

WSCF
ANALYTICAL LABORATORY REPORT
ANALYSIS OF BULK SAMPLES FOR FIBER CONTENT

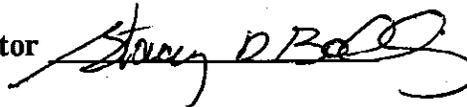
for

Bechtel Hanford Inc
Richland , WA 99352

Attention: SJ TRENT/D AYRES MSIN H9-03

Survey ID B99-024-28

Data Validator



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EDMC

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Group#: 20001444
Report Date 22-sep-2000
bulk/rev.3



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Fluor Hanford, Inc.
MSIN: S3-28
Richland, WA 99352

Phone 373-7403

0054011

WSCF0103

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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 LA-519-403, 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 American Industrial Hygiene Association (AIHA) to analyze bulk samples for asbestos content. This accreditation does not constitute approval or endorsement of analytical results by AIHA.

If there are questions concerning this report, please contact the data validator 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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Attention: SJ TRENT/D AYRES MSIN H9-03

Group #: 20001444

Sample #	Client ID	Test Performed	Range	Result	Units	Analyst	Sampled	Received	Analyzed
W001001827	B100T0	<u>The following are the results of this test- Bulk Asbestos Layer 1</u>							
			Chrysotile Asbestos	--1	%	mkh	08/31/00	09/08/00	09/19/00
		SAMPLE COMMENT--	60% nonhomogeneous yellow foam and rocks with thin silver layer on some rocks. Chrysotile asbestos is primarily associated with the silver layer.						
W001001827	B100T0	<u>The following are the results of this test- Bulk Asbestos Layer 2</u>							
			Non-Asbestos	NF 100	%	mkh	08/31/00	09/08/00	09/19/00
		SAMPLE COMMENT--	10% black nonfibrous "pumice" foam.						
W001001827	B100T0	<u>The following are the results of this test- Bulk Asbestos Layer 3</u>							
			Cellulose	1-3	%	mkh	08/31/00	09/08/00	09/19/00
			Chrysotile Asbestos	10-30	%	mkh	08/31/00	09/08/00	09/19/00
		SAMPLE COMMENT--	30% nonhomogeneous black fibrous tar.						
W001001828	B100T1	<u>The following are the results of this test- Bulk Asbestos Layer 1</u>							
			Chrysotile Asbestos	1-2	%	mkh	08/31/00	09/08/00	09/19/00
		SAMPLE COMMENT--	40% nonhomogeneous yellow foam, blue rubbery material, and rocks with thin silver layer on some rocks. Chrysotile asbestos is primarily associated with the silver layer.						

RDL - Reporting Detection Limit RDL is $\geq 2 \times$ MDL
 RQ=Result Qualifier J - Estimated value.

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WSCF ANALYTICAL LABORATORY REPORT

Attention: SJ TRENT/D AYRES MSIN H9-03

Group #: 20001444

Sample #	Client ID	Test Performed	Range	Result	Units	Analyst	Sampled	Received	Analyzed
VO01001828	B100T1	<u>The following are the results of this test- Bulk Asbestos Layer 2</u>							
			Non-Asbestos	NF 100 %		mkh	08/31/00	09/08/00	09/19/00
		SAMPLE COMMENT-- 40% black nonfibrous "pumice" foam.							
VO01001828	B100T1	<u>The following are the results of this test- Bulk Asbestos Layer 3</u>							
			Synthetic	1-2 %		mkh	08/31/00	09/08/00	09/19/00
			Chrysotile Asbestos	10-30 %		mkh	08/31/00	09/08/00	09/19/00
			Cellulose	2-5 %		mkh	08/31/00	09/08/00	09/19/00
		SAMPLE COMMENT-- 20% nonhomogeneous black fibrous tar and piece of shiny							
		SAMPLE COMMENT-- white fibers. Synthetic fibers are from the white piece.							
VO01001829	B100T2	<u>The following are the results of this test- Bulk Asbestos Layer 1</u>							
			Chrysotile Asbestos	1-2 %		mkh	08/31/00	09/08/00	09/19/00
		SAMPLE COMMENT-- 50% nonhomogeneous yellow foam, blue rubbery material, and							
		SAMPLE COMMENT-- rocks with thin silver layer on some rocks. Chrysotile							
		SAMPLE COMMENT-- asbestos is primarily associated with the silver layer.							
VO01001829	B100T2	<u>The following are the results of this test- Bulk Asbestos Layer 2</u>							
			Non-Asbestos	NF 100 %		mkh	08/31/00	09/08/00	09/19/00
		SAMPLE COMMENT-- 30% black nonfibrous "pumice" foam.							

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Group #: 20001444

Sample #	Client ID	Test Performed	Range	Result	Units	Analyst	Sampled	Received	Analyzed
N001001829	B100T2	<u>The following are the results of this test-</u>		<u>Bulk Asbestos Layer 3</u>					
			Chrysotile Asbestos	15-30	%	mkh	08/31/00	09/08/00	09/19/00
			Cellulose	2-4	%	mkh	08/31/00	09/08/00	09/19/00
	SAMPLE COMMENT--	20% nonhomogeneous black fibrous tar.							
N001001830	B100T3	<u>The following are the results of this test-</u>		<u>Bulk Asbestos Layer 1</u>					
			Synthetic	2-4	%	mkh	08/31/00	09/08/00	09/19/00
		SAMPLE COMMENT--	40% nonhomogeneous yellow foam and blue rubbery material,						
	SAMPLE COMMENT--	with a few rocks and white fiber strand. Synthetic fibers							
	SAMPLE COMMENT--	are primarily from the white fiber strand.							
N001001830	B100T3	<u>The following are the results of this test-</u>		<u>Bulk Asbestos Layer 2</u>					
			Non-Asbestos	NF 100	%	mkh	08/31/00	09/08/00	09/19/00
		SAMPLE COMMENT--	35% black nonfibrous "pumice" foam.						
N001001830	B100T3	<u>The following are the results of this test-</u>		<u>Bulk Asbestos Layer 3</u>					
			Chrysotile Asbestos	10-30	%	mkh	08/31/00	09/08/00	09/19/00
			Cellulose	2-4	%	mkh	08/31/00	09/08/00	09/19/00
	SAMPLE COMMENT--	25% nonhomogeneous black fibrous tar.							

RDL - Reporting Detection Limit RDL is $\geq 2 \times$ MDL

RQ=Result Qualifier J - Estimated value.

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ANALYTICAL COMMENT REPORT

Attention: SJ TRENT/D AYRES MSIN H9-03

Group #: 20001444

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		Validated 9/21/00 by SD Bolling, IH Technical Manager.
W001001827	B100T0	TESTDATA	Bulk Asbestos Layer 1	60% nonhomogeneous yellow foam and rocks with thin silver layer on some rocks. Chrysotile asbestos is primarily associated with the silver layer.
		TESTDATA	Bulk Asbestos Layer 2	10% black nonfibrous "pumice" foam.
		TESTDATA	Bulk Asbestos Layer 3	30% nonhomogeneous black fibrous tar.
W001001828	B100T1	TESTDATA	Bulk Asbestos Layer 1	40% nonhomogeneous yellow foam, blue rubbery material, and rocks with thin silver layer on some rocks. Chrysotile asbestos is primarily associated with the silver layer.
		TESTDATA	Bulk Asbestos Layer 2	40% black nonfibrous "pumice" foam.
		TESTDATA	Bulk Asbestos Layer 3	20% nonhomogeneous black fibrous tar and piece of shiny white fibers. Synthetic fibers are from the white piece.
W001001829	B100T2	TESTDATA	Bulk Asbestos Layer 1	50% nonhomogeneous yellow foam, blue rubbery material, and rocks with thin silver layer on some rocks. Chrysotile asbestos is primarily associated with the silver layer.
		TESTDATA	Bulk Asbestos Layer 2	30% black nonfibrous "pumice" foam.
		TESTDATA	Bulk Asbestos Layer 3	20% nonhomogeneous black fibrous tar.
W001001830	B100T3	LOGTEST	Bulk Asbestos Layer 3	Received by V. Sims and logged by MK Grant 9/8/00.
		TESTDATA	Bulk Asbestos Layer 1	40% nonhomogeneous yellow foam and blue rubbery material, with a few rocks and white fiber strand. Synthetic fibers are primarily from the white fiber strand.
		TESTDATA	Bulk Asbestos Layer 2	35% black nonfibrous "pumice" foam.
		TESTDATA	Bulk Asbestos Layer 3	25% nonhomogeneous black fibrous tar.

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

VALTEST - Test Validation
LOGTEST - Login for Tests

TESTDATA - Test Data Entry

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20001444 25 01/1

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			B99-024-28	Page 1 of 1
Collector Fahlberg / <i>Bowers D.L.</i>	Company Contact D Encke	Telephone No. 373-3461	Project Coordinator TRENT, SJ		Price Code 9L	Data Turnaround 7 Days
Project Designation 233-S Plutonium Concentration Facility Process Areas - Oth		Sampling Location 233S	SAF No. B99-024		Air Quality <input type="checkbox"/>	
Ice Chest No. <i>ERC-97.075</i>	Field Logbook No. EL 1517	COA R233SD280C	Method of Shipment Government Vehicle			
Shipped To Waste Sampling & Characterization		Offsite Property No. <i>NA</i>	Bill of Lading/Air Bill No. <i>NA</i>			

POSSIBLE SAMPLE HAZARDS/REMARKS Asbestos <i>Arrived as CAT II MKSH.</i>	Preservation	None	<i>None</i>							
	Type of Container	Poly Bag	<i>a.c.</i>							
	No. of Container(s)	1	<i>1</i>							
	Special Handling and/or Storage	Volume	1g	<i>250ml</i>						
SAMPLE ANALYSIS		Asbestos	<i>Asbestos</i>							

Sample No.	Matrix *	Sample Date	Sample Time							
B100T0	OTHER SOLID	<i>8-31-00</i>	<i>1440</i>							<i>X</i>
B100T1	OTHER SOLID	<i>8-31-00</i>	<i>1450</i>							<i>X</i>
B100T2	OTHER SOLID	<i>8-31-00</i>	<i>1505</i>							<i>X</i>
B100T3	OTHER SOLID	<i>8-31-00</i>	<i>1515</i>							<i>X</i>

CHAIN OF POSSESSION		SPECIAL INSTRUCTIONS		Matrix * S=Soil SE=Sediment SO=Solid S=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue Wl=Wipc L=Liquid V=Vegetation X=Other
Relinquished By <i>Doug Bowers</i>	Date/Time <i>8-31-00/1545</i>	Received By <i>Quana Trevino</i>	Date/Time <i>8-31-00/1545</i>	
Relinquished By <i>Quana Trevino</i>	Date/Time <i>9-8-00 1030</i>	Received By <i>FRANK (RFB) [unclear]</i>	Date/Time <i>9-8-00</i>	
Relinquished By <i>FRANK [unclear]</i>	Date/Time <i>9-8-00 1050</i>	Received By <i>V. [unclear]</i>	Date/Time <i>9/8/00</i>	
Relinquished By <i>Victor [unclear]</i>	Date/Time <i>9/8/00 1300</i>	Received By <i>MK Grant / MK Grant</i>	Date/Time <i>9-8-00</i>	
Relinquished By <i>N4 Storage</i>	Date/Time <i>W00F001829</i>	Received By <i>MK Hamilton / MK Hamilton</i>	Date/Time <i>9/13/00</i>	

LABORATORY SECTION	Received By	REMAINING SAMPLE STORED AT WSCF ASBESTOS		Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	LAB FOR AT LEAST 3 MONTHS, THEN DISCARDED AS ASBESTOS WASTE		Date/Time
		Disposed By		Date/Time