0085012

SAF-RC-040
300 Area D4 Waste Characterization Sampling - Other Solid
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

No Distribution Required KW 2/2/10
INITIAL/DATE

COMMENTS:

SDG DC1001441 **SAF-RC-040**

Rad only ☑ Chem only Rad & Chem

☑ Complete Partial

Sample Location/Waste Site: 315 Roof

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Submitted To: Joan Kessner
Washington Closure Hanford
2620 Fermi Avenue, MSIN H4-21
Richland WA 99354

REFERENCE DATA:

Client Sample No.:	J19JH4 through J19JJ0
P.O. No.:	N/A
Sample Location:	315 Roof
Sample Type:	Bulk
Method Reference:	EPA-600/R-93/116
ALS Work Order No.:	1001441
ALS Sample ID No.:	1001441-01 through 1001441-07
Sample Receipt Date:	1/28/10
Analysis Date:	2/1/10

We certify that the following samples were prepared and analyzed by Polarized Light Microscopy for asbestos and other fibrous constituents using EPA-600/R-93/116. The samples were acceptable upon receipt except where noted. The samples were examined under a stereomicroscope in a laboratory fume hood for general composition and phase separation. If needed, portions of the sample were removed and ground with a mortar and pestle before being mounted on a glass microscope slide. Mountings of representative portions of the material are prepared in one or more appropriate refractive index liquids (1.550, 1.605, 1.680) and examined by Polarized Light Microscopy*. Estimates of concentration are made on an area basis. The results of the analysis apply only to the materials analyzed and are summarized on the attached bulk asbestos analysis data sheets. ALS Laboratory Group will dispose of all bulk samples after 60 days unless other arrangements are made.

Shawn Smythe
Analyst

for Anna Marie Ristich
Reviewer

*Floor tiles, decorative paints, joint compounds, and cement materials require additional treatment in order to evaluate the concentration of small asbestos fibers bound in the material. Some samples may contain fibers that are not visible by PLM and can only be detected by electron microscopy techniques. Floor tiles are analyzed as homogeneous materials if insufficient mastic is present or if phases have been cross contaminated.

ALS Laboratory Group Environmental Divison (Cincinnati) NVLAP Lab ID: 101917. Laboratory accreditation by the National Institute of Standards and Technology does not in any way constitute approval or endorsement by NVLAP, NIST, or any agency of the federal government.

ALS Laboratory Group
Polarized Light Microscopy
Asbestos Analytical Report

Client: Washington Closure Hanford
Location: 315 Roof

Client Sample ID:	J19JH5	J19JH6	J19JH7	J19JJ0
ALS Sample ID:	1001441-02	1001441-03	1001441-04	1001441-07
Macroscopic Examination				
Accepted/Rejected:	Accepted	Accepted	Accepted	Accepted
Homogeneity:	Homog.	Homog.	Homog.	Homog.
Color:	Grey/Black	Grey	Grey	Grey/Black
Texture:	Crmby/Resns	Fbrs/Flex	Fbrs/Flex	Crmby/Resns
Description:	Material	Material	Material	Material
Analysis:	PLM	PLM	PLM	PLM
Asbestiform Minerals				
% Chrysotile:				
% Amosite:				
% Crocidolite:				
% Tremolite - Actinolite:				
% Anthophyllite:				
% Total Asbestos:	**ND**	**ND**	**ND**	**ND**
Other Materials				
% Cellulose:	>1 ≤ 3			>1 ≤ 3
% Fiberglass:		>50 ≤ 60	>50 ≤ 60	
% Other Fibers:				
% Resin/Binder:	>5 ≤ 10	>5 ≤ 10	>5 ≤ 10	>5 ≤ 10
% Non Fibrous:	>80 ≤ 90	>20 ≤ 30	>20 ≤ 30	>80 ≤ 90

ND = None Detected Trace = <1%

Special Prep Procedures: Sample numbers J19JH4, J19JH8 and J19JH9 were prepared by gravimetric reduction.

*Notes: P. O. #: N/A.

Shawn Smythe
Microscopist

All values are in area percent by visual estimate. The Federal Register Vol. 55 No. 224 Tuesday Nov. 20 1990 Rules and Regulations states "... If the asbestos content is estimated to be less than 10% by a method other than point counting,... (the analysis) be repeated using the point counting technique by PLM." Any of the above samples can be reanalyzed by point counting at the client's request.
Wherever possible, separate phases are analyzed and reported individually.

ALS Laboratory Group
4388 Glendale-Milford Road, Cincinnati, Ohio 45242
Phone (513) 733 5336 Fax (513) 733 5347 www.alsenviro.com
A Campbell Brothers Limited Company

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Submitted To: Joan Kessner
Washington Closure Hanford
2620 Fermi Avenue, MSIN H4-21
Richland WA 99354

REFERENCE DATA:

Client Sample No.:	J19JH4 through J19JH9
P.O. No.:	N/A
Sample Location:	315 Roof
Sample Type:	Bulk
Method Reference:	EPA/600/R-93/116, ELAP 198.1 (modified), PLM Analysis with Gravimetric Reduction
ALS Workorder No.:	DC1001441
ALS Sample ID No.:	1001441-01 through 1001441-06
Sample Receipt Date:	1/28/10
Preparation Date:	2/1/10 through 2/2/10
Analysis Date:	2/2/10

We certify that the samples indicated on the following data sheet(s) were prepared by gravimetric reduction and analyzed by Polarized Light Microscopy (PLM) for asbestos using a modification of the method, EPA/600/R-93/116, ELAP 198.1, Chatfield Method, for determining the amount and type of asbestos present in bulk building materials. The samples were acceptable upon receipt except where noted.

The samples were examined under a stereomicroscope for general composition and phase separation. Coarse, non-asbestos materials that cannot be pulverized, such as pebbles or metal foils, were separated from the portion analyzed. Other non-asbestos material was removed by ashing in a muffle furnace and/or dissolution in hydrochloric acid. Sample weights were tracked through each step in the reduction. Mountings of representative portions of the final residue were prepared in one or more refractive index liquids (1.550, 1.605, 1.680) and examined by Polarized Light Microscopy*. Estimates of concentration are made on an area basis. The results of the analysis apply only to the materials analyzed and are summarized on the attached PLM Asbestos Analysis Data Sheets.

Shawn Smythe
Analyst

for Anna Marie Ristich
Reviewer

* Some samples may contain fibers that are not visible by PLM and can only be discovered by electron microscopy techniques. Floor tiles are analyzed as homogeneous materials if insufficient mastic is present or if phases have been cross contaminated.
ALS Laboratory Group (Cincinnati) NVLAP Lab ID: 101917. Laboratory accreditation by the National Institute of Standards and Technology does not in any way constitute approval or endorsement by NVLAP, NIST, or any agency of the federal government.
Samples will be disposed of after 60 days unless instructed otherwise.

ALS Laboratory Group Analytical Report
PLM Bulk Asbestos Analysis using Gravimetric Reduction

Client: Washington Closure Hanford
Location: 315 Roof

SAMPLE IDENTIFICATION			
Client ID:	J19JH4	J19JH8	J19JH9
ALS ID:	1001441-01	1001441-05	1001441-06
SAMPLE DESCRIPTION			
Homogeneity:	Homog.	Homog.	Homog.
Color:	Black	Black	Black
Texture:	Resinous	Resinous	Resinous
Description:	Roofing	Roofing	Roofing
SAMPLE PREP			
Starting Weight (g):	1.2612	1.6303	5.4817
Residue Weight (g):	0.1694	0.0797	2.7378
Weight Percent Residue:	13.43	4.89	49.94
PERCENT ASBESTOS DETECTED IN RESIDUE			
Chrysotile:	0	0	0
Grunerite:	0	0	0
Crocidolite:	0	0	0
Actinolite-Tremolite:	0	0	0
Anthophyllite:	0	0	0
TOTAL IN RESIDUE	ND	ND	ND
ASBESTOS PERCENT IN SAMPLE			
	ND	**ND**	**ND**

ND = None Detected *TRACE = <1%*

*Notes: P. O. #: N/A.

Shawn Smythe
Analyst

Anna Marie Ristich
Reviewer

ALS Laboratory Group
4388 Glendale-Milford Road, Cincinnati, Ohio 45242
Phone (513) 733 5336 Fax (513) 733 5347 www.alsenviro.com
A Campbell Brothers Limited Company

1001441

Washington Closure Hanford — CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-040-436 | Page 1 of 2 | See 1-27-10

Collector Jim MuRbach	**Company Contact** Mike Stankovich	**Telephone No.** ~~375-4688~~ 430-7142	**Project Coordinator** KESSNER, JH
Project Designation 300 Area D4 Waste Characterization Sampling - Other Solid	**Sampling Location** 315 Roof		**SAF No.** RC-040
Ice Chest No. FED EX BOX	**Field Logbook No.** EL-1518-12	**COA** RD4MXX2F00	**Method of Shipment** FedEx
Shipped To ALS Laboratories - Cincinnati	**Offsite Property No.** A100053		**Bill of Lading/Air Bill No.** See OSPC

Price Code 9K **Data Turnaround** 7 Days

POSSIBLE SAMPLE HAZARDS/REMARKS
Asbestos

Special Handling and/or Storage
None

Preservation	None	None									
Type of Container	G/P	G/P or Whirl Pack									
No. of Container(s)	1	1									
Volume	5g	5g									
SAMPLE ANALYSIS	Asbestos-BULK-EPA	Asbestos-TEM									
Sample No. / Matrix * / Sample Date / Sample Time											
J19JH4 01 — OTHER SOLID — 01/27/10 — 09:35	X										
J19JH5 02 — OTHER SOLID — 01-27-10 — 09:37	X										
J19JH6 03 — OTHER SOLID — 01-27-10 — 09:45	X										
J19JH7 04 — OTHER SOLID — 01-27-10 — 09:47	X										
J19JH8 05 — OTHER SOLID — 01-27-10 — 09:65	X										

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Jim MuRbach	01-27-10 10:20	MS Stankovich	1/27/10 1020
MS Stankovich	1/27/10 1045	J. E. Bentl	1-27-10 1045
J. E. Bentl	1-27-10 1055	FED EX	1/28/10

SPECIAL INSTRUCTIONS
If a PLM sample is 21% and < 5%, please perform TEM. Not otherwise requested

REVIEWED BY DATE 1/28/10

Matrix *: S=Soil; SL=Sediment; SO=Solid; SI=Sludge; W=Water; O=Oil; A=Air; DS=Drum Solids; DL=Drum Liquids; T=Tissue; WI=Wipe; L=Liquid; V=Vegetation; X=Other

LABORATORY SECTION Received By ____ Title ____ Date/Time ____

FINAL SAMPLE DISPOSITION Disposal Method ____ Disposed By ____ Date/Time ____

WCH-EE-011

1001441

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-040-436

Page 1 of 2

Collector Jim Murbach	**Company Contact** Mike Stankovich	**Telephone No.** ~~375-4688~~ 430-7142	**Project Coordinator** KESSNER, JH
Project Designation 300 Area D4 Waste Characterization Sampling - Other Solid	**Sampling Location** 315 Roof		**SAF No.** RC-040
Ice Chest No. FED EX BOX	**Field Logbook No.** EL-1518-12	**COA** RD4MXX2F00	**Method of Shipment** FedEx
Shipped To ALS Laboratories - Cincinnati	**Offsite Property No.** A100053		**Bill of Lading/Air Bill No.** See OSPC

Price Code 9K — Data Turnaround 7 Days

POSSIBLE SAMPLE HAZARDS/REMARKS

Asbestos

Special Handling and/or Storage

None

Preservation	None	None									
Type of Container	G/P	G/P or Whirl Pack									
No. of Container(s)	1	1									
Volume	5g	5g									
SAMPLE ANALYSIS	Asbestos-BULK-EPA	Asbestos-TEM									
Sample No. / Matrix * / Sample Date / Sample Time											
J19JH9 06 — OTHER SOLID — 01-27-10 — 09:57	X										
J19JJ0 07 — OTHER SOLID — 01-27-10 — 10:00	X										
J19JJ1 — OTHER SOLID											
J19JJ2 — OTHER SOLID											

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Jim Murbach	1-27-10 1920	MT Stankovich	1/27/10 1020
MT Stankovich	1/27/10 1045	J. E. Berthelot	1-27-10 1045
J. E. Berthelot	1-27-10 1055	FED EX	
		[illegible]	1/28/10 1021

SPECIAL INSTRUCTIONS

If a PLM sample >1% and <5% please perform TEM, if not otherwise requested

REVIEWED BY [illegible] DATE 1/27/10

Matrix *: S=Soil; SE=Sediment; SO=Solid; Sl=Sludge; W = Water; O=Oil; A=Air; DS=Drum Solids; DL=Drum Liquids; T=Tissue; WI=Wipe; L=Liquid; V=Vegetation; X=Other

LABORATORY SECTION	Received By	Title	Date/Time	
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time	

WCH-EE-011