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Final Technical Memorandum

Contaminant Screening Study

Post Clean-Up Evaluation Sampling

Libby Asbestos Site, Operable Unit 4, Libby, Montana

September 2004

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Final Technical Memorandum
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for

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Operable Unit 4
Libby, Montana

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Acronyms

AHERA	Asbestos Hazard Emergency Response Act
ASTM	American Society for Testing and Materials
CDM	CDM Federal Programs Corporation
CE	clean-up evaluation
cm^2	square centimeter
EPA	U.S. Environmental Protection Agency
FSDS	field sample data sheet
GO	grid opening
HEPA	high efficiency particulate air filter
ISO	International Organization of Standardization
LA	Libby amphibole
µm	micron
MCE	mixed cellulose ester
mm	millimeter
PIF	pre-interview form
QAPP	Quality Assurance Project Plan
QC	quality control
SAP	sampling and analysis plan
SRC	Syracuse Research Corporation
S/cm^2	structures per square centimeter
S/cc	structures per cubic centimeter
TEM	transmission electron microscopy

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Section 1
Introduction

This document is a technical memorandum that describes the field activities, sample collection procedures, and sample results of the post clean-up evaluation sampling conducted from December 2003 to February 2004. All field procedures are detailed in the Final Sampling and Analysis Plan (SAP) Addendum, Post Clean-Up Evaluation (CE) Sampling (CDM Federal Programs Corporation [CDM] 2003).

This section describes the objectives of the CE sampling and provides background information related to the CE sampling activities.

1.1 Background

Because of the potential threats posed to public health by contamination resulting from vermiculite mined in Libby, Montana, the U.S. Environmental Protection Agency (EPA) is currently conducting clean-up actions intended to reduce the potential for Libby amphibole (LA) asbestos releases from primary and secondary sources, including:

- Removal of indoor vermiculite insulation at locations where the insulation is subject to disturbance (primary source)
- Removal of outdoor soils that contain LA asbestos at concentrations higher than 1 percent by mass (primary source)
- Removal of indoor dust at locations where LA asbestos loading is greater than or equal to 5,000 Asbestos Hazard Emergency Response Act (AHERA) structures per square centimeter (S/cm^2) (secondary source)

In addition, EPA is providing high efficiency particulate air filter (HEPA) vacuum cleaners to residents where removal actions were performed. Residents are instructed to use the HEPA vacuums to help reduce and/or eliminate reintroduction of LA asbestos in indoor dust at their properties.

Following each clean-up, confirmation sampling occurs by collecting samples of indoor air using aggressive sampling methods. The aggressive sampling methods include sweeping the floors, air blowing of ceilings and walls with a leaf blower to dislodge any remaining dust prior to sample collection, and use of stationary fans in the area to ensure that fibers remain airborne for measurement throughout the sampling period. All properties must pass the site-specific clearance rules in order to be declared an "acceptable clean-up." The current site-specific clearance rule for living or work areas requires that all air samples collected on each of the level(s) or floor(s) which were cleaned (approximately five samples per site) will be collected under aggressive sampling conditions and all results will be below the detection limit (i.e., no LA structures found) of the AHERA transmission electron microscopy [TEM]

method [AHERA 2002]. For attics which are not used for living or work areas; the clearance rule requires that no more than five LA structures be identified in a total of 5 air samples collected under aggressive conditions and analyzed by the AHERA TEM method. While the status of evaluated areas are known at the end of an acceptable clean-up, a number of important questions remain regarding the longer-term efficacy and permanence of the clean-ups in relation to the current clearance criteria.

1.2 Objectives

The objectives of the post clean-up evaluation sampling program are to obtain data that will help EPA site managers:

- Determine the magnitude of post-cleanup residual contamination levels under varying conditions.
- Understand the time periods that indoor contamination levels may remain below the acceptable clean-up criteria under varying conditions.
- Evaluate if certain residual sources such as dust inside air ducts and furnaces, or in carpets and upholstery, may result in re-contamination of indoor dust in a home.

Section 2
Field Activities

This section summarizes the CE field activities of property selection, pre-CE sampling activities, collection of samples, and any deviations in field activities from the documents that governed the CE sampling. The CE sampling program was comprised of three main steps:

- Selection of properties to be sampled
- Pre-CE activities (scheduling CE sampling, pre-interview and meeting)
- Collection of CE samples (stationary air, personal air, and dust)

2.1 Selection of Homes to be Sampled

Thirty-one homes were included in the CE and their selection was prioritized according to the 6 criteria listed below. Following an explanation of each of the 6 criterion is a table that shows the distribution, including number and percentage, of the 31 properties related to each of the criteria.

- Interior cleaning must have occurred – this could be a vermiculite insulation removal, an interior cleaning due to visible vermiculite in the living space or elevated dust results, or both.

Summary of Sampled Properties Included in Each Indoor Removal Activity Category		
Removal Activity	**Number of Properties**	**Percentage of Properties**
Interior Cleaning Only	3	9.7
Vermiculite Insulation Removal Only	10	32.3
Vermiculite Insulation Removal with an Interior Cleaning	17	54.8
Exterior Removal Only	1	3.2
Total Number of Properties	**31**	--

- Since a limited number of homes in the area use forced air heating, these homes were preferentially included. Homes that use radiant heating were also sampled.

Summary of Sampled Properties with Forced and Radiant Heat Distribution		
Type of Heat Distribution	**Number of Properties**	**Percentage of Properties**
Forced Air	18	58.1
Radiant	11	35.5
Forced Air and Radiant	2	6.5
Total Number of Properties	**31**	--

- Homes where vermiculite was left in place (i.e., walls, crawl spaces, sub-floors).

Summary of Sampled Properties with Vermiculite Left in Place		
Indoor Vermiculite Left in Place	**Number of Properties**	**Percentage of Properties**
Yes	20	64.5
No	10	32.3
Unknown	1	3.2
Total Number of Properties	**31**	--

- Properties that had a longer duration between the original clean-up and the CE.

Summary of Months Elapsed Between Removal Completion and Clean-Up Evaluation Sampling		
Number of Months Elapsed	**Number of Properties**	**Percentage of Properties**
1 to 3	9	29.0
4 to 6	5	16.1
7 to 9	9	29.0
10 to 12	6	19.4
> 12	2	6.5
Total Number of Properties	**31**	--

- Properties where an interior cleaning was conducted due to high dust results, but carpeting was not removed.

Summary of Sampled Properties in each Interior Cleaning Category		
Reason for and Interior Cleaning Activities Performed	**Number of Properties**	**Percentage of Properties**
Dust result > 5,000 S/cm^2, carpet cleaned	7	22.6
Dust result > 5,000 S/cm^2, carpet removed	2	6.5
Vermiculite visible in living space, carpet cleaned	9	29.0
Vermiculite visible in living space, carpet removed	1	3.2
Courtesy cleaning, carpet removed	1	3.2
No Interior Cleaning Performed	11	35.5
Total Number of Properties	**31**	--

- Properties that in addition to an interior clean-up, had an exterior removal requiring removal of most of the yard.

Summary of Sampled Properties with Large Scale Exterior Removals		
Large Scale Exterior Removal	**Number of Properties**	**Percentage of Properties**
Yes	13	41.9
No	18	58.1
Total Number of Properties	31	--

Table 2-1 is a summary of the 31 homes where CE sampling was conducted and how each property relates to the above criteria.

2.2 Pre Clean-Up Evaluation Activities

This section describes the pre-CE activities that included contacting home owners regarding participation in the CE, scheduling of CE sampling, and performance of pre-CE interviews and meetings.

2.2.1 Scheduling Clean-Up Evaluation Activities

Once a list of potential properties meeting the criteria detailed in Section 2.1 was compiled, CDM community involvement personnel began contacting residents in November 2003 to determine which property owners would be willing to participate in the CE sampling.

2.2.2 Pre-Sampling Interview and Meeting

Prior to sample collection, an interview was conducted with each resident. The purpose of the interview was to capture information regarding any activities the residents may be involved in or properties routinely visited by the occupants that could reintroduce LA contamination into their home. The interview was documented on a pre-interview form (PIF) (Appendix A). The PIF also captured information regarding the use of EPA provided HEPA vacuums.

A pre-sampling meeting also was conducted to provide each resident with information regarding the sampling equipment to be used, and who to contact if there were any issues with the equipment. The pre-sampling meeting was also used to provide the occupants where personal air samples are being collected with instructions on how to complete the activity log (Appendix A). The activity log was used to record the activities of the resident during personal air sample collection.

2.3 Collection of Clean-Up Evaluation Samples

Three types of field samples (stationary indoor air, personal air, and dust) were collected during the CE activities. CE sampling activities began on November 20, 2003, and continued until February 2, 2004. This section summarizes the collection

procedures used, any deviations to the sample procedures, and summarizes the number of samples collected.

2.3.1 Stationary Indoor Air Sample Collection

A total of 69 stationary indoor air samples were collected in 31 homes in accordance with the Sampling and Quality Assurance Project Plan (QAPP) Revision 1 for Libby, Montana, Environmental Monitoring for Asbestos, Baseline Monitoring for Source Area and Residential Exposure to Tremolite-Actinolite Asbestos Fibers (EPA 2000), also known as the Phase 1 QAPP. A summary of the samples collected is provided in Table 2-1.

High volume air pumps were used to collect one stationary air sample per floor of the living space. If needed, additional samples were collected depending on the square footage of each floor. Each sample was collected in a centrally located area to avoid interference from outside air.

In order to achieve the desired analytical sensitivity a total air volume between 6,000 and 8,000 liters was pulled through each 25 millimeter (mm) 0.8 micron (μm) mixed cellulose ester (MCE) sampling filter at a flow rate that captured this volume in one 10 to 12 hour period. Every two to three hours each sampling filter was checked for loading and the flow rate measured.

A stationary air field sample data sheet (FSDS) and logbook entries were completed for each sample (included in Appendix A).

Deviations to Stationary Air Sample Collection

- All data collected as part of the CE, was collected under normal living conditions (i.e., not during household remolding or other activities that would generate greater than normal dust levels), with the exception of the sampling conducted at 143 Crossway Ave and 2293 Kootenai River Rd. Remodeling activities were occurring at both of these properties during CE sampling collection.

- Seven samples were collected at less than 6,000 liters due to observed filter loading in homes where the resident is a smoker, uses a wood burning stove, or has indoor pets.

2.3.2 Personal Air Sample Collection

A total of eight personal breathing zone air samples were collected in five homes in accordance with the Phase 1 QAPP (EPA 2000). A summary of the samples collected is provided in Table 2-1.

In order to achieve the desired analytical sensitivity a total air volume of between 6,000 and 8,000 liters during 8 to 10 hour periods over the course of 2-3 days was collected, as permitted. Personal air samples were collected on a single 25 mm 0.8 μm

MCE sampling filter at a flow rate between one to four liters as determined by conditions and equipment.

In addition to the personal air samples, one stationary air sample was collected per floor of the living space on each day of the personal air sampling. The stationary air sample was collected at approximately the same flow rate as the personal air sample. This was done to help ensure that the same volume of air was collected during the same time period for both the personal and stationary air samples.

Every two to three hours each sampling filter was checked for loading and the flow rate measured. Due to observed filter loading some samples were collected on more than one cassette. This occurred in homes where the resident is a smoker, uses a wood burning stove, or has indoor pets.

During the collection of personal air samples, each resident being sampled completed an activity log (Appendix A) which collected information concerning the activities they performed while wearing the sampling pump. Residents were instructed that during the time of sample collection, that if they left their property, they should turn off the air pump. If the occupant wearing the pump exited the home, but remained outdoors on their property, the sampling included this period of time.

Personal air FSDS and logbook entries were completed for each sample (included in Appendix A).

Deviations to Personal Air Sample Collection

- All data collected as part of the CE, was collected under normal living conditions (i.e., not during household remolding or other activities that would generate greater than normal dust levels), with the exception of the sampling conducted at 143 Crossway Ave and 2293 Kootenai River Rd. Remodeling activities were occurring at both of these properties during CE sampling collection.

- All eight personal air samples were collected with a total air volume of 6,000 liters or less.

2.3.3 Dust Sample Collection

A total of 32 dust field samples were collected from 31 homes. A summary of the samples collected is provided in Table 2-1. As detailed in the CE SAP (CDM 2003), dust samples were collected in accordance with the SAP for Indoor Dust, Revision 0, Version 2 (CDM and Syracuse Research Corporation [SRC] 2003), also know as the dust SAP, with the following exceptions:

- One dust sample was collected per house

- Each dust sample was a minimum of a 400 cm^2 (square centimeters) composite that was collected over all floors (i.e., basement, ground floor, second floor, etc.)

- For multiple floor homes, one 100 cm^2 high traffic area and one 100 cm^2 horizontal surface sample was collected from each floor on a single sample cassette

- For single floor homes, two 100 cm^2 high traffic areas and two 100 cm^2 horizontal surfaces were collected from each floor on a single sample cassette

- No dust blanks were to be submitted (see deviation below)

A dust FSDS and logbook entry was completed for each sample (included in Appendix A).

Deviations to Dust Sample Collection

- Two dust samples (CE-00001 and CE-00002) were collected at 2293 Kootenai River Rd. Two samples were collected due to the condition of the home at the time of CE sampling. Because the house was being remodeled during the sampling event, one dust sample was collected from the section of the house that was being remodeled and the second sample was collected from portions of the house that were not being remodeled.

- One dust sample (CE-00051) collected at 1116 Utah Ave was collected over a total of 400 cm^2 and should have been collected over a total of 600 cm^2. This deviation occurred as a result of this property being one of the first properties to be sampled during the CE and the incorrect number of dust sampling locations being collected. The two locations that were not included were one 100 cm^2 area from a horizontal surface in the basement and one 100 cm^2 area from a horizontal surface on the ground floor. Based on the assumption that LA distribution is evenly distributed within the living space the smaller area sampled at this property will not affect the quality of this sample result.

- As detailed in Libby Field Office Record of Modification Form LFO-000064a and 64b, the frequency of QC sample collection was changed to the following requirement: one field blank was collected at a frequency of one per team per day and analyzed at a frequency of one per team per week for each media. Therefore, three field dust blanks were collected.

Table 2-1 Summary of Post Clean-Up Evaluation Sampling Properties Showing Relation to Selection Criteria and Clean-Up Evaluation Samples Collected

	Clean-Up Evaluation Selection Criteria							Clean-Up Evaluation Sampling Details						
					Interior Cleaning Performed					Stationary Air				
Property	Indoor Removal Activities	Type of Heat Distribution	Location of Indoor Vermiculite Left in Place	Date(s) of Removal	Reason for Interior Cleaning	Carpet Cleaned or Removed	Exterior Contamination Removed†	Date(s) of Clean-Up Evaluation Sampling	Number of Months Elapsed Between Removal and Clean-Up Evaluation Sampling	Basement	Ground Floor	Second Floor	Personal Air	Dust (Number of samples collected / total cm^2 collected)
1108 Louisiana Ave	Exterior only	Forced Air	None	September 2003	No interior cleaning occurred		Yes	01/30/04	4	2‡	1	1	0	1 / 600 cm^2
1109 Louisiana Ave	VCI removal	Radiant	None	March 2003	No interior cleaning occurred		No	12/15/03	9	1	1	N/A	0	1 / 400 cm^2
1116 Utah Ave	VCI removal	Radiant	Attic	March 2003	No interior cleaning occurred		No	12/16/03	9	1	1	1	0	1 / 400 cm^2
1118 California Ave	VCI removal	Radiant	None	March 2003	No interior cleaning occurred		No	01/19/04	10	0	1	0	0	1 / 400 cm^2
1120 California Ave	VCI removal	Forced Air	None	March 2003	No interior cleaning occurred		No	01/20/04	10	2‡	1	1	0	1 / 600 cm^2
113 W. Oak St	VCI removal with interior cleaning	Forced Air	Walls	November 2003	Dust result >5,000 S/cm^2	Cleaned	Yes	01/21/04	2	1*	1*	N/A	0	1 / 400 cm^2
1202 Idaho Ave	VCI removal with interior cleaning	Radiant	Walls	December 2003	VCI in living space	Cleaned	No	01/29/04	1	N/A	1	N/A	0	1 / 400 cm^2
1212 Louisiana Ave	VCI removal with interior cleaning	Radiant	Second floor ceiling	March 2003	VCI in living space	Cleaned	No	01/12/04	10	N/A	1	1	0	1 / 400 cm^2
123 Hamann Ave	VCI removal with interior cleaning	Radiant	Unknown	October 2002	Dust result >5,000 S/cm^2	Removed	Yes	01/29/04	15	N/A	1	1	0	1 / 400 cm^2
1231 Nevada Ave	VCI removal	Forced Air	Walls	October 2003	No interior cleaning occurred		No	01/26/04	3	N/A	1	N/A	0	1 / 400 cm^2
1306 Louisiana Ave	VCI removal	Forced Air	Walls	April 2003	No interior cleaning occurred		No	12/15/03	8	N/A	1	N/A	0	1 / 400 cm^2
1417 Washington Ave	VCI removal with interior cleaning	Forced Air	Crawl Space	October 2003	Dust result >5,000 S/cm^2	Cleaned	Yes	01/26/04	3	N/A	1	1	0	1 / 400 cm^2
143 Crossway Ave	VCI removal with interior cleaning	Forced Air and Radiant	Walls, Crawl Space	July 2003	VCI in living space	Removed	Yes	12/08/03 12/09/03 12/10/03	5	N/A	1*	1	2	1 / 400 cm^2
154 Ski Rd	VCI removal with interior cleaning	Forced Air	Walls	Interior - 11/02 Exterior - 7/03	Cleaned before criteria established - Dust results <5,000 S/cm^2 and no VCI in living space	Removed	Yes	01/13/04	Interior - 26 Exterior - 6	1	1	1	0	1 / 600 cm^2
178 Scenery Rd	VCI removal	Radiant	None	March 2003	No interior cleaning occurred		No	12/17/03	9	2‡	1	N/A	0	1 / 400 cm^2
2129 Highway 2 S	VCI removal with interior cleaning	Radiant	Walls, Sub-floor	May 2003	VCI in living space	Cleaned	No	01/23/04 01/24/03	8	N/A	1	1	0	1 / 400 cm^2
214 W. Larch St	VCI removal with interior cleaning	Radiant	Walls	May 2003	VCI in living space	Cleaned	No	02/02/04	9	N/A	1	N/A	0	1 / 400 cm^2
2293 Kootenai River Rd	VCI removal with interior cleaning	Forced Air	Walls, Sub-floor	October 2003	Dust result >5,000 S/cm^2	Removed	Yes	11/20/03	1	1	1	1	1*	1 / 400 cm^2
								12/15/03	2					1 / 600 cm^2
2297 Kootenai River Rd	VCI removal with interior cleaning	Forced Air	Attic, Walls	October 2003	Dust result >5,000 S/cm^2	Cleaned	Yes	01/19/04 01/21/04	3	N/A	1	N/A	1	1 / 400 cm^2
233 W. Larch St	VCI removal with interior cleaning	Forced Air	Walls	Feburary 2003	Dust result >5,000 S/cm^2	Cleaned	No	01/27/04	11	1	1	1	0	1 / 600 cm^2
3796 Highway 2 S	VCI removal with interior cleaning	Forced Air	None	October 2003	VCI in living space	Cleaned	No	01/08/04	3	N/A	1	N/A	0	1 / 400 cm^2
38 Spencer Hill Way	Interior cleaning	Forced Air	None	September 2003	Dust result >5,000 S/cm^2	Cleaned	Yes	1/28/04 1/29/04 1/30/04	4	N/A	1	N/A	1	1 / 400 cm^2
450 Farm to Market Rd	VCI removal	Forced Air	Chimney	October 2003	No interior cleaning occurred		Yes	12/18/03	2	1	1*	N/A	0	1 / 400 cm^2
505 Louisiana Ave	VCI removal	Forced Air	Attic	March 2003	No interior cleaning occurred in home. Cleaning was conducted in garage only.		No	01/13/04	10	N/A	1	1	0	1 / 400 cm^2
52 Pearl St	VCI removal with interior cleaning	Forced Air	Walls	May 2003	VCI in living space	Cleaned	No	01/16/04	8	1	1	1	0	1 / 600 cm^2
603 W. 10th St	VCI removal with interior cleaning	Forced Air and Radiant	None	July 2003	VCI in living space	Cleaned	Yes	12/15/03 12/16/03 12/17/03	5	3	3	N/A	3	1 / 400 cm^2
616 Wisconsin Ave	VCI removal with interior cleaning	Forced Air	Sub-floor	May 2003	VCI in living space	Cleaned	No	01/17/04	8	1	1	1	0	1 / 600 cm^2
620 Utah Ave	VCI removal	Forced Air	Attic	March 2003	No interior cleaning occurred		No	01/08/04	10	N/A	1	1	0	1 / 400 cm^2
653 Flower Creek Rd	Interior cleaning	Radiant	None	October 2003	Dust result >5,000 S/cm^2	Cleaned	Yes	01/16/04	3	1	1	N/A	0	1 / 400 cm^2
713 Michigan Ave	VCI removal with interior cleaning	Forced Air	Attic	May 2003	VCI in living space	Cleaned	No	01/12/04	8	N/A	1	1	0	1 / 400 cm^2
86 Paliga Dr	Interior cleaning	Radiant	None	August 2003	Dust result >5,000 S/cm^2	Cleaned	Yes	01/23/04	5	1	1	N/A	0	1 / 400 cm^2
								Total Number of Samples Collected		69			8	32

Notes:

N/A - not applicable
VCI- vermiculite containing insulation
<- less than
>- greater than
S/cm^2- structures per square centimeter
cm^2- square centimeter

*Samples with detects of Libby Amphibole (LA)
‡One field sample and one field replicate sample collected from this location

†This column indicates if an exterior removal was completed for most of the yard area.
Properties where LA was detected

Section 3
Results

This section provides a summary of the analytical methods used to analyze the samples collected as part of the CE, the analytical sensitivity of the analytical methods, and a summary of the results.

3.1 Analytical Methods

The CE SAP (CDM 2003) required all air and dust samples collected be analyzed by TEM according to International Organization of Standardization (ISO) Method 10312 (ISO 1995). As documented in Libby Field Office Record of Modification Form LFO-000074 (Appendix B), and in keeping with current project analytical methods, the analytical method used to analyze the dust and air samples collected during this investigation was changed to the TEM AHERA method. Dust samples were prepared for analysis using American Society for Testing and Materials (ASTM) method 5755. All samples were analyzed at the on-site laboratory in Libby.

3.2 Sensitivity Limits

The minimum detection limits required for air samples collected as part of the CE activities was specified to be 0.0001 structures per cubic centimeter (S/cc) in the SAP (CDM 2003). Due to the large amount of grid openings (GO) that may be required to be read in order to reach this analytical sensitivity, a target analytical sensitivity was established. The target analytical sensitivity of 0.0001 S/cc for personal and stationary air samples was modified to include a not to exceed GO count of 50 GOs. If a sensitivity of 0.0001 S/cc could not be achieved within 50 GOs, the laboratory counted until a target analytical sensitivity of 0.0002 S/cc was reached, or until 50 GOs were read, which ever came first. This deviation is described in Libby Field Office Record of Modification Form LFO-000078 (Appendix B).

The minimum detection limit required for dust samples collected as part of the CE activities was specified to be 500 S/cm^2. This sensitivity was achieved for all samples except one, where the detection limit was reported at 502 S/cm^2.

3.3 Summary of Results

A total of 109 field samples including 69 stationary air, eight personal air, and 32 dust samples were collected during the CE activities described in this technical memorandum. In addition a total of six field blanks were submitted for analysis (three for air and three for dust), as well as three stationary air field replicate samples. This section and Table 3-1 provides a summary of the results. Hard copies of the analytical data are also included in Appendix C.

3.3.1 Stationary Indoor Air Sample Results

Of the 69 stationary air samples collected at the 31 properties evaluated during the CE only four samples had detectable concentrations of LA. These four samples were collected at the following three properties :

- 113 W. Oak St - each of two stationary air samples (CE-00087 and CE-00088) had detects of one asbestos structure, both with LA concentrations of 0.0001 S/cc each.
- 143 Crossway Ave - one stationary air sample (CE-00005) had a detect of one asbestos structure with an LA concentration of 0.0001 S/cc. Remodeling activities were occurring in this home during CE sample collection.
- 405 Farm to Market Rd - one stationary air sample (CE-00056) had a detect of one asbestos structure with an LA concentration of 0.0002 S/cc.

All other samples were nondetect for LA, chrysotile, and other amphiboles at the described sensitivity limits (Section 3.2).

3.3.2 Personal Air Sample Results

One of the eight personal air samples collected during the CE activities had detectable concentrations of LA. This sample (CE-00016) was collected at 2293 Kootenai River Rd and showed one structure of LA at a concentration of 0.0001 S/cc. Remodeling activities were occurring in this home during CE sample collection. The seven remaining samples were nondetect for LA, chrysotile, and other amphiboles at the described sensitivity limits (Section 3.2).

3.3.3 Dust Sample Results

All of the 32 dust field samples collected were nondetect for LA. One sample (CE-00125) collected at 1108 Louisiana Ave showed a chrysotile concentration of 4,685 S/cm^2. Chrysotile contamination is not a result of the presence of vermiculite at a property.

3.3.4 Quality Control Sample Results

As stated in the Final SAP Addendum, Post Clean-Up Evaluation Sampling (CDM 2003), quality control requirements detailed in Section B5 of the Phase 1 QAPP (EPA 2000) were to be followed for air samples collected during the CE activities. These requirement require the collection of replicate air samples at a rate of 1 per 20 (5%), and the submission of field blanks at a rate of 1 per 20 (5%). As stated in the CE SAP (CDM 2003), no quality control (QC) samples were required for dust samples collected during the CE activities.

A total of three replicate air samples (all nondetect for LA) were collected during the CE sampling. This resulted in a collection frequency of 4.5%. This is 0.5% less than the 5% frequency called for in the SAP. While the collection frequency of 5% was not

met, given the low number of samples with detects of LA and that the same volume of air was collected between each replicate and its parent sample, this deficiency in replicate collection frequency will not affect the quality of the data collected.

As detailed in Libby Field Office Record of Modification Forms LFO-000064a and 64b, the frequency of QC sample collection was changed to the following requirement:

- One field blank was collected at a frequency of one per team per day and analyzed at a frequency of one per team per week for air and dust media. Those field blanks collected but not submitted for analysis were placed into archive.

A total of six field blanks were analyzed (three for air sampling and three for dust samples). LA was not detected in any of the blank samples collected.

3.3.5 Overview of Results

A total of five air samples (four stationary air and one personal air) collected at four different properties showed detects of one LA structure in each sample; with concentrations ranging from 0.0001 to 0.0002 S/cc. Below a brief summary of the samples with LA detects, by sample type, is shown.

Table 3-2 Overview of Sample Results

Type of Sample	Total Number of Samples Collected	Number of Samples With LA	Percentage of Samples With LA	Concentration Range of Samples With LA
Stationary Air	69	4	5.8%	0.0001 S/cc to 0.0002 S/cc
Personal Air	8	1	12.5%	0.0001 S/cc
Dust	32	0	0%	N/A
Total	**109**	**5**	**4.59%**	

Table 3-1 Summary of Post Clean-Up Evaluation Analytical Results

Sample ID	Property Group (Location)	Sample Group	Location Description (Sub Location)	Media Type	Matrix	Sample Type	Category	Air = Vol (L) or Dust = Area (cm²)	Sample Date	AHERA / ASTM 5755														
										Filter Status Not Analyzed	Preparation Description	Libby Amphiboles (LA)			Chrysotile (C)			Other Amphiboles (OA)			Total Asbestos			
												S<5u	S>5u	Asb conc (Air = S/cc) or (Dust = S/cm2)	S<5u	S>5u	Asb conc (Air = S/cc) or (Dust = S/cm2)	S<5u	S>5u	Asb conc (Air = S/cc) or (Dust = S/cm2)	Asbestos Type Identified	S<5u	S>5u	Asb conc (Air = S/cc) or (Dust = S/cm2)
CE-00121	1108 Louisiana Ave	Basement	Basement	Air	Indoor	Stationary	Field Sample	6589	1/30/2004	Overloaded	Direct	0	0	< 0	0	0	< 0	0	0	< 0	N/A	0	0	< 0
CE-00121	1108 Louisiana Ave	Basement	Basement	Air	Indoor	Stationary	Field Sample	6589	1/30/2004	N/A	Indirect	0	0	< 0.0006	0	0	< 0.0006	0	0	< 0.0006	N/A	0	0	< 0.0006
CE-00122	1108 Louisiana Ave	Basement	Basement	Air	Indoor	Stationary	Field Replicate	6589	1/30/2004	Overloaded	Indirect	0	0	< 0	0	0	< 0	0	0	< 0	N/A	0	0	< 0
CE-00122	1108 Louisiana Ave	Basement	Basement	Air	Indoor	Stationary	Field Replicate	6589	1/30/2004	N/A	Direct	0	0	< 0.0006	0	0	< 0.0006	0	0	< 0.0006	N/A	0	0	< 0.0006
CE-00123	1108 Louisiana Ave	House	Ground floor bedroom	Air	Indoor	Stationary	Field Sample	6580	1/30/2004	Overloaded	Direct	0	0	< 0	0	0	< 0	0	0	< 0	N/A	0	0	< 0
CE-00123	1108 Louisiana Ave	House	Ground floor bedroom	Air	Indoor	Stationary	Field Sample	6580	1/30/2004	N/A	Indirect	0	0	< 0.0006	0	0	< 0.0006	0	0	< 0.0006	N/A	0	0	< 0.0006
CE-00124	1108 Louisiana Ave	House	Second level floor, top of steps	Air	Indoor	Stationary	Field Sample	6571	1/30/2004	Overloaded	Direct	0	0	< 0	0	0	< 0	0	0	< 0	N/A	0	0	< 0
CE-00124	1108 Louisiana Ave	House	Second level floor, top of steps	Air	Indoor	Stationary	Field Sample	6571	1/30/2004	N/A	Indirect	0	0	< 0.0006	0	0	< 0.0006	0	0	< 0.0006	N/A	0	0	< 0.0006
CE-00125	1108 Louisiana Ave	House	Basement, ground floor, second level	Dust	Horizontal surface & high traffic area	N/A	Field Sample	600	1/30/2004	N/A	Indirect	0	0	< 167	23	5	4,685	0	0	< 167	Chrysotile	23	5	4,685
CE-00041	1109 Louisiana Ave	House	Living room	Air	Indoor	Stationary	Field Sample	6078	12/15/2003	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00042	1109 Louisiana Ave	Basement	Basement	Air	Indoor	Stationary	Field Sample	6079	12/15/2003	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00044	1109 Louisiana Ave	House	Basement, ground floor	Dust	Horizontal surface & high traffic area	N/A	Field Sample	400	12/15/2003	N/A	Indirect	0	0	< 125	0	0	< 125	0	0	< 125	N/A	0	0	< 125
CE-00048	1116 Utah Ave	Basement	Basement	Air	Indoor	Stationary	Field Sample	6180	12/16/2003	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00049	1116 Utah Ave	House	Second level top of steps	Air	Indoor	Stationary	Field Sample	6162	12/16/2003	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00050	1116 Utah Ave	House	Kitchen, dining room	Air	Indoor	Stationary	Field Sample	6152	12/16/2003	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00051	1116 Utah Ave	House	Basement, ground floor, second level	Dust	Horizontal surface & high traffic area	N/A	Field Sample	400	12/16/2003	N/A	Indirect	0	0	< 125	0	0	< 125	0	0	< 125	N/A	0	0	< 125
CE-00079	1118 California Ave	House	Kitchen, hallway	Air	Indoor	Stationary	Field Sample	6109	1/19/2004	Overloaded	Direct	0	0	< 0	0	0	< 0	0	0	< 0	N/A	0	0	< 0
CE-00079	1118 California Ave	House	Kitchen, hallway	Air	Indoor	Stationary	Field Sample	6109	1/19/2004	N/A	Indirect	0	0	< 0.0007	0	0	< 0.0007	0	0	< 0.0007	N/A	0	0	< 0.0007
CE-00080	1118 California Ave	House	Ground floor	Dust	Horizontal surface & high traffic area	N/A	Field Sample	400	1/19/2004	N/A	Indirect	0	0	< 314	0	0	< 314	0	0	< 314	N/A	0	0	< 314
CE-00082	1120 California Ave	Basement	Basement	Air	Indoor	Stationary	Field Sample	5716	1/20/2004	Overloaded	Direct	0	0	< 0	0	0	< 0	0	0	< 0	N/A	0	0	< 0
CE-00082	1120 California Ave	Basement	Basement	Air	Indoor	Stationary	Field Sample	5716	1/20/2004	N/A	Indirect	0	0	< 0.0007	0	0	< 0.0007	0	0	< 0.0007	N/A	0	0	< 0.0007
CE-00083	1120 California Ave	Basement	Basement	Air	Indoor	Stationary	Field Replicate	5716	1/20/2004	Overloaded	Direct	0	0	< 0	0	0	< 0	0	0	< 0	N/A	0	0	< 0
CE-00083	1120 California Ave	Basement	Basement	Air	Indoor	Stationary	Field Replicate	5716	1/20/2004	N/A	Indirect	0	0	< 0.0007	0	0	< 0.0007	0	0	< 0.0007	N/A	0	0	< 0.0007
CE-00084	1120 California Ave	House	Ground level dining room adjacent steps	Air	Indoor	Stationary	Field Sample	5813	1/20/2004	Overloaded	Direct	0	0	< 0	0	0	< 0	0	0	< 0	N/A	0	0	< 0
CE-00084	1120 California Ave	House	Ground level dining room adjacent steps	Air	Indoor	Stationary	Field Sample	5813	1/20/2004	N/A	Indirect	0	0	< 0.0007	0	0	< 0.0007	0	0	< 0.0007	N/A	0	0	< 0.0007
CE-00085	1120 California Ave	House	Second level room at top of steps	Air	Indoor	Stationary	Field Sample	5697	1/20/2004	Overloaded	Direct	0	0	< 0	0	0	< 0	0	0	< 0	N/A	0	0	< 0
CE-00085	1120 California Ave	House	Second level room at top of steps	Air	Indoor	Stationary	Field Sample	5697	1/20/2004	N/A	Indirect	0	0	< 0.0007	0	0	< 0.0007	0	0	< 0.0007	N/A	0	0	< 0.0007
CE-00086	1120 California Ave	House	Basement, ground floor, second level	Dust	Horizontal surface & high traffic area	N/A	Field Sample	600	1/20/2004	N/A	Indirect	0	0	< 209	0	0	< 209	0	0	< 209	N/A	0	0	< 209
CE-00087	113 W. Oak St	House	Ground level master bedroom	Air	Indoor	Stationary	Field Sample	6258	1/21/2004	N/A	Direct	0	1	0.0001	0	0	< 0.0001	0	0	< 0.0001	Libby Amphibole	0	1	0.0001
CE-00088	113 W. Oak St	Basement	Basement	Air	Indoor	Stationary	Field Sample	6240	1/21/2004	N/A	Direct	0	1	0.0001	0	0	< 0.0001	0	0	< 0.0001	Libby Amphibole	0	1	0.0001
CE-00089	113 W. Oak St	House	Basement, ground floor	Dust	Horizontal surface & high traffic area	N/A	Field Sample	400	1/21/2004	N/A	Indirect	0	0	< 418	0	0	< 418	0	0	< 418	N/A	0	0	< 418
CE-00113	1202 Idaho Ave	House	South sewing room	Air	Indoor	Stationary	Field Sample	6095	1/29/2004	Overloaded	Direct	0	0	< 0	0	0	< 0	0	0	< 0	N/A	0	0	< 0
CE-00113	1202 Idaho Ave	House	South sewing room	Air	Indoor	Stationary	Field Sample	6095	1/29/2004	N/A	Indirect	0	0	< 0.0007	0	0	< 0.0007	0	0	< 0.0007	N/A	0	0	< 0.0007
CE-00114	1202 Idaho Ave	House	Ground floor	Dust	Horizontal surface & high traffic area	N/A	Field Sample	400	1/29/2004	N/A	Indirect	0	0	< 251	0	0	< 251	0	0	< 251	N/A	0	0	< 251
CE-00032	1212 Louisiana Ave	House	Kitchen	Air	Indoor	Stationary	Field Sample	6254	1/12/2004	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00033	1212 Louisiana Ave	House	Second level hallway	Air	Indoor	Stationary	Field Sample	6118	1/12/2004	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00035	1212 Louisiana Ave	House	Ground floor, second level	Dust	Horizontal surface & high traffic area	N/A	Field Sample	400	1/12/2004	N/A	Indirect	0	0	< 125	0	0	< 125	0	0	< 125	N/A	0	0	< 125
CE-00059	123 Hamann Ave	House	Living room	Air	Indoor	Stationary	Field Sample	6700	1/29/2004	Overloaded	Direct	0	0	< 0	0	0	< 0	0	0	< 0	N/A	0	0	< 0
CE-00059	123 Hamann Ave	House	Living room	Air	Indoor	Stationary	Field Sample	6700	1/29/2004	N/A	Indirect	0	0	< 0.0006	0	0	< 0.0006	0	0	< 0.0006	N/A	0	0	< 0.0006
CE-00060	123 Hamann Ave	House	Master bedroom	Air	Indoor	Stationary	Field Sample	6736	1/29/2004	Overloaded	Direct	0	0	< 0	0	0	< 0	0	0	< 0	N/A	0	0	< 0
CE-00060	123 Hamann Ave	House	Master bedroom	Air	Indoor	Stationary	Field Sample	6736	1/29/2004	N/A	Indirect	0	0	< 0.0006	0	0	< 0.0006	0	0	< 0.0006	N/A	0	0	< 0.0006
CE-00115	123 Hamann Ave	House	Ground floor, second level	Dust	Horizontal surface & high traffic area	N/A	Field Sample	400	1/29/2004	N/A	Indirect	0	0	< 314	0	0	< 314	0	0	< 314	N/A	0	0	< 314
CE-00104	1231 Nevada Ave	House	Master bedroom	Air	Indoor	Stationary	Field Sample	6215	1/26/2004	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00105	1231 Nevada Ave	House	Ground floor	Dust	Horizontal surface & high traffic area	N/A	Field Sample	400	1/26/2004	N/A	Indirect	0	0	< 314	0	0	< 314	0	0	< 314	N/A	0	0	< 314
CE-00043	1306 Louisiana Ave	House	Living room	Air	Indoor	Stationary	Field Sample	6078	12/15/2003	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00045	1306 Louisiana Ave	House	Ground floor	Dust	Horizontal surface & high traffic area	N/A	Field Sample	400	12/15/2003	N/A	Indirect	0	0	< 125	0	0	< 125	0	0	< 125	N/A	0	0	< 125
CE-00046	1306 Louisiana Ave	Blank	N/A	Air	N/A	Stationary	Field Blank	0	12/15/2003	N/A	Direct	0	0		0	0		0	0		N/A	0	0	
CE-00101	1417 Washington Ave	House	Kitchen	Air	Indoor	Stationary	Field Sample	6099	1/26/2004	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00102	1417 Washington Ave	House	Second level	Air	Indoor	Stationary	Field Sample	6167	1/26/2004	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00103	1417 Washington Ave	House	Ground floor, second level	Dust	Horizontal surface & high traffic area	N/A	Field Sample	400	1/26/2004	N/A	Indirect	0	0	< 314	0	0	< 314	0	0	< 314	N/A	0	0	< 314
CE-00106	1417 Washington Ave	Blank	N/A	Air	N/A	Stationary	Field Blank	0	1/26/2004	N/A	Direct	0	0		0	0		0	0		N/A	0	0	
CE-00004	143 Crossway Ave	House	Shoulder	Air	Indoor	Personal	Field Sample	1982	12/8/2003	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00005	143 Crossway Ave	House	Dining room	Air	Indoor	Stationary	Field Sample	7231	12/8/2003	N/A	Direct	1	0	0.0001	0	0	< 0.0001	0	0	< 0.0001	Libby Amphibole	1	0	0.0001
CE-00006	143 Crossway Ave	House	Second level master bedroom doorway	Air	Indoor	Stationary	Field Sample	7246	12/8/2003	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00007	143 Crossway Ave	House	Shoulder	Air	Indoor	Personal	Field Sample	3194	12/9/2003	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00008	143 Crossway Ave	Blank	N/A	Air	N/A	Stationary	Field Blank	0	12/10/2003	N/A	Direct	0	0		0	0		0	0		N/A	0	0	
CE-00009	143 Crossway Ave	House	Ground floor, second level	Dust	Horizontal surface & high traffic area	N/A	Field Sample	400	12/10/2003	N/A	Indirect	0	0	< 415	0	0	< 415	0	0	< 415	N/A	0	0	< 415
CE-00036	154 Ski Rd	House	Second level west bedroom	Air	Indoor	Stationary	Field Sample	6037	1/13/2004	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00037	154 Ski Rd	House	Ground level living room	Air	Indoor	Stationary	Field Sample	6122	1/13/2004	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00038	154 Ski Rd	House	Center of basement	Air	Indoor	Stationary	Field Sample	6140	1/13/2004	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00062	154 Ski Rd	House	Basement, ground floor, second level	Dust	Horizontal surface & high traffic area	N/A	Field Sample	600	1/13/2004	N/A	Indirect	0	0	< 167	0	0	< 167	0	0	< 167	N/A	0	0	< 167
CE-00052	178 Scenery Rd	House	Kitchen	Air	Indoor	Stationary	Field Sample	6161	12/17/2003	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00053	178 Scenery Rd	Basement	Bedroom	Air	Indoor	Stationary	Field Sample	6161	12/17/2003	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00054	178 Scenery Rd	Basement	Bedroom	Air	Indoor	Stationary	Field Replicate	6161	12/17/2003	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00055	178 Scenery Rd	House	Basement, ground floor	Dust	Horizontal surface & high traffic area	N/A	Field Sample	400	12/17/2003	N/A	Indirect	0	0	< 251	0	0	< 251	0	0	< 251	N/A	0	0	< 251
CE-00090	2129 Highway 2 S	House	Second level	Air	Indoor	Stationary	Field Sample	6556	1/24/2004	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00091	2129 Highway 2 S	House	Living room ground level	Air	Indoor	Stationary	Field Sample	6520	1/24/2004	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00094	2129 Highway 2 S	House	Ground floor, second level	Dust	Horizontal surface & high traffic area	N/A	Field Sample	400	1/23/2004	N/A	Indirect	0	0	< 251	0	0	< 251	0	0	< 251	N/A	0	0	< 251
CE-00118	214 W. Larch St	House	Kitchen	Air	Indoor	Stationary	Field Sample	6167	2/2/2004	Overloaded	Direct	0	0	< 0	0	0	< 0	0	0	< 0	N/A	0	0	< 0
CE-00118	214 W. Larch St	House	Kitchen	Air	Indoor	Stationary	Field Sample	6167	2/2/2004	N/A	Indirect	0	0	< 0.0007	0	0	< 0.0007	0	0	< 0.0007	N/A	0	0	< 0.0007
CE-00119	214 W. Larch St	House	Basement, ground floor	Dust	Horizontal surface & high traffic area	N/A	Field Sample	400	2/2/2004	N/A	Indirect	0	0	< 251	0	0	< 251	0	0	< 251	N/A	0	0	< 251

Table 3-1 Summary of Post Clean-Up Evaluation Analytical Results

Sample ID	Property Group (Location)	Sample Group	Location Description (Sub Location)	Media Type	Matrix	Sample Type	Category	Air = Vol (L) or Dust = Area (cm^2)	Sample Date	AHERA / ASTM 5755															
										Filter Status Not Analyzed	Preparation Description	Libby Amphiboles (LA)			Chrysotile (C)			Other Amphiboles (OA)			Total Asbestos			
												S<5u	S>5u	Asb conc (Air = S/cc) or (Dust = S/cm2)	S<5u	S>5u	Asb conc (Air = S/cc) or (Dust = S/cm2)	S<5u	S>5u	Asb conc (Air = S/cc) or (Dust = S/cm2)	Asbestos Type Identified	S<5u	S>5u	Asb conc (Air = S/cc) or (Dust = S/cm2)
CE-00001	2293 Kootenai River Rd	House	Basement, ground floor	Dust	Horizontal surface & high traffic area	N/A	Field Sample	400	11/20/2003	N/A	Indirect	0	0	< 125	0	0	< 125	0	0	< 125	N/A	0	0	< 125
CE-00002	2293 Kootenai River Rd	House	Basement, ground floor, second level	Dust	Horizontal surface & high traffic area	N/A	Field Sample	600	11/20/2003	N/A	Indirect	0	0	< 277	0	0	< 277	0	0	< 277	N/A	0	0	< 277
CE-00013	2293 Kootenai River Rd	House	Basement finished	Air	Indoor	Stationary	Field Sample	6750	12/15/2003	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00014	2293 Kootenai River Rd	House	Living room unfinished	Air	Indoor	Stationary	Field Sample	6747	12/15/2003	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00015	2293 Kootenai River Rd	House	NW bedroom	Air	Indoor	Stationary	Field Sample	6898	12/15/2003	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00016	2293 Kootenai River Rd	House	Shoulder	Air	Indoor	Personal	Field Sample	4893	12/15/2003	N/A	Direct	0	1	0.0001	0	0	< 0.0001	0	0	< 0.0001	Libby Amphibole	0	1	0.0001
CE-00077	2297 Kootenai River Rd	House	Shoulder	Air	Indoor	Personal	Field Sample	4726	1/19/2004	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00078	2297 Kootenai River Rd	House	Living room	Air	Indoor	Stationary	Field Sample	7729	1/19/2004	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00081	2297 Kootenai River Rd	House	Ground floor	Dust	Horizontal surface & high traffic area	N/A	Field Sample	400	1/19/2004	N/A	Indirect	0	0	< 314	0	0	< 314	0	0	< 314	N/A	0	0	< 314
CE-00107	233 W. Larch St	Basement	Basement	Air	Indoor	Stationary	Field Sample	6158	1/27/2004	Overloaded	Direct	0	0	< 0	0	0	< 0	0	0	< 0	N/A	0	0	< 0
CE-00107	233 W. Larch St	Basement	Basement	Air	Indoor	Stationary	Field Sample	6158	1/27/2004	N/A	Indirect	0	0	< 0.0007	0	0	< 0.0007	0	0	< 0.0007	N/A	0	0	< 0.0007
CE-00108	233 W. Larch St	House	Ground level kitchen	Air	Indoor	Stationary	Field Sample	6158	1/27/2004	Overloaded	Direct	0	0	< 0	0	0	< 0	0	0	< 0	N/A	0	0	< 0
CE-00108	233 W. Larch St	House	Ground level kitchen	Air	Indoor	Stationary	Field Sample	6158	1/27/2004	N/A	Indirect	0	0	< 0.0007	0	0	< 0.0007	0	0	< 0.0007	N/A	0	0	< 0.0007
CE-00109	233 W. Larch St	House	Second level hallway	Air	Indoor	Stationary	Field Sample	6177	1/27/2004	Overloaded	Direct	0	0	< 0	0	0	< 0	0	0	< 0	N/A	0	0	< 0
CE-00109	233 W. Larch St	House	Second level hallway	Air	Indoor	Stationary	Field Sample	6177	1/27/2004	N/A	Indirect	0	0	< 0.0007	0	0	< 0.0007	0	0	< 0.0007	N/A	0	0	< 0.0007
CE-00110	233 W. Larch St	House	Basement, ground floor, second level	Dust	Horizontal surface & high traffic area	N/A	Field Sample	600	1/27/2004	N/A	Indirect	0	0	< 418	0	0	< 418	0	0	< 418	N/A	0	0	< 418
CE-00026	3796 Highway 2 S	House	Living room	Air	Indoor	Stationary	Field Sample	6073	1/8/2004	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00027	3796 Highway 2 S	House	Ground floor	Dust	Horizontal surface & high traffic area	N/A	Field Sample	400	1/8/2004	N/A	Indirect	0	0	< 314	0	0	< 314	0	0	< 314	N/A	0	0	< 314
CE-00029	3796 Highway 2 S	Blank	N/A	Dust	N/A	N/A	Field Blank	0	1/8/2004	N/A	Indirect	0	0		0	0		0	0		N/A	0	0	
CE-00111	38 Spencer Hill Way	House	Shoulder	Air	Indoor	Personal	Field Sample	5279	1/28/2004	Overloaded	Direct	0	0	< 0	0	0	< 0	0	0	< 0	N/A	0	0	< 0
CE-00111	38 Spencer Hill Way	House	Shoulder	Air	Indoor	Personal	Field Sample	5279	1/28/2004	N/A	Indirect	0	0	< 0.0006	0	0	< 0.0006	0	0	< 0.0006	N/A	0	0	< 0.0006
CE-00112	38 Spencer Hill Way	House	Hallway ground level	Air	Indoor	Stationary	Field Sample	6999	1/28/2004	Overloaded	Direct	0	0	< 0	0	0	< 0	0	0	< 0	N/A	0	0	< 0
CE-00112	38 Spencer Hill Way	House	Hallway ground level	Air	Indoor	Stationary	Field Sample	6999	1/28/2004	N/A	Indirect	0	0	< 0.0006	0	0	< 0.0006	0	0	< 0.0006	N/A	0	0	< 0.0006
CE-00116	38 Spencer Hill Way	House	Ground floor	Dust	Horizontal surface & high traffic area	N/A	Field Sample	400	1/30/2004	N/A	Indirect	0	0	< 251	0	0	< 251	0	0	< 251	N/A	0	0	< 251
CE-00117	38 Spencer Hill Way	Blank	N/A	Dust	N/A	N/A	Field Blank	0	1/30/2004	N/A	Indirect	0	0		0	0		0	0		N/A	0	0	
CE-00056	450 Farm to Market Rd	House	Hallway connecting living room and bedroom	Air	Indoor	Stationary	Field Sample	6226	12/18/2003	N/A	Direct	0	1	0.0002	0	0	< 0.0002	0	0	< 0.0002	Libby Amphibole	0	1	0.0002
CE-00057	450 Farm to Market Rd	Basement	Basement	Air	Indoor	Stationary	Field Sample	6217	12/18/2003	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00058	450 Farm to Market Rd	House	Basement, ground floor	Dust	Horizontal surface & high traffic area	N/A	Field Sample	400	12/18/2003	N/A	Indirect	0	0	< 251	0	0	< 251	0	0	< 251	N/A	0	0	< 251
CE-00039	505 Louisiana Ave	House	Ground level kitchen	Air	Indoor	Stationary	Field Sample	6082	1/13/2004	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00040	505 Louisiana Ave	House	Second level at top of steps	Air	Indoor	Stationary	Field Sample	6109	1/13/2004	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00061	505 Louisiana Ave	House	Ground floor, second level	Dust	Horizontal surface & high traffic area	N/A	Field Sample	400	1/13/2004	N/A	Indirect	0	0	< 251	0	0	< 251	0	0	< 251	N/A	0	0	< 251
CE-00065	52 Pearl St	House	Basement bedroom	Air	Indoor	Stationary	Field Sample	6091	1/16/2004	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00066	52 Pearl St	House	Ground level living room	Air	Indoor	Stationary	Field Sample	6244	1/16/2004	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00067	52 Pearl St	House	Second level hallway	Air	Indoor	Stationary	Field Sample	6204	1/16/2004	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00068	52 Pearl St	House	Basement, ground floor, second level	Dust	Horizontal surface & high traffic area	N/A	Field Sample	600	1/16/2004	N/A	Indirect	0	0	< 209	0	0	< 209	0	0	< 209	N/A	0	0	< 209
CE-00010	603 W. 10th St	House	Shoulder	Air	Indoor	Personal	Field Sample	1737	12/15/2003	N/A	Direct	0	0	< 0.0003	0	0	< 0.0003	0	0	< 0.0003	N/A	0	0	< 0.0003
CE-00011	603 W. 10th St	House	Living room	Air	Indoor	Stationary	Field Sample	2413	12/15/2003	N/A	Direct	0	0	< 0.0002	0	0	< 0.0002	0	0	< 0.0002	N/A	0	0	< 0.0002
CE-00012	603 W. 10th St	Basement	Basement	Air	Indoor	Stationary	Field Sample	2417	12/15/2003	N/A	Direct	0	0	< 0.0002	0	0	< 0.0002	0	0	< 0.0002	N/A	0	0	< 0.0002
CE-00017	603 W. 10th St	House	Shoulder	Air	Indoor	Personal	Field Sample	1928	12/16/2003	N/A	Direct	0	0	< 0.0003	0	0	< 0.0003	0	0	< 0.0003	N/A	0	0	< 0.0003
CE-00018	603 W. 10th St	House	Living room	Air	Indoor	Stationary	Field Sample	2512	12/16/2003	N/A	Direct	0	0	< 0.0002	0	0	< 0.0002	0	0	< 0.0002	N/A	0	0	< 0.0002
CE-00019	603 W. 10th St	Basement	Basement	Air	Indoor	Stationary	Field Sample	2569	12/16/2003	N/A	Direct	0	0	< 0.0002	0	0	< 0.0002	0	0	< 0.0002	N/A	0	0	< 0.0002
CE-00020	603 W. 10th St	House	Basement, ground floor	Dust	Horizontal surface & high traffic area	N/A	Field Sample	400	12/16/2003	N/A	Indirect	0	0	< 502	0	0	< 502	0	0	< 502	N/A	0	0	< 502
CE-00021	603 W. 10th St	House	Shoulder	Air	Indoor	Personal	Field Sample	1906	12/17/2003	N/A	Direct	0	0	< 0.0003	0	0	< 0.0003	0	0	< 0.0003	N/A	0	0	< 0.0003
CE-00022	603 W. 10th St	Basement	Basement	Air	Indoor	Stationary	Field Sample	2499	12/17/2003	N/A	Direct	0	0	< 0.0002	0	0	< 0.0002	0	0	< 0.0002	N/A	0	0	< 0.0002
CE-00023	603 W. 10th St	House	Living room	Air	Indoor	Stationary	Field Sample	2495	12/17/2003	N/A	Direct	0	0	< 0.0002	0	0	< 0.0002	0	0	< 0.0002	N/A	0	0	< 0.0002
CE-00073	616 Wisconsin Ave	Basement	Basement	Air	Indoor	Stationary	Field Sample	6145	1/17/2004	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00074	616 Wisconsin Ave	House	Ground level living room	Air	Indoor	Stationary	Field Sample	6272	1/17/2004	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00075	616 Wisconsin Ave	House	Second level hallway	Air	Indoor	Stationary	Field Sample	6231	1/17/2004	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00076	616 Wisconsin Ave	House	Basement, ground floor, second level	Dust	Horizontal surface & high traffic area	N/A	Field Sample	600	1/17/2004	N/A	Indirect	0	0	< 209	0	0	< 209	0	0	< 209	N/A	0	0	< 209
CE-00024	620 Utah Ave	House	Living room	Air	Indoor	Stationary	Field Sample	6074	1/8/2004	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00025	620 Utah Ave	House	West Bedroom second level	Air	Indoor	Stationary	Field Sample	6073	1/8/2004	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00028	620 Utah Ave	House	Ground floor, second level	Dust	Horizontal surface & high traffic area	N/A	Field Sample	400	1/8/2004	N/A	Indirect	0	0	< 251	0	0	< 251	0	0	< 251	N/A	0	0	< 251
CE-00063	653 Flower Creek Rd	House	Ground level hallway	Air	Indoor	Stationary	Field Sample	6217	1/16/2004	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00064	653 Flower Creek Rd	House	Basement-center	Air	Indoor	Stationary	Field Sample	6186	1/16/2004	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00069	653 Flower Creek Rd	House	Basement, ground floor	Dust	Horizontal surface & high traffic area	N/A	Field Sample	400	1/16/2004	N/A	Indirect	0	0	< 359	0	0	< 359	0	0	< 359	N/A	0	0	< 359
CE-00070	653 Flower Creek Rd	Blank	N/A	Dust	N/A	N/A	Field Blank	0	1/16/2004	N/A	Indirect	0	0		0	0		0	0		N/A	0	0	
CE-00030	713 Michigan Ave	House	Kitchen	Air	Indoor	Stationary	Field Sample	6127	1/12/2004	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00031	713 Michigan Ave	House	Second level east room	Air	Indoor	Stationary	Field Sample	6118	1/12/2004	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00034	713 Michigan Ave	House	Ground floor, second level	Dust	Horizontal surface & high traffic area	N/A	Field Sample	400	1/12/2004	N/A	Indirect	0	0	< 418	0	0	< 418	0	0	< 418	N/A	0	0	< 418
CE-00092	86 Paliga Dr	Basement	Office	Air	Indoor	Stationary	Field Sample	6556	1/23/2004	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00093	86 Paliga Dr	House	Living room	Air	Indoor	Stationary	Field Sample	6556	1/23/2004	N/A	Direct	0	0	< 0.0001	0	0	< 0.0001	0	0	< 0.0001	N/A	0	0	< 0.0001
CE-00095	86 Paliga Dr	House	Basement, ground floor	Dust	Horizontal surface & high traffic area	N/A	Field Sample	400	1/23/2004	N/A	Indirect	0	0	< 314	0	0	< 314	0	0	< 314	N/A	0	0	< 314

Notes:

GF- ground floor
Vol- volume
L- liter
S- structure
u- micron
<- less than
cm^2- square centimeter
AHERA- Asbestos Hazard and Emergency Response Act
ASTM- American Society for Testing and Materials
S/cc- structures per cubic centimeter
S/cm^2- structures per square centimeter
Samples with LA detected

Table 3-1 was generated from the Libby Asbestos Project database standard report for all CE- samples. The following changes were made to the reporting format for this report: 1. Columns with titles Scenario, Task, Pre Pos Clear, Asbestos Load S/mm^2 for LA, C, OA, and TA, PCM fibers/cc were removed. 2. The column titled Preparation Description was added. 3. Results were added to the column titled Asbestos Type Identified 4. Total Asbestos concentrations were entered during report preparation from the analytical reports. as this information is currently calculated incorrectly during data loading into the project database. 5. Blank enteries were made consistent 6. Location descriptions were made consistent.

Hard copies of the analytical data provided by the laboratory are in Appendix C. The analytical sensitivity for the dust samples differs in this table from the sensitivity provided on the laboratory data This is due to rounding that occurs between the electronic data delivered from the laboratory and the database. This error does not affect the data quality

Section 4
References

AHERA. 2002. Asbestos Hazard Emergency Response Act 40 CFR, Chapter 1, Subchapter R, Part 763, Subpart E, Appendix A. Federal Register 2 FR 41846, October, 1987. Data current as of the Federal Register dated May 2002.

CDM. 2003. Final Sampling and Analysis Plan Addendum, Post Clean-Up Evaluation Sampling. December.

_____ and Syracuse Research Corporation (SRC). 2003. Sampling and Analysis Plan for Indoor Dust, for use at the Libby, Montana, Superfund Site, Revision 0, Version 2. August.

EPA. 2000. Sampling and Quality Assurance Project Plan Revision 1 for Libby, Montana, Environmental Monitoring for Libby Amphibole (LA) Asbestos, Baseline Monitoring for Source Area and Residential Exposure to Tremolite-Actinolite Libby Amphibole (LA) Asbestos Fibers. January.

International Organization for Standardization (ISO). 1995. Ambient Air – Determination of Asbestos Fibers – Direct Transfer transmission Electron Microscopy (TEM) Method ISO 1031:1995(E).

Appendix A
Post Clean-Up Evaluation Sampling Field Paperwork

1108 Louisiana Ave
1109 Louisiana Ave
1116 Utah Ave
1118 California Ave
1120 California Ave
113 W. Oak St
1202 Idaho Ave
1212 Louisiana Ave
123 Hamann Ave
1231 Nevada Ave
1306 Louisiana Ave
1417 Washington Ave
143 Crossway Ave
154 Ski Rd
178 Scenery Rd
2129 Highway 2 S
214 W. Larch St
2293 Kootenai River Rd
2297 Kootenai River Rd
233 W. Larch St
3796 Highway 2 S
38 Spencer Hill Way
450 Farm to Market Rd
505 Louisiana Ave
52 Pearl St
603 W. 10th St
616 Wisconsin Ave
620 Utah Ave
653 Flower Creek Rd
713 Michigan Ave
86 Paliga Dr

BD# 002223

LIBBY ASBESTOS PROJECT
Pre-Sampling Interview Form (PIF) for Post Clean-up Evaluation Sampling

Field Logbook No.: 100305 Page No.: 19 Site Visit Date: 1/30/04

Address: 1108 Louisiana Ave Structure Description: House

Occupant: Connie Leckrone Phone Number: 293-6014

Owner (if different than occupant): NA Phone Number:

Business Name: NA

Sampling Team: Shawn Olivsim

Field Form Check Completed by (100% of forms): YP ps

Data Item	Value	Notes
CLEAN-UP SUMMARY (To be completed using removal completion folders)	**Date Removal Completed: 09/03**	
Location of vermiculite removed indoors	Attic Walls (interior or exterior) Crawl Space Basement Sub-floor Other: None	
Location of vermiculite remaining indoors	Attic Walls (interior or exterior) Crawl Space Basement Sub-floor None Other:	
Interior cleaning conducted during removal	Yes No If Yes, which floors: Basement Ground Second Garage Attic Other:	
Was carpet removed during removal activities?	Yes No NA	
Location of vermiculite removed outdoors	Driveway Flowerbed Garden Stockpile Yard None Other:	
Location of vermiculite remaining outdoors	Driveway Flowerbed Garden Stockpile Yard None Other: YP 1/30/04	North Yard

Data Item	Value	Notes
Pre-Sampling Interview (To be completed with resident)		
Has EPA provided a HEPA vacuum and has it been used since removal?	Yes No If Yes, how long after the removal was completed did use of the EPA-issued HEPA vac begin: Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
How often do you vacuum with your EPA provided HEPA vacuum?	Once a week More than once a week Twice a month Once a month Less than once a month Other:_____	
Heating Source	Wood/Coal Electric Propane/Gas Other: Fuel Oil	
Heat Distribution	Forced air Radiant Other:_____	
How soon after the removal was a forced air heating source first used?	Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
Have any of the occupants been in contact with any vermiculite since the removal was completed?	Yes No Unknown	Explain:
Addresses of other homes or properties where the occupants visit and may contain vermiculite	None	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?
Addresses or names of business where occupants work	UPS - Commerce Way	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?

ADDITIONAL INFORMATION_____

1108 Louisiana Ave

Sheet No.: D- 000135

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100305 Page No: 19 Sampling Date: 1/30/04

Address: 1108 Louisiana Ave Owner/Tenant: Connie Lockrane

Business Name: NA

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: Shawn Oliveira

Data Item	1/30/04 Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00125		
Location ID	BD-002223		
Sample Group (circle) (Subgroup of the property)	Garage, (House) Shed, Pump House Other	Garage, House, Shed, Pump House Other	Garage, House, Shed, Pump House Other
Location Description (circle) (Detailed description point within the location)	(Basement) (Ground Floor) (Second Level) Other	Basement, Ground Floor, Second Level Other	Basement, Ground Floor, Second Level Other
Matrix Type (circle)	(Horizontal Surfaces) (High Traffic Areas) Other	Horizontal Surfaces High Traffic Areas Other	Horizontal Surfaces High Traffic Areas Other
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm^2) (circle)	100 200 300 (600) NA	100 200 300 NA	100 200 300 NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	(TEM- .45) PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer (Dry-Cal) NA	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA
Pump ID No.	612767 ~~B-1610 S-1521~~	1/30/04	
Flow Meter ID No.	B-1610 S-1521		
Start Time	1140 1142 1144	1147 1149 1151	
Start Flow (L/min)	2.0 2.0 2.0	2.0 2.0 2.0	
Stop Time	1142 1144 1146	1149 1151 1153	
Stop Flow (L/min)	2.0 2.0 2.0	2.0 2.0 2.0	
Pump Fault? (circle)	(No) Yes	No Yes	No Yes
Field Comments	100 cm^2 Basement horizontal surface 100 cm^2 Basement carpet at living room 100 cm^2 Ground level horizontal surface, tile	100 cm^2 Ground level horizontal surfaces 100 cm^2 2nd Floor top of steps, carpet 100 cm^2 2nd Floor, horizontal surfaces.	100 cm^2 100 cm^2 100 cm^2
Cassette Lot Number: 23802	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
Entered (LFO)	Volpe: Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: SA- 000271

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100305 Page No: 19 Sampling Date: 1/30/04

Address: 1109 Louisiana Ave Owner/Tenant: Connie Lectrone

Business Name: NA

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: Shawn Oliveira

Data Item	1/30/04 Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00124		
Location ID	BD-002223		
Sample Group	House		
Location Description	2nd Floor, top of steps		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	05910		
Flow Meter ID No.	006196		
Start Date	1/30/04		
Start Time	8:47 1/30/04		
Start Flow (L/min)	9.19		
Stop Date	1/30/04		
Stop Time	20:42 1/30/04		
Stop Flow (L/min)	9.19		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: 31201	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) JP Entered (LFO) JD	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: SA- 000150

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100305 Page No: 19 Sampling Date: 1/30/04

Address: 1108 Louisiana Ave Owner/Tenant: Connie Lockrow

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: Shawn Oliveira

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	so 1/30/04 CE- 00121	so 1/30/04 CE- 00122	so 1/30/04 CE- 00123
Location ID	BD-002223	BD-002223	BD-002223
Sample Group	~~House~~ basement	so 1/30/04 ~~House~~ basement	so 1/30/04 House
Location Description	Basement	Basement	Ground floor bedroom
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	(FS) FB-(field blank) LB-(lot blank)	(FS) FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	(Indoor) Outdoor NA	(Indoor) Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	(25mm) 37mm	(25mm) 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 (PCM- 0.8)	TEM- .45 (PCM- 0.8)
Flow Meter Type (circle)	(Rotometer) DryCal NA	(Rotometer) DryCal NA	(Rotometer) DryCal NA
Pump ID Number	05912	05913	0689
Flow Meter ID No.	006196	006196	006196
Start Date	1/30/04	1/30/04	1/30/04
Start Time	841 so 1/30/04	843 so 1/30/04	845
Start Flow (L/min)	9.19	9.19	9.19
Stop Date	1/30/04	1/30/04	1/30/04
Stop Time	2038 so 1/30/04	2040 so 1/30/04	2041 so 1/30/04
Stop Flow (L/min)	9.19	9.19	9.19
Pump fault? (circle)	(No) Yes NA	(No) Yes NA	(No) Yes NA
MET Station onsite?	(No) Yes NA	(No) Yes NA	(No) Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear (NA)
Field Comments		Duplicate of CE-00121	
Cassette Lot Number: 310201	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) so / Entered (LFO)	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

1108 Louisiana Ave - Connie Leckrone 1/30/04 19

PCE--EPA/Volpe Author: Shawn Oliveira

Activity: Stationary Air and Dust samples will be collected as part of the P.C.E. Sampling will be conducted in Level D PPE, IAW SAP Addendum CSS, PCE Sampling.

827 Arrive onsite, resident present. CE-00121 set up and pre-calibrated.

841 CE-00121 started.

843 CE-00122 set up, precalibrated and started.

845 CE-00123 set up, precalibrated and started duplicate of CE-00122.

847 CE-00124 set up, pre-calibrated, and started.

852 Complete PIF with resident.

1135 Arrive onsite, flow check ok, filter check ok. 1/30/04

1140 CE-00125 (Dust) collected.

1506 Arrive onsite flow check ok, filter check ok.

2038 CE-00121 stopped, post calibrated, and collected.

2040 CE-00122 stopped, post calibrated, and collected.

2041 CE-00123 stopped, post calibrated and collected.

2042 CE-00124 stopped, post-calibrated, and collected.

2050 Complete equipment DCON, depart site.

2057 Return to CDM, lock samples in storage. Ref FSDS's SA-000190, SA-000271, D-000135

1/30/04 Shawn Oliveira

1109 Louisiana Ave

BB# 052198

LIBBY ASBESTOS PROJECT
Pre-Sampling Interview Form (PIF) for Post Clean-up Evaluation Sampling

Field Logbook No.: 100305 Page No.: 2,3 Site Visit Date: 12/15/03
Address: 1109 Louisiana Structure Description: House
Occupant: Jim Allen Phone Number: 6886
Owner (if different than occupant): NA Phone Number: NA
Business Name: NA
Sampling Team: Shawn Oliveira
Field Form Check Completed by (100% of forms): MP ps

Data Item	Value	Notes
CLEAN-UP SUMMARY (To be completed using removal completion folders)		Date Removal Completed: 3/25/03
Location of vermiculite removed indoors	(Attic) Walls (interior or exterior) Crawl Space Basement Sub-floor Other:	
Location of vermiculite remaining indoors	Attic Walls (interior or exterior) Crawl Space Basement Sub-floor (None) Other:	
Interior cleaning conducted during removal	~~Yes~~ (No) If Yes, which floors: JB 9/21/04 Basement ~~Ground~~ Second Garage Attic Other:	
Was carpet removed during removal activities?	Yes (No) NA	
Location of vermiculite removed outdoors	Driveway Flowerbed Garden Stockpile Yard (None) Other:	
Location of vermiculite remaining outdoors	Driveway Flowerbed Garden Stockpile Yard (None) Other:	

Data Item	Value	Notes
Pre-Sampling Interview (To be completed with resident)		
Has EPA provided a HEPA vacuum and has it been used since removal?	(Yes) No If Yes, how long after the removal was completed did use of the EPA-issued HEPA vac begin: SO 12/15/03 (Immediately) 1 to 2 months 3 to 4 months 5 to 6 months (more than 6 months)	
How often do you vacuum with your EPA provided HEPA vacuum?	Once a week More than once a week Twice a month (Once a month) Less than once a month Other:	•Resident Vac'd the entire Living Space with HEPA Vac 1 time prior to P.C.E.
Heating Source	(Wood/Coal) (Electric) Propane/Gas Other:	
Heat Distribution	Forced air (Radiant) Other:	
How soon after the removal was a forced air heating source first used?	Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months NA	
Have any of the occupants been in contact with any vermiculite since the removal was completed?	Yes (No) Unknown	Explain:
Addresses of other homes or properties where the occupants visit and may contain vermiculite	Works at Evergreen Motel which has indoor vermiculite.	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?
Addresses or names of business where occupants work	Self Employed.	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?

ADDITIONAL INFORMATION

Sheet No.: SA- 000148

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100305 Page No: 2,3 Sampling Date: 12/15/03

Address: 1109 Louisiana Ave Owner/Tenant: Jim Allen

Business Name: NA

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: Shawn Oliveira

Data Item	50 12/15/03 Cassette 1	Cassette 2	Cassette 3
Index ID	CF- 00041		
Location ID	BD-002198		
Sample Group	House		
Location Description	Living Room		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	8911		
Flow Meter ID No.	95356-3		
Start Date	12/15/03		
Start Time	838 / 1144 / 1516		
Start Flow (L/min)	9.21 / 9.21 / 9.21		
Stop Date	12/15/03		
Stop Time	1143 / 1515 / 1940		
Stop Flow (L/min)	9.21 / 9.21 / 9.21		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	12/16/03 Archive Blank (circle): Yes No
QC (Field Team) / Entered (LFO)	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: SA- 000147

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100305 Page No: 2,3 Sampling Date: 12/15/03

Address: 1109 Louisiana Owner/Tenant: Jim Allen

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: Shawn Oliveira

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00042		
Location ID	BD-002198		
Sample Group	House		
Location Description	Basement		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	0387		
Flow Meter ID No.	95356-3		
Start Date	12/15/03		
Start Time	8 38 / 11 48 / 15 19		
Start Flow (L/min)	9.21 / 9.21 / 9.21		
Stop Date	12/15/03		
Stop Time	1147 / 1518 / 1940		
Stop Flow (L/min)	9.21 / 9.21 / 9.21		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments			JP 12/16/03
Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) JP Entered (LFO) JP	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: D-000089

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100305 Page No: 2,3 Sampling Date: 12/15/03

Address: 1109 Louisiana Ave. Owner/Tenant: Jim Allen

Business Name: NA

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: Shawn Oliveira

Data Item	50, 12/15/03 Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00044		
Location ID	BD-002198		
Sample Group (circle) (Subgroup of the property)	Garage, (House), Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____
Location Description (circle) (Detailed description point within the location)	(Basement) (Ground Floor) Second Level Other_____	Basement, Ground Floor, Second Level Other_____	Basement, Ground Floor, Second Level Other_____
Matrix Type (circle)	(Horizontal Surfaces) (High Traffic Areas) Other_____	Horizontal Surfaces High Traffic Areas Other_____	Horizontal Surfaces High Traffic Areas Other_____
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm^2) (circle)	100 200 300 NA (400)	100 200 300 NA.	100 200 300 NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	(TEM- .45) PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer (Dry-Cal) NA	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA
Pump ID No.	1026583		
Flow Meter ID No.	B1610 - S 1521	12/16/03	
Start Time	1519 / 1522 / 1525	1528	
Start Flow (L/min)	2.0 / 2.0 / 2.0	2.0	
Stop Time	1521 / 1524 / 1527	1530	
Stop Flow (L/min)	2.0 / 2.0 / 2.0	2.0	
Pump Fault? (circle)	(No) Yes	No Yes 12/16/3	No Yes
Field Comments	100 cm^2 Living Room Entrance	100 cm^2	100 cm^2
Cassette Lot Number: ~~32515~~ 50 12/15/03 23502	100 cm^2 Back door Entrance	100 cm^2	100 cm^2 12/16/03
	100 cm^2 Ground Level Horizontal Surf	100 cm^2	100 cm^2
	100 cm^2 Basement Entrance		
	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
Entered (LFO)	Volpe: Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

BD# 002198

Residential Activity Log

Resident Address: 1109 Louisiana Ave

Volunteer Name: Jim Allen

Sampling Date(s): 12/15/03

Personal air sample number (s):

FSDS number(s): SA-000145, 147 D-000084

Date/Time Interval	Go Outside?	Pump problem?	General Activities
12/15/03 8 AM - 6pm	No Yes (___ mins) Describe	No Yes (describe)	Worked in garage workshop.
6 - 8pm	No Yes (___ mins) Describe	No Yes (describe)	In house, watching T.V.
	No Yes (___ mins) Describe	No Yes (describe)	
	No Yes (___ mins) Describe	No Yes (describe)	
	No Yes (___ mins) Describe	No Yes (describe)	
	No Yes (___ mins) Describe	No Yes (describe)	

Note: Continue on second page if necessary.

Jim Allen Author: Shawn Oliveira 12/15/03
1109 Louisiana Ave EPA/Volpe
Post Removal Evaluation.

Activity: Post Cleanup Evaluation Sampling at 1109 Louisiana Ave. BD# 002198.

Stationary Air, and Dust samples will be collected in accordance with the SAP Addendum, PCE Sampling CSS 12/1/03. DryCal B-.610, S-~~1524~~ 1521 used to calibrate low volume sampling pump for Dust sampling Equipment reference pg 48 of this book.

820 Onsite. Jim Allen present

838 CE-00041 Started Wood Stove in Use Sample CE-00041 placed on pump 8911 and precalibrated. Ground floor Living Room. CE-00042 Started, placed on pump 0387 and precalibrated. Placed in Basement at bottom of steps.

845 Depart Site.

1140 Arrive onsite flowcheck CE-00041, CE-00042 both ok. Filter Checks OK.

1149 Depart Site.

1440 Arrive onsite. Flowcheck CE-00041, CE-00042, both ok, Filter Checks ok. Wood Stove in use. Complete P.I.F.

1530 Dust Sample CE-00044 collected, capped,

12/15/03 Shawn Oliveira

1530 Cont'd: and sealed. Refer to FSDS D-000084.

1542 Depart Site.

1935 Arrive at site Mr. Allen Present. Wood stove still in use. Resident spent most of day in workshop.

1940 CE-00041 stopped, post-calibrated and sealed. Ref FSDS-~~CE~~ SA-000145

1942 CE-00042 stopped, post calibrated, and sealed. Ref FSDS SA-000147.

1950 Depart site, after DCONing equipment with wet wipes, bag as PPE.

12/15/03 Shawn Oliveira

1116 Utah Ave

BD# 002175

LIBBY ASBESTOS PROJECT
Pre-Sampling Interview Form (PIF) for Post Clean-up Evaluation Sampling

Field Logbook No.: 100305 Page No.: 5 Site Visit Date: 12/16/03

Address: ~~1108~~ 1116 Utah Ave Structure Description: House

Occupant: James & Mary England Phone Number: 293-6550

Owner (if different than occupant): NA Phone Number: NA

Business Name: NA

Sampling Team: Shawn Oliveira

Field Form Check Completed by (100% of forms): JP

Data Item	Value	Notes
CLEAN-UP SUMMARY (To be completed using removal completion folders)		Date Removal Completed: 3/28/03
Location of vermiculite removed indoors	(Attic) Walls (interior or exterior) Crawl Space Basement Sub-floor Other:	
Location of vermiculite remaining indoors	Attic Walls (interior or exterior) Crawl Space Basement Sub-floor (None) (Other:) jb 9/17/04	W portion of ceiling w of staircase - behind chimney in attic. jb 9/17/04
Interior cleaning conducted during removal	(Yes) (No) jb 9/21/04 If Yes, which floors: Basement (Ground) (Second) Garage Attic Other:	~~Cortese cleaning of ground level.~~ ~~Cleaning of 2nd level~~ jb 9/21/04
Was carpet removed during removal activities?	Yes (No) NA	
Location of vermiculite removed outdoors	Driveway Flowerbed Garden Stockpile Yard (None) Other:	
Location of vermiculite remaining outdoors	Driveway Flowerbed Garden Stockpile Yard (None) Other:	

Data Item	Value	Notes
Pre-Sampling Interview (To be completed with resident)		
Has EPA provided a HEPA vacuum and has it been used since removal?	(Yes) No If Yes, how long after the removal was completed did use of the EPA-issued HEPA vac begin: Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
How often do you vacuum with your EPA provided HEPA vacuum?	Once a week More than once a week Twice a month Once a month Less than once a month Other:_____	Received on 12/10/03 Used once prior to sampling.
Heating Source	(Wood/Coal) (Electric) Propane/Gas Other:_____	Primarily wood heat.
Heat Distribution	Forced air (Radiant) Other:_____	
How soon after the removal was a forced air heating source first used?	Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months NA	
Have any of the occupants been in contact with any vermiculite since the removal was completed?	Yes (No) Unknown	Explain:
Addresses of other homes or properties where the occupants visit and may contain vermiculite	NA	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?
Addresses or names of business where occupants work	Retired	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?

ADDITIONAL INFORMATION_____

Sheet No.: SA- 000160

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100305 Page No: 4 Sampling Date: 12/16/03

Address: 1116 ~~1160~~ Utah Ave 12/17/03 JD Owner/Tenant: James & Mary England

Business Name: NA

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: Shawn Oliveira

Data Item	Cassette 1 (SO 12/16/03)	Cassette 2	Cassette 3
Index ID	CE- 00048		
Location ID	BD-002175		
Sample Group	House		
Location Description	Basement		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	8911		
Flow Meter ID No.	95356-3		
Start Date	12/16/03		
Start Time	841		
Start Flow (L/min)	9.21		
Stop Date	12/16/03		
Stop Time	1952		
Stop Flow (L/min)	9.21		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments	Wood Stove in use ≈7 ft away		
Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) MP Entered (LFO) _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

For Field Team Completion (Provide initials)	Completed by	QC by

vs 101503

Sheet No.: SA- 000161

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100305 Page No: 4 Sampling Date: 12/16/03

Address: 1116 ~~1150~~ JB 12/17/03 Utah Ave Owner/Tenant: James & Mary England

Business Name: NA

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: Shawn Oliveira

Data Item	SO 12/16/03 Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00049		
Location ID	BD-002175		
Sample Group	House		
Location Description	2nd Level Top of Steps		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	0387		
Flow Meter ID No.	95356-3		
Start Date	12/16/03		
Start Time	844 / 1140		
Start Flow (L/min)	9.21 / 9.21		
Stop Date	12/16/03		
Stop Time	1139 / 1954		
Stop Flow (L/min)	9.21 / 9.21		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments			
Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) JD Entered (LFO) ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: SA- 000162

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100305 Page No: 4 Sampling Date: 12/16/03

Address: 12/16/03 1116 H86 Utah Ave Owner/Tenant: James + Mary England

Business Name: NA

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: Shawn Oliveira

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00050		
Location ID	BD-002175		
Sample Group	HOUSE		
Location Description	Kitchen/Dining Room		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	0689		
Flow Meter ID No.	95356-3		
Start Date	12/16/03		
Start Time	848		
Start Flow (L/min)	9.21		
Stop Date	12/16/03		
Stop Time	1956		
Stop Flow (L/min)	9.21		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) ____ Entered (LFO) ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: D- 000087

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100305 Page No: 5 Sampling Date: 12/16/03

Address: 1116 ~~H06~~ Utah Ave 12/17/03 SO Owner/Tenant: James + Mary England

Business Name: NA

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: Shawn Oliveira

Data Item	Cassette 1 (SO 12/16/02)	Cassette 2	Cassette 3
Index ID	CE- 00051		
Location ID	BD-002175		
Sample Group (circle) (Subgroup of the property)	Garage, (House) Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____
Location Description (circle) (Detailed description point within the location)	(Basement), (Ground Floor), (Second Level) Other_____	Basement, Ground Floor, Second Level Other_____	Basement, Ground Floor, Second Level Other_____
Matrix Type (circle)	(Horizontal Surfaces) (High Traffic Areas) Other_____	Horizontal Surfaces High Traffic Areas Other_____	Horizontal Surfaces High Traffic Areas Other_____
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm^2) (circle)	100 200 300 NA (400)	100 200 300 NA	100 200 300 NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	(TEM- .45) PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer (Dry-Cal) NA	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA
Pump ID No.	626583	[signature] 12/16/03	
Flow Meter ID No.	B1610-S1521		
Start Time	1519 1522 1525	1528	
Start Flow (L/min)	2.0 2.0 2.0	2.0	
Stop Time	1521 1524 1527	1530	
Stop Flow (L/min)	2.0 2.0 2.0	2.0	
Pump Fault? (circle)	(No) Yes	No Yes	No Yes
Field Comments Cassette Lot Number: 23802	100 cm^2 Front entrance carpet 100 cm^2 Basement landing carpet. 100 cm^2 2nd level carpet top of steps. Archive Blank (circle): Yes No	100 cm^2 2nd Level - Horizontal Surfaces below attic entrance 100 cm^2 100 cm^2 [signature] 12/16/03 Archive Blank (circle): Yes No	100 cm^2 100 cm^2 100 cm^2 Archive Blank (circle): Yes No
Entered (LFO) [initials]	Volpe: Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Shawn Oliveira 273-1547 cell.
293-8595 work

BD# 002175

Residential Activity Log

Resident Address: 1116 Utah

Volunteer Name: James + Mary England

Sampling Date(s): 12/16/03

Personal air sample number (s): Stationary Air (CE-00048, 49, 50) Dust CE-00051

FSDS number(s): SA-00160, 161, 162 D-000087

Date/Time Interval	Go Outside?	Pump problem?	General Activities
	No Yes (___ mins) Describe	No Yes (describe)	
	No Yes (___ mins) Describe	No Yes (describe)	
	No Yes (___ mins) Describe	No Yes (describe)	
	No Yes (___ mins) Describe	No Yes (describe)	
	No Yes (___ mins) Describe	No Yes (describe)	
	No Yes (___ mins) Describe	No Yes (describe)	

Sewing and computer work

Note: Continue on second page if necessary.

1 James + Mary England 12/16/03
Volpe/EPA Author: Shawn Oliveira
Post Removal Evaluation
Activity: Post Cleanup Evaluation sampling at 1106 Utah Ave. ~~Ja~~ 2012/16/03 BD-002175
James + Mary England present. 50
830 Onsite Stationary air and Dust samples will be collected with the SAP Addendum, PCE Sampling, CSS 12/1/03. Dry Cal B-1610, S-1521 used to calibrate low volume sample pump for Dust samples. Equipment Ref pg 48 of this book
841 CE-00048 Started, precalibrated, and placed on pump. Basement, wood stove in use 7 ft. away. 50
844 CE-00049 started, placed on pump and precalibrated. Upstairs, beneath attic entrance. 50
848 CE-00050 started, placed on pump and precalibrated. Ground Level.
900 Depart site. 50
1137 Arrive onsite, flowcheck CE-00049, 48, 50. Flowchecks ok. Filterchecks ok.
1155 Depart site 50
1507 Arrive onsite, flow check CE-00048, 49, 50. Flowchecks ok. Filterchecks ok.
12/16/03 Shawn Oliveira

James + Mary England Author: Shawn Oliveira
Volpe/EPA 12/16/03
1507 Cont'd wood stove still in use in basement. Complete P.I.F. 50
1530 Dust Sample CE-00051 collected, capped, and sealed. Refer to FSDS D-000087.
1539 Depart site 50
1830 Arrive at site flow check CE-00048, 49, 50 Flow checks ok, filter check ok. Wood stove still in use. 50
1945 Arrive onsite Complete Residential Activity
1952 CE-00048 stopped, post-calibrated, and sealed. Ref. FSDS SA-000180 2012/16/03
1954 CE-00049 stopped, post-calibrated, and sealed. Ref FSDS SA-000161.
1956 CE-00050 stopped, postcalibrated, and sealed. Ref FSDS-SA-000162.
2000 DCON equipment, bag up PPE.
2011 Depart to CDM OFFICE.
12/16/03 Shawn Oliveira

1118 California Ave

BD# 000647

LIBBY ASBESTOS PROJECT
Pre-Sampling Interview Form (PIF) for Post Clean-up Evaluation Sampling

Field Logbook No.: 100304 Page No.: 19-20 Site Visit Date: 1/19/04

Address: 1118 California Ave. Structure Description: House

Occupant: Javier & Becta Fernandez Phone Number: 293-3017

Owner (if different than occupant): Jilene Smith Phone Number:

Business Name: N/A

Sampling Team: PARANA

Field Form Check Completed by (100% of forms): ~~MP~~ PS

Data Item	Value	Notes
CLEAN-UP SUMMARY (To be completed using removal completion folders)	**Date Removal Completed: 03/03**	
Location of vermiculite removed indoors	(Attic) Walls (interior or exterior) Crawl Space Basement Sub-floor Other:	
Location of vermiculite remaining indoors	Attic Walls (interior or exterior) Crawl Space Basement Sub-floor (None) Other:	
Interior cleaning conducted during removal	Yes (No) If Yes, which floors: Basement Ground Second Garage Attic Other:	
Was carpet removed during removal activities?	Yes (No) NA	
Location of vermiculite removed outdoors	Driveway Flowerbed Garden Stockpile Yard (None) Other:	
Location of vermiculite remaining outdoors	Driveway Flowerbed Garden Stockpile Yard (None) Other:	

Data item	Value	Notes
Pre-Sampling Interview (To be completed with resident)		
Has EPA provided a HEPA vacuum and has it been used since removal?	Yes No If Yes, how long after the removal was completed did use of the EPA-issued HEPA vac begin: Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
How often do you vacuum with your EPA provided HEPA vacuum?	Once a week More than once a week Twice a month Once a month Less than once a month Other:_____	
Heating Source	Wood/Coal Electric Propane/Gas Other:_____	
Heat Distribution	Forced air Radiant Other:_____	
How soon after the removal was a forced air heating source first used?	Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
Have any of the occupants been in contact with any vermiculite since the removal was completed?	Yes No Unknown	Explain:
Addresses of other homes or properties where the occupants visit and may contain vermiculite	Unknown	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?
Addresses or names of business where occupants work	Plum creek contractor	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?

ADDITIONAL INFORMATION Different Tenant lives in house than when removal was conducted. Tenant speaks broken english (spanish). Tenants were not sure ~~[illegible]~~ exactly what was completed during the remediation. Removal folder used to complete

[illegible] 1/13/09 PIF

Sheet No.: D- 000106

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100304 Page No: 19-20 Sampling Date: 1/19/04

Address: 1118 California Ave. Owner/Tenant: Smith

Business Name: N/A

Land Use: Residential School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC CDM Other _____ Names: PHRANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00080		
Location ID	BD-000647		
Sample Group (circle) (Subgroup of the property)	Garage, House, Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____
Location Description (circle) (Detailed description point within the location)	Basement, Ground Floor, Second Level Other_____	Basement, Ground Floor, Second Level Other_____	Basement, Ground Floor, Second Level Other_____
Matrix Type (circle)	Horizontal Surfaces High Traffic Areas Other_____	Horizontal Surfaces High Traffic Areas Other_____	Horizontal Surfaces High Traffic Areas Other_____
Category (circle)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm^2) (circle)	100 200 300 400 NA	100 200 300 NA	100 200 300 NA
Filter Diameter (circle)	25mm 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA
Pump ID No.	6266666		
Flow Meter ID No.	B1610-51521	1/19/04	
Start Time	1425 1428 1432	1437	
Start Flow (L/min)	2.0 2.0 2.0	2.0	
Stop Time	1427 1430 1434	1439	
Stop Flow (L/min)	2.0 2.0 2.0	2.0 1/19/04	
Pump Fault? (circle)	No Yes	No Yes	No Yes
Field Comments	100 cm^2 - Living Room Floor 100 cm^2 - Kitchen top of Refridgerator 100 cm^2 - Hallway Floor	100 cm^2 - Top of hot water heater 100 cm^2 100 cm^2	100 cm^2 100 cm^2 100 cm^2 1/19/04
Cassette Lot Number: 23802	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
Entered (LFO)	Volpe: Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

1118 California Ave - Vilene Smith
PCE - EPA/Volpe 11/9/04
Author: Gregory Parsons CDM
Activity: Stationary Air and dust samples will be collected as part of the PCE. Sampling will be conducted in level D PPE IAW SAP Addendum, CSS, PCE Sampling 12/1/04. Rotometer 92045-1 will be used to calibrate the air samples. Dry Cal B1610-S1521 will be used to calibrate LV pump for dust sampling.
Equipment: Refer 3 of this logbook. Alman Cano was the previous tenant but today Javier & Berta Fernandez now are the tenants. They agreed to allow the PCE to continue.
0840 Onsite. CE-00079 pre-calibrated.
0845 CE-00079 started.
PEF BD-000647 completed with tenants Offsite.
1150 Onsite. Flow Ck, Filter Ck-OK.
1420 Onsite. Flow Ck Filter Ck -OK. Tenants present.

11/9/04

20 1118 California Ave - Smith 1/19/04
PCE-EPA-Volpe
Author: Gregory Parana CDM
1439 CE-00080 (Dust) collected.
1/19/04 Ref FSDS ID-000106.
1620 Onsite Pump CK-OK 1/19/04
Filter CK-OK.
2003 CE-00079 stopped post calibrated
and sealed. Equipment
decontaminated. Offsite.
2020 Onsite @ CDM office.
Samples lock in sample
storage. Ref FSDS D-000106,
SA-000188
2041 Out of logbook

1/19/04

1120 California Ave

BD# 000646

LIBBY ASBESTOS PROJECT
Pre-Sampling Interview Form (PIF) for Post Clean-up Evaluation Sampling

Field Logbook No.: 100304 Page No.: 21-23 Site Visit Date: 1/20/04

Address: 1120 California Ave. Structure Description: House

Occupant: Josh Parrish Phone Number: 293-5882

Owner (If different than occupant): Jolene Smith Phone Number: 503-704-1404

Business Name: N/A

Sampling Team: PARANA

Field Form Check Completed by (100% of forms): [illegible]

Data Item	Value	Notes
CLEAN-UP SUMMARY (To be completed using removal completion folders)		**Date Removal Completed:** 3/15/03
Location of vermiculite removed indoors	Attic Walls (interior or exterior) Crawl Space Basement Sub-floor Other:	Just Knee walls
Location of vermiculite remaining indoors	Attic Walls (interior or exterior) Crawl Space Basement Sub-floor None Other:	~~Unknown~~ [illegible] 1/21/04
Interior cleaning conducted during removal	Yes No If Yes, which floors: Basement Ground Second Garage Attic Other:	[illegible] 1/21/04 ~~Unknown~~
Was carpet removed during removal activities?	Yes No NA	
Location of vermiculite removed outdoors	Driveway Flowerbed Garden Stockpile Yard None Other:	
Location of vermiculite remaining outdoors	Driveway Flowerbed Garden Stockpile Yard None Other:	

Data Item	Value	Notes
Pre-Sampling Interview (To be completed with resident)		
Has EPA provided a HEPA vacuum and has it been used since removal?	Yes No If Yes, how long after the removal was completed did use of the EPA-issued HEPA vac begin: Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
How often do you vacuum with your EPA provided HEPA vacuum?	Once a week More than once a week Twice a month Once a month Less than once a month Other:_____	
Heating Source	Wood/Coal Electric Propane/Gas Other:_____	
Heat Distribution	Forced air Radiant Other:_____	
How soon after the removal was a forced air heating source first used?	Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
Have any of the occupants been in contact with any vermiculite since the removal was completed?	Yes No Unknown	Explain:
Addresses of other homes or properties where the occupants visit and may contain vermiculite	No	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?
Addresses or names of business where occupants work	None	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?

ADDITIONAL INFORMATION Closeout folder + Interview used to complete PIF. Tenant had been there for only 2 wks and was unsure of what took place during the removal.

Sheet No.: SA- 000156

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100304 Page No: 21-23 Sampling Date: 1/20/04

Address: 1120 California Ave Owner/Tenant: Josh Parrish ↳ Jilene Smith

Business Name: NIN

Land Use: Residential School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC CDM Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00082	CE- 00083	
Location ID	BD-000646	BD-000646	
Sample Group	~~House~~ basement	~~House~~ basement	
Location Description	Basement	Basement	
Category (circle)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	Indoor Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	25mm 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0 8
Flow Meter Type (circle)	Rotometer DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	0689	0891-A	
Flow Meter ID No.	92045-1	92045-1	
Start Date	1/20/04	1/20/04	
Start Time	1005	1005	
Start Flow (L/min)	9.03	9.03	
Stop Date	1/20/04	1/20/04	
Stop Time	2038	2038	
Stop Flow (L/min)	9.03	9.03	
Pump fault? (circle)	No Yes NA	No Yes NA	No Yes NA
MET Station onsite?	No Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments		Field Replicate of sample CE-00082	1/20/04
Cassette Lot Number: _____	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) ____ Entered (LFO) JB	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by GP	QC by R

vs 101503

Sheet No.: SA-000210

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100304 Page No: 21,22,23 Sampling Date: 1/20/04

Address: 1120 California Ave. Owner/Tenant: Josh Parrish → Jilene Smith

Business Name: N/A

Land Use: Residential School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC CDM Other _____ Names: PARANA

Data Item	Cassette 1 (1/20/04)	Cassette 2 (1/20/04)	Cassette 3
Index ID	CE- 00084	CE- 00085	
Location ID	BD-000646	BD-000646	
Sample Group	House	House	
Location Description	Ground level Dining Room Adjacent steps	2nd level Room @ top of steps	
Category (circle)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	Indoor Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	25mm 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	05913	05910	
Flow Meter ID No.	92045-1	92045-1	
Start Date	1/20/04	1/20/04	
Start Time	1010	1012	
Start Flow (L/min)	9.03	9.03	
Stop Date	1/20/04	1/20/04	
Stop Time	2046	2050	
Stop Flow (L/min)	9.24	8.82	
Pump fault? (circle)	No Yes NA	No Yes NA	No Yes NA
MET Station onsite?	No Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments	Filter heavily loaded with particulate	Filter heavily loaded with particulate	1/20/04
Cassette Lot Number: _____	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) _____ Entered (LFO) _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

For Field Team Completion (Provide Initials)	Completed by GY	QC by R

vs 101503

Sheet No.: D- 000108

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100304 Page No: 21-23 Sampling Date: 1/20/04

dress: 1120 California Owner/Tenant: Josh Parrish → Jilene Smith

Business Name: N/A

Land Use: Residential School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC CDM Other _____ Names: Parrish

Data Item	1/20/04 Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00086		
Location ID	B.O-000646		
Sample Group (circle) (Subgroup of the property)	Garage, House, Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____
Location Description (circle) (Detailed description point within the location)	Basement, Ground Floor, Second Level Other_____	Basement, Ground Floor, Second Level Other_____	Basement, Ground Floor, Second Level Other_____
Matrix Type (circle)	Horizontal Surfaces High Traffic Areas Other_____	Horizontal Surfaces High Traffic Areas Other_____	Horizontal Surfaces High Traffic Areas Other_____
ategory (circle)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm^2) (circle)	100 200 300 600 NA	100 200 300 NA	100 200 300 NA
Filter Diameter (circle)	25mm 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA
Pump ID No.	626666		
Flow Meter ID No.	B1610-S1531	1/20/04	
Start Time	1326 1329 1334	1338 1341 1344	
Start Flow (L/min)	2.0 2.0 2.0	2.0 2.0 2.0	
Stop Time	1328 1331 1336	1340 1343 1346	
Stop Flow (L/min)	2.0 2.0 2.0	2.0 2.0 2.0	
Pump Fault? (circle)	No Yes	No Yes	No Yes
Field Comments	100 cm^2 Ground level floor in living room. 100 cm^2 - Ground level top of refrigerator 100 cm^2 - 2nd level on floor of room at top of steps	100 cm^2 2nd level - Master Bedroom window sill 100 cm^2 - Basement floor @ base of steps 100 cm^2 - Basement top of hot water heater	100 cm^2 100 cm^2 100 cm^2
Cassette Lot Number: _____	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
Entered (LFO) HB	Volpe: Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

1/20/04

For Field Team Completion (Provide Initials)	Completed by GY	QC by TC

vs 101503

1120 California Ave - Smith 1/20/04
PCE-EPA/Volpe Tenant-Parrish 21
Author: Gregory Parrish COM
Activity: Stationary Air and dust sampling will be completed as part of the PCE. Sampling will be conducted in level D PPE IAW SAP Addendum, CSS, PCE Sampling 12/1/03.
Equipment: Refpg 3 of this logbook. 0720 LV Pump 626666 calibrated to 2.0 l/min with Dry-Cal B1610-51521 @ CDM office.
0825 Onsite. Nobody answered the door. Called and left a message.
0945 Contacted by volunteer and given permission to complete the sampling.
0955 Onsite. CE-00082, 83 pre-calibrated. CE-00083 is a field replicate of CE-00082.
1005 CE-00082, 83 started. CE-00084 pre-calibrated.
1010 CE-00084 started. (Ground level). CE-00085 pre-calibrated.
1012 CE-00085 started. (2nd level). PIF BA-000646 completed with Josh Parrish.

1/20/04

22 1120 California Ave Owner - Smith 1/20/04
PCE - EPA - Volpe Tenant - Parrish
Author Gregory Parana CDM

1325 Onsite.

1346 CE-00086 (Dust) collected.
CE-00084, 85 Filters appear to be loaded with smoke.
Flow ck all samples - OK.

1650 Onsite. CE-00082, 83, 84, 85 loading with smoke. Furnace may need filter changed.

2030 Onsite. Samples will be stopped. CE-00084, 85 appear to be heavily loaded with smoke particulate.

2038 CE-00082, 83 stopped, post calibrated and sealed.

2046 CE-00084 stopped, post calibrated and sealed.

2050 CE-00085 stopped, post calibrated and sealed.
Equipment decontaminated Offsite. Resident was informed of furnace filter. He changed it before I left site. Filter was very clogged.

1/20/04

1120 California Ave. Owner - Smith 1/20/04
PCE EPA - Volpe Tenant - Parrish
Author: Gregory Parana CDM

2100 Onsite CDM office.
Samples placed in sample storage. Ref FSDS SA-000156, 210, D-000108.

2130 Out of logbook.

1/20/04

113 W. Oak St

BD# 002645

LIBBY ASBESTOS PROJECT
Pre-Sampling Interview Form (PIF) for Post Clean-up Evaluation Sampling

Field Logbook No.: 100305 Page No.: 14-15 Site Visit Date: 1/21/04

Address: 113 W. Oak St. Structure Description: House

Occupant: Jamie ~ Tyson Sanderson Phone Number: 293-9795

Owner (if different than occupant): N/A Phone Number: N/A

Business Name: N/A

Sampling Team: PARANA

Field Form Check Completed by (100% of forms): YP ps

Data Item	Value	Notes
CLEAN-UP SUMMARY (To be completed using removal completion folders)		**Date Removal Completed:** 11/03
Location of vermiculite removed indoors	(Attic) Walls (interior or exterior) Crawl Space (Basement) Sub-floor Other:	
Location of vermiculite remaining indoors	Attic (Walls (interior or exterior)) Crawl Space Basement Sub-floor None Other:	Sifted from attic jb 4/7/4
Interior cleaning conducted during removal	(Yes) No If Yes, which floors: (Basement) (Ground) Second Garage Attic Other:	
Was carpet removed during removal activities?	Yes (No) NA	
Location of vermiculite removed outdoors	Driveway (Flowerbed) (Garden) Stockpile Yard None Other:	
Location of vermiculite remaining outdoors	Driveway Flowerbed Garden Stockpile Yard None Other: Unknown	Snowed after removal

Data Item	Value	Notes
Pre-Sampling Interview (To be completed with resident)		
Has EPA provided a HEPA vacuum and has it been used since removal?	Yes No If Yes, how long after the removal was completed did use of the EPA-issued HEPA vac begin: Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
How often do you vacuum with your EPA provided HEPA vacuum?	Once a week More than once a week Twice a month Once a month Less than once a month Other:	3 times/wk
Heating Source	Wood/Coal Electric Propane/Gas Other:	
Heat Distribution	Forced air Radiant Other:	
How soon after the removal was a forced air heating source first used?	Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
Have any of the occupants been in contact with any vermiculite since the removal was completed?	Yes No Unknown	Explain:
Addresses of other homes or properties where the occupants visit and may contain vermiculite	None	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?
Addresses or names of business where occupants work	Rosaurs - Jamie Tyson - Logger	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?

ADDITIONAL INFORMATION

Sheet No.: SA- 000239

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100305 Page No: 14-15 Sampling Date: 1/21/04

Address: 113 W. Oak St. Owner/Tenant: Jaime Sanderson

Business Name: NIH

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
	JP 1/21/04	JP 1/21/04	
Index ID	CE- 00087	CE- 00088	
Location ID	BP-002645	BP-002645	
Sample Group	House	JP 1/21/04 ~~House~~ Basement	
Location Description	Ground level Master Bedroom	Basement	
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor - NA	(Indoor) Outdoor - NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	(25mm) 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	(Rotometer) DryCal NA	Rotometer DryCal NA
Pump ID Number	05913	05910	
Flow Meter ID No.	92045-1	92045-1	
Start Date	1/21/04	1/21/04	
Start Time	0835	0835	
Start Flow (L/min)	9.03	9.03	
Stop Date	1/21/04	1/21/04	
Stop Time	JP 1/21/04 ~~205~~ 2008	2010	
Stop Flow (L/min)	9.03	9.03	
Pump fault? (circle)	(No) Yes NA	(No) Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	(No) Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: 310701	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	JP 1/21/04 Archive Blank (circle): Yes No
QC (Field Team) ____ Entered (LFO) JB	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: D- 000109

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100305 Page No: 14-15 Sampling Date: 1/21/04

Address: 113 W. Oak St. Owner/Tenant: Tyson + Jamie Tyson

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00089		
Location ID	BD-002645		
Sample Group (circle) (Subgroup of the property)	Garage, (House), Shed, Pump House Other _____	Garage, House, Shed, Pump House Other _____	Garage, House, Shed, Pump House Other _____
Location Description (circle) (Detailed description point within the location)	(Basement), (Ground Floor), Second Level Other _____	Basement, Ground Floor, Second Level Other _____	Basement, Ground Floor, Second Level Other _____
Matrix Type (circle)	(Horizontal Surfaces), (High Traffic Areas) Other _____	Horizontal Surfaces High Traffic Areas Other _____	Horizontal Surfaces High Traffic Areas Other _____
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm^2) (circle)	100 200 ~~300~~ (400) NA	100 200 300 NA	100 200 300 NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	(TEM- .45) PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer (Dry-Cal) NA	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA
Pump ID No.	626666		
Flow Meter ID No.	B1610-S1521		
Start Time	1943 / 1946 / 1950	1955	
Start Flow (L/min)	2.0 / 2.0 / 2.0	2.0	
Stop Time	1945 / 1948 / 1952	~~0955~~ 1955	
Stop Flow (L/min)	2.0 / 2.0 / 2.0	2.0	
Pump Fault? (circle)	(No) Yes	No Yes	No Yes
Field Comments Cassette Lot Number: 23802	100 cm^2 - Kitchen ~~Foot~~ Floor 100 cm^2 - Living Rm top of fireplace mantel 100 cm^2 - Basement Floor Archive Blank (circle): Yes No	100 cm^2 Basement top of water heater 100 cm^2 100 cm^2 Archive Blank (circle): Yes No	100 cm^2 100 cm^2 100 cm^2 Archive Blank (circle): Yes No
Entered (LFO)	Volpe: Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

113 W. Oak St. - Jamie Sunderson 1/21/04
PCE - EPA/Volpe
Author: Gregory Parana CDM

Activity: Stationary Air and dust samples will be collected as part of the PCE. Sampling will be conducted in level D PPE IAW SAP Addendum, CSS, PCE Sampling.

0825 Onsite. Jamie present.
CE-00087 (Ground level) pre-calibrated.

0835 CE-00087 started.
CE-00088 pre-calibrated and started.
Offsite to 2297 KRR.

1145 Onsite. PIF BD-002645 completed with resident.
Sample Flow Ck, Filter Ck - OK.

1430 Onsite - Resident not home - locked.

1700 Onsite - Residents not home.

1940 Onsite.

1955 CE-00089 (dust) collected.

2008 CE-00087 stopped, post calibrated and sealed.

2010 CE-00088 stopped, post calibrated and sealed.

1/21/04

113 W. Oak St. Jamie Sunderson 1/21/04
PCE - EPA/Volpe
Author: Gregory Parana

2030 Onsite @ CDM office
Samples lock in sample storage. Ref FSDS SA-000239
D-000109 Out of logbook.

1/21/04

1202 Idaho Ave

BO# 000237

LIBBY ASBESTOS PROJECT
Pre-Sampling Interview Form (PIF) for Post Clean-up Evaluation Sampling

Field Logbook No.: 100304 Page No.: 25 Site Visit Date: 1/29/04

Address: 1202 Idaho Ave. Structure Description: House

Occupant: Bill McGough Colleen Delk-Marshal Phone Number: 293-2483

Owner (if different than occupant): Delk Marshal Phone Number: same

Business Name: N/A

Sampling Team: PARANA-CDM

Field Form Check Completed by (100% of forms): YP JP

Data Item	Value	Notes
CLEAN-UP SUMMARY (To be completed using removal completion folders)	Date Removal Completed: 12/03	
Location of vermiculite removed indoors	(Attic) Walls (interior or exterior) Crawl Space Basement Sub-floor Other:	
Location of vermiculite remaining indoors	Attic (Walls (interior or exterior)) Crawl Space Basement Sub-floor None Other:	
Interior cleaning conducted during removal	(Yes) No If Yes, which floors: Basement (Ground) Second Garage Attic Other:	
Was carpet removed during removal activities?	Yes (No) NA	
Location of vermiculite removed outdoors	Driveway (Flowerbed) Garden Stockpile Yard None Other:	
Location of vermiculite remaining outdoors	Driveway Flowerbed Garden Stockpile Yard (None) Other:	

Data Item	Value	Notes
Pre-Sampling Interview (To be completed with resident)		
Has EPA provided a HEPA vacuum and has it been used since removal?	Yes No If Yes, how long after the removal was completed did use of the EPA-issued HEPA vac begin: Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
How often do you vacuum with your EPA provided HEPA vacuum?	Once a week More than once a week Twice a month Once a month Less than once a month Other:	
Heating Source	Wood/Coal Electric Propane/Gas Other:	
Heat Distribution	Forced air Radiant Other:	
How soon after the removal was a forced air heating source first used?	Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	No Forced air heat
Have any of the occupants been in contact with any vermiculite since the removal was completed?	Yes No Unknown	Explain:
Addresses of other homes or properties where the occupants visit and may contain vermiculite	None	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?
Addresses or names of business where occupants work	Retired	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?

ADDITIONAL INFORMATION

Sheet No.: SA- 000179

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100304 Page No: 25 Sampling Date: 1/29/04

Address: 1202 Idaho Ave Owner/Tenant: Delk-Marshall

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1 (JD 1/29/04)	Cassette 2	Cassette 3
Index ID	CE- 00113		
Location ID	BD-000237		
Sample Group	House		
Location Description	South Sewing Room		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	0689		
Flow Meter ID No.	92045-1		
Start Date	1/29/04		
Start Time	0840		
Start Flow (L/min)	9.03		
Stop Date	1/29/04		
Stop Time	1955		
Stop Flow (L/min)	9.03		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments			JD 1/29/04
Cassette Lot Number: 310201	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) ____ Entered (LFO) ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

000133

Sheet No.: D- _____

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100304 Page No: 25 Sampling Date: 1/29/04

Jress: 1202 Idaho Ave Owner/Tenant: Dell-Marshall

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00114		
Location ID	BA-000237		
Sample Group (circle) (Subgroup of the property)	Garage, (House), Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____
Location Description (circle) (Detailed description point within the location)	Basement, (Ground Floor), Second Level Other_____	Basement, Ground Floor, Second Level Other_____	Basement, Ground Floor, Second Level Other_____
Matrix Type (circle)	~~Horizontal Surfaces~~ (High Traffic Areas) Other_____	Horizontal Surfaces High Traffic Areas Other_____	Horizontal Surfaces High Traffic Areas Other_____
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm^2) (circle)	100 200 (300) NA	100 200 300 NA	100 200 300 NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	(TEM- .45) PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer (Dry-Cal) NA	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA
Pump ID No.	626666		
Flow Meter ID No.	B1610-51521	1/29/04	
Start Time	1146 / 1150 / 1154	1157	
Start Flow (L/min)	2.0 / 2.0 / 2.0	2.0	
Stop Time	1148 / 1152 / 1156	1159	
Stop Flow (L/min)	2.0 / 2.0 / 2.0	2.0	
Pump Fault? (circle)	(No) Yes	~~No Yes~~ 2/2/04	No Yes
Field Comments	100 cm^2 Living Room window sill 100 cm^2 Hallway Floor 100 cm^2 - Dining Rm Floor	100 cm^2 Kitchen - top of Refridgerator 100 cm^2 100 cm^2	100 cm^2 100 cm^2 100 cm^2 1/29/04
Cassette Lot Number:			
	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
Entered (LFO)	Volpe: Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

1202 Idaho Ave · Delk-Marshall 1/29/04
PCE-EPA-Volpe
Author: Gregory Parana CDM
Activity: Stationary Air and dust samples will be collected as part of the PCE in BD-000237. Sampling will be conducted in level D PPE IAW SAP Addendum, CSS, PCE Sampling 1/12/03.
Equipment Ref. pg. 3 of this logbook.
LV Pump 626666 calibrated with Dry-Cal B1610-51521 @ 720.
0835 Onsite. CE-00113 pre-calibrated.
0840 CE-00113 (Sewing Rm) started.
1135 Onsite. PIF BD 000237 completed with Bill McGough.
1159 CE-00114 (dust) collected. CE-00113 flow Ck, filter Ck - OK.
1520 Onsite. CE-00113 Flow, Filter Ck-OK.
1955 Onsite CE-00113 stopped post calibrated and sealed.
2010 Onsite @ CDM office. Samples locked in sample storage.
2020 Out of logbook. Ref FSUS D-000133, SA-000179.

1/29/04

1212 Louisiana Ave

BD# 000315

LIBBY ASBESTOS PROJECT
Pre-Sampling Interview Form (PIF) for Post Clean-up Evaluation Sampling

Field Logbook No.: 100301 Page No.: 29-30 Site Visit Date: 1/12/04

Address: 1212 Louisiana Ave Structure Description: House

Occupant: Joe Duffield Phone Number: 406-293-6685

Owner (if different than occupant): N/A Phone Number: N/A

Business Name: N/A

Sampling Team: PARANA-CDM

Field Form Check Completed by (100% of forms): YP ps

Data Item	Value	Notes
CLEAN-UP SUMMARY (To be completed using removal completion folders)		Date Removal Completed: 03/03
Location of vermiculite removed indoors	(Attic) Walls (interior or exterior) Crawl Space Basement Sub-floor Other:	
Location of vermiculite remaining indoors	Attic Walls (interior or exterior) Crawl Space Basement Sub-floor (None) (Other) YP 9/17/04	Above existing ceiling on 2nd floor YP 9/17/04
Interior cleaning conducted during removal	(Yes) No If Yes, which floors: Basement (Ground) (Second) (Garage) Attic Other:	
Was carpet removed during removal activities?	Yes (No) NA	
Location of vermiculite removed outdoors	Driveway Flowerbed Garden Stockpile (Yard) None Other:	Along house and along fence
Location of vermiculite remaining outdoors	Driveway Flowerbed Garden Stockpile (Yard) None Other:	

Data Item	Value	Notes
Pre-Sampling Interview (To be completed with resident)		
Has EPA provided a HEPA vacuum and has it been used since removal?	Yes No If Yes, how long after the removal was completed did use of the EPA-issued HEPA vac begin: Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
How often do you vacuum with your EPA provided HEPA vacuum?	Once a week More than once a week Twice a month Once a month Less than once a month Other:_____	
Heating Source	Wood/Coal Electric Propane/Gas Other:_____	
Heat Distribution	Forced air Radiant Other:_____	Wall board
How soon after the removal was a forced air heating source first used?	~~Immediately 1 to 2 months~~ ~~3 to 4 months 5 to 6 months~~ more than 6 months 10/12/04	
Have any of the occupants been in contact with any vermiculite since the removal was completed?	Yes No Unknown	Explain:
Addresses of other homes or properties where the occupants visit and may contain vermiculite	None	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?
Addresses or names of business where occupants work	Retired	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?

ADDITIONAL INFORMATION_____

Sheet No.: SA-000208

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100301 Page No: 29-30 Sampling Date: 1/12/04

Address: 1212 Louisiana Ave Owner/Tenant: Duffield

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1 (jp 1/12/04)	Cassette 2 (jp 1/12/04)	Cassette 3
Index ID	CE- 00032	CE- 00033	
Location ID	BD-000315	BD-000315	
Sample Group	House	House	
Location Description	Kitchen	2nd level Hallway	
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	(Indoor) Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	(25mm) 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	(Rotometer) DryCal NA	Rotometer DryCal NA
Pump ID Number	0891	0387	
Flow Meter ID No.	92045-1	92045-1	
Start Date	1/12/04	1/12/04	
Start Time	0846	0849	
Start Flow (L/min)	9.01	9.01	
Stop Date	1/12/04	1/12/04	
Stop Time	2005	2008	
Stop Flow (L/min)	9.40	9.01	
Pump fault? (circle)	(No) Yes NA	(No) Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	(No) Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments			jp 1/12/04
Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) ____ Entered (LFO) ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by_	QC by

vs 101503

Sheet No.: D- 000099

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100301 Page No: 29-30 Sampling Date: 1/12/04

Address: 1212 Louisiana Ave. Owner/Tenant: Duffield

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1 (1/12/04)	Cassette 2	Cassette 3
Index ID	CE- 00035		
Location ID	BA-000315		
Sample Group (circle) (Subgroup of the property)	Garage, (House), Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____
Location Description (circle) (Detailed description point within the location)	Basement, (Ground Floor), (Second Level) Other_____	Basement, Ground Floor, Second Level Other_____	Basement, Ground Floor, Second Level Other_____
Matrix Type (circle)	(Horizontal Surfaces) (High Traffic Areas) Other_____	Horizontal Surfaces High Traffic Areas Other_____	Horizontal Surfaces High Traffic Areas Other_____
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm^2) (circle)	100 200 300 (400) NA	100 200 300 NA	100 200 300 NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer (Dry-Cal) NA	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA
Pump ID No.	612058		
Flow Meter ID No.	B1610-51521		
Start Time	1713 / 1716 / 1720	1723	
Start Flow (L/min)	2.0 / 2.0 / 2.0	2.0	
Stop Time	1715 / 1718 / 1722	1725	
Stop Flow (L/min)	2.0 / 2.0 / 2.0	2.0	
Pump Fault? (circle)	(No) Yes	No Yes	No Yes
Field Comments	100 cm^2 Kitchen floor 100 cm^2 Living Room window sill 100 cm^2 2nd level hallway	100 cm^2 2nd level North Bedroom top of dresser 100 cm^2 100 cm^2	100 cm^2 100 cm^2 100 cm^2
Cassette Lot Number: 23802	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
Entered (LFO)	Volpe: Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

1/12/04

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Duffield

Location 1212 Louisiana Ave. Date 1/12/04

Project / Client PCE - EPA - Volpe

Author: Gregory Parana

Activity: Stationary Air and dust samples will be completed as part of the PCE. Samples will be conducted IAW SAP Addendum, PCE, OSS Sampling 12/1/03. Equipment: Ref pg 6 of this logbook. 92045-1 rotometer used to calibrate air samples.

0835 Onsite. CE-00032 pre-calibrate

0846 CE-00032 started.

CE-00033 pre-calibrated.

0849 CE-00033 started.

Offsite.

1130 Onsite. PIF completed with Mr Duffield.

CE-00032, 33 filter Ck-OK.

Flow Ck-OK. 1155 Offsite

1500 Onsite. Flow Ck-OK.

Filter Ck-OK. Offsite

1705 Onsite. Pump 412058 calibrated with drycal B1610 S1521 @ (1) M Office.

1725 CE-00035 collected.

1/12/04

30

Location Duffield 1212 Louisiana Ave Date 6/12/04

Project / Client PCE-EPA/Volpe CDM

Author: Gregory Parana

2005 CE-00032 stopped, post calibrated and sealed.

2008 CE-00033 stopped, post calibrated and sealed. Equipment decontaminated Offsite. Ref FSDS D-000099, SA-000208 PEF-BD-000315. Samples locked in sample storage @ CDM office.

2040 Out of log book.

123 Hamann Ave

BD-004341

LIBBY ASBESTOS PROJECT
Pre-Sampling Interview Form (PIF) for Post Clean-up Evaluation Sampling

Field Logbook No.: 100305 Page No.: 18 Site Visit Date: 1/29/04

Address: 123 Hamann Ave Structure Description: House

Occupant: Cindy Sanderson-Smith Phone Number: 293-3451

Owner (if different than occupant): NA Phone Number: NA

Business Name: NA

Sampling Team: Shawn Olivieri

Field Form Check Completed by (100% of forms): YP gs

Data Item	Value	Notes
CLEAN-UP SUMMARY (To be completed using removal completion folders)	Date Removal Completed: 10/02	
Location of vermiculite removed indoors	(Attic) Walls (interior or exterior) Crawl Space Basement Sub-floor Other:	
Location of vermiculite remaining indoors	Attic Walls (interior or exterior) Crawl Space Basement Sub-floor None Other: Unknown	
Interior cleaning conducted during removal	(Yes) No If Yes, which floors: Basement (Ground) (Second) Garage Attic Other:	
Was carpet removed during removal activities?	Yes (No) NA	
Location of vermiculite removed outdoors	Driveway (Flowerbed) Garden Stockpile (Yard) None Other:	
Location of vermiculite remaining outdoors	Driveway Flowerbed Garden Stockpile Yard (None) Other:	

Data Item	Value	Notes
Pre-Sampling Interview (To be completed with resident)		
Has EPA provided a HEPA vacuum and has it been used since removal?	(Yes) No If Yes, how long after the removal was completed did use of the EPA-issued HEPA vac begin: Immediately 1 to 2 months 3 to 4 months 5 to 6 months (more than 6 months)	
How often do you vacuum with your EPA provided HEPA vacuum?	Once a week (More than once a week) Twice a month Once a month Less than once a month Other:_____	
Heating Source	(Wood)/Coal Electric Propane/Gas Other:_____	
Heat Distribution	Forced air (Radiant) Other:_____	
How soon after the removal was a forced air heating source first used?	Immediately 1 to 2 months 3 to 4 months 5 to 6 months 11/30/09 more than 6 months	
Have any of the occupants been in contact with any vermiculite since the removal was completed?	Yes (No) Unknown	Explain:
Addresses of other homes or properties where the occupants visit and may contain vermiculite	None	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?
Addresses or names of business where occupants work	None	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?

ADDITIONAL INFORMATION_____

Sheet No.: SA- 000237

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100305 Page No: 19 Sampling Date: 1/29/04

Address: 123 Hamann Ave Owner/Tenant: Cindy Sanderson-Smith

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: Shawn Oliveira

Data Item	so 1/29/04 Cassette 1	so 1/29/04 Cassette 2	Cassette 3
Index ID	CE- 00059	CE- 00060	
Location ID so 1/29/04	BD- 004341	so 1/29/04 BD- 004341	
Sample Group	House	House	
Location Description	Living Room	Master Bedroom	
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	(Indoor) Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	(25mm) 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	(Rotometer) DryCal NA	Rotometer DryCal NA
Pump ID Number	05910	05912	
Flow Meter ID No.	006196	006196	
Start Date	1/29/04	1/29/04	
Start Time	842 ~~so 1/29~~	846 ~~1/29/04~~	
Start Flow (L/min)	9.19 ~~so 1/29/04~~	9.19 ~~1/29/04~~	
Stop Date	1/29/04	1/29/04	
Stop Time so 1/29/04	2057 ~~so 1/29~~	2059 ~~1/29/04~~	
Stop Flow (L/min)	9.19 ~~so 1/29/04~~	9.19 ~~1/29/04~~	
Pump fault? (circle)	(No) Yes NA	(No) Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	(No) Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: 316201	• Wood stove in use • Resident smoking Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) ____ Entered (LFO) JB	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: D- 000120

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100305 Page No: 15 Sampling Date: 1/29/04

Address: 123 Hamann Ave Owner/Tenant: Cindy Sanderson-Smith

Business Name: NA

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: Shawn Olivera

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00115		
Location ID	BD- 004341		
Sample Group (circle) (Subgroup of the property)	Garage, (House), Shed, Pump House Other	Garage, House, Shed, Pump House Other	Garage, House, Shed, Pump House Other
Location Description (circle) (Detailed description point within the location)	Basement, (Ground Floor), (Second Level) Other	Basement, Ground Floor, Second Level Other	Basement, Ground Floor, Second Level Other
Matrix Type (circle)	(Horizontal Surfaces) (High Traffic Areas) Other	Horizontal Surfaces High Traffic Areas Other	Horizontal Surfaces High Traffic Areas Other
ategory (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm²) (circle)	100 200 300 (400) NA	100 200 300 NA	100 200 300 NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	(TEM- .45) PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer (Dry-Cal) NA	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA
Pump ID No.	612767		
Flow Meter ID No.	8-1610 5-1521		
Start Time	1501 1503 1505	1507	
Start Flow (L/min)	2.0 2.0 2.0	2.0	
Stop Time	1503 1505 1507	1509	
Stop Flow (L/min)	2.0 2.0 2.0	2.0	
Pump Fault? (circle)	(No) Yes	No Yes	No Yes
Field Comments	100 cm² - Front entrance - tile, ground level 100 cm² - Horizontal Surf. - ground level 100 cm² - Top of stairs - 2nd level, carpet	100 cm² Horizontal Surf. - 2nd Level. 100 cm² 100 cm²	100 cm² 100 cm² 100 cm²
Cassette Lot Number:	23802		
	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
Entered (LFO)	Volpe: Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

123 Hamann Ave Cindy Sanderson-Smith 1/29/04

PCE-EPA/Volpe Author: Shawn Oliveira

Activity: Stationary Air and Dust samples will be collected as part of the P.C.E.. Sampling will be conducted in Level D PPE, IAW SAP Addendum CSS, PCE Sampling.

835 Arrive onsite, resident present. CE-00059 (Ground Level) set up and pre-calibrated.

840 CE-00059 started. Wood stove in use.

842 CE-00060 (2nd Floor) set-up and pre-calibrated.

843 CE-00060 started. ——— SO

848 Offsite. ——— SO

1130 Arrive onsite. Flow check ok, filter check ok.

1458 Arrive onsite Flow check ok, filter check ok.

1501 CE-00115 collected. (Dust)

1756 Arrive onsite. Flow check ok, filter check ok.

2045 Arrive onsite.

2051 CE-00059 stopped, post calibrated, and collected.

2059 CE-00060 stopped, post calibrated and collected.

2107 Return to CDM, lock samples in storage.

Ref FSDS's; SA-000237, D-000120.

PCE-EPA/Volpe Author: Shawn Oliveira

Activity: Stationary Air and Dust samples will be collected as part of the P.C.E. Sampling will be conducted in Level D PPE, IAW SAP Addendum CSS, PCE Sampling.

827 Arrive onsite, resident present. CE-00121 set up and pre-calibrated.

841 CE-00121 started.

843 CE-00122 set up, precalibrated and started.

845 CE-00123 set up, precalibrated and started duplicate of CE-00122.

847 CE-00124 set up, pre-calibrated, and started.

852 Complete PIF with resident.

1145 Arrive onsite, flow check ok, filter check ok. SO 1/30/04

1140 CE-00125 (Dust) collected.

1506 Arrive onsite flow check ok, filter check ok.

2038 CE-00121 stopped, post calibrated, and collected.

2040 CE-00122 stopped, post calibrated, and collected.

2041 CE-00123 stopped, post calibrated and collected.

2042 CE-00124 stopped, post calibrated, and collected.

2050 Complete equipment DCON, depart site.

2057 Return to CDM, lock samples in storage. Ref FSDS's SA-000180, SA-000271, D-000135

1/30/04 Shawn Oliveira

1231 Nevada Ave

BD# 001197

LIBBY ASBESTOS PROJECT
Pre-Sampling Interview Form (PIF) for Post Clean-up Evaluation Sampling

Field Logbook No.: 100304 Page No.: 24 Site Visit Date: 1/27/04

Address: 1231 Nevada Ave. Structure Description: House

Occupant: Jean Sonju Phone Number: 293-5655

Owner (if different than occupant): same Phone Number: same

Business Name: N/A

Sampling Team: PARANA, CDM

Field Form Check Completed by (100% of forms): MP PS

Data Item	Value	Notes
CLEAN-UP SUMMARY (To be completed using removal completion folders)	**Date Removal Completed:** 10/03	
Location of vermiculite removed indoors	(Attic) Walls (interior or exterior) Crawl Space Basement Sub-floor Other:	
Location of vermiculite remaining indoors	Attic (Walls (interior or exterior)) Crawl Space Basement Sub-floor ~~None~~ jb 9/17/04 Other:	material has sifted into walls down from attic into wall space jb 9/17/04
Interior cleaning conducted during removal	Yes (No) If Yes, which floors: Basement Ground Second Garage Attic Other:	
Was carpet removed during removal activities?	Yes (No) NA	
Location of vermiculite removed outdoors	Driveway (Flowerbed) Garden Stockpile Yard None Other:	Along back of house
Location of vermiculite remaining outdoors	Driveway Flowerbed Garden Stockpile Yard (None) Other:	

Data Item	Value	Notes
Pre-Sampling Interview (To be completed with resident)		
Has EPA provided a HEPA vacuum and has it been used since removal?	Yes No If Yes, how long after the removal was completed did use of the EPA-issued HEPA vac begin: Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	Recieved 1 week ago
How often do you vacuum with your EPA provided HEPA vacuum?	Once a week More than once a week Twice a month Once a month Less than once a month Other:_____	
Heating Source	Wood/Coal Electric Propane/Gas Other: Fuel Oil	
Heat Distribution	Forced air Radiant Other:_____	Ceiling vents
How soon after the removal was a forced air heating source first used?	Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
Have any of the occupants been in contact with any vermiculite since the removal was completed?	Yes No Unknown	Explain:
Addresses of other homes or properties where the occupants visit and may contain vermiculite	None	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?
Addresses or names of business where occupants work	Son - Libby Dam Jean - 1 Afternoon/month she volunteers at the Libby Thrift Shop - 808 Utah	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?

ADDITIONAL INFORMATION_____

Sheet No.: SA- 000174

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100304 Page No: 24 Sampling Date: ~~1/27/04~~ 1/26/04

Address: 1231 Nevada Ave. Owner/Tenant: Jean Sonju

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00104		
Location ID	BA-001197		
Sample Group	House		
Location Description	Master Bedroom		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	05913		
Flow Meter ID No.	92045-1		
Start Date	1/26/04		
Start Time	0810		
Start Flow (L/min)	9.03		
Stop Date	1/26/04		
Stop Time	1930		
Stop Flow (L/min)	9.24		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments			
Cassette Lot Number: 310201	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) ____ Entered (LFO) ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: D- 000118

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100304 Page No: 24 Sampling Date: 1/26/04

Address: 1231 Nevada Ave. Owner/Tenant: Jean Sonju

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00105		
Location ID	BD-001197		
Sample Group (circle) (Subgroup of the property)	Garage, (House), Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____
Location Description (circle) (Detailed description point within the location)	Basement, (Ground Floor), Second Level Other_____	Basement, Ground Floor, Second Level Other_____	Basement, Ground Floor, Second Level Other_____
Matrix Type (circle)	(Horizontal Surfaces) (High Traffic Areas) Other_____	Horizontal Surfaces High Traffic Areas Other_____	Horizontal Surfaces High Traffic Areas Other_____
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm^2) (circle)	100 200 ~~300~~ 400 NA	100 200 300 NA	100 200 300 NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	(TEM- .45) PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer (Dry-Cal) NA	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA
Pump ID No.	502077		
Flow Meter ID No.	B1610 - S1521		
Start Time	1118 1121 1124	1128	
Start Flow (L/min)	2.0 2.0 2.0	2.0	
Stop Time	1120 1123 1126	1130	
Stop Flow (L/min)	2.0 2.0 2.0	2.0	
Pump Fault? (circle)	(No) Yes	(No) Yes	No Yes
Field Comments	100 cm^2 Living Room Floor	100 cm^2 Living Room Window sill	100 cm^2
Cassette Lot Number:	100 cm^2 - Master Bedroom floor	100 cm^2	100 cm^2
	100 cm^2 - Writing room top of desk.	100 cm^2	100 cm^2
	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
Entered (LFO)	Volpe: Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

1231 Nevada Ave. - Sonju 1/26/04

24 PCE - EPA/Volpe

Author: Gregory Parunu [signature] CDM

Activity: Stationary Air and dust samples will be collected as part of the PCE. Sampling will be conducted in level D PPE IAW SAP Addendum, CSS, Post Clean Up Evaluation Sampling.

Equipment: Ref pg 3 of this logbook. LV Pump 502077 calibrated with DryCal B1610-S1521 @ CDM office 0720.

0800 Onsite. CE-00104 pre-calibrated.

0810 CE-00104 started (Bedroom).

1100 Onsite. CE-00104 flow Ck-OK Filter Ck-OK.

1130 CE-00105 (Dust) collected. Offsite to 1417 Washington.

1420 Onsite. Flow Ck Filter Ck-OK. PIF - BD-001197 completed with Jean Sonju. Offsite.

1710 Onsite. Flow Ck Filter Ck-OK.

1930 Onsite. CE-00104 stopped post calibrated and sealed. Equipment decontaminated.

2010 Onsite CDM office. Samples placed in Sample storage. Ref FSDS SA-000174, D-000118. Out of logbook.

1/26/04

[signature]

1306 Louisiana Ave

BD# 000299

LIBBY ASBESTOS PROJECT
Pre-Sampling Interview Form (PIF) for Post Clean-up Evaluation Sampling

Field Logbook No.: 100306 Page No.: 23 Site Visit Date: 12/15/03

Address: 1306 Louisiana Ave Structure Description: House

Occupant: William Shiflett Phone Number: 293-4963

Owner (if different than occupant): N/A Phone Number: N/A

Business Name: N/A

Sampling Team: Shawn Oliveira

Field Form Check Completed by (100% of forms): [illegible]

Data Item	Value	Notes
CLEAN-UP SUMMARY (To be completed using removal completion folders)		**Date Removal Completed:** 4/03
Location of vermiculite removed indoors	(Attic) Walls (interior or exterior) Crawl Space Basement Sub-floor Other:	JG 9/11/04
Location of vermiculite remaining indoors	Attic (Walls) (interior or exterior) Crawl Space Basement Sub-floor (None) Other:	Very small amounts which has migrated into walls from attic
Interior cleaning conducted during removal	Yes (No) If Yes, which floors: Basement Ground Second Garage Attic Other:	
Was carpet removed during removal activities?	Yes (No) NA	
Location of vermiculite removed outdoors	Driveway Flowerbed Garden Stockpile Yard (None) Other:	
Location of vermiculite remaining outdoors	Driveway Flowerbed Garden Stockpile Yard (None) Other:	

Data Item	Value	Notes
Pre-Sampling Interview (To be completed with resident)		
Has EPA provided a HEPA vacuum and has it been used since removal?	Yes (No) If Yes, how long after the removal was completed did use of the EPA-issued HEPA vac begin: Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
How often do you vacuum with your EPA provided HEPA vacuum?	Once a week More than once a week Twice a month Once a month Less than once a month Other: Not received yet	received HEPA Vac 12/15/03 yb 9/17/04
Heating Source	Wood/Coal Electric Propane/Gas Other: Oil	
Heat Distribution	(Forced air) Radiant Other:	
How soon after the removal was a forced air heating source first used?	(Immediately) 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	Within 1 week.
Have any of the occupants been in contact with any vermiculite since the removal was completed?	Yes No (Unknown)	Explain:
Addresses of other homes or properties where the occupants visit and may contain vermiculite	Unknown	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?
Addresses or names of business where occupants work	Retired	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?

ADDITIONAL INFORMATION

Sheet No. SA- 000144

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100306 Page No: 2, 3 Sampling Date: 12/15/03
Address: 1306 Louisiana Ave Owner/Tenant: William Shifflett
Business Name: NA
Land Use: (Residential) School Commercial Mining Roadway Other ( )
Sampling Team: MACTEC (CDM) Other _____ Names: Shawn Oliveira

Data Item	Cassette 1 (SO 12/15/03)	Cassette 2 (SO 12/15/03)	Cassette 3
Index ID	CE- 00043	CE- 00046	
Location ID	BD-000299	BD-000299	
Sample Group	House	Blank	
Location Description	Living Room	N/A	
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS (FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	(Indoor) Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	(25mm) 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal (NA)	Rotometer DryCal NA
Pump ID Number	0689	N/A	
Flow Meter ID No.	95356-3		
Start Date	12/15/03		
Start Time	904 / 1154 / 1547		
Start Flow (L/min)	9.21 / 9.21 / 9.21		
Stop Date	12/15/03		
Stop Time	1153 / 1546 / 2006		
Stop Flow (L/min)	9.21 / 9.21 / 9.21	12/16/03	
Pump fault? (circle)	(No) Yes NA	No Yes (NA)	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes (NA)	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments			12/16/03
Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): (Yes) (No) 12/16/03	Archive Blank (circle): Yes No
QC (Field Team) YD	Volpe:	Volpe:	Volpe:
Entered (LFO)	Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: D- 000083

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100306 Page No: 2, 3 Sampling Date: 12/15/03

Address: 1306 Louisiana Ave Owner/Tenant: William Shifflett

Business Name: NA

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: Shawn Oliveira

Data Item	Cassette 1 (SO 12/15/03)	Cassette 2	Cassette 3
Index ID	CE- 00045		
Location ID	BD-000299		
Sample Group (circle) (Subgroup of the property)	Garage, (House) Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____
Location Description (circle) (Detailed description point within the location)	Basement, (Ground Floor), Second Level Other_____	Basement, Ground Floor, Second Level Other_____	Basement, Ground Floor, Second Level Other_____
Matrix Type (circle)	(Horizontal Surfaces) (High Traffic Areas) Other_____	Horizontal Surfaces High Traffic Areas Other_____	Horizontal Surfaces High Traffic Areas Other_____
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm^2) (circle)	100 200 300 NA (400)	100 200 300 NA	100 200 300 NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	(TEM- .45) PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer (Dry-Cal) NA	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA
Pump ID No.	636583 ~~B-1610 S-1521~~	SO 12/15/03 12/16/03	
Flow Meter ID No.	B-1610, S-1521		
Start Time	1554 1557 1600	1604	
Start Flow (L/min)	2.0 2.0 2.0	2.0	
Stop Time	1556 1559 1602	1606	
Stop Flow (L/min)	2.0 2.0 2.0	2.0 12/16/03	
Pump Fault? (circle)	(No) Yes	No Yes	No Yes
Field Comments	100 cm^2 Front Entrance Carpet 100 cm^2 Back Entrance Carpet 100 cm^2 Horizontal Surfaces - Bedrooms 100 cm^2 Bedroom Carpets	100 cm^2 100 cm^2 100 cm^2 12/16/03	100 cm^2 100 cm^2 12/16/03 100 cm^2
Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
Entered (LFO)	Volpe: Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

BD# 000299

Residential Activity Log

Resident Address: 1306 LOUISIANA AVE LIBBY

Volunteer Name: WILLIAM & JOANNE SHIFLETT

Sampling Date(s): 12-15-03

Personal air sample number (s): Stationary Air - CE-00043

FSDS number(s): SA-000144, D-000083

Date/Time Interval	Go Outside?	Pump problem?	General Activities
12-15-03 11:50 AM 1:50 PM	No Yes (1 HR mins) Describe	No ✓ Yes (describe)	OUT FOR COFFEE
12 15 03 05:00 TO 5:30	No Yes (30 mins) Describe	No ✓ Yes (describe)	EPA MEATING
	No Yes (___ mins) Describe	No Yes (describe)	
	No Yes (___ mins) Describe	No Yes (describe)	
	No Yes (___ mins) Describe	No Yes (describe)	
	No Yes (___ mins) Describe	No Yes (describe)	

Note: Continue on second page if necessary.

William Shiflett Author: Shawn Oliveira 12/15/03
1306 Louisiana Volpe/EPA
Post Removal Evaluation.
Activity: Post Removal Evaluation Sampling at BD-000299, 1306 Louisiana Ave.
Stationary Air and Dust Samples will be collected in accordance with the SAP Addendum, PCE Sampling, 12/1/03.
Dry Cal B-1610, S-~~1524~~ 1521 12/15/03 used to calibrate low volume sampling pump for Dust sampling.
Equipment reference pg 4 of this book
850 Arrive onsite, Mr. + Mrs. Shiflett present.
857 Set-up and calibrate CE-00043.
904 Start CE-00043 on Pump # 0689.
915 Depart Site.
1153 Arrive Onsite. Flowcheck CE-00043 ok. Some discoloration on the filter. Residents are smoking heavily.
1159 Depart Site.
1546 Arrive at Site Flowcheck CE-00043, ok. Filter discolored. Residents still smoking. Complete P.I.F. Resident will receive HEPA Vac this afternoon.
1600 ~~1616~~ 12/15/03 Collect Dust Sample CE-00045, capped, and sealed. Refer to FSDS D-000083.
1615 Depart Site
12/15/03 Shawn Oliveira

William Shiflett Author: Shawn Oliveira
1306 Louisiana Volpe/EPA 12/15/03
2002 Arrive at site, Mr. + Mrs. Shiflett present.
2006 CE-00043 Stopped, post-calibrated and sealed. Filter dark with cig smoke Ref. FSDS SA-000144.
2008 CE-00046. Blank. Ref FSDS SA-000144
2010 DCON equipment, depart site.
2040 Paperwork
2045 Leave office.
12/15/03 Shawn Oliveira

1417 Washington Ave

BD# 002504

LIBBY ASBESTOS PROJECT
Pre-Sampling Interview Form (PIF) for Post Clean-up Evaluation Sampling

Field Logbook No.: 100301 Page No.: 39 Site Visit Date: 1/26/04

Address: 1417 Washington Ave. Structure Description: House

Occupant: Tess Jordan Phone Number: 293-7911 (Henry's)

Owner (if different than occupant): Judith Jordan - Deceased Phone Number:

Business Name: N/A

Sampling Team: PARANA

Field Form Check Completed by (100% of forms): AP JB

Data Item	Value	Notes
CLEAN-UP SUMMARY (To be completed using removal completion folders)		**Date Removal Completed:** 10/03
Location of vermiculite removed indoors	Attic Walls (interior or exterior) Crawl Space Basement Sub-floor Other:	
Location of vermiculite remaining indoors	Attic Walls (interior or exterior) Crawl Space Basement Sub-floor None Other:	2nd level Attic roofline
Interior cleaning conducted during removal	Yes No If Yes, which floors: Basement Ground Second Garage Attic Other:	
Was carpet removed during removal activities?	Yes No NA	
Location of vermiculite removed outdoors	Driveway Flowerbed Garden Stockpile Yard None Other:	Entire yard area
Location of vermiculite remaining outdoors	Driveway Flowerbed Garden Stockpile Yard None Other: AP 9/17/04	Along SW house footing & area of watermain. Filter fabric was placed over areas along waterline JB 9/17/04

Data Item	Value	Notes
Pre-Sampling Interview (To be completed with resident)		
Has EPA provided a HEPA vacuum and has it been used since removal?	Yes (No) If Yes, how long after the removal was completed did use of the EPA-issued HEPA vac begin: Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	Provided but not used
How often do you vacuum with your EPA provided HEPA vacuum?	Once a week More than once a week Twice a month Once a month Less than once a month Other:_____	Never
Heating Source	(Wood) Coal (Electric) Propane/Gas Other:_____	
Heat Distribution –	(Forced air) Radiant Other:_____	
How soon after the removal was a forced air heating source first used?	(Immediately) 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
Have any of the occupants been in contact with any vermiculite since the removal was completed?	Yes (No) Unknown	Explain:
Addresses of other homes or properties where the occupants visit and may contain vermiculite	None	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?
Addresses or names of business where occupants work	Henry's Restuarant	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?

ADDITIONAL INFORMATION Government's contractor sprayed "shock" crete in crawl space. Vermiculite containing soil covered.

Sheet No.: SA- 000175

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100301 Page No: 39 Sampling Date: 1/26/04

Address: 1417 Washington Owner/Tenant: Tess Jordan

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1 (1/26/04)	Cassette 2 (1/26/04)	Cassette 3 (1/26/04)
Index ID	CE- 00101	CE- 00102	CE- 00106
Location ID	BD-002504	BD-002504	BD-002504
Sample Group	House	House	Blank
Location Description	Kitchen	2nd level	N/A
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	(FS) FB-(field blank) LB-(lot blank)	FS (FB-(field blank)) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	(Indoor) Outdoor NA	(Indoor) Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	(25mm) 37mm	(25mm) 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 (PCM- 0.8)	TEM- .45 (PCM- 0.8)
Flow Meter Type (circle)	(Rotometer) DryCal NA	(Rotometer) DryCal NA	Rotometer DryCal (NA)
Pump ID Number	05910	0891-A	N/A
Flow Meter ID No.	92045-1	92045-1	
Start Date	1/26/04	1/26/04	
Start Time	0824	0822	
Start Flow (L/min)	9.03	9.03	
Stop Date	1/26/04	1/26/04	
Stop Time	1947	1945	
Stop Flow (L/min)	8.82	9.03	1/26/04
Pump fault? (circle)	(No) Yes NA	(No) Yes NA	No Yes (NA)
MET Station onsite?	(No) Yes NA	(No) Yes NA	No Yes (NA)
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear (NA)
Field Comments 310201 Cassette Lot Number: 1/26/04 ~~324150~~	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	TC 1/29/04 Archive Blank (circle): (Yes) No
QC (Field Team) ____ Entered (LFO) [illegible]	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: D- 000117

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100301 Page No: 39 Sampling Date: 1/26/04

Address: 1417 Washington Ave. Owner/Tenant: Jess Jordan

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	JP 1/26/04 Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00103		
Location ID	BA-002504		
Sample Group (circle) (Subgroup of the property)	Garage, (House), Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____
Location Description (circle) (Detailed description point within the location)	Basement, (Ground Floor), (Second Level) Other_____	Basement, Ground Floor, Second Level Other_____	Basement, Ground Floor, Second Level Other_____
Matrix Type (circle)	(Horizontal Surfaces) (High Traffic Areas) Other_____	Horizontal Surfaces High Traffic Areas Other_____	Horizontal Surfaces High Traffic Areas Other_____
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm^2) (circle)	100 200 300 (400) NA	100 200 300 NA	100 200 300 NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer (Dry-Cal) NA	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA
Pump ID No.	502077		
Flow Meter ID No.	B1610, 51521	JP 1/26/04	
Start Time	1149 / 1153 / 1156	1200	
Start Flow (L/min)	2.0 / 2.0 / 2.0	2.0	
Stop Time	1151 / 1155 / 1158	1202	
Stop Flow (L/min)	2.0 / 2.0 / 2.0	2.0	
Pump Fault? (circle)	(No) Yes	No Yes	No Yes
Field Comments	100 cm^2 - Living Room Floor - Ground level. 100 cm^2 - Ground level Kitchen - Top of Refrigerator. 100 cm^2 - 2nd level Floor	100 cm^2 - 2nd level top of hot water heater 100 cm^2 100 cm^2	100 cm^2 100 cm^2 100 cm^2
Cassette Lot Number: 23802			JP 1/26/04
	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
Entered (LFO) JP	Volpe: Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

1417 Washington
Location Tess Jordan Date 1/26/04
Project/Client PCE-EPA/Volpe
Author: Gregory Parana CDM

Activity: Stationary Air and Dust samples will be collected as part of the PCE - Sampling will be conducted in level D PPE IAW SAP Addendum CSS PCE Sampling 1/12/03. Equipment Ref Pg 6.
0818 Onsite. CE-00102 pre-calibrated
0822 CE-00102 started (2nd level.)
CE-00101 pre-calibrated.
0824 CE-00101 started.
1135 Onsite. CE-00106-Blank-Exposed and sealed.
1202 CE-00103 ~~(Blanks)~~ 1/26/04
Dust sample collected-sealed.
1/26/04 ~~1405 Onsite~~. PIF completed with Resident. 1405 Onsite.
Flow Ck-Filter Ck: OK.
1640 Onsite. Flow Ck-Filter Ck-OK.
1945 CE-00102 stopped.
1947 CE-00101 stopped. Samples sealed.
Equipment deconned.
2010 Onsite CDM offices. Samples placed in sample Storage. Ref ASS SA-000175 D-000117. 2035 Out of log book.
1/26/04

143 Crossway Ave

BD# BD-002969

LIBBY ASBESTOS PROJECT
Pre-Sampling Interview Form (PIF) for Post Clean-up Evaluation Sampling

Field Logbook No.: 100301 Page No.: 10 Site Visit Date: 12/8/03

Address: 143 Crossway Ave. Structure Description: House

Occupant: Gordon Sullivan Phone Number: 293-8496

Owner (if different than occupant): N/A Phone Number: N/A

Business Name: Focal Point

Sampling Team: PARANA-CDM

Field Form Check Completed by (100% of forms): [illegible]

Data Item	Value	Notes
CLEAN-UP SUMMARY (To be completed using removal completion folders)		Date Removal Completed: 7/03
Location of vermiculite removed indoors	Attic Walls (interior or exterior) Crawl Space Basement Sub-floor Other:	Walls in front Room, Dining Room and Downstairs office
09/17/04 Location of vermiculite remaining indoors Trace VCI remains where sloped roof ends at ceiling line of main floor. This has been blocked since it couldn't be cleaned	Attic Walls (interior or exterior) Crawl Space Basement Sub-floor None Other:	Above fireplace Kitchen, bathroom, laundry room
Interior cleaning conducted during removal	Yes No If Yes, which floors: Ground First Second Garage Other: Attic	
Was carpet removed during removal activities?	Yes No NA	
Location of vermiculite removed outdoors	Driveway Flowerbed Garden Stockpile Yard None Other:	
Location of vermiculite remaining outdoors	Driveway Flowerbed Garden Stockpile Yard None Other: Under Deck	Material Enclosed Excavation area on N & E & S side of home, trace VCS remains. Dug to proper depth or deeper before backfill.

Data Item	Value	Notes
Pre-Sampling Interview (To be completed with resident)		
Has EPA provided a HEPA vacuum and has it been used since removal?	Yes No If Yes, how long after removal was completed did used of EPA issued HEPA vac begin: Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	Rainbow Vac used weekly after ~~roo~~ 12/9/03 after removal conducted
How often do you vacuum with your EPA provided HEPA vacuum?	Once a week More than once a week Twice a month Once a month Less than once a month Other: 12/9/03	
Heating Source	Wood/Coal Electric Propane/Gas Other: Fuel Oil	
Heat Distribution	Forced air Radiant Other:	FA - Fuel Oil Rad - Propane
How soon after the removal was a forced air heating source first used?	Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
Have any of the occupants been in contact with any vermiculite since the removal was completed?	Yes No Unknown	Explain: - Wiring in crawlspace - Installing door in dining room - Dining room wall - Fireplace
Addresses of other homes or properties where the occupants visit and may contain vermiculite	1322 Utah Ave.	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?
Addresses or names of business where occupants work	Nail out of home and studio in back yard.	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?

ADDITIONAL INFORMATION Removal of material (VCI) conducted by the resident with a non-hepa equipped shop vac.

Sheet No.: PA- 000023

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR PERSONAL AIR

Field Logbook No: 100301 Page No: 6/7/8 Sampling Date: 12/8/03

dress: 143 Crossway Ave. Owner/Tenant: Sullivan

Business Name: Focal Point

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Person Sampled: Gordon Sullivan SNN: 1735 Task: Post Clean Up Evaluation

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00004		
Location ID	BD-002969		
Sample Group	House		
Location Description	Shoulder		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor	Indoor Outdoor	Indoor Outdoor
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
ore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	666023	626752	
Flow Meter ID No.	92045-1	92045-1	
Start Date	12/8/03	12/8/03	
Start Time	0824	1344	
Start Flow (L/min)	3.08	3.08	
Stop Date	12/8/03	12/8/03	
Stop Time	1340	1924	
Stop Flow (L/min)	2.89	2.89	
Pump fault? (circle)	(No) Yes NA	(No) Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	(No) Yes NA	No Yes NA
Sample Type	TWA EXC (NA)	TWA EXC (NA)	TWA EXC NA
Field Comments	316 min x 2.99 l/min = 945 l	340 min x 2.99 l/min = 1017 V_T = 1962 l	
Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) MR Entered (LFO)	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: SA- 000121

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100301 Page No: 6,7,8 Sampling Date: 12/8/03

Address: 143 Crossway Ave. Owner/Tenant: Sullivan

Business Name: Focal Point

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00005		
Location ID	BD-002969		
Sample Group	House		
Location Description	Dining Room		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	2135		
Flow Meter ID No.	92045.1		
Start Date	12/8/03		
Start Time	0834		
Start Flow (L/min)	4.05		
Stop Date	12/8/03		
Stop Time	1936		
Stop Flow (L/min)	3.86		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: 32415	662 min x 3.96 l/min = 2622 l Archive Blank (circle): Yes No	CE-00005 sample period = 12/10, 12/9, 12/8 Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) MA Entered (LFO)	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

1 of 3

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100301 Page No: 9-12 Sampling Date: 12/9/03
Address: 143 Crossway Ave. Owner/Tenant: Sullivan
Business Name: Focal Point
Land Use: (Residential) School Commercial Mining Roadway Other ( )
Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE-00005 (Cont.)		
Location ID	BD-002969		
Sample Group	House		
Location Description	Dining Room		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	2141		
Flow Meter ID No.	92045-1		
Start Date	12/9/03		
Start Time	0845		
Start Flow (L/min)	4.05		
Stop Date	12/9/03		
Stop Time	1755		
Stop Flow (L/min)	4.05		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: 32415	550 min x 4.05 L/min = 2228 L Archive Blank (circle): Yes No	CE-00005 sample period = 12/10, 12/9, 12/8 Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) DA Entered (LFO) PS	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: SA- 000128

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100301 Page No: 13-17 Sampling Date: 12/10/03

Address: 143 Crossway Ave. Owner/Tenant: Sullivana

Business Name: Focal Point

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE-00005 (Cont.)		CE- 00008
Location ID	BA-002969		BA-002969
Sample Group	House		Blank
Location Description	Dining Room		N/A
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS (FB-(field blank)) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	(Indoor) Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	(25mm) 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 (PCM- 0.8)
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal (NA)
Pump ID Number	2135		N/A
Flow Meter ID No.	92045-1		
Start Date	12/10/03		
Start Time	12/10/03 0850		
Start Flow (L/min)	4.05 ~~4.05~~ ~~4.05~~ 12/10/03		
Stop Date	12/10/03		
Stop Time	12/10/03 ~~0840~~ 1838		
Stop Flow (L/min)	4.05 ~~4.05~~ 12/10/03		12/10/03
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes (NA)
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes (NA)
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear (NA)
Field Comments	588 min x 4.05 l/min = 2381 l	CE-00005 sample period = 12/10, 12/9, 12/8	
Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes (No)
QC (Field Team) DR Entered (LFO) PS	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials) ___	Completed by	QC by

vs 101503

Sheet No.: SA- 000122

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100301 Page No: 6,7,8 Sampling Date: 12/8/03

Address: 143 Crossway Ave. Owner/Tenant: Sullivan

Business Name: ~~For~~ 12/8/03 Focal Point

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1 (12/10/03)	Cassette 2	Cassette 3
Index ID	CE- 00006		
Location ID	BD-002969		
Sample Group	House		
Location Description	2nd level Master Bedroom Doorway		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	12/12/03 2141		
Flow Meter ID No.	92045-1		
Start Date	12/8/03		
Start Time	0840		
Start Flow (L/min)	4.05		
Stop Date	12/8/03		
Stop Time	1931		
Stop Flow (L/min)	4.05		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: 32415	65 min X 4.05 L/min = ~~23~~ 12/9/03 2637L Archive Blank (circle): Yes No	CE-00006 sample period = 12/10, 12/9, 12/8 Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) DR Entered (LFO) JS	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

1 of 3

Sheet No.: SA-000127

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100301 Page No: 9-12 Sampling Date: ~~12/8/03~~ 12/9/03 12/10/03

Address: 143 Crossway Ave Owner/Tenant: Sullivan

Business Name: Focal Point

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE-00006 (cont.)		
Location ID	BD-002969		
Sample Group	House		
Location Description	2nd level Master Bedroom Doorway		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	2135		
Flow Meter ID No.	92045-1		
Start Date	12/9/03		
Start Time	0849		
Start Flow (L/min)	4.05		
Stop Date	12/9/03		
Stop Time	1801		
Stop Flow (L/min)	4.05		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments	552 x 4.05 L/min = 2236 L	CE-00006 sample period = 12/10, 12/9, 12/8	
Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) DR Entered (LFO) PS	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: SA- ~~000141~~

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100301 Page No: 13-17 Sampling Date: 12/10/03

Address: 143 Crossway Ave. Owner/Tenant: Sullivan

Business Name: Focal Point

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE-00006 (cont.)		
Location ID	BD-002469		
Sample Group	House		
Location Description	2nd level Master Bedroom Doorway		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	2141		
Flow Meter ID No.	92045-1		
Start Date	12/10/03		
Start Time	0855		
Start Flow (L/min)	4.05		
Stop Date	12/10/03		
Stop Time	1841		
Stop Flow (L/min)	4.05		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments	586min x 4.05 l/min = 2373 l	CE-00006 sample period = 12/10, 12/9, 12/8	
Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) DR Entered (LFO) PS	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: PA- 000026

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR PERSONAL AIR

Field Logbook No: 100301 Page No: 9-12 Sampling Date: 12/9/03

Address: 143 Crossway Ave. Owner/Tenant: Sullivan

Business Name: Focal Point

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: ~~MACTEC~~ (CDM) Other _____ Names: PARANA

Person Sampled: Gordon Sullivan SNN: 1735 Task: Post Clean Up Evaluation

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00007		
Location ID	BD-002969		
Sample Group	House		
Location Description	Shoulder		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor	Indoor Outdoor	Indoor Outdoor
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	626752	626614	
Flow Meter ID No.	92045-1	92045-1	
Start Date	12/9/03	12/9/03	
Start Time	0837	1454	
Start Flow (L/min)	3.08	3.08	
Stop Date	12/9/03	12/9/03	
Stop Time	1451	1750	
Stop Flow (L/min)	3.08	2.89	
Pump fault? (circle)	(No) Yes NA	(No) Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	(No) Yes NA	No Yes NA
Sample Type	TWA EXC (NA)	TWA EXC (NA)	TWA EXC NA
Field Comments	374 min x 3.08 l/min = 1152 l	176 min x 2.99 l/min = 526 l V_T = 1678 l	CE-00007 range of sample period 12/10, 12/9
Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) DR Entered (LFO) PD	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: PA- 000027

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR PERSONAL AIR

Field Logbook No: 100301 Page No: 13-17 Sampling Date: 12/10/03

Address: 143 Crossway Ave. Owner/Tenant: Gordon Sullivan

Business Name: Focal Point

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Person Sampled: Gordon Sullivan SNN: 1735 Task: Post Clean Up Evaluation

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE-00007	(cont.)	
Location ID	BD-002969		
Sample Group	House		
Location Description	Shoulder		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor	Indoor Outdoor	Indoor Outdoor
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	666023	626614	
Flow Meter ID No.	92045-1	92045-1	
Start Date	12/10/03	12/10/03	
Start Time	0841 / 1110	1535	
Start Flow (L/min)	3.08 / 3.08	3.08	
Stop Date	12/10/03	12/10/03	
Stop Time	0940 / 1530	1836	
Stop Flow (L/min)	3.08 / 2.89	3.08	
Pump fault? (circle)	(No) Yes NA	(No) Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	(No) Yes NA	No Yes NA
Sample Type	TWA EXC (NA)	TWA EXC (NA)	TWA EXC NA
Field Comments	59 min x 3.08 l/min = 182 l 260 min x 2.99 l/min = 777 l V_T = 959 l	181 min x 3.08 l/min = 557 l V_T = 1516 l	CE-00007 range of sample dates are - 12/10, 12/9
Cassette Lot Number:	32415		
	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) DR Entered (LFO) DS	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: D- 000069

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100301 Page No: 15 Sampling Date: 12/10/03

Address: 143 Crossway Ave. Owner/Tenant: Sullivan

Business Name: Focal Point

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00009		
Location ID	BD-002969		
Sample Group (circle) (Subgroup of the property)	Garage (House) Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____
Location Description (circle) (Detailed description point within the location)	Basement, (Ground Floor) (Second Level) Other_____	Basement, Ground Floor, Second Level Other_____	Basement, Ground Floor, Second Level Other_____
Matrix Type (circle)	(Horizontal Surfaces) (High Traffic Areas) Other_____	Horizontal Surfaces High Traffic Areas Other_____	Horizontal Surfaces High Traffic Areas Other_____
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm^2) (circle)	100 200 300 (400)	100 200 300 NA	100 200 300 NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	(TEM- .45) PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer (Dry-Cal) NA	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA
Pump ID No.	~~B1510 51621 612058~~		
Flow Meter ID No.	B1510, 51621		
Start Time	1547 / 1551 / 1559	1602	
Start Flow (L/min)	2.0 / 2.0 / 2.0	2.0	
Stop Time	1549 / 1553 / 1601	1604	
Stop Flow (L/min)	2.0 / 2.0 / 2.0	2.0	
Pump Fault? (circle)	(No) Yes	No Yes	No Yes
Field Comments	100 cm^2 - Ground level Front Room on fireplace 100 cm^2 - Ground level Hallway floor 100 cm^2 - 2nd level Hallway floor	100 cm^2 - 2nd level Office ~~Floor~~ Top of wall mount heater 100 cm^2 100 cm^2	100 cm^2 100 cm^2 100 cm^2
Cassette Lot Number: 23802	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
Entered (LFO) DA	Volpe: Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

12/10/03

12/10/03

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

~~00001~~
SP-002969

Residential Activity Log

Resident Address: 143 Crossway Ave.

Volunteer Name: Gordon Sullivan

Sampling Date(s): 12/8/03

Personal air sample number (s): CE-00004

FSDS number(s): PA-000023, SA-000121, SA-000122

Date/Time Interval	Go Outside?	Pump problem?	General Activities
8:30 Am 12:30 - Pm	No Yes (___ mins) Describe	No Yes (describe)	Work in office upper level
12:30 Pm 2:30 Pm	No Yes (___ mins) Describe	No Yes (describe)	Work in office upper level
2:30 P.M 3:30 P.M	No Yes (___ mins) Describe	No Yes (describe)	Work on fireplace Rock work - Upc'ed
3:30 PM 4:30	No Yes (___ mins) Describe	No Yes (describe)	General - work clean up -
4:30 to 7:30	No Yes (___ mins) Describe	No Yes (describe)	General - Dinner work in office Sil Around.
	No Yes (___ mins) Describe	No Yes (describe)	

Note: Continue on second page if necessary.

Greg Parana
293-1759

~~B/W~~ 12/9/03
BD-002969

Residential Activity Log

Resident Address: 143 Crossway Ave

Volunteer Name: Gordon Sullivan

Sampling Date(s): 12/9/03

Personal air sample number (s): CE-00007

FSDS number(s): SA-000126, SA-000127, PA-000026

Date/Time Interval	Go Outside?	Pump problem?	General Activities
8:34 12:30	(No) Yes (___ mins) Describe	(No) Yes (describe)	Work in office upper level
12:30 2:30	(No) Yes (___ mins) Describe	(No) Yes (describe)	Rock work fireplace wet
02:30 4:30	(No) Yes (___ mins) Describe	(No) Yes (describe)	Work in office upper level
4:30 6:00	(No) Yes (___ mins) Describe	(No) Yes (describe)	Work in back hallway - moving thing around
	No Yes (___ mins) Describe	No Yes (describe)	
	No Yes (___ mins) Describe	No Yes (describe)	

Note: Continue on second page if necessary.

BD# 002969

Residential Activity Log

Resident Address: 143 Crossway Ave.

Volunteer Name: Gordon Sullivan

Sampling Date(s): 12/10/03

Personal air sample number (s): CE-00007

FSDS number(s): PA-000027 - SA-000128, 141

Date/Time Interval	Go Outside?	Pump problem?	General Activities
8:30 9:30	(No) Yes (___ mins) Describe	(No) Yes (describe)	work around fireplace
Out	No Yes (___ mins) Describe	No Yes (describe)	
12:00 2:00	No Yes (___ mins) Describe	No Yes (describe)	work in office upper level
2:00 3:30	(No) Yes (___ mins) Describe	(No) Yes (describe)	Construction downstairs Fireplace
3:30 6:30	(No) Yes (___ mins) Describe	(No) Yes (describe)	work in office
6:30 7:00	(No) Yes (___ mins) Describe	No Yes (describe)	Ate 46 cal + Drink wine

Note: Continue on second page if necessary.

143 Crossway Ave.

Location Sullivan Date 12/8/03

Project / Client Post Cleanup Evaluation - EPA/Volpe

Author: Gregory Parana CDM

Activity: Personal air sample will be collected on Gordon Sullivan. Ambient air samples will be collected on the inside of the house BD-002969. All sampling will be conducted IAW SAP Addendum, Post Cleanup evaluation Sampling, CSS 11/13/03.

Equipment: 4 high volume & 4 Low volume air sampling pumps, rotometer 92045-1, cassette stands, GFI, 0.8um PCM cassettes, decon wipes, screw driver, flash light, tyson, sample pump pouch.

0800 Onsite: Gordon / Kathy Sullivan present.

0815 CE-00004 attached to pump 666023 calibrated with rotometer 92045-1.

0824 CE-00004 started. Residential activity log orientation conducted. Low vol sampling pump orientation conducted.

0830 CE-00005 attached to pump 2135 pre-calibrated.

0834 CE-00005 started. (Dining Room)

0838 CE-00006 attached to pump 2141 pre-calibrated

12/8/03

143 Crossway Ave

Location Sullivan Date 12/8/03

Project / Client Post Cleanup Evaluation - EPA/Volpe

Author: Gregory Parana CDM

0840 CE-00006 started. (2nd level)

0855 Offsite. 1110 Onsite.

1115 CE-00005 cal ck - OK.

1118 CE-00006 cal ck - OK.

1120 CE-00004 cal ck - OK.

1125 Offsite.

1310 Weather 30°F 1mph wind E→W

1335 Onsite.

1340 CE-00004 stopped and post calibrated. CE-00004 attached to pump and pre-calibrated sample. Sample placed on volenteer.

1344 CE-00004 started. Morning shift - Gordon worked in his office on the 2nd level. CE-00005, 06 were calibrated and no change was noted in the flowrates. CE-00005 in dining room adjecent to the fireplace and ceiling fan which is on. Kathy Sullivan was painting in the fireplace room. Offsite

12/8/03

Location 143 Crossway Ave Sullivan Date 12/8/03

Project / Client Post Clean Up Evalution EPA-Volpe

Author: Gregory Parana

1715 Onsite. Gordon indicated that he cond rock work on fireplace. Filter (CE-00004) discolored. Visible particulate noted on filter. Flow rate checked with no change. CE-00006 filter checked-OK. Flowrate checked OK.

1726 CE-00005 filter noted visible particulate on filter. No discoloring. Flowrate checked-OK.

1736 Offsite.

1920 Onsite. 1924 CE-00004 stopped, capped, and postcalibrated. CE-00004 sealed. ~~with CoC~~ 12/8/03

1931 CE-00006 stopped, capped and post calibrated. Filter looked OK.

1936 CE-00005 stopped, capped and post calibrated. Filter slighty loaded. Equipment decontaminated.

1950 Offsite to CDM office. Ref FSDS PA-000023, SA-000121, 22.

2015 Placed samples in sample storage room and locked. Out of logbook

12/8/03

Location 143 Crossway Ave. Sullivan Date 12/9/03

Project / Client Post Clean Up Evaluation-EPA-Volpe

Author: Gregory Parana CDM

Activity: Day 2 of personal air sampling on Gordon Sullivan and ambient air sampling inside of BD-002969. A new cassette was placed on Gordon due to the loading on sample CE-00004. This is a deviation to the SAP. Sampling will be conducted in accordance with SAP Add., Post Clean Up evaluation Sampling, CSS 11/13/03. Ref pg 6 of this logbook for equipment.

0820 Onsite. Gordon present. Pump 626752 pre-calibrated with sample CE-00007 and rotometer 92045-1. Sample placed on GS.

0837 CE-00007 started.

High Vol pump 2141 and 2135 plugged in & started to warm up. Pump 2141 pre-calibrated with sample CE-00005 in line.

0845 CE-00005 started.

12/9/03

Sullivan

Location 143 Crossway Ave. Date 12/9/03

Project / Client Post Clean Up Evaluation - EPA-Volpe

Author: Gregory Parana CDM

0848 Pump 2135 pre-calibrated with CE-00006 in line.

0849 CE-00006 started.

0855 Pre-Sampling Interview Form (PIF) completed with Gordon and Kathy Sullivan. Residential Activity log given to resident.

0915 Offsite.

0945 Weather: 24°F Wind 2 mph E→W

1115 Onsite.

1120 CE-00005 flow ck: OK ~~Cal. ck. OK.~~ 12/9/03

1125 CE-00006 flow ck: OK ~~Cal ck OK.~~ 12/9/03

1128 CE-00007 ~~Cal ck~~ 12/9/03 flow ck. - OK GS was observed working in 2nd level office.

1137 Offsite. CDM office completing paperwork.

1445 Onsite.

1451 CE-00007 stopped, capped and post calibrated. Sample attached to pump 626614 a calibrated to 3.08 l/min.

1454 CE-00007 started.

12/9/03

Sullivan

Location 143 Crossway Ave Date 12/9/03

Project / Client Post Clean Up Evaluation - EPA-Volpe

Author: Gregory Parana CDM

1458 CE-00006 Flow ck - OK Filter slightly discolored.

1503 CE-00005 Flow ck - OK. Filter discolored with visible particulate. 1515 Offsite.

1745 Onsite. 1750 CE-00007 stopped and post calibrated. Cassette capped and bagged. Visible particulate noted, loading not as heavy as CE-00004. CE-00007 will be used on 12/10/03.

1755 CE-00005 stopped, post calibrated and capped.

1801 CE-00006 stopped, capped, post calibrated and bagged. Equipment decontaminated. Recieved completed residential activity log from GS. Ref FSDS SA-000127, 126, PA-000026.

1810 Offsite. To CDM office. Samples locked in sample storage.

12/9/03

Sullivan

Location 143 Crossway Ave. Date 12/9/03

Project / Client Post Removal Evaluation - EPA-Volpe

Author: Gregory Parana CDM

1900 Out of logbook.

2000 CDM office - Paperwork. calling scheduled volunteers to set up a time so I can take the EPA furnished HEPA vacs. Contacted all residents. HEPA vacs scheduled to be delivered tomorrow 12/10/03.

2050 Out of logbook.

12/9/03

Sullivan

Location 143 Crossway Ave. Date 12/10/03

Project / Client: Post Removal Evaluation EPA-Volpe CDM

Author: Gregory Parana ~~MACTEC~~ 12/10/03

Activity: Day 3 of Post Cleanup evaluation sampling @ BD-002969. Personal air, stationary air, and dust samples will be collect in accordance with the SAP Addendum, PCE Sampling, CSS 12/1/03. Equipment reference pg 6 of this logbook. Dry Cal B-1610, S-1521 used to calibrate low volume sampling pump for dust sampling.

0830 Onsite. Gordon and Kathy Sullivan present. Low vol pump 666023 calibrated with sample inline CE-00007 - Rotometer 92045-1.

0841 CE-00007 started. Sample placed on Gordon.

Sample CE-00005 placed on pump 2135 and pre-calibrated.

0850 CE-00005 started.

Sample CE-00006 placed on pump 2141 and pre-calibrated.

0855 CE-00006 started. Activity log given to GS.

12/10/03

Sullivan

Location 143 Crossway Ave. Date 12/10/03

Project / Client Post Removal Evaluation-EPA/Volpe

Author: Gregory Parana CDM

0910 Offsite.

1130 Onsite. Gordon indicated that he left and placed pump on hold from 0940 untill 1110. Pump counter used to ~~verify~~ 12/10/03 ~~verified~~ verify time sample was off.

1135 CE-00007 calibrated ck-OK. Filter discolored and x 40% loaded.

1140 CE-00005 calibrated ck-OK Filter Ck-OK.

CE-00006 cal ck-OK, Filter Ck OK. GS completing rock work on fireplace.

1150 Offsite. CDM Office.

1300 Low vol pump ~~12~~ 12/10/03 612058 calibrated with dry-cal. 0.45 µm TEM dust sample cassette lot #23802.

Late Entry 1030 HEPA vac S/N 0328001333 to Anne Pescatore 607 W. 10th St. 1100 HEPA vac S/N: 0328001330 to Jim Allen 1109 Louisiana Ave.

1400 Completing paper work @ CDM Office.

12/10/03

Sullivan

Location 143 Crossway Ave. Date 12/10/03

Project / Client Post Removal Evaluation-EPA/Volpe

Author: Gregory Parana CDM

1525 Onsite. GS work in front room on fireplace rock work.

1530 CE-00007 stopped. Post calibrate. CE-00007 placed on pump 626614 and calibrated.

1535 CE-00007 started.

1542 CE-00005 flow Ck OK.

1544 CE-00006 flow Ck-OK.

1601 Dust sample CE-00009 collected, capped and sealed. Ref FSDS D-000069.

1612 Offsite to 1116 Utah Ave to deliver HEPA vac.

1630 HEPA Vac S/N 0328001331 relinquished to Mary England. Orientation conducted.

1700 Offsite.

1830 Onsite 143 Crossway Ave.

1836 CE-00007 stopped, post calibrated and sealed.

1838 CE-00005 stopped, post calibrated and sealed.

1841 CE-00006 stopped, post calibrated and sealed.

12/10/03

Sullivan

Location 143 Crossway Ave. Date 12/10/03

Project / Client Post Removal Evaluation sampling EPA-Volpe

Author: Gregory Parana CDM

Equipment decontaminated. Resident Activity log recieved from GS.

1855 Offsite to CDM office. Samples locked in sample storage @ 318 Louisiana Ave. ~~Out of logbook.~~ 12/10/03

Ref FSDS PA-000027-SA-000128, 141. Out of logbook.

12/10/03

Sullivan

Location 143 Crossway Ave. Date 12/11/03

Project / Client Post Removal Evaluation sampling EPA-Volpe

Author: Gregory Parana CDM

1100 Field QC of FSDS conducted by Damon Repine.

1151 Relinquished samples to Terry Crowell, CDM.

1200 Out of logbook.

12/11/03

154 Ski Rd

PIF not in project files. Table 2-1 was checked against the property close-out folder.

Sheet No.: SA- 000213

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100301 Page No: 31-32 Sampling Date: 1/13/04

Address: 154 Ski Rd Owner/Tenant: Beaulieu

Business Name: N/A

Land Use: Residential School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC CDM Other _____ Names: PARANA

Data Item	Cassette 1 (1/13/04)	Cassette 2 (1/13/04)	Cassette 3 (1/13/04)
Index ID	CE- 00036	CE- 00037	CE- 00038
Location ID	BD-003192	BD-003192	BD-003192
Sample Group	House	House	House
Location Description	2nd level West Bedroom	Ground level Living Room	Center of Basement
Category (circle)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	Indoor Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	25mm 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	0387	1009	05913
Flow Meter ID No.	92045-1	92045-1	92045-1
Start Date	1/13/04	1/13/04	1/13/04
Start Time	0830	0833	0835
Start Flow (L/min)	9.01	9.01	9.01
Stop Date	1/13/04	1/13/04	1/13/04
Stop Time	1940	1945	1949
Stop Flow (L/min)	9.01	9.21	9.21
Pump fault? (circle)	No Yes NA	No Yes NA	No Yes NA
MET Station onsite?	No Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments			
Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) ____ Entered (LFO) ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: D- 000101

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100301 Page No: 31-32 Sampling Date: 1/13/04

Address: 154 Ski Rd. Owner/Tenant: Beaulieu

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00062		
Location ID	BP-003192		
Sample Group (circle) (Subgroup of the property)	Garage, (House), Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____
Location Description (circle) (Detailed description point within the location)	(Basement), (Ground Floor), (Second Level) Other_____	Basement, Ground Floor, Second Level Other_____	Basement, Ground Floor, Second Level Other_____
Matrix Type (circle)	(Horizontal Surfaces) (High Traffic Areas) Other_____	Horizontal Surfaces High Traffic Areas Other_____	Horizontal Surfaces High Traffic Areas Other_____
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm^2) (circle)	100 200 (300) NA (600)	100 200 300 NA	100 200 300 NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	(TEM- .45) PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer (Dry-Cal) NA	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA
Pump ID No.	612058		
Flow Meter ID No.	B1610-51521		
Start Time	1440 1443 1447	1450 1454 1458	
Start Flow (L/min)	2.0 2.0 2.0	2.0 2.0 2.0	
Stop Time	1442 1445 1449	1452 1456 1500	
Stop Flow (L/min)	2.0 2.0 2.0	2.0 2.0 2.0	
Pump Fault? (circle)	(No) Yes	(No) Yes	No Yes
Field Comments	100 cm^2 2nd level on floor 100 cm^2 2nd level top of computer stand 100 cm^2 Ground level on floor in living Room	100 cm^2 Ground level in laundry Rm top of shelf 100 cm^2 - Basement on floor 100 cm^2 - Basement top of dresser	100 cm^2 100 cm^2 100 cm^2
Cassette Lot Number: 23802	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
Entered (LFO)	Volpe: Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

1/13/04

For Field Team Completion (Provide Initials)	Completed by	QC by

154 Ski Rd - Beaulieu

Location

Date 1/13/04

Project / Client PCE - EPA Volpe

Author: Gregory Pacana CDM

Activity: Stationary Air and Dust samples will be collected as part of the post cleanup evaluation. Sampling will be conducted in level DPE IAW SAP Addendum, CSS, PCE Sampling 12/1/03. Equipment: Ref pg 6 of this logbook. Rotometer 92045-1 used to calibrate samples onsite. Dry-cal B1610/S1521 used to calibrate low volume sampling pump 612058 @ CDM office prior to dust/sampling. 0820 Onsite. CE-00036 pre-calibrated.

0830 CE-00036 (2nd level) started.

1/13/04 ~~08~~ CE-00037 pre-calibrated.

0833 CE-00037 (Living Room) started.

CE-00038 pre-calibrated.

0835 CE-00038 (Basement) started.

Offsite.

1155 Onsite. Flow Ck-OK, Filter CK-OK. DEF # BD-003192 completed with resident.

1210 Offsite.

1/13/04

154 Ski Bd.

32

Location: Beaulieu Date: 1/13/04

Project / Client: PCE - EPA/Volpe

Author: Gregory Parana [signature] CDM

1435 Onsite - Flow Ck-OK Filter Ck-OK.

1500 CE-00062 collected and sealed. Equipment decontaminated. Offsite.

1740 Onsite. Flow Ck-OK Filter Ck-OK.

1935 Onsite.

1940 CE-00036 stopped, post calibrated and sealed.

1945 CE-00037 stopped, post calibrated and sealed.

1949 CE-00038 stopped, post calibrated and sealed. Equipment decontaminated. Offsite to 505 Louisiana. Onsite CDM Office. Samples placed in sample storage.

2030 Out of logbook.

1/13/03

[signature]

178 Scenery Rd

BD# 001404

LIBBY ASBESTOS PROJECT
Pre-Sampling Interview Form (PIF) for Post Clean-up Evaluation Sampling

Field Logbook No.: 100305 Page No.: 6, 7 Site Visit Date: 12/17/03

Address: 178 Scenery Rd Structure Description: House

Occupant: Jeff Nelson Phone Number: 293-2149

Owner (if different than occupant): NA Phone Number: NA

Business Name: NA

Sampling Team: Shawn Oliveira

Field Form Check Completed by (100% of forms): JP ps

Data Item	Value	Notes
CLEAN-UP SUMMARY (To be completed using removal completion folders)		Date Removal Completed: 3/03
Location of vermiculite removed indoors	(Attic) Walls (interior or exterior) Crawl Space Basement Sub-floor Other:	
Location of vermiculite remaining indoors	Attic Walls (interior or exterior) Crawl Space Basement Sub-floor (None) Other:	
Interior cleaning conducted during removal	~~(Yes)~~ (No) If Yes, which floors: JP 9/21/04 ~~(Basement)~~ Ground Second Garage Attic Other:	Crawlspace JP 9/21/04
Was carpet removed during removal activities?	Yes (No) NA	
Location of vermiculite removed outdoors	Driveway Flowerbed Garden Stockpile Yard (None) Other:	
Location of vermiculite remaining outdoors	Driveway Flowerbed Garden Stockpile Yard (None) Other:	

Data Item	Value	Notes
Pre-Sampling Interview (To be completed with resident)		
Has EPA provided a HEPA vacuum and has it been used since removal?	Yes No If Yes, how long after the removal was completed did use of the EPA-issued HEPA vac begin: Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	Received 12/15/03 Used twice prior to sampling
How often do you vacuum with your EPA provided HEPA vacuum?	Once a week More than once a week Twice a month Once a month Less than once a month Other:_____	
Heating Source	Wood/Coal Electric Propane/Gas Other: Oil	
Heat Distribution	Forced air Radiant Other:_____	
How soon after the removal was a forced air heating source first used?	Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
Have any of the occupants been in contact with any vermiculite since the removal was completed?	Yes No Unknown	Explain:
Addresses of other homes or properties where the occupants visit and may contain vermiculite	NA	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?
Addresses or names of business where occupants work	Rosauer's Student.	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?

ADDITIONAL INFORMATION_____

Sheet No.: SA- 000163

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100305 Page No: 6, 7 Sampling Date: 12/17/03

Address: 178 Scenery Rd Owner/Tenant: Jeff Nelson

Business Name: NA

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: Shawn Oliveira

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00052		
Location ID	BD-001404		
Sample Group	House		
Location Description	Kitchen		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	8911		
Flow Meter ID No.	95356-3		
Start Date	12/17/03		
Start Time	8 41		
Start Flow (L/min)	9.21		
Stop Date	12/17/03		
Stop Time	1950		
Stop Flow (L/min)	9.21		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) / Entered (LFO)	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: SA- 000161

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100305 Page No: 6, 7 Sampling Date: 12/17/03

Address: 178 Scenery Rd. Owner/Tenant: Jeff Nelson

Business Name: NA

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: Shawn Oliveira

Data Item	50 12/17/03 Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00053		
Location ID	BD-001404		
Sample Group	Basement		
Location Description	Bedroom		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	0387		
Flow Meter ID No.	95356-3		
Start Date	12/17/03		
Start Time	843 ~~50~~		
Start Flow (L/min)	9.21 ~~50~~		
Stop Date	12/17/03		
Stop Time	1452 ~~50~~		
Stop Flow (L/min)	9.21 ~~50~~		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) TV Entered (LFO)	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: SA-000170

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100325 Page No: 6, 7 Sampling Date: 12/17/03

Address: 178 Scenery Rd. Owner/Tenant: Jeff Nelson

Business Name: NA

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: Shawn Oliveira

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00054		
Location ID	BD-001404		
Sample Group	Basement		
Location Description	Bedroom		
Category (circle)	ER (FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	0689		
Flow Meter ID No.	95356-3		
Start Date	12/17/03		
Start Time	845		
Start Flow (L/min)	9.21		
Stop Date	12/17/03		
Stop Time	1954		
Stop Flow (L/min)	9.21		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: 32415	Replicate of CE-00053 Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) ✓ Entered (LFO)	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: D- 000088

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100305 Page No: 7 Sampling Date: 12/17/03

Address: 178 Scenery Rd. Owner/Tenant: Jeff Nelson

Business Name: NA

Land Use: Residential School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC CDM Other _____ Names: Shawn Oliveira

Data Item	50 12/17/03 Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00055		
Location ID	BD-001404		
Sample Group (circle) (Subgroup of the property)	Garage, House, Shed, Pump House Other _____	Garage, House, Shed, Pump House Other _____	Garage, House, Shed, Pump House Other _____
Location Description (circle) (Detailed description point within the location)	Basement, Ground Floor, Second Level Other _____	Basement, Ground Floor, Second Level Other _____	Basement, Ground Floor, Second Level Other _____
Matrix Type (circle)	Horizontal Surfaces, High Traffic Areas Other _____	Horizontal Surfaces High Traffic Areas Other _____	Horizontal Surfaces High Traffic Areas Other _____
Category (circle)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm^2) (circle)	100 200 300 NA 400	100 200 300 NA	100 200 300 NA
Filter Diameter (circle)	25mm 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA
Pump ID No.	626583		
Flow Meter ID No.	B-1610 S-1521		
Start Time	1530 1533 1536	1539	
Start Flow (L/min)	2.0 2.0 2.0	2.0	
Stop Time	1532 1535 1539	1541	
Stop Flow (L/min)	2.0 2.0 2.0	2.0	
Pump Fault? (circle)	No Yes	No Yes	No Yes
Field Comments Cassette Lot Number: 23802	100 cm^2 Ground Level • garage entrance • handleign 100 cm^2 Ground Level • horizontal surfaces 100 cm^2 Ground Level • front entrance carpet Archive Blank (circle): Yes No	100 cm^2 Basement, concrete floor beneath entrance to crawlspace 100 cm^2 100 cm^2 12/17/03 Archive Blank (circle): Yes No	100 cm^2 100 cm^2 100 cm^2 Archive Blank (circle): Yes No
Entered (LFO)	Volpe: Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Jeff Nelson 12/17/03
Volpe/EPA Author: Shawn Oliveira
Activity: Post Cleanup Evaluation Sampling at 178 Scenery Rd. BD#001404.
Stationary Air and Dust Samples will be collected per SAP Addendum, PCE Sampling, CSS 12/1/03.
DryCal B-1610, S-1521 used to calibrate low Vol pump used for Dust samples.
Equipment Ref pg 48 of this book.
825 Arrive onsite, Mrs. Nelson present.
841 CE-00052 started, placed on pump and precalibrated. Ref FSDS SA-000163.
843 CE-00053 placed on pump, precalibrated and started. Ref FSDS SA-000164.
845 CE-00054 placed on pump, precalibrated, and started. Ref FSDS SA-000170. SO 12/17/03
Replicate of CE-00053. SO
857 Depart Site. SO
1145 Arrive at site. Perform flow and filter checks on CE-00052, 53, 54. All ok. SO
1155 Depart Site. SO
1500 Arrive onsite, resident will be back in 10 minutes.
1512 Perform flow + filter checks on CE-00052, 53, 54. All ok.

Jeff Nelson Author: Shawn Oliveira 12/17/03
Volpe\EPA Post Cleanup Evaluation Sampling.
1518 Complete P.I.F. SO
1541 Dust Sample CE-00055 collected, capped, and sealed. Ref FSDS D-000088.
1550 Depart site. SO
1800 Arrive onsite. Perform flow + filter checks on CE-00052, 53, 54. All ok. SO
1945 Arrive onsite. SO
1950 CE-00052 collected, post-calibrated, and sealed. Ref FSDS SA-000163.
1952 CE-00053 stopped, post-calibrated, and sealed. Ref FSDS SA-000164.
1954 CE-00054 stopped, post calibrated, and sealed. Ref FSDS SA-000170.
2000. DCON Equipment, bag up PPE
2014 Depart site.

12/17/03 Shawn Oliveira

2129 Highway 2 S

BD# 002290

LIBBY ASBESTOS PROJECT
Pre-Sampling Interview Form (PIF) for Post Clean-up Evaluation Sampling

Field Logbook No.: 1003045 SC 1/23/04 Page No.: 16 Site Visit Date: 1/23/04

Address: 2129 Hwy 2 S Structure Description: House

Occupant: John & Tracy Cochran Phone Number: 293-3879

Owner (if different than occupant): NA Phone Number: NA

Business Name: NA

Sampling Team: Shawn Olivier / DM

Field Form Check Completed by (100% of forms): LP JB

Data Item	Value	Notes
CLEAN-UP SUMMARY (To be completed using removal completion folders)		Date Removal Completed: 5/03
Location of vermiculite removed indoors	Attic (Walls (interior or exterior)) Crawl Space Basement (Sub-floor) Other:	
Location of vermiculite remaining indoors	Attic (Walls (interior or exterior)) Crawl Space Basement (Sub-floor) None Other:	
Interior cleaning conducted during removal	(Yes) No If Yes, which floors: Basement Ground (Second) Garage (Attic) SC: 1/23/04 Other:	
Was carpet removed during removal activities?	Yes (No) NA	
Location of vermiculite removed outdoors	Driveway Flowerbed Garden Stockpile Yard (None) Other:	
Location of vermiculite remaining outdoors	Driveway Flowerbed Garden Stockpile Yard (None) Other:	

Data Item	Value	Notes
Pre-Sampling Interview (To be completed with resident)		
Has EPA provided a HEPA vacuum and has it been used since removal?	Yes No If Yes, how long after the removal was completed did use of the EPA-issued HEPA vac begin: Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
How often do you vacuum with your EPA provided HEPA vacuum?	Once a week More than once a week Twice a month Once a month Less than once a month Other:_____	
Heating Source	Wood/Coal Electric Propane/Gas Other:_____	
Heat Distribution	Forced air Radiant Other:_____	
How soon after the removal was a forced air heating source first used?	Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
Have any of the occupants been in contact with any vermiculite since the removal was completed?	Yes No Unknown	Explain:
Addresses of other homes or properties where the occupants visit and may contain vermiculite	None	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?
Addresses or names of business where occupants work	John - Libby Police Station	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?

ADDITIONAL INFORMATION_____

Sheet No.: SA- 000172

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 1003045 Page No: 16 Sampling Date: 1/24/~~03~~ 04

Address: 2129 Hwy 2 S. Owner/Tenant: John + Tracy Graham

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00090	CE- 00091	
Location ID	BD-002290	BD-002290	
Sample Group	House	House	
Location Description	2nd level	Living Room Ground Level	
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	(Indoor) Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	(25mm) 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	(Rotometer) DryCal NA	Rotometer DryCal NA
Pump ID Number	0689	05913	
Flow Meter ID No.	92045-1	92045-1	
Start Date	1/24/04	1/24/04	
Start Time	0825	0832	
Start Flow (L/min)	9.03	9.03	
Stop Date	1/23/04	1/23/04	
Stop Time	20 8 31	2034 8	
Stop Flow (L/min)	9.03	9.03	
Pump fault? (circle)	(No) Yes NA	(No) Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	(No) Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) MP Entered (LFO) TB	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: D- 000090

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100304 x 1123 Page No: 16 Sampling Date: 1/23/04

Address: 3129 Hwy 2 South Owner/Tenant: John + Tracy Graham

Business Name: NA

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: Shawn Olivier

Data Item	SO 1/23/04 Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00094		
Location ID	BD-002290		
Sample Group (circle) (Subgroup of the property)	Garage, (House), Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____
Location Description (circle) (Detailed description point within the location)	Basement, (Ground Floor), (Second Level) Other_____	Basement, Ground Floor, Second Level Other_____	Basement, Ground Floor, Second Level Other_____
Matrix Type (circle)	(Horizontal Surfaces) (High Traffic Areas) Other_____	Horizontal Surfaces High Traffic Areas Other_____	Horizontal Surfaces High Traffic Areas Other_____
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm^2) (circle)	100 200 300 NA (400)	100 200 300 NA	100 200 300 NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	(TEM- .45) PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer (Dry-Cal) NA	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA
Pump ID No.	SO 1/23/04 ~~B1610-S1521~~	← 626666	
Flow Meter ID No.	B1610-S1521		
Start Time	1940 / 1943 / 1945	1948	
Start Flow (L/min)	2.0 / 2.0 / 2.0	2.0	
Stop Time	1942 / 1945 / 1947	1950	
Stop Flow (L/min)	2.0 / 2.0 / 2.0	2.0	
Pump Fault? (circle)	(No) Yes	No Yes	No Yes
Field Comments Cassette Lot Number: 23802	100 cm^2 Front Entrance carpet 100 cm^2 Back Entrance tile 100 cm^2 Top of stairs carpet Archive Blank (circle): Yes No	100 cm^2 2nd floor SE end, tile. 100 cm^2 100 cm^2 Archive Blank (circle): Yes No	100 cm^2 100 cm^2 100 cm^2 Archive Blank (circle): Yes No
Entered (LFO) JB	Volpe: Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

16 2129 Hwy 25 John + Tracy Graham 1/23/04
PCE - EPA/Volpe Author: Shawn Oliveira
Activity: Stationary Air and dust samples will be collected as part of the PCE. Sampling will be conducted in Level D PPE, I.A.W. SAP Addendum, CSS, PCE Sampling. SO
820 Onsite, Terry Crooks present, resident will not be home until after 6:30 pm. CE-00090 (Ground Level) set-up and pre-calibrated.
825 CE-00090 started. SO
829 CE-00091 set-up and pre-calibrated.
831 CE-00091 started. Offsite to 86 Paliga
1840 Onsite, resident not home. SO
1937 Arrive onsite. Flowcheck ok. Filter check ok.
1940 CE-00094 (Dust) Collected. SO
2028 Arrive onsite. CE-00090 stopped, post-calibrated, and collected. SO
2034 CE-00091 stopped, post calibrated, and collected.
2113 Return to CAM, samples locked in sample storage
Ref FSDS: SA-000172, D-000090.

1/23/04

214 W. Larch

BD# 000798

LIBBY ASBESTOS PROJECT
Pre-Sampling Interview Form (PIF) for Post Clean-up Evaluation Sampling

Field Logbook No.: 100306 Page No.: 7-8 Site Visit Date: 2/2/04

Address: 214 W. Lurch St. Structure Description: House

Occupant: Amie Chad Depue. Phone Number: 293-5494

Owner (if different than occupant): Arthur Skogas Phone Number: Unknown

Business Name: N/A

Sampling Team: PARANA-CDM

Field Form Check Completed by (100% of forms): HP PS

Data Item	Value	Notes
CLEAN-UP SUMMARY (To be completed using removal completion folders)	Date Removal Completed: 05/03	
Location of vermiculite removed indoors	(Attic) Walls (interior or exterior) Crawl Space Basement (Sub-floor) Other:	
Location of vermiculite remaining indoors	Attic (Walls) (interior or exterior) Crawl Space Basement Sub-floor None Other:	
Interior cleaning conducted during removal	(Yes) No If Yes, which floors: (Basement) (Ground) Second Garage Attic Other:	
Was carpet removed during removal activities?	Yes (No) NA	
Location of vermiculite removed outdoors	Driveway Flowerbed Garden Stockpile Yard (None) Other:	
Location of vermiculite remaining outdoors	Driveway Flowerbed Garden Stockpile Yard (None) Other:	

Data Item	Value	Notes
Pre-Sampling Interview (To be completed with resident)		
Has EPA provided a HEPA vacuum and has it been used since removal?	Yes No If Yes, how long after the removal was completed did use of the EPA-issued HEPA vac begin: Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
How often do you vacuum with your EPA provided HEPA vacuum?	Once a week More than once a week Twice a month Once a month Less than once a month Other:	
Heating Source	Wood/Coal Electric Propane/Gas Other:	
Heat Distribution	Forced air Radiant Other:	
How soon after the removal was a forced air heating source first used?	~~Immediately~~ 1 to 2 months 3 to 4 months ~~5 to 6 months~~ more than 6 months	2/2/04
Have any of the occupants been in contact with any vermiculite since the removal was completed?	Yes No Unknown	Explain:
Addresses of other homes or properties where the occupants visit and may contain vermiculite	711 Michigan Farm to Market Rd.	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?
Addresses or names of business where occupants work	- Self Employed	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?

ADDITIONAL INFORMATION

Sheet No.: SA- 000183

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100306 Page No: 7-8 Sampling Date: 2/2/04

Address: 214 W. Lurch St. Owner/Tenant DePue

Business Name: N/A Skogas, Arthur

Land Use: Residential School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC CDM Other _____ Names: Parana

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00118		
Location ID	BD-000798		
Sample Group	House		
Location Description	Kitchen		
Category (circle)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	Indoor Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	25mm 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	05913		
Flow Meter ID No.	92045-1		
Start Date	2/2/04		
Start Time	0825		
Start Flow (L/min)	9.03		
Stop Date	2/2/04		
Stop Time	1948		
Stop Flow (L/min)	9.03		
Pump fault? (circle)	No Yes NA	No Yes NA	No Yes NA
MET Station onsite?	No Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: 310201	Overloaded from sewt. Volunteer fixed fire in basement @ 1830. Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	2/2/04 Archive Blank (circle): Yes No
QC (Field Team) JB Entered (LFO) JB	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: D- 000134

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100306 Page No: 7-8 Sampling Date: 2/2/04

Address: 214 W. Larch St. Owner/Tenant: DePue

Business Name: N/A Skugas, Arthur

Land Use: Residential School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC CDM Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00119		
Location ID	BD-000798		
Sample Group (circle) (Subgroup of the property)	Garage, House, Shed, Pump House Other	Garage, House, Shed, Pump House Other	Garage, House, Shed, Pump House Other
Location Description (circle) (Detailed description point within the location)	Basement, Ground Floor, Second Level Other	Basement, Ground Floor, Second Level Other	Basement, Ground Floor, Second Level Other
Matrix Type (circle)	~~Horizontal Surfaces~~ High Traffic Areas Other	Horizontal Surfaces High Traffic Areas Other	Horizontal Surfaces High Traffic Areas Other
Category (circle)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm^2) (circle)	100 200 300 400 NA	100 200 300 NA	100 200 300 NA
Filter Diameter (circle)	25mm 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA
Pump ID No.	666248	2/2/04	
Flow Meter ID No.	B1610-S1521		
Start Time	1239 1242 1245	1248	
Start Flow (L/min)	2.0 2.0 2.0	2.0	
Stop Time	1241 1244 1247	1250	
Stop Flow (L/min)	2.0 2.0 2.0	2.0 2/2/04	
Pump Fault? (circle)	No Yes	No Yes 2/2/04	Yes
Field Comments	100 cm^2 Ground level floor of living room 100 cm^2 - Living Room window sill 100 cm^2 - Basement floor	100 cm^2 - Basement top of furnace 100 cm^2 100 cm^2	100 cm^2 100 cm^2 100 cm^2
Cassette Lot Number: 23802	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
Entered (LFO)	Volpe: Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

2/2/04

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

214 W. Larch St - DePue 2/2/04 1
PCE-EPA/Volpe Author: Gregory Parana CDM
Activity: Stationary Air and Dust samples will be collected in BA-000798. Stationary air sample will not be collected in the basement due to equipment limitations. 0705 LV pump 666248 calibrated with Dry-cal @ CDM office. Equipment: Ref pg 4. Sampling will be conducted in level D PPE IAW SAP Addendum, CSS, PCE Sampling 12/1/03. —— (P)
0817 Onsite. CE-00118 pre-calibrated.
0825 CE-00118 started (Kitchen).
1030 Onsite. Flow Ck-OK, Filter Ck-OK.
1250 CE-00119 (dust) collected.
CE-00118 flow Ck-OK. Filter slightly discolored from wood burning stove.
1545 Onsite. Flow Ck-OK. Filter OK. —— (P)
1803 Onsite. Flow ck-OK. Filter OK.

2/2/04

214 W. Larch St. - Depue 2/2/04
PCE - EPA/Volpe Gregory Turana COM
1940 Onsite. CE-00118 overloaded.
Resident stated that the wood
burner ~~was~~ 2/2/04 backing
sent into house when wood
was added @ 1830.
1948 CE-00118 stopped, post
calibrated and sealed.
~~2010~~ 2/2/04. Equipment deconned.
2015 Onsite CDM office. Ref
FSDS SA-000183, D-000134
PIF# BD-000798. Samples
placed in sample storage.
2030 Out of logbook.

2/2/04

2293 Kootenai River Rd

BD# BD-000785

LIBBY ASBESTOS PROJECT
Pre-Sampling Interview Form (PIF) for Post Clean-up Evaluation Sampling

Field Logbook No.: 100301 Page No.: 18-26 Site Visit Date: 12/15/03

Address: 2293 Kootenai River Rd. Structure Description: House

Occupant: Mike Powers Phone Number: 293-9285

Owner (if different than occupant): Phone Number:

Business Name: N/A

Sampling Team: PARANA

Field Form Check Completed by (100% of forms): YP PS

Data Item	Value	Notes
CLEAN-UP SUMMARY (To be completed using removal completion folders)	**Date Removal Completed:** 10/03	
Location of vermiculite removed indoors	(Attic) (Walls (interior or exterior)) (Crawl Space) Basement Sub-floor Other:	
Location of vermiculite remaining indoors	Attic (Walls (interior or exterior)) Crawl Space Basement (Sub-floor) None Other:	
Interior cleaning conducted during removal	(Yes) No If Yes, which floors: (Basement) (Ground) (Second) Garage (Attic) Other:	
Was carpet removed during removal activities?	(Yes) No NA	
Location of vermiculite removed outdoors	(Driveway) (Flowerbed) (Garden) Stockpile (Yard) None Other:	Pasture - Cellar Barn - Pump house Bunkhouse Garage - Cottage
Location of vermiculite remaining outdoors	Driveway Flowerbed Garden Stockpile (Yard) None Other:	

Data Item	Value	Notes
Pre-Sampling Interview (To be completed with resident)		
Has EPA provided a HEPA vacuum and has it been used since removal?	Yes No If Yes, how long after the removal was completed did use of the EPA-issued HEPA vac begin: Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
How often do you vacuum with your EPA provided HEPA vacuum?	Once a week More than once a week Twice a month Once a month Less than once a month Other:_____	Used it for about a week Then ER removed.
Heating Source	Wood/Coal Electric Propane/Gas Other: Fuel 0.1	
Heat Distribution	Forced air Radiant Other:_____	
How soon after the removal was a forced air heating source first used?	Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
Have any of the occupants been in contact with any vermiculite since the removal was completed?	Yes No Unknown	Explain: During Remodeling
Addresses of other homes or properties where the occupants visit and may contain vermiculite	313 California	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite? Yes - Parking area - walls
Addresses or names of business where occupants work	Naturally Good Things 313 California 108 E. 4th St. Suite 3	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?

ADDITIONAL INFORMATION_____

Sheet No.: D- 000056

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100301 Page No: 4-5 Sampling Date: 11/20/03

Address: 2293 Kootenai River Rd. Owner/Tenant: Mike Powers

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: (MACTEC) CDM Other _____ Names: PARANH

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00001		
Location ID	BD-000755		
Sample Group (circle) (Subgroup of the property)	Garage, (House), Shed, Pump House Other _____	Garage, House, Shed, Pump House Other _____	Garage, House, Shed, Pump House Other Blank
Location Description (circle) (Detailed description point within the location)	(Basement), (Ground Floor), Second Level Other _____	Basement, Ground Floor, Second Level Other _____	~~Basement, Ground~~ Floor, Second Level Other 11/20/03
Matrix Type (circle)	(Horizontal Surfaces), (High Traffic Areas) Other _____	Horizontal Surfaces High Traffic Areas Other _____	Horizontal Surfaces High Traffic Areas Other N/A
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS (FB-(field blank)) LB-(lot blank)
Sample Area (cm^2) (circle)	100 200 300 (400) NA	100 200 300 NA	100 200 300 (NA)
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	(25mm) 37mm
Pore Size (circle)	(TEM- .45) PCM- 0.8	TEM- .45 PCM- 0.8	(TEM- .45) PCM- 0.8
Flow Meter Type (circle)	Rotometer (Dry-Cal) NA	Rotometer Dry-Cal NA	Rotometer Dry-Cal (NA)
Pump ID No.	612058	612058	N/A
Flow Meter ID No.	B1610 51521	B1610-51521	
Start Time	1333 1337 1340	1343	
Start Flow (L/min)	2.0 2.0 2.0	2.0	
Stop Time	1335 1339 1342	1345	
Stop Flow (L/min)	2.0 2.0 2.0	2.0	
Pump Fault? (circle)	(No) Yes	No Yes	No Yes
Field Comments	100 cm^2 - Dining Room Floor 100 cm^2 - Kitchen Floor 100 cm^2 - Dining Room Window sill	100 cm^2 - Kitchen - top of refridgerator 100 cm^2 100 cm^2	100 cm^2 100 cm^2 100 cm^2
Cassette Lot Number: 23802	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
Entered (LFO) TC	Volpe: Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by MP	QC by BD

vs 101503

Sheet No.: D- 000057

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100301 Page No: 4-5 Sampling Date: 11/20/03

Address: 2293 Kootenai River Rd Owner/Tenant: Mike Powers

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: (MACTEC) CDM Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00002		
Location ID	BD-000785		
Sample Group (circle) (Subgroup of the property)	Garage, (House), Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____
Location Description (circle) (Detailed description point within the location)	(Basement), (Ground Floor), (Second Level) Other_____	Basement, Ground Floor, Second Level Other_____	Basement, Ground Floor, Second Level Other_____
Matrix Type (circle)	(Horizontal Surfaces), (High Traffic Areas) Other_____	Horizontal Surfaces High Traffic Areas Other_____	Horizontal Surfaces High Traffic Areas Other_____
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm^2) (circle)	100 200 300 (600) NA	100 200 300 NA	100 200 300 NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	(TEM- .45) PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer (Dry-Cal) NA	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA
Pump ID No.	612058	612058	
Flow Meter ID No.	B1610 S1521	B1610-S1521	
Start Time	1355 1359 1403	1407 1416	
Start Flow (L/min)	2.0 2.0 2.0	2.0 2.0	
Stop Time	1357 1401 1405	1409 1418	
Stop Flow (L/min)	2.0 2.0 2.0	2.0 2.0	
Pump Fault? (circle)	(No) Yes	(No) Yes	No Yes
Field Comments	100 cm^2 - Basement Bookshelf 100 cm^2 - Basement floor @ base of steps 100 cm^2 - Ground level on floor of unfinished Room	100 cm^2 - Ground level on window sill of unfinished room 100 cm^2 - 2nd level on floor @ top of steps 100 cm^2 - 2nd level on top of closet	100 cm^2 100 cm^2 100 cm^2
Cassette Lot Number: 23802	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
Entered (LFO) TC	Volpe: Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

JP 11/20/03

RU 11/20/03

JP 11/20/03

JP 11/20/03

For Field Team Completion (Provide Initials)	Completed by JP	QC by BD

vs 101503

Sheet No.: SA- 000148

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100301 Page No: 18-20 Sampling Date: 12/15/03

Address: 2293 Kootenai River Rd. Owner/Tenant: Powers

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item 12/15/03	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00013		
Location ID	BD-000785		
Sample Group	House		
Location Description	Basement Finished		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	2141		
Flow Meter ID No.	92045-1		
Start Date	12/15/03		
Start Time	929		
Start Flow (L/min)	4.09		
Stop Date	12/15/03		
Stop Time	1940		
Stop Flow (L/min)	3.90		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) TC Entered (LFO) JB	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by •	QC by •

vs 101503

Sheet No.: SA-000100

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100301 Page No: 24-27 Sampling Date: 12/17/03

Address: 2293 Kootenai River Rd. Owner/Tenant: Powers

Business Name: NLM

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE-00013		
Location ID	BD-000785		
Sample Group	House		
Location Description	Basement Finished		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	2141		
Flow Meter ID No.	92045-1		
Start Date	12/17/03		
Start Time	0812 / 1113		
Start Flow (L/min)	4.09 / 4.09		
Stop Date			
Stop Time	1112 / 1423		
Stop Flow (L/min)	4.29 / 4.09		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: _____	180min x 4.19 l/min = 754 l 190min x 4.09 l/min = 777 l Archive Blank (circle): Yes No	V_T = 1531 l Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) R Entered (LFO) JB	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: SA- 000149

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100301 Page No: 18-20 Sampling Date: 12/15/03

Address: 2293 Kootenai River Rd. Owner/Tenant: Powers

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	12/15/03 Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00014		
Location ID	BD-000785		
Sample Group	House		
Location Description	Living Room Unfinished		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	2140		
Flow Meter ID No.	92045-1		
Start Date	12/15/03		
Start Time	0933		
Start Flow (L/min)	4.09		
Stop Date	12/15/03		
Stop Time	1942		
Stop Flow (L/min)	4.09		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: 32415	609mm x 4.09 L/min = 2491 L Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) TL Entered (LFO) JB	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: SA-

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100301 Page No: 24-27 Sampling Date: 12/17/03

Address: 2293 Kootenai River Rd. Owner/Tenant: Powers

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE-00014		
Location ID	BD-000785		
Sample Group	House		
Location Description	Living Rm Unfinished		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	2140		
Flow Meter ID No.	92045-1		
Start Date	12/17/03		
Start Time	0814		
Start Flow (L/min)	4.09		
Stop Date	12/17/03		
Stop Time	1421		
Stop Flow (L/min)	4.09		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number:	367 min x 4.09 l/min = 1501 l Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) TL Entered (LFO) JB	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: SA- 000150

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100301 Page No: 18-20 Sampling Date: 12/15/03

Address: 2293 Kootenai River Rd Owner/Tenant: Powers

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00015		
Location ID	BD-000785		
Sample Group	House		
Location Description	N.W. Bedroom		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	2134		
Flow Meter ID No.	92045-1		
Start Date	12/15/03		
Start Time	0936		
Start Flow (L/min)	4.09		
Stop Date	12/15/03		
Stop Time	1945		
Stop Flow (L/min)	4.29		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: 32415	609min x 4.19 l/min = 2552 l 12/15/03 Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) TC Entered (LFO) JD	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: SA-_____

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100301 Page No: 24-27 Sampling Date: 12/17/03

Address: 2293 Kootenai River Rd. Owner/Tenant: Powers

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE-00015		
Location ID	BD-000785		
Sample Group	House		
Location Description	N.W. Bedroom		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	2134		
Flow Meter ID No.	92045-1		
Start Date	12/17/03		
Start Time	0815		
Start Flow (L/min)	4.09		
Stop Date	12/17/03		
Stop Time	1429		
Stop Flow (L/min)	4.09		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: _____	374 min x 4.09 L/min = 1530 L Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) _____ Entered (LFO) _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: PA- 000034

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR PERSONAL AIR

Field Logbook No: 100301 Page No: 8-20 Sampling Date: 12/15/03

Address: 2293 Kootenai River Rd. Owner/Tenant: Powers

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Person Sampled: Georgine Powers, Mike Powers SNN: 0955 Task: Post Clean Up Evaluation

Data Item	p 12/15/03 Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00016		
Location ID	BD-000785		
Sample Group	House		
Location Description	Shoulder		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor	Indoor Outdoor	Indoor Outdoor
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	612058	666248	
Flow Meter ID No.	92045-1	92045-1	
Start Date	12/15/03	12/15/03	
Start Time	0956 / 1304	1527	
Start Flow (L/min)	3.11 / 3.11	3.11	
Stop Date	12/15/03	12/15/03	
Stop Time	1360 / 1503	1935	
Stop Flow (L/min)	3.11 / 3.11	3.11	
Pump fault? (circle)	No (Yes) NA	(No) Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	(No) Yes NA	No Yes NA
Sample Type	TWA EXC (NA)	TWA EXC (NA)	TWA EXC NA
Field Comments	303 min 164 min x 3.11 = 572 l 119 min x 3.11 = 370 l	128 min x 3.11 l/min = 398 l V_T = 1340 l	
Cassette Lot Number:	32415		
	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) •	Volpe:	Volpe:	Volpe:
Entered (LFO) •	Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by •	QC by •

vs 101503

Sheet No.: PA-

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR PERSONAL AIR

Field Logbook No: 100301 Page No: 21-23 Sampling Date: 12/16/03

Address: 2293 Kootenai River Rd. Owner/Tenant: Powers

Business Name: N/A

Land Use: Residential School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC CDM Other _____ Names: PARANA

Person Sampled: Georgine Powers SNN: 0955 Task: Post Clean Up Evaluation

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE-00016		
Location ID	BP-000785		
Sample Group	House		
Location Description	Shoulder		
Category (circle)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	Indoor Outdoor	Indoor Outdoor	Indoor Outdoor
Filter Diameter (circle)	25mm 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	612058	626752	
Flow Meter ID No.	92045-1	92045-1	
Start Date	12/16/03	12/16/03	
Start Time	0811	1428	
Start Flow (L/min)	3.11	3.11	
Stop Date	12/16/03	12/16/03	
Stop Time	1421	1925	
Stop Flow (L/min)	3.11	2.91	
Pump fault? (circle)	No Yes NA	No Yes NA	No Yes NA
MET Station onsite?	No Yes NA	No Yes NA	No Yes NA
Sample Type	TWA EXC NA	TWA EXC NA	TWA EXC NA
Field Comments	370 on counter 370x3.11 = 1151	297min x 3.01 L/min = 894	
Cassette Lot Number:	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) ____ Entered (LFO) ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: PA-000036

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR PERSONAL AIR

Field Logbook No: 100301 Page No: 24-27 Sampling Date: 12/17/03

Address: 2293 Kootenai River Rd. Owner/Tenant: Powers

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Person Sampled: Georgine Powers SNN: 0955 Task: Post Clean Up Evaluation

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE-00016		
Location ID	BD-000785		
Sample Group	House		
Location Description	Shoulder		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor	Indoor Outdoor	Indoor Outdoor
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	626752		
Flow Meter ID No.	92045-1		
Start Date	12/17/03		
Start Time	0810		
Start Flow (L/min)	3.11		
Stop Date	12/17/03		
Stop Time	1415		
Stop Flow (L/min)	3.11		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	TWA EXC (NA)	TWA EXC NA	TWA EXC NA
Field Comments	365min x 3.11 l/min = 1135 l		
Cassette Lot Number: _____	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) _____ Entered (LFO) _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

BD# BA-000785

Residential Activity Log

Resident Address: 2293 Kootenai River Rd.

Volunteer Name: Mike & Georgine Powers

Sampling Date(s): 12/15/03

Personal air sample number (s): CE-00016

FSDS number(s): PA-000034, SA-000148, 49, 50

Date/Time Interval	Go Outside?	Pump problem?	General Activities	
12/15/03 10:00 - A.M. 12:00 Noon	(No) Yes (___ mins) Describe	No Yes (describe)	Mud-Floor - Paper Work 30 min + Basement - Wash Clothes 1½ HRS	Georgine
12-12:30 12:30 - 1:00 12/15/03 1:00 PM	No Yes (___ mins) Describe	No Yes (describe)	Mud Floor - Lunch (Wash Clothes + Dry Basement Clothes)	Georgine
" 1:00 PM	(No) Yes (___ mins) Describe	No Yes (describe)	Paying Bills & other ~~home~~ stuff.	Mike
" 2:30 PM	Yes 1/2 min	~~Yes~~ 4 Times	Visitors ½ HR.	"
" 3:30 " 1700	(No) Yes (___ mins) Describe	No Yes (describe) Gregg replaced Pump unit -	Book work, Nap & more Book work -	"
" 5-6:15	(No) Yes (___ mins) Describe	No Yes (describe)	Nap -	Mike
" 6:15 - 7:30			Kitchen Work -	Georgine
	No Yes (___ mins) Describe	No Yes (describe)		

Note: Continue on second page if necessary.

Greg
293-~~214~~ 1759

BD# 000785

Residential Activity Log

Resident Address: 2293 Kootenai River Rd.

Volunteer Name: Mike + Georgine Powers

Sampling Date(s): 12/16/03

Personal air sample number (s): CE-00016

FSDS number(s): PA-000035, SA-000159, 158

Date/Time Interval	Go Outside?	Pump problem?	General Activities	
12/16/03 0800 - 1030	No Yes (___ mins) Describe	No Yes (describe)	christmas cards vacuumed in remodel area 15 min ~~changed filters~~	mike mike furnace
1030 - 11:15	No		Vacuumed Remodel area 15-20 min	mike
1115 - 11:30	No Yes (___ mins) Describe	No Yes (describe)	Gregg checked monitors	mike
11:30 - 12:00	No	No	Watched Video Switched w/ Geo	mike
12:00 - 12:30	No Yes (___ mins) Describe	No Yes (describe)	Lunch Preparation + Lunch-time	Georgine
12:30 - 2:00	no	no	Swept Middle Floor Vaccumed Remodel Room	
2:00 - 2:20	No Yes (___ mins) Describe	No Yes (describe)	Folded Clean clothes	
2:25 - Stopped - machine		Yes	Greg changed monitor	
2:30 - 3:30	No Yes (___ mins) Describe	No Yes (describe)	Worked on Christmas Cards	
3:30 5:00	No	No	Kitchen Work	
5:00 - 6:30	No Yes (___ mins) Describe	No Yes (describe)	More Kitchen Work + Dinner	
6:30 - 7:25	No	No	Christmas Card writing	

Switched to Geo

Note: Continue on second page if necessary.

Greg
293-1759

BD# R 000785

Residential Activity Log

Resident Address: 2293 Kootenai River Rd.

Volunteer Name: Mike & Georgine Powers

Sampling Date(s): 12/17/03

Personal air sample number (s): CE-00016

FSDS number(s): PA-00036, SA-000166, 168, 169

Date/Time Interval	Go Outside?	Pump problem?	General Activities	meo
0820 - 0900	No Yes (___ mins) Describe	No Yes (describe)	christmas cards	meo.
			christmas cards	meo
0900 - 0940	no.	no	swept ceilings, glass surfaces & areas encapsulated by EPA contractor	meo +
	yes 1½ min	to feed lady.	swept steps	
0940 - 1100	No Yes (___ mins) Describe	No Yes (describe)	swept stairs to 2nd floor & napped	meo.
1100 - 1110	yes 1-2 min	no	Had a visitor greggs	meo
1112 - 11:30	yes 1 min	no	here to v monitors	meo
11:30 - 12:30	No Yes (___ mins) Describe	No Yes (describe)	Kitchen work	
12:30 - 1:15	No	No.	Cleaned bathroom & Rooms in basement & phone = 10 min	
1:30 - 2:00	No Yes (___ mins) Describe	No Yes (describe)	Swept debris & nails on top floor	
2:00 - 2:15	No	No	phone & changed clothes - Greg came out	
Completed at 2:15	No Yes (___ mins) Describe	No Yes (describe)	~~Switched to monitor~~	
	No Yes (___ mins) Describe	No Yes (describe)		

Note: Continue on second page if necessary.

* swept, with a Broom, all the shiny surfaces in the areas cleaned by EPA, including encapsulated surfaces, ceilings mirrors, window glass & varnished wood

T. Mike Powers, Jr.

2293 Kootenai River Rd.

Location Mike Powers Date 11/20/03

Project / Client Post Clean Up Evaluation EPA

Author: Gregory Parana MACTEC

Weather: 34°F Wind 1mph S → N

Activity: Dust samples will be collected in the house (BD-000785). Dust samples will be collected in accordance with SAP Addendum, Post Clean-Up Evaluation Sampling, CSS, Libby Asbestos Site, OU4, 11/13/03.

~~Deviations to Section~~ 11/20/03

Modifications to section 3.2.4 include.

1.) 2 dust samples will be collected in the house.

2.) House will be broken down into 2 areas - Kitchen/dining room - Basement, ~~unfinished~~ unfinished ground level and 2nd level. 11/20/03

Equipment: DryCal B1610S1521, Low vol. sampling pump, 6.45 ~~lpm~~ 11/20/03 lpm Dust sample cassettes, bags, decon wipes, ~~rox to cal~~ 11/20/03 100cm2 templates.

1100 Pump 612058 pre-calibrated with DryCal to 2.0 l/min @ 318 Louisiana Ave.

11/20/03

2293 Kootenai River Rd.

Location Mike Powers Date 11/20/03

Project / Client Post Clean Up Evaluation EPA

Author: Gregory Parana MACTEC

1300 Onsite. Mike powers present. Mr. Power identified areas that visible vermiculite was noted.

1345 CE-00001 collected (Dining Room, kitchen) Sample sealed.

1418 CE-00002 collected (Composite of basement, unfinished ground level and unfinished 2nd level. Sample sealed. Mike Powers left property.

1435 Offsite. Door locked. Sample pump decontaminated Ref FSD SD-000056, 57.

1550 Samples relinquished to CDM Terry Crowell 1600. Out of logbook.

11/20/03

Powers
Location 2293 Kootenai River Rd. Date 12/15/03
Project / Client Post Clean Up Evaluation - EPA/Volpe
Author: Gregory Parana CDM

Activity: Personal and stationary air sampling will be conducted to complete the post clean up evaluation. Dust samples were collected on 11/20/03 (Ref pgs. 4 & 5) Sampling will be conducted IAW SAP Addendum, CSS, PCE Sampling 12/1/03. Equipment: Ref pg. 6 of this Logbook. 0900 Onsite @ Naturally Good Things.

0915 Onsite 2293 Kootenai River Rd. Mike Powers present. High vol samplings pumps started to warm-up. CE-00013 placed on pump 2141 and pre-calibrated.

0929 CE-00013 (Basement) started. CE-00014 (Living Room) placed on pump 2140 and pre-calibrated.

0933 CE-00014 started.

0934 CE-00015 placed on pump 2134 and pre-calibrated.

0936 CE-00015 (N.W. Bedroom) started. PIF completed with Mike Powers.

0950 Georgine Powers onsite.

12/15/03

Powers
Location 2293 Kootenai River Rd. Date 12/15/03
Project / Client PCE - EPA/Volpe
Author: Gregory Parana CDM

CE-00016 placed on pump 612058 and pre-calibrated.

0956 CE-00016 started. Place on Georgine Powers. She indicated that Mike Powers would also wear the pump throughout the day. The changes on who will be wearing the pump will be indicated on the Residential Activity Log.

1259 Onsite. 1300 CE-00016 stopped. Removed from Georgine and placed on Mike. Flow ck - OK.

1300 CE-00016 started.

1304 CE-00013 Flow Ck - OK.

1307 CE-00014 Flow Ck - OK.

1315 to CDM Office.

1510 Recieved phone call from Mike Powers indicating the pump had stopped running.

1520 Onsite. Pump Battery fault 303 minutes on counter. CE-00016 post calibrated on pump 612058.

12/15/03

Powers

Location 2293 Kootenai River Rd Date 12/15/03

Project / Client PCE - EPA - Volpe

Author: Gregory Parana [signature] CDM

CE-00016 placed on pump 666248 and pre-calibrated. Sample placed on Mike Powers. [signature]

~~CE~~ 12/15/03 1527 CE-00016 started.

1540 CE-00013 flow ck - OK. [signature]

1542 CE-00014 flow ck - OK. [signature]

1545 CE-00015 flow ck - OK. 1548 offsite

1930 Onsite. [signature]

1935 CE-00016 stopped - post calibrated and sealed in sample bag.

1940 CE-00013 stopped. Post calibrated and sealed in sample bag.

1942 CE-00014 stopped, Post calibrated and sealed in sample bag.

1948 CE-00015 stopped. Post calibrated and sealed in sample bag.

Equipment wiped off and left @ site.

1950 Offsite to CDM offices ~~[illegible]~~ 12/15/03.

Samples locked in sample storage.

Ref ESDS DA-000039, SA-000148, 149, 150

2030 Out of logbook.

[signature] 12/15/03

Powers

Location 2293 Kootenai River Rd Date 12/16/03

Project / Client PCE - EPA - Volpe

Author: Gregory Parana [signature] CDM

Activity: Day 2 of PCE sampling in BD-000785. Personal air samples will be collected on Mike and Georgine Power and stationary air samples will be collected on each level of the house. Sampling will be conducted IAW SAP Addendum, PCE Sampling, CSS 12/1/03. Equipment Ref. pg 6 of this logbook. [signature]

0755 Onsite. MP and GP present. CE-00016 placed on pump 612058 and pre-calibrated with Rotometer 92045-1. [signature]

0811 CE-00016 placed on MP - started. MP + GP indicated that CE-00016 would be switched between the two over the sample period. I advised to write who was wearing the sample on the activity log. CE-00013 placed on pump 2141 and pre-calibrated. [signature]

0815 CE-00013 (Basement) started.

[signature] 12/16/03

Powers
Location 2293 Kootenai River Rd Date 12/16/03
Project / Client PCE-EPA/Volpe
Author: Gregory Parana CDM

CE-00014 placed on pump 2140 and pre-calibrated.
0817 CE-00014 started. (Living Room).
CE-00015 placed on pump 2134 and pre-calibrated.
0819 CE-00015 started.
0820 Offsite. to 603 W. 10th St.
1115 Onsite. CE-00016 cal ck-ok and filter ck-OK.
1126 CE-00015 stopped-Re-calibrated.
1127 CE-00015 started.
LE 1121 CE-00013 stopped-Re-calibrated
1122 CE-00013 started.
LE 1124 CE-00014 stopped Re-calibrated
12/16/03
1125 CE-00014 started.
1140 Offsite.
1425 Onsite-Georgine indicated pump 612058 stopped. 370 minutes on counter will be used to calculate stop time. CE-00016 post-calibrated. CE-00016 placed on pump 626752 and calibrated.
1428 CE-00016 place on GP and started.

12/16/03

Powers
Location 2293 Kootenai River Rd Date 12/16/03
Project / Client PCE - Volpe/EPA
Author: Gregory Parana CDM

CE-00013, 14, 15 flow ck'd-OK Filter Chk-OK. 1435 Offsite to 603 W. 10th St.
1730 Onsite. Georgine wearing pump doing kitchen work.
filter ~~flow~~ ck-OK Cal ck-OK for CE-00016.
1735 CE-00013 flow ck-OK filter-ck-03
1737 CE-00014 flow ck-OK Filter ck-OK
CE-00015 flow ck-OK Filter Ck-OK
1925 CE-00016 stopped, post calibrated and sealed in bag
1927 CE-00014 stopped, post calibrated and sealed in the bag.
1930 CE-00013 stopped, post calibrated and sealed in the bag.
1932 CE-00015 stopped, post calibrated and sealed. Offsite to CDM Office.
1815 Samples locked in sample storage @ 318 Louisiana Ave.
LE Recieved complete residential activity log from Powers 12/16/03

Location 2293 Kootenai River Rd. Powers Date 12/17/03

Project / Client PCE-EPA-Volpe

Author: Gregory Parana COM

Activity: Personal and stationary air sampling will be completed for day 3 of the PCE. Sampling will be conducted IAW SAP Addendum (SS), Post Clean Up Evaluation Sampling, 12/1/03. Equipment Reference pg 6 of this logbook.

0800 Onsite. Mike and Georgine Power present. CE-00016 placed on pump 626752 and pre-calibrated.

0810 CE-00016 placed on MP and started. CE-00013 placed on pump 2141 and pre-calibrated.

0812 CE-00013 started. CE-00014 placed on pump 2140 and ~~start~~ 12/17/03 pre-calibrated.

0814 CE-00014 started. CE-00015 placed on pump 2134 and pre-calibrated.

0815 CE-00015 started. Residential Activity log given to volunteer.

0820 Offsite to 603 W. 10th St.

1100 Onsite. CE-00016 flow Ck - OK Filter Ck - ≈ 30% loaded.

12/17/03

Location 2293 Kootenai River Rd. Powers Date 12/17/03

Project / Client PCE-EPA-Volpe

Author: Gregory Parana SDM

Mike powers indicated the he swept the upstairs and ground level construction area with a broom.

1112 CE-00013 stopped - Re-calibrated.

1113 CE-00013 started. Filter ck-OK.

1115 CE-00014 flow ck, Filter ck-OK.

12/17/03 ~~Offsite to 603 W. 10th St.~~

1117 CE-00015 flow ck, Filter ck-OK. Offsite to 603 W. 10th St.

1410 Onsite. GP wearing pump. She indicated the she swept the upstairs and ground level construction area with a broom. CE-00016 filter observed - Filter loaded.

1415 CE-00016 stopped, post calibrated and sealed. Stationary air samples will be stopped as well.

1421 CE-00014 stopped, post calibrated and sealed.

1423 CE-00013 stopped, post calibrated and sealed.

12/17/03

26

Location 2293 Kootenai River Rd Powers

Date 12/17/03

Project / Client PCE - Epa / Volpe

Author: Gregory Parana CDM

1429 CE-00015 stopped, post calibrated and sealed. Equipment decon completed. Residential activity log recieved from Georgine Powers Offsite. Ref FSDS PA-00036, SA-000166, 168, 169

12/17/03

2297 Kootenai River Rd

BD# 000790

LIBBY ASBESTOS PROJECT
Pre-Sampling Interview Form (PIF) for Post Clean-up Evaluation Sampling

Field Logbook No.: 100301 Page No.: 33-34 Site Visit Date: 1/19/04
Address: 2297 Kootenai River Rd. Structure Description: House
Occupant: Mitch & Lisa Powers Phone Number: 293-9294
Owner (if different than occupant): Mike Powers Phone Number: 293-6771
Business Name: N/A
Sampling Team: PARANA
Field Form Check Completed by (100% of forms): MP

Data Item	Value	Notes
CLEAN-UP SUMMARY (To be completed using removal completion folders)		**Date Removal Completed:** 10/03
Location of vermiculite removed indoors	(Attic) Walls (interior or exterior) Crawl Space Basement Sub-floor Other:	
Location of vermiculite remaining indoors	(Attic) (Walls (interior or exterior) Crawl Space Basement Sub-floor None Other:	Above Bathroom
Interior cleaning conducted during removal	Yes No If Yes, which floors: Basement (Ground) Second Garage Attic Other:	
Was carpet removed during removal activities?	Yes (No) NA	
Location of vermiculite removed outdoors	(Driveway) Flowerbed Garden Stockpile (Yard) None Other:	Garage Adjacent House
Location of vermiculite remaining outdoors	Driveway Flowerbed Garden Stockpile Yard None Other: UNKNOWN	

Data Item	Value	Notes
Pre-Sampling Interview (To be completed with resident)		
Has EPA provided a HEPA vacuum and has it been used since removal?	Yes No If Yes, how long after the removal was completed did use of the EPA-issued HEPA vac begin: Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
How often do you vacuum with your EPA provided HEPA vacuum?	Once a week More than once a week Twice a month Once a month Less than once a month Other:_____	
Heating Source	Wood/Coal Electric Propane/Gas Other: Fuel Oil	
Heat Distribution	Forced air Radiant Other:_____	
How soon after the removal was a forced air heating source first used?	Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
Have any of the occupants been in contact with any vermiculite since the removal was completed?	Yes No Unknown	Explain:
Addresses of other homes or properties where the occupants visit and may contain vermiculite	2293 Kootenai River Rd	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?
Addresses or names of business where occupants work	Naturally Good Things Barn on Power's Property	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?

ADDITIONAL INFORMATION_____

Sheet No.: PA-_____

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR PERSONAL AIR

Field Logbook No: 100301 Page No: 33-34 Sampling Date: 1/19/04

Address: 2297 Kootenai River Rd Owner/Tenant: Mitch + Lisa Powers

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Person Sampled: Mitch Powers + Lisa SNN: N/A Task: Post Cleanup Evaluation

JB 1/19/04

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00077	CE-00077	
Location ID	BD-000790	BD-000790	
Sample Group	House	House	
Location Description	Shoulder	Shoulder	
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor	(Indoor) Outdoor	Indoor Outdoor
Filter Diameter (circle)	(25mm) 37mm	(25mm) 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	(Rotometer) DryCal NA	Rotometer DryCal NA
Pump ID Number	666348	612058	
Flow Meter ID No.	92045-1	92045-1	
Start Date	1/19/04	1/19/04	
Start Time	0808	1459	
Start Flow (L/min)	3.11	3.11	
Stop Date	1/19/04	1/19/04	
Stop Time	1458	1840	
Stop Flow (L/min)	3.11	3.11	
Pump fault? (circle)	(No) Yes NA	No (Yes) NA	No Yes NA
MET Station onsite?	(No) Yes NA	(No) Yes NA	No Yes NA
Sample Type	TWA EXC (NA)	TWA EXC (NA)	TWA EXC NA
Field Comments	410 min x 3.11 l/min = 1275 l	221 min on counter 221 min x 3.11 l/min = 687 l	V_T = 1962 l
Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) ____ Entered (LFO) JB	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

JB 1/19/04

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: PA-_____

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR PERSONAL AIR

Field Logbook No: 100301 Page No: 35-36 Sampling Date: 1/20/04

dress: 2297 Kootenai River Rd. Owner/Tenant: Mitch & Lisa Powers

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Person Sampled: Mitch & Lisa Powers SNN: N/A Task: Post Clean Up - Evaluation

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE-00077	CE-00077	
Location ID	BD-000790	BD-000790	
Sample Group	House	House	
Location Description	Shoulder	Shoulder	
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor	(Indoor) Outdoor	Indoor Outdoor
Filter Diameter (circle)	(25mm) 37mm	(25mm) 37mm	25mm 37mm
ore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	(Rotometer) DryCal NA	Rotometer DryCal NA
Pump ID Number	666348	666248	
Flow Meter ID No.	92045-1	92045-1	
Start Date	1/20/04	1/20/04	
Start Time	0855 ~~1313~~	1313	
Start Flow (L/min)	2.77 ~~2.77~~ 1/20/04	2.77	
Stop Date	1/20/04	1/20/04	
Stop Time	1310	2022	
Stop Flow (L/min)	2.77	2.77	
Pump fault? (circle)	(No) Yes NA	(No) Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	(No) Yes NA	No Yes NA
Sample Type	TWA EXC (NA)	TWA EXC NA	TWA EXC NA
Field Comments	255 min x 2.77 L/min = 706 L	429 min x 2.77 L/min 1188 L V_T = 1894 L	JB 1/20/04
Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) ____ Entered (LFO) JB	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: PA- 000031

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR PERSONAL AIR

Field Logbook No: 100301 Page No: 37-38 Sampling Date: 1/21/04

Address: 2297 Kootenai River Rd. Owner/Tenant: Mitch & Lisa Powers

Business Name: N/A

Land Use: Residential School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC CDM Other _____ Names: PARANA

Person Sampled: Mitch & Lisa Powers SNN: N/A Task: Post Clean Up Evaluation

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE-00077	CE-00077	
Location ID	BD-000790	BD-000790	
Sample Group	House	House	
Location Description	Shoulder	Shoulder	
Category (circle)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	Indoor Outdoor	Indoor Outdoor	Indoor Outdoor
Filter Diameter (circle)	25mm 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	666348	626676	
Flow Meter ID No.	92045-1	92045-1	
Start Date	1/21/04	1/21/04	
Start Time	0850	1827	
Start Flow (L/min)	2.77	2.77	
Stop Date	1/21/04	1/21/04	
Stop Time	~~1347~~ 1337	1854	
Stop Flow (L/min)	2.77	2.77	
Pump fault? (circle)	No Yes NA	No Yes NA	No Yes NA
MET Station onsite?	No Yes NA	No Yes NA	No Yes NA
Sample Type	TWA EXC NA	TWA EXC NA	TWA EXC NA
Field Comments	Resident stopped pump with 287 min.	Resident started pump. 27 minutes on counter	1/21/04
Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) _____ Entered (LFO) _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

For Field Team Completion (Provide Initials)	Completed by:	QC by:

vs 101503

Sheet No.: SA- 000167

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100301 Page No: 33-34 Sampling Date: 1/19/04

Address: 2297 Kootenia River Rd Owner/Tenant: Mitch & Lisa Powers

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00078		
Location ID	BD-000790		
Sample Group	House		
Location Description	Living Room		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	2141		
Flow Meter ID No.	92045-1		
Start Date	1/19/04		
Start Time	0810		
Start Flow (L/min)	4.09		
Stop Date	1/19/04		
Stop Time	1920		
Stop Flow (L/min)	4.29		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: 32415	670 min x 4.19 L/min = 2807 Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	1/19/04 Archive Blank (circle): Yes No
QC (Field Team) _____ Entered (LFO) _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

For Field Team Completion (Provide Initials)	Completed by •	QC by •

vs 101503

Sheet No.: SA-

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100301 Page No: 35-36 Sampling Date: 1/20/04

Address: 2297 Kootenai River Rd. Owner/Tenant: Mitch & Lisa Powers

Business Name: N/A

Land Use: Residential School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC CDM Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	00078 CE-~~000790~~ 1/20/04		
Location ID	BD-000790		
Sample Group	House		
Location Description	Living Room		
Category (circle)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	Indoor Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	25mm 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	2141		
Flow Meter ID No.	92045-1		
Start Date	1/20/04		
Start Time	0900		
Start Flow (L/min)	~~4.03~~ 3.82		
Stop Date	1/20/04		
Stop Time	2025		
Stop Flow (L/min)	~~4.03~~ 3.82		
Pump fault? (circle)	No Yes NA	No Yes NA	No Yes NA
MET Station onsite?	No Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments	–	–	1/20/04
Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) _____ Entered (LFO) _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: SA-

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100301 Page No: 37-38 Sampling Date: 1/21/04

Address: 2297 Kootenai River Rd. Owner/Tenant: Mitch & Lisa Powers

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE-~~00078~~ 00078 1/21/04		
Location ID	BP-000790		
Sample Group	House		
Location Description	Living Room		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	2141		
Flow Meter ID No.	92045-1		
Start Date	1/21/04		
Start Time	0856 / 1127		
Start Flow (L/min)	3.82 / 3.82		
Stop Date	1/21/04		
Stop Time	1125 / 1857		
Stop Flow (L/min)	4.03 / 3.82		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments			1/21/04
Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) ____ Entered (LFO) JB	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: D- 000107

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100301 Page No: 33 34 Sampling Date: 1/19/04

Address: 2297 Kootenai River Rd. Owner/Tenant: Mitch & Lisa Powers

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CF- 00081		
Location ID	BP-000790		
Sample Group (circle) (Subgroup of the property)	Garage, (House), Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____
Location Description (circle) (Detailed description point within the location)	Basement, (Ground Floor), Second Level Other_____	Basement, Ground Floor, Second Level Other_____	Basement, Ground Floor, Second Level Other_____
Matrix Type (circle)	(Horizontal Surfaces) (High Traffic Areas) Other_____	Horizontal Surfaces High Traffic Areas Other_____	Horizontal Surfaces High Traffic Areas Other_____
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm^2) (circle)	100 200 300 (400) NA	100 200 300 NA	100 200 300 NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	(TEM- .45) PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer (Dry-Cal) NA	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA
Pump ID No.	626666		
Flow Meter ID No.	B1610 - S1521		
Start Time	1513 1516 1519	1523	
Start Flow (L/min)	2.0 2.0 2.0	2.0	
Stop Time	1515 1518 1521	1525	
Stop Flow (L/min)	2.0 2.0 2.0	2.0	
Pump Fault? (circle)	(No) Yes	No Yes	No Yes
Field Comments	100 cm^2 - Kitchen Floor 100 cm^2 - Kitchen top of Refrigerator 100 cm^2 - Living Room Floor	100 cm^2 - Living Room top of fireplace mantel 100 cm^2 100 cm^2	100 cm^2 100 cm^2 100 cm^2
Cassette Lot Number:	23802		
	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
Entered (LFO)	Volpe: Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

GP 1/19/04

GP 1/19/04

For Field Team Completion (Provide Initials)	Completed by GP	QC by R

vs 101503

BD# 000790

Residential Activity Log

Resident Address: 2297 Kootenai River Rd.

Volunteer Name: Mitch & Lisa Powers

Sampling Date(s): 1/20/04

Personal air sample number (s): CE-00077

FSDS number(s): PA-000033, SA-000187

	Date/Time Interval	Go Outside?	Pump problem?	General Activities
Lisa	1/20/04 9-10	(No) Yes (___ mins) Describe	(No) Yes (describe)	Computer
Mitch	10-12:15	(No) Yes (___ mins) Describe	No Yes (describe)	Computer
Lisa	12:15 5:00	(No) Yes (___ mins) Describe	No Yes (describe)	cleaning dishes watch TV
mitch	5:00	No Yes (___ mins) Describe	No Yes (describe)	
		No Yes (___ mins) Describe	No Yes (describe)	
		No Yes (___ mins) Describe	No Yes (describe)	

566798

Note: Continue on second page if necessary.

293-1374

BD# 000790

Residential Activity Log

Resident Address: 2297 Kootenai River Rd

Volunteer Name: Lisa & Mitch Powers

Sampling Date(s): 1/21/04

Personal air sample number (s): CE-00077

FSDS number(s): PA-000031, SA-000209

	Date/Time Interval	Go Outside?	Pump problem?	General Activities
Lisa	8:50 1/21 1:50	(No) Yes (___ mins) Describe	(No) Yes (describe)	dishes laundry computer
Lisa	3:45 5:10	(No) Yes (___ mins) Describe	(No) Yes (describe)	tv laundry
Mitch	5:35	(No) Yes (___ mins) Describe	No Yes (describe)	Cook
		No Yes (___ mins) Describe	No Yes (describe)	
		No Yes (___ mins) Describe	No Yes (describe)	
		No Yes (___ mins) Describe	No Yes (describe)	

Note: Continue on second page if necessary.

Greg 293-1374

BD# 000790

Residential Activity Log

Resident Address: 2297 Kootenai River Rd.

Volunteer Name: Mitch & Lisa Powers

Sampling Date(s): 1/19/04

Personal air sample number (s): ~~CE-00078~~ 1/19/04 CE-00077

FSDS number(s): SA-000167, PA-000032, D-000107

	Date/Time Interval	Go Outside?	Pump problem?	General Activities
Mitch	1/19/04 8:30 - 10:15	(No) Yes (___ mins) Describe	(No) Yes (describe)	slept on couch
Lisa	1/19/04 10:15 12:05	No Yes (___ mins) Describe trying to put diaper outside for a second	(No) Yes (describe)	ran vacuum laundry computer
Mitch	12:05 3:30	No Yes (___ mins) Describe 10 seconds to get CO out of car at 12:25	(No) Yes (describe)	tv computer
Lisa	3:30 6:30	(No) Yes (___ mins) Describe	(No) Yes (describe)	Computer make supper machine quit on me
		No Yes (___ mins) Describe	No Yes (describe)	
		No Yes (___ mins) Describe	No Yes (describe)	

Note: Continue on second page if necessary.

Greg 293-1374

2297 Kootenia River Rd. - Mitch Powers

Location: PCE Date: 1/19/04

Project / Client: Volpe - EPA

Author: Gregory Parana CDM

Activity: Stationary Air, Personal Air and dust samples will be collected as day 1 of 3 for the PCE. Sampling will be conducted in Level D PPE IAW SAP Addendum, CSS, PCE Sampling 12/1/04. Rotometer 92045-1 used to calibrate samples Dry Cal B1610 - S1521 used to calibrate LV pump for dust sampling.

Onsite 0800. CE-00077, 78 pre-calibrated.
0808 CE-00077 started on Mitch Powers.
0810 CE-00078 started (living Rm).
1130 Onsite. Flow Ck OK Filter Ck-OK.
CE-00077 on Lisa Powers.
Volunteers completing Residential Activity Log. Offsite to 11/8 Cal.
1455 Onsite.
1458 CE-00077 stopped, post calibrated. CE-00077 placed on pump and calibrated.
1459 CE-00077 started. 1/19/04

2297 Kootenai River Rd

Location Powers Date 1/19/04

Project / Client PCE-EPA-Volpe

Author: Gregory Parana CDM

CE-00078 flow CK-OK Filter-OK.
1525 CE-00081 (Dust) collected.
PIF BD-000790 completed
1850 with Mitch & Lisa Powers.
~~1830~~ 1/19/04 Recieved call from Lisa Power-
Pump stopped.
1910 Onsite. CE-00077 stopped, battery
was dead. 221min noted on
counter. CE-00077 post-calibrated.
1920 CE-00078 stopped, post-calibrated
Both samples sealed. ~~and stop~~ 1/19/04
Equipment decontaminated.
Residential Activity log recieved
from tenants. Ref FSDS SA-000167,
PA-000032. Offsite.
1935 Onsite CDM office. Samples
placed in sample storage.
1950 Out of logbook.

1/19/04

2297 Kootenai River Rd.

Location Power's Mitch & Lisa Date 1/20/04

Project Client PCE-EPA/Volpe

Author: Gregory Parana CDM

Activity: Day 2 of 3. Stationary
Air and personal air samples
will continue to be collected
on Mitch & Lisa Powers. Ref.
pg 33. 0850 Onsite. CE-00077
pre-calibrated on pump 666348.
0855 CE-00077 placed on Lisa
Powers and started. Residential
Activity Log given to Lisa to
complete. CE-00078 pre-calibrated.
0900 CE-00078 started. Offsite.
1255 Onsite.
CE-00078 Flow CK-OK, Filter OK.
1310 CE-00077 stopped. Post Cal.
CE-00077 placed on pump
666248 and calibrated.
1313 CE-00077 started (placed on Lisa).
1702 Onsite Flow CK-OK Filter
CK-OK.
2020 Onsite.
2022 CE-00077 stopped and post
calibrated.
2025 CE-00078 stopped and post
calibrated.

1/20/04

2297 Kootenai River Rd
Location: Mitch & Lisa Powers Date: 1/20/04
Project/Client: PCE - EPA/Volpe
Author: Gregory Parana CDM

Equipment decontaminated. Offsite
2055 Onsite CDM Office. Sampled
locked in sample storage.
Ref FSDS SA-000187, PA-000033
PEF/Residential Activity Log BP-000790.
2130 Out of logbook.

1/20/04

2297 Kootenai River Rd.
Location: Mitch & Lisa Powers Date: 1/21/04
Project/Client: PCE EPA/Volpe
Author: Gregory Parana CDM

Activity: Day 3 of 3 collecting
PCE samples. Ref Pg 33 for
details of sampling.
0847 - Onsite. CE-00077 placed
on ~~Lisa P~~ 1/21/04 pump 666348
and pre-calibrated.
0850 CE-00077 placed on Lisa
and started. RAL given
to resident to complete.
CE-00078 placed of HV
pump 2141 and pre-calibrated.
0856 CE-00078 started.
1120 Onsite. CE-00077 flow Ck,
Filter Ck - OK.
1125 CE-00078 stopped. Flow
rate adjusted.
1127 CE-00078 started.
Lisa Powers said they were
leaving. She would stop
pump and start pump when
she returns.
1435 Onsite. Resident not present.
287 minutes on LV pump 666348.
1/21/04

2297 Kootenai River Rd - Mitch Powers

Location Date 1/21/04

Project Client PCE - EPA/Volpe

Author: Gregory Parana [signature] CDM.

CE-00077 post calibrated. CE-00077 placed on pump 626676 and calibrated. Pump placed on hold.
CE-00078 Flow Ck - OK Filter Ck - OK.

1700 Onsite - Resident not home.

1850 Onsite. [initials]

1854 CE-00077 stopped. 27 minutes on counter. Lisa Powers indicated that they just came home.

1857 CE-00078 stopped. Samples post calibrated and sealed. Equipment decontaminated.

1900 Offsite to CDM office.

1915 Samples placed in sample storage. Ref FSDS PA-000031, SA-000209 RAL BD # 000790. [initials]

1925 Out of logbook. To 113 W Oak.

1/21/04

[signature]

233 W. Larch

BD# 000348

LIBBY ASBESTOS PROJECT
Pre-Sampling Interview Form (PIF) for Post Clean-up Evaluation Sampling

Field Logbook No.: 100301 Page No.: 40-41 Site Visit Date: 1/27/04
Address: 233 W. Larch St. Structure Description: House
Occupant: Regina Cantrell Phone Number: 293-6645
Owner (if different than occupant): Peterson Phone Number: N/A
Business Name: N/A
Sampling Team: PARANA
Field Form Check Completed by (100% of forms): RP

Data Item	Value	Notes
CLEAN-UP SUMMARY (To be completed using removal completion folders)		Date Removal Completed: 02/03
Location of vermiculite removed indoors	Attic Walls (interior or exterior) Crawl Space Basement Sub-floor Other:	
Location of vermiculite remaining indoors	Attic Walls (interior or exterior) Crawl Space Basement Sub-floor None Other:	
Interior cleaning conducted during removal	Yes No If Yes, which floors: Basement Ground Second Garage Attic Other:	
Was carpet removed during removal activities?	Yes No NA	
Location of vermiculite removed outdoors	Driveway Flowerbed Garden Stockpile Yard None Other:	
Location of vermiculite remaining outdoors	Driveway Flowerbed Garden Stockpile Yard None Other:	

Data Item	Value	Notes
Pre-Sampling Interview (To be completed with resident)		
Has EPA provided a HEPA vacuum and has it been used since removal?	Yes (No) If Yes, how long after the removal was completed did use of the EPA-Issued HEPA vac begin: Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	Just pick it up 1/26 @ info center
How often do you vacuum with your EPA provided HEPA vacuum?	Once a week More than once a week Twice a month Once a month Less than once a month Other:_____	N/A
Heating Source	Wood/Coal Electric Propane/Gas Other: Fuel 0.1	
Heat Distribution	(Forced air) Radiant Other:_____	
How soon after the removal was a forced air heating source first used?	Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	Unknown
Have any of the occupants been in contact with any vermiculite since the removal was completed?	(Yes) No Unknown	Explain: ~~Floor of~~ 1/27/04 Ground level walls during receptical replacement
Addresses of other homes or properties where the occupants visit and may contain vermiculite	93 St. Regis Rd. Troy MT	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?
Addresses or names of business where occupants work	Pizza Hut Payne Machinery	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?

ADDITIONAL INFORMATION_____

Sheet No.: SA- 000178

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100301 Page No: 40-41 Sampling Date: JP 1/27/04 ~~1/28/04~~ 1/27/04

Address: 233 W Larch St. Owner/Tenant: Regina Couture → Peterson, Terry & Carolyn

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	JP 1/27/04 Cassette 1	JP 1/27/04 Cassette 2	JP 1/27/04 Cassette 3
Index ID	CE- 00107	CE- 00108	CE- 00109
Location ID	BD-000348	BD-000348	BD-000348
Sample Group	Basement	House	House
Location Description	Basement	Ground level Kitchen	2nd level Hallway
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	(FS) FB-(field blank) LB-(lot blank)	(FS) FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	(Indoor) Outdoor NA	(Indoor) Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	(25mm) 37mm	(25mm) 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 (PCM- 0.8)	TEM- .45 (PCM- 0.8)
Flow Meter Type (circle)	(Rotometer) DryCal NA	(Rotometer) DryCal NA	(Rotometer) DryCal NA
Pump ID Number	05910	05913	0891-A
Flow Meter ID No.	92045-1	92045-1	92045-1
Start Date	1/27/04	1/27/04	1/27/04
Start Time	820	0823	0826
Start Flow (L/min)	9.03	9.03	9.03
Stop Date	1/27/04	1/27/04	1/27/04
Stop Time	JP 1/27/04 ~~0742~~ 1942	1945	1949
Stop Flow (L/min)	9.03	9.03	9.03
Pump fault? (circle)	(No) Yes NA	(No) Yes NA	(No) Yes NA
MET Station onsite?	(No) Yes NA	(No) Yes NA	(No) Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear (NA)
Field Comments			~~[illegible]~~ JP 1/27/04
Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): (Yes) No
QC (Field Team): Entered (LFO):	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Couture - Tenant

Location 233 W. Larch St. Date 1/27/04

Project Client PCE - EPA/Volpe

Author: Gregory Parana CDM Gregory Parana

Activity: Stationary Air and Dust Samples will be collected in the house: BD-000348. Sampling will be conducted in level D PPE IAW SAP Addendum, CSS, PCE Sampling 12/1/03. Equipment: Ref. pg 6 of this logbook. Rotometer 92045-1 will be used to calibrate samples. Pump (LV) 502077 calibrated with Dry Cal B1610-S1521 @ 0800.

0810 Onsite. CE-00107 pre-calibrated.

0820 CE-00107 (Basement) started.
CE-00108 pre-calibrated.

0823 CE-00108 (Kitchen) started.
CE-00109 pre-calibrated.

0825 CE-00109 (2nd level) started.
Offsite.

1130 Onsite - Flow Ck, Filter Ck - OK.

1200 CE-00110 (dust) collected.
~~[illegible]~~ 1/27/04. PIF BD-000348 completed with resident.

1510 Onsite. Flow Ck - Filter Ck - OK.

1/27/04

Couture - Tenant

Location 233 W. Larch St. Date 1/27/04

Project Client PCE - EPA / Volpe

Author: Gregory Parana CDM

1942 CE-00107 stopped post calibrated and sealed.

1945 CE-00108 stopped post calibrated and sealed.

1949 CE-00109 stopped, post calibrated and sealed. Equipment decontaminated and removed from site. SA-000176, D-000119.

2010 Samples locked in CDM office.

2030 Out of logbook.

3796 Highway 2 S

BB# 003319

LIBBY ASBESTOS PROJECT
Pre-Sampling Interview Form (PIF) for Post Clean-up Evaluation Sampling

Field Logbook No.: 100304 Page No.: 13-14 Site Visit Date: 11/8/04
Address: 3796 Hwy 2 S. Structure Description: House
Occupant: Elsie Flemming Phone Number: 293-4480
Owner (if different than occupant): N/A Phone Number: N/A
Business Name: N/A
Sampling Team: PARANA
Field Form Check Completed by (100% of forms): [illegible] js

Data Item	Value	Notes
CLEAN-UP SUMMARY (To be completed using removal completion folders)		Date Removal Completed: 10/03
Location of vermiculite removed indoors	(Attic) Walls (interior or exterior) Crawl Space Basement Sub-floor Other:	
Location of vermiculite remaining indoors	Attic (Walls (interior or exterior)) Crawl Space Basement Sub-floor (None) Other:	~~Bedroom~~ / ~~Kitchen~~ jb 9/17/04
Interior cleaning conducted during removal	(Yes) No If Yes, which floors: Basement (Ground) Second Garage Attic Other:	
Was carpet removed during removal activities?	Yes (No) NA	
Location of vermiculite removed outdoors	Driveway (Flowerbed) Garden Stockpile (Yard) None Other:	
Location of vermiculite remaining outdoors	Driveway Flowerbed Garden Stockpile (Yard) None Other:	Bottom of the yard dig between the house & trailer

Data Item	Value	Notes
Pre-Sampling Interview (To be completed with resident)		
Has EPA provided a HEPA vacuum and has it been used since removal?	Yes (No) If Yes, how long after the removal was completed did use of the EPA-issued HEPA vac begin: Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	Got the vac 1/5/04 Has not used it
How often do you vacuum with your EPA provided HEPA vacuum?	Once a week More than once a week Twice a month Once a month Less than once a month Other: Twice a week	The vac will be used twice a week
Heating Source	Wood/Coal Electric Propane/Gas Other: Fuel Oil	
Heat Distribution	(Forced air) Radiant Other:	
How soon after the removal was a forced air heating source first used?	(Immediately) 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
Have any of the occupants been in contact with any vermiculite since the removal was completed?	Yes (No) Unknown	Explain:
Addresses of other homes or properties where the occupants visit and may contain vermiculite	No	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?
Addresses or names of business where occupants work	No	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?

ADDITIONAL INFORMATION – Associate with samples CE-00026, CE-00027, and CE-00029.

Sheet No.: SA- 000180

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100304 Page No: 13-14 Sampling Date: 1/8/04

Address: 3796 Hwy 2 S. Owner/Tenant: Elsie Flemming

Business Name: N/A

Land Use: Residential School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC CDM Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00026		
Location ID	BD-003319		
Sample Group	House		
Location Description	Living Room		
Category (circle)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	Indoor Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	25mm 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	0891		
Flow Meter ID No.	92045-1		
Start Date	1/8/04		
Start Time	0901 / 1202		
Start Flow (L/min)	9.01 / 9.01		
Stop Date	1/8/04		
Stop Time	1200 / 2015		
Stop Flow (L/min)	9.21 / 9.01		
Pump fault? (circle)	No Yes NA	No Yes NA	No Yes NA
MET Station onsite?	No Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) ____ Entered (LFO) JP	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by DP	QC by TC

vs 101503

Sheet No.: D- 000086

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100304 Page No: 13-14 Sampling Date: 1/8/04

Address: 3796 Hwy 2 S. Owner/Tenant: Elsie Flemming

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00027	CE- 00029	CE-00027 (continued)
Location ID	BD-003319	BD-003319	
Sample Group (circle) (Subgroup of the property)	Garage, (House), Shed, Pump House Other _____	Garage, (House), Shed, Pump House Other _____	Garage, House, Shed, Pump House Other _____
Location Description (circle) (Detailed description point within the location)	Basement, (Ground Floor), Second Level Other _____	Basement, Ground Floor, Second Level Other N/A	Basement, Ground Floor, Second Level Other _____
Matrix Type (circle)	(Horizontal Surfaces) (High Traffic Areas) Other _____	Horizontal Surfaces High Traffic Areas Other N/A	Horizontal Surfaces High Traffic Areas Other _____
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS (FB-(field blank)) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm^2) (circle)	100 200 300 (400) NA	100 200 300 (NA)	100 200 300 NA
Filter Diameter (circle)	(25mm) 37mm	(25mm) 37mm	25mm 37mm
Pore Size (circle)	(TEM- .45) PCM- 0.8	(TEM- .45) PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer (Dry-Cal) NA	Rotometer Dry-Cal (NA)	Rotometer Dry-Cal NA
Pump ID No.	666023	NA	
Flow Meter ID No.	B1610 S1521		
Start Time	1609 1613 1615		1618
Start Flow (L/min)	2.0 2.0 2.0		2.0
Stop Time	1611 1615 1617		1620
Stop Flow (L/min)	2.0 2.0 2.0	1/8/04	2.0
Pump Fault? (circle)	(No) Yes	No Yes 1/8/04	No Yes
Field Comments	100 cm^2 - Living Room floor @ front entrance 100 cm^2 - Kitchen shelf of South Wall 100 cm^2 - Floor of Bedroom adjacent Bathroom	100 cm^2 100 cm^2 100 cm^2	100 cm^2 - Top of hot water tank in Bathroom 100 cm^2 100 cm^2
Cassette Lot Number: 23802	Archive Blank (circle): Yes No	1/8/04 Archive Blank (circle): (Yes) (No)	Archive Blank (circle): Yes No
Entered (LFO)	Volpe: Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by LP	QC by R

vs 101503

Flemming
3796 Hwy 2 S.
PCE-EPA/Volpe

1/8/04
Author: Gregory Parent
CDM.

Activity: Stationary Air and dust sampling will be completed inside of BD-003319. All sampling will be conducted IAW SAP Addendum, CSS, PCE Sampling 12/1/03. Equipment: Ref pg. 3 of this logbook.

0850 Onsite. Rotometer 92045-1 will be used to calibrate air samples. Low volume sampling pump 666023 calibrated with dry-cal B1610 S1521. CE-00026 pre-calibrated.

0901 CE-00026 started. Offsite.

1200 Onsite. CE-00026 Flow ck. Re-calibrated. Filter ck-OK. PIF completed for BD-003319 Offsite.

1605 Onsite. CE-00026 Flow ck-Filter Ck - OK.

1617 CE-00027 (Dust) Collected. CE-00029 Blank exposed and sealed. OFFsite.

1/8/04

14 Fleming 1/8/04
5796 Hwy 2 S.
Author: Gregory Parsons CDM
2010 Onsite.
2015 CE-00026 stopped post calibrating and sealed. Equipment decontaminated at the site. Offsite to CDM office. Samples locked in sample storage @ 318 Louisiana Ave. Ref FSDS D-000086, SA-000186.
2030 Out of logbook.

1/8/04

38 Spencer Hill Way

BD# 002380

LIBBY ASBESTOS PROJECT
Pre-Sampling Interview Form (PIF) for Post Clean-up Evaluation Sampling

1/28/04

Field Logbook No.: 100301 Page No.: 42-43 Site Visit Date: 1-28-~~02~~ 04

Address: 38 Spencer Hill Way Structure Description: House

Occupant: Leonard and Ruth Rice Phone Number: 293-4518

Owner (if different than occupant): N/A Phone Number: N/A

Business Name: N/A

Sampling Team: PARANA, COM

Field Form Check Completed by (100% of forms): JP ps

5/12/04

Data Item	Value	Notes 9/03 jb
CLEAN-UP SUMMARY (To be completed using removal completion folders)		Date Removal Completed: ~~08/03~~
Location of vermiculite removed indoors	Attic Walls (interior or exterior) Crawl Space Basement Sub-floor Other: None	Removed vermiculite soil from inside of wood shed. Garage was also cleaned
Location of vermiculite remaining indoors	Attic Walls (interior or exterior) Crawl Space Basement Sub-floor None Other:	
Interior cleaning conducted during removal	Yes No If Yes, which floors: Basement Ground Second Garage Attic Other:	
Was carpet removed during removal activities?	Yes No NA	
Location of vermiculite removed outdoors	Driveway Flowerbed Garden Stockpile Yard None Other:	
Location of vermiculite remaining outdoors	Driveway Flowerbed Garden Stockpile Yard None Other:	

Data Item	Value	Notes
Pre-Sampling Interview (To be completed with resident)		
Has EPA provided a HEPA vacuum and has it been used since removal?	Yes No If Yes, how long after the removal was completed did use of the EPA-issued HEPA vac begin: Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	Recieved HEPA vac on 1/16/04.
How often do you vacuum with your EPA provided HEPA vacuum?	Once a week More than once a week Twice a month Once a month Less than once a month Other:	
Heating Source	Wood/Coal Electric Propane/Gas Other: Fuel Oil	
Heat Distribution	Forced air Radiant Other:	Wood - Radiant Fuel Oil -
How soon after the removal was a forced air heating source first used?	Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	2 months
Have any of the occupants been in contact with any vermiculite since the removal was completed?	Yes No Unknown	Explain:
Addresses of other homes or properties where the occupants visit and may contain vermiculite.	6683 Farm to Market Rd	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?
Addresses or names of business where occupants work	Retired	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?

ADDITIONAL INFORMATION

Sheet No.: PA- 000024

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR PERSONAL AIR

Field Logbook No: 100301 Page No: 42-43 Sampling Date: 1/28/04

dress: 38 Spencer Hill Ave. Way JB 2/2/04 Owner/Tenant: Rice

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Person Sampled: N/A SNN: N/A Task: Post Clean Up Evaluation

Data Item	Cassette 1 (JB 1/28/04)	Cassette 2	Cassette 3
Index ID	CE- 00111		
Location ID	BN-002380		
Sample Group	House		
Location Description	Shoulder		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor	Indoor Outdoor	Indoor Outdoor
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
ore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal (JB 1/28/04) NA	Rotometer DryCal NA
Pump ID Number	612058	626676	
Flow Meter ID No.	92045-1	92045-1	
Start Date	1/28/04	1/28/04	
Start Time	0835	1256	
Start Flow (L/min)	2.77	2.77	
Stop Date	1/28/04	1/28/04	
Stop Time	1238	1800	
Stop Flow (L/min)	2.77	2.77	
Pump fault? (circle)	No (Yes) NA	(No) Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	(No) Yes NA	No Yes NA
Sample Type	TWA EXC (NA)	TWA EXC (NA)	TWA EXC NA
Field Comments Cassette Lot Number: 310201	243 on counter 243 min x 2.77 L/min = 673 L Archive Blank (circle): Yes No	JB 1/28/04 664 min x 2.77 L/min 304 = 842 L Archive Blank (circle): Yes No	JB 1/28/04 Archive Blank (circle): Yes No
QC (Field Team) JB Entered (LFO) JB	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: PA- 000051

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR PERSONAL AIR

Field Logbook No: 100301 Page No: 44-45 1/29/04 Sampling Date: 1/29/04

Address: 38 Spencer Hill Way Owner/Tenant: Rice

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Person Sampled: N/A SNN: N/A Task: Post Clean Up Evaluation

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE-00111		
Location ID	BRO-002380		
Sample Group	House		
Location Description	Shoulder	JP 1/29/04	
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor	Indoor Outdoor	Indoor Outdoor
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal ~~NA~~	Rotometer DryCal NA
Pump ID Number	626676	666248	
Flow Meter ID No.	92045-1	92045-1	
Start Date	1/29/04	1/29/04	
Start Time	0820	1453	
Start Flow (L/min)	2.77	2.77	
Stop Date	1/29/04	1/29/04	
Stop Time	1450	1945	
Stop Flow (L/min)	2.77	2.77	
Pump fault? (circle)	(No) Yes NA	(No) Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	(No) Yes NA	No Yes NA
Sample Type	TWA EXC (NA)	TWA EXC (NA)	TWA EXC NA
Field Comments	390 min x 2.77 l/min = 1080 l	292 min x 2.77 l/min = 809 l V_T = 1889 l	JP 1/29/04
Cassette Lot Number: 310201	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) ____ Entered (LFO) JB	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: PA-_____

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR PERSONAL AIR

Field Logbook No: 100301 Page No: 45 Sampling Date: 1/30/04

'dress: 38 Spencer Hill Way Owner/Tenant: Rice

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Person Sampled: N/A SNN: N/A Task: Post Clean Up Evaluation

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE-000111		
Location ID	BD-002380		
Sample Group	House		
Location Description	Shoulder		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor	Indoor Outdoor	Indoor Outdoor
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
ore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	626676	666248	
Flow Meter ID No.	92045-1	92045-1	
Start Date	1/30/04	1/30/04	
Start Time	0815	1610	
Start Flow (L/min)	2.77	2.77	
Stop Date	1/30/04	1/30/04	
Stop Time	1607	1935	
Stop Flow (L/min)	2.77	2.77	
Pump fault? (circle)	(No) Yes NA	(No) Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	(No) Yes NA	No Yes NA
Sample Type	TWA EXC (NA)	TWA EXC (NA)	TWA EXC NA
Field Comments Cassette Lot Number: 310201	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	1/30/04 Archive Blank (circle): Yes No
QC (Field Team) JB Entered (LFO) JB	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: SA-_____

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100301 Page No: 42-43 Sampling Date: 1/28/04

Address: 38 Spencer Hill Ave Owner/Tenant: Rice

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	1/28/04 Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00112		
Location ID	BP-002380		
Sample Group	House		
Location Description	Hallway Ground level		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	2141		
Flow Meter ID No.	92045-1		
Start Date	1/28/04		
Start Time	0840		
Start Flow (L/min)	3.61		
Stop Date	1/28/04		
Stop Time	1756		
Stop Flow (L/min)	3.61		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: 310201	556 min x 3.61 L/min = 2007 L Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	1/28/04 Archive Blank (circle): Yes No
QC (Field Team) JB Entered (LFO) JB	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide initials)	Completed by	QC by

vs 101503

Sheet No.: SA-

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100301 Page No: 44-48 Sampling Date: 1/29/04

Address: 38 Spencer Hill Way Owner/Tenant: Rice

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE-00112		
Location ID	BD-002380		
Sample Group	House		
Location Description	Hallway Ground Level		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	2141		
Flow Meter ID No.	92045-1		
Start Date	1/29/04		
Start Time	0824		
Start Flow (L/min)	3.61		
Stop Date	1/29/04		
Stop Time	1747		
Stop Flow (L/min)	3.82		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: 310201	683 x 3.72 L/min = 2541 L Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	1/29/04 Archive Blank (circle): Yes No
QC (Field Team) JB Entered (LFO)	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: SA-_____

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100301 Page No: 45 Sampling Date: 1/30/04

Address: 38 Spencer Hill Way Owner/Tenant: Rice

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE-000112		
Location ID	BD-002380		
Sample Group	House		
Location Description	JP 1/30/04 ~~Shoulder~~ Hallway Ground level		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	2141		
Flow Meter ID No.	92045-1		
Start Date	1/30/04		
Start Time	0820		
Start Flow (L/min)	3.61		
Stop Date	1/30/04		
Stop Time	1939		
Stop Flow (L/min)	3.61		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments	679 min x 3.61 L/min = 2451 L		JP 1/30/04
Cassette Lot Number: 310201	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) JB Entered (LFO) JB	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: D- 000136

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100301 Page No: 45 Sampling Date: 1/30/04

Iress: 38 Spencer Hill Way Owner/Tenant: Rice

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1 (JP 1/30/04)	Cassette 2 (JP 1/30/04)	Cassette 3
Index ID	CE- 00116	CE- 00117	CE-00116
Location ID	BD-002380	BD-002380	BD-002380
Sample Group (circle) (Subgroup of the property)	Garage, (House), Shed, Pump House Other _____	Garage, House, Shed, Pump House Other JP 1/30/04 Blank	Garage, House, Shed, Pump House Other _____
Location Description (circle) (Detailed description point within the location)	Basement, (Ground Floor), Second Level Other _____	Basement, Ground Floor, Second Level Other N/A	Basement, Ground Floor, Second Level Other _____
Matrix Type (circle)	(Horizontal Surfaces) (High Traffic Areas) Other _____	Horizontal Surfaces High Traffic Areas Other N/A	Horizontal Surfaces High Traffic Areas Other _____
ategory (circle)	(FS) FB-(field blank) LB-(lot blank)	FS (FB-(field blank)) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm^2) (circle)	100 200 300 (400) NA	100 200 300 (NA)	100 200 300 NA
Filter Diameter (circle)	(25mm) 37mm	(25mm) 37mm	25mm 37mm
Pore Size (circle)	(TEM- .45) PCM- 0.8	(TEM- .45) PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer (Dry-Cal) NA	Rotometer Dry-Cal (NA)	Rotometer Dry-Cal NA
Pump ID No.	626666	N/A	
Flow Meter ID No.	B1610-51521		
Start Time	1145 1149 1154		1157
Start Flow (L/min)	2.0 2.0 2.0		2.0
Stop Time	1147 1151 1156		1159
Stop Flow (L/min)	2.0 2.0 2.0	JP 1/30/04	2.0
Pump Fault? (circle)	(No) Yes	~~No Yes~~ JP 1/30/04	No Yes
Field Comments	100 cm^2 - Living Room floor 100 cm^2 - Laundry Room floor 100 cm^2 - Kitchen window sill	100 cm^2 100 cm^2 100 cm^2	100 cm^2 - NW Computer room top of desk 100 cm^2 100 cm^2
Cassette Lot Number:	23802		
	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
Entered (LFO) JB	Volpe: Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Rice

Location 38 Spencer Hill Way Date 1/28/04

Project / Client PCE - EPA/Volpe

Author: Gregory Parana CDM

Activity: Day 1 of 3. Stationary Air and Personal Air samples will be collected over a 3 day period. Dust sample will be collected. All samples will be collected in BD-002380. Sampling will be conducted in level D PPE IAW SAP Addendum, CSS, PCE Sampling 12/1/03. Equipment - Reference page 6 of this logbook.

0815 Onsite. CE-00111 pre-calibrated.

0835 CE-00111 placed on Leonard Rice. The Rice's will switch the pump - sample between each other over the 3 day period. CE-00112 (SA) pre-calibrated.

0840 CE-00112 started. Offsite.

0850 1108 Louisiana Ave. No answer @ Door. Called and left message on answering machine.

1110 Onsite 38 Spencer Hill way. PIF BD-002380 completed with Leonard and Ruth Rice

1/28/04

Rice

Location 38 Spencer Hill Way Date 1/28/04

Project / Client PCE - EPA/Volpe

Author: Gregory Parana CDM

Residential Activity log BD 002380 1/28/04
Ref FSDS PA-000024, SA-000177

CE-00111 Flow Ck - OK. Filter OK.

CE-00112 Flow Ck - Filter Ck - OK.

1240 Contacted by Leonard Rice. Stated that pump stopped.

1250 Onsite. LV pump 612058 Low Battery fault. Post-Calibrated sample CE-00111. Place CE-00111 on LV pump 626676 and calibrated.

1256 CE-00111 started on RR. CE-00112 Flow, Filter Ck. OK.

1608 Onsite. CE-00111, 112 Flow and Filter Ck - OK. Rice's leaving @ 1830. Requested sample stopped @ 1800.

1754 Onsite.

1756 CE-00112 stopped. Post Calibrated and sealed.

1800 CE-00111 stopped. Post calibrated and sealed. Samples placed in sample storage CDM office. 1835 Out of logbook.

1/28/04

Location Rice 38 Spencer Hill Way Date 1/29/04

Project / Client PCE - EPA / Volpe

Author: Gregory Parana CDM [signature]

Activity: Day 2 of 3 of the PCE. Ref. pg 42. Equipment Ref Pg 6.

0810 Onsite. CE-00111 on pump 626676 and calibrated.

0820 CE-00111 started. LR CE-00112 pre-calibrated.

0824 CE-00112 started. Residential Activity log given to resident. [initials]

1120 Onsite. Resident did not answer door. Offsite to 1202 ~~Lour~~ Idaho.

1440 Onsite. RR wearing sample pump.

1450 CE-00111 stopped. Post Calibrated. CE-00111 placed on LV Pump 666248 and calibrated. [initials]

1453 CE-00111 started. Sample RR. Filter - OK. [initials]

CE-00112 Filter 10% loaded. Flow - OK.

1510 Offsite to 1202 Idaho Ave. [initials]

1945 Onsite CE-00111 stopped, Post caled.

1947 CE-00112 stopped - Post Calibrated. Equipment deconned.

2010 C CDM office. Samples locked. Ref FSDS SA-000178, PA-000051.

[signature] 1/29/04

Location Rice 38 Spencer Hill Way Date 1/30/04

Project / Client PCE - EPA / Volpe

Author: Gregory Parana CDM [signature]

Activity: Day 3 of 3 of the PCE. Ref. Pg 42. 0725 LV 626666 calibrated with Dry Cal B1610-S1521. [initials]

0810 Onsite. CE-000111 calibrated on LV 626676.

0815 CE-000111 started, placed on LR. CE-000112 calibrated on HV 2141.

0820 CE-000112 started. Offsite to Help SO. [initials]

1125 Onsite Flow Ck Filter Ck - Ok

1414 Onsite - Flow - Filter Ck - Ok

1605 Onsite.

1607 CE-000111 stopped calibrated.

1610 CE-000111 started on pump 666248.

Late Entry 1159 CE-00116 (dust) collected. CE-00117 (Blank) exposed and sealed.

1933 Onsite. [initials]

1935 CE-000111 stopped.

1939 CE-000112 stopped. Samples post calibrated and sealed. Equipment deconned 1950 Onsite @ office. Samples locked in sample storage Ref FSDS SA-000182, PA-000052, D-000136.

[signature] 1/30/04

450 Farm to Market Rd

BD# 002514

LIBBY ASBESTOS PROJECT
Pre-Sampling Interview Form (PIF) for Post Clean-up Evaluation Sampling

Field Logbook No.: 100305 Page No.: 8,9 Site Visit Date: 12/18/03

Address: 450 Farm to Market Structure Description: House

Occupant: Vernon McCully Phone Number:

Owner (if different than occupant): NA Phone Number: NA

Business Name: NA

Sampling Team: Shawn Oliveira

Field Form Check Completed by (100% of forms): [signature]

Data Item	Value	Notes
CLEAN-UP SUMMARY (To be completed using removal completion folders)		Date Removal Completed: 10/03
Location of vermiculite removed indoors	(Attic) Walls (interior or exterior) Crawl Space Basement Sub-floor Other:	
Location of vermiculite remaining indoors	Attic Walls (interior or exterior) Crawl Space Basement Sub-floor ~~None~~ (Other:) JB 9-17-04	~~VCI remains along W~~ From attic, VCI can be seen around base of Chimney 8-10' down around area. Chimney sealed off.
Interior cleaning conducted during removal	~~Yes~~ (No) JB 9/21/04 If Yes, which floors: Basement Ground Second Garage Attic Other:	
Was carpet removed during removal activities?	Yes (No) NA	
Location of vermiculite removed outdoors	Driveway Flowerbed Garden Stockpile (Yard) None Other:	
Location of vermiculite remaining outdoors	Driveway Flowerbed (Garden) Stockpile (Yard) None Other:	

Data Item	Value	Notes
Pre-Sampling Interview (To be completed with resident)		
Has EPA provided a HEPA vacuum and has it been used since removal?	Yes (No) If Yes, how long after the removal was completed did use of the EPA-issued HEPA vac begin: Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
How often do you vacuum with your EPA provided HEPA vacuum?	Once a week More than once a week Twice a month Once a month Less than once a month Other: Does not like vacuum.	Difficult for handicapped people to use.
Heating Source	Wood/Coal ~~Electric~~ Propane/Gas Other: Oil	
Heat Distribution	(Forced air) Radiant Other:	
How soon after the removal was a forced air heating source first used?	Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	Unknown
Have any of the occupants been in contact with any vermiculite since the removal was completed?	Yes (No) Unknown	Explain:
Addresses of other homes or properties where the occupants visit and may contain vermiculite	NA	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?
Addresses or names of business where occupants work	Retired.	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?

ADDITIONAL INFORMATION

Sheet No.: D- 000091

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100305 Page No: 8, 9 Sampling Date: 12/18/03

Address: 450 Farm to Market Owner/Tenant: Vernon McCully

Business Name: NA

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: Shawn Oliveira

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00058		
Location ID	BD-002514		
Sample Group (circle) (Subgroup of the property)	Garage, (House) Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____
Location Description (circle) (Detailed description point within the location)	(Basement) (Ground Floor) Second Level Other_____	Basement, Ground Floor, Second Level Other_____	Basement, Ground Floor, Second Level Other_____
Matrix Type (circle)	(Horizontal Surfaces) (High Traffic Areas) Other_____	Horizontal Surfaces High Traffic Areas Other_____	Horizontal Surfaces High Traffic Areas Other_____
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm^2) (circle)	100 200 300 (400)	100 200 300 NA	100 200 300 NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	(TEM- .45) PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer (Dry-Cal) NA	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA
Pump ID No.	00613		
Flow Meter ID No.	B-1610 S-1521		
Start Time (1811)	1811 / 1814 / 1817	1820	
Start Flow (L/min)	2.0 / 2.0 / 2.0		
Stop Time	1813 / 1816 / 1819	1822	
Stop Flow (L/min)	2.0 / 2.0 / 2.0		
Pump Fault? (circle)	(No) Yes	No Yes	No Yes
Field Comments Cassette Lot Number: _____	100 cm^2 Ground level front entrance carpet 100 cm^2 Ground level back entrance landeum 100 cm^2 Ground level horizontal surfaces	100 cm^2 Basement tile floor, bottom of steps 100 cm^2 100 cm^2	100 cm^2 100 cm^2 100 cm^2
	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
Entered (LFO) KD	Volpe: Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: SA- 000171

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100305 Page No: 8,9 Sampling Date: 12/18/03

Address: 450 Farm to Market Owner/Tenant: Vernon McCully

Business Name: NA

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: Shawn Oliveira

Data Item	50 12/18/03 Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00056		
Location ID	BD-002514		
Sample Group	House		
Location Description	Hallway connecting Living room & bedroom		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	08911		
Flow Meter ID No.	95356-3		
Start Date	12/18/03		
Start Time	836		
Start Flow (L/min)	9.21		
Stop Date	12/18/03		
Stop Time	1952		
Stop Flow (L/min)	9.21		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) ✓ Entered (LFO) ✓	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: SA- 000184

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100305 Page No: 8, 9 Sampling Date: 12/18/03

Address: 450 Farm to Market Owner/Tenant: Vernon McCully

Business Name: NA

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: Shawn Oliveira

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00057		
Location ID	~~House~~ BD-002514 SO 12/18/03		
Sample Group	House		
Location Description	Basement		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	0387		
Flow Meter ID No.	953.56-3		
Start Date	12/18/03		
Start Time	8.39 ~~SO~~		
Start Flow (L/min)	9.21 ~~SO~~		
Stop Date	12/18/03		
Stop Time	19.54 ~~SO~~		
Stop Flow (L/min)	9.21 ~~SO~~		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) ✓ Entered (LFO)	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

8 Vernon McCully 12/18/03

Volpe/EPA Author: Shawn Oliveira

Activity: Post-Cleanup Evaluation Sampling at 450 Farm to Market Rd. BDt

Stationary Air and Dust Samples will be collected per SAP Addendum, PCE Sampling, CSS, 12/1/03. Dry cal B-1610, S-1521 used to calibrate Low Vol pump for Dust Samples.

Equipment Ref pg 48 of this book.

826 Arrive onsite. McCully's present.

836 CE-00056 placed on Pump, pre-calibrated, and started. Ref FSDS SA-000171

839 CE-00057 placed on Pump, pre-calibrated, and started. Ref FSDS SA-000184.

853 Depart site.

1133 Arrive onsite, perform flow and filter checks on CE-00056, 57. All ok.

1146 Depart site.

1440 Arrive onsite, resident not home, unable to perform flow + filter checks.

1802 Arrive at site, perform flow and filter checks on CE-00056, 57. All ok.

1822 Dust Sample CE-00058 collected, capped and sealed. Ref. FSDS-D-000091.

1828 Complete P.I.F.

12/18/03 Shawn Oliveira

Vernon McCully Author: Shawn Oliveira [redacted] 8/[redacted]

Volpe/EPA Post Clean up Evaluation Sampling.

1840 Depart Site

1946 Arrive at site, Complete Residential Activity.

1952 CE-00056 stopped, post-calibrated, and sealed. Ref. FSDS SA-000171.

1954 CE-00057 stopped, post-calibrated, and sealed. Ref FSDS SA-000184.

2002 DCON Equipment, bag up PPE.

2014 Depart site.

12/18/03

12/18/03 Shawn Oliveira

505 Louisiana Ave

BD# 002032

LIBBY ASBESTOS PROJECT
Pre-Sampling Interview Form (PIF) for Post Clean-up Evaluation Sampling

Field Logbook No.: 100304 Page No.: 17-18 Site Visit Date: 1/13/04

Address: 505 Louisiana Ave. Structure Description: ~~Perez~~ 1/13/04 House

Occupant: Perez Phone Number: 293-7344

Owner (if different than occupant): same Phone Number: same

Business Name: N/A

Sampling Team: PARANA - CDM

Field Form Check Completed by (100% of forms): YP PS

Data Item	Value	Notes
CLEAN-UP SUMMARY (To be completed using removal completion folders)		**Date Removal Completed:** 3/03
Location of vermiculite removed indoors	(Attic) Walls (interior or exterior) Crawl Space Basement Sub-floor Other:	Attic Above Foyer
Location of vermiculite remaining indoors	(Attic) ~~Walls (interior or exterior)~~ JP 5/12/04 Crawl Space Basement Sub-floor None Other:	~~NE Walls~~ JP 5/12/04
Interior cleaning conducted during removal	(Yes) No. If Yes, which floors: Basement ~~Ground~~ ~~Second~~ JD 9/21/04 (Garage) Attic Other:	Sealed vermiculite in garage attic in place
Was carpet removed during removal activities?	Yes (No) NA	
Location of vermiculite removed outdoors	Driveway Flowerbed Garden Stockpile Yard (None) Other:	
Location of vermiculite remaining outdoors	Driveway Flowerbed Garden Stockpile Yard (None) Other:	

Data Item	Value	Notes
Pre-Sampling Interview (To be completed with resident)		
Has EPA provided a HEPA vacuum and has it been used since removal?	Yes No If Yes, how long after the removal was completed did use of the EPA-issued HEPA vac begin: Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
How often do you vacuum with your EPA provided HEPA vacuum?	Once a week More than once a week Twice a month Once a month Less than once a month Other:_____	
Heating Source	Wood/Coal Electric Propane/Gas Other:_____	
Heat Distribution	Forced air Radiant Other:_____	
How soon after the removal was a forced air heating source first used?	Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
Have any of the occupants been in contact with any vermiculite since the removal was completed?	Yes No Unknown	Explain:
Addresses of other homes or properties where the occupants visit and may contain vermiculite	None	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?
Addresses or names of business where occupants work	Lincoln County Public School Administration Building	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite? No- Removal conducted in 2003

ADDITIONAL INFORMATION_____

Sheet No.: SA- 000214

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100304 Page No: 17-18 Sampling Date: 1/13/04

Address: 505 Louisiana Ave. Owner/Tenant: Perez

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1 (JP 1/13/04)	Cassette 2 (JP 1/13/04)	Cassette 3
Index ID	CE- 00039	CE- 00040	
Location ID	BD-002032	BD-002032	
Sample Group	House	House	
Location Description	Ground level Kitchen	2nd level @ top of steps	
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	(Indoor) Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	(25mm) 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	(Rotometer) DryCal NA	Rotometer DryCal NA
Pump ID Number	0891-A	0689	
Flow Meter ID No.	92045-1	92045-1	
Start Date	1/13/04	1/13/04	
Start Time	0850	0852	
Start Flow (L/min)	9.01	9.01	
Stop Date	1/13/04	1/13/04	
Stop Time	2005	2010	
Stop Flow (L/min)	9.01	9.01	
Pump fault? (circle)	(No) Yes NA	(No) Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	(No) Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments			JP 1/13/04
Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) ____ Entered (LFO) JB	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: D- 000102

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100304 Page No: 17-18 Sampling Date: 1/13/04

Jress: 505 Louisiana Ave. Owner/Tenant: Perez

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CF- 00061		
Location ID	BD-002032		
Sample Group (circle) (Subgroup of the property)	Garage, (House) Shed, Pump House Other	Garage, House, Shed, Pump House Other	Garage, House, Shed, Pump House Other
Location Description (circle) (Detailed description point within the location)	Basement, (Ground Floor), (Second Level) Other	Basement, Ground Floor, Second Level Other	Basement, Ground Floor, Second Level Other
Matrix Type (circle)	(Horizontal Surfaces) (High Traffic Areas) Other	Horizontal Surfaces High Traffic Areas Other	Horizontal Surfaces High Traffic Areas Other
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm^2) (circle)	100 200 300 (400) NA	100 200 300 NA	100 200 300 NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	(TEM- .45) PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer (Dry-Cal) NA	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA
Pump ID No.	612058		
Flow Meter ID No.	B1610/S1521		
Start Time	1416 1420 1426	1429	
Start Flow (L/min)	2.0 2.0 2.0	2.0	
Stop Time	1418 1422 1428	1431	
Stop Flow (L/min)	2.0 2.0 2.0	2.0	
Pump Fault? (circle)	(No) Yes	No Yes	No Yes
Field Comments	100 cm^2 Ground level on floor @ front entrance 100 cm^2 Ground level kitchen window sill 100 cm^2 2nd level on floor	100 cm^2 2nd level top of book shelf. 100 cm^2 100 cm^2	100 cm^2 100 cm^2 100 cm^2
Cassette Lot Number: 23802	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
Entered (LFO)	Volpe: Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

1/13/04

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

505 Louisiana Ave. - Perez 1/13/04 17
PCE-EPA/Volpe
Author: Gregory Parsons CDM

Activity Stationary Air and Dust samples will be collected inside of BD-002032. Sampling will be conducted in level D PPE IAW SAP Addendum, CSS, PCE sampling 12/1/03. Equipment Ref Pg 3 of this logbook. Rotometer 92045-1 will be used to calibrate air samples. Dry Cal B1610 S1521 used to calibrate low volume pump 612058 @ CDM office prior to dust sampling.

0842 Onsite. Mr. Perez present. CE-00039 pre-calibrated.

0850 CE-00039 (Kitchen) started. CE-00040 pre-calibrated.

0852 CE-00040 (2nd level) started. Offsite.

1130 Onsite. PIF # BD-002032 completed. Flow Ck-OK and Filter Ck-OK. Offsite to 154 Ski Rd.

1/13/04

505 Louisiana Ave - Area 11/3/04
PCE - EPA/Volpe
Author Gregory Parana CDM
1405 Onsite.
1431 CE-00061 collected. Equipment decontaminated. Flow ck-ok. Filter ck-ok. Offsite to 154 Ski Rd.
1730 Onsite. Resident not home.
2005 CE-00039 stopped, post calibrated and sealed.
2010 CE-00040 stopped, post calibrated and sealed.
All equipment decontaminated. Offsite to CDM office.
Ref FSDS D-000102, SA-000214.
Samples locked in sample storage. 2030 out of log book.

11/3/04

52 Pearl St

BD# 002374

LIBBY ASBESTOS PROJECT
Pre-Sampling Interview Form (PIF) for Post Clean-up Evaluation Sampling

Field Logbook No.: 100305 Page No.: 10-11 Site Visit Date: 1/16/04

Address: 52 Rail St. Structure Description: House

Occupant: Brothers Phone Number: 293-5706

Owner (if different than occupant): same Phone Number: same

Business Name: N/A

Sampling Team: PARANA

Field Form Check Completed by (100% of forms): MP ps

Data Item	Value	Notes
CLEAN-UP SUMMARY (To be completed using removal completion folders)		**Date Removal Completed:** 05/03
Location of vermiculite removed indoors	Attic Walls (interior or exterior) Crawl Space Basement Sub-floor Other:	
Location of vermiculite remaining indoors	Attic Walls (interior or exterior) Crawl Space Basement Sub-floor None Other:	
Interior cleaning conducted during removal	Yes No If Yes, which floors: Basement Ground Second Garage Attic Other:	
Was carpet removed during removal activities?	Yes No NA	
Location of vermiculite removed outdoors	Driveway Flowerbed Garden Stockpile Yard ~~None~~ Other:	< 1 yd JB 9/17/04
Location of vermiculite remaining outdoors	Driveway Flowerbed Garden Stockpile Yard None Other:	

Data Item	Value	Notes
Pre-Sampling Interview (To be completed with resident)		
Has EPA provided a HEPA vacuum and has it been used since removal?	Yes (No) If Yes, how long after the removal was completed did use of the EPA-issued HEPA vac begin: Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	Will Recieve HEPA Vac today
How often do you vacuum with your EPA provided HEPA vacuum?	Once a week More than once a week Twice a month Once a month Less than once a month Other:_____	~~Did not recieve vac yet~~ received 1/16/04 9/12/04 JB
Heating Source	Wood/Coal Electric Propane/Gas Other: Fuel Oil	
Heat Distribution	(Forced air) Radiant Other:_____	–
How soon after the removal was a forced air heating source first used?	Immediately 1 to 2 months (3 to 4 months) 5 to 6 months more than 6 months	
Have any of the occupants been in contact with any vermiculite since the removal was completed?	Yes (No) Unknown	Explain:
Addresses of other homes or properties where the occupants visit and may contain vermiculite	None	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?
Addresses or names of business where occupants work	Retired	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?

ADDITIONAL INFORMATION_____

Sheet No.: SA- 000216

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100305 Page No: 10-11 Sampling Date: 1/16/04

Address: 52 Pearl St. Owner/Tenant: Brothers

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	1/16/04 Cassette 1	1/16/04 Cassette 2	1/16/04 Cassette 3
Index ID	CE- 00065	CE- 00066	CE- 00067
Location ID	BA-002374	BA-002374	BA-002374
Sample Group	House	House	House
Location Description	Basement Bedroom	Ground level ~~tray~~ living Room	2nd level Hallway
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	(FS) FB-(field blank) LB-(lot blank)	(FS) FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	(Indoor) Outdoor NA	(Indoor) Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	(25mm) 37mm	(25mm) 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 (PCM- 0.8)	TEM- .45 (PCM- 0.8)
Flow Meter Type (circle)	(Rotometer) DryCal NA	(Rotometer) DryCal NA	(Rotometer) DryCal NA
Pump ID Number	0891	0591.3	0387
Flow Meter ID No.	92045-1	92045-1	92045-1
Start Date	1/16/~~03~~ 04	1/16/~~03~~ 04	1/16/~~03~~ 04
Start Time	0849	0851	0853
Start Flow (L/min)	9.01	9.01	9.01
Stop Date	1/16/~~03~~ 04	1/16/~~03~~ 04	1/16/04
Stop Time	2005	2009	2014
Stop Flow (L/min)	9.01	9.40	9.21
Pump fault? (circle)	(No) Yes NA	(No) Yes NA	(No) Yes NA
MET Station onsite?	(No) Yes NA	(No) Yes NA	(No) Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear (NA)
Field Comments			
Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) GV Entered (LFO) JB	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by GV	QC by [illegible]

vs 101503

Sheet No.: D- _____

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100305 Page No: 10-11 Sampling Date: 1/16/04

Address: 52 Pearl St. Owner/Tenant: Brothers

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00068		
Location ID	BA-002374		
Sample Group (circle) (Subgroup of the property)	Garage, (House), Shed, Pump House Other	Garage, House, Shed, Pump House Other	Garage, House, Shed, Pump House Other
Location Description (circle) (Detailed description point within the location)	(Basement), (Ground Floor), (Second Level) Other	Basement, Ground Floor, Second Level Other	Basement, Ground Floor, Second Level Other
Matrix Type (circle)	(Horizontal Surfaces), (High Traffic Areas) Other	Horizontal Surfaces High Traffic Areas Other	Horizontal Surfaces High Traffic Areas Other
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm^2) (circle)	100 200 300 (600) NA	100 200 300 NA	100 200 300 NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	(TEM- .45) PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer (Dry-Cal) NA	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA
Pump ID No.	612058		
Flow Meter ID No.	R1610-51521		
Start Time	1448 1452 1455	1458 1502 1505	
Start Flow (L/min)	2.0 2.0 2.0	2.0 2.0 2.0	
Stop Time	1450 1454 1457	1500 1504 1507	
Stop Flow (L/min)	2.0 2.0 2.0	2.0 2.0 2.0	
Pump Fault? (circle)	(No) Yes	No Yes	No Yes
Field Comments	100 cm^2 Living Room Floor @ front entrance 100 cm^2 - Kitchen top of microwave 100 cm^2 - Basement floor @ base of steps	100 cm^2 Basement - top of hot water heater 100 cm^2 - 2nd level floor in hallway 100 cm^2 - 2nd level N. Bedroom. Top of dresser	100 cm^2 100 cm^2 100 cm^2
Cassette Lot Number: 23802	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
Entered (LFO)	Volpe: Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

PCE-EPA/Volpe Gregory Paranya CDM
Activity: Stationary air and dust samples will be collected as part of the PCE. Sampling will be conducted in level D PPE IAW SAP Addendum CSS, PCE 12/1/03. Equipment Ref Pg 48 of this logbook. 0840 Onsite @ 52 Pearl St.
CE-00065 Pre-calibrated with Rotometer 92045-1.
0849 CE-00065 started.
11/16/03 CE-00066 pre-calibrated.
0851 CE-00066 started.
CE-00067 pre-calibrated.
0853 CE-00067 started. Offsite.
1150 Onsite. Flow Ck-OK. Filter Ck-OK. PIF # BD-002374 completed with Mr. & Mrs. Brothers. Offsite.
1435 Onsite. Filter CK-OK. Flow CK-OK.
1507 CE-00068 (dust) collected. Pump decontaminated. Sample sealed.
11/16/04

PCE-EPA/Volpe Author: Gregory Paranya CDM
1710 Onsite. Filter/Flow ck-OK.
2000 Onsite.
11/16/04 ~~2000~~ 2005 CE-00065 stopped, post calibrated.
2009 CE-00066 stopped, post calibrated. 11/16/04
2014 CE-00067 stopped, post calibrated. All samples ~~dcp~~ 11/16/04 sealed, equipment decontaminated. Offsite
2030 Onsite @ DT Office. Samples lock in sample storage. 2100 Offsite out of logbook. Ref FSDS SA-000216 D-000103
11/16/04

603 W. 10th St

12/16/03

BD# BA-000490

LIBBY ASBESTOS PROJECT
Pre-Sampling Interview Form (PIF) for Post Clean-up Evaluation Sampling

Field Logbook No.: 100304 Page No.: 3-5 Site Visit Date: 12/15/03

Address: 603 W. 10th St. Structure Description: ~~Anne Pescatore~~ 12/21/03 House

Occupant: Anne Pescatore Phone Number: 293-5839

Owner (if different than occupant): N/A Phone Number: N/A

Business Name: N/A

Sampling Team: PARANA

Field Form Check Completed by (100% of forms): HP GB

Data Item	Value	Notes
CLEAN-UP SUMMARY (To be completed using removal completion folders)	**Date Removal Completed:** 7/03	
Location of vermiculite removed indoors	(Attic) Walls (interior or exterior) Crawl Space (Basement) Sub-floor Other:	Around Chimney in basement
Location of vermiculite remaining indoors	Attic Walls (interior or exterior) Crawl Space Basement Sub-floor (None) Other:	
Interior cleaning conducted during removal	(Yes) No If Yes, which floors: (Basement) (Ground) Second Garage Attic Other:	
Was carpet removed during removal activities?	Yes (No) NA	
Location of vermiculite removed outdoors	Driveway (Flowerbed) Garden Stockpile (Yard) None Other:	Around trees
Location of vermiculite remaining outdoors	Driveway Flowerbed Garden Stockpile Yard (None) Other:	

Data Item	Value	Notes
Pre-Sampling Interview (To be completed with resident)		
Has EPA provided a HEPA vacuum and has it been used since removal?	Yes No If Yes, how long after the removal was completed did use of the EPA-issued HEPA vac begin: Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
How often do you vacuum with your EPA provided HEPA vacuum?	Once a week More than once a week Twice a month Once a month Less than once a month Other:_____	Two time since she recieved the vacuum
Heating Source	Wood/Coal Electric Propane/Gas Other:_____	Wood in basement, Electric on ground floor
Heat Distribution	Forced air Radiant Other:_____	Baseboard, Wall mount, Radiant in basement
How soon after the removal was a forced air heating source first used?	Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
Have any of the occupants been in contact with any vermiculite since the removal was completed?	Yes No Unknown	Explain:
Addresses of other homes or properties where the occupants visit and may contain vermiculite	No	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?
Addresses or names of business where occupants work	Retired	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?

ADDITIONAL INFORMATION_____

Sheet No.: PA- 000028

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR PERSONAL AIR

Field Logbook No: 100304 Page No: 3-5 Sampling Date: 12/15/03

Address: 603 W. 10th St Owner/Tenant: Anne Pescatore

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: Parana

Person Sampled: Anne Pescatore SNN: 3426 Task: Post Clean Up Evaluation

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00010		
Location ID	BD-000490		
Sample Group	House		
Location Description	Shoulder		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor	Indoor Outdoor	Indoor Outdoor
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	626514	666023	
Flow Meter ID No.	92045-1	92045-1	
Start Date	12/15/03	12/15/03	
Start Time	0831	1243	
Start Flow (L/min)	3.11	3.11	
Stop Date	12/5/03	12/5/03	
Stop Time	1213	1831	
Stop Flow (L/min)	3.11	2.91	
Pump fault? (circle)	No (Yes) NA	(No) Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	(No) Yes NA	No Yes NA
Sample Type	TWA EXC (NA)	TWA EXC (NA)	TWA EXC NA
Field Comments Cassette Lot Number: _____	222 on counter 222min x 3.11 l/min = 690 l Archive Blank (circle): Yes No	348min x 3.01 l/min = 1047 l Archive Blank (circle): Yes No	12/15/03 Archive Blank (circle): Yes No
QC (Field Team) _____ Entered (LFO) _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: SA- 000151

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100304 Page No: 3-6 Sampling Date: 12/15/03

Address: 603 W. 10th St. Owner/Tenant: Anne Pescatore

Business Name: N/A

Land Use: Residential School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC CDM Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00011		
Location ID	BD-000490		
Sample Group	House		
Location Description	Living Room		
Category (circle)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	Indoor Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	25mm 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	2133		
Flow Meter ID No.	92045-1		
Start Date	12/15/03		
Start Time	0845		
Start Flow (L/min)	4.09		
Stop Date	12/15/03		
Stop Time	1835		
Stop Flow (L/min)	4.09		
Pump fault? (circle)	No Yes NA	No Yes NA	No Yes NA
MET Station onsite?	No Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: _____	590 min x 4.09 l/min = 2413 l Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	12/16/03 Archive Blank (circle): Yes No
QC (Field Team) TC Entered (LFO) JD	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: SA-000152

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100364 Page No: 3-5 Sampling Date: 12/15/03

Address: 603 W. 10th St. Owner/Tenant: Anne Pescutore

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

12/15/03

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE-00012		
Location ID	BA-000490		
Sample Group	House		
Location Description	Basement		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	2135		
Flow Meter ID No.	92045-1		
Start Date	12/15/03		
Start Time	0849		
Start Flow (L/min)	4.09		
Stop Date	12/15/03		
Stop Time	1840		
Stop Flow (L/min)	4.09		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: _____	591 min x 4.09 L/min = 2417 L Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	12/16/03 Archive Blank (circle): Yes No
QC (Field Team) TC Entered (LFO) JO	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: PA- 000037

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR PERSONAL AIR

Field Logbook No: 100304 Page No: 7-9 Sampling Date: 12/16/03

dress: 603 W. 10th St. Owner/Tenant: Anne Pescatore

Business Name: N/A

Land Use: Residential School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC CDM Other _____ Names: PARANA

Person Sampled: Anne Pescatore SNN: _____ Task: Post Cleanup Evaluation

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00017		
Location ID	BD-000490		
Sample Group	House		
Location Description	Shoulder		
Category (circle)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	Indoor Outdoor	Indoor Outdoor	Indoor Outdoor
Filter Diameter (circle)	25mm 37mm	25mm 37mm	25mm 37mm
ore Size (circle)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	666023	666348	
Flow Meter ID No.	92045-1	92045-1	
Start Date	12/16/03	12/16/03	
Start Time	0835 1141	1447	
Start Flow (L/min)	3.11 3.11	3.11	
Stop Date	12/16/03	12/16/03	
Stop Time	1140 1445	1904	
Stop Flow (L/min)	2.91 3.11	3.11	
Pump fault? (circle)	No Yes NA	No Yes NA	No Yes NA
MET Station onsite?	No Yes NA	No Yes NA	No Yes NA
Sample Type	TWA EXC NA	TWA EXC NA	TWA EXC NA
Field Comments Cassette Lot Number: _____	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) TZ Entered (LFO) JD	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: SA- 000153

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100304 Page No: 7-9 Sampling Date: 12/16/03

Address: 603 W. 10th St. Owner/Tenant: Anne Pescatore

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	12/16/03 Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00018		
Location ID	BD-000490		
Sample Group	House		
Location Description	Living Room		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	2133		
Flow Meter ID No.	92045-1		
Start Date	12/16/03		
Start Time	0838		
Start Flow (L/min)	4.09		
Stop Date	12/16/03		
Stop Time	1906		
Stop Flow (L/min)	3.90		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: _____	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) R Entered (LFO) JB	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: SA- 000154

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100304 Page No: 7-9 Sampling Date: 12/16/03

Address: 603 W. 10th St. Owner/Tenant: Anne Pescatore

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00019		
Location ID	BP-000490		
Sample Group	House		
Location Description	Basement		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	2135		
Flow Meter ID No.	92045-1		
Start Date	12/16/03		
Start Time	0940		
Start Flow (L/min)	4.09		
Stop Date	12/16/03		
Stop Time	1908		
Stop Flow (L/min)	4.09		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: _____	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team)	Volpe:	Volpe:	Volpe:
Entered (LFO)	Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: D- 000085

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100304 Page No: 7-9 Sampling Date: 12/16/03

Address: 603 W. 10th St. Owner/Tenant: Anne Pescatore

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00020		
Location ID	BD-000490		
Sample Group (circle) (Subgroup of the property)	Garage, (House) Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____
Location Description (circle) (Detailed description point within the location)	(Basement), (Ground Floor), Second Level Other_____	Basement, Ground Floor, Second Level Other_____	Basement, Ground Floor, Second Level Other_____
Matrix Type (circle)	~~Horizontal Surfaces~~ (High Traffic Areas) Other_____	Horizontal Surfaces High Traffic Areas Other_____	Horizontal Surfaces High Traffic Areas Other_____
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm^2) (circle)	100 200 300 ~~NA~~ (400)	100 200 300 NA	100 200 300 NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	(TEM- .45) PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer (Dry-Cal) NA	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA
Pump ID No.	~~B1610 S 1521~~ 612729 jb 1-15-04		
Flow Meter ID No.	~~612729~~ B1610S 1521 jb 1-15-04		
Start Time	1451 / 1454 / 1459	1503	
Start Flow (L/min)	2.0 / 2.0 / 2.0	2.0	
Stop Time	1453 ~~1455~~ / 1456 / 1501	1505	
Stop Flow (L/min)	2.0 / 2.0 / 2.0	2.0	
Pump Fault? (circle)	(No) Yes	No Yes	No Yes
Field Comments	100 cm^2 - Ground floor on floor @ front entrance	100 cm^2 Basement - top of hot water heater	100 cm^2
Cassette Lot Number: 23402	100 cm^2 - Ground floor living room window sill	100 cm^2	100 cm^2
	100 cm^2 - Basement on floor @ base of steps	100 cm^2	100 cm^2
	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
Entered (LFO) jb	Volpe: Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: PA- 000038

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR PERSONAL AIR

Field Logbook No: 100304 Page No: 10-12 Sampling Date: 12/17/03

dress: 603 W. 10th St. Owner/Tenant: Pescature

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Person Sampled: Anne Pescature SNN: NA Task: Post-Clean Up Evaluation

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00021		
Location ID	BN-000490		
Sample Group	House		
Location Description	Shoulder		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor	Indoor Outdoor	Indoor Outdoor
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
ore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	666348	666248	
Flow Meter ID No.	92045-1	92045-1	
Start Date	12/17/03	12/17/03	
Start Time	0836	1451	
Start Flow (L/min)	3.11	3.11	
Stop Date	12/17/03	12/17/03	
Stop Time	1450	~~1445~~ 1850	
Stop Flow (L/min)	3.11	3.11	
Pump fault? (circle)	(No) Yes NA	(No) Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	(No) Yes NA	No Yes NA
Sample Type	TWA EXC (NA)	TWA EXC (NA)	TWA EXC NA
Field Comments			12/17/03
Cassette Lot Number:	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) ____ Entered (LFO) ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No. SA- 000165

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100304 Page No: 10-12 Sampling Date: 12/17/03

Address: 603 W. 10th St. Owner/Tenant: Pescatore

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00022		
Location ID	BD-000490		
Sample Group	House		
Location Description	Basement		
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number	2135		
Flow Meter ID No.	92045-1		
Start Date	12/17/03		
Start Time	0843		
Start Flow (L/min)	4.09		
Stop Date	12/17/03		
Stop Time	1854		
Stop Flow (L/min)	4.09		
Pump fault? (circle)	(No) Yes NA	No Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	No Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: _____	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) _____ Entered (LFO) _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

JP 12/17/03

JP 12/17/03

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

BD# 000490

Residential Activity Log

Resident Address: ~~607~~ 603 W. 10th St.

Volunteer Name: Anne Pescatore

Sampling Date(s): 12/15/03

Personal air sample number (s): CE-00010

FSDS number(s): PA-000028, SA-000151, SA-000152

Date/Time Interval	Go Outside?	Pump problem?	General Activities
8:30 – 11:30 AM	(No) Yes (___ mins) Describe	(No) Yes (describe)	Housework
11:30-1:00 1:30-6:00	(No) Yes (___ mins) Describe	No (Yes) (describe) Pump fault	rested Vacuum cheered TV
	No Yes (___ mins) Describe	No Yes (describe)	
	No Yes (___ mins) Describe	No Yes (describe)	
	No Yes (___ mins) Describe	No Yes (describe)	
	No Yes (___ mins) Describe	No Yes (describe)	

Note: Continue on second page if necessary.

Greg
293-1759

BD# 000490

Residential Activity Log

Resident Address: 603 W. 10th St.

Volunteer Name: Anne Pescatore

Sampling Date(s): 12/16/03

Personal air sample number (s): CE-00017

FSDS number(s): D-000085, PA-000037, SA-000153, 154, 155

Date/Time Interval	Go Outside?	Pump problem?	General Activities
9:00 – 11:00	No Yes (___ mins) Describe	No Yes (describe)	cleaned Kitchen, house work.
~~11:00~~ 1:30 11:00 - 1:30	No Yes (___ mins) Describe	No Yes (describe)	laundry, etc.
1 – 2:30	No Yes (___ mins) Describe	No Yes (describe)	addressed X'mas cards
2:30 – 3:00 3:00 – 7:00	No Yes (___ mins) Describe	No Yes (describe)	rested TV
	No Yes (___ mins) Describe	No Yes (describe)	
	No Yes (___ mins) Describe	No Yes (describe)	

Note: Continue on second page if necessary.

Greg
293-1759

BD# 000490

Residential Activity Log

Resident Address: ~~Anne Pescatore~~ 12/17/03 603 W. 10th St

Volunteer Name: Anne Pescatore

Sampling Date(s): 12/17/03

Personal air sample number (s): CE-00021

FSDS number(s): PA-000038, SA-000155, 165

Date/Time Interval	Go Outside?	Pump problem?	General Activities
9:00 11:00	No Yes (___ mins) Describe	No Yes (describe)	House work
11:00 - 12:30	No Yes (___ mins) Describe	No Yes (describe)	X Mas Cards Various
12:30 1:30	No Yes (___ mins) Describe	No Yes (describe)	rested - TV
1:30 - 2:30	No Yes (___ mins) Describe	No Yes (describe)	Various Chores Visitor
2:30 - 4:00	No Yes (___ mins) Describe	No Yes (describe)	Misc. Chores TV
4:00 - 7:00	No Yes (___ mins) Describe	No Yes (describe)	TV

Note: Continue on second page if necessary.

Greg 293-1759

Pescatore 12/15/03 3

603 W. 10th St. - Post Evaluation
Gregory Parana

Weather 24°F Clear

Activity: Personal, ~~am~~ p 12/15/03 stationary and dust sampling will be conducted @ 603 W. 10th St. Sampling will be conducted IAW SAP Addendum, Post Clean-Up evaluation Sampling 12/1/03.

Equipment: 4 high volume sampling pumps, 4 low volume sampling pumps, 4 Cassette stands, Rotometer 92045-1, 0.8 µm PCM cassettes, 0.45 µ dust sampling cassettes, tygon, decon wipes, Dry Cal B1610/S 1521, screwdriver, flashlight, sample pump pouch.

0825 Onsite.

CE-00010 placed on pump 626514 and pre-calibrated. Sample placed on Anne Pescatore.

0831 CE-00010 started.

CE-00011 placed on pump 2133 and pre-calibrated.

0845 CE-00011 (Living Room) started.

CE-00012 placed on pump 2135 and ~~started~~ p 12/15/03 pre-calibrated.

12/15/03

Pescatore Post Clean-Up Evaluation
603 W. 10th St. 12/15/03

0849 CE-00012 (Basement) started.
1130 Onsite. CE-00010 Flow Ck - OK.
CE-00012, 11 Flow Ck. - OK.
1150 Offsite.
1230 Anne Pescatore contacted me and said here pump stopped.
1240 Onsite. CE-00010 stopped due to flow fault. Anticipated fault happened while volunteer napped. CE-00010 placed on pump 666023 and calibrated.
1243 CE-00010 started. 222 minutes on counter of pump 626514. This number will be used to calculate fault time/stop time. ~~1300~~
1250 Offsite.
1600 Onsite. CE-00010 flow Ck - OK. CE-00011, 12 flow ck - OK. All filters turning brown due to cigarette smoke. All filters may be overloaded.
1620 Offsite.
1820 Onsite. Anne Requested pump be removed at this time.

12/15/03

Pescatore Post Cleanup Evaluation
603 W. 10th St. Gregory Parone CDM 12/15/03

1822. PIF questionnaire completed with Anne.
1831 CE-00010 stopped-post calibrated and sealed in sample bag.
1835 CE-00011 stopped post calibrated and sealed in sample bag.
1840 CE-00012 stopped post calibrated and sealed in sample bag. Equipment decontaminated. Residential activity log recieved from volunteer.
1855 Offsite to CDM Office. Ref FSDS PA-000028-SA-000151, 52. Samples locked in sample storage @38 Louisiana Ave.

12/15/03

6 Pescatore - Post Clean Up Evaluation 12/16/03
603 W. 10th St. Gregory Parana CDM
0700 Onsite CDM Office.
0730 Morning meeting. Relinquished samples to Crowell (CE-00010, 11, 12)

12/16/03

Pescatore - Post Cleanup Evaluation 12/16/03
603 W. 10th St. Gregory Parana CDM

Activity: Day 2 of stationary air, personal air sampling @ BD-000490. Dust sample will also be collected. Sampling will be conducted IAW SAP Addendum, PCE Sampling 12/1/03. Reference pg. 3 for equip. list.
0830 Onsite. CE-00017 attached to pump ~~CE~~ 12/16/03 666023 and pre-calibrated with rotometer 92045-1. Sample placed on AP.
0835 CE-00017 started.
CE-00018 (Living Room) placed on pump 2133 and pre-calibrated.
0838 CE-00018 started. —— (P)
CE-00019 placed on pump 2135 and pre-calibrated. —— (P)
0840 CE-00019 (Basement) started.
0850 Residential activity log given to the resident. Offsite to CDM office. —— (P)
1130 Onsite. AP present. —— (P)
1140 CE-00017 stopped and calibrated.
1141 CE-00017 started. Filter darkened due to cigarette smoke.

12/16/03

1145 CE-00018 flow ck-OK. Filter darkened from cigarette smoke.
1150 CE-00019 flow ck-OK. Filter darkened from cigarette smoke.
1440 Onsite.
1445 CE-00017 stopped and postcalibrated. CE-00017 placed on pump 666348 and calibrated.
1447 CE-00017 placed on A Panel started.
Late entry 0800 Pump 612729 calibrated to primary flow B1610, S1521 with microvue cassette in line (Lot #23802).
1505 CE-00020 (dust) collected.
1510 CE-00018 Flow ck-OK. Filter darkened due to cig. smoke.
1517 CE-00019 Flow ck-OK. Filter darkened due to cig. smoke and wood burning stove in basement
1700 Onsite - Flow Ck-OK Cal Ck-OK. All filters loaded with smoke.
1900 Onsite. 1904 CE-00017 stopped post calibrated and sealed in bag.

12/16/03

1906 CE-00018 stopped, post calibrated and sealed in sample bag.
1908 CE-00019 stopped, post calibrated and sealed in sample bag.
Ref FSDS D-000085, PA-000037, SA-000153, 154. Recieved completed residential activity log from resident. 1915 Offsite. to 2293 KRR.
2000 Samples placed in sample storage @ 318 Louisiana Ave.

12/16/03

Pescatore 12/17/03
603 W. 10th St. - PCE-EPA-Volpe
Author: Gregory Parana CDM

Activity: Day 3 of the PCE - Personal and stationary air samples will be collected in BA-000490. Sampling will be conducted IAW SAP Addendum, CSS, PCE Sampling 12/1/03. Equipment reference pg 3 of this logbook. Anne Pescatore indicated that she did not build a fire in the basement today.

0830 Onsite. CE-00021 placed on pump ~~CE-0~~ 12/17/03 666348 and pre-calibrated with rotometer 42045-1. Sample placed on AP.

0836 CE-00021 started. Anne is smoking. CE-00022 (Basement) placed on pump 2135 and pre-calibrated.

0843 CE-00022 started. CE-00023 (Living Room) placed on pump 2133 and pre-calibrated

0845 CE-00023 started.

1130 Onsite

1135 CE-00021 flow ck-OK - Filter darkened from cig. smoke and wood smoke.

12/17/03

Pescatore 12/17
603 W. 10th St. - PCE-EPA-Volpe
Author: Gregory Parana CDM

AP indicated that she shoveled ashes from the woodstove in the basement and had trouble starting fire in the stove.

1139 CE-00022 flow ck-OK 12/17/03

Filter Ck - Filter ≈ 10% loaded, slightly darkened.

1142 CE-00023 flow ck-OK Filter darkened from cig. smoke.

1150 Offsite

1445 Onsite to replace low vol. pump

1450 CE-00021 stopped post calibrated and placed on pump 666248 and calibrated.

1451 CE-00021 placed on AP and started.
CE-00023, 22 - flow ck - OK
Filter Ck - OK.

1700 Onsite - CE-00021, 22, 23 Flow ck - OK Filter Ck - smoke

1850 Onsite. CE-00021 stopped post calibrated and sealed.

12/17/03

12 Pescatore 12/17/03
60W W. 10th St. - PCE

1854 CE-00022 (Basement) stopped post-calibrated and sealed.
1855 CE-00023 stopped - post-calibrated and sealed. All equipment decontaminated. Residential Activity Log recieved from AP. Offsite to CDM office.
1930 Samples locked in sample storage. Out of logbook.

12/17/03

616 Wisconsin Ave

BD# 001574

LIBBY ASBESTOS PROJECT
Pre-Sampling Interview Form (PIF) for Post Clean-up Evaluation Sampling

Field Logbook No.: 100305 Page No.: 12-13 Site Visit Date: 1/17/04

Address: 616 WISCONSIN Structure Description: 1/17/04 Garrow House

Occupant: Garrow Phone Number: 293-8493

Owner (if different than occupant): same Phone Number: same

Business Name: N/A

Sampling Team: PARANA

Field Form Check Completed by (100% of forms): MP ps

Data Item	Value	Notes
CLEAN-UP SUMMARY (To be completed using removal completion folders)		**Date Removal Completed:** 5/03
Location of vermiculite removed indoors	(Attic) Walls (interior or exterior) Crawl Space Basement (Sub-floor) Other:	
Location of vermiculite remaining indoors	Attic Walls (interior or exterior) Crawl Space Basement (Sub-floor) None Other:	that Contractor Areas could not get to in the sub-floor
Interior cleaning conducted during removal	(Yes) No If Yes, which floors: (Basement) (Ground) (Second) Garage Attic Other:	
Was carpet removed during removal activities?	Yes (No) NA	
Location of vermiculite removed outdoors	Driveway Flowerbed Garden Stockpile Yard (None) Other:	
Location of vermiculite remaining outdoors	(Driveway) Flowerbed Garden Stockpile Yard ~~None~~ Other:	Vermiculite visible in driveway along alleyway

Data Item	Value	Notes
Pre-Sampling Interview (To be completed with resident)		
Has EPA provided a HEPA vacuum and has it been used since removal?	Yes **No** If Yes, how long after the removal was completed did use of the EPA-issued HEPA vac begin: Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	Recieved 2 days ago and Resident had not had a chance to use it.
How often do you vacuum with your EPA provided HEPA vacuum?	~~Once a week~~ More than once a week ~~Twice a month~~ ~~Once a month~~ ~~Less than once a month~~ Other:_____	Jp 1/17/04
Heating Source	Wood/Coal Electric Propane/Gas Other: Fuel Oil	
Heat Distribution	**Forced air** Radiant Other:_____	
How soon after the removal was a forced air heating source first used?	**Immediately** 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
Have any of the occupants been in contact with any vermiculite since the removal was completed?	Yes **No** Unknown	Explain:
Addresses of other homes or properties where the occupants visit and may contain vermiculite	None	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?
Addresses or names of business where occupants work	Fish, Wildlife and Parks 475 Fish Hatchery Rd. -May be on clean-Up list	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?

ADDITIONAL INFORMATION_____

Sheet No.: SA- 000239

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100305 Page No: 12-13 Sampling Date: 1/17/04

Address: 616 Wisconsin Ave. Owner/Tenant: Garrow

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1 (JP 1/17/04)	Cassette 2 (JP 1/17/04)	Cassette 3 (JP 1/17/04)
Index ID	CE- 00073	CE- 00074	CE- 00075
Location ID	BD-001574	BD-001574	BD-001574
Sample Group	House	House	House
Location Description	Basement	Ground level Living Room	2nd level Hallway
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	(FS) FB-(field blank) LB-(lot blank)	(FS) FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	(Indoor) Outdoor NA	(Indoor) Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	(25mm) 37mm	(25mm) 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 (PCM- 0.8)	TEM- .45 (PCM- 0.8)
Flow Meter Type (circle)	(Rotometer) DryCal NA	(Rotometer) DryCal NA	(Rotometer) DryCal NA
Pump ID Number	05913	05910	0387
Flow Meter ID No.	92045-1	92045-1	92045-1
Start Date	1/17/04	1/17/04	1/17/04
Start Time	0855	0900	0902
Start Flow (L/min)	9.01	9.01	9.01
Stop Date	1/17/04	1/17/04	JP 1/17/04 1/17/04
Stop Time	2017	2021	~~2056~~ 2026
Stop Flow (L/min)	9.01	9.40	9.21
Pump fault? (circle)	(No) Yes NA	(No) Yes NA	(No) Yes NA
MET Station onsite?	(No) Yes NA	(No) Yes NA	(No) Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear (NA)
Field Comments			
Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) JB / Entered (LFO) JB	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by JP	QC by JB

vs 101503

Sheet No.: D- 000105

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100305 Page No: 12-13 Sampling Date: 1/17/04

Address: 616 Wisconsin Ave Owner/Tenant: Garrow

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00076		
Location ID	BD-001574		
Sample Group (circle) (Subgroup of the property)	Garage, (House), Shed, Pump House Other	Garage, House, Shed, Pump House Other	Garage, House, Shed, Pump House Other
Location Description (circle) (Detailed description point within the location)	(Basement), (Ground Floor), (Second Level) Other	Basement, Ground Floor, Second Level Other	Basement, Ground Floor, Second Level Other
Matrix Type (circle)	(Horizontal Surfaces) (High Traffic Areas) Other	Horizontal Surfaces High Traffic Areas Other	Horizontal Surfaces High Traffic Areas Other
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm^2) (circle)	100 200 (300) NA (600)	100 200 300 NA	100 200 300 NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	(TEM- .45) PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer (Dry-Cal) NA	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA
Pump ID No.	626666		
Flow Meter ID No.	B1610-51521		
Start Time	1632 1635 1638	1641 1645 1648	
Start Flow (L/min)	2.0 2.0 2.0	2.0 2.0 2.0	
Stop Time	1634 1637 1640	1643 1647 1650	
Stop Flow (L/min)	2.0 2.0 2.0	2.0 2.0 2.0	
Pump Fault? (circle)	(No) Yes	No Yes	No Yes
Field Comments	100 cm^2 Ground level living room top of computer desk 100 cm^2 Ground level Kitchen floor 100 cm^2 2nd level floor @ top of steps	100 cm^2 2nd level top of end table in bedroom 100 cm^2 Basement floor 100 cm^2 Basement top of hot water tank	100 cm^2 100 cm^2 100 cm^2
Cassette Lot Number: 23802	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
Entered (LFO)	Volpe: Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

1/17/04

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Activity: Stationary Air and dust samples will be collected in BA-001574. Sampling will be conducted in level B PPE IAW SAP Addendum, CSS, PCE Sampling 12/1/03. Equipment Reference pg 48 of this logbook.

0845 Onsite. CE-00073 pre-calibrated.

0855 CE-00073 started.

CE-00074 pre-calibrated.

0900 CE-00074 started.

CE-00075 pre-calibrated.

0902 CE-00075 started. All samples calibration conducted with rotometer 92045-1. Offsite. Resident gave me key to access house. Resident will not be home today. PIF BA-001574 completed with resident.

1130 Onsite. Flow ck-OK Filter Ck-OK Offsite.

1420 Onsite. Flow ck-OK Filter Ck-OK. Offsite.

1/17/04

1630 Onsite. ~~CE-~~ 1/17/04

1650 CE-00076 (Dust) collected and sealed. Flow ck-OK Filter Ck-OK. Offsite. Resident not ~~Room~~ home. 1/17/04

2015 Onsite.

2017 CE-00073 stopped, post calibrated and sealed.

2021 CE-00074 stopped, post calibrated and sealed. All equipment decontaminated. House locked and keys placed under door.

2037 Onsite @ CDM Office. Samples placed in sample storage. Ref FSDS SA-000236, D-000105, PIF BA-001574.

2045 Out of logbook.

1/17/04

620 Utah Ave

BD# B002177

LIBBY ASBESTOS PROJECT
Pre-Sampling Interview Form (PIF) for Post Clean-up Evaluation Sampling

Field Logbook No.: 100301 Page No.: 27 Site Visit Date: 1/8/04

Address: 620 Utha Ave. Structure Description: House

Occupant: Roland Childs Phone Number: 293-4026

Owner (if different than occupant): N/A Phone Number: N/A

Business Name: N/A

Sampling Team: PARANA - CDM

Field Form Check Completed by (100% of forms): [signature] JS

Data Item	Value	Notes
CLEAN-UP SUMMARY (To be completed using removal completion folders)		Date Removal Completed: 03/03
Location of vermiculite removed indoors	(Attic) Walls (interior or exterior) Crawl Space Basement Sub-floor Other:	
Location of vermiculite remaining indoors	(Attic) Walls (interior or exterior) Crawl Space Basement Sub-floor None Other:	Areas sealed off in attic - under floor Boards
Interior cleaning conducted during removal	~~Yes~~ (No) If Yes, which floors: Basement ~~Ground~~ ~~Second~~ Garage Attic Other: JS 9-21-04	
Was carpet removed during removal activities?	Yes (No) NA	
Location of vermiculite removed outdoors	Driveway Flowerbed Garden Stockpile Yard (None) Other:	
Location of vermiculite remaining outdoors	Driveway Flowerbed Garden Stockpile Yard (None) Other:	

Data Item	Value	Notes
Pre-Sampling Interview (To be completed with resident)		
Has EPA provided a HEPA vacuum and has it been used since removal?	Yes No If Yes, how long after the removal was completed did use of the EPA-issued HEPA vac begin: Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	3/2003 Removal completed 12/2003 Recieved HEPA Vac
How often do you vacuum with your EPA provided HEPA vacuum?	Once a week More than once a week Twice a month Once a month Less than once a month Other:_____	
Heating Source	Wood/Coal Electric Propane/Gas Other: Fuel Oil	
Heat Distribution	Forced air Radiant Other:_____	
How soon after the removal was a forced air heating source first used?	Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
Have any of the occupants been in contact with any vermiculite since the removal was completed?	Yes No Unknown	Explain:
Addresses of other homes or properties where the occupants visit and may contain vermiculite	None	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?
Addresses or names of business where occupants work	VFW - Libby Christian Church Shop - Behind Church - Volunteer Work	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?

ADDITIONAL INFORMATION Associated with samples CE-00028, CE-00024, and CE-00025

Sheet No.: SA- 000185

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100301 Page No: 27-28 Sampling Date: ~~1/8/03~~ 1/8/04

Address: 620 Utah Ave Owner/Tenant: Roland Childs

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1 (JP 1/8/04)	Cassette 2 (JP 1/8/04)	Cassette 3
Index ID	CE- 00024	CE- 00025	
Location ID	BD-002177	BD-002177	
Sample Group	House	House	
Location Description	Living Room	West Bedroom 2nd level	
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	(Indoor) Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	(25mm) 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	(Rotometer) DryCal NA	Rotometer DryCal NA
Pump ID Number	0689	0387	
Flow Meter ID No.	92045-1	92045-1	
Start Date	1/8/04	1/8/04	
Start Time	0832 / 1144	0834	
Start Flow (L/min)	9.01 / 9.01	9.01	
Stop Date	1/8/~~03~~ 04 (JP 1/8/04)	1/8/04	
Stop Time	1143 / 1945	1948	
Stop Flow (L/min)	9.21 / 9.01	9.01	
Pump fault? (circle)	(No) Yes NA	(No) Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	(No) Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments			JP 1/8/04
Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) ____ Entered (LFO) JP	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by JP	QC by TR

vs 101503

Sheet No.: D- 000070

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100301 Page No: 17-28 Sampling Date: 1/8/04

Address: ~~3796 Hwy 2~~ 1/8/04 Owner/Tenant: Roland Childs

Business Name: 620 ~~Utah~~ Utah Ave. N/A

Land Use: Residential School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC CDM Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00028		
Location ID	BD-002177		
Sample Group (circle) (Subgroup of the property)	Garage, House, Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____
Location Description (circle) (Detailed description point within the location)	Basement, Ground Floor, Second Level Other_____	Basement, Ground Floor, Second Level Other_____	Basement, Ground Floor, Second Level Other_____
Matrix Type (circle)	Horizontal Surfaces High Traffic Areas Other_____	Horizontal Surfaces High Traffic Areas Other_____	Horizontal Surfaces High Traffic Areas Other_____
Category (circle)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm^2) (circle)	100 200 ~~300~~ NA 400 1/8/04	100 200 300 NA	100 200 300 NA
Filter Diameter (circle)	25mm 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA
Pump ID No.	666023		
Flow Meter ID No.	B1610 / 51521		
Start Time	1539 1543 1549	1552	
Start Flow (L/min)	2.0 2.0 2.0	2.0	
Stop Time	1541 1545 1551	1554	
Stop Flow (L/min)	2.0 2.0 2.0	2.0	
Pump Fault? (circle)	No Yes	No Yes	No Yes
Field Comments	100 cm^2 - Ground floor Hallway 100 cm^2 - Ground floor ~~top of~~ window sill in living room 100 cm^2 - 2nd level in hallway	100 cm^2 2nd level - top of dressor in S. Bedroom ~~100 cm^2~~ 100 cm^2	100 cm^2 100 cm^2 100 cm^2
Cassette Lot Number: 23802	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
Entered (LFO) _____	Volpe: Entered ____ Validated ____	Entered _____ Validated _____	Entered _____ Validated _____

1/8/04

For Field Team Completion (Provide Initials)	Completed by GP	QC by TC

vs 101503

Roland Childs

Location 620 Utah Ave Date 1/8/04

Project / Client PCE - EPA/Volpe

Author: Gregory Tacuna CDM

Activity: Stationary Air sampling will be completed on the ground floor and 2nd level. One dust sample will be collected. All sampling will be conducted inside of BJ-002177 IAW SAP Addendum, CSS, PCE Sampling 12/1/03. Equipment: Ref pg 6 of this logbook. Rotometer 92045-1 used to calibrated air samples. 0800 Low vol. sampling pump 666023 calibrated with Dry Cal B-1610 51521.

0815 Onsite. Sample locations selected and pumps turned On. CE-00024 pre-calibrated.

0832 CE-00024 started.

CE-00025 pre-calibrated

0834 CE-00025 started.

Offsite to 3796 Hwy 2S.

1135 Onsite. PIF completed with residents. CE-00024, 25 Flow Ck.

CDM

28

Roland Childs

Location 620 Utah Ave. Date 1/8/04

Project / Client PCE-EPA/Volpe

Author: Gregory Parana

1143 CE-00024 stopped. Re-calibrated.

1144 CE-00024 started. CE-00025 flow check. No change. Offsite.

1530 Onsite. Flow ck - OK. Filter Ck. OK.

1554 CE-00028 (Dust) collected Offsite.

1940 Onsite.

1945 CE-00024 stopped post calibrated and sealed.

1948 CE-00025 stopped, post calibrated and sealed.

Equipment decontaminated at site. Offsite to 3796 Hwy 2 S.

2030 Onsite CDM Office. Samples locked IN sample storage

Ref FSDS SA-000185 D-000070.

653 Flower Creek Rd

BD# 003103

LIBBY ASBESTOS PROJECT
Pre-Sampling Interview Form (PIF) for Post Clean-up Evaluation Sampling

Field Logbook No.: 100306 Page No.: 4-5 Site Visit Date: 1/16/04

Address: 653 Flower Creek Rd. Structure Description: Brown

Occupant: Barry and Doris Brown Phone Number: 293-4663

Owner (if different than occupant): same Phone Number: same

Business Name: N/A

Sampling Team: PARANA-COM

Field Form Check Completed by (100% of forms): JP PS

Data Item	Value	Notes
CLEAN-UP SUMMARY (To be completed using removal completion folders)		**Date Removal Completed:** 10/03
Location of vermiculite removed indoors	Attic Walls (interior or exterior) Crawl Space Basement Sub-floor Other: NONE	NONE inside
Location of vermiculite remaining indoors	Attic Walls (interior or exterior) Crawl Space Basement Sub-floor None Other:	NONE remaining
Interior cleaning conducted during removal	Yes No If Yes, which floors: Basement Ground Second Garage Attic Other:	
Was carpet removed during removal activities?	Yes No NA	
Location of vermiculite removed outdoors	Driveway Flowerbed Garden Stockpile Yard None Other:	
Location of vermiculite remaining outdoors	Driveway Flowerbed Garden Stockpile Yard None Other:	

Data Item	Value	Notes
Pre-Sampling Interview (To be completed with resident)		
Has EPA provided a HEPA vacuum and has it been used since removal?	Yes No If Yes, how long after the removal was completed did use of the EPA-issued HEPA vac begin: Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	JP 1/16/04 ~~Refuse~~ Recieved HEPA vac 1/10/04
How often do you vacuum with your EPA provided HEPA vacuum?	Once a week More than once a week Twice a month Once a month Less than once a month Other:	
Heating Source	Wood/Coal Electric Propane/Gas Other:	
Heat Distribution	Forced air Radiant Other:	
How soon after the removal was a forced air heating source first used?	Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	JP 1/16/04 ~~Now~~ No Forced Air heating presently
Have any of the occupants been in contact with any vermiculite since the removal was completed?	Yes No Unknown	Explain:
Addresses of other homes or properties where the occupants visit and may contain vermiculite	6356 Pipe Creek Rd. Sons House in Kalispell	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?
Addresses or names of business where occupants work	JP 1/16/04 ~~None~~ Plummer School ASA Wood School Central School	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?

ADDITIONAL INFORMATION

Sheet No.: SA- 000215

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100306 Page No: 4-5 Sampling Date: 1/16/04

Address: 653 Flower Creek Rd. Owner/Tenant: Brown

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00063	CE- 00064	
Location ID	BD-003103	BD-003103	
Sample Group	House	~~House~~ basement	1/20/04
Location Description	Ground level Hallway	Basement - Center	
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	(Indoor) Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	(25mm) 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	(Rotometer) DryCal NA	Rotometer DryCal NA
Pump ID Number	0689	0891-A	
Flow Meter ID No.	92045-1	92045-1	
Start Date	1/16/04	1/16/04	
Start Time	0825	0827	
Start Flow (L/min)	9.01	9.01	
Stop Date	1/16/04	1/16/04	
Stop Time	1940	1946	
Stop Flow (L/min)	9.40	9.20	
Pump fault? (circle)	(No) Yes NA	(No) Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	(No) Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	1/16/04 Archive Blank (circle): Yes No
QC (Field Team) TC Entered (LFO) JB	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

000104

Sheet No.: D- _____

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100306 Page No: 4-5 Sampling Date: 1/16/04

Address: 653 Flower Creek Rd. Owner/Tenant: Brown

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1 (JB 1/17/04)	Cassette 2	Cassette 3 (JB 1/17/04)
Index ID	CE- 00069		CE- 00070
Location ID	BD-003103	BD-003103	BD-003103
Sample Group (circle) (Subgroup of the property)	Garage, (House), Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____	Garage, (House), Shed, Pump House Other_____
Location Description (circle) (Detailed description point within the location)	(Basement), (Ground Floor) Second Level Other_____	Basement, Ground Floor, Second Level Other_____	Basement, Ground Floor, Second Level Other N/A
Matrix Type (circle)	(Horizontal Surfaces) (High Traffic Areas) Other_____	Horizontal Surfaces High Traffic Areas Other_____	Horizontal Surfaces High Traffic Areas Other N/A
tegory (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS (FB-(field blank)) LB-(lot blank)
Sample Area (cm^2) (circle)	100 200 300 (400) NA	100 200 300 NA	100 200 300 (NA)
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	(25mm) 37mm
Pore Size (circle)	(TEM- .45) PCM- 0.8	TEM- .45 PCM- 0.8	(TEM- .45) PCM- 0.8
Flow Meter Type (circle)	Rotometer (Dry-Cal) NA	Rotometer Dry-Cal NA	Rotometer Dry-Cal (NA)
Pump ID No.	612058		N/A
Flow Meter ID No.	B1610 51521		JB 1/16/04
Start Time	1418 1423 1428	1431	
Start Flow (L/min)	2.0 2.0 2.0	2.0	
Stop Time	1420 1425 1430	1433	
Stop Flow (L/min)	2.0 2.0 2.0	2.0 JB 1/16/04	JB 1/16/04
Pump Fault? (circle)	(No) Yes	No Yes	~~No~~ ~~Yes~~
Field Comments	100 cm^2 - Kitchen Floor 100 cm^2 - Living Room TV Stand 100 cm^2 - Basement Floor	100 cm^2 - Basement - top of freezer 100 cm^2 100 cm^2	100 cm^2 100 cm^2 100 cm^2 JB 1/16/04
Cassette Lot Number: 23807	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): (Yes) No NO TR 1/21/04
Entered (LFO) JB	Volpe: Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by GK	QC by TR

vs 101503

4 653 Flower Creek Rd. - Brown 1/16/04

PCE - EPA / Volpe Author: Gregory Parana CDM

Activity: Stationary Air and dust samples will be collected as part of the PCE. Sampling will be conducted in level D PPE IAW SAP, Addendum, CSS, PCE 12/1/03. Equipment: 3 high volume sampling pumps - 2 low volume sampling pumps, tygon, Cassette stands, 0.8 um PCM cassettes 0.45 um microvacuum dust cassettes, 10x10 cm Templates, baggies, Rotometer 92045-1, Dry Cal B1610-S1521 Decon wipes.

0820 Onsite. CE-00063 pre-calibrate.

0825 CE-00063 started.

CE-00064 pre-calibrated.

0827 CE-00064 started. Offsite to 52 Pearl St.

1130 Onsite Filter Ck - OK. Flow Ck. - OK. PIF BD-003103 completed with Barry and Doris Brown.

1415 Onsite. Filter Ck - Filter loading with wood smoke - Wood heat.

1433 CE-00069 (Dust) collected.

1/16/04

653 Flower Creek Rd. Brown 1/16/04 5

PCE - EPA / Volpe Author: Gregory Parana CDM

CE-00070 - Blank exposed. All samples (dust) sealed. Resident not present.

1650 Onsite. Filter Ck - OK. Loaded with wood smoke. Flow Ck - OK. Offsite.

1940 CE-00063 stopped, post calibrated and sealed.

1946 CE-00064 stopped, post calibrated and sealed.

Late Entry. 0800 - LV pump 612058 calibrated to Dry Cal B1610-S1521 prior to day's sampling.

2030 Onsite CDM office. All equipment was decontaminate at the site. Samples locked in sample storage @ CDM Office. Ref FSDS D-000104, SA-000215. Out of logbook @ 2100.

1/16/04

713 Michigan Ave

BD# 000263

LIBBY ASBESTOS PROJECT
Pre-Sampling Interview Form (PIF) for Post Clean-up Evaluation Sampling

Field Logbook No.: 100304 Page No.: 15-16 Site Visit Date: 1/12/04

Address: 713 Michigan Ave Structure Description: House

Occupant: Beth Lee Phone Number: 293-4781

Owner (if different than occupant): Same Phone Number: Same

Business Name: N/A

Sampling Team: PARANA

Field Form Check Completed by (100% of forms): PP PS

Data Item	Value	Notes
CLEAN-UP SUMMARY (To be completed using removal completion folders)	**Date Removal Completed: 5/03**	
Location of vermiculite removed indoors	Attic Walls (interior or exterior) Crawl Space Basement Sub-floor Other: —	
Location of vermiculite remaining indoors	Attic ~~Walls (interior or exterior)~~ PP 5/12/04 Crawl Space Basement Sub-floor None Other:	
Interior cleaning conducted during removal	Yes No If Yes, which floors: Basement Ground Second Garage Attic Other:	
Was carpet removed during removal activities?	Yes No NA	
Location of vermiculite removed outdoors	Driveway Flowerbed Garden Stockpile Yard None Other:	
Location of vermiculite remaining outdoors	Driveway Flowerbed Garden Stockpile Yard None Other:	

Data Item	Value	Notes
Pre-Sampling Interview (To be completed with resident)		
Has EPA provided a HEPA vacuum and has it been used since removal?	Yes JP 1/12/03 No If Yes, how long after the removal was completed did use of the EPA-issued HEPA vac begin: Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	Provided same day as sampling Resident did not have the chance to vacuum house
How often do you vacuum with your EPA provided HEPA vacuum?	Once a week More than once a week Twice a month Once a month JP 1/12/04 Less than once a month Other:_____	
Heating Source	Wood/Coal Electric Propane/Gas Other:_____	
Heat Distribution	Forced air Radiant Other:_____	
How soon after the removal was a forced air heating source first used?	Immediately 1 to 2 months 3 to 4 months 5 to 6 months more than 6 months	
Have any of the occupants been in contact with any vermiculite since the removal was completed?	Yes No Unknown	Explain:
Addresses of other homes or properties where the occupants visit and may contain vermiculite	None	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?
Addresses or names of business where occupants work	Senior citizen house keeping - confidential	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?

ADDITIONAL INFORMATION_____

Sheet No.: SA- 000207

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100304 Page No: 15-16 Sampling Date: 1/12/04

Address: 713 Michigan Ave Owner/Tenant: Beth Lee

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1 (1/12/04)	Cassette 2 (1/12/04)	Cassette 3
Index ID	CE- 00030	CE- 00031	
Location ID	BD-000263	BD-000263	
Sample Group	House	House	
Location Description	Kitchen	2nd level East Room	
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	(Indoor) Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	(25mm) 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	(Rotometer) DryCal NA	Rotometer DryCal NA
Pump ID Number	0689	0891-A	
Flow Meter ID No.	92045-1	92045-1	
Start Date	1/12/04	1/12/04	
Start Time	0822	0827	
Start Flow (L/min)	9.01	9.01	
Stop Date	1/12/04	1/12/04	
Stop Time	~~0842~~ 1942 (1/12/04)	~~0846~~ 1946 (1/12/04)	
Stop Flow (L/min)	9.01	9.01	
Pump fault? (circle)	(No) Yes NA	(No) Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	(No) Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: 32415	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) ____ Entered (LFO) ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

Sheet No.: D- 000098

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100304 Page No: 15-16 Sampling Date: 1/12/04

Address: 713 Michigan Ave Owner/Tenant: Beth Lee

Business Name: N/A

Land Use: (Residential) School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: PARANA

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00034		
Location ID	BD-000263		
Sample Group (circle) (Subgroup of the property)	Garage, (House), Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____
Location Description (circle) (Detailed description point within the location)	Basement, (Ground Floor), (Second Level) Other_____	Basement, Ground Floor, Second Level Other_____	Basement, Ground Floor, Second Level Other_____
Matrix Type (circle)	(Horizontal Surfaces) (High Traffic Areas) Other_____	Horizontal Surfaces High Traffic Areas Other_____	Horizontal Surfaces High Traffic Areas Other_____
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm^2) (circle)	100 200 300 (400)	100 200 300 NA	100 200 300 NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	(TEM- .45) PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer (Dry-Cal) NA	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA
Pump ID No.	BT 666389		
Flow Meter ID No.	B1610 / S1521		
Start Time	1430 / 1441 / 1445	1443	
Start Flow (L/min)	2.0 / 2.0 / 2.0	2.0	
Stop Time	1440 / 1443 / 1447	1450	
Stop Flow (L/min)	2.0 / 2.0 / 2.0	2.0	
Pump Fault? (circle)	(No) Yes	No Yes	No Yes
Field Comments	100 cm^2 Ground floor on carpeting near front entrance 100 cm^2 Ground floor window sill 100 cm^2 2nd level floor at top of steps	100 cm^2 2nd level floor center of east Room 100 cm^2 100 cm^2	100 cm^2 100 cm^2 100 cm^2
Cassette Lot Number: 23807	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
Entered (LFO)	Volpe: Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

1/12/04

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

713 Michigan Ave · Beth Lee 1/12/04
PCE-EPA-Volpe

Author: Gregory Parana

Activity: Station air and dust samples will be collected as part of the post cleanup evaluation. Sampling will be conducted in level D PPE IAW SAP Addendum, CSS, PCE Sampling 12/1/03. Equipment: Ref pg 3 of this logbook.

0815 Onsite. Sampling pumps plugged in to warm up. Rotometer 92045-1 used to pre-calibrate air samples. CE-00030 pre-calibrated

0822 CE-00030 started (Kitchen) CE-00031 pre-calibrated.

0827 CE-00031 started (2nd level) Offsite to 1212 Louisiana.

1115 Onsite. CE-00030, 31 flow ck - OK Filter Ck - OK.

1400 Onsite. HEPA vac orientation conducted with Beth Lee. HEPA vac S/N 0316000827 given to resident. CE-00030, 31 Flow Ck. Pump Ck OK.

1/12/04

16 713 Michigan Ave - Lee 1/12/04
PCE - EPA - Volpe
Author: [signature] Gregory Parana
Late Entry: Pump 666389 calibrated with dry cal B1610/S1521. PIF Completed.
1450 CE-00034 collected. Deviation to SAP noted. Sample collected from 3 high traffic areas and one horizontal surface on 1st and 2nd level of home. Offsite
1700 Onsite. Pump Ck-OK Flow Ck-OK.
1942 CE-00030 stopped, post calibrated and sealed.
1946 CE-00031 stopped, post calibrated and sealed. All equipment decontaminated. Ref FSDS SA-000207, D-000098 and PIF BDH 000263. Offsite to CDM office. Samples locked in sample storage.
2030 ~~OFF~~ 1/12/04 Out of logbook.
HEPA vac not used before sampling 1/12/04

1/12/04
[signature]

86 Paliga Dr

BD# 003208

LIBBY ASBESTOS PROJECT
Pre-Sampling Interview Form (PIF) for Post Clean-up Evaluation Sampling

Field Logbook No.: 100305 Page No.: 17 Site Visit Date: 1/23/04

Address: 86 Aaliga Dr. Structure Description: House

Occupant: Wes Morgan Phone Number: 293-5253

Owner (if different than occupant): NA Phone Number: n/A

Business Name: NA

Sampling Team: Shawn Oliveira

Field Form Check Completed by (100% of forms): JP ps

Data Item	Value	Notes
CLEAN-UP SUMMARY (To be completed using removal completion folders)	**Date Removal Completed: 8/03**	
Location of vermiculite removed indoors	Attic Walls (interior or exterior) Crawl Space Basement Sub-floor Other: NA	
Location of vermiculite remaining indoors	Attic Walls (interior or exterior) Crawl Space Basement Sub-floor (None) Other:	
Interior cleaning conducted during removal	(Yes) No If Yes, which floors: (Basement) Ground Second Garage Attic Other:	
Was carpet removed during removal activities?	Yes (No) NA	
Location of vermiculite removed outdoors	Driveway Flowerbed (Garden) Stockpile (Yard) None Other:	
Location of vermiculite remaining outdoors	Driveway Flowerbed Garden Stockpile Yard ~~None~~ (Other:) jb 9/17/04	Vermiculite may remain under concrete around pool. 12" deep

Data Item	Value	Notes
Pre-Sampling Interview (To be completed with resident)		
Has EPA provided a HEPA vacuum and has it been used since removal?	(Yes) No If Yes, how long after the removal was completed did use of the EPA-issued HEPA vac begin: Immediately 1 to 2 months 3 to 4 months (5 to 6 months) more than 6 months	
How often do you vacuum with your EPA provided HEPA vacuum?	Once a week More than once a week Twice a month (Once a month) Less than once a month Other:	
Heating Source	(Wood) Coal Electric Propane/Gas Other:	
Heat Distribution	Forced air (Radiant) Other:	
How soon after the removal was a forced air heating source first used?	Immediately (1 to 2 months) 3 to 4 months 5 to 6 months more than 6 months	
Have any of the occupants been in contact with any vermiculite since the removal was completed?	Yes (No) Unknown	Explain:
Addresses of other homes or properties where the occupants visit and may contain vermiculite	None	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?
Addresses or names of business where occupants work	Works @ home	To be completed by field personnel: Do these properties currently have indoor or outdoor vermiculite?

ADDITIONAL INFORMATION

Sheet No.: SA- 000173

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR STATIONARY AIR

Field Logbook No: 100305 Page No: 17 Sampling Date: 1/23/04

Address: 86 Paliga Owner/Tenant: Wes Morgan

Business Name: NA

Land Use: (Residential) School (Commercial) Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: Shawn Oliveira

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00092	CE- 00093	
Location ID	BD-003208	BD-003208	
Sample Group	Basement	House	
Location Description	Office	Living Room	
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	(Indoor) Outdoor NA	(Indoor) Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	(25mm) 37mm	(25mm) 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 (PCM- 0.8)	TEM- .45 (PCM- 0.8)	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	(Rotometer) DryCal NA	(Rotometer) DryCal NA	Rotometer DryCal NA
Pump ID Number	0891	0891-A	
Flow Meter ID No.	92045-1	92045-1	
Start Date	1/23/04	1/23/04	
Start Time	0850	0853	
Start Flow (L/min)	9.03	9.03	
Stop Date	1/23/04	1/23/04	
Stop Time	2056	2059	
Stop Flow (L/min)	9.03	9.03	
Pump fault? (circle)	(No) Yes NA	(No) Yes NA	No Yes NA
MET Station onsite?	(No) Yes NA	(No) Yes NA	No Yes NA
Sample Type	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear (NA)	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments Cassette Lot Number: 32415	Wood stove operating in basement. Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) ____ Entered (LFO) ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____	Volpe: Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs-101503

Sheet No.: D- 000089

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100305 Page No: 17 Sampling Date: 1/23/04

Address: 86 Pelican Dr. Owner/Tenant: Wes Morgan

Business Name: N/A 1/23/04

Land Use: (Residential) School (Commercial) Mining Roadway Other ( )

Sampling Team: MACTEC (CDM) Other _____ Names: Shawn Oliveira

Data Item	1/23/04 Cassette 1	Cassette 2	Cassette 3
Index ID	CE- 00095		
Location ID	BD-003208		
Sample Group (circle) (Subgroup of the property)	Garage, (House), Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____	Garage, House, Shed, Pump House Other_____
Location Description (circle) (Detailed description point within the location)	(Basement), (Ground Floor), Second Level Other_____	Basement, Ground Floor, Second Level Other_____	Basement, Ground Floor, Second Level Other_____
Matrix Type (circle)	(Horizontal Surfaces) High Traffic Areas Other_____	Horizontal Surfaces High Traffic Areas Other_____	Horizontal Surfaces High Traffic Areas Other_____
Category (circle)	(FS) FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm^2) (circle)	100 200 300 (400) NA	100 200 300 NA	100 200 300 NA
Filter Diameter (circle)	(25mm) 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	(TEM- .45) PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer (Dry-Cal) NA	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA
Pump ID No.	626666		
Flow Meter ID No.	B-1610 S-1521		
Start Time	2042 / 2044 / 2047	2050	
Start Flow (L/min)	2.0 / 2.0 / 2.0	2.0	
Stop Time	2044 / 2046 / 2049	2052	
Stop Flow (L/min)	2.0 / 2.0 / 2.0	2.0	
Pump Fault? (circle)	(No) Yes	No Yes	No Yes
Field Comments Cassette Lot Number: 23302	100 cm^2 - Front Entrance - Landing 100 cm^2 - Ground Level - Horizontal Surfaces. 100 cm^2 - Basement entrance from backyard	100 cm^2 Basement - Horizontal Surfaces 100 cm^2 100 cm^2	100 cm^2 100 cm^2 100 cm^2
	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
Entered (LFO)	Volpe: Entered ____ Validated ____	Entered ____ Validated ____	Entered ____ Validated ____

For Field Team Completion (Provide Initials)	Completed by	QC by

vs 101503

86 Paliga Dr. Wes Morgan 1/23/04 17

PCE--EPA/Volpe Author: Shawn Oliveira

Activity: Stationary Air and dust samples will be collected as part of the P.C.E. Sampling will be conducted in Level D PPE I.A.W SAP Addendum, CSS, PCE Sampling.

846 Onsite Wes Morgan present CE-00092 set-up and pre-calibrated. SO

850 CE-00092 started. SO

852 CE-00093 set-up and pre-calibrated.

853 CE-00093 started. SO

1145 Onsite, resident not home. SO

1452 Onsite, resident not home. SO

1738 Onsite, resident not home. SO

2036 Onsite. Flowcheck ok, Filtercheck ok.

2042 CE-00095 (Dust) collected. SO

2056 CE-00092 stopped, post-calibrated and collected.

2059 CE-00093 stopped, post-calibrated and collected.

2113 Return to CDM, samples locked in sample storage. Ref. FSAS SA-000173, D-000089

1/23/04 Shawn Oliveira

Appendix B
Libby Field Office Record of Modification Forms

Request for Modification

to the

Libby Sampling and Quality Assurance Project Plan
Field Activities
LFO-000064a

(Clarification to LFO-000064a is detailed in italics below.)

Instructions to Requester: **Fax to contacts at bottom of form for review and approval.**
File approved copy with Data Manager at the Libby Field Office (LFO).
Data Manager will maintain legible copies in a binder that can be accessed by LFO personnel.

Project QAPP (circle one): Phase I (approved 4/00) Phase II (approved 2/01)
Removal Action (approved 7/00) Contaminant Screening Study (approved 5/02)
Other (Title and approval date): This modification applies to all project QAPPs governing dust sampling activities and all air sampling activities with the exception of clearance air sampling activities.

SOP (Number and Revision No.): dust sampling procedures are detailed in the Dust Sampling and Analysis Plan for Libby, MT, Rev. 0 (estimated July, 2003); air sampling procedures are detailed in the respective QAPPs.

Other Document (Title, Number/Revision): _____

Requester: Terry Crowell Title: Sample Coordinator
Company: CDM Date: 7/15/03

Description of Modification:
For dust (microvacuum) and air samples, field blanks will be collected at a frequency of one per team per day and analyzed at a frequency of one per team per week. The field blanks to be analyzed each week will be designated by the Libby sample coordinator to evaluate each team's sample collection technique. *Because field teams are currently collecting either dust or air samples, the blanks to be analyzed each week will be independent of media. The appropriate quality control sample analysis frequency (see attached table) will be maintained for air and dust samples independently. If at any point field teams are requested to collect both air and dust samples, the sample coordinator will ensure that the appropriate quality control sample analysis frequency is maintained for each medium.* Those field blanks collected but not submitted for analysis will be archived in the event contamination in field blanks is observed. Frequency of field blanks collected for clearance air sampling is not included in this modification and will remain as defined I the Response Action Work Plan (estimated August 2003).

Field logbook and page number modification is documented on: 1-00011, page 41

Reason for modification:
As written in the referenced analytical methods, quality control sample collection frequency is exceptionally high given the number of sampling locations that will be visited as part of the Libby project; and has therefore been reduced to meet the current needs of the project. That is, historical site data for field blanks (collected at the previous higher frequency) indicate that occurrence of Libby Amphibole contamination on field blanks is sufficiently rare to justify a reduction in the number of field blanks analytically tested.

Duration of Modification (circle one):

Temporary Date(s): _____

Resident address(es): _____

_____

- If appropriate, attach a list of all applicable Index Identification numbers.

Permanent (complete Proposed Modification Section) Effective Date: July 7, 2003

Proposed Modification to SQAPP (attach additional sheets if necessary; state section and page numbers of SQAPP when applicable): Section B2, Field QA/QC Samples, page 21

Technical Review: _____ Date: _____
(Volpe Project Manager or designate)

Approved By: _____ Title: _____ Date: _____
(USEPA Remedial Project Manager or designate)

SUMMARY OF FIELD BLANK RESULTS ANALYZED BY TEM-ISO 10312

ection Frequency (DF)

Mineral Type	Direct: N samples total =1334		Indirect: N samples total = 371	
	N detects [a]	DF	N detects	DF
LA	2	*0.15%*	4	*1.08%*
OA	0	*0.00%*	1	*0.27%*
C	2	*0.15%*	35	*9.43%*
Total	4	*0.30%*	39	*10.51%*

DF = number of field blanks with 1 or more structures / total number of field blanks

[a] Based on all structures (regardless of dimensions).

Loading (s/mm²)

Mineral Type	Direct				Indirect			
	Total N	avg (all)	avg (detects)	max (detects)	N structures	avg (all)	avg (detects)	max (detects)
LA	4	0.03	21.8	27.3	6	0.20	19.0	31.3
OA	0	all ND	--	--	1	0.04	16.4	16.4
C	4	0.03	18.6	27.3	97	3.62	38.4	344.3
Total	8	0.0607	20.2	27.3	104	3.87	36.8	344.3

Loading (s/mm²) = N structures / (GOs counted · GO Area)

Loading (s/sample)

Mineral Type	Direct			Indirect		
	avg (all)	avg (detects)	max (detects)	avg (all)	avg (detects)	max (detects)
LA	0.003	2.0	3	0.016	1.5	2
OA	all ND	--	--	0.003	1.0	1
C	0.003	2.0	3	0.261	2.8	21
Total	0.006	2.0	3	0.280	2.7	21

·ding (s/sample) = N structures / N samples total, where 10 GOs per sample

SUMMARY OF FIELD BLANK RESULTS ANALYZED BY TEM-AHERA/ASTM

Detection Frequency (DF)

Mineral Type	Direct: N samples total =1267		Indirect: N samples total = 77	
	N detects [a]	DF	N detects	DF
LA	1	*0.08%*	0	*0.00%*
OA	0	*0.00%*	0	*0.00%*
C	1	*0.08%*	0	*0.00%*
Total	2	*0.16%*	0	*0.00%*

DF = number of field blanks with 1 or more structures / total number of field blanks

[a] Based on all structures (regardless of dimensions).

Loading (s/mm²)

Mineral Type	Direct				Indirect			
	Total N	avg (all)	avg (detects)	max (detects)	N structures	avg (all)	avg (detects)	max (detects)
Total Asb	2	0.01	4.4	8.0	0	ND	--	--

Loading (s/mm²) = N structures / (GOs counted · GO Area)

Loading (s/sample, 10 GOs per sample)

Mineral Type	Direct			Indirect		
	avg (all)	avg (detects)	max (detects)	avg (all)	avg (detects)	max (detects)
Total Asb	0.002	1.0	1.0	ND	--	--

Loading (s/sample) = N structures / N samples total, where 10 GOs per sample

ıvote: Calculations exclude all Lab QC samples (eg: Recounts), analyses in which GO was not = 10, and potential duplicate analyses. Based on Libby2 Database download dated January 5, 2004.

Request for Modification

to the

Libby Sampling and Quality Assurance Project Plan
Field Activities
LFO-000064b
(Clarification to LFO-000064 is detailed in italics below.)

Instructions to Requester: **Fax to contacts at bottom of form for review and approval.**
File approved copy with Data Manager at the Libby Field Office (LFO).
Data Manager will maintain legible copies in a binder that can be accessed by LFO personnel.

Project QAPP (circle one): Phase I (approved 4/00) Phase II (approved 2/01)
Removal Action (approved 7/00) Contaminant Screening Study (approved 5/02)
Other (Title and approval date): This modification applies to all project QAPPs governing dust sampling activities and all air sampling activities with the exception of clearance air sampling activities.

SOP (Number and Revision No.): dust sampling procedures are detailed in the Dust Sampling and Analysis Plan (SAP) for Indoor Dust for Use at the Libby, Montana, Superfund Site Rev. 0 (August 7, 2003); air sampling procedures are detailed in the respective QAPPs.

Other Document (Title, Number/Revision): _____

Requester: Terry Crowell Title: Sample Coordinator
Company: CDM Date: 01/27/04

Description of Modification:
For dust (microvacuum) and air samples, field blanks will be collected at a frequency of one per team per day and analyzed at a frequency of one per team per week. The field blanks to be analyzed each week will be designated by the Libby sample coordinator to evaluate each team's sample collection technique. Because field teams are currently collecting either dust or air samples, the blanks to be analyzed each week will be independent of media. The appropriate quality control sample analysis frequency (see attached table) will be maintained for air and dust samples independently. If at any point field teams are requested to collect both air and dust samples, the sample coordinator will ensure that the appropriate quality control sample analysis frequency is maintained for each medium. Those field blanks collected but not submitted for analysis will be archived in the event contamination in field blanks is observed. Frequency of field blanks collected for clearance air sampling is not included in this modification and will remain as defined I the Response Action Work Plan (estimated August 2003). *Although the Dust SAP was approved subsequent to Modification #64, field blanks collected under the Dust SAP will be collected and analyzed at the frequency established in Modification #64.*

Field logbook and page number modification is documented on: 1-00011, page 41

Reason for modification:
As written in the referenced analytical methods, quality control sample collection frequency is exceptionally high given the number of sampling locations that will be visited as part of the Libby project; and has therefore been reduced to meet the current needs of the project. That is, historical site data for field blanks (collected at the previous higher frequency) indicate that occurrence of Libby Amphibole contamination on field blanks is sufficiently rare to justify a reduction in the number of field blanks analytically tested.

Duration of Modification (circle one):

Temporary Date(s): _____

Resident address(es): _____

_____

- If appropriate, attach a list of all applicable Index Identification numbers.

Permanent (complete Proposed Modification Section) Effective Date: July 7, 2003

Proposed Modification to SQAPP (attach additional sheets if necessary; state section and page numbers of SQAPP when applicable): Section B2, Field QA/QC Samples, page 21

Technical Review: _____ Date: _____
(Volpe Project Manager or designate)

Approved By: _____ Title: _____ Date: _____
(USEPA Remedial Project Manager or designate)

Record of Modification
to the
Libby Sampling and Quality Assurance Project Plan
Field Activities
LFO-000078

Instructions to Requester: **Fax to contacts at bottom of form for review and approval.**
File approved copy with Data Manager at the Libby Field Office (LFO).
Data Manager will maintain legible copies in a binder that can be accessed by LFO personnel.

Project QAPP (circle one): *Phase I (approved 4/00)* *Phase II (approved 2/01)*
Removal Action (approved 7/00) **Contaminant Screening Study** (approved 5/02)
Other (Title and approval date): _____

SOP (Number and Revision No.): Asbestos Hazard Emergency Response Act 40 CFR, Chapter 1, Subchapter R, Part 763, Subpart E, Appendix A (October 1987)

Other Document (Title, Number/Revision): Final Sampling and Analysis Plan Addendum (SAP Addendum), Post Clean-Up Evaluation Sampling, Contaminant Screening Study, Libby Asbestos Site, Operable Unit 4, (December 1, 2003)

Requester: Terry Crowell Title: Sample Coordinator
Company: CDM Date: 01/27/04

Description of Modification: The target analytical sensitivity of 0.0001 structures per cubic centimeter (S/cc) for personal and stationary air samples will be modified to include a Not to Exceed Grid Opening (GO) count of 50 GOs. If a sensitivity of 0.0001 S/cc cannot be reached within 50 GOs, the lab will count only until a target analytical sensitivity of 0.0002 S/cc is reached, or until they reach 50 GOs, whichever comes first. That is, if an analytical sensitivity 0.0002 S/cc is reached within 47 GOs, the lab will stop counting after 47 GOs have been read.

Field logbook and page number modification is documented on: 1-00011; page 44

Reason for modification: Due to the inordinate amount of GOs that may be required to be read in order to reach the analytical sensitivity listed in the SAP Addendum for air samples, a target analytical sensitivity is established as described in the Description of Modification. The target analytical sensitivity will not compromise the air data; the air data will be usable for its intended purpose as stated in the SAP Addendum.

Duration of Modification (circle one):
Temporary Date(s): _____
Resident address(es): _____

- If appropriate, attach a list of all applicable Index Identification numbers.

Permanent (complete Proposed Modification Section) Effective Date: January 9, 2004

Proposed Modification to SQAPP (attach additional sheets if necessary; state section and page numbers of SQAPP when applicable): Section 4 – Laboratory Analysis and Requirements, subsection 4.2 – Sensitivity Limits, will be modified to include a Not to Exceed GO count of 50 GOs for air samples.

Technical Review and Approval: _____ Date: _____
(Volpe Project Manager or designate)

EPA Review and Approval: _____ Date: _____
(EPA RPM or designate)

1/29/04 During discussions between M. Raney (Volpe Center) and the EMSL Mobile Asbestos Lab, it was decided that for the Post Clean-Up Evaluation personal and stationary air samples, a target analytical sensitivity (AS) with a Not to Exceed Grid Opening (GO) count of 50 would be implemented. This is to limit the time required to read samples in order to reach the AS specified in the Post Clean-Up Evaluation Sampling and Analysis Plan. In addition, if the target AS of 0.0001 S/cc (Libby Amphibole) is not reached within 50 GOs, a secondary target AS of 0.0002 S/cc will be achieved, whichever comes first. These changes are documented in 2 emails from M. Raney to EMSL, which are attached. Requested by A. Autio (COM) to write up the modification request form to the Post Clean-Up Evaluation sampling and Analysis Plan on 1/23/04. Modification Request LFO-000078 sent to Volpe for review and approval on 1/28/04.

1/28/04

Terry Crowell

Crowell, Terry

From: EMSL Mobile Lab - Asbestos [mobileasbestoslab@emsl.com]
Sent: Thursday, January 22, 2004 9:11 AM
To: Crowell, Terry
Subject: Fw: Clarification

----- Original Message -----
From: "Raney, Mark" <RANEY@VOLPE.DOT.GOV>
To: "'EMSL Mobile Lab - Asbestos'" <mobileasbestoslab@emsl.com>
Cc: "'Autio, Anni'" <autioah@cdm.com>
Sent: Friday, January 09, 2004 1:43 PM
Subject: RE: Clarification

> NO.
>
> Max GOs = 50
>
> 1st Target Sensitivity = 0.0001
> 2nd Target Sensitivity = 0.0002 (i.e., if you reach a sensitivity of 0.0002 within 47GOs, stop)
> If you can't reach 0.0002 within 50 GOs Stop at 50.
>
> Mark.
>
>
> -----Original Message-----
> From: EMSL Mobile Lab - Asbestos [mailto:mobileasbestoslab@emsl.com]
> Sent: Friday, January 09, 2004 3:37 PM
> To: Mark Raney
> Subject: Clarification
>
>
> Mark,
>
> In re-reading your email, I have a question. If I cannot reach 0.0001 S/cc
> in 50 GO's, I then aim for 0.0002 S/cc or 50 GO's. Am I correct in
> the assumption that we are talking about an additional 50 GO's to
> reach 0.0002 S/cc (that is a max of 100 GO's for any sample)?
>
> EMSL Mobile Asbestos Lab
> 107 W 4th St.
> Libby, MT 59923
> PH: (406) 293-9066
> FAX: (406) 293-7016
> http://www.emsl.com

Crowell, Terry

n:	EMSL Mobile Lab - Asbestos [mobileasbestoslab@emsl.com]
t:	Thursday, January 22, 2004 9:11 AM
To:	Crowell, Terry
Subject:	Fw: Grid Openings Required, CE Samples

----- Original Message -----
From: "Raney, Mark" <RANEY@VOLPE.DOT.GOV>
To: "'EMSL Mobile Lab - Asbestos'" <mobileasbestoslab@emsl.com>; "Anni Autio" <autioah@cdm.com>; "Raney, Mark" <RANEY@VOLPE.DOT.GOV>; "Mary Goldade" <goldade.mary@EPAmail.epa.gov>; "Bill Brattin" <brattin@syrres.com>
Cc: "Rob DeMalo" <rdemalo@emsl.com>; "Charlie LaCerra" <clacerra@emsl.com>; "Kim Carr" <kcarr@emsl.com>
Sent: Friday, January 09, 2004 1:06 PM
Subject: RE: Grid Openings Required, CE Samples

>
> Anni,
>
> Based on Ron's email, past discussions, and a conversation I had with
> Bill
today, effective immediately the following rules should be followed regarding the Clean-up Evaluation Samples (CE).
>
> The CE target sensitivity of 0.0001 S/cc for all air samples, should
> be
ified to incorporate a Not to Exceed GO count of 50 GOs. If a sensitivity of 0.0001 c cannot be reached within 50 GOs the lab should count only until a target sensitivity of 0.0002 S/cc is reached or until they reach 50 GOs (which ever comes first).
>
> Also, a MOD will need to be prepared to document this change.
>
> Let me know if you have any questions.
>
>
> Mark.
>
> Mark Raney
> Environmental Engineer
>
> US DOT / Volpe Center
> Environmental Engineering Division, DTS-33
> phone: 617-494-2377
> cell: 617-694-8223
> fax: 617-494-2789
> raney@volpe.dot.gov
>
>
> -----Original Message-----
> From: EMSL Mobile Lab - Asbestos [mailto:mobileasbestoslab@emsl.com]
> Sent: Wednesday, January 07, 2004 7:02 PM
> To: Anni Autio; Mark Raney; Mary Goldade; Bill Brattin
> Cc: Rob DeMalo; Charlie LaCerra; Kim Carr
> Subject: Grid Openings Required, CE Samples
>

s requested, here is an expanded breakdown of the CE samples
> currently in house with the required number of grid openings at
> different analytical sensitivities. I've made some approximations, so
> one or two of the
numbers

> may be off by a grid opening.
>
> R.

MSL Mobile Asbestos Lab
> 107 W 4th St.
> Libby, MT 59923
> PH: (406) 293-9066
> FAX: (406) 293-7016
> http://www.emsl.com

Record of Modification
to the
Libby Sampling and Quality Assurance Project Plan
Field Activities
LFO-000074

***Instructions to Requester:* Fax to contacts at bottom of form for review and approval.**
File approved copy with Data Manager at the Libby Field Office (LFO).
Data Manager will maintain legible copies in a binder that can be accessed by LFO personnel.

Project QAPP (circle one): Phase I (approved 4/00) Phase II (approved 2/01)
Removal Action (approved 7/00) Contaminant Screening Study (approved 5/02)
Other (Title and approval date): Post Clean Up Evaluation SAP (11/03)

SOP (Number and Revision No.): NA

Other Document (Title, Number/Revision): NA

Requester: Dee Warren Title: RI Field Team Leader
Company: CDM Date: 11/20/03

Description of Modification: Change analysis on all samples collected under this SAP to AHERA.

Field logbook and page number modification is documented on: NA – documented in e-mail from EPA RPM

Reason for modification: ISO data is not required to collect the required data for risk assessment and evaluation, so all samples will be analyzed using AHERA methods.

Duration of Modification (circle one):
Temporary Date(s):
Resident address(es):

- If appropriate, attach a list of all applicable Index Identification numbers.

Permanent (complete Proposed Modification Section) Effective Date: 11/20/03

Proposed Modification to SQAPP (attach additional sheets if necessary; state section and page numbers of SQAPP when applicable): Section 4.1 page 4-1 Analytical Methods: All air and dust samples collected as part of the post clean-up evaluation will be analyzed by TEM according to the AHERA method. Dust samples will be prepared using ASTM 5755.

.echnical Review and Approval: Date:
(Volpe Project Manager or designate)

EPA Review and Approval: Date:
(USEPA RPM or designate)

Appendix C
Analytical Data

Analytical data is presented in numerical order according to the sample identification number.

Analytical sensitivities presented in Table 3-1 differ from the sensitivities presented in analytical data reports of this appendix. The database loads information provided from the laboratories in an electronic format. During this upload process rounding of the last significant digit occurs. This rounding causes results in the database to differ slightly from the results presented in the following analytical data reports. The quality of the data presented in this report is not affected by this rounding.

USEPA REGION 8 LIBBY SITE INVESTIGATION v26c
TEM Asbestos Structure Count -- AHERA/ASTM

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00001
QA Sample Type	Not QA
Lab Sample Number	270301275-0001
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	5.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	400
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.3E+02	<1.3E+02	<1.3E+02	<1.3E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<1.2E+02	<1.2E+02	<1.2E+02	<1.2E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.3E+02	1.3E+02
Sensitivity (s/cm2)	1.2E+02	1.2E+02

USEPA REGION 8 LIBBY SITE INVESTIGATION v26c
TEM Asbestos Structure Count -- AHERA/ASTM

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00002
QA Sample Type	Not QA
Lab Sample Number	270301275-0002
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	1.50E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	600
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<4.3E+02	<4.3E+02	<4.3E+02	<4.3E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<2.8E+02	<2.8E+02	<2.8E+02	<2.8E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	4.3E+02	4.3E+02
Sensitivity (s/cm2)	2.8E+02	2.8E+02

EPA REGION 8 LIBBY SITE INVESTIGATION v26c

TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00004
QA Sample Type	Not QA
Lab Sample Number	270301301-0001
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	101
Number of Grid Openings (chrysotile)	101
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	1962
Area counted (mm2) for LA/OA	1.313
Area counted (mm2) for C	1.313

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<7.6E-01	<7.6E-01	<7.6E-01	<7.6E-01	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	7.6E-01	7.6E-01
Sensitivity (s/cc)	1.5E-04	1.5E-04

EPA REGION 8 LIBBY SITE INVESTIGATION v26c

TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00005
QA Sample Type	Not QA
Lab Sample Number	270301301-0002
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	28
Number of Grid Openings (chrysotile)	28
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	7231
Area counted (mm2) for LA/OA	0.364
Area counted (mm2) for C	0.364

TOTAL COUNTS

Total Structures	1
Total Asbestos structures	1
Total NAM	0
Total AHERA structures	1
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	1	0	0	1
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	2.7E+00	<2.7E+00	<2.7E+00	2.7E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	1.5E-04	<1.5E-04	<1.5E-04	1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.7E+00	2.7E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

EPA REGION 8 LIBBY SITE INVESTIGATION v26c

TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00006
QA Sample Type	Not QA
Lab Sample Number	270301301-0003
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	28
Number of Grid Openings (chrysotile)	28
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	7246
Area counted (mm2) for LA/OA	0.364
Area counted (mm2) for C	0.364

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.7E+00	<2.7E+00	<2.7E+00	<2.7E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.7E+00	2.7E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00007
QA Sample Type	Not QA
Lab Sample Number	270301301-0004
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	62
Number of Grid Openings (chrysotile)	62
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	3194
Area counted (mm2) for LA/OA	0.806
Area counted (mm2) for C	0.806

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.2E+00	<1.2E+00	<1.2E+00	<1.2E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.2E+00	1.2E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

EPA REGION 8 LIBBY SITE INVESTIGATION v26c
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00008
QA Sample Type	Not QA
Lab Sample Number	270301301-0005
Sample Type	Air
Category	Blank
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	20
Number of Grid Openings (chrysotile)	20
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	0
Area counted (mm2) for LA/OA	0.260
Area counted (mm2) for C	0.260

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<3.8E+00	<3.8E+00	<3.8E+00	<3.8E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	Blank	Blank	Blank	Blank	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	3.8E+00	3.8E+00
Sensitivity (s/cc)	Blank	Blank

TEM Asbestos Structure Count -- AHERA/ASTM

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00009
QA Sample Type	Not QA
Lab Sample Number	270301300-0001
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	1.50E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	400
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<4.3E+02	<4.3E+02	<4.3E+02	<4.3E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<4.2E+02	<4.2E+02	<4.2E+02	<4.2E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	4.3E+02	4.3E+02
Sensitivity (s/cm2)	4.2E+02	4.2E+02

USEPA REGION 8 LIBBY SITE INVESTIGATION v26c
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00010
QA Sample Type	Not QA
Lab Sample Number	270301311-0001
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	50
Number of Grid Openings (chrysotile)	50
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	1737
Area counted (mm2) for LA/OA	0.645
Area counted (mm2) for C	0.645

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.6E+00	<1.6E+00	<1.6E+00	<1.6E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<3.4E-04	<3.4E-04	<3.4E-04	<3.4E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.6E+00	1.6E+00
Sensitivity (s/cc)	3.4E-04	3.4E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26c
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00011
QA Sample Type	Not QA
Lab Sample Number	270301311-0002
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	50
Number of Grid Openings (chrysotile)	50
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	2413
Area counted (mm2) for LA/OA	0.645
Area counted (mm2) for C	0.645

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.6E+00	<1.6E+00	<1.6E+00	<1.6E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<2.5E-04	<2.5E-04	<2.5E-04	<2.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.6E+00	1.6E+00
Sensitivity (s/cc)	2.5E-04	2.5E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26c

TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00012
QA Sample Type	Not QA
Lab Sample Number	270301311-0003
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	50
Number of Grid Openings (chrysotile)	50
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	2417
Area counted (mm2) for LA/OA	0.645
Area counted (mm2) for C	0.645

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.6E+00	<1.6E+00	<1.6E+00	<1.6E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<2.5E-04	<2.5E-04	<2.5E-04	<2.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.6E+00	1.6E+00
Sensitivity (s/cc)	2.5E-04	2.5E-04

SEPA REGION 8 LIBBY SITE INVESTIGATION v26c

TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00013
QA Sample Type	Not QA
Lab Sample Number	270301322-0001
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	30
Number of Grid Openings (chrysotile)	30
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6750
Area counted (mm2) for LA/OA	0.387
Area counted (mm2) for C	0.387

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.6E+00	<2.6E+00	<2.6E+00	<2.6E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.6E+00	2.6E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26c

TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00014
QA Sample Type	Not QA
Lab Sample Number	270301322-0002
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	30
Number of Grid Openings (chrysotile)	30
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6747
Area counted (mm2) for LA/OA	0.387
Area counted (mm2) for C	0.387

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.6E+00	<2.6E+00	<2.6E+00	<2.6E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.6E+00	2.6E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

EPA REGION 8 LIBBY SITE INVESTIGATION v26c
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00015
QA Sample Type	Not QA
Lab Sample Number	270301322-0003
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	29
Number of Grid Openings (chrysotile)	29
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6898
Area counted (mm2) for LA/OA	0.374
Area counted (mm2) for C	0.374

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.7E+00	<2.7E+00	<2.7E+00	<2.7E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.7E+00	2.7E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

SEPA REGION 8 LIBBY SITE INVESTIGATION v26c

TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00016
QA Sample Type	Not QA
Lab Sample Number	270301322-0004
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	41
Number of Grid Openings (chrysotile)	41
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	4893
Area counted (mm2) for LA/OA	0.529
Area counted (mm2) for C	0.529

TOTAL COUNTS

Total Structures	1
Total Asbestos structures	1
Total NAM	0
Total AHERA structures	1
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	1	0	0	1

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	1.9E+00	<1.9E+00	<1.9E+00	1.9E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	1.5E-04	<1.5E-04	<1.5E-04	1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.9E+00	1.9E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26c
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00017
QA Sample Type	Not QA
Lab Sample Number	270301316-0001
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	50
Number of Grid Openings (chrysotile)	50
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	1928
Area counted (mm2) for LA/OA	0.645
Area counted (mm2) for C	0.645

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.6E+00	<1.6E+00	<1.6E+00	<1.6E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<3.1E-04	<3.1E-04	<3.1E-04	<3.1E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.6E+00	1.6E+00
Sensitivity (s/cc)	3.1E-04	3.1E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26c

TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00018
QA Sample Type	Not QA
Lab Sample Number	270301316-0002
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	48
Number of Grid Openings (chrysotile)	48
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	2512
Area counted (mm2) for LA/OA	0.619
Area counted (mm2) for C	0.619

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.6E+00	<1.6E+00	<1.6E+00	<1.6E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<2.5E-04	<2.5E-04	<2.5E-04	<2.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.6E+00	1.6E+00
Sensitivity (s/cc)	2.5E-04	2.5E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26c
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00019
QA Sample Type	Not QA
Lab Sample Number	270301316-0003
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	47
Number of Grid Openings (chrysotile)	47
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	2569
Area counted (mm2) for LA/OA	0.606
Area counted (mm2) for C	0.606

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.6E+00	<1.6E+00	<1.6E+00	<1.6E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<2.5E-04	<2.5E-04	<2.5E-04	<2.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.6E+00	1.6E+00
Sensitivity (s/cc)	2.5E-04	2.5E-04

EPA REGION 8 LIBBY SITE INVESTIGATION v26c

TEM Asbestos Structure Count -- AHERA/ASTM

Version

EMSL

SAMPLE ID		PARAMETERS	
Status	Analyzed	Number of Grid Openings (amphibole)	5
EPA Sample Number	CE-00020	Number of Grid Openings (chrysotile)	5
QA Sample Type	Not QA	Area of grid opening (mm2)	0.013
Lab Sample Number	270301317-0001	F Factor	1.00E-01
Sample Type	Dust	Effective primary filter area (mm2)	385.0
Category	Field	Effective secondary filter area (mm2)	1295.0
Prep	Indirect	Volume (L) or Sample Area (cm2)	400
Counting rule	ASTM	Area counted (mm2) for LA/OA	0.065
		Area counted (mm2) for C	0.065

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<5.2E+02	<5.2E+02	<5.2E+02	<5.2E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<5.0E+02	<5.0E+02	<5.0E+02	<5.0E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	5.2E+02	5.2E+02
Sensitivity (s/cm2)	5.0E+02	5.0E+02

EPA REGION 8 LIBBY SITE INVESTIGATION v26c Versi

TEM Asbestos Structure Count -- AHERA

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00021
QA Sample Type	Not QA
Lab Sample Number	270301322-0005
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	50
Number of Grid Openings (chrysotile)	50
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	1906
Area counted (mm2) for LA/OA	0.645
Area counted (mm2) for C	0.645

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.6E+00	<1.6E+00	<1.6E+00	<1.6E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<3.1E-04	<3.1E-04	<3.1E-04	<3.1E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.6E+00	1.6E+00
Sensitivity (s/cc)	3.1E-04	3.1E-04

SEPA REGION 8 LIBBY SITE INVESTIGATION v26c Versi

TEM Asbestos Structure Count -- AHERA

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00022
QA Sample Type	Not QA
Lab Sample Number	270301322-0006
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	48
Number of Grid Openings (chrysotile)	48
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	2499
Area counted (mm2) for LA/OA	0.619
Area counted (mm2) for C	0.619

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.6E+00	<1.6E+00	<1.6E+00	<1.6E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<2.5E-04	<2.5E-04	<2.5E-04	<2.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.6E+00	1.6E+00
Sensitivity (s/cc)	2.5E-04	2.5E-04

EPA REGION 8 LIBBY SITE INVESTIGATION v26c
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00023
QA Sample Type	Not QA
Lab Sample Number	270301322-0007
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	48
Number of Grid Openings (chrysotile)	48
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	2495
Area counted (mm2) for LA/OA	0.619
Area counted (mm2) for C	0.619

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.6E+00	<1.6E+00	<1.6E+00	<1.6E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<2.5E-04	<2.5E-04	<2.5E-04	<2.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.6E+00	1.6E+00
Sensitivity (s/cc)	2.5E-04	2.5E-04

EPA REGION 8 LIBBY SITE INVESTIGATION v26c

TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00024
QA Sample Type	Not QA
Lab Sample Number	270400007-0001
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	50
Number of Grid Openings (chrysotile)	50
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6074
Area counted (mm2) for LA/OA	0.645
Area counted (mm2) for C	0.645

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.6E+00	<1.6E+00	<1.6E+00	<1.6E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<9.8E-05	<9.8E-05	<9.8E-05	<9.8E-05	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.6E+00	1.6E+00
Sensitivity (s/cc)	9.8E-05	9.8E-05

EPA REGION 8 LIBBY SITE INVESTIGATION v26c
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00025
QA Sample Type	Not QA
Lab Sample Number	270400007-0002
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	35
Number of Grid Openings (chrysotile)	35
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6073
Area counted (mm2) for LA/OA	0.452
Area counted (mm2) for C	0.452

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.2E+00	<2.2E+00	<2.2E+00	<2.2E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.4E-04	<1.4E-04	<1.4E-04	<1.4E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.2E+00	2.2E+00
Sensitivity (s/cc)	1.4E-04	1.4E-04

EPA REGION 8 LIBBY SITE INVESTIGATION v26c

TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00026
QA Sample Type	Not QA
Lab Sample Number	270400007-0003
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	35
Number of Grid Openings (chrysotile)	35
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6073
Area counted (mm2) for LA/OA	0.452
Area counted (mm2) for C	0.452

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.2E+00	<2.2E+00	<2.2E+00	<2.2E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.4E-04	<1.4E-04	<1.4E-04	<1.4E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.2E+00	2.2E+00
Sensitivity (s/cc)	1.4E-04	1.4E-04

EPA REGION 8 LIBBY SITE INVESTIGATION v26c
TEM Asbestos Structure Count -- AHERA/ASTM

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00027
QA Sample Type	Not QA
Lab Sample Number	270400006-0001
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	2.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	400
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<3.3E+02	<3.3E+02	<3.3E+02	<3.3E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<3.1E+02	<3.1E+02	<3.1E+02	<3.1E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	3.3E+02	3.3E+02
Sensitivity (s/cm2)	3.1E+02	3.1E+02

EPA REGION 8 LIBBY SITE INVESTIGATION v26c
TEM Asbestos Structure Count -- AHERA/ASTM

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00027
QA Sample Type	RD
Lab Sample Number	270400006-0001
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	2.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	400
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<3.3E+02	<3.3E+02	<3.3E+02	<3.3E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<3.1E+02	<3.1E+02	<3.1E+02	<3.1E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	3.3E+02	3.3E+02
Sensitivity (s/cm2)	3.1E+02	3.1E+02

EPA REGION 8 LIBBY SITE INVESTIGATION v26c

TEM Asbestos Structure Count -- AHERA/ASTM

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00028
QA Sample Type	Not QA
Lab Sample Number	270400006-0002
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	2.50E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	400
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.6E+02	<2.6E+02	<2.6E+02	<2.6E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<2.5E+02	<2.5E+02	<2.5E+02	<2.5E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.6E+02	2.6E+02
Sensitivity (s/cm2)	2.5E+02	2.5E+02

EPA REGION 8 LIBBY SITE INVESTIGATION v26c
TEM Asbestos Structure Count -- AHERA/ASTM

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00028
QA Sample Type	VA
Lab Sample Number	270400006-0002
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	2.50E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	400
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.6E+02	<2.6E+02	<2.6E+02	<2.6E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<2.5E+02	<2.5E+02	<2.5E+02	<2.5E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.6E+02	2.6E+02
Sensitivity (s/cm2)	2.5E+02	2.5E+02

EPA REGION 8 LIBBY SITE INVESTIGATION v26c
TEM Asbestos Structure Count -- AHERA/ASTM

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00029
QA Sample Type	Not QA
Lab Sample Number	270400006-0003
Sample Type	Dust
Category	Blank
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	10
Number of Grid Openings (chrysotile)	10
Area of grid opening (mm2)	0.013
F Factor	5.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	0
Area counted (mm2) for LA/OA	0.129
Area counted (mm2) for C	0.129

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<5.2E+01	<5.2E+01	<5.2E+01	<5.2E+01	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	Blank	Blank	Blank	Blank	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	5.2E+01	5.2E+01
Sensitivity (s/cm2)	Blank	Blank

/A REGION 8 LIBBY SITE INVESTIGATION v26c
/EM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00030
QA Sample Type	Not QA
Lab Sample Number	270400017-0001
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	33
Number of Grid Openings (chrysotile)	33
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6127
Area counted (mm2) for LA/OA	0.426
Area counted (mm2) for C	0.426

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.3E+00	<2.3E+00	<2.3E+00	<2.3E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.3E+00	2.3E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00031
QA Sample Type	Not QA
Lab Sample Number	270400017-0002
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	33
Number of Grid Openings (chrysotile)	33
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6118
Area counted (mm2) for LA/OA	0.426
Area counted (mm2) for C	0.426

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.3E+00	<2.3E+00	<2.3E+00	<2.3E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.3E+00	2.3E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

.PA REGION 8 LIBBY SITE INVESTIGATION v26c

.TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00032
QA Sample Type	Not QA
Lab Sample Number	270400017-0003
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	33
Number of Grid Openings (chrysotile)	33
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6254
Area counted (mm2) for LA/OA	0.426
Area counted (mm2) for C	0.426

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.3E+00	<2.3E+00	<2.3E+00	<2.3E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.4E-04	<1.4E-04	<1.4E-04	<1.4E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.3E+00	2.3E+00
Sensitivity (s/cc)	1.4E-04	1.4E-04

/A REGION 8 LIBBY SITE INVESTIGATION v26c
/EM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00033
QA Sample Type	Not QA
Lab Sample Number	270400017-0004
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	33
Number of Grid Openings (chrysotile)	33
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6118
Area counted (mm2) for LA/OA	0.426
Area counted (mm2) for C	0.426

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.3E+00	<2.3E+00	<2.3E+00	<2.3E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.3E+00	2.3E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

PA REGION 8 LIBBY SITE INVESTIGATION v26c Versi

TEM Asbestos Structure Count -- AHERA/ASTM

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00034
QA Sample Type	Not QA
Lab Sample Number	270400018-0004
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	1.50E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	400
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<4.3E+02	<4.3E+02	<4.3E+02	<4.3E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<4.2E+02	<4.2E+02	<4.2E+02	<4.2E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	4.3E+02	4.3E+02
Sensitivity (s/cm2)	4.2E+02	4.2E+02

EPA REGION 8 LIBBY SITE INVESTIGATION v26c Version 26c

TEM Asbestos Structure Count -- AHERA/ASTM

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00035
QA Sample Type	Not QA
Lab Sample Number	270400018-0001
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	5.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	400
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.3E+02	<1.3E+02	<1.3E+02	<1.3E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<1.3E+02	<1.3E+02	<1.3E+02	<1.3E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.3E+02	1.3E+02
Sensitivity (s/cm2)	1.3E+02	1.3E+02

PA REGION 8 LIBBY SITE INVESTIGATION v26c

TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00036
QA Sample Type	Not QA
Lab Sample Number	270400017-0005
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	33
Number of Grid Openings (chrysotile)	33
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6037
Area counted (mm2) for LA/OA	0.426
Area counted (mm2) for C	0.426

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.3E+00	<2.3E+00	<2.3E+00	<2.3E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.3E+00	2.3E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

EPA REGION 8 LIBBY SITE INVESTIGATION v26c Versi

TEM Asbestos Structure Count -- AHERA

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00037
QA Sample Type	Not QA
Lab Sample Number	270400017-0006
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	33
Number of Grid Openings (chrysotile)	33
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6122
Area counted (mm2) for LA/OA	0.426
Area counted (mm2) for C	0.426

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.3E+00	<2.3E+00	<2.3E+00	<2.3E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.3E+00	2.3E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

EPA REGION 8 LIBBY SITE INVESTIGATION v26c
TEM Asbestos Structure Count -- AHERA

Vers

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00038
QA Sample Type	Not QA
Lab Sample Number	270400017-0007
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	33
Number of Grid Openings (chrysotile)	33
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6140
Area counted (mm2) for LA/OA	0.426
Area counted (mm2) for C	0.426

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.3E+00	<2.3E+00	<2.3E+00	<2.3E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.3E+00	2.3E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

EPA REGION 8 LIBBY SITE INVESTIGATION v26c
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00039
QA Sample Type	Not QA
Lab Sample Number	270400017-0008
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	33
Number of Grid Openings (chrysotile)	33
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6082
Area counted (mm2) for LA/OA	0.426
Area counted (mm2) for C	0.426

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.3E+00	<2.3E+00	<2.3E+00	<2.3E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.3E+00	2.3E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

EPA REGION 8 LIBBY SITE INVESTIGATION v26c
TEM Asbestos Structure Count -- AHERA

Version

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00040
QA Sample Type	Not QA
Lab Sample Number	270400017-0009
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	33
Number of Grid Openings (chrysotile)	33
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6019
Area counted (mm2) for LA/OA	0.426
Area counted (mm2) for C	0.426

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.3E+00	<2.3E+00	<2.3E+00	<2.3E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.3E+00	2.3E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26c

TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00041
QA Sample Type	Not QA
Lab Sample Number	270301312-0001
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	33
Number of Grid Openings (chrysotile)	33
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6078
Area counted (mm2) for LA/OA	0.426
Area counted (mm2) for C	0.426

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.3E+00	<2.3E+00	<2.3E+00	<2.3E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.3E+00	2.3E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26c

TEM Asbestos Structure Count -- AHERA

Vers

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00042
QA Sample Type	Not QA
Lab Sample Number	270301312-0002
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	33
Number of Grid Openings (chrysotile)	33
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6079
Area counted (mm2) for LA/OA	0.426
Area counted (mm2) for C	0.426

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.3E+00	<2.3E+00	<2.3E+00	<2.3E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.3E+00	2.3E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26c

TEM Asbestos Structure Count -- AHERA

Vers

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00043
QA Sample Type	Not QA
Lab Sample Number	270301312-0003
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	33
Number of Grid Openings (chrysotile)	33
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6078
Area counted (mm2) for LA/OA	0.426
Area counted (mm2) for C	0.426

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.3E+00	<2.3E+00	<2.3E+00	<2.3E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.3E+00	2.3E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26c

TEM Asbestos Structure Count -- AHERA/ASTM

Versi

EMSL

SAMPLE ID		PARAMETERS	
Status	Analyzed	Number of Grid Openings (amphibole)	4
EPA Sample Number	CE-00044	Number of Grid Openings (chrysotile)	4
QA Sample Type	Not QA	Area of grid opening (mm2)	0.013
Lab Sample Number	270301313-0001	F Factor	5.00E-01
Sample Type	Dust	Effective primary filter area (mm2)	385.0
Category	Field	Effective secondary filter area (mm2)	1295.0
Prep	Indirect	Volume (L) or Sample Area (cm2)	400
Counting rules	ASTM	Area counted (mm2) for LA/OA	0.052
		Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.3E+02	<1.3E+02	<1.3E+02	<1.3E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<1.3E+02	<1.3E+02	<1.3E+02	<1.3E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.3E+02	1.3E+02
Sensitivity (s/cm2)	1.3E+02	1.3E+02

USEPA REGION 8 LIBBY SITE INVESTIGATION v26c

TEM Asbestos Structure Count -- AHERA/ASTM

Vers

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00045
QA Sample Type	Not QA
Lab Sample Number	270301313-0002
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	5.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	400
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.3E+02	<1.3E+02	<1.3E+02	<1.3E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<1.3E+02	<1.3E+02	<1.3E+02	<1.3E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.3E+02	1.3E+02
Sensitivity (s/cm2)	1.3E+02	1.3E+02

EPA REGION 8 LIBBY SITE INVESTIGATION v26c Vers

TEM Asbestos Structure Count -- AHERA

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00046
QA Sample Type	Not QA
Lab Sample Number	270301312-0004
Sample Type	Air
Category	Blank
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	20
Number of Grid Openings (chrysotile)	20
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	0
Area counted (mm2) for LA/OA	0.258
Area counted (mm2) for C	0.258

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<3.9E+00	<3.9E+00	<3.9E+00	<3.9E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	Blank	Blank	Blank	Blank	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	3.9E+00	3.9E+00
Sensitivity (s/cc)	Blank	Blank

USEPA REGION 8 LIBBY SITE INVESTIGATION v26c
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00048
QA Sample Type	Not QA
Lab Sample Number	270301316-0004
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	33
Number of Grid Openings (chrysotile)	33
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6180
Area counted (mm2) for LA/OA	0.426
Area counted (mm2) for C	0.426

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.3E+00	<2.3E+00	<2.3E+00	<2.3E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.3E+00	2.3E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26c

TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00049
QA Sample Type	Not QA
Lab Sample Number	270301316-0005
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	33
Number of Grid Openings (chrysotile)	33
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6162
Area counted (mm2) for LA/OA	0.426
Area counted (mm2) for C	0.426

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.3E+00	<2.3E+00	<2.3E+00	<2.3E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.3E+00	2.3E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26c
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00050
QA Sample Type	Not QA
Lab Sample Number	270301316-0006
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	33
Number of Grid Openings (chrysotile)	33
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6152
Area counted (mm2) for LA/OA	0.426
Area counted (mm2) for C	0.426

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.3E+00	<2.3E+00	<2.3E+00	<2.3E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.3E+00	2.3E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

EPA REGION 8 LIBBY SITE INVESTIGATION v26c Versi

TEM Asbestos Structure Count -- AHERA/ASTM

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00051
QA Sample Type	Not QA
Lab Sample Number	270301317-0002
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rule	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	5.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	400
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.3E+02	<1.3E+02	<1.3E+02	<1.3E+02	(if Total = ND, DL is based on LA)
Dust loading (s/cm2)	<1.3E+02	<1.3E+02	<1.3E+02	<1.3E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.3E+02	1.3E+02
Sensitivity (s/cm2)	1.3E+02	1.3E+02

EPA REGION 8 LIBBY SITE INVESTIGATION v26c
TEM Asbestos Structure Count -- AHERA

Version

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00052
QA Sample Type	Not QA
Lab Sample Number	270400007-0004
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	33
Number of Grid Openings (chrysotile)	33
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6161
Area counted (mm2) for LA/OA	0.426
Area counted (mm2) for C	0.426

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.3E+00	<2.3E+00	<2.3E+00	<2.3E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.3E+00	2.3E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

.PA REGION 8 LIBBY SITE INVESTIGATION v26c
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00053
QA Sample Type	Not QA
Lab Sample Number	270400007-0005
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	33
Number of Grid Openings (chrysotile)	33
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6161
Area counted (mm2) for LA/OA	0.426
Area counted (mm2) for C	0.426

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.3E+00	<2.3E+00	<2.3E+00	<2.3E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.3E+00	2.3E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

A REGION 8 LIBBY SITE INVESTIGATION v26c
EM Asbestos Structure Count -- AHERA

Vers

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00054
QA Sample Type	Not QA
Lab Sample Number	270400007-0006
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	33
Number of Grid Openings (chrysotile)	33
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6161
Area counted (mm2) for LA/OA	0.426
Area counted (mm2) for C	0.426

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.3E+00	<2.3E+00	<2.3E+00	<2.3E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.3E+00	2.3E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

EPA REGION 8 LIBBY SITE INVESTIGATION v26c
TEM Asbestos Structure Count -- AHERA/ASTM

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00055
QA Sample Type	Not QA
Lab Sample Number	270400006-0004
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	2.50E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	400
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.6E+02	<2.6E+02	<2.6E+02	<2.6E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<2.5E+02	<2.5E+02	<2.5E+02	<2.5E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.6E+02	2.6E+02
Sensitivity (s/cm2)	2.5E+02	2.5E+02

EPA REGION 8 LIBBY SITE INVESTIGATION v26c
TEM Asbestos Structure Count -- AHERA/ASTM

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00055
QA Sample Type	RS
Lab Sample Number	270400006-0004
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	2.50E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	400
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.6E+02	<2.6E+02	<2.6E+02	<2.6E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<2.5E+02	<2.5E+02	<2.5E+02	<2.5E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.6E+02	2.6E+02
Sensitivity (s/cm2)	2.5E+02	2.5E+02

EPA REGION 8 LIBBY SITE INVESTIGATION v26c
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00056
QA Sample Type	Not QA
Lab Sample Number	270400007-0007
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	31
Number of Grid Openings (chrysotile)	31
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6226
Area counted (mm2) for LA/OA	0.400
Area counted (mm2) for C	0.400

TOTAL COUNTS

Total Structures	1
Total Asbestos structures	1
Total NAM	0
Total AHERA structures	1
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	1	0	0	1

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	2.5E+00	<2.5E+00	<2.5E+00	2.5E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	1.5E-04	<1.5E-04	<1.5E-04	1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.5E+00	2.5E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

EPA REGION 8 LIBBY SITE INVESTIGATION v26c
TEM Asbestos Structure Count -- AHERA

Vers

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00057
QA Sample Type	Not QA
Lab Sample Number	270400007-0008
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	33
Number of Grid Openings (chrysotile)	33
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6217
Area counted (mm2) for LA/OA	0.426
Area counted (mm2) for C	0.426

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.3E+00	<2.3E+00	<2.3E+00	<2.3E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.3E+00	2.3E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

EPA REGION 8 LIBBY SITE INVESTIGATION v26c
TEM Asbestos Structure Count -- AHERA/ASTM

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00058
QA Sample Type	Not QA
Lab Sample Number	270400006-0005
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	2.50E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	400
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.6E+02	<2.6E+02	<2.6E+02	<2.6E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<2.5E+02	<2.5E+02	<2.5E+02	<2.5E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.6E+02	2.6E+02
Sensitivity (s/cm2)	2.5E+02	2.5E+02

SEPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Overloaded
EPA Sample Number	CE-00059
QA Sample Type	Not QA
Lab Sample Number	270400070-0001
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	0
Number of Grid Openings (chrysotile)	0
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6700
Area counted (mm2) for LA/OA	0.000
Area counted (mm2) for C	0.000

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)				<	(if Total = ND, DL is based on LA)
Air Conc (s/cc)					(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)		
Sensitivity (s/cc)		

EPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00059
QA Sample Type	Not QA
Lab Sample Number	270400070-0001
Sample Type	Air
Category	Field
Prep	Indirect
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	50
Number of Grid Openings (chrysotile)	50
Area of grid opening (mm2)	0.013
F Factor	5.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6700
Area counted (mm2) for LA/OA	0.640
Area counted (mm2) for C	0.640

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.1E+01	<1.1E+01	<1.1E+01	<1.1E+01	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<6.0E-04	<6.0E-04	<6.0E-04	<6.0E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.1E+01	1.1E+01
Sensitivity (s/cc)	6.0E-04	6.0E-04

PA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Overloaded
EPA Sample Number	CE-00060
QA Sample Type	Not QA
Lab Sample Number	270400070-0002
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	0
Number of Grid Openings (chrysotile)	0
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6736
Area counted (mm2) for LA/OA	0.000
Area counted (mm2) for C	0.000

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)				<	(if Total = ND, DL is based on LA)
Air Conc (s/cc)					(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)		
Sensitivity (s/cc)		

EPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00060
QA Sample Type	Not QA
Lab Sample Number	270400070-0002
Sample Type	Air
Category	Field
Prep	Indirect
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	50
Number of Grid Openings (chrysotile)	50
Area of grid opening (mm2)	0.013
F Factor	5.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6736
Area counted (mm2) for LA/OA	0.640
Area counted (mm2) for C	0.640

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.1E+01	<1.1E+01	<1.1E+01	<1.1E+01	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<6.0E-04	<6.0E-04	<6.0E-04	<6.0E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.1E+01	1.1E+01
Sensitivity (s/cc)	6.0E-04	6.0E-04

EPA REGION 8 LIBBY SITE INVESTIGATION v26c
TEM Asbestos Structure Count -- AHERA/ASTM

Version

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00061
QA Sample Type	Not QA
Lab Sample Number	270400018-0002
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	2.50E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	400
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.6E+02	<2.6E+02	<2.6E+02	<2.6E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<2.5E+02	<2.5E+02	<2.5E+02	<2.5E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.6E+02	2.6E+02
Sensitivity (s/cm2)	2.5E+02	2.5E+02

EPA REGION 8 LIBBY SITE INVESTIGATION v26c
TEM Asbestos Structure Count -- AHERA/ASTM

Version 2.0

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00062
QA Sample Type	Not QA
Lab Sample Number	270400018-0003
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	2.50E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	600
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.6E+02	<2.6E+02	<2.6E+02	<2.6E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<1.7E+02	<1.7E+02	<1.7E+02	<1.7E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.6E+02	2.6E+02
Sensitivity (s/cm2)	1.7E+02	1.7E+02

USEPA REGION 8 LIBBY SITE INVESTIGATION v26c
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00063
QA Sample Type	Not QA
Lab Sample Number	270400035-0001
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	33
Number of Grid Openings (chrysotile)	33
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6217
Area counted (mm2) for LA/OA	0.426
Area counted (mm2) for C	0.426

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.3E+00	<2.3E+00	<2.3E+00	<2.3E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total =.ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.3E+00	2.3E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26c

TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00064
QA Sample Type	Not QA
Lab Sample Number	270400035-0002
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	33
Number of Grid Openings (chrysotile)	33
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6186
Area counted (mm2) for LA/OA	0.426
Area counted (mm2) for C	0.426

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.3E+00	<2.3E+00	<2.3E+00	<2.3E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.3E+00	2.3E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26c
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00065
QA Sample Type	Not QA
Lab Sample Number	270400035-0003
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	33
Number of Grid Openings (chrysotile)	33
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6091
Area counted (mm2) for LA/OA	0.426
Area counted (mm2) for C	0.426

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.3E+00	<2.3E+00	<2.3E+00	<2.3E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.3E+00	2.3E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00066
QA Sample Type	Not QA
Lab Sample Number	270400035-0004
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	32
Number of Grid Openings (chrysotile)	32
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6244
Area counted (mm2) for LA/OA	0.413
Area counted (mm2) for C	0.413

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.4E+00	<2.4E+00	<2.4E+00	<2.4E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.4E+00	2.4E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

EPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00067
QA Sample Type	Not QA
Lab Sample Number	270400035-0005
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	33
Number of Grid Openings (chrysotile)	33
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6204
Area counted (mm2) for LA/OA	0.426
Area counted (mm2) for C	0.426

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.3E+00	<2.3E+00	<2.3E+00	<2.3E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.3E+00	2.3E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA/ASTM

Version

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00068
QA Sample Type	Not QA
Lab Sample Number	270400053-0001
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	2.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	600
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<3.3E+02	<3.3E+02	<3.3E+02	<3.3E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<2.1E+02	<2.1E+02	<2.1E+02	<2.1E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	3.3E+02	3.3E+02
Sensitivity (s/cm2)	2.1E+02	2.1E+02

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA/ASTM

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00069
QA Sample Type	Not QA
Lab Sample Number	270400053-0002
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	7
Number of Grid Openings (chrysotile)	7
Area of grid opening (mm2)	0.013
F Factor	1.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	400
Area counted (mm2) for LA/OA	0.090
Area counted (mm2) for C	0.090

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<3.7E+02	<3.7E+02	<3.7E+02	<3.7E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<3.6E+02	<3.6E+02	<3.6E+02	<3.6E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	3.7E+02	3.7E+02
Sensitivity (s/cm2)	3.6E+02	3.6E+02

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA/ASTM

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00070
QA Sample Type	Not QA
Lab Sample Number	270400053-0003
Sample Type	Dust
Category	Blank
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	10
Number of Grid Openings (chrysotile)	10
Area of grid opening (mm2)	0.013
F Factor	5.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	0
Area counted (mm2) for LA/OA	0.129
Area counted (mm2) for C	0.129

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<5.2E+01	<5.2E+01	<5.2E+01	<5.2E+01	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	Blank	Blank	Blank	Blank	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	5.2E+01	5.2E+01
Sensitivity (s/cm2)	Blank	Blank

EPA REGION 8 LIBBY SITE INVESTIGATION v26d

TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00073
QA Sample Type	Not QA
Lab Sample Number	270400035-0006
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	33
Number of Grid Openings (chrysotile)	33
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6145
Area counted (mm2) for LA/OA	0.426
Area counted (mm2) for C	0.426

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.3E+00	<2.3E+00	<2.3E+00	<2.3E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.3E+00	2.3E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

EPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00074
QA Sample Type	Not QA
Lab Sample Number	270400035-0007
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	32
Number of Grid Openings (chrysotile)	32
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6272
Area counted (mm2) for LA/OA	0.413
Area counted (mm2) for C	0.413

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.4E+00	<2.4E+00	<2.4E+00	<2.4E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.4E+00	2.4E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

EPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00075
QA Sample Type	Not QA
Lab Sample Number	270400035-0008
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	32
Number of Grid Openings (chrysotile)	32
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6231
Area counted (mm2) for LA/OA	0.413
Area counted (mm2) for C	0.413

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.4E+00	<2.4E+00	<2.4E+00	<2.4E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.4E+00	2.4E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA/ASTM

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00076
QA Sample Type	Not QA
Lab Sample Number	270400053-0004
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	2.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	600
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<3.3E+02	<3.3E+02	<3.3E+02	<3.3E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<2.1E+02	<2.1E+02	<2.1E+02	<2.1E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	3.3E+02	3.3E+02
Sensitivity (s/cm2)	2.1E+02	2.1E+02

JSEPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Version 2.0

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00077
QA Sample Type	Not QA
Lab Sample Number	270400040-0001
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	43
Number of Grid Openings (chrysotile)	43
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	4726
Area counted (mm2) for LA/OA	0.555
Area counted (mm2) for C	0.555

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.8E+00	<1.8E+00	<1.8E+00	<1.8E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.8E+00	1.8E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

SEPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versio

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00078
QA Sample Type	Not QA
Lab Sample Number	270400040-0002
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	26
Number of Grid Openings (chrysotile)	26
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	7729
Area counted (mm2) for LA/OA	0.335
Area counted (mm2) for C	0.335

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<3.0E+00	<3.0E+00	<3.0E+00	<3.0E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	3.0E+00	3.0E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

EPA REGION 8 LIBBY SITE INVESTIGATION v26d

TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Overloaded
EPA Sample Number	CE-00079
QA Sample Type	Not QA
Lab Sample Number	270400084-0001
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	0
Number of Grid Openings (chrysotile)	0
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6109
Area counted (mm2) for LA/OA	0.000
Area counted (mm2) for C	0.000

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)				<	(if Total = ND, DL is based on LA)
Air Conc (s/cc)					(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)		
Sensitivity (s/cc)		

PA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00079
QA Sample Type	Not QA
Lab Sample Number	270400084-0001
Sample Type	Air
Category	Field
Prep	Indirect
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	50
Number of Grid Openings (chrysotile)	50
Area of grid opening (mm2)	0.013
F Factor	5.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6109
Area counted (mm2) for LA/OA	0.640
Area counted (mm2) for C	0.640

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.1E+01	<1.1E+01	<1.1E+01	<1.1E+01	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<6.6E-04	<6.6E-04	<6.6E-04	<6.6E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.1E+01	1.1E+01
Sensitivity (s/cc)	6.6E-04	6.6E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d

TEM Asbestos Structure Count -- AHERA/ASTM

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00080
QA Sample Type	Not QA
Lab Sample Number	270400053-0005
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	2.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	400
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<3.3E+02	<3.3E+02	<3.3E+02	<3.3E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<3.1E+02	<3.1E+02	<3.1E+02	<3.1E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	3.3E+02	3.3E+02
Sensitivity (s/cm2)	3.1E+02	3.1E+02

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d

TEM Asbestos Structure Count -- AHERA/ASTM

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00081
QA Sample Type	Not QA
Lab Sample Number	270400053-0006
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	2.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	400
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<3.3E+02	<3.3E+02	<3.3E+02	<3.3E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<3.1E+02	<3.1E+02	<3.1E+02	<3.1E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	3.3E+02	3.3E+02
Sensitivity (s/cm2)	3.1E+02	3.1E+02

EPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Overloaded
EPA Sample Number	CE-00082
QA Sample Type	Not QA
Lab Sample Number	270400084-0002
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	0
Number of Grid Openings (chrysotile)	0
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	5716
Area counted (mm2) for LA/OA	0.000
Area counted (mm2) for C	0.000

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)				<	(if Total = ND, DL is based on LA)
Air Conc (s/cc)					(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)		
Sensitivity (s/cc)		

EPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Version

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00082
QA Sample Type	Not QA
Lab Sample Number	270400084-0002
Sample Type	Air
Category	Field
Prep	Indirect
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	50
Number of Grid Openings (chrysotile)	50
Area of grid opening (mm2)	0.013
F Factor	5.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	5716
Area counted (mm2) for LA/OA	0.640
Area counted (mm2) for C	0.640

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.1E+01	<1.1E+01	<1.1E+01	<1.1E+01	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<7.1E-04	<7.1E-04	<7.1E-04	<7.1E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.1E+01	1.1E+01
Sensitivity (s/cc)	7.1E-04	7.1E-04

EPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Overloaded
EPA Sample Number	CE-00083
QA Sample Type	Not QA
Lab Sample Number	270400084-0003
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	0
Number of Grid Openings (chrysotile)	0
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	5716
Area counted (mm2) for LA/OA	0.000
Area counted (mm2) for C	0.000

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)				<	(if Total = ND, DL is based on LA)
Air Conc (s/cc)					(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)		
Sensitivity (s/cc)		

EPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00083
QA Sample Type	Not QA
Lab Sample Number	270400084-0003
Sample Type	Air
Category	Field
Prep	Indirect
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	50
Number of Grid Openings (chrysotile)	50
Area of grid opening (mm2)	0.013
F Factor	5.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	5716
Area counted (mm2) for LA/OA	0.640
Area counted (mm2) for C	0.640

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.1E+01	<1.1E+01	<1.1E+01	<1.1E+01	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<7.1E-04	<7.1E-04	<7.1E-04	<7.1E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.1E+01	1.1E+01
Sensitivity (s/cc)	7.1E-04	7.1E-04

EPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Overloaded
EPA Sample Number	CE-00084
QA Sample Type	Not QA
Lab Sample Number	270400084-0004
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	0
Number of Grid Openings (chrysotile)	0
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	5813
Area counted (mm2) for LA/OA	0.000
Area counted (mm2) for C	0.000

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)				<	(if Total = ND, DL is based on LA)
Air Conc (s/cc)					(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)		
Sensitivity (s/cc)		

EPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00084
QA Sample Type	Not QA
Lab Sample Number	270400084-0004
Sample Type	Air
Category	Field
Prep	Indirect
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	50
Number of Grid Openings (chrysotile)	50
Area of grid opening (mm2)	0.013
F Factor	5.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	5813
Area counted (mm2) for LA/OA	0.640
Area counted (mm2) for C	0.640

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.1E+01	<1.1E+01	<1.1E+01	<1.1E+01	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<7.0E-04	<7.0E-04	<7.0E-04	<7.0E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.1E+01	1.1E+01
Sensitivity (s/cc)	7.0E-04	7.0E-04

EPA REGION 8 LIBBY SITE INVESTIGATION v26d

TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Overloaded
EPA Sample Number	CE-00085
QA Sample Type	Not QA
Lab Sample Number	270400084-0005
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	0
Number of Grid Openings (chrysotile)	0
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	5697
Area counted (mm2) for LA/OA	0.000
Area counted (mm2) for C	0.000

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)				<	(if Total = ND, DL is based on LA)
Air Conc (s/cc)					(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)		
Sensitivity (s/cc)		

PA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00085
QA Sample Type	Not QA
Lab Sample Number	270400084-0005
Sample Type	Air
Category	Field
Prep	Indirect
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	50
Number of Grid Openings (chrysotile)	50
Area of grid opening (mm2)	0.013
F Factor	5.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	569[7]
Area counted (mm2) for LA/OA	0.640
Area counted (mm2) for C	0.640

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.1E+01	<1.1E+01	<1.1E+01	<1.1E+01	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<7.1E-04	<7.1E-04	<7.1E-04	<7.1E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.1E+01	1.1E+01
Sensitivity (s/cc)	7.1E-04	7.1E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d

TEM Asbestos Structure Count -- AHERA/ASTM

Version

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00086
QA Sample Type	Not QA
Lab Sample Number	270400053-0007
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	2.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	600
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<3.3E+02	<3.3E+02	<3.3E+02	<3.3E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<2.1E+02	<2.1E+02	<2.1E+02	<2.1E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	3.3E+02	3.3E+02
Sensitivity (s/cm2)	2.1E+02	2.1E+02

SEPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Version

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00087
QA Sample Type	Not QA
Lab Sample Number	270400040-0003
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	32
Number of Grid Openings (chrysotile)	32
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6258
Area counted (mm2) for LA/OA	0.413
Area counted (mm2) for C	0.413

TOTAL COUNTS

Total Structures	1
Total Asbestos structures	1
Total NAM	0
Total AHERA structures	1
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	1	0	0	1

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	2.4E+00	<2.4E+00	<2.4E+00	2.4E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	1.5E-04	<1.5E-04	<1.5E-04	1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.4E+00	2.4E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

JSEPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00088
QA Sample Type	Not QA
Lab Sample Number	270400040-0004
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	32
Number of Grid Openings (chrysotile)	32
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6240
Area counted (mm2) for LA/OA	0.413
Area counted (mm2) for C	0.413

TOTAL COUNTS

Total Structures	1
Total Asbestos structures	1
Total NAM	0
Total AHERA structures	1
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	1	0	0	1

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	2.4E+00	<2.4E+00	<2.4E+00	2.4E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	1.5E-04	<1.5E-04	<1.5E-04	1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.4E+00	2.4E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d

TEM Asbestos Structure Count -- AHERA/ASTM

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00089
QA Sample Type	Not QA
Lab Sample Number	270400066-0001
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	1.50E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	400
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<4.3E+02	<4.3E+02	<4.3E+02	<4.3E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<4.2E+02	<4.2E+02	<4.2E+02	<4.2E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	4.3E+02	4.3E+02
Sensitivity (s/cm2)	4.2E+02	4.2E+02

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d

TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00090
QA Sample Type	Not QA
Lab Sample Number	270400085-0001
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	31
Number of Grid Openings (chrysotile)	31
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6556
Area counted (mm2) for LA/OA	0.400
Area counted (mm2) for C	0.400

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.5E+00	<2.5E+00	<2.5E+00	<2.5E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.5E+00	2.5E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d

TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00091
QA Sample Type	Not QA
Lab Sample Number	270400085-0002
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	31
Number of Grid Openings (chrysotile)	31
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6520
Area counted (mm2) for LA/OA	0.400
Area counted (mm2) for C	0.400

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.5E+00	<2.5E+00	<2.5E+00	<2.5E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.5E+00	2.5E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00092
QA Sample Type	Not QA
Lab Sample Number	270400052-0001
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	31
Number of Grid Openings (chrysotile)	31
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6556
Area counted (mm2) for LA/OA	0.400
Area counted (mm2) for C	0.400

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.5E+00	<2.5E+00	<2.5E+00	<2.5E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.5E+00	2.5E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00093
QA Sample Type	Not QA
Lab Sample Number	270400052-0002
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	31
Number of Grid Openings (chrysotile)	31
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6556
Area counted (mm2) for LA/OA	0.400
Area counted (mm2) for C	0.400

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 µm)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.5E+00	<2.5E+00	<2.5E+00	<2.5E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.5E+00	2.5E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d Version 3.1

TEM Asbestos Structure Count -- AHERA/ASTM

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00094
QA Sample Type	Not QA
Lab Sample Number	270400066-0002
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	2.50E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	400
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.6E+02	<2.6E+02	<2.6E+02	<2.6E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<2.5E+02	<2.5E+02	<2.5E+02	<2.5E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.6E+02	2.6E+02
Sensitivity (s/cm2)	2.5E+02	2.5E+02

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d Version 1

TEM Asbestos Structure Count -- AHERA/ASTM

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00095
QA Sample Type	Not QA
Lab Sample Number	270400066-0003
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	2.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	400
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<3.3E+02	<3.3E+02	<3.3E+02	<3.3E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<3.1E+02	<3.1E+02	<3.1E+02	<3.1E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	3.3E+02	3.3E+02
Sensitivity (s/cm2)	3.1E+02	3.1E+02

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d

TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00101
QA Sample Type	Not QA
Lab Sample Number	270400052-0003
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	33
Number of Grid Openings (chrysotile)	33
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6099
Area counted (mm2) for LA/OA	0.426
Area counted (mm2) for C	0.426

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.3E+00	<2.3E+00	<2.3E+00	<2.3E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.3E+00	2.3E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d

TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00102
QA Sample Type	Not QA
Lab Sample Number	270400052-0004
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	33
Number of Grid Openings (chrysotile)	33
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6167
Area counted (mm2) for LA/OA	0.426
Area counted (mm2) for C	0.426

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.3E+00	<2.3E+00	<2.3E+00	<2.3E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.3E+00	2.3E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA/ASTM

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00103
QA Sample Type	Not QA
Lab Sample Number	270400066-0004
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	2.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	400
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<3.3E+02	<3.3E+02	<3.3E+02	<3.3E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<3.1E+02	<3.1E+02	<3.1E+02	<3.1E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	3.3E+02	3.3E+02
Sensitivity (s/cm2)	3.1E+02	3.1E+02

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00104
QA Sample Type	Not QA
Lab Sample Number	270400052-0005
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	33
Number of Grid Openings (chrysotile)	33
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6215
Area counted (mm2) for LA/OA	0.426
Area counted (mm2) for C	0.426

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.3E+00	<2.3E+00	<2.3E+00	<2.3E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<1.5E-04	<1.5E-04	<1.5E-04	<1.5E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.3E+00	2.3E+00
Sensitivity (s/cc)	1.5E-04	1.5E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA/ASTM

Versio

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00105
QA Sample Type	Not QA
Lab Sample Number	270400066-0005
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	2.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	400
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<3.3E+02	<3.3E+02	<3.3E+02	<3.3E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<3.1E+02	<3.1E+02	<3.1E+02	<3.1E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	3.3E+02	3.3E+02
Sensitivity (s/cm2)	3.1E+02	3.1E+02

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Version 26d

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00106
QA Sample Type	Not QA
Lab Sample Number	270400052-0006
Sample Type	Air
Category	Blank
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	20
Number of Grid Openings (chrysotile)	20
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	0
Area counted (mm2) for LA/OA	0.258
Area counted (mm2) for C	0.258

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<3.9E+00	<3.9E+00	<3.9E+00	<3.9E+00	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	Blank	Blank	Blank	Blank	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	3.9E+00	3.9E+00
Sensitivity (s/cc)	Blank	Blank

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d

TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Overloaded
EPA Sample Number	CE-00107
QA Sample Type	Not QA
Lab Sample Number	270400085-0003
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	0
Number of Grid Openings (chrysotile)	0
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6158
Area counted (mm2) for LA/OA	0.000
Area counted (mm2) for C	0.000

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)				<	(if Total = ND, DL is based on LA)
Air Conc (s/cc)					(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)		
Sensitivity (s/cc)		

SEPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00107
QA Sample Type	Not QA
Lab Sample Number	270400085-0003
Sample Type	Air
Category	Field
Prep	Indirect
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	50
Number of Grid Openings (chrysotile)	50
Area of grid opening (mm2)	0.013
F Factor	5.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6158
Area counted (mm2) for LA/OA	0.640
Area counted (mm2) for C	0.640

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.1E+01	<1.1E+01	<1.1E+01	<1.1E+01	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<6.6E-04	<6.6E-04	<6.6E-04	<6.6E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.1E+01	1.1E+01
Sensitivity (s/cc)	6.6E-04	6.6E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d

TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Overloaded
EPA Sample Number	CE-00108
QA Sample Type	Not QA
Lab Sample Number	270400085-0004
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	0
Number of Grid Openings (chrysotile)	0
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6158
Area counted (mm2) for LA/OA	0.000
Area counted (mm2) for C	0.000

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)				<	(if Total = ND, DL is based on LA)
Air Conc (s/cc)					(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)		
Sensitivity (s/cc)		

EPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00108
QA Sample Type	Not QA
Lab Sample Number	270400085-0004
Sample Type	Air
Category	Field
Prep	Indirect
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	50
Number of Grid Openings (chrysotile)	50
Area of grid opening (mm2)	0.013
F Factor	5.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6158
Area counted (mm2) for LA/OA	0.640
Area counted (mm2) for C	0.640

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.1E+01	<1.1E+01	<1.1E+01	<1.1E+01	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<6.6E-04	<6.6E-04	<6.6E-04	<6.6E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.1E+01	1.1E+01
Sensitivity (s/cc)	6.6E-04	6.6E-04

SEPA REGION 8 LIBBY SITE INVESTIGATION v26d Versi

TEM Asbestos Structure Count -- AHERA

EMSL

SAMPLE ID

Status	Overloaded
EPA Sample Number	CE-00109
QA Sample Type	Not QA
Lab Sample Number	270400085-0005
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	0
Number of Grid Openings (chrysotile)	0
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6177
Area counted (mm2) for LA/OA	0.000
Area counted (mm2) for C	0.000

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)				<	(if Total = ND, DL is based on LA)
Air Conc (s/cc)					(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)		
Sensitivity (s/cc)		

EPA REGION 8 LIBBY SITE INVESTIGATION v26d

TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00109
QA Sample Type	Not QA
Lab Sample Number	270400085-0005
Sample Type	Air
Category	Field
Prep	Indirect
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	50
Number of Grid Openings (chrysotile)	50
Area of grid opening (mm2)	0.013
F Factor	5.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6177
Area counted (mm2) for LA/OA	0.640
Area counted (mm2) for C	0.640

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.1E+01	<1.1E+01	<1.1E+01	<1.1E+01	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<6.6E-04	<6.6E-04	<6.6E-04	<6.6E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.1E+01	1.1E+01
Sensitivity (s/cc)	6.6E-04	6.6E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d

TEM Asbestos Structure Count -- AHERA/ASTM

Version 26d

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00110
QA Sample Type	Not QA
Lab Sample Number	270400066-0006
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	1.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	600
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<6.5E+02	<6.5E+02	<6.5E+02	<6.5E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<4.2E+02	<4.2E+02	<4.2E+02	<4.2E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	6.5E+02	6.5E+02
Sensitivity (s/cm2)	4.2E+02	4.2E+02

EPA REGION 8 LIBBY SITE INVESTIGATION v26d

TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Overloaded
EPA Sample Number	CE-00111
QA Sample Type	Not QA
Lab Sample Number	270400070-0003
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	0
Number of Grid Openings (chrysotile)	0
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	5279
Area counted (mm2) for LA/OA	0.000
Area counted (mm2) for C	0.000

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)				<	(if Total = ND, DL is based on LA)
Air Conc (s/cc)					(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)		
Sensitivity (s/cc)		

EPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00111
QA Sample Type	Not QA
Lab Sample Number	270400070-0003
Sample Type	Air
Category	Field
Prep	Indirect
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	50
Number of Grid Openings (chrysotile)	50
Area of grid opening (mm2)	0.013
F Factor	5.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	5279
Area counted (mm2) for LA/OA	0.640
Area counted (mm2) for C	0.640

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.1E+01	<1.1E+01	<1.1E+01	<1.1E+01	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<7.7E-04	<7.7E-04	<7.7E-04	<7.7E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.1E+01	1.1E+01
Sensitivity (s/cc)	7.7E-04	7.7E-04

EPA REGION 8 LIBBY SITE INVESTIGATION v26d

TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Overloaded
EPA Sample Number	CE-00112
QA Sample Type	Not QA
Lab Sample Number	270400070-0004
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	0
Number of Grid Openings (chrysotile)	0
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6999
Area counted (mm2) for LA/OA	0.000
Area counted (mm2) for C	0.000

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)				<	(if Total = ND, DL is based on LA)
Air Conc (s/cc)					(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)		
Sensitivity (s/cc)		

EPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00112
QA Sample Type	Not QA
Lab Sample Number	270400070-0004
Sample Type	Air
Category	Field
Prep	Indirect
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	50
Number of Grid Openings (chrysotile)	50
Area of grid opening (mm2)	0.013
F Factor	5.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6999
Area counted (mm2) for LA/OA	0.640
Area counted (mm2) for C	0.640

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.1E+01	<1.1E+01	<1.1E+01	<1.1E+01	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<5.8E-04	<5.8E-04	<5.8E-04	<5.8E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.1E+01	1.1E+01
Sensitivity (s/cc)	5.8E-04	5.8E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d

TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Overloaded
EPA Sample Number	CE-00113
QA Sample Type	Not QA
Lab Sample Number	270400071-0001
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	0
Number of Grid Openings (chrysotile)	0
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6095
Area counted (mm2) for LA/OA	0.000
Area counted (mm2) for C	0.000

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)				<	(if Total = ND, DL is based on LA)
Air Conc (s/cc)					(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)		
Sensitivity (s/cc)		

EPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00113
QA Sample Type	Not QA
Lab Sample Number	270400071-0001
Sample Type	Air
Category	Field
Prep	Indirect
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	50
Number of Grid Openings (chrysotile)	50
Area of grid opening (mm2)	0.013
F Factor	5.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6095
Area counted (mm2) for LA/OA	0.640
Area counted (mm2) for C	0.640

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.1E+01	<1.1E+01	<1.1E+01	<1.1E+01	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<6.6E-04	<6.6E-04	<6.6E-04	<6.6E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.1E+01	1.1E+01
Sensitivity (s/cc)	6.6E-04	6.6E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d

TEM Asbestos Structure Count -- AHERA/ASTM

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00114
QA Sample Type	RD
Lab Sample Number	270400072-0001
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	2.50E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	400
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.6E+02	<2.6E+02	<2.6E+02	<2.6E+02	(if Total = ND, DL is *based on LA*)
Dust Loading (s/cm2)	<2.5E+02	<2.5E+02	<2.5E+02	<2.5E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.6E+02	2.6E+02
Sensitivity (s/cm2)	2.5E+02	2.5E+02

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA/ASTM

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00114
QA Sample Type	Not QA
Lab Sample Number	270400072-0001
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	2.50E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	400
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.6E+02	<2.6E+02	<2.6E+02	<2.6E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<2.5E+02	<2.5E+02	<2.5E+02	<2.5E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.6E+02	2.6E+02
Sensitivity (s/cm2)	2.5E+02	2.5E+02

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d

TEM Asbestos Structure Count -- AHERA/ASTM

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00115
QA Sample Type	Not QA
Lab Sample Number	270400072-0002
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	2.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	400
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<3.3E+02	<3.3E+02	<3.3E+02	<3.3E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<3.1E+02	<3.1E+02	<3.1E+02	<3.1E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	3.3E+02	3.3E+02
Sensitivity (s/cm2)	3.1E+02	3.1E+02

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d Versi

TEM Asbestos Structure Count -- AHERA/ASTM

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00116
QA Sample Type	Not QA
Lab Sample Number	270400072-0003
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	2.50E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	400
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.6E+02	<2.6E+02	<2.6E+02	<2.6E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<2.5E+02	<2.5E+02	<2.5E+02	<2.5E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.6E+02	2.6E+02
Sensitivity (s/cm2)	2.5E+02	2.5E+02

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA/ASTM

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00117
QA Sample Type	Not QA
Lab Sample Number	270400072-0004
Sample Type	Dust
Category	Blank
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	10
Number of Grid Openings (chrysotile)	10
Area of grid opening (mm2)	0.013
F Factor	5.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	0
Area counted (mm2) for LA/OA	0.129
Area counted (mm2) for C	0.129

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<5.2E+01	<5.2E+01	<5.2E+01	<5.2E+01	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	Blank	Blank	Blank	Blank	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	5.2E+01	5.2E+01
Sensitivity (s/cm2)	Blank	Blank

EPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Overloaded
EPA Sample Number	CE-00118
QA Sample Type	Not QA
Lab Sample Number	270400070-0005
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	0
Number of Grid Openings (chrysotile)	0
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6167
Area counted (mm2) for LA/OA	0.000
Area counted (mm2) for C	0.000

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)				<	(if Total = ND, DL is based on LA)
Air Conc (s/cc)					(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)		
Sensitivity (s/cc)		

EPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00118
QA Sample Type	Not QA
Lab Sample Number	270400070-0005
Sample Type	Air
Category	Field
Prep	Indirect
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	50
Number of Grid Openings (chrysotile)	50
Area of grid opening (mm2)	0.013
F Factor	5.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6167
Area counted (mm2) for LA/OA	0.640
Area counted (mm2) for C	0.640

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.1E+01	<1.1E+01	<1.1E+01	<1.1E+01	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<6.6E-04	<6.6E-04	<6.6E-04	<6.6E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.1E+01	1.1E+01
Sensitivity (s/cc)	6.6E-04	6.6E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d

TEM Asbestos Structure Count -- AHERA/ASTM

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00119
QA Sample Type	Not QA
Lab Sample Number	270400072-0005
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	2.50E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	400
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA/ASTM structures	0
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	0	0
AHERA/ASTM Fibers (>= 5 um)	0	0	0	0

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.6E+02	<2.6E+02	<2.6E+02	<2.6E+02	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<2.5E+02	<2.5E+02	<2.5E+02	<2.5E+02	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.6E+02	2.6E+02
Sensitivity (s/cm2)	2.5E+02	2.5E+02

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d

TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Overloaded
EPA Sample Number	CE-00121
QA Sample Type	Not QA
Lab Sample Number	270400071-0002
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	0
Number of Grid Openings (chrysotile)	0
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6589
Area counted (mm2) for LA/OA	0.000
Area counted (mm2) for C	0.000

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)				<	(if Total = ND, DL is based on LA)
Air Conc (s/cc)					(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)		
Sensitivity (s/cc)		

EPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00121
QA Sample Type	Not QA
Lab Sample Number	270400071-0002
Sample Type	Air
Category	Field
Prep	Indirect
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	50
Number of Grid Openings (chrysotile)	50
Area of grid opening (mm2)	0.013
F Factor	5.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6589
Area counted (mm2) for LA/OA	0.640
Area counted (mm2) for C	0.640

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.1E+01	<1.1E+01	<1.1E+01	<1.1E+01	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<6.1E-04	<6.1E-04	<6.1E-04	<6.1E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.1E+01	1.1E+01
Sensitivity (s/cc)	6.1E-04	6.1E-04

USEPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Overloaded
EPA Sample Number	CE-00122
QA Sample Type	Not QA
Lab Sample Number	270400071-0003
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	0
Number of Grid Openings (chrysotile)	0
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6589
Area counted (mm2) for LA/OA	0.000
Area counted (mm2) for C	0.000

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)				<	(if Total = ND, DL is based on LA)
Air Conc (s/cc)					(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)		
Sensitivity (s/cc)		

EPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00122
QA Sample Type	Not QA
Lab Sample Number	270400071-0003
Sample Type	Air
Category	Field
Prep	Indirect
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	50
Number of Grid Openings (chrysotile)	50
Area of grid opening (mm2)	0.013
F Factor	5.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6589
Area counted (mm2) for LA/OA	0.640
Area counted (mm2) for C	0.640

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.1E+01	<1.1E+01	<1.1E+01	<1.1E+01	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<6.1E-04	<6.1E-04	<6.1E-04	<6.1E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.1E+01	1.1E+01
Sensitivity (s/cc)	6.1E-04	6.1E-04

SEPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Overloaded
EPA Sample Number	CE-00123
QA Sample Type	Not QA
Lab Sample Number	270400071-0004
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	0
Number of Grid Openings (chrysotile)	0
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6580
Area counted (mm2) for LA/OA	0.000
Area counted (mm2) for C	0.000

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)				<	(if Total = ND, DL is based on LA)
Air Conc (s/cc)					(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)		
Sensitivity (s/cc)		

EPA REGION 8 LIBBY SITE INVESTIGATION v26d
TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00123
QA Sample Type	Not QA
Lab Sample Number	270400071-0004
Sample Type	Air
Category	Field
Prep	Indirect
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	50
Number of Grid Openings (chrysotile)	50
Area of grid opening (mm2)	0.013
F Factor	5.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6580
Area counted (mm2) for LA/OA	0.640
Area counted (mm2) for C	0.640

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.1E+01	<1.1E+01	<1.1E+01	<1.1E+01	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<6.2E-04	<6.2E-04	<6.2E-04	<6.2E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.1E+01	1.1E+01
Sensitivity (s/cc)	6.2E-04	6.2E-04

SEPA REGION 8 LIBBY SITE INVESTIGATION v26d

TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Overloaded
EPA Sample Number	CE-00124
QA Sample Type	Not QA
Lab Sample Number	270400071-0005
Sample Type	Air
Category	Field
Prep	Direct
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	0
Number of Grid Openings (chrysotile)	0
Area of grid opening (mm2)	0.013
F Factor	1.00E+00
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6571
Area counted (mm2) for LA/OA	0.000
Area counted (mm2) for C	0.000

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)				<	(if Total = ND, DL is based on LA)
Air Conc (s/cc)					(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)		
Sensitivity (s/cc)		

SEPA REGION 8 LIBBY SITE INVESTIGATION v26d

TEM Asbestos Structure Count -- AHERA

Versi

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00124
QA Sample Type	Not QA
Lab Sample Number	270400071-0005
Sample Type	Air
Category	Field
Prep	Indirect
Counting rules	AHERA

PARAMETERS

Number of Grid Openings (amphibole)	50
Number of Grid Openings (chrysotile)	50
Area of grid opening (mm2)	0.013
F Factor	5.00E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	6571
Area counted (mm2) for LA/OA	0.640
Area counted (mm2) for C	0.640

TOTAL COUNTS

Total Structures	0
Total Asbestos structures	0
Total NAM	0
Total AHERA structures	0
Total Non-AHERA asbestos structures	0

COUNTS (based on countable AHERA structures only)

	LA	OA	C	Total
AHERA Fibers (< 5 um)	0	0	0	0
AHERA Fibers (>= 5 um)	0	0	0	0

AIR CONCENTRATION (s/cc)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<1.1E+01	<1.1E+01	<1.1E+01	<1.1E+01	(if Total = ND, DL is based on LA)
Air Conc (s/cc)	<6.2E-04	<6.2E-04	<6.2E-04	<6.2E-04	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	1.1E+01	1.1E+01
Sensitivity (s/cc)	6.2E-04	6.2E-04

EPA REGION 8 LIBBY SITE INVESTIGATION v26d

TEM Asbestos Structure Count -- AHERA/ASTM

Versio

EMSL

SAMPLE ID

Status	Analyzed
EPA Sample Number	CE-00125
QA Sample Type	Not QA
Lab Sample Number	270400072-0006
Sample Type	Dust
Category	Field
Prep	Indirect
Counting rules	ASTM

PARAMETERS

Number of Grid Openings (amphibole)	4
Number of Grid Openings (chrysotile)	4
Area of grid opening (mm2)	0.013
F Factor	2.50E-01
Effective primary filter area (mm2)	385.0
Effective secondary filter area (mm2)	1295.0
Volume (L) or Sample Area (cm2)	600
Area counted (mm2) for LA/OA	0.052
Area counted (mm2) for C	0.052

TOTAL COUNTS

Total Structures	28
Total Asbestos structures	28
Total NAM	0
Total AHERA/ASTM structures	28
Total Non-AHERA/ASTM asbestos structures	0

COUNTS (based on countable AHERA/ASTM structures only)

	LA	OA	C	Total
AHERA/ASTM Fibers (< 5 um)	0	0	23	23
AHERA/ASTM Fibers (>= 5 um)	0	0	5	5

DUST LOADING (s/cm2)

	LA	OA	C	Total	
Loading on primary filter (s/mm2)	<2.6E+02	<2.6E+02	7.3E+03	7.3E+03	(if Total = ND, DL is based on LA)
Dust Loading (s/cm2)	<1.7E+02	<1.7E+02	4.7E+03	4.7E+03	(if Total = ND, DL is based on LA)

DETECTION LIMITS

	LA/OA	C
Loading on primary filter (s/mm2)	2.6E+02	2.6E+02
Sensitivity (s/cm2)	1.7E+02	1.7E+02