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July 10, 2015

Julie Wroble
EPA Site Manager Region 10
EPA Region 10
1200 6th Ave, Suite 900
Seattle, WA 98101

Document ID #: 3015-07102015-1

Dear Ms. Wroble:

EPA CONTRACT NUMBER EP-W-10-033
TASK ORDER NUMBER 3015
ASBESTOS QA SUPPORT

Enclosed please find the Release of Validated Data Report for the validation of Transmission Electron Microscopy (TEM) air sample data, Laboratory Job Number 141014. The thirty-two (32) air samples associated with these data were analyzed by Lab/Cor Portland, Inc., Portland, Oregon for the Sumas Mountain Asbestos Soil Project. This report and accompanying appendices are deliverables under Task 10 of the subject Task Order.

If you have any questions, please feel free to contact me.

Sincerely,

Lyndsay Gensler
Task Leader, QATS Program
CB&I Federal Services LLC
Phone: 702.895.8730
E-Mail Address: lyndsay.gensler@cbifederalservices.com

cc: Shari Myer, EPA-ASB, QATS Task Order Project Officer
Administrative Contracting Officer (letter only)



*The Quality Assurance Technical Support (QATS) contract is operated by CB&I Federal Services LLC.
The QATS Program's Quality Management System is certified to the ISO 9001:2008 International Standard.*

**RELEASE OF VALIDATED DATA**

DATE: July 10, 2015

SUBJECT: Review of Data for Laboratory Job Number: 141014

LABORATORY: Lab/Cor Portland, Inc., Portland, Oregon

FROM: Quality Assurance Technical Support (QATS) Program, Las Vegas, NV
CB&I Federal Services LLC

TO: Julie Wroble, Environmental Protection Agency

QATS reviewed the data for the following case:

Applicable SAP: NA

Chain-of-Custody Number: 10-100614-135155-0009

Method: Transmission Electron Microscopy (TEM) ISO 10312

Applicable Laboratory
Modification(s): NA

Number and Type
of Samples: 32 Air Samples

EPA Sample Numbers: 14394145, 14394146, 14394147, 14394148, 14394150, 14394151,
14394153, 14394154, 14394156, 14394157, 14394158, 14394161,
14394162, 14394163, 14394164, 14394165, 14394169, 14394170,
14394171, 14394173, 14394174, 14394175, 14394176, 14394178,
14394179, 14394180, 14394181, 14394182, 14394183, 14394186,
14394187, 14394188.

Note that sample 14394152 was not analyzed as it was rejected by the laboratory due to issues related to the backing pad; therefore, it is not included in this validated data summary.

VALIDATION SUMMARY

Thirty-two (32) air samples from Laboratory Job Number 141014 were collected on 09/30/2014, 10/01/2014, and 10/02/2014 and hand-delivered to Lab/Cor Portland, Inc. in Portland, OR for TEM analysis by ISO 10312. The samples were received at the laboratory intact on 12/11/2014, and were analyzed between 01/15/2015 and 02/24/2015.

Listed below are the Data Qualification Summary Table, EDD/Bench Sheet Discrepancy Table, Data Qualifier Table, and Reason Code Table.

DATA QUALIFICATION SUMMARY TABLE

Criteria Exceeded	EPA Sample ID	Validation Qualifier	Reason Code
No daily calibration for instrument H-7000 on 01/16/2015	14394154 14394156	J/UJ	MC
Daily calibration exceeded AI peak upper acceptance limit for instrument H-7000 on 01/21/2015	14394186 14394187	J	MC
k-Factors were not performed at the required frequency (last on 01/24/2014) for instrument H-7000	14394154 14394165 14394154 RS	J	IC
Component structure was not properly recorded.	14394176	J	ID
Only one (1) grid was evaluated	14394150 (field blank)	UJ	DL
RD QC value outside of lower 95% confidence limit.	14394181 14394181 RD	J	DR

EDD/BENCH SHEET DISCREPANCY TABLE

EPA Sample ID	C# *	Method/Matrix	Lab. Job No.	Analysis Date	Discrepancy
14394153	02	ISO 10312/Air	1414014	01/15/2015	Analysis date incorrectly listed as 01/16/2015 on Direct Summary Data Final Report. Correct date is 01/15/2015 as listed on NADES. Photo IDs in comments incorrectly listed as "H39..." (The correct IDs are "H38...").
14394169	02	ISO 10312/Air	1414014	02/18/2015	Photo ID in comments incorrectly listed as H38527 (The correct ID is H38723).
14394187	02	ISO 10312/Air	1414014	01/21-22/2015	Analyst/Date #2 listed as 01/22/2014 on NADES. The correct date is 01/22/2015.
14394154	02	ISO 10312/Air	1414014	01/16/2015	The structure type indicated on the NADES worksheet (CR10) and the ISO 10312 – Direct Raw Data Report (CR5-0) differ for total structure #54.
14394176	02	ISO 10312/Air	1414014	02/01/2015	The NADES worksheet is missing an MR structure at Grid 1, Grid Opening 10, as recorded on the ISO 10312 – Direct Raw Data Report as total structure #10. As a result, the NADES worksheet lists 12 total structures while the raw data identifies 13.
14394153 RD 14394154 RS 14394181 RD	02	ISO 10312/Air	1414014	02/24/2015, 02/23/2015, 02/24/2015	The EDD indicates magnification as 15,941, whereas the 02/20/2015 calibration indicates a magnification of 16,379 for the H-7000 instrument.

*** The EDD correction number in column 2. (i.e., C0, C1, C2, etc..)

DATA QUALIFIER TABLE

Qualifier	Definition
J	The result is estimated. The associated numerical value is an approximation.
UJ	The non-detect result may be inaccurate or imprecise due to the quality of the data generated because certain QC criteria were not met.
R	The sample results are rejected due to serious deficiencies.
X	Validator defined.

TEM REASON CODE TABLE

Reason Code	Definition
MC	Structure/fiber counts and recorded structure dimensions may be inaccurate due to improper or infrequent scope alignment and/or magnification calibrations.
IC	Identification by elemental composition or diffraction pattern may be inaccurate due to improper or infrequent EDXA or camera constant calibration.
PA	Structure/fiber counts and reported concentrations may be inaccurate due to improper or infrequent calibration of the plasma asher.
DR	The reported concentrations or structure/fiber identification may be inaccurate due to infrequent or discordant intra- and/or inter-analyst, laboratory duplicate, and/or reference material analyses.
SC	The reported concentration may be inaccurate due to the condition of samples upon receipt at the laboratory.
DL	The area analyzed, structures counted, or AS do not meet the requirements specified in the applicable SAP Analytical Summary.
ID	The asbestos identification and concentrations may be inaccurate because the recorded structure types are not consistent with those described in the applicable TEM Method and/or laboratory modification(s).

VALIDATION PROCESS

The samples for Laboratory Job Number 141014 were collected from the subject site on 09/30/2014, 10/01/2014, and 10/02/2014. All samples were prepared and analyzed in accordance with TEM ISO 10312. CB&I's Quality Assurance Technical Support (QATS) Program performed validation and a transcription check in accordance with method-specific data validation SOPs. QATS preparation of this report was performed under Technical Direction 03, Task 10, of Task Order 3015.

The sample results on bench sheets and other supporting documents provided in the hardcopy deliverables were compared to the entries in the associated laboratory method-specific EDDs (where applicable) to ensure that the reported results are complete, compliant with the specified methodology, and accurate. Additional support information provided in this data validation report include the QATS Data Review Checklist used to document the data validation process (see Appendix A); and the sample results as reported by the laboratory, with qualifiers as applicable (see Appendix B).

TEM VALIDATION SUMMARY

1. **DATA PACKAGE INVENTORY AND SAMPLE RECEIPT:** The data package included a narrative, Chain-of-Custody (COC) record, EDD files, raw data (bench sheets), and QC samples. The samples were properly packaged, sealed, undamaged, and labeled upon receipt at the laboratory. The COC record was reviewed and found to be acceptable.
2. **SAMPLE PREPARATION:** The appropriate preparation documents were provided.
3. **EQUIPMENT CALIBRATION AND PERFORMANCE CHECKS (i.e., daily microscope alignment, screen magnification, EDS calibration, and sensitivity checks):** The equipment alignment and calibration documentation provided show that in general, calibrations were performed at the correct frequency, indicating that the instruments were in proper working order during the time of sample analyses. There were three exceptions: The k-factors provided by the laboratory were performed on 01/24/2014 for instrument (scope) H-7000 and on 07/25/2014 for instrument (scope) JOEL 1200, more than six months prior to the analyses of the samples in this SDG. The laboratory's QAPP states for k-factors, "Calibration is performed on a biyearly basis, the first week of January and the first week of July." QATS requested the January 2015 k-factors from the laboratory; however, k-factors calculated on 03/30/2015 for Scope H-7000 and 05/21/2015 for Scope JOEL 1200 were received. As a result of the described calibration deficiencies, three TEM amphibole results reported in this SDG are qualified "J" due to the k-factor calibration. Additionally, the daily calibration exceeded the AI peak upper acceptance limit for instrument H-7000 on 01/21/2015, and no daily calibration was performed for instrument H-7000 on 01/16/2015 or for instrument JOEL 1200 on 03/29/2015 resulting in qualification of the results for samples analyzed on those dates.
4. **ANALYTICAL SENSITIVITY:** For all but one sample, a sufficient number of grid openings were analyzed to achieve the required analytical sensitivity and/or the appropriate stopping rule was invoked. The exception is EPA Sample No. 14394150, a field blank, in which only one grid was evaluated. As a result, the reported result for this field blank is qualified "UJ".
5. **STRUCTURE RECORDING AND ASBESTOS IDENTIFICATION:** The structure recording and asbestos identification were found to be acceptable, with the exception of EPA Sample No. 14394176 which excluded an "MR" component structure on the NADES worksheet though indicated on the ISO 10312 – Direct Raw Data report. As a result, the NADES worksheet reported one less total structure than was recorded in the raw data and caused this sample result to be qualified "J".

6. **BLANK ANALYSIS:** The laboratory performed and reported three blank analyses with this sample set. There were no structures observed.
7. **ANALYTICAL VARIABILITY:** The laboratory performed two recount different (RD) analyses on EPA Sample Nos. 14394153 and 14394181 and one recount same (RS) analysis on EPA Sample No. 14394154. All QC samples passed the established QC criteria with the exception of the RD analysis on EPA Sample No. 14394181, for which the value was outside the lower 95% confidence limit. EPA Sample No. 14394181 and 14394181 RD are qualified "J".
8. **LABORATORY MODIFICATIONS:** NA
9. **OVERALL ASSESSMENT OF DATA:** For 25 of the 32 samples, the reported results were acceptable with no qualification applied. Qualifiers were assigned to several sample results due to daily calibration and k-factor discrepancies, QC samples failing requirements, and other factors, as detailed in the Data Qualification Summary Table. EDD/Bench Sheet discrepancies were also identified in several samples, as detailed in the EDD/Bench Sheet Discrepancy Table.

REVIEWED BY: Lyndsay Gensler DATE: 07/08/2015

Appendix A

Data Review Checklist

Data Review Checklist for the Verification and Validation of Transmission Electron Microscopy (TEM) Data Deliverables

Project Name: Sumas Mtn Asbestos Project	Case or Sample Set ID: 141014
Number of Samples/Matrix: 32 Air Samples	COC Number: 10-100614-135155-0009
TEM Analytical Method: ISO 10312	Level of Validation (Circle one): 1 2 <u>3</u> Other

1.0 Data Package Inventory	Yes	No	Comments
1.1 Were the project-specific requirements (i.e. acceptance criteria & analytical sensitivities) provided by the client prior to the initiation of validation activities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A request was made to the laboratory on 06/04/2015 for the laboratory's QAPP and/or SOPs documenting the frequency of the different TEM calibrations. The documents were received on 06/18/2015. The laboratory performed three laboratory blank (LB) analyses, two recount different (RD) analyses on EPA Sample Nos. 14394153 and 14394181 and one recount same (RS) analysis on EPA Sample No. 14394154. NA
1.2 Did the received hard copy deliverables contain all the necessary components:			
1.2.1 Case Narrative (Level 1, 2 & 3)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.2.2 Chain-of-Custody (Level 1, 2 & 3)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.2.3 Form I or equivalent (Level 1, 2 & 3)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.2.4 Raw Data - Count Sheets (Level 1, 2 & 3)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.2.5 QC Sample Data (Level 2 & 3):	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.2.5.1 Blank(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.2.5.2 Replicate(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.2.5.3 Duplicate(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.2.5.4 Verified Analysis?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.2.6 Calibration Data (Level 3)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.2.7 Communication Records (Level 1, 2 & 3)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.2.8 Miscellaneous?	<input type="checkbox"/>	<input type="checkbox"/>	
1.3 Were the necessary components received to perform the requested level of validation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.0 Chain-of-Custody Information Verification (Level 1, 2 & 3)			
2.1 Were the following information recorded in the hard copy electronic deliverables (if applicable) consistent with the information recorded on the COC:			One sample (EPA Sample No. 14394152) was received though not analyzed as it was rejected by the laboratory per the Analysis Notes on the Analysis Report Cover Final Report.
2.1.1 COC Number?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.1.2 Case or Sample Set Number?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.1.3 EPA Sample ID?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.1.4 Date/Time Collected?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.1.5 Sample Volume?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.1.6 Sample Matrix?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.1.7 Analyses (Method)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.1.8 Date/Time Received?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.1.9 Other (describe)?	<input type="checkbox"/>	<input type="checkbox"/>	
2.2 Were the COC records signed and dated upon receipt?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Additional Comments:			

Data Review Checklist for the Verification and Validation of Transmission Electron Microscopy (TEM) Data Deliverables

3.0 Sample Result Verification & Validation (Level 1, 2 & 3)	Yes	No	Comments
3.1 Is the sample preparation method documented and final sample volume recorded?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.2 Is the correct number of grid openings used to achieve the specified analytical sensitivity?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	For EPA Sample No. 1434150, a field blank, only one grid (G1) was evaluated.
3.3 Verify that the following information from the laboratory's bench sheets have been transcribed correctly:			EPA Sample No. 14394176 excluded an "MR" component structure on the NADES worksheet as indicated on the ISO 10312 – Direct Raw Data report as total structure #10. As a result, the NADES worksheet reported one less total structure than was recorded in the raw data.
3.3.1.1 Grid identification?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.3.1.2 Grid opening?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.3.1.3 Structure type?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.3.1.4 Number of primary and secondary structures?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.3.1.5 Length and width dimensions?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.3.1.6 Structure identification?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.3.1.7 Mineral type?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.4 Are overloaded samples correctly reported to the specified percent obscuration (i.e. 10%, 25%)?	<input type="checkbox"/>	<input type="checkbox"/>	NA
3.5 If overloading occurs, are samples prepared by an alternate method (i.e. indirect preparation)?	<input type="checkbox"/>	<input type="checkbox"/>	NA
3.6 Verify that the following information is documented correctly:			
3.6.1 Magnification?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.6.2 Field or QC sample type?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.6.3 Number of grids prepared?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.6.4 Filter area in (mm ²)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.6.5 Analysis date?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.7 Verify the totals reported on the count sheets for the various types of structures. These may include:			
3.7.1 Total EPA Structures	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See checklist item 3.3 above.
3.7.2 PCMe Structures	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.7.3 AHERA Structures	<input type="checkbox"/>	<input type="checkbox"/>	NA
3.7.4 Berman Crump Structures	<input type="checkbox"/>	<input type="checkbox"/>	NA
3.8 Are the required spectra included for all hits reported (i.e. ED, EDXA, SAED)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.9 Recalculate the reported concentration on at least 10% of the results reported.			
3.9.1 Are the recalculated concentrations consistent with those reported?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Additional Comments:			

Data Review Checklist for the Verification and Validation of Transmission Electron Microscopy (TEM) Data Deliverables

4.0 Quality Control Verification & Validation (Level 2 and 3)	Yes	No	Comments
4.1 <u>Blanks</u>			
4.1.1 Are laboratory blanks (direct, indirect) prepared and analyzed at the required frequency?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The laboratory performed three laboratory blank (LB) analyses.
4.1.2 Are laboratory blank results within the specified criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.1.2.1 If "no" then qualify the associated results in accordance with the Blank Result table in SOP QATS-70-091.			
4.2 <u>Replicate Analyses</u>			
4.2.1 Are replicate (second analyst on the same grids but different grid openings) sample analyses performed at the required frequency?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The laboratory performed one RS analysis on EPA Sample No. 14394154.
4.2.2 Are replicate sample results within the specified acceptance limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.2.2.1 If "no" then qualify the associated results in accordance with the Analytical Variability Results table in SOP QATS-70-091.			
4.3 <u>Duplicate Analyses</u>			
4.3.1 Are duplicates (analysis of a second sample preparation obtained from the final filter) prepared and analyzed at the required frequency?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The laboratory performed two RD analyses on EPA Sample Nos. 14394153 and 14394181. The QC value for the RD analysis for EPA Sample No. 14394181 was outside of lower 95% confidence limit.
4.3.2 Are duplicate sample results within the specified acceptance limits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.3.2.1 If "no" then qualify the associated results in accordance with the Analytical Variability Results table in SOP QATS-70-091.			
4.4 <u>Verified Analyses</u>			
4.4.1 Are verified analyses (second analysis on same grids and grid openings) at the required frequency?	<input type="checkbox"/>	<input type="checkbox"/>	NA
4.4.2 Are sample verification results within the specified acceptance limits?	<input type="checkbox"/>	<input type="checkbox"/>	NA
4.4.2.1 If "no" then qualify the associated results in accordance with the Analytical Variability Results table in SOP QATS-70-091.			
Additional Comments:			

Data Review Checklist for the Verification and Validation of Transmission Electron Microscopy (TEM) Data Deliverables

5.0 Calibration & Microscope Alignment Validation (Level 3)	Yes	No	Comments
5.1 Is evidence of the calibration of TEM Screen Magnification provided for all sample analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>Daily calibration on instrument H-7000 instrument was not performed on 01/16/2015 affecting EPA Sample Nos. 14394154 and 14394156. Daily calibration on instrument JOEL 1200 was not performed on 03/29/2015 affecting the LB samples.</p> <p>The k-Factors provided by the laboratory were performed on 01/24/2014) for instrument H-7000 and 07/25/2014 for instrument JOEL 1200, more than six months prior to the analyses of the samples in this SDG. The laboratory's QAPP states for k-factors "Calibration is performed on a biyearly basis, the first week of January and the first week of July." Amphibole results for three samples were affected.</p> <p>Daily calibration exceeded Al peak upper acceptance limit for instrument H-7000 on 01/21/2015 affecting EPA Sample Nos. 14394186 and 14394187.</p> <p>As a result of all the above listed calibration discrepancies, qualifiers were assigned.</p>
5.1.1 Camera Constant Calibration?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.1.2 Calibration of the EDXA System?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.1.3 k-Factors?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.2 Are the calibration checks listed above performed at the required frequencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
5.3 Are the calibration checks within the specified criteria?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
5.4 Are all calibration checks traceable to the associated samples analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.5 If required, are the following additional system checks provided:			
5.5.1 Beam Dose Check?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.5.2 Spot Size Check?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.5.3 Detector Resolution Check?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.5.4 Resolvable Na, Mg, and Si Peaks?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.5.5 If "no" then qualify the associated results in accordance with the Calibration Results table in SOP QATS-70-091.			
6.0 Case Narrative Validation (Levels 2 & 3)			
6.1 Does the data package narrative include descriptions of the following:			NA
6.1.1 Samples received (matrix/method)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6.1.2 Method/project requirement deviations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6.1.3 Example sample calculation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
6.1.4 Laboratory blank contamination?	<input type="checkbox"/>	<input type="checkbox"/>	
6.1.5 Quality control analyses outside specified criteria?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
6.1.6 Any problems encountered and subsequent corrective action?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Additional Comments:			

 Validator's Signature Lyndsay Gensler

 Date 06/16/2015

 QA Review Shellee McGrath

 Date 07/03/2015

Appendix B

Qualified Result Forms

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
DRAFT

National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394145_01-15-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394145	Lab Sample Number	141014-S1	Effective filter area (mm2)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm2)	0.0104
Air Volume (L)	365.885	Analysis Date	1/15/2015	# GOs counted High Magnification	34
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s): Max Area = , Structures = 100, Sensitivity = 3.00E-03				Sensitivity (1/cc)	
Recording Rule(s): Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm				Total Asbestos	0.0029701
				PCME	0.0029701
				Maximum Area Examined	
				High Magnification	3.5E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%): <input type="text"/>
Total TEM Structures					Binning Rule Description:
Total Asbestos	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	Apply to fibers (F) only: L ≥ 0.5µm, AR ≥ 3
Total Chrysotile (CH)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	No restrictions for other structure types
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	ChiSq test for even filter loading for Total TE (see Annex F2 in ISO 10312)
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	Filter loading is OK
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	Binning Rule Description:
PCM Equivalent Structures (PCME)					
Total Asbestos	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	Apply to all structures where Total column > 0
Total Chrysotile (CH)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	L > 5µm, W ≥ 0.25µm and W ≤ 3µm, AR ≥ 3
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	ChiSq test for even filter loading for PCME (see Annex F2 in ISO 10312)
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000).

Dust Loading (s/cm2) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area).

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
DRAFT

National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394146_01-15-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394146	Lab Sample Number	141014-S2	Effective filter area (mm2)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm2)	0.0104
Air Volume (L)	231.34	Analysis Date	1/15/2015	# GOs counted High Magnification	54
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s):	Max Area = , Structures = 100, Sensitivity = 3.00E-03			Sensitivity (1/cc)	
Recording Rule(s):	Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm			Total Asbestos	0.0029577
				PCME	0.0029577
				Maximum Area Examined	
				High Magnification	5.6E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors **0** (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%):
Total TEM Structures					Binning Rule Description:
Total Asbestos	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	Apply to fibers (F) only: $L \geq 0.5\mu\text{m}$, $AR \geq 3$ No restrictions for other structure types.
Total Chrysotile (CH)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
PCM Equivalent Structures (PCME)					Binning Rule Description:
Total Asbestos	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	Apply to all structures where Total column > 0 $L > 5\mu\text{m}$, $W \geq 0.25\mu\text{m}$ and $W \leq 3\mu\text{m}$, $AR \geq 3$
Total Chrysotile (CH)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	

ChiSq test for even filter loading for Total TE
(see Annex F2 in ISO 10312)

Filter loading is OK

ChiSq test for even filter loading for PCME
(see Annex F2 in ISO 10312)

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000).

Dust Loading (s/cm2) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area).

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
DRAFT

National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394147_01-15-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394147	Lab Sample Number	141014-S3	Effective filter area (mm ²)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm ²)	0.0104
Air Volume (L)	202.02	Analysis Date	1/15/2015	# GOs counted High Magnification	61
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s): Max Area = n/a, Structures = 100, Sensitivity = 3.00E-03				Sensitivity (1/cc)	
Recording Rule(s): Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm				Total Asbestos	0.0029983
				PCME	0.0029983
				Maximum Area Examined	
				High Magnification	6.4E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%): <input type="text"/>
Total TEM Structures					Binning Rule Description:
Total Asbestos	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	Apply to fibers (F) only: L ≥ 0.5µm, AR ≥ 3
Total Chrysotile (CH)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	No restrictions for other structure types.
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	ChiSq test for even filter loading for Total TE (see Annex F2 in ISO 10312)
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	Filter loading is OK
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	Binning Rule Description:
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	Apply to all structures where Total column > 0 L > 5µm, W ≥ 0.25µm and W ≤ 3µm, AR ≥ 3
PCM Equivalent Structures (PCME)					
Total Asbestos	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	ChiSq test for even filter loading for PCME (see Annex F2 in ISO 10312)
Total Chrysotile (CH)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000).

Dust Loading (s/cm²) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area).

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
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National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394148_01-15-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394148	Lab Sample Number	141014-S4	Effective filter area (mm ²)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm ²)	0.0104
Air Volume (L)	288.99	Analysis Date	1/15/2015	# GOs counted High Magnification	43
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s): Max Area = n/a, Structures = 100, Sensitivity = 3.00E-03				Sensitivity (1/cc)	
Recording Rule(s): Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm				Total Asbestos	0.0029733
				PCME	0.0029733
				Maximum Area Examined	
				High Magnification	4.5E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%): <input type="text"/>
Total TEM Structures					Binning Rule Description:
Total Asbestos	3	6.7E+00	8.9E-03	8.0E-03 - 1.1E-02	Apply to fibers (F) only: L ≥ 0.5µm, AR ≥ 3
Total Chrysotile (CH)	3	6.7E+00	8.9E-03	8.0E-03 - 1.1E-02	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	No restrictions for other structure types.
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
PCM Equivalent Structures (PCME)					Binning Rule Description:
Total Asbestos	1	2.2E+00	3.0E-03	2.1E-03 - 5.0E-03	Apply to all structures where Total column > 0
Total Chrysotile (CH)	1	2.2E+00	3.0E-03	2.1E-03 - 5.0E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	L > 5µm, W ≥ 0.25µm and W ≤ 3µm, AR ≥ 3
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	

ChiSq test for even filter loading for Total TE
(see Annex F2 in ISO 10312)

Filter loading is OK

ChiSq test for even filter loading for PCME
(see Annex F2 in ISO 10312)

Filter loading is OK

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000).

Dust Loading (s/cm²) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area).

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
DRAFT

National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394150_01-15-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394150	Lab Sample Number	141014-S5	Effective filter area (mm2)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Blank	Sample Status	Analyzed	Grid opening area (mm2)	0.0104
Air Volume (L)		Analysis Date	1/15/2015	# GOs counted High Magnification	10
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s):	Max Area = n/a, Structures = 100, Sensitivity = 3.00E-03			Sensitivity (1/cc)	
Recording Rule(s):	Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm			Total Asbestos	blank
				PCME	blank
				Maximum Area Examined	
				High Magnification	1.0E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%): <input type="text"/>
Total TEM Structures					Binning Rule Description:
Total Asbestos	0	0.0E+00	blank	blank - blank	Apply to fibers (F) only: L ≥ 0.5µm, AR ≥ 3
Total Chrysotile (CH)	0	0.0E+00	blank	blank - blank	
Total Amphibole	0	0.0E+00	blank	blank - blank	No restrictions for other structure types.
actinolite (AC)	0	0.0E+00	blank	blank - blank	
amosite (AM)	0	0.0E+00	blank	blank - blank	ChiSq test for even filter loading for Total TE (see Annex F2 in ISO 10312)
anthophyllite (AN)	0	0.0E+00	blank	blank - blank	
crocidolite (CR)	0	0.0E+00	blank	blank - blank	Filter loading is OK
tremolite (TR)	0	0.0E+00	blank	blank - blank	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	blank	blank - blank	Binning Rule Description:
other amphibole (OA)	0	0.0E+00	blank	blank - blank	
Solid Soln: Amosite	0	0.0E+00	blank	blank - blank	Apply to all structures where Total column > 0
Solid Soln: Trem-Act	0	0.0E+00	blank	blank - blank	
other mineral class (OM)	0	0.0E+00	blank	blank - blank	L > 5µm, W ≥ 0.25µm and W ≤ 3µm, AR ≥ 3
PCM Equivalent Structures (PCME)					ChiSq test for even filter loading for PCME (see Annex F2 in ISO 10312)
Total Asbestos	0	0.0E+00	blank	blank - blank	
Total Chrysotile (CH)	0	0.0E+00	blank	blank - blank	
Total Amphibole	0	0.0E+00	blank	blank - blank	
actinolite (AC)	0	0.0E+00	blank	blank - blank	
amosite (AM)	0	0.0E+00	blank	blank - blank	
anthophyllite (AN)	0	0.0E+00	blank	blank - blank	
crocidolite (CR)	0	0.0E+00	blank	blank - blank	
tremolite (TR)	0	0.0E+00	blank	blank - blank	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	blank	blank - blank	
other amphibole (OA)	0	0.0E+00	blank	blank - blank	
Solid Soln: Amosite	0	0.0E+00	blank	blank - blank	
Solid Soln: Trem-Act	0	0.0E+00	blank	blank - blank	
other mineral class (OM)	0	0.0E+00	blank	blank - blank	

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000).

Dust Loading (s/cm2) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area).

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
DRAFT

National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394151_01-15-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394151	Lab Sample Number	141014-S6	Effective filter area (mm2)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Blank	Sample Status	Analyzed	Grid opening area (mm2)	0.0104
Air Volume (L)		Analysis Date	1/15/2015	# GOs counted High Magnification	10
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s):	Max Area = n/a, Structures = 100, Sensitivity = 3.00E-03			Sensitivity (1/cc)	
Recording Rule(s):	Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm			Total Asbestos	blank
				PCME	blank
				Maximum Area Examined	
				High Magnification	1.0E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%): <input type="text"/>
Total TEM Structures					Binning Rule Description:
Total Asbestos	0	0.0E+00	blank	blank - blank	Apply to fibers (F) only: L ≥ 0.5µm, AR ≥ 3
Total Chrysotile (CH)	0	0.0E+00	blank	blank - blank	
Total Amphibole	0	0.0E+00	blank	blank - blank	No restrictions for other structure types.
actinolite (AC)	0	0.0E+00	blank	blank - blank	
amosite (AM)	0	0.0E+00	blank	blank - blank	ChiSq test for even filter loading for Total TEM (see Annex F2 in ISO 10312)
anthophyllite (AN)	0	0.0E+00	blank	blank - blank	
crocidolite (CR)	0	0.0E+00	blank	blank - blank	Filter loading is OK
tremolite (TR)	0	0.0E+00	blank	blank - blank	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	blank	blank - blank	Binning Rule Description:
other amphibole (OA)	0	0.0E+00	blank	blank - blank	
Solid Soln: Amosite	0	0.0E+00	blank	blank - blank	Apply to all structures where Total column > 0
Solid Soln: Trem-Act	0	0.0E+00	blank	blank - blank	
other mineral class (OM)	0	0.0E+00	blank	blank - blank	L > 5µm, W ≥ 0.25µm and W ≤ 3µm, AR ≥ 3
PCM Equivalent Structures (PCME)					ChiSq test for even filter loading for PCME (see Annex F2 in ISO 10312)
Total Asbestos	0	0.0E+00	blank	blank - blank	
Total Chrysotile (CH)	0	0.0E+00	blank	blank - blank	
Total Amphibole	0	0.0E+00	blank	blank - blank	
actinolite (AC)	0	0.0E+00	blank	blank - blank	
amosite (AM)	0	0.0E+00	blank	blank - blank	
anthophyllite (AN)	0	0.0E+00	blank	blank - blank	
crocidolite (CR)	0	0.0E+00	blank	blank - blank	
tremolite (TR)	0	0.0E+00	blank	blank - blank	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	blank	blank - blank	
other amphibole (OA)	0	0.0E+00	blank	blank - blank	
Solid Soln: Amosite	0	0.0E+00	blank	blank - blank	
Solid Soln: Trem-Act	0	0.0E+00	blank	blank - blank	
other mineral class (OM)	0	0.0E+00	blank	blank - blank	

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000).

Dust Loading (s/cm²) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area)

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
DRAFT

National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394153_01-15-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394153	Lab Sample Number	141014-S8	Effective filter area (mm2)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm2)	0.0104
Air Volume (L)	2277.6	Analysis Date	1/15/2015 - 2/4/2015	# GOs counted High Magnification	55
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s):	Max Area = n/a, Structures = 100, Sensitivity = 3.00E-04			Sensitivity (1/cc)	
Recording Rule(s):	Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm			Total Asbestos	0.000295
				PCME	0.000295
				Maximum Area Examined	
				High Magnification	5.7E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors **0** (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%): <div></div>
Total TEM Structures					Binning Rule Description:
Total Asbestos	33	5.8E+01	9.7E-03	9.6E-03 - 9.9E-03	Apply to fibers (F) only: L ≥ 0.5µm, AR ≥ 3 No restrictions for other structure types.
Total Chrysotile (CH)	33	5.8E+01	9.7E-03	9.6E-03 - 9.9E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
PCM Equivalent Structures (PCME)					
Total Asbestos	3	5.2E+00	8.8E-04	7.9E-04 - 1.1E-03	Apply to all structures where Total column > 0 L > 5µm, W ≥ 0.25µm and W ≤ 3µm, AR ≥ 3
Total Chrysotile (CH)	3	5.2E+00	8.8E-04	7.9E-04 - 1.1E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
					Filter loading appears uneven. Results may be uncertain.
					ChiSq test for even filter loading for PCME (see Annex F2 in ISO 10312)
					Filter loading is OK

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000)

Dust Loading (s/cm²) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area)

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
DRAFT

National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394154_01-16-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394154	Lab Sample Number	141014-S9	Effective filter area (mm2)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm2)	0.0104
Air Volume (L)	2172	Analysis Date	1/16/2015	# GOs counted High Magnification	57
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s):	Max Area = n/a, Structures = 100, Sensitivity = 3.00E-04			Sensitivity (1/cc)	
Recording Rule(s):	Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm			Total Asbestos	0.0002984
				PCME	0.0002984
				Maximum Area Examined	
				High Magnification	5.9E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%): <div></div>
Total TEM Structures					Binning Rule Description: Apply to fibers (F) only: L ≥ 0.5µm, AR ≥ 3 No restrictions for other structure types. ChiSq test for even filter loading for Total TE (see Annex F2 in ISO 10312) Filter loading appears uneven. Results may be uncertain.
Total Asbestos	75 J	1.3E+02	2.2E-02	2.2E-02 - 2.3E-02	
Total Chrysotile (CH)	74 J	1.2E+02	2.2E-02	2.2E-02 - 2.2E-02	
Total Amphibole	1 J	1.7E+00	3.0E-04	2.1E-04 - 5.0E-04	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other amphibole (OA)	1 J	1.7E+00	3.0E-04	2.1E-04 - 5.0E-04	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
PCM Equivalent Structures (PCME)					
Total Asbestos	5	8.4E+00	1.5E-03	1.4E-03 - 1.7E-03	
Total Chrysotile (CH)	5	8.4E+00	1.5E-03	1.4E-03 - 1.7E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000).

Dust Loading (s/cm²) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area).

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
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National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394156_01-16-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394156	Lab Sample Number	141014-S10	Effective filter area (mm2)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm2)	0.0104
Air Volume (L)	244.335	Analysis Date	1/16/2015	# GOs counted High Magnification	51
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s):	Max Area = n/a, Structures = 100, Sensitivity = 3.00E-03			Sensitivity (1/cc)	
Recording Rule(s):	Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm			Total Asbestos	0.0029651
				PCME	0.0029651
				Maximum Area Examined	
				High Magnification	5.3E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%): <input type="text"/>
Total TEM Structures					Binning Rule Description:
Total Asbestos	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	Apply to fibers (F) only: $L \geq 0.5\mu\text{m}$, $AR \geq 3$ No restrictions for other structure types.
Total Chrysotile (CH)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
PCM Equivalent Structures (PCME)					Binning Rule Description:
Total Asbestos	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	Apply to all structures where Total column > 0 $L > 5\mu\text{m}$, $W \geq 0.25\mu\text{m}$ and $W \leq 3\mu\text{m}$, $AR \geq 3$
Total Chrysotile (CH)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	

ChiSq test for even filter loading for Total TE
(see Annex F2 in ISO 10312)

Filter loading is OK

ChiSq test for even filter loading for PCME
(see Annex F2 in ISO 10312)

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000).

Dust Loading (s/cm²) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area).

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
DRAFT

National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394157_01-29-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394157	Lab Sample Number	141014-S11	Effective filter area (mm ²)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm ²)	0.0104
Air Volume (L)	97.47	Analysis Date	1/29/2015	# GOs counted High Magnification	127
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s): Max Area = n/a, Structures = 100, Sensitivity = 3.00E-03				Sensitivity (1/cc)	
Recording Rule(s): Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm				Total Asbestos	0.0029848
				PCME	0.0029848
				Maximum Area Examined	
				High Magnification	1.3E+00
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%): <input type="text"/>
Total TEM Structures					Binning Rule Description:
Total Asbestos	1	7.6E-01	3.0E-03	2.1E-03 - 5.0E-03	Apply to fibers (F) only: L ≥ 0.5µm, AR ≥ 3
Total Chrysotile (CH)	1	7.6E-01	3.0E-03	2.1E-03 - 5.0E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	No restrictions for other structure types.
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
PCM Equivalent Structures (PCME)					Binning Rule Description:
Total Asbestos	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	Apply to all structures where Total column > 0
Total Chrysotile (CH)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	L > 5µm, W ≥ 0.25µm and W ≤ 3µm, AR ≥ 3
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	

ChiSq test for even filter loading for Total TE
(see Annex F2 in ISO 10312)

Filter loading appears uneven. Results may be uncertain.

ChiSq test for even filter loading for PCME
(see Annex F2 in ISO 10312)

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000).

Dust Loading (s/cm²) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area).

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
DRAFT

National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394158_01-30-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394158	Lab Sample Number	141014-S12	Effective filter area (mm2)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm2)	0.0104
Air Volume (L)	678.6	Analysis Date	1/30/2015	# GOs counted High Magnification	19
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s):	Max Area = n/a, Structures = 100, Sensitivity = 3.00E-03			Sensitivity (1/cc)	
Recording Rule(s):	Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm			Total Asbestos	0.0028657
				PCME	0.0028657
				Maximum Area Examined	
				High Magnification	2.0E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%): <input type="text"/>
Total TEM Structures					Binning Rule Description:
Total Asbestos	3	1.5E+01	8.6E-03	7.7E-03 - 1.1E-02	Apply to fibers (F) only: $L \geq 0.5\mu\text{m}$, $AR \geq 3$ No restrictions for other structure types.
Total Chrysotile (CH)	3	1.5E+01	8.6E-03	7.7E-03 - 1.1E-02	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
PCM Equivalent Structures (PCME)					Binning Rule Description:
Total Asbestos	1	5.1E+00	2.9E-03	2.0E-03 - 4.8E-03	Apply to all structures where Total column > 0 $L > 5\mu\text{m}$, $W \geq 0.25\mu\text{m}$ and $W \leq 3\mu\text{m}$, $AR \geq 3$
Total Chrysotile (CH)	1	5.1E+00	2.9E-03	2.0E-03 - 4.8E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
					ChiSq test for even filter loading for Total TE (see Annex F2 in ISO 10312) Filter loading appears uneven. Results may be uncertain.
					ChiSq test for even filter loading for PCME (see Annex F2 in ISO 10312) Filter loading is OK

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000)

Dust Loading (s/cm²) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area).

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
DRAFT

National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394161_02-05-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394161	Lab Sample Number	141014-S13	Effective filter area (mm2)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm2)	0.0104
Air Volume (L)	2212.8	Analysis Date	2/5/2015	# GOs counted High Magnification	57
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s):	Max Area = n/a, Structures = 100, Sensitivity = 3.00E-04			Sensitivity (1/cc)	
Recording Rule(s):	Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm			Total Asbestos	0.0002929
				PCME	0.0002929
				Maximum Area Examined	
				High Magnification	5.9E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%): <input type="text"/>
Total TEM Structures					Binning Rule Description:
Total Asbestos	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	Apply to fibers (F) only: $L \geq 0.5\mu\text{m}$, $AR \geq 3$ No restrictions for other structure types.
Total Chrysotile (CH)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
PCM Equivalent Structures (PCME)					Binning Rule Description:
Total Asbestos	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	Apply to all structures where Total column > 0 $L > 5\mu\text{m}$, $W \geq 0.25\mu\text{m}$ and $W \leq 3\mu\text{m}$, $AR \geq 3$
Total Chrysotile (CH)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
					ChiSq test for even filter loading for Total TE (see Annex F2 in ISO 10312) Filter loading is OK
					ChiSq test for even filter loading for PCME (see Annex F2 in ISO 10312)

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000).

Dust Loading (s/cm2) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area).

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
DRAFT

National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394162_02-05-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394162	Lab Sample Number	141014-S14	Effective filter area (mm2)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm2)	0.0104
Air Volume (L)	2186.4	Analysis Date	2/5/2015	# GOs counted High Magnification	57
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s):	Max Area = n/a, Structures = 100, Sensitivity = 3.00E-04			Sensitivity (1/cc)	
Recording Rule(s):	Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm			Total Asbestos	0.0002965
				PCME	0.0002965
				Maximum Area Examined	
				High Magnification	5.9E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%): <input type="text"/>
Total TEM Structures					Binning Rule Description:
Total Asbestos	1	1.7E+00	3.0E-04	2.1E-04 - 5.0E-04	Apply to fibers (F) only: L ≥ 0.5µm, AR ≥ 3
Total Chrysotile (CH)	1	1.7E+00	3.0E-04	2.1E-04 - 5.0E-04	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	No restrictions for other structure types.
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	ChiSq test for even filter loading for Total TE (see Annex F2 in ISO 10312)
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	Filter loading appears uneven. Results may be uncertain.
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	Binning Rule Description:
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	Apply to all structures where Total column > 0
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	L > 5µm, W ≥ 0.25µm and W ≤ 3µm, AR ≥ 3
PCM Equivalent Structures (PCME)					ChiSq test for even filter loading for PCME (see Annex F2 in ISO 10312)
Total Asbestos	1	1.7E+00	3.0E-04	2.1E-04 - 5.0E-04	Filter loading is OK
Total Chrysotile (CH)	1	1.7E+00	3.0E-04	2.1E-04 - 5.0E-04	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000).

Dust Loading (s/cm²) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area).

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
DRAFT

National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394163_02-18-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394163	Lab Sample Number	141014-S15	Effective filter area (mm ²)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm ²)	0.0104
Air Volume (L)	2174.4	Analysis Date	2/18/2015	# GOs counted High Magnification	57
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s): Max Area = n/a, Structures = 100, Sensitivity = 3.00E-04				Sensitivity (1/cc)	
Recording Rule(s): Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm				Total Asbestos	0.0002981
				PCME	0.0002981
				Maximum Area Examined	
				High Magnification	5.9E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors **0** (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%):
Total TEM Structures					Binning Rule Description:
Total Asbestos	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	Apply to fibers (F) only: L ≥ 0.5µm, AR ≥ 3 No restrictions for other structure types.
Total Chrysotile (CH)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
PCM Equivalent Structures (PCME)					Binning Rule Description:
Total Asbestos	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	Apply to all structures where Total column > 0 L > 5µm, W ≥ 0.25µm and W ≤ 3µm, AR ≥ 3
Total Chrysotile (CH)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
					ChiSq test for even filter loading for Total TE (see Annex F2 in ISO 10312) Filter loading is OK
					ChiSq test for even filter loading for PCME (see Annex F2 in ISO 10312)

(a) Based on countable structures only

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000).

Dust Loading (s/cm²) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area).

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
DRAFT

National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394164_01-30-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394164	Lab Sample Number	141014-S16	Effective filter area (mm ²)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm ²)	0.0104
Air Volume (L)	191.345	Analysis Date	1/30/2015	# GOs counted High Magnification	65
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s): Max Area = n/a, Structures = 100, Sensitivity = 3.00E-03				Sensitivity (1/cc)	
Recording Rule(s): Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm				Total Asbestos	0.0029707
				PCME	0.0029707
				Maximum Area Examined	
				High Magnification	6.8E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%): <input type="text"/>
Total TEM Structures					Binning Rule Description:
Total Asbestos	3	4.4E+00	8.9E-03	7.9E-03 - 1.1E-02	Apply to fibers (F) only: L ≥ 0.5µm, AR ≥ 3
Total Chrysotile (CH)	3	4.4E+00	8.9E-03	7.9E-03 - 1.1E-02	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	No restrictions for other structure types.
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	ChiSq test for even filter loading for Total TE (see Annex F2 in ISO 10312)
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	Filter loading appears uneven. Results may be uncertain.
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
PCM Equivalent Structures (PCME)					Binning Rule Description:
Total Asbestos	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	Apply to all structures where Total column > 0 L > 5µm, W ≥ 0.25µm and W ≤ 3µm, AR ≥ 3
Total Chrysotile (CH)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	ChiSq test for even filter loading for PCME (see Annex F2 in ISO 10312)
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000)

Dust Loading (s/cm²) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area).

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
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National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394165_01-30-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394165	Lab Sample Number	141014-S17	Effective filter area (mm2)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm2)	0.0104
Air Volume (L)	189.035	Analysis Date	1/30/2015	# GOs counted High Magnification	68
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s):	Max Area = , Structures = 100, Sensitivity = 3.00E-03			Sensitivity (1/cc)	Total Asbestos 0.0028744
Recording Rule(s):	Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm				PCME 0.0028744
* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.				Maximum Area Examined	
				High Magnification	7.1E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%): <input type="text"/>
Total TEM Structures					Binning Rule Description:
Total Asbestos	8	1.1E+01	2.3E-02	2.2E-02 - 2.5E-02	Apply to fibers (F) only: $L \geq 0.5\mu\text{m}$, $AR \geq 3$ No restrictions for other structure types.
Total Chrysotile (CH)	7	9.9E+00	2.0E-02	1.9E-02 - 2.2E-02	
Total Amphibole	1	1.4E+00	2.9E-03	2.0E-03 - 4.8E-03	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
anthophyllite (AN)	1	1.4E+00	2.9E-03	2.0E-03 - 4.8E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
PCM Equivalent Structures (PCME)					Binning Rule Description:
Total Asbestos	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	Apply to all structures where Total column > 0 $L > 5\mu\text{m}$, $W \geq 0.25\mu\text{m}$ and $W \leq 3\mu\text{m}$, $AR \geq 3$
Total Chrysotile (CH)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-03	
					ChiSq test for even filter loading for Total TE (see Annex F2 in ISO 10312) Filter loading appears uneven. Results may be uncertain.
					ChiSq test for even filter loading for PCME (see Annex F2 in ISO 10312)

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area) Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000).

Dust Loading (s/cm²) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area).

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
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National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394169_02-18-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394169	Lab Sample Number	141014-S18	Effective filter area (mm2)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm2)	0.0104
Air Volume (L)	1702.8	Analysis Date	2/18/2015	# GOs counted High Magnification	75
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s): Max Area = n/a, Structures = 100, Sensitivity = 3.00E-04				Sensitivity (1/cc)	
Recording Rule(s): Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm				Total Asbestos	0.0002893
				PCME	0.0002893
				Maximum Area Examined	
				High Magnification	7.8E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%): <input type="text"/>
Total TEM Structures					Binning Rule Description:
Total Asbestos	1	1.3E+00	2.9E-04	2.0E-04 - 4.9E-04	Apply to fibers (F) only: L ≥ 0.5µm, AR ≥ 3
Total Chrysotile (CH)	1	1.3E+00	2.9E-04	2.0E-04 - 4.9E-04	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	No restrictions for other structure types.
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	ChiSq test for even filter loading for Total TE (see Annex F2 in ISO 10312)
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	Filter loading appears uneven. Results may be uncertain.
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	Binning Rule Description:
PCM Equivalent Structures (PCME)					
Total Asbestos	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	Apply to all structures where Total column > 0
Total Chrysotile (CH)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	L > 5µm, W ≥ 0.25µm and W ≤ 3µm, AR ≥ 3
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	ChiSq test for even filter loading for PCME (see Annex F2 in ISO 10312)
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	

(a) Based on countable structures only

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000).

Dust Loading (s/cm²) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area).

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
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National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394170_02-18-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394170	Lab Sample Number	141014-S19	Effective filter area (mm ²)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm ²)	0.0104
Air Volume (L)	1657.8	Analysis Date	2/18/2015	# GOs counted High Magnification	75
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s):	Max Area = n/a, Structures = 100, Sensitivity = 3.00E-04			Sensitivity (1/cc)	
Recording Rule(s):	Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm			Total Asbestos	0.0002972
				PCME	0.0002972
				Maximum Area Examined	
				High Magnification	7.8E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%): <input type="text"/>
Total TEM Structures					Binning Rule Description:
Total Asbestos	4	5.1E+00	1.2E-03	1.1E-03 - 1.4E-03	Apply to fibers (F) only: L ≥ 0.5µm, AR ≥ 3
Total Chrysotile (CH)	4	5.1E+00	1.2E-03	1.1E-03 - 1.4E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	No restrictions for other structure types.
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	ChiSq test for even filter loading for Total TE (see Annex F2 in ISO 10312)
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	Filter loading appears uneven. Results may be uncertain.
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	Binning Rule Description:
PCM Equivalent Structures (PCME)					
Total Asbestos	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	Apply to all structures where Total column > 0 L > 5µm, W ≥ 0.25µm and W ≤ 3µm, AR ≥ 3
Total Chrysotile (CH)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	ChiSq test for even filter loading for PCME (see Annex F2 in ISO 10312)
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000).

Dust Loading (s/cm²) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area).

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
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National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394171_02-18-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394171	Lab Sample Number	141014-S20	Effective filter area (mm ²)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm ²)	0.0104
Air Volume (L)	1647	Analysis Date	2/18/2015	# GOs counted High Magnification	75
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s): Max Area = n/a, Structures = 100, Sensitivity = 3.00E-04				Sensitivity (1/cc)	
Recording Rule(s): Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm				Total Asbestos	0.0002991
				PCME	0.0002991
				Maximum Area Examined	
				High Magnification	7.8E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%)
Total TEM Structures					Binning Rule Description:
Total Asbestos	3	3.8E+00	9.0E-04	8.0E-04 - 1.1E-03	Apply to fibers (F) only: L ≥ 0.5µm, AR ≥ 3
Total Chrysotile (CH)	3	3.8E+00	9.0E-04	8.0E-04 - 1.1E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	No restrictions for other structure types.
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	ChiSq test for even filter loading for Total TEM (see Annex F2 in ISO 10312)
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	Filter loading appears uneven. Results may be uncertain.
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	Binning Rule Description:
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	Apply to all structures where Total column > 0
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
PCM Equivalent Structures (PCME)					L > 5µm, W ≥ 0.25µm and W ≤ 3µm, AR ≥ 3
Total Asbestos	1	1.3E+00	3.0E-04	2.1E-04 - 5.0E-04	
Total Chrysotile (CH)	1	1.3E+00	3.0E-04	2.1E-04 - 5.0E-04	ChiSq test for even filter loading for PCME (see Annex F2 in ISO 10312)
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	Filter loading is OK
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000)

Dust Loading (s/cm²) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area)

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
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National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394173_02-01-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394173	Lab Sample Number	141014-S21	Effective filter area (mm2)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Blank	Sample Status	Analyzed	Grid opening area (mm2)	0.0104
Air Volume (L)		Analysis Date	2/1/2015	# GOs counted High Magnification	10
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s):	Max Area = n/a, Structures = 100, Sensitivity = 3.00E-03			Sensitivity (1/cc)	
Recording Rule(s):	Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm			Total Asbestos	blank
				PCME	blank
				Maximum Area Examined	
				High Magnification	1.0E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%): <input type="text"/>
Total TEM Structures					Binning Rule Description:
Total Asbestos	0	0.0E+00	blank	blank - blank	Apply to fibers (F) only: L ≥ 0.5µm, AR ≥ 3
Total Chrysotile (CH)	0	0.0E+00	blank	blank - blank	
Total Amphibole	0	0.0E+00	blank	blank - blank	No restrictions for other structure types.
actinolite (AC)	0	0.0E+00	blank	blank - blank	
amosite (AM)	0	0.0E+00	blank	blank - blank	ChiSq test for even filter loading for Total TE (see Annex F2 in ISO 10312)
anthophyllite (AN)	0	0.0E+00	blank	blank - blank	
crocidolite (CR)	0	0.0E+00	blank	blank - blank	Filter loading is OK
tremolite (TR)	0	0.0E+00	blank	blank - blank	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	blank	blank - blank	
other amphibole (OA)	0	0.0E+00	blank	blank - blank	
Solid Soln: Amosite	0	0.0E+00	blank	blank - blank	
Solid Soln: Trem-Act	0	0.0E+00	blank	blank - blank	
other mineral class (OM)	0	0.0E+00	blank	blank - blank	
PCM Equivalent Structures (PCME)					Binning Rule Description:
Total Asbestos	0	0.0E+00	blank	blank - blank	Apply to all structures where Total column > 0 L > 5µm, W ≥ 0.25µm and W ≤ 3µm, AR ≥ 3
Total Chrysotile (CH)	0	0.0E+00	blank	blank - blank	
Total Amphibole	0	0.0E+00	blank	blank - blank	ChiSq test for even filter loading for PCME (see Annex F2 in ISO 10312)
actinolite (AC)	0	0.0E+00	blank	blank - blank	
amosite (AM)	0	0.0E+00	blank	blank - blank	
anthophyllite (AN)	0	0.0E+00	blank	blank - blank	
crocidolite (CR)	0	0.0E+00	blank	blank - blank	
tremolite (TR)	0	0.0E+00	blank	blank - blank	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	blank	blank - blank	
other amphibole (OA)	0	0.0E+00	blank	blank - blank	
Solid Soln: Amosite	0	0.0E+00	blank	blank - blank	
Solid Soln: Trem-Act	0	0.0E+00	blank	blank - blank	
other mineral class (OM)	0	0.0E+00	blank	blank - blank	

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000)

Dust Loading (s/cm2) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area).

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
DRAFT

National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394174_02-01-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394174	Lab Sample Number	141014-S22	Effective filter area (mm ²)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm ²)	0.0104
Air Volume (L)	103	Analysis Date	2/1/2015 - 2/2/2015	# GOs counted High Magnification	120
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s):	Max Area = n/a, Structures = 100, Sensitivity = 3.00E-03			Sensitivity (1/cc)	
Recording Rule(s):	Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm			Total Asbestos	0.0029893
				PCME	0.0029893
				Maximum Area Examined	
				High Magnification	1.3E+00
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%): <input type="text"/>
Total TEM Structures					Binning Rule Description:
Total Asbestos	21	1.7E+01	6.3E-02	6.2E-02 - 6.5E-02	Apply to fibers (F) only: L ≥ 0.5µm, AR ≥ 3
Total Chrysotile (CH)	21	1.7E+01	6.3E-02	6.2E-02 - 6.5E-02	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	No restrictions for other structure types.
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
PCM Equivalent Structures (PCME)					Binning Rule Description:
Total Asbestos	1	8.0E-01	3.0E-03	2.1E-03 - 5.0E-03	Apply to all structures where Total column > 0 L > 5µm, W ≥ 0.25µm and W ≤ 3µm, AR ≥ 3
Total Chrysotile (CH)	1	8.0E-01	3.0E-03	2.1E-03 - 5.0E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	

ChiSq test for even filter loading for Total TEM
(see Annex F2 in ISO 10312)

Filter loading appears uneven. Results may be uncertain.

ChiSq test for even filter loading for PCME
(see Annex F2 in ISO 10312)

Filter loading is OK

(a) Based on countable structures only

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000).

Dust Loading (s/cm²) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area).

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
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National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394175_02-03-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394175	Lab Sample Number	141014-S23	Effective filter area (mm ²)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm ²)	0.0104
Air Volume (L)	107.6	Analysis Date	2/3/2015	# GOs counted High Magnification	115
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s): Max Area = n/a, Structures = 100, Sensitivity = 3.00E-03				Sensitivity (1/cc)	
Recording Rule(s): Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm				Total Asbestos	0.002986
				PCME	0.002986
				Maximum Area Examined	
				High Magnification	1.2E+00
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors **0** (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%):
Total TEM Structures					Binning Rule Description:
Total Asbestos	2	1.7E+00	6.0E-03	5.0E-03 - 8.0E-03	Apply to fibers (F) only: L ≥ 0.5µm, AR ≥ 3
Total Chrysotile (CH)	2	1.7E+00	6.0E-03	5.0E-03 - 8.0E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	No restrictions for other structure types.
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	ChiSq test for even filter loading for Total TE (see Annex F2 in ISO 10312)
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	Filter loading appears uneven. Results may be uncertain.
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	Binning Rule Description:
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	Apply to all structures where Total column > 0
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	L > 5µm, W ≥ 0.25µm and W ≤ 3µm, AR ≥ 3
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
PCM Equivalent Structures (PCME)					ChiSq test for even filter loading for PCME (see Annex F2 in ISO 10312)
Total Asbestos	1	8.3E-01	3.0E-03	2.1E-03 - 5.0E-03	Filter loading is OK
Total Chrysotile (CH)	1	8.3E-01	3.0E-03	2.1E-03 - 5.0E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	

(a) Based on countable structures only

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000).

Dust Loading (s/cm²) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area)

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
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National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394176_02-01-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394176	Lab Sample Number	141014-S24	Effective filter area (mm ²)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm ²)	0.0104
Air Volume (L)	493.455	Analysis Date	2/1/2015	# GOs counted High Magnification	25
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s): Max Area = n/a, Structures = 100, Sensitivity = 3.00E-03				Sensitivity (1/cc)	
Recording Rule(s): Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm				Total Asbestos	0.0029951
				PCME	0.0029951
				Maximum Area Examined	
				High Magnification	2.6E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors 0 (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%):
Total TEM Structures					Binning Rule Description:
Total Asbestos	12	4.6E+01	3.6E-02	3.5E-02 - 3.8E-02	Apply to fibers (F) only: L ≥ 0.5µm, AR ≥ 3
Total Chrysotile (CH)	12	4.6E+01	3.6E-02	3.5E-02 - 3.8E-02	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	No restrictions for other structure types.
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	ChiSq test for even filter loading for Total TE (see Annex F2 in ISO 10312)
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	Filter loading appears uneven. Results may be uncertain.
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	Binning Rule Description:
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	Apply to all structures where Total column > 0 L > 5µm, W ≥ 0.25µm and W ≤ 3µm, AR ≥ 3
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	ChiSq test for even filter loading for PCME (see Annex F2 in ISO 10312)
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
PCM Equivalent Structures (PCME)					
Total Asbestos	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Total Chrysotile (CH)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000).

Dust Loading (s/cm²) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area).

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
DRAFT

National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394178_01-19-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394178	Lab Sample Number	141014-S25	Effective filter area (mm ²)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm ²)	0.0104
Air Volume (L)	2203.2	Analysis Date	1/19/2015	# GOs counted High Magnification	56
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s):	Max Area = n/a, Structures = 100, Sensitivity = 3.00E-04			Sensitivity (1/cc)	
Recording Rule(s):	Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm			Total Asbestos	0.0002995
				PCME	0.0002995
				Maximum Area Examined	
				High Magnification	5.8E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated, this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%): <input type="text"/>
Total TEM Structures					Binning Rule Description:
Total Asbestos	9	1.5E+01	2.7E-03	2.6E-03 - 2.9E-03	Apply to fibers (F) only: L ≥ 0.5µm, AR ≥ 3
Total Chrysotile (CH)	9	1.5E+01	2.7E-03	2.6E-03 - 2.9E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	No restrictions for other structure types.
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	ChiSq test for even filter loading for Total TE (see Annex F2 in ISO 10312)
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	Filter loading appears uneven. Results may be uncertain.
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	Binning Rule Description:
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	Apply to all structures where Total column > 0
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	L > 5µm, W ≥ 0.25µm and W ≤ 3µm, AR ≥ 3
PCM Equivalent Structures (PCME)					ChiSq test for even filter loading for PCME (see Annex F2 in ISO 10312)
Total Asbestos	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Total Chrysotile (CH)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000).

Dust Loading (s/cm²) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area).

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
DRAFT

National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394179_01-20-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394179	Lab Sample Number	141014-S26	Effective filter area (mm ²)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm ²)	0.0104
Air Volume (L)	2200.8	Analysis Date	1/20/2015	# GOs counted High Magnification	58
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s):	Max Area = n/a, Structures = 100, Sensitivity = 3.00E-04			Sensitivity (1/cc)	
Recording Rule(s):	Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm			Total Asbestos	0.0002895
				PCME	0.0002895
				Maximum Area Examined	
				High Magnification	6.0E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%): <input type="text"/>
Total TEM Structures					Binning Rule Description:
Total Asbestos	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	Apply to fibers (F) only: $L \geq 0.5\mu\text{m}$, $AR \geq 3$ No restrictions for other structure types.
Total Chrysotile (CH)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
PCM Equivalent Structures (PCME)					Binning Rule Description:
Total Asbestos	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	Apply to all structures where Total column > 0 $L > 5\mu\text{m}$, $W \geq 0.25\mu\text{m}$ and $W \leq 3\mu\text{m}$, $AR \geq 3$
Total Chrysotile (CH)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	

ChiSq test for even filter loading for Total TEM
(see Annex F2 in ISO 10312)

Filter loading is OK

ChiSq test for even filter loading for PCME
(see Annex F2 in ISO 10312)

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000).

Dust Loading (s/cm²) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area).

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
DRAFT

National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394180_01-20-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394180	Lab Sample Number	141014-S27	Effective filter area (mm ²)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm ²)	0.0104
Air Volume (L)	2193.6	Analysis Date	1/20/2015	# GOs counted High Magnification	57
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s): Max Area = n/a, Structures = 100, Sensitivity = 3.00E-04				Sensitivity (1/cc)	
Recording Rule(s): Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm				Total Asbestos	0.0002955
				PCME	0.0002955
				Maximum Area Examined	
				High Magnification	5.9E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%): <input type="text"/>
Total TEM Structures					Binning Rule Description:
Total Asbestos	1	1.7E+00	3.0E-04	2.0E-04 - 5.0E-04	Apply to fibers (F) only: L ≥ 0.5µm, AR ≥ 3 No restrictions for other structure types.
Total Chrysotile (CH)	1	1.7E+00	3.0E-04	2.0E-04 - 5.0E-04	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
PCM Equivalent Structures (PCME)					Binning Rule Description:
Total Asbestos	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	Apply to all structures where Total column > 0 L > 5µm, W ≥ 0.25µm and W ≤ 3µm, AR ≥ 3
Total Chrysotile (CH)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
					ChiSq test for even filter loading for Total TEM (see Annex F2 in ISO 10312) Filter loading is OK
					ChiSq test for even filter loading for PCME (see Annex F2 in ISO 10312)

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000).

Dust Loading (s/cm²) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area)

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
DRAFTNational Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM
ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394181_01-19-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394181	Lab Sample Number	141014-S28	Effective filter area (mm ²)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm ²)	0.0104
Air Volume (L)	145.5	Analysis Date	1/19/2015 - 1/20/2015	# GOs counted High Magnification	85
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s):	Max Area = n/a, Structures = 100, Sensitivity = 3.00E-03			Sensitivity (1/cc)	
Recording Rule(s):	Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm			Total Asbestos	0.0029875
				PCME	0.0029875
				Maximum Area Examined	
				High Magnification	8.9E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors 0 (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%):
Total TEM Structures					Binning Rule Description:
Total Asbestos	33	3.7E+01	9.9E-02	9.8E-02 - 1.0E-01	Apply to fibers (F) only: $L \geq 0.5\mu\text{m}$, $AR \geq 3$ No restrictions for other structure types.
Total Chrysotile (CH)	33	3.7E+01	9.9E-02	9.8E-02 - 1.0E-01	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
PCM Equivalent Structures (PCME)					Binning Rule Description:
Total Asbestos	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	Apply to all structures where Total column > 0 $L > 5\mu\text{m}$, $W \geq 0.25\mu\text{m}$ and $W \leq 3\mu\text{m}$, $AR \geq 3$
Total Chrysotile (CH)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	

ChiSq test for even filter loading for Total TEM
(see Annex F2 in ISO 10312)

Filter loading appears uneven. Results may be uncertain.

ChiSq test for even filter loading for PCME
(see Annex F2 in ISO 10312)

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000)

Dust Loading (s/cm²) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area).

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
DRAFT

National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394182_01-19-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394182	Lab Sample Number	141014-S29	Effective filter area (mm ²)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm ²)	0.0104
Air Volume (L)	242.99	Analysis Date	1/19/2015	# GOs counted High Magnification	51
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s):	Max Area = n/a, Structures = 100, Sensitivity = 3.00E-03			Sensitivity (1/cc)	
Recording Rule(s):	Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm			Total Asbestos	0.0029815
				PCME	0.0029815
				Maximum Area Examined	
				High Magnification	5.3E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%)
Total TEM Structures					Binning Rule Description:
Total Asbestos	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	Apply to fibers (F) only: $L \geq 0.5\mu\text{m}$, $AR \geq 3$ No restrictions for other structure types.
Total Chrysotile (CH)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
PCM Equivalent Structures (PCME)					Binning Rule Description:
Total Asbestos	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	Apply to all structures where Total column > 0 $L > 5\mu\text{m}$, $W \geq 0.25\mu\text{m}$ and $W \leq 3\mu\text{m}$, $AR \geq 3$
Total Chrysotile (CH)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
winchite/richterite/tremolite /actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
					ChiSq test for even filter loading for Total TE (see Annex F2 in ISO 10312) Filter loading is OK
					ChiSq test for even filter loading for PCME (see Annex F2 in ISO 10312)

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000).
Dust Loading (s/cm²) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area).

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
DRAFT

National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394183_01-19-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394183	Lab Sample Number	141014-S30	Effective filter area (mm ²)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm ²)	0.0104
Air Volume (L)	253.33	Analysis Date	1/19/2015	# GOs counted High Magnification	49
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s):	Max Area = n/a, Structures = 100, Sensitivity = 3.00E-03			Sensitivity (1/cc)	
Recording Rule(s):	Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm			Total Asbestos	0.0029765
				PCME	0.0029765
				Maximum Area Examined	
				High Magnification	5.1E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%): <input type="text"/>
Total TEM Structures					Binning Rule Description:
Total Asbestos	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	Apply to fibers (F) only: L ≥ 0.5µm, AR ≥ 3 No restrictions for other structure types.
Total Chrysotile (CH)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
PCM Equivalent Structures (PCME)					Binning Rule Description:
Total Asbestos	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	Apply to all structures where Total column > 0 L > 5µm, W ≥ 0.25µm and W ≤ 3µm, AR ≥ 3
Total Chrysotile (CH)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
					ChiSq test for even filter loading for Total TE (see Annex F2 in ISO 10312) Filter loading is OK
					ChiSq test for even filter loading for PCME (see Annex F2 in ISO 10312)

(a) Based on countable structures only

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000)

Dust Loading (s/cm²) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area).

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
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National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394186_01-20-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394186	Lab Sample Number	141014-S31	Effective filter area (mm ²)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm ²)	0.0104
Air Volume (L)	843.3	Analysis Date	1/20/2015 - 1/21/2015	# GOs counted High Magnification	147
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s):	Max Area = n/a, Structures = 100, Sensitivity = 3.00E-04			Sensitivity (1/cc)	
Recording Rule(s):	Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm			Total Asbestos	0.0002981
				PCME	0.0002981
				Maximum Area Examined	
				High Magnification	1.5E+00
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors 0 (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%):
Total TEM Structures					Binning Rule Description:
Total Asbestos	7	4.6E+00	2.1E-03	2.0E-03 - 2.3E-03	Apply to fibers (F) only: L ≥ 0.5µm, AR ≥ 3
Total Chrysotile (CH)	7	4.6E+00	2.1E-03	2.0E-03 - 2.3E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	No restrictions for other structure types.
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	ChiSq test for even filter loading for Total TEM (see Annex F2 in ISO 10312)
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	Filter loading appears uneven. Results may be uncertain.
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	Binning Rule Description:
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	Apply to all structures where Total column > 0 L > 5µm, W ≥ 0.25µm and W ≤ 3µm, AR ≥ 3
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	ChiSq test for even filter loading for PCME (see Annex F2 in ISO 10312)
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
PCM Equivalent Structures (PCME)					Binning Rule Description:
Total Asbestos	1	6.5E-01	3.0E-04	2.1E-04 - 5.0E-04	Apply to all structures where Total column > 0 L > 5µm, W ≥ 0.25µm and W ≤ 3µm, AR ≥ 3
Total Chrysotile (CH)	1	6.5E-01	3.0E-04	2.1E-04 - 5.0E-04	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	ChiSq test for even filter loading for PCME (see Annex F2 in ISO 10312)
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	Filter loading is OK
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000).

Dust Loading (s/cm²) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area).

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
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National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394187_01-21-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394187	Lab Sample Number	141014-S32	Effective filter area (mm2)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm2)	0.0104
Air Volume (L)	812.7	Analysis Date	1/21/2015	# GOs counted High Magnification	157
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s):	Max Area = n/a, Structures = 100, Sensitivity = 3.00E-04			Sensitivity (1/cc)	
Recording Rule(s):	Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm			Total Asbestos	0.0002896
				PCME	0.0002896
				Maximum Area Examined	
				High Magnification	1.6E+00
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%): <input type="text"/>
Total TEM Structures					Binning Rule Description:
Total Asbestos	6	3.7E+00	1.7E-03	1.6E-03 - 1.9E-03	Apply to fibers (F) only: L ≥ 0.5µm, AR ≥ 3
Total Chrysotile (CH)	6	3.7E+00	1.7E-03	1.6E-03 - 1.9E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	No restrictions for other structure types.
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	ChiSq test for even filter loading for Total TE (see Annex F2 in ISO 10312)
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	Filter loading appears uneven. Results may be uncertain.
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	Binning Rule Description:
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	Apply to all structures where Total column > 0
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	L > 5µm, W ≥ 0.25µm and W ≤ 3µm, AR ≥ 3
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
PCM Equivalent Structures (PCME)					ChiSq test for even filter loading for PCME (see Annex F2 in ISO 10312)
Total Asbestos	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Total Chrysotile (CH)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000).

Dust Loading (s/cm2) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area).

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
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National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394188_01-22-15_141014_TEM_D.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394188	Lab Sample Number	141014-S33	Effective filter area (mm ²)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm ²)	0.0104
Air Volume (L)	811.8	Analysis Date	1/22/2015 - 1/23/2015	# GOs counted High Magnification	152
QA Sample Type	Not QC	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s):	Max Area = n/a, Structures = 100, Sensitivity = 3.00E-04			Sensitivity (1/cc)	
Recording Rule(s):	Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm			Total Asbestos	0.0002994
				PCME	0.0002994
				Maximum Area Examined	
				High Magnification	1.6E+00
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%): <input type="text"/>
Total TEM Structures					Binning Rule Description:
Total Asbestos	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	Apply to fibers (F) only: L ≥ 0.5µm, AR ≥ 3
Total Chrysotile (CH)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	No restrictions for other structure types.
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	ChiSq test for even filter loading for Total TE (see Annex F2 in ISO 10312)
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	Filter loading is OK
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	Binning Rule Description:
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	Apply to all structures where Total column > 0
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	L > 5µm, W ≥ 0.25µm and W ≤ 3µm, AR ≥ 3
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
PCM Equivalent Structures (PCME)					ChiSq test for even filter loading for PCME (see Annex F2 in ISO 10312)
Total Asbestos	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Total Chrysotile (CH)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = (N structures / (GOs Counted * GO Area)). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000).

Dust Loading (s/cm²) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area).

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
DRAFT

National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394153_02-24-15_141014_TEM_D_RD.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394153	Lab Sample Number	141014-S8	Effective filter area (mm2)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm2)	0.0104
Air Volume (L)	2277.6	Analysis Date	2/24/2015	# GOs counted High Magnification	55
QA Sample Type	RD	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s):	Max Area = n/a, Structures = 100, Sensitivity = 3.00E-04			Sensitivity (1/cc)	
Recording Rule(s):	Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm			Total Asbestos	0.000295
				PCME	0.000295
				Maximum Area Examined	
				High Magnification	5.7E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%): <input type="text"/>
Total TEM Structures					Binning Rule Description:
Total Asbestos	24	4.2E+01	7.1E-03	7.0E-03 - 7.3E-03	Apply to fibers (F) only: L ≥ 0.5µm, AR ≥ 3
Total Chrysotile (CH)	24	4.2E+01	7.1E-03	7.0E-03 - 7.3E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	No restrictions for other structure types.
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	ChiSq test for even filter loading for Total TE (see Annex F2 in ISO 10312)
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	Filter loading appears uneven. Results may be uncertain.
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	Binning Rule Description:
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	Apply to all structures where Total column > 0
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	L > 5µm, W ≥ 0.25µm and W ≤ 3µm, AR ≥ 3
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
PCM Equivalent Structures (PCME)					Binning Rule Description:
Total Asbestos	3	5.2E+00	8.8E-04	7.9E-04 - 1.1E-03	ChiSq test for even filter loading for PCME (see Annex F2 in ISO 10312)
Total Chrysotile (CH)	3	5.2E+00	8.8E-04	7.9E-04 - 1.1E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	Filter loading is OK
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.0E-04	

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000).

Dust Loading (s/cm2) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area).

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
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National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394154_02-23-15_141014_TEM_D_RS.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394154	Lab Sample Number	141014-S9	Effective filter area (mm ²)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm ²)	0.0104
Air Volume (L)	2172	Analysis Date	2/23/2015	# GOs counted High Magnification	57
QA Sample Type	RS	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s):	Max Area = n/a, Structures = 100, Sensitivity = 3.00E-04			Sensitivity (1/cc)	
Recording Rule(s):	Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm			Total Asbestos	0.0002984
				PCME	0.0002984
				Maximum Area Examined	
				High Magnification	5.9E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%): <input type="text"/>
Total TEM Structures					Binning Rule Description:
Total Asbestos	63	1.1E+02	1.9E-02	1.9E-02 - 1.9E-02	Apply to fibers (F) only: L ≥ 0.5µm, AR ≥ 3 No restrictions for other structure types.
Total Chrysotile (CH)	62	1.0E+02	1.9E-02	1.8E-02 - 1.9E-02	
Total Amphibole	1	1.7E+00	3.0E-04	2.1E-04 - 5.0E-04	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other amphibole (OA)	1	1.7E+00	3.0E-04	2.1E-04 - 5.0E-04	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
PCM Equivalent Structures (PCME)					Binning Rule Description:
Total Asbestos	1	1.7E+00	3.0E-04	2.1E-04 - 5.0E-04	Apply to all structures where Total column > 0 L > 5µm, W ≥ 0.25µm and W ≤ 3µm, AR ≥ 3
Total Chrysotile (CH)	1	1.7E+00	3.0E-04	2.1E-04 - 5.0E-04	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-04	
					ChiSq test for even filter loading for Total TE (see Annex F2 in ISO 10312)
					Filter loading appears uneven. Results may be uncertain.
					ChiSq test for even filter loading for PCME (see Annex F2 in ISO 10312)
					Filter loading is OK

(a) Based on countable structures only

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000)

Dust Loading (s/cm²) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area)

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
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National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._14394181_02-24-15_141014_TEM_D_RD.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	14394181	Lab Sample Number	141014-S28	Effective filter area (mm2)	385
Media	Air	Preparation	Direct	F-factor	1.00E+00
Sample Type	Field Sample	Sample Status	Analyzed	Grid opening area (mm2)	0.0104
Air Volume (L)	145.5	Analysis Date	2/24/2015	# GOs counted High Magnification	85
QA Sample Type	RD	Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s):	Max Area = n/a, Structures = 100, Sensitivity = 3.00E-03			Sensitivity (1/cc)	Total Asbestos 0.0029875
Recording Rule(s):	Min Aspect Ratio = , Min Length = 0.5µm, Min Width = µm				PCME 0.0029875
				Maximum Area Examined	
				High Magnification	8.9E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)	Air Conc (c) (s/cc)	% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%): <input type="text"/>
Total TEM Structures					Binning Rule Description:
Total Asbestos	7	7.9E+00	2.1E-02	2.0E-02 - 2.3E-02	Apply to fibers (F) only: L ≥ 0.5µm, AR ≥ 3
Total Chrysotile (CH)	7	7.9E+00	2.1E-02	2.0E-02 - 2.3E-02	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	No restrictions for other structure types.
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	ChiSq test for even filter loading for Total TEM (see Annex F2 in ISO 10312)
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	Filter loading appears uneven. Results may be uncertain.
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	Binning Rule Description:
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	Apply to all structures where Total column > 0 L > 5µm, W ≥ 0.25µm and W ≤ 3µm, AR ≥ 3
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
PCM Equivalent Structures (PCME)					ChiSq test for even filter loading for PCME (see Annex F2 in ISO 10312)
Total Asbestos	1	1.1E+00	3.0E-03	2.1E-03 - 5.0E-03	Filter loading is OK
Total Chrysotile (CH)	1	1.1E+00	3.0E-03	2.1E-03 - 5.0E-03	
Total Amphibole	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
actinolite (AC)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
amosite (AM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
anthophyllite (AN)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
crocidolite (CR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
tremolite (TR)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
winchite/richterite/tremolite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
/actinolite (WRTA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other amphibole (OA)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Amosite	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
Solid Soln: Trem-Act	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	
other mineral class (OM)	0	0.0E+00	0.0E+00	0.0E+00 - 2.1E-03	

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000).

Dust Loading (s/cm²) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area)

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
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National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._NA_03-29-15_Q141014d_TEM_D_LB.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	NA	Lab Sample Number	Q141014d-B1	Effective filter area (mm ²)	385
Media	N/A	Preparation	Direct	F-factor	1.00E+00
Sample Type	Lab QC	Sample Status	Analyzed	Grid opening area (mm ²)	0.0104
QA Sample Type	LB	Analysis Date	3/29/2015	# GOs counted High Magnification	10
		Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s):	Max Area = , Structures = , Sensitivity = 0.00E+00			Sensitivity (1/cc)	
Recording Rule(s):	Min Aspect Ratio = , Min Length = µm, Min Width = µm			Total Asbestos	blank
				PCME	blank
				Maximum Area Examined	
				High Magnification	1.0E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)		% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%): <input type="text"/>
Total TEM Structures					Binning Rule Description:
Total Asbestos	0	0.0E+00	blank	blank - blank	Apply to fibers (F) only: $L \geq 0.5\mu\text{m}$, $AR \geq 3$ No restrictions for other structure types.
Total Chrysotile (CH)	0	0.0E+00	blank	blank - blank	
Total Amphibole	0	0.0E+00	blank	blank - blank	
actinolite (AC)	0	0.0E+00	blank	blank - blank	
amosite (AM)	0	0.0E+00	blank	blank - blank	
anthophyllite (AN)	0	0.0E+00	blank	blank - blank	
crocidolite (CR)	0	0.0E+00	blank	blank - blank	
tremolite (TR)	0	0.0E+00	blank	blank - blank	
winchite/richterite/tremolite	0	0.0E+00	blank	blank - blank	
/actinolite (WRTA)	0	0.0E+00	blank	blank - blank	
other amphibole (OA)	0	0.0E+00	blank	blank - blank	
Solid Soln: Amosite	0	0.0E+00	blank	blank - blank	
Solid Soln: Trem-Act	0	0.0E+00	blank	blank - blank	
other mineral class (OM)	0	0.0E+00	blank	blank - blank	
PCM Equivalent Structures (PCME)					Binning Rule Description:
Total Asbestos	0	0.0E+00	blank	blank - blank	Apply to all structures where Total column > 0 $L > 5\mu\text{m}$, $W \geq 0.25\mu\text{m}$ and $W \leq 3\mu\text{m}$, $AR \geq 3$
Total Chrysotile (CH)	0	0.0E+00	blank	blank - blank	
Total Amphibole	0	0.0E+00	blank	blank - blank	
actinolite (AC)	0	0.0E+00	blank	blank - blank	
amosite (AM)	0	0.0E+00	blank	blank - blank	
anthophyllite (AN)	0	0.0E+00	blank	blank - blank	
crocidolite (CR)	0	0.0E+00	blank	blank - blank	
tremolite (TR)	0	0.0E+00	blank	blank - blank	
winchite/richterite/tremolite	0	0.0E+00	blank	blank - blank	
/actinolite (WRTA)	0	0.0E+00	blank	blank - blank	
other amphibole (OA)	0	0.0E+00	blank	blank - blank	
Solid Soln: Amosite	0	0.0E+00	blank	blank - blank	
Solid Soln: Trem-Act	0	0.0E+00	blank	blank - blank	
other mineral class (OM)	0	0.0E+00	blank	blank - blank	

ChiSq test for even filter loading for Total TE
(see Annex F2 in ISO 10312)

Filter loading is OK

ChiSq test for even filter loading for PCME
(see Annex F2 in ISO 10312)

(a) Based on countable structures only

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000)

Dust Loading (s/cm²) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area)

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
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National Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM

ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._NA_03-29-15_Q141014e_TEM_D_LB.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	NA	Lab Sample Number	Q141014e-B2	Effective filter area (mm2)	385
Media	N/A	Preparation	Direct	F-factor	1.00E+00
Sample Type	Lab QC	Sample Status	Analyzed	Grid opening area (mm2)	0.0104
QA Sample Type	LB	Analysis Date	3/29/2015	# GOs counted High Magnification	10
		Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s):	Max Area = , Structures = , Sensitivity = 0.00E+00			Sensitivity (1/cc)	
Recording Rule(s):	Min Aspect Ratio = , Min Length = µm, Min Width = µm			Total Asbestos blank	
				PCME blank	
				Maximum Area Examined	
				High Magnification	1.0E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated; this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)		% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%): <input type="text"/>
Total TEM Structures					Binning Rule Description:
Total Asbestos	0	0.0E+00	blank	blank - blank	Apply to fibers (F) only: L ≥ 0.5µm, AR ≥ 3 No restrictions for other structure types.
Total Chrysotile (CH)	0	0.0E+00	blank	blank - blank	
Total Amphibole	0	0.0E+00	blank	blank - blank	
actinolite (AC)	0	0.0E+00	blank	blank - blank	
amosite (AM)	0	0.0E+00	blank	blank - blank	
anthophyllite (AN)	0	0.0E+00	blank	blank - blank	
crocidolite (CR)	0	0.0E+00	blank	blank - blank	
tremolite (TR)	0	0.0E+00	blank	blank - blank	
winchite/richterite/tremolite	0	0.0E+00	blank	blank - blank	
/actinolite (WRTA)	0	0.0E+00	blank	blank - blank	
other amphibole (OA)	0	0.0E+00	blank	blank - blank	
Solid Soln: Amosite	0	0.0E+00	blank	blank - blank	
Solid Soln: Trem-Act	0	0.0E+00	blank	blank - blank	
other mineral class (OM)	0	0.0E+00	blank	blank - blank	
PCM Equivalent Structures (PCME)					Binning Rule Description:
Total Asbestos	0	0.0E+00	blank	blank - blank	Apply to all structures where Total column > 0 L > 5µm, W ≥ 0.25µm and W ≤ 3µm, AR ≥ 3
Total Chrysotile (CH)	0	0.0E+00	blank	blank - blank	
Total Amphibole	0	0.0E+00	blank	blank - blank	
actinolite (AC)	0	0.0E+00	blank	blank - blank	
amosite (AM)	0	0.0E+00	blank	blank - blank	
anthophyllite (AN)	0	0.0E+00	blank	blank - blank	
crocidolite (CR)	0	0.0E+00	blank	blank - blank	
tremolite (TR)	0	0.0E+00	blank	blank - blank	
winchite/richterite/tremolite	0	0.0E+00	blank	blank - blank	
/actinolite (WRTA)	0	0.0E+00	blank	blank - blank	
other amphibole (OA)	0	0.0E+00	blank	blank - blank	
Solid Soln: Amosite	0	0.0E+00	blank	blank - blank	
Solid Soln: Trem-Act	0	0.0E+00	blank	blank - blank	
other mineral class (OM)	0	0.0E+00	blank	blank - blank	

ChiSq test for even filter loading for Total TEM
(see Annex F2 in ISO 10312)

Filter loading is OK

ChiSq test for even filter loading for PCME
(see Annex F2 in ISO 10312)

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000)

Dust Loading (s/cm2) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area).

Sumas Mtn Asbestos Soil [SFP-078A]

version 13-
DRAFTNational Asbestos Data Entry Spreadsheet (NADES) for Air & Dust Analysis by Superfund TEM
ANALYTICAL REPORT

FILE NAME: SFP-078A_LabCor Inc._NA_03-29-15_Q141014f_TEM_D_LB.xls

SAMPLE/ANALYSIS INFORMATION				ANALYSIS PARAMETERS	
Field Sample Number	NA	Lab Sample Number	Q141014f-B3	Effective filter area (mm2)	385
Media	N/A	Preparation	Direct	F-factor	1.00E+00
Sample Type	Lab QC	Sample Status	Analyzed	Grid opening area (mm2)	0.0104
QA Sample Type	LB	Analysis Date	3/29/2015	# GOs counted High Magnification	10
		Method SOP	0	# GOs counted Low Magnification	0
Stopping Rule(s):	Max Area = , Structures = , Sensitivity = 0.00E+00			Sensitivity (1/cc)	
Recording Rule(s):	Min Aspect Ratio = , Min Length = µm, Min Width = µm			Total Asbestos	blank
				PCME	blank
				Maximum Area Examined	
				High Magnification	1.0E-01
				Low Magnification	0.0E+00

* Chrysotile was not counted for all grid openings evaluated, this field is utilized only for the Libby site.

Number of Structures with Fatal Data Entry Errors (Structures with fatal errors are excluded from calculations below)

Mineral Class	Number of Structures (a)	Loading on Filter (b) (s/mm ²)		% Poisson Confidence Interval for this Sample	Desired Confidence Interval (%): <input type="text"/>
Total TEM Structures					Binning Rule Description:
Total Asbestos	0	0.0E+00	blank	blank - blank	Apply to fibers (F) only: $L \geq 0.5\mu\text{m}$, $AR \geq 3$ No restrictions for other structure types.
Total Chrysotile (CH)	0	0.0E+00	blank	blank - blank	
Total Amphibole	0	0.0E+00	blank	blank - blank	
actinolite (AC)	0	0.0E+00	blank	blank - blank	
amosite (AM)	0	0.0E+00	blank	blank - blank	
anthophyllite (AN)	0	0.0E+00	blank	blank - blank	
crocidolite (CR)	0	0.0E+00	blank	blank - blank	
tremolite (TR)	0	0.0E+00	blank	blank - blank	
winchite/richterite/tremolite	0	0.0E+00	blank	blank - blank	
/actinolite (WRTA)	0	0.0E+00	blank	blank - blank	
other amphibole (OA)	0	0.0E+00	blank	blank - blank	
Solid Soln: Amosite	0	0.0E+00	blank	blank - blank	
Solid Soln: Trem-Act	0	0.0E+00	blank	blank - blank	
other mineral class (OM)	0	0.0E+00	blank	blank - blank	
PCM Equivalent Structures (PCME)					Binning Rule Description:
Total Asbestos	0	0.0E+00	blank	blank - blank	Apply to all structures where Total column > 0 $L > 5\mu\text{m}$, $W \geq 0.25\mu\text{m}$ and $W \leq 3\mu\text{m}$, $AR \geq 3$
Total Chrysotile (CH)	0	0.0E+00	blank	blank - blank	
Total Amphibole	0	0.0E+00	blank	blank - blank	
actinolite (AC)	0	0.0E+00	blank	blank - blank	
amosite (AM)	0	0.0E+00	blank	blank - blank	
anthophyllite (AN)	0	0.0E+00	blank	blank - blank	
crocidolite (CR)	0	0.0E+00	blank	blank - blank	
tremolite (TR)	0	0.0E+00	blank	blank - blank	
winchite/richterite/tremolite	0	0.0E+00	blank	blank - blank	
/actinolite (WRTA)	0	0.0E+00	blank	blank - blank	
other amphibole (OA)	0	0.0E+00	blank	blank - blank	
Solid Soln: Amosite	0	0.0E+00	blank	blank - blank	
Solid Soln: Trem-Act	0	0.0E+00	blank	blank - blank	
other mineral class (OM)	0	0.0E+00	blank	blank - blank	

ChiSq test for even filter loading for Total TE
(see Annex F2 in ISO 10312)

Filter loading is OK

ChiSq test for even filter loading for PCME
(see Annex F2 in ISO 10312)

(a) Based on countable structures only.

(b) Loading on Filter (s/mm²) = N structures / (GOs Counted * GO Area). Results for indirect samples are based on the secondary filter.

(c) Air Concentration (s/cc) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Air Volume * 1000).

Dust Loading (s/cm2) = (N structures * EFA) / (GOs Counted * GO Area * F-factor * Dust Collection Area).