

ASBESTOS-CONTAINING MATERIALS INSPECTION ART SNOWDEN BUILDING ROOFS 2,3,6,7,8,9,10, AND 11

A. OVERVIEW

The work on this project was to support Bezek Durst Seiser (BDS) in identifying asbestos-containing materials that are likely to be disturbed during re-roofing of the Art Snowden Building in Anchorage, Alaska. The building is currently utilized by the Alaska Court System

The building had 12 distinct roofs. However, three were excluded from the scope of this survey.

B. SURVEY

EHS-Alaska, as a consultant to BDS, conducted a limited survey of the project roofs on October 19, 2001 for the presence, extent, and condition of possible asbestos-containing materials (ACM). EHS Alaska was directed to sample each roof in one location, each parapet wall in one location and representative, miscellaneous sealants whenever encountered. The purpose of this inspection was to identify ACM that might be disturbed during re-roofing activities. The roofs were covered with snow during the sampling and only those areas cleared by the inspector were visible for sampling.

C. SAMPLING AND ANALYSIS

1. Asbestos-Containing Materials

Mr. Brian Morgan of EHS-Alaska, Inc. performed an inspection of the project roofs and collected 73 samples of materials suspected of containing asbestos. Mr. Morgan is an EPA certified building inspector. All samples were analyzed for the presence of asbestos by polarized light microscopy (PLM), the method of analysis recommended by the U.S. Environmental Protection Agency (EPA) to determine the composition of suspected asbestos-containing materials. International Asbestos Testing Laboratories (IATL), Mt. Laurel, New Jersey analyzed samples for asbestos content, a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory. Only materials containing more than 1% total asbestos were classified as "asbestos-containing" based on EPA criteria. Samples with less than 10% asbestos by PLM analysis were point counted for improved accuracy. Additionally, a single sample was subjected to Transmission Electron Microscopy (TEM) to determine which of the two materials in the sample contained asbestos. Table 1 provides a summary list of all samples collected and the results. Chain of Custody Record/Field Survey Data sheets and Laboratory reports are included in Appendix A. A roof plan showing location of samples collected by EHS-Alaska is provided in Appendix B.

<i>SAMPLE NUMBER</i>	<i>MATERIAL</i>	<i>LOCATION</i>	<i>ASBESTOS CONTENT</i>
Roof 6			
AKR6-A01	Base layer with tar	Center of roof toward W end	None Detected
AKR6-A02	Fesco board	Center of roof toward W end	None Detected
AKR6-A03	Bottom 2 layers of roof	Center of roof toward W end	None Detected
AKR6-A04	Top 2 layers of roof	Center of roof toward W end	None Detected
AKR6-A05	Black tar and fabric mesh	NW corner at joint of roof and parapet wall	4.5% Chrysotile
AKR6-A06	Black tar at seam flashing	S parapet, W of center	10% Chrysotile
AKR6-A07	Flashing	S parapet, W of center	None Detected
Roof 7			
AKR7-A01	Fiberglass board facing	SW quadrant of roof, S of air duct	None Detected
AKR7-A02	Bottom roof layers	SW quadrant of roof, S of air duct	None Detected
AKR7-A03	Mesh and tar	SW quadrant of roof, S of air duct	None Detected
AKR7-A04	Top roof layers	SW quadrant of roof, S of air duct	None Detected
AKR7-A05	Black sealant	SW corner	None Detected
AKR7-A06	Gray/black parapet wall sealant	S wall, W of center	None Detected
AKR7-A07	Black penetration sealant	Flashing on air handler	None Detected
AKR7-A08	Flashing	W wall, S of center	6.8% Chrysotile
AKR7-A09	Black parapet seam sealant	N wall, center	None Detected
Roof 8			
AKR8-A01	Base layer with tar	NW corner of roof	None Detected
AKR8-A02	Fesco board	NW corner of roof	None Detected
AKR8-A03	Bottom roof layers	NW corner of roof	None Detected
AKR8-A04	Top roof layers	NW corner of roof	None Detected
AKR8-A05	Gray/black sealant on parapet wall seam	N parapet wall, center	None Detected
AKR8-A06	Parapet wall flashing	N parapet wall, center	None Detected
Roof 9			
AKR9-A01	Base paper and tar	Center of roof near S end	Trace, < 1%
AKR9-A01	Base paper and tar	Center of roof near S end	2.2% Chrysotile

<i>SAMPLE NUMBER</i>	<i>MATERLAL</i>	<i>LOCATION</i>	<i>ASBESTOS CONTENT</i>
Reanalyzed by TEM			Tar paper
AKR9-A02	Fesco	Center of roof near S end	None Detected
AKR9-A03	Bottom roof layers	Center of roof near S end	None Detected
AKR9-A04	Fabric mesh and tar	Center of roof near S end	None Detected
AKR9-A05	Top roof layers	Center of roof near S end	None Detected
AKR9-A06	Top flashing layers with mesh	S wall toward W end	6 % Chrysotile in black tar layer
AKR9-A07	Bottom flashing layers	S wall toward W end	None Detected
AKR9-A08	Black tarry sealant	E wall near N end	10 % Chrysotile
Roof 10			
AKR10-A01	Base paper and tar	Between NE corner and center of roof	None Detected
AKR10-A02	Fesco	Between NE corner and center of roof	None Detected
AKR10-A03	Bottom roof layers	Between NE corner and center of roof	None Detected
AKR10-A04	Fabric mesh and tar	Between NE corner and center of roof	None Detected
AKR10-A05	Top roof layers	Between NE corner and center of roof	None Detected
AKR10-A06	Black penetration sealant	Vent, NE of center	None Detected
AKR10-A07	Gray/black sealant	Vent in SE corner	7 % Chrysotile
AKR10-A08	Black parapet wall cap sealant	S parapet wall, near W end	5.1 % Chrysotile
AKR10-A09	Top flashing layer	N parapet wall, just W of center	None Detected
AKR10-A10	Bottom flashing layer	N parapet wall, just W of center	None Detected
AKR10-A11	Gray/black flashing sealant	AC, E. bay, SW corner of front work area	4.5 % Chrysotile
Roof 11			
AKR11-A01	Base layer and tar	W side of roof, just N of center	None Detected
AKR11-A02	Fesco board	W side of roof, just N of center	None Detected
AKR11-A03	Bottom layers	W side of roof, just N of center	None Detected

<i>SAMPLE NUMBER</i>	<i>MATERIAL</i>	<i>LOCATION</i>	<i>ASBESTOS CONTENT</i>
AKR11-A04	Top Layers	W side of roof, just N of center	None Detected
AKR11-A05	Top flashing layers	W parapet wall, N of center	None Detected
AKR11-A06	Bottom flashing layers	W parapet wall, N of center	None Detected
AKR11-A07	Ridge cap sealant	W parapet wall, N of center	5.7 % Chrysotile
AKR11-A08	Gray/black flashing sealant	S parapet wall, W of center	4.5 % Chrysotile
AKR11-A09	Black seam sealant	Small vent, NW of center of roof	6.2 % Chrysotile
AKR11-A10	Gray/black penetration sealant	Small vent, NW of center of roof	3.5 % Chrysotile
The testing method used (polarized light microscopy [PLM]) is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-asbestos containing, confirmation should be made by quantitative transmission electron microscopy (TEM).			

The following asbestos-containing materials were identified on the various roofs.

Parapet Wall Sealants

The sealants on the seams of the parapet wall contained asbestos on roofs 3, 6, 9, 10 and 11. These sealants were either black or were originally black in color but their surface now appears gray due to weathering. These sealants were detected around the perimeter of the roofs.

Parapet Wall Ridge Cap Sealants

The sealants on the ridge caps of the parapet walls contained asbestos on roofs 2, 3 and 11. This material was located where two pieces of metal ridge cap met.

Flashing Material

The flashing material on roofs 6, 7 and 9 contained asbestos.

Tarpaper

The Tarpaper on roof 9 contained asbestos. This tarpaper was the very bottom layer of roofing material.

Penetration Sealants

The penetration sealants on roofs 10 and 11 contained asbestos.

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CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
10928 Eagle River Rd., Ste 202
Eagle River AK 99577

Report Date: 10/30/2001
Project: AK Court System Roof 7, 10-19-01
Project No.: 5618-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No. 1373341
Client No.: AKR7-A01

Material Description: Black/Yellow
Location: Roof Material

S.W. Quadrant

% Asbestos
None Detected

Type
None Detected

% Non-Asbestos Fibrous Material
30

Type
Fibrous Glass

% Non-Fibrous Material
70

Lab No. 1373342
Client No.: AKR7-A02

Material Description: Black Roof Material
Location: S.W. Quadrant Of Roof

S. Of Air Duct

% Asbestos
None Detected

Type
None Detected

% Non-Asbestos Fibrous Material
40

Type
Cellulose

% Non-Fibrous Material
60

Lab No. 1373343
Client No.: AKR7-A03

Material Description: Black Roof Material
Location: S.W. Quadrant Of Roof

S. Of Air Duct

% Asbestos
None Detected

Type
None Detected

% Non-Asbestos Fibrous Material
55

Type
Fibrous Glass

% Non-Fibrous Material
45

Lab No. 1373344
Client No.: AKR7-A04

Material Description: Black/Silver
Location: Roof Material

S.W. Quadrant

% Asbestos
None Detected

Type
None Detected

% Non-Asbestos Fibrous Material
20

Type
Fibrous Glass

% Non-Fibrous Material
80

NIST-NVLAP No. 1165

NY-DOH No. 11021

AIHA Lab No. 444

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Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-asbestos containing, confirmation must be made by quantitative TEM.

Analysis Performed By: Becky Huntzinger
Date: OCT 30 2001

Approved By: [Signature]

CERTIFICATE OF ANALYSIS

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10928 Eagle River Rd., Ste 202
Eagle River AK 99577

Report Date: 10/30/2001
Project: AK Court System Roof 7,
Project No.: 5618-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.	1373345	Material Description:	Black Tar		
Client No.:	AKR7-A05	Location:	S.W. Corner		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Mat</u>	
None Detected	None Detected	10	Cellulose	90	

Lab No.	1373346	Material Description:	Black/Silver Tar		
Client No.:	AKR7-A06	Location:	S.Wall	W. Of Center	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Mat</u>	
None Detected	None Detected	10	Cellulose	90	

Lab No.	1373347	Material Description:	Black Tar		
Client No.:	AKR7-A07	Location:	Flashing On	Air Handler	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Mat</u>	
None Detected	None Detected	10	Cellulose	90	

Lab No.	1373348	Material Description:	Black/Silver		
Client No.:	AKR7-A08	Location:	Roof Material	W.Wall; S. Of Center	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Mat</u>	
PC 6.8	Chrysotile	15	Fibrous Glass	PC 78.2	

NIST-NVLAP No. 1165**NY-DOH No. 11021****AIHA Lab No. 444**

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Analysis Performed By:

Becky Huntzinger

Date:

OCT 30 2001

Becky Huntzinger

Approved By:

*Frank E. Ehrenfeld, III*Frank E. Ehrenfeld, III
Laboratory Director

END

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
10928 Eagle River Rd., Ste 202
Eagle River AK 99577

Report Date: 10/30/2001
Project: AK Court System Roof 7, 10-19-01
Project No.: 5618-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No. 1373349
Client No.: AKR7-A09

Material Description: Black Tar
Location: N.Wall; Center

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	15	Cellulose	85

NIST-NVLAP No. 1165

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Becky Huntzinger

Becky Huntzinger

Approved By:

Frank E. Ehrenfeld, III

Frank E. Ehrenfeld, III
Laboratory Director

Date: OCT 30 2001



EHS ALASKA
INCORPORATED

EHS-Alaska, Inc.

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CHAIN OF CUSTODY RECORD/FIELD SURVEY DATA

Page 1 of 2

FIELD COLLECTION DATE: 10-19-01 JOB #: 5618-01 BULK ANALYSIS REQUESTED: (circle) PLM TEM BULK / LEAD TCLP / LEAD PPM

PROJECT NAME: AIC COURT SYSTEM ROOFS MATERIAL TYPE: (Circle) ASBESTOS LEAD TOTAL QUANTITIES: 11

FACILITY: ROOF 10 DISPOSAL: ROA TIVE TURNAROUND: 5 DAY

SPECIAL INSTRUCTIONS:

COLLECTED BY (signature) <u>Blair L. Morgan</u> PRINTED NAME <u>T-7577-8</u> CERT# <u>AHERAM</u>	SELECTED LABORATORY <u>IAT</u> SAMPLES ACCEPTED BY <u>[Signature]</u> DATE/TIME <u>10-20-01</u>	COMMENTS: <u>NO @ 11/01/01</u>
SHIPPING METHOD <u>8303 60613792</u> COURIER (signature) <u>[Signature]</u> DATE/TIME <u>10-20-01</u>	ANALYST'S SIGNATURE <u>[Signature]</u> DATE <u>10-20-01</u>	

SAMPLE ID	SAMPLE DESCRIPTION (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION / COMMENTS (INCLUDING PHOTO / XREF)	RESULTS
AKR10-A01 1373320 MATL. CONDITION: GOOD FAIR POOR	BASE TAPER & TAR. DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	BETWEEN N.E. CORNER & CENTER OF ROOF	NP
AKR10-A02 1373321 MATL. CONDITION: GOOD FAIR POOR	FESCO DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:		ND
AKR10-A03 1373322 MATL. CONDITION: GOOD FAIR POOR	BOTH ROOF LYS DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:		NP
AKR10-A04 1373323 MATL. CONDITION: GOOD FAIR POOR	MESH & TAR DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:		ND
AKR10-A05 1373324 MATL. CONDITION: GOOD FAIR POOR	TOP ROOF LYS DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:		ND
AKR10-A06 1373325 MATL. CONDITION: GOOD FAIR POOR	BLACK PENETRATION SEALANT. DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	VENT, NE OF CENTER.	ND 11:46
AKR10-A07 1373326 MATL. CONDITION: GOOD FAIR POOR	GRAY/BLACK SEALANT. DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	VENT IN S.E. QUADRANT.	7% 11:49
AKR10-A08 1373327 MATL. CONDITION: GOOD FAIR POOR	BLACK PARAPET WALL CAP SEALANT DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	S. PARAPET WALL, NEAR W. END.	5.1% 11:51

RETURN A SIGNED COPY OF THIS FORM WITH THE FINAL REPORT TO EHS-ALASKA



e-mail • ehsak@ehs-alaska.com

Page 2

FACILITY: *Roof 10*

DATE: 10-19-61

COLLECTED BY: *BE: R*

[illegible]

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
10928 Eagle River Rd., Ste 202
Eagle River AK 99577

Report Date: 10/30/2001
Project: AK Court System Roof 10, 10-19-01
Project No.: 5618-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No. 1373320
Client No.: AKR10-A01
Material Description: Black/Tan
Location: Roof Material Btwn.NE Corner&Center

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	40	Cellulose	60

Lab No. 1373321
Client No.: AKR10-A02
Material Description: Grey
Location: Roof Mat/Insulation Btwn.NE Corner&Center

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	75	Cellulose	25

Lab No. 1373322
Client No.: AKR10-A03
Material Description: Black Roof Material
Location: Btwn.NE Corner&Center

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	40	Cellulose	60

Lab No. 1373323
Client No.: AKR10-A04
Material Description: Black Roof Material
Location: Btwn.NE Corner&Center

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	60	Fibrous Glass	40

NIST-NVLAP No. 1165**NY-DOH No. 11021****AIHA Lab No. 444**

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Analysis Performed By: Becky Huntzinger
Date: OCT 30 2001

Approved By: Frank E. Ehrenfeld, IIIFrank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
10928 Eagle River Rd., Ste 202
Eagle River AK 99577

Report Date: 10/30/2001
Project: AK Court System R
Project No.: 5618-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No. 1373324 **Material Description:** Black Roof Material
Client No.: AKR10-A05 **Location:** Btwn.NE Corner&Center

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous</u>
None Detected	None Detected	25	Fibrous Glass	75

Lab No. 1373325 **Material Description:** Black Tar
Client No.: AKR10-A06 **Location:** Vent N.E. Of Center

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous</u>
None Detected	None Detected	2	Fibrous Glass	98

Lab No. 1373326 **Material Description:** Black/Silver Tar
Client No.: AKR10-A07 **Location:** Vent In S.E. Quadrant

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous</u>
PC 7.0	Chrysotile	None Detected	None Detected	93

Lab No. 1373327 **Material Description:** Black/Silver Tar
Client No.: AKR10-A08 **Location:** S.Parapet Wall Near W.End

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous</u>
PC 5.1	Chrysotile	None Detected	None Detected	PC 94.9

NIST-NVLAP No. 1165**NY-DOH No. 11021****AIHA Lab No. 44**

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Analysis Performed By:

Becky Huntzinger

Date: OCT. 30 2001

Becky Huntzinger

Approved By:

*Frank E. Ehrenfeld, III*Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

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10928 Eagle River Rd., Ste 202
Eagle River AK 99577

Report Date: 10/30/2001
Project: AK Court System Roof 10, 10-19-01
Project No.: 5618-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No. 1373328
Client No.: AKR10-A09

Material Description: Black/Silver
Location: Roof Material

N.ParapetWall; WOFCtr

% Asbestos Type
None Detected None Detected

% Non-Asbestos Fibrous Material

Type
Fibrous Glass

% Non-Fibrous Material
93

Lab No. 1373329
Client No.: AKR10-A10

Material Description: Black Roof Material
Location: Black Roof Material

N.ParapetWall; WOFCtr

% Asbestos Type
None Detected None Detected

% Non-Asbestos Fibrous Material

Type
Fibrous Glass

% Non-Fibrous Material
70

Lab No. 1373329
Client No.: AKR10-A10

Material Description: Black Roof Material
Location: Black Roof Material

N.ParapetWall; WOFCtr

% Asbestos Type
None Detected None Detected

% Non-Asbestos Fibrous Material

Type
Cellulose

% Non-Fibrous Material
60

Lab No. 1373330
Client No.: AKR10-A11

Material Description: Black/Silver Tar
Location: N.Parapet Wall

W. Of Center

% Asbestos Type
PC 4.5 Chrysotile

% Non-Asbestos Fibrous Material

None Detected

Type
None Detected

% Non-Fibrous Material
PC 95.5

NIST-NVLAP No. 1165

NY-DOH No. 11021

AIHA Lab No. 444

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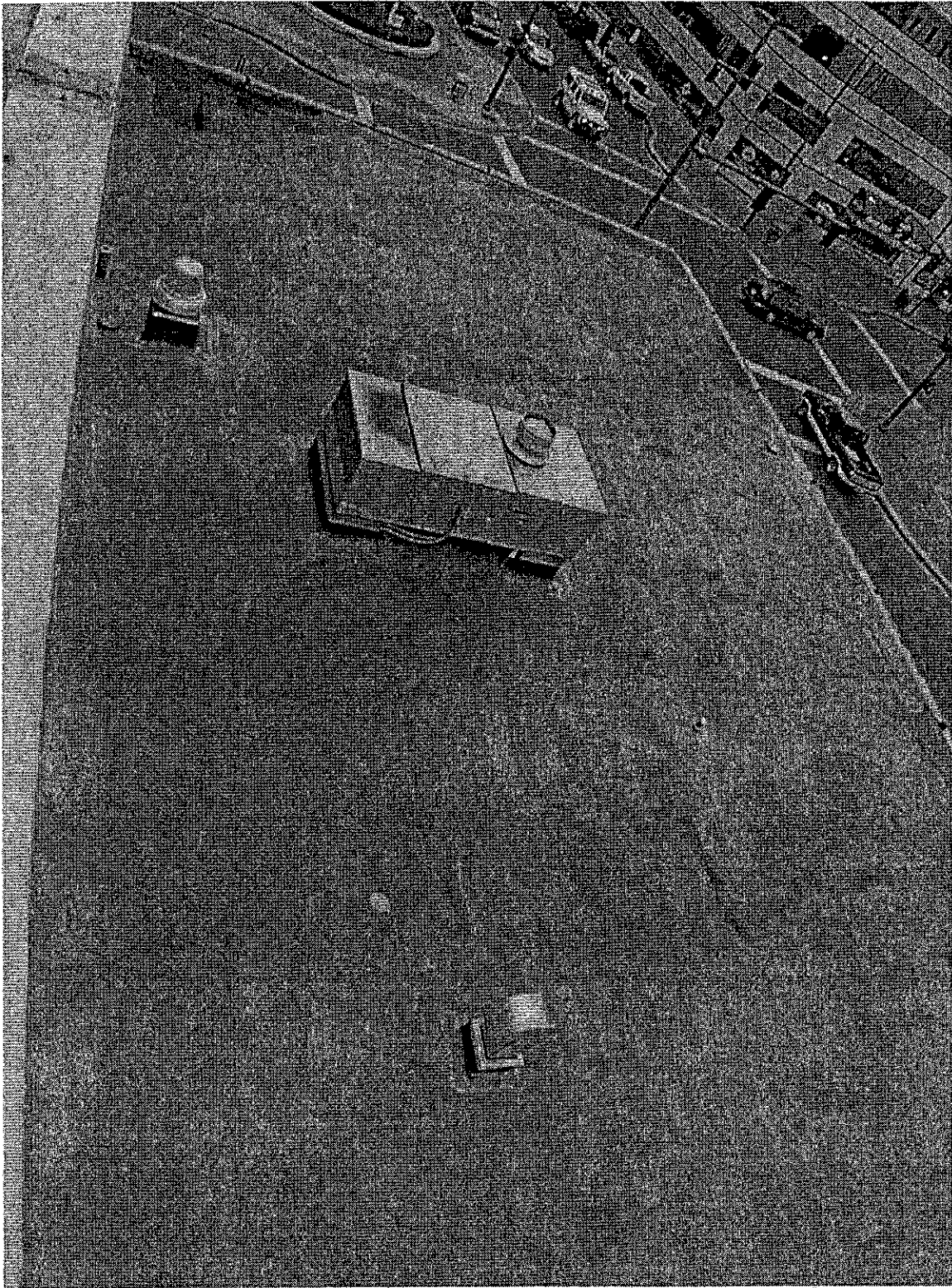
Analysis Performed By:

Date: OCT 30 2001

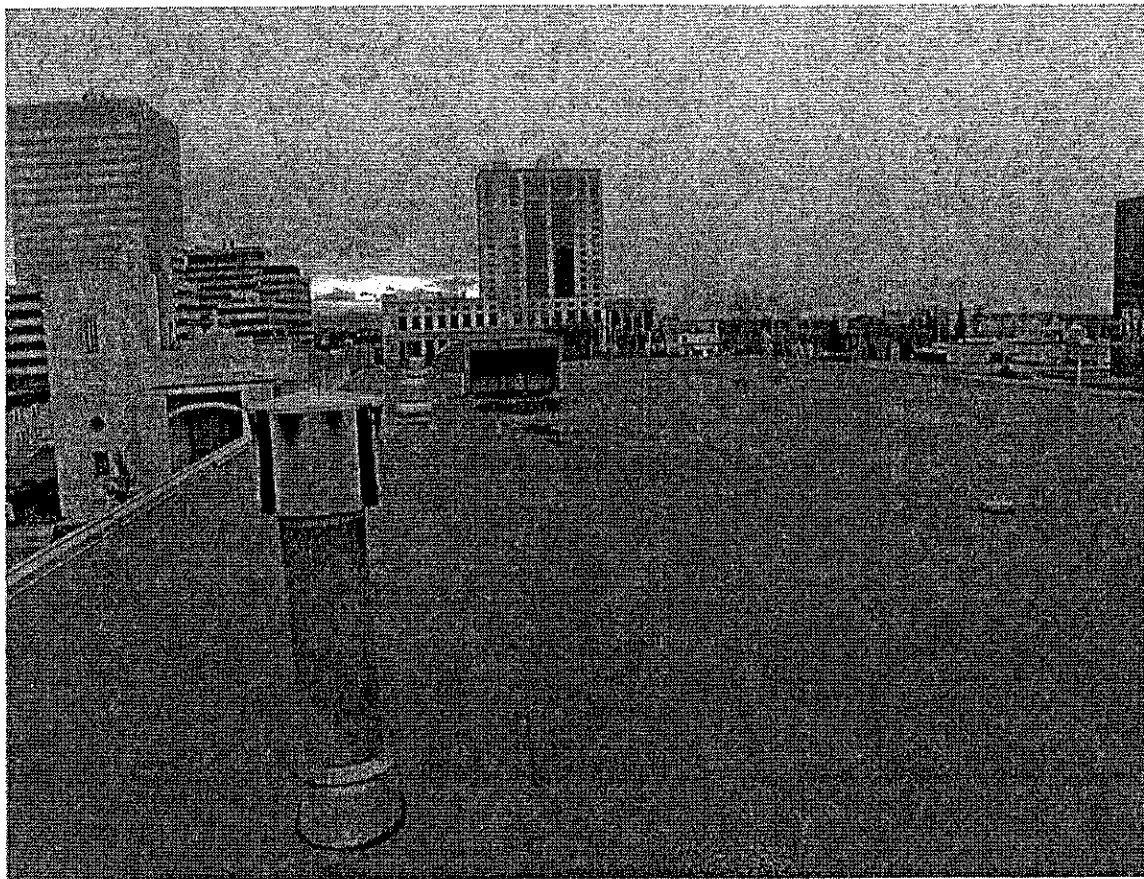
Becky Huntzinger

Approved By:

Frank E. Ehrenfeld, III
Laboratory Director



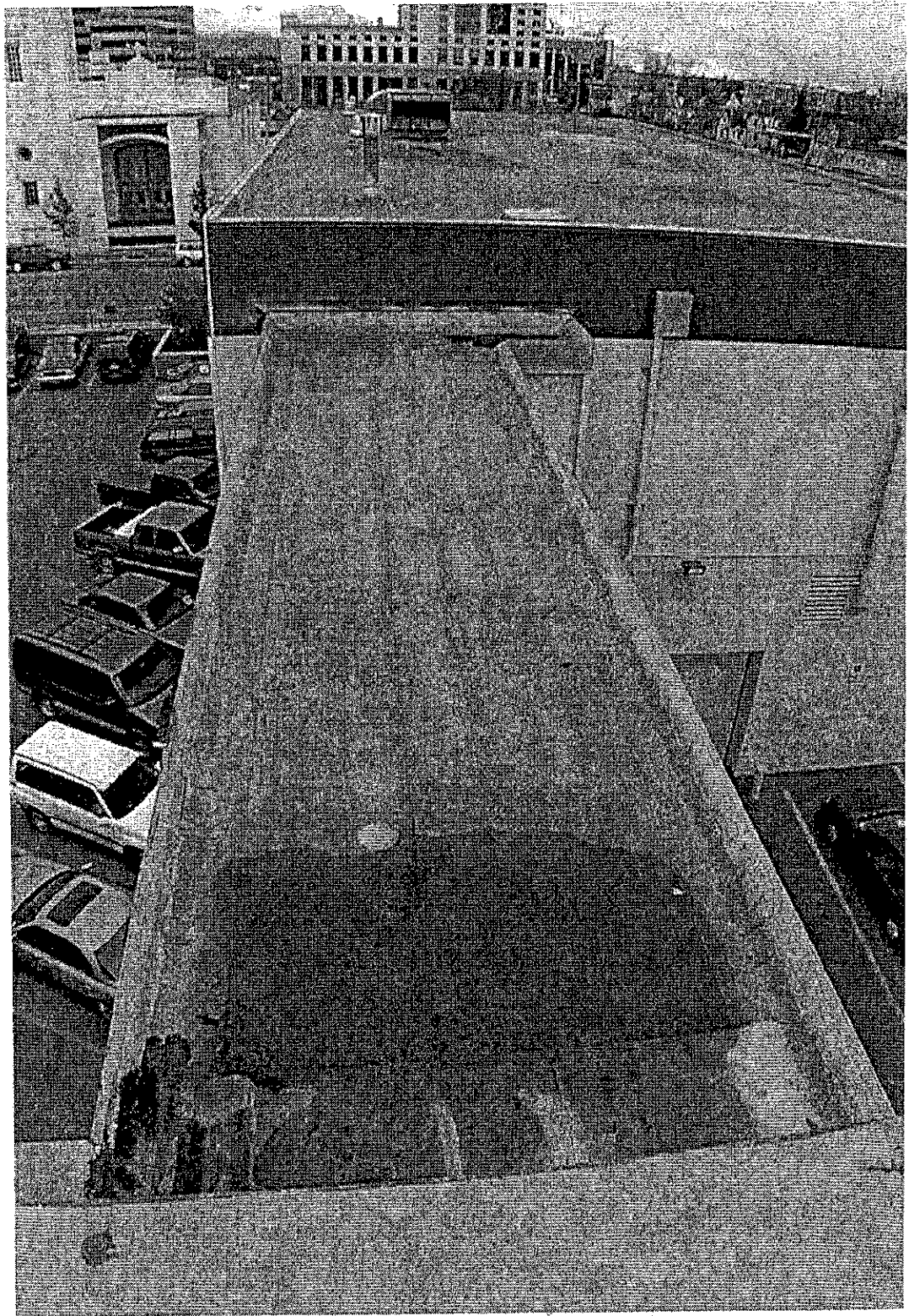
Roof 7 Looking East



Roof 10 Looking South



Roof Hatch Roof 10 Looking North



Roof 9, 10 Looking South