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WSCF ANALYTICAL LABORATORY REPORT ANALYSIS OF BULK SAMPLES FOR FIBER CONTENT

for

Bechtel Hanford Inc
Richland, WA 99352

Attention: C Koerner B1-35/DS Smith X5-53



Survey ID

Data Validator *MK Hamilton*
(Approved Signatory)

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Group#: 97000810
Report Date 3-jun-1997
bulk/rev.2

Rust Federal Services of Handford, Inc.
MSIN: S3-28
Richland, WA 99352

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ANALYTICAL LABORATORY REPORT

ANALYSIS OF BULK SAMPLES FOR FIBER CONTENT

Your samples have been analyzed for fiber content using polarized light microscopy and dispersion staining in accordance with Industrial Hygiene Laboratory Procedure HAPR70-5, based on 40 CFR Part 763, Subpart E, App. E and EPA method EPA/600/R-93/116. The results are attached.

This method provides a visual estimate of the percentage of each fiber type present. It is a semiquantitative method intended to identify materials containing $>$ or $=$ 1% asbestos fibers.* Reported fiber percentages for samples and sample layers are based on the samples as received by the laboratory. The laboratory cannot verify that these values are representative of the original material sampled.

The Waste Sampling and Characterization Facility, is accredited by the National Institute of Standards and Technology (NIST), National Voluntary Laboratory Accreditation Program (NVLAP), to analyze bulk samples for asbestos content. This accreditation does not constitute approval or endorsement of analytical results by NIST nor does it apply to other analyses performed by this laboratory.

If there are questions concerning this report, please contact the approved signatory listed on the cover page of this report.

* Because of the nonhomogeneous nature of soils, results will be reported using the following terms rather than percentages:

1. None - No asbestos fibers found.
2. Trace detectable - With extensive searching, a few fibers of the type indicated were found; concentration very low, well below 1%.
3. Obvious presence - Fibers easily found but overall concentration still low.
4. Significant presence - Fibers readily found; overall concentration may approach or exceed 1% level.

Polarized light microscopy (PLM) may not be the preferred method for identification of asbestos in floor tile. Most vinyl floor tiles marketed in the late sixties to mid-seventies contained asbestos milled so fine as to be below detection limits for PLM techniques. Tiles of that vintage, showing any detectable asbestos fibers should be considered to be asbestos-containing material. Non-detection of asbestos by PLM should not be considered conclusive proof that the tiles do not contain asbestos. Follow-up analysis by other techniques may be required.

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ANALYTICAL LABORATORY REPORT

Attention: C Koerner B1-35/DS Smith X5-53

Group #: 97000810

Sample #	Client ID	Test Performed	Range	Result	Units	Analyst	Sampled	Received	Analyzed
W971000971	BOLOR8	<u>The following are the results of this test-</u>		<u>Bulk Asbestos Layer 1</u>					
			Non-Asbestos	NF	100 %	dws1	05/22/97	05/22/97	06/02/97
	SAMPLE COMMENT---	100% nonfibrous black rubbery material.							
	SAMPLE COMMENT---	Reportedly Rm 210 cove material.							
W971000972	BOLOR9	<u>The following are the results of this test-</u>		<u>Bulk Asbestos Layer 1</u>					
			Cellulose	5-10	%	dws1	05/22/97	05/22/97	06/02/97
	SAMPLE COMMENT---	90% white wall board material							
	SAMPLE COMMENT---	Reportedly from Rm 209.							
W971000972	BOLOR9	<u>The following are the results of this test-</u>		<u>Bulk Asbestos Layer 2</u>					
			Cellulose	10-20	%	dws1	05/22/97	05/22/97	06/02/97
	SAMPLE COMMENT---	10% tan fibrous and granular material with above.							
W971000973	BOL100	<u>The following are the results of this test-</u>		<u>Bulk Asbestos Layer 1</u>					
			Cellulose	<	1 %	dws1	05/22/97	05/22/97	06/02/97
	SAMPLE COMMENT---	100% white/grey granular and fibrous (insect silks, insect							
	SAMPLE COMMENT---	parts, bits of wood, several synthetic fibers, one live							
	SAMPLE COMMENT---	spider)							
	SAMPLE COMMENT---	Reportedly window putty, Rm 13							

MDL=Minimum Detection Limit

RQ=Result Qualifier

B - The analyte was detected in the associated method blank.

J - Estimated value.

N - Identification is based on a mass spectral library search.

U - The analyte was analyzed for but not detected.

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ANALYTICAL LABORATORY REPORT

Attention: C Koerner B1-35/DS Smith X5-53

Group #: 97000810

Sample #	Client ID	Test Performed	Range	Result	Units	Analyst	Sampled	Received	Analyzed
W971000974	BOL101	The following are the results of this test- Bulk Asbestos Layer 1							
			Non-Asbestos	NF 100	%	dws1	05/22/97	05/22/97	06/02/97
		SAMPLE COMMENT---	100% white/grey granular with blue paint, nonfibrous with insect parts and insect silks						
		SAMPLE COMMENT---	Reportedly painted window putty, Rm 13.						
W971000975	BOL102	The following are the results of this test- Bulk Asbestos Layer 1							
			Mineral Wool	95-98	%	dws1	05/22/97	05/22/97	06/02/97
		SAMPLE COMMENT---	95% yellow fibrous mat						
		SAMPLE COMMENT---	Reportedly fiberglass insulation w/trowled on coating from AC ducts on roof.						
W971000975	BOL102	The following are the results of this test- Bulk Asbestos Layer 2							
			Fiberglass	2-4	%	dws1	05/22/97	05/22/97	06/02/97
			Chrysotile Asbestos	20-30	%	dws1	05/22/97	05/22/97	06/02/97
		SAMPLE COMMENT---	5% tar and fibrous material with above.						
W971000976	BOL103	The following are the results of this test- Bulk Asbestos Layer 1							
			Mineral Wool	95-98	%	dws1	05/22/97	05/22/97	06/02/97
		SAMPLE COMMENT---	95% yellow fibrous mat						
		SAMPLE COMMENT---	Reportedly from roof.						

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WSCF ANALYTICAL LABORATORY REPORT

Attention: C Koerner B1-35/DS Smith X5-53

Group #: 97000810

Sample #	Client ID	Test Performed	Range	Result	Units	Analyst	Sampled	Received	Analyzed	
W971000976	BOL103	<u>The following are the results of this test-</u>		<u>Bulk Asbestos Layer 2</u>						
			Fiberglass	2-4	%	dws1	05/22/97	05/22/97	06/02/97	
			Chrysotile Asbestos	20-30	%	dws1	05/22/97	05/22/97	06/02/97	
		SAMPLE COMMENT---	5% tar and fibrous material with above.							
W971000977	BOL104	<u>The following are the results of this test-</u>		<u>Bulk Asbestos Layer 1</u>						
			Mineral Wool	95-98	%	dws1	05/22/97	05/22/97	06/02/97	
		SAMPLE COMMENT---	90% yellow fibrous mat reportedly from roof.							
W971000977	BOL104	<u>The following are the results of this test-</u>		<u>Bulk Asbestos Layer 2</u>						
			Fiberglass	1-2	%	dws1	05/22/97	05/22/97	06/02/97	
			Chrysotile Asbestos	20-30	%	dws1	05/22/97	05/22/97	06/02/97	
		SAMPLE COMMENT---	10% tar and fibrous materia with above.							
W971000978	BOL105	<u>The following are the results of this test-</u>		<u>Bulk Asbestos Layer 1</u>						
			Mineral Wool	95-98	%	dws1	05/22/97	05/22/97	06/02/97	
		SAMPLE COMMENT---	95% yellow fibrous mat, reportedly from roof.							
W971000978	BOL105	<u>The following are the results of this test-</u>		<u>Bulk Asbestos Layer 2</u>						
			Fiberglass	5-10	%	dws1	05/22/97	05/22/97	06/02/97	
			Cellulose	- 1	%	dws1	05/22/97	05/22/97	06/02/97	
		SAMPLE COMMENT---	5% white/grey layer including open weave fiberglass, paper,							
	SAMPLE COMMENT---	and metal foil, the grey and white layers themselves were								
	SAMPLE COMMENT---	nonfibrous								

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WSCF ANALYTICAL LABORATORY REPORT

Attention: C Koerner B1-35/DS Smith X5-53

Group #: 97000810

Sample #	Client ID	Test Performed	Range	Result	Units	Analyst	Sampled	Received	Analyzed
W971000979	BOL106	The following are the results of this test-	Bulk Asbestos Layer 1						
		Mineral Wool		95-98	%	dws1	05/22/97	05/22/97	06/02/97
		SAMPLE COMMENT---	95% yellow fibrous mat. reportedly from roof.						
W971000979	BOL106	The following are the results of this test-	Bulk Asbestos Layer 2						
		Fiberglass		2-4	%	dws1	05/22/97	05/22/97	06/02/97
		SAMPLE COMMENT---	5% grey/white granular material (the grey/white layer in						
		SAMPLE COMMENT---	this sample did not contain any paper or foil)						
W971000980	BOL107	The following are the results of this test-	Bulk Asbestos Layer 1						
		Mineral Wool		95-98	%	dws1	05/22/97	05/22/97	06/02/97
		SAMPLE COMMENT---	95% yellow fibrous mat. reportedly from roof.						
W971000980	BOL107	The following are the results of this test-	Bulk Asbestos Layer 2						
		Fiberglass		1-2	%	dws1	05/22/97	05/22/97	06/02/97
		Cellulose		-1	%	dws1	05/22/97	05/22/97	06/02/97
		SAMPLE COMMENT---	5% grey/white granular, paper and foil mix with above.						
W971000981	BOL108	The following are the results of this test-	Bulk Asbestos Layer 1						
		Non-Asbestos		NF 100	%	dws1	05/22/97	05/22/97	06/02/97
		SAMPLE COMMENT---	100% grey/black hard granular piece, crystalline but no						
		SAMPLE COMMENT---	fibrous minerals						
		SAMPLE COMMENT---	Reportedly black lab table top.						

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ANALYTICAL COMMENT REPORT

Attention: C Koerner B1-35/DS Smith X5-53

Group #: 97000810

Sample #	Client ID	Lab Area	Test	Comment
W97I000971	BOLOR8	VALGROUP LOGSAMP		Validated 6/3/97 by MK Hamilton. LOGGED BY MKG 5/22/97.
		TESTDATA	Bulk Asbestos Layer 1	All samples reportedly from 3706 Bldg. 100% nonfibrous black rubbery material. Reportedly Rm 210 cove material.
W97I000972	BOLOR9	TESTDATA	Bulk Asbestos Layer 1	90% white wall board material Reportedly from Rm 209.
		TESTDATA	Bulk Asbestos Layer 2	10% tan fibrous and granular material with above.
W97I000973	BOL100	TESTDATA	Bulk Asbestos Layer 1	100% white/grey granular and fibrous (insect silks, insect parts, bits of wood, several synthetic fibers, one live spider) Reportedly window putty, Rm 13
W97I000974	BOL101	TESTDATA	Bulk Asbestos Layer 1	100% white/grey granular with blue paint, nonfibrous with insect parts and insect silks Reportedly painted window putty, Rm 13.
W97I000975	BOL102	TESTDATA	Bulk Asbestos Layer 1	95% yellow fibrous mat Reportedly fiberglass insulation w/trowled on coating from AC ducts on roof.
		TESTDATA	Bulk Asbestos Layer 2	5% tar and fibrous material with above.
W97I000976	BOL103	TESTDATA	Bulk Asbestos Layer 1	95% yellow fibrous mat Reportedly from roof.
		TESTDATA	Bulk Asbestos Layer 2	5% tar and fibrous material with above.
W97I000977	BOL104	TESTDATA	Bulk Asbestos Layer 1	90% yellow fibrous mat reportedly from roof.
		TESTDATA	Bulk Asbestos Layer 2	10% tar and fibrous material with above.
W97I000978	BOL105	TESTDATA	Bulk Asbestos Layer 1	95% yellow fibrous mat, reportedly from roof.
		TESTDATA	Bulk Asbestos Layer 2	5% white/grey layer including open weave fiberglass, paper, and metal foil, the grey and white layers themselves were

Lab Areas: VALGROUP - Group Validation
LOGSAMP - Login for Sample

VALTEST - Test Validation
LOGTEST - Login for Tests

TESTDATA - Test Data Entry

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ANALYTICAL COMMENT REPORT

Attention: C Koerner B1-35/DS Smith X5-53

Group #: 97000810

Sample #	Client ID	Lab Area	Test	Comment
W971000979	BOL106	TESTDATA	Bulk Asbestos Layer 1	nonfibrous
		TESTDATA	Bulk Asbestos Layer 2	95% yellow fibrous mat, reportedly from roof.
W971000980	BOL107	TESTDATA	Bulk Asbestos Layer 1	5% grey white granular material (the grey/white layer in this sample did not contain any paper or foil)
		TESTDATA	Bulk Asbestos Layer 2	95% yellow fibrous mat, reportedly from roof.
W971000981	BOL108	TESTDATA	Bulk Asbestos Layer 1	5% grey/white granular, paper and foil mix with above.
		TESTDATA	Bulk Asbestos Layer 1	100% grey/black hard granular piece, crystalline but no fibrous minerals Reportedly black lab table top.

Lab Areas: VALGROUP - Group Validation
LOGSAMP - Login for Sample

VALTEST - Test Validation
LOGTEST - Login for Tests

TESTDATA - Test Data Entry

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Radiation Zone Sample: Yes No

Released by: Traci Reed

Page 1 of 2

Contractor: ICF-KH PNL WHC (circle one) or Other: BHI

Survey No: 300-PS-0069

Collected by (Print Name):

Doug Bowers

Phone:

376-8498

Signature:

Doug Bowers

Date Collected:

5-22-97

Work Order #

P2TA02

Org Code:

Charge Code:

WSCF Group:

97000810

Approval Signature:

Shipped by:

Date Shipped:

Send Report To:

Doug Bowers

MSIN:

N1-28

Phone/pager:

376-8498

(cc:)

MSIN:

Sample Information

Results Needed By:

WSCF Lab No.	Sample ID No.	Room/Bldg/Area	Specific Location/Type
W971000971	BOL0R8	210/3706/300	COVE
Description: Rubber cov along floor			

WSCF Lab No.	Sample ID No.	Room/Bldg/Area	Specific Location/Type
972	BOL0R9	209/3706/300	wall board
Description: Sheet rock joint compound			

WSCF Lab No.	Sample ID No.	Room/Bldg/Area	Specific Location/Type
973	BOL100	13/3706/300	window putty
Description: unpainted window putty			

WSCF Lab No.	Sample ID No.	Room/Bldg/Area	Specific Location/Type
974	BAL101	13/3706/300	window putty
Description: painted window putty			

WSCF Lab No.	Sample ID No.	Room/Bldg/Area	Specific Location/Type
975	BOL102	roof/3706/300	TSI from A.C. ducts
Description: Fiberglass insulation with trowled on coating			

Chain of Custody

Relinquished By: Print	Sign	Date/Time	Company	Received By: Print	Sign	Date/Time	Company
Doug Bowers	<i>Doug Bowers</i>	5-22-97/1230	BHI	Bob Farrell	<i>Bob Farrell</i>	5-22-97/1305	BHI
Bob Farrell	<i>Bob Farrell</i>	5-22-97/1310	BHI	Traci Reed	<i>Traci Reed</i>	5/22/97	BHI

Quality:

Unless a prior arrangement is in place, analysis will be done in accordance with the WSCF Quality Assurance Project Plan for Industrial Hygiene Analyses

Final Sample Disposition:

Samples are held at the WSCF laboratory for at least 6 months. They are then discarded as asbestos-containing waste.

Contractor: ICF-KH PNL WHC (circle one) or Other: _____ Page ___ of ___

Work Order #/Org Code/Charge Code: _____ Survey #: _____ WSCF Group #: _____

Sample Information

WSCF Lab No.	Sample ID No.	Room/Bldg/Area	Specific Location/Type
976	BOL103	roof/3706/300	same as BOL102

Description:
same as BOL102

WSCF Lab No.	Sample ID No.	Room/Bldg/Area	Specific Location/Type
977	BOL104	roof/3706/300	

Description:
same as BOL102

WSCF Lab No.	Sample ID No.	Room/Bldg/Area	Specific Location/Type
978	BOL105	roof/3706/300	

Description:
same as BOL102

WSCF Lab No.	Sample ID No.	Room/Bldg/Area	Specific Location/Type
979	BOL106	roof/3706/300	

Description:
same as BOL102

WSCF Lab No.	Sample ID No.	Room/Bldg/Area	Specific Location/Type
980	BOL107	roof/3706/300	

Description:
same as BOL102

WSCF Lab No.	Sample ID No.	Room/Bldg/Area	Specific Location/Type
981	BOL108	roof/3706/300	job table

Description:
black job table top

Chain of Custody

Relinquished By: Print Sign Date/Time Company Received By: Print Sign Date/Time Company

Quality:

Unless a prior arrangement is in place, analysis will be done in accordance with the WSCF Quality Assurance Project Plan for Industrial Hygiene Analyses

Final sample Disposition:

Samples are held at the WSCF laboratory for at least 6 months. They are then discarded as asbestos-containing waste.