
M-Layered	No	No		
Layer No.	—	—		
Color	Grey & Black	Black		
Asbestos Present	No	No		
Asbestos Type & %				
Chrysotile				
Amosite				
Crocidolite				
Anthophyllite				
Tremolite				
Actinolite				
Total Asbestos	ND < 1%	ND < 1%		
Other Fibrous Material & %				
Fiberglass				
Cellulose	5%			
Mineral Wool				
Other				
Non-Fibrous Materials %:	95%	100%		

Note: Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

Method: 40 CFR Interim Method of the Determination of Asbestos in Bulk Insulation Samples
U.S. Environmental Protection Agency "Method for the Determination of Asbestos in Bulk Building Materials" (EPA/600/R-93/116), July 1993, R.L. Perkins and B.W. Harvey.

TRC Environmental Consultants, Inc.

CHAIN OF CUSTODY RECORD

17811
1 of 9

PROJECT NO.	PROJECT NAME
13707-0235-0000	Bradley Interntnl Airport - Terminal B Roof

SAMPLERS: (Signature) Henry Laliberte (Printed) Henry Laliberte

FIELD SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	PARAMETERS: PL/M	PARAMETERS: Analyze	REMARKS
01-0235	3/27/97			✓	Concourse A - Upper Roof	1	✓	✓	North - Built-up roofing
02-0235	↓			✓	↓	1	✓		Middle - " " "
03-0235				✓		1	✓		Southeast - " " "
04-0235				✓		1	✓	✓	Northeast - perimeter flashing
05-0235				✓		1	✓		Northwest - " "
06-0235				✓		1	✓		Southeast - " "
07-0235				✓		1	✓	✓	vent flashing
08-0235				✓		1	✓	✓	roof drain flashing
09-0235				✓		1	✓	✓	ladder - pitch pocket
10-0235				✓		1	✓		" - " "
11-0235				✓	Concourse A - Mid Section	1	✓	✓	south - built-up roofing
12-0235	↓			✓	↓	1	✓		middle - " " "

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Henry Laliberte	3/25/97				
(Printed) Henry Laliberte		(Printed)	(Printed)		(Printed)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Lance Cottar	Date / Time 3/28/97 10:45	Remarks: Do 01-03 until positive; Do 04-06 " "; Do 07 and 08; Do 09-10 until positive; Do 11-13 " "	
(Printed)		(Printed) Lance Cottar			

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).

TRC Environmental Consultants, Inc.

CHAIN OF CUSTODY RECORD

1781
2 of 9

PROJECT NO.	PROJECT NAME
13707-0235-0000	Bradley International Airport - Terminal B Roof

SAMPLERS: (Signature) Henry Laliberte (Printed) Henry Laliberte

FIELD SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	PARAMETERS: PLM	PARAMETERS: Analyze	REMARKS
13-0235	3/24/97			✓	Concourse A - Mid Section	1	✓		North - Built-up roofing
14-0235				✓		1	✓	✓	South - Flashing Expansion Joint
15-0235				✓		1	✓	✓	East - Perimeter Flashing
16-0235				✓		1	✓		West - " "
17-0235				✓		1	✓	✓	Vent - Flashing
18-0235				✓		1	✓		Roof Hatch - Flashing
19-0235				✓		1	✓	✓	pitch Pocket
20-0235				✓		1	✓		" "
21-0235				✓	Concourse A - Connector to Low Section / Mid Section	1	✓	✓	North - Built-up roofing
22-0235				✓		1	✓		South - " " " "
23-0235				✓		1	✓	✓	west - Perimeter flashing
24-0235				✓		1	✓		east - " "

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Henry Laliberte	3/25/97				
(Printed) Henry Laliberte		(Printed)	(Printed)		(Printed)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Lance Cotton	Date / Time 3/28/97 10:45	Remarks: DO 14 DO 15-16 until positive DO 17-18 " " DO 19-20 " " DO 21-22 " " DO 23-24 " "	
(Printed)		(Printed) Lance Cotton			

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).

TRC Environmental Consultants, Inc.

CHAIN OF CUSTODY RECORD

17811
3 of 9

PROJECT NO.	PROJECT NAME
13707-0235-0001	Bradley International Airport - Terminal B Roof

SAMPLERS: (Signature) Henry Laliberte (Printed) Henry Laliberte

FIELD SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	PARAMETERS: PLM	PARAMETERS: Analyze	REMARKS
25-0235	3/24/97			✓	Concourse A - Mid section connector to new Section	1	✓	✓	Roof Drain - Flashing
26-0235				✓	Concourse A - Lower Section	1	✓	✓	North - Built-up roofing
27-0235				✓		1	✓		Midwest - " " "
28-0235				✓		1	✓		Southeast - " " "
29-0235				✓		1	✓	✓	North - Perimeter Flashing
30-0235				✓		1	✓		west - " "
31-0235				✓		1	✓		south - " "
32-0235				✓		1	✓	✓	A.H. Handler - Flashing
33-0235				✓		1	✓		" " - "
34-0235				✓		1	✓	✓	Roof Drain - Flashing
35-0235	↓			✓	↓	1	✓	✓	Antenna - Pitch Pocket

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Henry Laliberte	3/25/97				
(Printed) Henry Laliberte		(Printed)	(Printed)		(Printed)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Lance Cottar	Date / Time 3/28/97 10:45	Remarks: Do 25; Do 26-28 until positive; Do 29-31 " "; Do 32-33 " "; Do 34 and 35	
(Printed)		(Printed) Lance Cottar			

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).

TRC Environmental Consultants, Inc.

CHAIN OF CUSTODY RECORD

PROJECT NO.	PROJECT NAME	PARAMETERS	17811 4 of 9
13707-0235-0000	Bradley International Airport - Terminal B Roof		

SAMPLERS: (Signature) Henry Laliberte (Printed) Henry Laliberte

FIELD SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	PLM	Analyze	REMARKS
36-0235	3/25/97			✓	Concourse B- Mid Section	1	✓	✓	West Built-up Roofing
37-0235				✓		1	✓		center - Built-up roofing
38-0235				✓		1	✓		east - Built-up roofing
39-0235				✓		1	✓	✓	west - permeter flashing
40-0235				✓		1	✓		north - " "
41-0235				✓		1	✓		South - " "
42-0235				✓		1	✓	✓	vent flashing
43-0235				✓		1	✓	✓	Roof drain flashing
44-0235				✓	Mid to Concourse B- upper connector	1	✓	✓	Northwest - Built-up roofing
45-0235				✓		1	✓		southeast - " " "
46-0235				✓		1	✓	✓	west - Permeter flashing
47-0235				✓		1	✓		east - " "

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Henry Laliberte	3/26/97				
(Printed) Henry Laliberte		(Printed)	(Printed)		(Printed)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Lance Cotton	Date / Time 3/28/97 10:45	Remarks: Do 36-38 until positive; Do 39-41 " "; Do 42 and 43; Do 44-45 until positive; Do 46-47 " "	
(Printed)		(Printed) Lance Cotton			

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TRC Environmental Consultants, Inc.

CHAIN OF CUSTODY RECORD

17811
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PROJECT NO.	PROJECT NAME
13707-0235-0001	Bradley International Airport Terminal B Roof

SAMPLERS: (Signature) Henry Laliberte (Printed) Henry Laliberte

PARAMETERS: NO. OF CONTAINERS; PLM Analysis

FIELD SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	PLM Analysis	REMARKS
48-0235	3/25/97			✓	Concourse B- mid to upper connector	1	✓ ✓	Roof drain flashing
49-0235				✓	Concourse B- upper section	1	✓ ✓	West - Built-up roofing
50-0235				✓		1	✓	Center - " " "
51-0235				✓		1	✓	East - " " "
52-0235				✓		1	✓ ✓	West - Perimeter Flashing
53-0235				✓		1	✓	Southeast - " "
54-0235				✓		1	✓	North - " "
55-0235				✓		1	✓ ✓	Vent flashing
56-0235				✓	Concourse B- Southeast Roof at upper Roof	1	✓ ✓	West - Built-up roofing
57-0235				✓		1	✓	Center - " " "
58-0235				✓		1	✓	East - " " "
59-0235	↓			✓	↓	1	✓ ✓	South - Perimeter flashing

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Henry Laliberte	3/26/97				
(Printed) Henry Laliberte		(Printed)	(Printed)		(Printed)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Lance Cotton	Date / Time 3/28/97 10:35		
(Printed)		(Printed) Lance Cotton			

Remarks
Do 48
Do 49-51 until positive
Do 52-54 " "
Do 55
Do 56-58 until positive
Do 59-61 " "

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).

TRC Environmental Consultants, Inc.

CHAIN OF CUSTODY RECORD

17811
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PROJECT NO.	PROJECT NAME
13707-0235-0001	Bradley International Airport - Terminal B Roof

SAMPLERS: (Signature) Henry Laliberte (Printed) Henry Laliberte

PARAMETERS: NO. OF CONTAINERS; PLM Analysis

FIELD SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	PLM Analysis	REMARKS
60-0235	3/25/97			✓	Concourse B - Southeast Roof at Upper Roof	1	✓	East - Perimeter Flashing
61-0235				✓		1	✓	North - " "
62-0235				✓		1	✓ ✓	Vent Flashing
63-0235				✓	Terminal B - North Side Lower Roof	1	✓ ✓	East - Built-up Roofing
64-0235				✓		1	✓	Southeast - " " "
65-0235				✓		1	✓ ✓	South - " " "
66-0235				✓		1	✓ ✓	Northwest - " " "
67-0235				✓		1	✓	Southwest - " " "
68-0235				✓		1	✓ ✓	Northwest - Perimeter Flashing
69-0235				✓		1	✓	Northeast - " "
70-0235				✓		1	✓	Southeast - " "
71-0235	↓			✓	↓	1	✓ ✓	South - " "

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Henry Laliberte	3/26/97				
(Printed) Henry Laliberte		(Printed)	(Printed)		(Printed)
Relinquished by: (Signature)	**Date / Time**	**Received for Laboratory by: (Signature)** Lance Cotter	**Date / Time** 3/28/97 10:55	**Remarks** DO 62 DO 63 - 64 until positive DO 65 DO 66 - 67 until positive DO 68 - 70 " " DO 71	
(Printed)		(Printed) Lance Cotter			

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).

TRC Environmental Consultants, Inc.

CHAIN OF CUSTODY RECORD

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PROJECT NO.	PROJECT NAME
13707-0235-0001	Bradley International Airport - Terminal B Roof

SAMPLERS: (Signature) Henry Lalibeste (Printed) Henry Lalibeste

PARAMETERS: NO. OF CONTAINERS; PLM; Analyze

FIELD SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	PLM	Analyze	REMARKS
72-0235	3/25/97			✓	Terminal B - North side Lower Roof Ent.	1	✓	✓	North - Perimeter Flashing
73-0235				✓		1	✓	✓	Conduit Flashing
74-0235				✓		1	✓		" "
75-0235				✓		1	✓	✓	Roof drain Flashing
76-0235				✓		1	✓	✓	southwest - Perimeter Flashing
77-0235				✓		1	✓	✓	conduit flashing
78-0235				✓		1	✓	✓	Roof drain flashing
79-0235				✓	IAB Arrival Bldg - Entry Roof under west canopy (North section)	1	✓	✓	south - Built-up roofing
80-0235				✓		1	✓		middle - " " "
81-0235				✓		1	✓	.	North - " " "
82-0235				✓		1	✓	✓	west - perimeter flashing
83-0235	↓			✓	↓	1	✓		northeast - " "

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Henry Lalibeste	3/26/97				
(Printed) Henry Lalibeste		(Printed)	(Printed)		(Printed)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Lance Cotter	Date / Time 3/28/97 10:50	Remarks: Do 72; Do 73-74 until positive; Do 75, 76, 77, and 78; Do 79-81 until positive; Do 82-84 " "	
(Printed)		(Printed) Lance Cotter			

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).

TRC Environmental Consultants, Inc.

CHAIN OF CUSTODY RECORD

1781
8 of 9

PROJECT NO.	PROJECT NAME
13707-0235-0002	Bradley International Airport – Terminal B Roof

SAMPLERS: (Signature) Henry Laliberte (Printed) Henry LaLiberte

FIELD SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	PARAMETERS: PCM	PARAMETERS: Analyze	REMARKS
84-0235	3/25/97			✓	IAB Arrival Bldg-Entry Roof under west Canopy (North section)	1	✓		east - perimeter Flashing
85-0235				✓		1	✓	✓	Roof drain flashing (vent)
86-0235				✓		1	✓	✓	Air Handler Flashing
87-0235				✓		1	✓	✓	pitch pocket
88-0235				✓	↓	1	✓		" "
89-0235				✓	IAB Arrival Bldg-Entry Roof under west Canopy (south section)	1	✓	✓	North ~~southeast~~ - Built-up roofing
90-0235				✓		1	✓		middle - " " "
91-0235				✓		1	✓		South - " " "
92-0235				✓		1	✓	✓	South - perimeter flashing
93-0235				✓		1	✓		North - " "
94-0235				✓		1	✓		East - " "
95-0235	↓			✓	↓	1	✓	✓	Roof drain flashing

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Henry Laliberte	3/26/97				
(Printed) Henry Laliberte		(Printed)	(Printed)		(Printed)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Lance Cott	Date / Time 3/28/97 10:55	Remarks: DO 85 and 86 DO 87 – 88 until positive DO 89 – 91 " " DO 92 – 94 " " DO 95	
(Printed)		(Printed) Lance Cott			

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).

TRC Environmental Consultants, Inc.

CHAIN OF CUSTODY RECORD

17811
9 of 9

PROJECT NO.	PROJECT NAME
13707-0235-00001	Bradley International Airport - Terminal B Roof

SAMPLERS: (Signature) Henry Laliberte (Printed) Henry Laliberte

PARAMETERS

FIELD SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	PLM	Analyze							REMARKS
96-0235	3/25/97			✓	IAB Arrival Bldg - Entry Roof under West Canopy (south Section)	1	✓	✓							Vent flashing
97-0235	↓			✓	↓	1	✓	✓							Pitch Pocket - upper East
98-0235	↓			✓	↓	1	✓	✓							" " - lower west

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Henry Laliberte	3/26/97				
(Printed) Henry Laliberte		(Printed)	(Printed)		(Printed)

Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks
		Lance Cotter	3/28/97 10:55	Do 96, 97, and 98
(Printed)		(Printed) Lance Cotter		

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).

TRC Environmental Consultants, Inc.

CHAIN OF CUSTODY RECORD

PROJECT NO.	PROJECT NAME	PARAMETERS	1 of 4
13707-0235-0001	Bradley International Airport - Terminal B		Lab #: 17938

SAMPLERS: (Signature) Henry Laliberte (Printed) Henry Laliberte

FIELD SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	PLM	Analyze	REMARKS
									Roof Sampling Concourse A
99-0235-1307	4/16/97			✓	Lower Section (south)	1	✓	✓	Layered Roofing - North
100-0235				✓		1	✓		" " - Northwest
101-0235				✓		1	✓		" " - South
102-0235				✓		1	✓	✓	Depressed Area - Layered Roofing North
103-0235				✓		1	✓		Depressed Area - Layered Roofing south
104-0235				✓		1	✓	✓	Perimeter Flashing - east
105-0235				✓		1	✓		" " - North
106-0235				✓		1	✓	✓	Flashing at Air Handler
107-0235				✓		1	✓	✓	Depressed Area Perimeter Flashing - east
108-0235				✓		1	✓		Depressed Area / Perimeter Flashing - South
109-0235				✓		1	✓	✓	Pitch Pocket - Air Handler
110-0235				✓	Jetbridge - UPPER Roof	1	✓	✓	Layered Roofing - northeast

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Henry Laliberte	4/18/97 0900				
(Printed) Henry Laliberte		(Printed)	(Printed)		(Printed)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Lance Cotter	Date / Time 4/18/97	07:45	Remarks
(Printed)		(Printed) Lance Cotter			

Remarks:
DO 99 - 101 until positive
DO 102 - 103 " "
DO 104 - 105 " "
DO 106
DO 107 - 108 until positive
DO 109
DO 110 - 112 until positive

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).

TRC Environmental Consultants, Inc.

CHAIN OF CUSTODY RECORD

PROJECT NO.	PROJECT NAME
13702-0235-01	Bradley International Airport - Terminal B

SAMPLERS: (Signature) Henry Lafiberte (Printed) Henry Laliberte

Lab #: 17938

FIELD SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	PARAMETERS: PLM	PARAMETERS: Analyze	REMARKS
111-0235-01	4/16/97			✓	Jetbridge - UPPER Roof	1	✓		Roof Sampling Layered Roofing - central
112-0235				✓		1	✓		" " - west
113-0235				✓		1	✓	✓	Perimeter Flashing - North
114-0235				✓		1	✓		" " - west
115-0235				✓		1	✓	✓	Vent Flashing
116-0235				✓	Lower Section (South END) Southwest low side Roof	1	✓	✓	Layered Roofing - North
117-0235				✓		1	✓		" " - central
118-0235				✓		1	✓		" " - south
119-0235				✓		1	✓	✓	Perimeter Flashing - Northwest
120-0235				✓		1	✓		" " - East
121-0235				✓		1	✓	✓	Vent Flashing
122-0235	↓			✓	Mid Section Connector - west Overhang at Tunnel	1	✓	✓	Layered Roofing - south

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Henry Laliberte	4/18/97 0900				
(Printed) Henry Laliberte		(Printed)	(Printed)		(Printed)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Lance Cotton	Date / Time 4/20/97 07:45	Remarks	
(Printed)		(Printed) Lance Cotton			

Remarks:
DO 113-114 until positive
DO 115
DO 116-118 until positive
DO 119-120 " "
DO 121
DO 122-123 until positive

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).

TRC Environmental Consultants, Inc.

CHAIN OF CUSTODY RECORD

PROJECT NO.	PROJECT NAME	PARAMETERS	3 of 4
13707-0235-01	Bradley International Airport - Terminal B		Lab #: 17938

SAMPLERS: (Signature) Henry Laliberte (Printed) Henry Laliberte

FIELD SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	PLM	Analyze	REMARKS
									Roof Sampling
123-0235	4/16/97			✓	Mid Section Connector - West Overhang at Tunnel	1	✓		Layered Roofing - North
124-0235				✓	Mid Section Connector - West Overhang at Tunnel	1	✓	✓	Perimeter Flashing - southwest
125-0235				✓	Mid Section Connector - West Overhang at Tunnel	1	✓		" " / skylight - North side
126-0235				✓	Mid Section Connector - East Overhang at Tunnel	1	✓	✓	Layered Roofing - South
127-0235				✓	↓	1	✓		" " - North
128-0235				✓	↓	1	✓	✓	Perimeter Flashing - east
129-0235				✓	↓	1	✓		" " - West
130-0235				✓	Jetbridge - Lower Roof	1	✓	✓	Layered Roofing - Northwest
131-0235				✓	↓	1	✓		" " - central
132-0235				✓	↓	1	✓		" " - southwest
133-0235				✓	↓	1	✓	✓	Perimeter Flashing - East central
134-0235	↓			✓	↓	1	✓		" " - west

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Henry Laliberte	4/18/97 0900				
(Printed) Henry Laliberte		(Printed)	(Printed)		(Printed)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Lance Cotter	Date / Time 4/21/97 0745	Remarks	Do 124-125 until positive
(Printed)		(Printed) Lance Cotter			Do 126-127 " "
					Do 128-129 " "
					Do 130-132 " "
					Do 133-134 " "

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).

TRC Environmental Consultants, Inc.

CHAIN OF CUSTODY RECORD

PROJECT NO.	PROJECT NAME	PARAMETERS	4 of 4
13707-0235-01	Bradley International Airport – Terminal B		Lab #: 17938

SAMPLERS: (Signature) Henry Lafiberte (Printed) Henry Lafiberte

FIELD SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	PLM	Analyze	REMARKS
135-0235	4/16	/97		✓	Jetbridge – Lower Roof	1	✓	✓	Roof Drain Flashing
136-0235				✓	Terminal B – Restroom + stair landing Roof	1	✓	✓	Layered Roofing – South
137-0235				✓		1	✓		" " – Centre/North
138-0235				✓		1	✓		" " – ~~South~~
139-0235				✓		1	✓	✓	Perimeter Flashing west
140-0235				✓		1	✓		" " – East
141-0235	↓			✓	↓	1	✓	✓	Roof Drain Flashing

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Henry Lafiberte	4/18/97 0900				
(Printed) Henry Lafiberte		(Printed)	(Printed)		(Printed)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Lance Cotton	Date / Time 4/21/97 0754	Remarks	Do 135 Do 136 – 138 until positive Do 139 – 140 " " Do 141
(Printed)		(Printed) Lance Cotton			

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).

APPENDIX C
TEM BULK ASBESTOS SAMPLE ANALYSIS RESULTS/CHAIN-OF-CUSTODY FORMS

Westmont, NJ (609) 858-1260 | Piscataway, NJ (908) 981-0550 | Carle Place, NY (516) 997-7251 | Smyrna, GA (404) 333-6066 | Melbourne, FL (407) 253-4224 | Ann Arbor, MI (313) 668-6810 | San Mateo, CA (415) 570-5401

EMSL

Friday, April 25, 1997

TRC Environmental Consultants
5 Waterside Crossing
Windsor, CT 06095
Phone: (860) 289-8631
Fax: (860) 298-6399

Project: **Bradley International Airport - Terminal B Roof / Proj #13707-0235-0000**
Attention: **Lance R. Cotton / Henry Laliberte**
Ref Number: **NY972312**
Comment: Asbestos amounts found in amounts <1% are reported as Trace.
Page: 1 of 7

Analysis of Bulk Samples Performed by Transmission Electron Microscopy (TEM) Chatfield Method*

SAMPLE ID	SAMPLE DESCRIPTION	COLOR	%NON-FIBROUS MATERIAL	%NON-ASB FIBERS	TEM RESULTS* % ASBESTOS
01-0235 / North Built-up Roofing	Concourse A-Upper Roof	Black	100%	None Detected	None Detected
11-0235 / South Built-up Roofing	Concourse A-Mid Section	Black	100%	None Detected	None Detected
21-0235 / North Built-up Roofing	Concourse A-Mid Section Connector to Low Section	Black	100%	None Detected	None Detected

Edward R. Cahill
Laboratory Director

*Results near 1% are not reliable by this method and a more accurate TEM method is recommended.
To ensure reliable results, EMSL recommends the use of SEM as a quality control measure. Without SEM QC the current diagnosis error rate of TEM/NOB and TEM/Chatfield occurs at a frequency of approximately 1-2% of samples analyzed. Without SEM QC, EMSL is not responsible for errors which could have been prevented with SEM QC.

Westmont, NJ (609) 858-1260 | Piscataway, NJ (908) 981-0550 | Carle Place, NY (516) 997-7251 | Smyrna, GA (404) 333-6066 | Melbourne, FL (407) 253-4224 | Ann Arbor, MI (313) 668-6810 | San Mateo, CA (415) 570-5401

EMSL

Project: Bradley International Airport - Terminal B Roof / Proj #13707-0235-0000
Attention: Lance R. Cotton / Henry Laliberte
Ref Number: NY972312
Comment: Asbestos amounts found in amounts <1% are reported as Trace.
Page: 2 of 7

Analysis of Bulk Samples Performed by Transmission Electron Microscopy (TEM) Chatfield Method*

SAMPLE ID	SAMPLE DESCRIPTION	COLOR	%NON-FIBROUS MATERIAL	%NON-ASB FIBERS	TEM RESULTS* % ASBESTOS
26-0235 / North Built-up Roofing	Concourse A-Lower Section /	Black	100%	None Detected	None Detected
36-0235 / West Built-up Roofing	Concourse B-Mid Section	Black	100%	None Detected	None Detected
44-0235 / Northwest Built-up Roofing	Concourse B-Mid to Upper Connector	Black	100%	None Detected	None Detected
49-0235 / West Built-up Roofing	Concourse B-Upper Section	Black	100%	None Detected	None Detected
56-0235 / West Built-up Roofing	Concourse B-Southeast Roof at Upper Roof /	Black	100%	None Detected	None Detected
63-0235 / East Built-up Roofing	Terminal B-Northside Lower Roof	Blue / Black	100%	None Detected	None Detected

Edward R. Cahill
Laboratory Director

*Results near 1% are not reliable by this method and a more accurate TEM method is recommended. To ensure reliable results, EMSL recommends the use of SEM as a quality control measure. Without SEM QC the current diagnosis error rate of TEM/NOB and TEM/Chatfield occurs at a frequency of approximately 1-2% of samples analyzed. Without SEM QC, EMSL is not responsible for errors which could have been prevented with SEM QC.

Westmont, NJ (609) 858-1260 | Piscataway, NJ (908) 981-0550 | Carle Place, NY (516) 997-7251 | Smyrna, GA (404) 333-6066 | Melbourne, FL (407) 253-4224 | Ann Arbor, MI (313) 668-6810 | San Mateo, CA (415) 570-5401

EMSL

Project: **Bradley International Airport - Terminal B Roof / Proj #13707-0235-0000**
Attention: **Lance R. Cotton / Henry Laliberte**
Ref Number: **NY972312**
Comment: Asbestos amounts found in amounts <1% are reported as Trace.
Page: **3 of 7**

Analysis of Bulk Samples Performed by Transmission Electron Microscopy (TEM) Chatfield Method*

SAMPLE ID	SAMPLE DESCRIPTION	COLOR	%NON-FIBROUS MATERIAL	%NON-ASB FIBERS	TEM RESULTS* % ASBESTOS
65-0235 / South Built-up Roofing	Terminal B-Northside Lower Roof	Black	100%	None Detected	None Detected
67-0235 / Southwest Built-up Roofing	Terminal B-Northside Lower Roof	Black	100%	None Detected	None Detected
71-0235 / South Built-up Roofing	Terminal B-Northside Lower Roof	Black	100%	None Detected	None Detected
72-0235 / North Perimeter Flashing	Terminal B-Northside Lower Roof	Black	96.8%	None Detected	3.2% Chrysotile
79-0235 / South Built-up Roofing	IAB Arrival Bldg.-Entry Roof Under West Canopy (north Section)	Black	100%	None Detected	None Detected

Edward R. Cahill
Laboratory Director

*Results near 1% are not reliable by this method and a more accurate TEM method is recommended.
To ensure reliable results, EMSL recommends the use of SEM as a quality control measure. Without SEM QC the current diagnosis error rate of TEM/NOB and TEM/Chatfield occurs at a frequency of approximately 1-2% of samples analyzed. Without SEM QC, EMSL is not responsible for errors which could have been prevented with SEM QC.

Westmont, NJ (609) 858-1260 | Piscataway, NJ (908) 981-0550 | Carle Place, NY (516) 997-7251 | Smyrna, GA (404) 333-6066 | Melbourne, FL (407) 253-4224 | Ann Arbor, MI (313) 668-6810 | San Mateo, CA (415) 570-5401

EMSL

Monday, May 05, 1997

TRC Environmental Consultants
5 Watersude Crossing
Windsor, CT 06095
Phone: (860) 289 - 8631
Fax: (860) 298 - 6399

Project: **Bradley International Airport / #13707-0235-00001**
Attention: **Lance Cotton**
Ref Number: **NY972513**
Comment: Asbestos amounts found in amounts <1% are reported as Trace.

Analysis of Bulk Samples Performed by Transmission Electron Microscopy (TEM) Chatfield Method*

SAMPLE ID	SAMPLE DESCRIPTION	COLOR	%NON-FIBROUS MATERIAL	%NON-ASB FIBERS	TEM RESULTS* % ASBESTOS
82-0235	West Perimeter Flashing	Black	100%	None Detected	None Detected

Edward R. Cahill
Laboratory Director

*Results near 1% are not reliable by this method and a more accurate TEM method is recommended.
To ensure reliable results, EMSL recommends the use of SEM as a quality control measure. Without SEM QC the current diagnosis error rate of TEM/NOB and TEM/Chatfield occurs at a frequency of approximately 1-2% of samples analyzed. Without SEM QC, EMSL is not responsible for errors which could have been prevented with SEM QC.

Westmont, NJ (609) 858-1260 | Piscataway, NJ (908) 981-0550 | Carle Place, NY (516) 997-7251 | Smyrna, GA (404) 333-6066 | Melbourne, FL (407) 253-4224 | Ann Arbor, MI (313) 668-6810 | San Mateo, CA (415) 570-5401

EMSL

Project: Bradley International Airport - Terminal B Roof / Proj #13707-0235-0000
Attention: Lance R. Cotton / Henry Laliberte
Ref Number: NY972312
Comment: Asbestos amounts found in amounts <1% are reported as Trace.
Page: 4 of 7

Analysis of Bulk Samples Performed by Transmission Electron Microscopy (TEM) Chatfield Method*

SAMPLE ID	SAMPLE DESCRIPTION	COLOR	%NON-FIBROUS MATERIAL	%NON-ASB FIBERS	TEM RESULTS* % ASBESTOS
85-0235 / Roof Drain Flashing	IAB Arrival Bldg.-Entry Roof under West Canopy (North Section)	Black	100%	None Detected	None Detected
89-0235 / North Built-up Roofing	IAB Arrival Bldg-Entry Roof under West Canopy (South Section)	Black	100%	None Detected	None Detected
96-0235 / Vent Flashing	IAB Arrival Bldg-Entry Roof under West Canopy (South Section)	Black	100%	None Detected	None Detected
99-0235 / Layered Roofing-North	Concourse A-Lower Section (South)	Black	100%	None Detected	None Detected
100-0235 / Layered Roofing-Northwest	Concourse A-Lower Section (South)	Black	100%	None Detected	None Detected

Edward R. Cahill
Laboratory Director

*Results near 1% are not reliable by this method and a more accurate TEM method is recommended.
To ensure reliable results, EMSL recommends the use of SEM as a quality control measure. Without SEM QC the current diagnosis error rate of TEM/NOB and TEM/Chatfield occurs at a frequency of approximately 1-2% of samples analyzed. Without SEM QC, EMSL is not responsible for errors which could have been prevented with SEM QC.

Westmont, NJ (609) 858-1260 | Piscataway, NJ (908) 981-0550 | Carle Place, NY (516) 997-7251 | Smyrna, GA (404) 333-8066 | Melbourne, FL (407) 253-4224 | Ann Arbor, MI (313) 668-6810 | San Mateo, CA (415) 570-5401

EMSL

Project: Bradley International Airport - Terminal B Roof / Proj #13707-0235-0000
Attention: Lance R. Cotton / Henry Laliberte
Ref Number: NY972312
Comment: Asbestos amounts found in amounts <1% are reported as Trace.
Page: 5 of 7

Analysis of Bulk Samples Performed by Transmission Electron Microscopy (TEM) Chatfield Method*

SAMPLE ID	SAMPLE DESCRIPTION	COLOR	%NON-FIBROUS MATERIAL	%NON-ASB FIBERS	TEM RESULTS* % ASBESTOS
101-0235 / Layered Roofing-South	Concourse A-Lower Section (South)	Black	100%	None Detected	None Detected
102-0235 / Depressed Area-Layered Roofing-North	Concourse A-Lower Section (South)	Black	100%	None Detected	None Detected
103-0235 / Depressed Area-Layered Roofing-South	Concourse A-Lower Section (South)				Weight of Residue is <1% / No Analysis Necessary
104-0235 / Perimeter Flashing-East	Concourse A-Lower Section (South)	Black	100%	None Detected	None Detected

Edward R. Cahill
Laboratory Director

*Results near 1% are not reliable by this method and a more accurate TEM method is recommended. To ensure reliable results, EMSL recommends the use of SEM as a quality control measure. Without SEM QC the current diagnosis error rate of TEM/NOB and TEM/Chatfield occurs at a frequency of approximately 1-2% of samples analyzed. Without SEM QC, EMSL is not responsible for errors which could have been prevented with SEM QC.

Westmont, NJ (609) 858-1260 | Piscataway, NJ (908) 981-0550 | Carle Place, NY (516) 997-7251 | Smyrna, GA (404) 333-6066 | Melbourne, FL (407) 253-4224 | Ann Arbor, MI (313) 668-6810 | San Mateo, CA (415) 570-5401

EMSL

Project: Bradley International Airport - Terminal B Roof / Proj #13707-0235-0000
Attention: Lance R. Cotton / Henry Laliberte
Ref Number: NY972312
Comment: Asbestos amounts found in amounts <1% are reported as Trace.
Page: 6 of 7

Analysis of Bulk Samples Performed by Transmission Electron Microscopy (TEM) Chatfield Method*

SAMPLE ID	SAMPLE DESCRIPTION	COLOR	%NON-FIBROUS MATERIAL	%NON-ASB FIBERS	TEM RESULTS* % ASBESTOS
107-0235 / Depressed Area Perimeter Flashing-East	Concourse A-Lower Section (South)	Black	100%	None Detected	None Detected
110-0235 / Layered Roofing-Northeast	Jetbridge- Upper Roof / Concourse A	Black	100%	None Detected	Trace Chrysotile
116-0235 / Layered Roofing-North	Lower Section (South End) Southwest Low Side Roof	Black	100%	None Detected	None Detected
121-0235 / Vent Flashing	Lower Section (South End) Southwest Low Side Roof	Black	100%	None Detected	None Detected
122-0235 / Layered Roofing-South	Mid Section Connector-West Overhang at Tunnel	Black	100%	None Detected	None Detected

Edward R. Cahill
Laboratory Director

*Results near 1% are not reliable by this method and a more accurate TEM method is recommended. To ensure reliable results, EMSL recommends the use of SEM as a quality control measure. Without SEM QC the current diagnosis error rate of TEM/NOB and TEM/Chatfield occurs at a frequency of approximately 1-2% of samples analyzed. Without SEM QC, EMSL is not responsible for errors which could have been prevented with SEM QC.

Westmont, NJ (609) 858-1260 | Piscataway, NJ (908) 981-0550 | Carle Place, NY (516) 997-7251 | Smyrna, GA (404) 333-6066 | Melbourne, FL (407) 253-4224 | Ann Arbor, MI (313) 668-6810 | San Mateo, CA (415) 570-5401

EMSL

Project: Bradley International Airport - Terminal B Roof / Proj #13707-0235-0000
Attention: Lance R. Cotton / Henry Lalliberte
Ref Number: NY972312
Comment: Asbestos amounts found in amounts <1% are reported as Trace.
Page: 7 of 7

Analysis of Bulk Samples Performed by Transmission Electron Microscopy (TEM) Chatfield Method*

SAMPLE ID	SAMPLE DESCRIPTION	COLOR	%NON-FIBROUS MATERIAL	%NON-ASB FIBERS	TEM RESULTS* % ASBESTOS
126-0235 / Layered Roofing-South	Mid Section Connector-East Overhang at Tunnel	Black	100%	None Detected	None Detected
130-0235 / Layered Roofing-Northeast	Jetbridge- Lower Roof	Black	100%	None Detected	None Detected
136-0235 / Layered Roofing-South	Terminal B-Restroom of Stair Landing Roof	Black	100%	None Detected	None Detected
139-0235 / Perimeter Flashing-West	Terminal B-Restroom of Stair Landing Roof	Black	100%	None Detected	None Detected

Edward R. Cahill
Laboratory Director

*Results near 1% are not reliable by this method and a more accurate TEM method is recommended. To ensure reliable results, EMSL recommends the use of SEM as a quality control measure. Without SEM QC the current diagnosis error rate of TEM/NOB and TEM/Chatfield occurs at a frequency of approximately 1-2% of samples analyzed. Without SEM QC, EMSL is not responsible for errors which could have been prevented with SEM QC.

EMSL Analytical, Inc.

Asbestos

CHAIN OF CUSTODY

EMSL Representative: ~~STANLEY STOLZ~~ Ed Cahill

Your Company Name: TRC Env. Corp.

EMSL-Bill to: TRC Env. Corp.

Street: 5 Waterside Crossing
Box #:
City/State: Windsor, CT Zip 06095

Street: 5 Waterside Crossing
Box #:
City/State: Windsor, CT Zip: 06095

Phone Results to: Name Lance R. Cotta
Telephone #: (860) 298-6326

Fax Results to: Name Lance Cotta
Fax Number: (860) 298-6399

Project Name/Number: Bradley Int'l Airport 13707-0235-00001

Purchase Order #:

MATRIX

- ☐ Air
- ☒ Bulk
- ☐ Wipe
- ☐ Floor Tile
- ☐ Drinking Water
- ☐ Wastewater
- ☐ Soil
- ☐ Dust

TURNAROUND

- ☐ 6-10 Days
- ☐ 5 Days
- ☐ 72 Hours
- ☐ 48 Hours
- ☒ 24 Hour
- ☐ 12 Hour
- ☐ Same Day*
- ☐ 6 Hours

*S.D. - A.M. delivery by Fed. Ex.-Results by Mid-night or earlier

PCM
- ☐ NIOSH 7400
- ☐ OSHA
- ☐ Other:

PLM
- ☐ EPA 600
- ☐ NOB
- ☐ Point Count
- ☐ Other:

SEM
- ☐ Qualitative
- ☐ Quantitative

TEM AIR
- ☐ AHERA
- ☐ NIOSH 7402
- ☐ Level I
- ☐ Level II

TEM BULK
- ☐ Drop Mount (Qualitative)
- ☒ Chatfield
- ☐ Chatfield / SEM QC
- ☐ Conventional (Quantitative)
- ☐ EMSL Method
- ☐ NOB
- ☐ NOB / SEM QC
- ☐ Micro Vac - Quantitative
- ☐ Micro Vac - Qualitative

TEM WATER
- ☐ Wastewater
- ☐ Drinking Water EPA 100.2
- ☐ Water - NY Wastewater
- ☐ Water-NY Drinking Water

TEM WIPE
- ☐ Quantitative
- ☐ Qualitative

XRD
- ☐ Asbestos
- ☐ Silica

OTHER
- ☐

Client Sample # (s) 82-0235 -

Total Samples: 1

Relinquished: Lance Cotta Date: 5/1/97 Time: 17:30pm

Received: RPilapil Date: 5/2/97 Time: 9:30AM

Received: Date: Time:

NOTE: Please duplicate this form and use additional sheets if necessary.

NY972513

EMSL Analytical, Inc.

Asbestos

CHAIN OF CUSTODY

Your Company Name: TRC Env. Corporation

Project Name/Number: Bradley Int'l Airport 13707-0235-00001 **Purchase Order #:**

SAMPLE NUMBER	LOCATION	VOLUME (If Applicable)
82-0235	west perimeter flashing	

NOTE: Please duplicate this form and use additional sheets if necessary.

RP 5/2/97
9AM

NY972513

APPENDIX D
DETAILED COST ESTIMATE

COST ESTIMATE FOR ASBESTOS ABATEMENT
Bradley International Airport
Terminal B Roofs
Windsor Locks, Connecticut

ASBESTOS REMOVAL

Flashing (18,200 SF @ $4.00/SF)	$72,800.00
Pitch/roof patch (400 SF @ $4.00/SF)	$1,600.00

WASTE DISPOSAL

Asbestos Wast Disposal (100 Cubic Yards @ $55.00/CY)	$5,500.00

ESTIMATED TOTAL ACM ABATEMENT COSTS: $79,900.00