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SFUND RECORDS CTR
2118450

TRILLIUM INC.

Data Validation Report

TDD No:	09-04-01-0011
PAN:	001275.0440.01TA
Site:	El Dorado Hills
Laboratory:	Lab/Cor, Inc.
Reviewer:	Denise A. Shepperd, Trillium, Inc.
Date:	March 15, 2005

I. Case Summary

SAMPLE INFORMATION:

Asbestos Samples: CC2-H8-1CT-100304; CC2-H8-2CT-100304; CC2-H8-3CT-100304; CC2-H8-4CT-100304; CC2-H8-5CT-100304; RHB-H2-4FD-100304; RHB-H2-5FD-100304; RHB-L2-14CH-100304; RHB-L2-1NA-100304; RHB-L2-1ZB-100304; RHB-L2-FB-100304; RHS-H2-1FD-100304; RHS-H2-2FD-100304; RHS-H2-3FD-100304; RHS-H2-4FD-100304; RHS-H2-5FD-100304; RHS-L2-14CH-100304; RHS-L2-1CH-100304; RHS-1NA-100304; RHS-L2-2CH-100304; RHS-L2-3CH-100304; RHS-L2-4CH-100304; RHS-L2-5CH-100304; SVBA-H2-4FD-100204; SVBA-H2-5FD-100204; SVBA-L2-1NA-100204; SVBA-L2-1ZB-100204; SVBB-H2-12FD-100304; SVBB-H2-4FD-100304; SVBB-H2-5FD-100304; SVBB-L2-1NA-100304; SVBB-L2-1ZB-100304; SVM-H2-4FD-100204; SVM-H2-5FD-100204; SVM-L2-15AD-100204; SVM-L2-1AD-100204; SVM-L2-2AD-100204; SVM-L2-3AD-100204; SVM-L2-4AD-100204; SMV-L2-5AD-100204; SVM-L2-6AD-100204; TPG-L2-FB-100404

Matrix:	42 Air samples
Analysis:	Asbestos by Transmission Electron Microscopy
Collection Dates:	October 2 through 4, 2004
Sample Receipt Date:	October 7, 2004
Analysis Date:	November 12, 2004 through January 24, 2005
Analytical Method:	ISO Method 10312

FIELD QC:

Field Trip Blanks (TB):	RHB-L2-1ZB-100304; SVBA-L2-1ZB-100204; and SVBB-L2-1ZB-100304
Filter Blanks (FB):	RHB-L2-FB-100304 and TPG-L2-FB-100404
Equipment Blanks (EB):	None
Background Samples (BG):	None

Field Duplicates (D1): Not Identified

TABLES:

1A: Analytical Results with Qualifications
1B: Data Qualifier Definitions for Inorganic Data Review

SAMPLING ISSUES:

Five chain of custody (COC) documents were included in the data package and were properly completed. These documents included all of the field samples in the data package, as well as many additional samples.

VALIDATION PARAMETERS AND COMMENTS:

I. Holding Times, Preservation and Sample Integrity

This parameter is evaluated to ensure that sample custody is documented from collection through analysis, samples are analyzed within the recommended holding time, and that no alteration in sample content has occurred during sample shipment, handling, and storage.

There is no established holding time or storage condition for asbestos samples.

II. Calibration

The analyses of materials of known content ensures that identification and quantitation of analytes will be accurate for all samples. Review of the documentation provided for appropriate calibration determines whether or not the analytical results reported by the laboratory are valid and supported by the data.

The data deliverables for this project were included in multiple data packages. No instrument calibration documentation was provided in association with the site sample data packages in this shipment. Documentation provided separately to support the identification and quantitation in the site samples in these data packages included the following:

A letter representing documentation of an NVLAP laboratory site assessment conducted on 11/7/03 was included in the data package. The letter included (dated 5/10/04) indicated that the laboratory met the on-site assessment requirements.

Results and evaluator notes and tables were included for an NISTIR 5351 analysis of an inter-laboratory QC sample. The laboratory's raw data were compiled and assessed by Batta Labs. Analysts were identified by initials and included two of the four analysts' initials documented with this sample set. "DW" and "KM" performed these PE sample analyses, "JH and TM" were not represented. According to the assessor's notes, the sample included chrysotile fibers and structures and the laboratory's results were within NVLAP and NISTIR 5351acceptance limits. No raw data were provided for this QC sample.

Results for a New York State Department of Health Environmental Laboratory Approval Program proficiency test, conducted between 9/7/04 and 11/9/04, were also included. The proficiency samples included asbestos in air. The laboratory's results were satisfactory for all four of the air sample categories. Actinolite and amosite fiber types were identified and counts were acceptable according to the data sheet. No raw data were provided for this proficiency sample. Upon request, the laboratory provided raw data documenting the identification of actinolite and amosite asbestos on 1/27/05, in conjunction with the validation of a previous shipment of data packages. These

data were inserted by the validator into the QC data package provided as supporting data with that previous shipment of data packages.

Documentation for a round-robin sample analyzed in the fall of 2004, by three separate laboratories, as part of the NVLAP requirements, was also included. The documentation included raw count sheets and reported results, as well as comparison with other laboratories' results. Results for all parameters were acceptable. The only analyst who participated in the analyses according to the documentation was "DW."

Instrument calibration information was not provided with the packages in this shipment. A previous shipment did included a separate calibration package which documented acceptable instrument calibration, including screen and camera magnification, camera length and camera constant, spot size, k-factor, beam dose, EDS sensitivity and peak intensity. No documentation of grid opening size was provided. Documentation was provided in this separate proficiency and calibration data package for October through December, 2004, for both of the instruments used for analysis of samples included in this data package. Aa a result, analyses of the samples in this data set performed after that period are not supported by the calibration documentation provided.

Based on the fact that the laboratory demonstrated proficiency in the performance evaluation (PE) analyses performed in the third quarter of 2004, and that these PE samples included the two predominant asbestos types detected in this field sample set, no action was taken by the validator. It is recommended however, that supporting data be expanded to include raw data supporting the identification of all asbestos types detected in PE samples and demonstration, wherever possible, of the correct identification (in known reference materials) of all fiber types detected in a field sample set.

III. Blanks

Sample matrices known to be devoid of the analytes of interest (method blanks) are prepared and analyzed with each analytical batch. Evaluation of this parameter ensures that contamination introduced during preparation and analyses is not attributed to the field samples.

Other blanks may be generated in the field or laboratory to ensure that no contamination is introduced during sampling and/or storage.

Blanks required for this project included Filter Blanks and Field Trip Blanks. Two Filter Blanks (RHB-L2-FB-100304 and TPG-L2-FB-100404) were included with this sample set. Three Field Trip Blanks (RHB-L2-1ZB-100304; SVBA-L2-1ZB-100204; and SVBB-L2-1ZB-100304) were also included. Field Trip Blanks and Filter Blanks are processed and analyzed by the laboratory in the same manner as field samples. Results can be used to assess contamination from a combination of the field and the laboratory environments. No asbestos structures were identified in any of the Filter or Field Trip Blanks submitted with this data set.

IV. Spiked Samples

The analytes of interest are added in known concentrations to like-matrix blanks or authentic field samples before preparation. This parameter is evaluated in order to assess the laboratory's ability to preserve and recover the compounds of interest.

The analytical method does not require laboratory spiked sample analyses. It is recommended by the validator that some type of laboratory prepared or purchased spiked analyses be performed with each analytical sample batch.

The project requirements specified that results from the most recent inter-laboratory study would be acceptable as an LCS sample for these data. This requirement was met by the laboratory and reported results for the inter-laboratory study sample were acceptable for all air sample parameters (see Section I).

V. Duplicate/Replicate Samples

Results for duplicate/replicate samples are evaluated to assess the laboratory's precision for the analytes of interest in the applicable sample matrix. For asbestos analyses, duplicate and replicate measurements take the form of a combination of variables which include the preparation of the grid, the choice of grid openings to be analyzed, and the analyst performing the counting and identification of structures.

The laboratory included all of the QC samples from all of the field sample sets in a separate data package under a separate report number (5906).

One of the two analysts, JH, not represented in the PE sample analyses included with the data packages for this project did perform intra-laboratory replicate and duplicate analyses on associated field samples. Results for these QC analyses for this analyst were within the sample-specific acceptance limits.

The quality assurance project plan (QAPP) requires five types of laboratory duplicate/replicate analyses, each to be performed at a rate of 5% (one for every twenty) of the field samples. Based on 42 field samples reported in the data package, two or more of each of these QC sample pairs were required. The laboratory compared the primary asbestos structure count for each of the QC samples prepared and analyzed. Results for all of the duplicate/replicate pair types were evaluated based on 95% confidence limits determined from the original sample count result. Results for all of the reported QC samples were within the laboratory's calculated limits. A summary of the laboratory QC samples included with this data set are as follows:

Replicate analyses:

- One sample, SVBA-H2-5FD-100204, was analyzed as a replicate, wherein a different preparation was analyzed by the same analyst;

Duplicate analyses:

- CC2-H8-2CT-100304, SVBA-H2-4FD-100204, and SVBA-H2-5FD-100204, were analyzed as a duplicate wherein the same grid openings were recounted by a different analyst;
- SVBA-H2-4FD-100204 was analyzed as a duplicate, wherein different grid openings were selected for counting by a different analyst; and
- Two samples, SVBA-H2-4FD-100204 and SVBA-H2-5FD-100204, were analyzed as the third type of duplicate specified by the QAPP, wherein a different analyst analyzes a different preparation.

No samples were analyzed as QC samples for one of the required categories:

- a replicate wherein different grid openings were selected by the same analyst for a second measurement

Two samples should have been included for each of these QC sample categories in order to satisfy the 5% requirements of the QAPP.

An additional type of QC sample not identified by the QAPP was included. Two samples (SVBA-H2-4FD-100204 and SVBA-H2-5FD-100204) were recounted by the same analyst counting the same grids.

Comparison between results for two analyses by different analysts of the same grid openings (GO) from the same preparation of three samples showed variation in identification of asbestos types, morphology, and false positives and negatives for a number of the GOs counted. Despite these differences, however, the total asbestos counts showed acceptable agreement.

The data user is cautioned that although the laboratory QC counts met the specified criteria, the acceptable range includes as much as a three-fold difference in asbestos concentrations for these samples. This range of variability is applicable to all asbestos results in the data set.

Documentation of two analyses from re-preps was provided for SVBA-H2-5FD-100204. It is not clear from the documentation provided whether these represent two entirely separate preparations or the same re-preparation counted by two different analysts counting different grid openings.

According to the QAPP provided with the data packages, field duplicates were required at a rate of 10% of field samples. Field duplicate pairs were not identified or evaluated as part of this validation effort.

VI. Identification

Identification of asbestos structures and fibers is dependent on sample preparation techniques, analyst training, instrument operation, and data interpretation. Comparison with results from known standards is used to evaluate the accuracy of the structure identification for field samples.

Actinolite, chrysotile, edenite, and tremolite were identified in the field and QC samples. According to the report forms provided in the QC package, the laboratory correctly identified actinolite, chrysotile, and amosite in PE sample analyses performed in the third quarter of 2004. Comparison of identification between the various analysts, grid opening, and preparations combinations that make up the daily QC for these analyses were within acceptancee. Therefore; based on the documentation provided, fiber and structure identifications for chrysotile and actinolite were determined to be valid as reported. It was assumed that the laboratory correctly identified the other structures that were reported in the field samples.

VII. Quantitation and Reported Detection Limits

Raw data documentation is reviewed to ensure that all reported results and detection limits are correctly calculated, accurately reported, and supported by the raw data.

Results for asbestos categories, fiber density, and detection limits were correctly calculated and accurately reported by the laboratory. Results were verified by the validator using the information included on the reporting forms and the chain of custody records.

VIII. System Performance

This parameter is evaluated to ensure that the laboratory analytical systems were functioning properly at the time of analyses and that methodology appropriate to the analyses were followed.

The analytical systems appear to have been working satisfactorily and to have been calibrated properly at the time of most these analyses, based on the documentation available from a previous shipment of data packages. Documentation was not available for instrument calibration for samples analyzed after 12/04.

IX. Documentation

Data and documentation completeness is critical in providing support for the reported results. Problems encountered with the nature or quality of the data package documentation are addressed.

No raw data were provided in the data package for the proficiency samples analyzed in support of the laboratory's accreditation. Raw data to support the identification of actinolite and amosite were received upon request on 1/26/05 in conjunction with validation of a previous shipment of data from the same project.

Raw data for chrysotile fibers were not included in the data package for review. A separate package containing raw for selected field samples from each laboratory lot was provided.

Count sheets included in the data package are computer generated forms. No date of the actual count is presented on these forms. If there is a corresponding bench sheet from which these forms are prepared, these should be supplied as a part of the data package. It is recommended that analyst's intials and date of count be added to the documentation.

The legend for the count sheets, which defines the codes used for the structure counts lists PSCH as the code for protocol chrysotile structures. The code appearing on the count sheets for this category is PCAS.

On the printouts for the EDS for some of the field samples the analysis date listed is Jan 1, 1997.

Raw data are an integral part of a complete and defensible data package. Edits made on all data should be performed correctly. Proper editing requires drawing a single line through the incorrect information, adding the correct information, and initialing and dating the changes.

Asbestos structures identified in the field samples included actinolite, chrysotile, tremolite, and edenite. Examples of known materials included in the data package in support of the sample analyses included only actinolite, chrysotile, and amosite, identified in the proficiency sample analyses. No raw data were provided for the proficiency sample analyses. Based on the documentation provided, the identification of the other fiber types in a known standard was not documented.

COMMENTS:

Based on the available data, results for all of the samples included in this data set were determined to be valid as reported by the laboratory. Reported results, analytical sensitivity, and detection limits are considered to be accurate within the bounds of the 95% confidence limits determined for each sample. No qualifiers were applied to these data by the validator.

It is recommended that complete instrument calibration documentation be provided with every data package to fully support the site sample results.

The data results tables included as Table 1A include only the primary and total asbestos structure counts. Counts for individual categories required by the project Scope of Work are presented in the associated electronic data deliverables (EDD) tables.

This report was prepared according to the specifications of the analytical method, ISO Method 10312 " Ambient air - Determination of asbestos fibres - Direct-transfer transmission electron microscopy method," the document "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review," 2/94, and Trillium, Inc.'s SOP No. 0497-06A, for Validation of Analytical Data: Inorganic Analytes.

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TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document, "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review," 2/94.

U The analyte was analyzed for, but was not detected above the level of the reported value. The reported value is either the sample quantitation limit or the sample detection limit.

L Indicates results which fall between the sample detection limit and the CRDL. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The associated value is an estimated quantity. The analyte was analyzed for and was positively identified, but the reported numerical value may not be consistent with the amount actually present in the environmental sample.

R The data are unusable. The analyte was analyzed for, but the presence or absence of the analyte cannot be verified.

UJ A combination of the "U" and "J" qualifier. The analyte was analyzed for but was not detected. The reported value is an estimate and may be inaccurate or imprecise.

Table 1A
Analytical Results with Qualifications
Asbestos in Air Samples

C-sample-num	Type	# of structures counted	Concentrations	Units	Analytical sensitivity (AS)	Lower *	Upper*	Val Adj Result Conc.	Val Qual	Val Adj AS	Val Units	Val Comm
CC2-H8-1CT-100304	Primary Asbestos Structures	12	0.00353	structures/ cc	0.000294	6	21				structures/ cc	
CC2-H8-1CT-100304	Total Asbestos Structures	12	0.00353	structures/ cc	0.000294	6	21				structures/ cc	
CC2-H8-2CT-100304	Primary Asbestos Structures	11	0.00321	structures/ cc	0.000291	5	20				structures/ cc	
CC2-H8-2CT-100304	Total Asbestos Structures	11	0.00321	structures/ cc	0.000291	5	20				structures/ cc	
CC2-H8-3CT-100304	Primary Asbestos Structures	11	0.00328	structures/ cc	0.000298	5	20				structures/ cc	
CC2-H8-3CT-100304	Total Asbestos Structures	11	0.00328	structures/ cc	0.000298	5	20				structures/ cc	
CC2-H8-4CT-100304	Primary Asbestos Structures	10	0.00277	structures/ cc	0.000277	5	18				structures/ cc	
CC2-H8-4CT-100304	Total Asbestos Structures	10	0.00277	structures/ cc	0.000277	5	18				structures/ cc	
CC2-H8-5CT-100304	Primary Asbestos Structures	6	0.00573	structures/ cc	0.000955	2	13				structures/ cc	
CC2-H8-5CT-100304	Total Asbestos Structures	6	0.00573	structures/ cc	0.000955	2	13				structures/ cc	
RHB-H2-4FD-100304	Primary Asbestos Structures	6	0.00574	structures/ cc	0.000957	2	13				structures/ cc	
RHB-H2-4FD-100304	Total Asbestos Structures	7	0.0067	structures/ cc	0.000957	3	14				structures/ cc	
RHB-H2-5FD-100304	Primary Asbestos Structures	1	0.000981	structures/ cc	0.000981	0	5				structures/ cc	
RHB-H2-5FD-100304	Total Asbestos Structures	1	0.000981	structures/ cc	0.000981	0	5				structures/ cc	
RHB-L2-14CH-100304	Primary Asbestos Structures	5	0.00495	structures/ cc	0.000991	2	12				structures/ cc	
RHB-L2-14CH-100304	Total Asbestos Structures	5	0.00495	structures/ cc	0.000991	2	12				structures/ cc	

Table 1A
Analytical Results with Qualifications
Asbestos in Air Samples

C-sample-num	Type	# of structures counted	Concentrations	Units	Analytical sensitivity (AS)	Lower *	Upper*	Val Adj Result Conc.	Val Qual	Val Adj AS	Val Units	Val Comm
RHB-L2-1NA-100304	Primary Asbestos Structures	5	0.00502	structures/ cc	0.001	2	12				structures/ cc	
RHB-L2-1NA-100304	Total Asbestos Structures	5	0.00502	structures/ cc	0.001	2	12				structures/ cc	
RHB-L2-1ZB-100304	Primary Asbestos Structures	0	0	structures/ cc	0.000925	0	3				structures/ cc	
RHB-L2-1ZB-100304	Total Asbestos Structures	0	0	structures/ cc	0.000925	0	3				structures/ cc	
RHB-L2-FB-100304	Primary Asbestos Structures	0		structures/ cc							structures/ cc	
RHB-L2-FB-100304	Total Asbestos Structures	0		structures/ cc							structures/ cc	
RHS-H2-1FD-100304	Primary Asbestos Structures	2	0.00198	structures/ cc	0.000988	0	6				structures/ cc	
RHS-H2-1FD-100304	Total Asbestos Structures	2	0.00198	structures/ cc	0.000988	0	6				structures/ cc	
RHS-H2-2FD-100304	Primary Asbestos Structures	2	0.00197	structures/ cc	0.000986	0	6				structures/ cc	
RHS-H2-2FD-100304	Total Asbestos Structures	2	0.00197	structures/ cc	0.000986	0	6				structures/ cc	
RHS-H2-3FD-100304	Primary Asbestos Structures	0	0	structures/ cc	0.000987	0	3				structures/ cc	
RHS-H2-3FD-100304	Total Asbestos Structures	0	0	structures/ cc	0.000987	0	3				structures/ cc	
RHS-H2-4FD-100304	Primary Asbestos Structures	0	0	structures/ cc	0.000951	0	3				structures/ cc	
RHS-H2-4FD-100304	Total Asbestos Structures	0	0	structures/ cc	0.000951	0	3				structures/ cc	
RHS-H2-5FD-100304	Primary Asbestos Structures	2	0.00189	structures/ cc	0.000947	0	6				structures/ cc	
RHS-H2-5FD-100304	Total Asbestos Structures	2	0.00189	structures/ cc	0.000947	0	6				structures/ cc	

Table 1A
Analytical Results with Qualifications
Asbestos in Air Samples

C-sample-num	Type	# of structures counted	Concentrations	Units	Analytical sensitivity (AS)	Lower *	Upper*	Val Adj Result Conc	Val Qual	Val Adj AS	Val Units	Val Comm
RHS-L2-14CH-100304	Primary Asbestos Structures	1	0.00099	structures/ cc	0.00099	0	5				structures/ cc	
RHS-L2-14CH-100304	Total Asbestos Structures	1	0.00099	structures/ cc	0.00099	0	5				structures/ cc	
RHS-L2-1CH-100304	Primary Asbestos Structures	0	0	structures/ cc	0.000998	0	3				structures/ cc	
RHS-L2-1CH-100304	Total Asbestos Structures	0	0	structures/ cc	0.000998	0	3				structures/ cc	
RHS-L2-1NA-100304	Primary Asbestos Structures	0	0	structures/ cc	0.000998	0	3				structures/ cc	
RHS-L2-1NA-100304	Total Asbestos Structures	0	0	structures/ cc	0.000998	0	3				structures/ cc	
RHS-L2-2CH-100304	Primary Asbestos Structures	4	0.00398	structures/ cc	0.000994	1	10				structures/ cc	
RHS-L2-2CH-100304	Total Asbestos Structures	4	0.00398	structures/ cc	0.000994	1	10				structures/ cc	
RHS-L2-3CH-100304	Primary Asbestos Structures	1	0.000999	structures/ cc	0.000999	0	5				structures/ cc	
RHS-L2-3CH-100304	Total Asbestos Structures	1	0.000999	structures/ cc	0.000999	0	5				structures/ cc	
RHS-L2-4CH-100304	Primary Asbestos Structures	1	0.000996	structures/ cc	0.000996	0	5				structures/ cc	
RHS-L2-4CH-100304	Total Asbestos Structures	1	0.000996	structures/ cc	0.000996	0	5				structures/ cc	
RHS-L2-5CH-100304	Primary Asbestos Structures	2	0.00198	structures/ cc	0.000991	0	6				structures/ cc	
RHS-L2-5CH-100304	Total Asbestos Structures	2	0.00198	structures/ cc	0.000991	0	6				structures/ cc	
SVBA-H2-4FD-100204	Primary Asbestos Structures	2	0.00193	structures/ cc	0.000967	0	6				structures/ cc	
SVBA-H2-4FD-100204	Total Asbestos Structures	2	0.00193	structures/ cc	0.000967	0	6				structures/ cc	

Table 1A
Analytical Results with Qualifications
Asbestos in Air Samples

C-sample-num	Type	# of structures counted	Concentrations	Units	Analytical sensitivity (AS)	Lower*	Upper*	Val Adj Result Conc	Val Qual	Val Adj AS	Val Units	Val Comm
SVBA-H2-5FD-100204	Primary Asbestos Structures	3	0.00289	structures/ cc	0.000964	0	8				structures/ cc	
SVBA-H2-5FD-100204	Total Asbestos Structures	3	0.00289	structures/ cc	0.000964	0	8				structures/ cc	
SVBA-L2-1NA-100204	Primary Asbestos Structures	0	0	structures/ cc	0.000995	0	3				structures/ cc	
SVBA-L2-1NA-100204	Total Asbestos Structures	0	0	structures/ cc	0.000995	0	3				structures/ cc	
SVBA-L2-1ZB-100204	Primary Asbestos Structures	0	0	structures/ cc	0.000991	0	3				structures/ cc	
SVBA-L2-1ZB-100204	Total Asbestos Structures	0	0	structures/ cc	0.000991	0	3				structures/ cc	
SVBB-H2-12FD-100304	Primary Asbestos Structures	2	0.00199	structures/ cc	0.000994	0	6				structures/ cc	
SVBB-H2-12FD-100304	Total Asbestos Structures	2	0.00199	structures/ cc	0.000994	0	6				structures/ cc	
SVBB-H2-4FD-100304	Primary Asbestos Structures	2	0.00192	structures/ cc	0.000958	0	6				structures/ cc	
SVBB-H2-4FD-100304	Total Asbestos Structures	2	0.00192	structures/ cc	0.000958	0	6				structures/ cc	
SVBB-H2-5FD-100304	Primary Asbestos Structures	1	0.000998	structures/ cc	0.000998	0	5				structures/ cc	
SVBB-H2-5FD-100304	Total Asbestos Structures	0	0	structures/ cc	0.000998	0	3				structures/ cc	
SVBB-L2-1NA-100304	Primary Asbestos Structures	0	0	structures/ cc	0.000984	0	3				structures/ cc	
SVBB-L2-1NA-100304	Total Asbestos Structures	0	0	structures/ cc	0.000984	0	3				structures/ cc	
SVBB-L2-1ZB-100304	Primary Asbestos Structures	0	0	structures/ cc	0.000998	0	3				structures/ cc	
SVBB-L2-1ZB-100304	Total Asbestos Structures	0	0	structures/ cc	0.000998	0	3				structures/ cc	

Table 1A
Analytical Results with Qualifications
Asbestos in Air Samples

C-sample-num	Type	# of structures counted	Concentrations	Units	Analytical sensitivity (AS)	Lower *	Upper*	Val Adj Result Conc.	Val Qual	Val Adj AS	Val Units	Val Comm
SVM-H2-4FD-100204	Primary Asbestos Structures	0	0	structures/ cc	0.000967	0	3				structures/ cc	
SVM-H2-4FD-100204	Total Asbestos Structures	0	0	structures/ cc	0.000967	0	3				structures/ cc	
SVM-H2-5FD-100204	Primary Asbestos Structures	6	0.0058	structures/ cc	0.000967	2	13				structures/ cc	
SVM-H2-5FD-100204	Total Asbestos Structures	6	0.0058	structures/ cc	0.000967	2	13				structures/ cc	
SVM-L2-15AD-100204	Primary Asbestos Structures	1	0.001	structures/ cc	0.001	0	5				structures/ cc	
SVM-L2-15AD-100204	Total Asbestos Structures	1	0.001	structures/ cc	0.001	0	5				structures/ cc	
SVM-L2-1AD-100204	Primary Asbestos Structures	5	0.005	structures/ cc	0.000999	2	12				structures/ cc	
SVM-L2-1AD-100204	Total Asbestos Structures	5	0.005	structures/ cc	0.000999	2	12				structures/ cc	
SVM-L2-2AD-100204	Primary Asbestos Structures	5	0.00498	structures/ cc	0.000995	2	12				structures/ cc	
SVM-L2-2AD-100204	Total Asbestos Structures	5	0.00498	structures/ cc	0.000995	2	12				structures/ cc	
SVM-L2-3AD-100204	Primary Asbestos Structures	7	0.00699	structures/ cc	0.000998	3	14				structures/ cc	
SVM-L2-3AD-100204	Total Asbestos Structures	7	0.00699	structures/ cc	0.000998	3	14				structures/ cc	
SVM-L2-4AD-100204	Primary Asbestos Structures	3	0.00298	structures/ cc	0.000992	0	8				structures/ cc	
SVM-L2-4AD-100204	Total Asbestos Structures	3	0.00298	structures/ cc	0.000992	0	8				structures/ cc	
SVM-L2-5AD-100204	Primary Asbestos Structures	5	0.00498	structures/ cc	0.000997	2	12				structures/ cc	
SVM-L2-5AD-100204	Total Asbestos Structures	5	0.00498	structures/ cc	0.000997	2	12				structures/ cc	

Table 1A
Analytical Results with Qualifications
Asbestos in Air Samples

C-sample-num	Type	# of structures counted	Concentrations	Units	Analytical sensitivity (AS)	Lower *	Upper*	Val Adj Result Conc.	Val Qual	Val Adj AS	Val Units	Val Comm
SVM-L2-6AD-100204	Primary Asbestos Structures	3	0.00297	structures/ cc	0.000991	0	8				structures/ cc	
SVM-L2-6AD-100204	Total Asbestos Structures	3	0.00297	structures/ cc	0.000991	0	8				structures/ cc	
TPG-L2-FB-100404	Primary Asbestos Structures	0		structures/ cc							structures/ cc	
TPG-L2-FB-100404	Total Asbestos Structures	0		structures/ cc							structures/ cc	

* 95% confidence limits - # of structures counted

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	56.5	Si+4	7.7953	7.7953							
Al2O3	2.34	Al+3	0.3805	0.2047	**0.1758**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	12	Fe+3	0.4360			0.4360	0.0000				
MgO	17.05	Mg+2	3.5070			3.5070	**0.0000**				
MnO	0	Fe+2	0.8999			0.8812	**0.0187**				
CaO	11.89	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	1.7575					1.7575	0.0000		
K2O	0.23	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0405							0.0405	0.0000
Total	**100.01**		**Excess**	T site	**0.1758**	C site	**0.0187**	B site	**0**	A site	**0**
			Total	**8**		**5.0000**		**1.7575**		**0.0405**	**0.0000**
			%Fill	**100**		**100**		**87.8738**			

Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # 041172-94-904

Values		Satisfied Conditions
(Ca,Na)@B	1.76	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.76	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.04	Si > 7.5
Mg/(Mg+Fe2)	0.80	(Mg/(Mg+Fe2))< 0.9
Si	7.80	

Mineral Analysis Program (Version 5.0)

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: TPG-L2-FB-100404 *Lab/Cor Sample No.:* B4760 S95 A1

Descripiton: FILTER BLANK

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	A2		NSD									
A	2	C3		NSD									
A	3	B30		NSD									
A	4	D22		NSD									
A	5	C10		NSD									
B	6	A20		NSD									
B	7	A3		NSD									
B	8	D11		NSD									
B	9	C32		NSD									
B	10	B2		NSD									

NSD = No Structures Detected
PAS = Primary Asbestos Structures
TAS = Total Asbestos Structures
AS>5 = Asbestos Structures > 5um
AFB>5 = Asbestos Fibers and Bundles > 5um
PCMEF-US = PCM Equivalent Fibers-US
PCMES-US = PCM Equivalent Structures-US
PCMEF-ISO = PCM Equivalent Fibers-ISO
PCMES-ISO = PCM Equivalent Structures-ISO

CF = Cleavage Fragments
TS = Transitional Structures

PSAS 5-10 = PROTOCOL ASB STRUCS 5-10
PSAS >10 = PROTOCOL ASB STRUCS >10
PSAS TOT = PROTOCOL ASB STRUCS TOTAL
PSCH 5-10 = PROTOCOL CHRYS STRUCS 5-10
PSCH >10 = PROTOCOL CHRYS STRUCS >10
PSCH TOT = PROTOCOL CHRYS STRUCS TOTAL
PSAM 5-10 = PROTOCOL AMPH STRUCS 5-10
PSAM >10 = PROTOCOL AMPH STRUCS >10
PSAM TOT = PROTOCOL AMPH STRUCS TOTAL

PChS = Primary Chrysotile Structures
PAmS = Primary Amphibole Structures

TAS_AHRA = AHERA-like Total Strucs 3:1
AS>5_AHRA = AHERA-like Asb Strucs >5 and 3:1
AS5-10_AHRA = AHERA-like Asb Strucs 5 - 10 and 3:1
AS>10_AHRA = AHERA-like Asb Strucs >10 and 3:1
TOS_AHRA = Total Other Amphibole Strucs 3:1
OS>5_AHRA = Other Amphibole Struc >5 and 3:1
OS5-10_AHRA = Other Amphibole Struc 5 - 10 and 3:1
OS>10_AHRA = Other Amphibole Strucs >10 and 3:1

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041172 1 of 5

CHAIN OF CUSTODY RECORD

No: 0440.01CP-0001

Site #: 0440.01CP

Cooler #:

EPA Contract #:

Contact Name:

Lab:

Contact Phone:

Lab Phone:

Lab #	Sample #	Analyses	Matrix	Date Collected	Sample Time	Numb Cont	Volume	Vol Units	Priority
-01	APG-L2-13CH-100404	ISO 10312	Air	10/4/2004	16:00	1	300.96	Liters	1
-02	APG-L2-1CH-100404	ISO 10312	Air	10/4/2004	16:00	1	296.04	Liters	1
-03	APG-L2-1ZB-100404	ISO 10312	Air	10/4/2004	16:00	1	299.76	Liters	1
-04	APG-L2-2CH-100404	ISO 10312	Air	10/4/2004	16:00	1	289.2	Liters	1
-05	APG-L2-3CH-100404	ISO 10312	Air	10/4/2004	16:00	1	295.56	Liters	1
-06	APG-L2-4CH-100404	ISO 10312	Air	10/4/2004	16:00	1	299.4	Liters	1
-07	APG-L2-5CH-100404	ISO 10312	Air	10/4/2004	16:00	1	290.64	Liters	1
-08	CC1-L6-1CA-100204	ISO 10312	Air	10/2/2004	18:24	1	569.77	Liters	1
-09	CC1-L6-1CB-100204	ISO 10312	Air	10/2/2004	18:24	1	607.18	Liters	1
-10	CC1-L6-2CB-100204	ISO 10312	Air	10/2/2004	18:24	1	597.98	Liters	1
-11	CC1-L6-3CB-100204	ISO 10312	Air	10/2/2004	18:24	1	608.15	Liters	1
-12	CC2A-L6-1CA-100304	ISO 10312	Air	10/3/2004	19:05	1	269.72	Liters	1
-54	CC2-H8-1CT-100304	ISO 10312	Air	10/3/2004	18:17	1	5013.54	Liters	
-55	CC2-H8-2CT-100304	ISO 10312	Air	10/3/2004	18:12	1	3647.28	Liters	
-56	CC2-H8-3CT-100304	ISO 10312	Air	10/3/2004	18:35	1	4690	Liters	
-57	CC2-H8-4CT-100304	ISO 10312	Air	10/3/2004	18:47	1	4366.96	Liters	
-58	CC2-H8-5CT-100304	ISO 10312	Air	10/3/2004	17:52	1	3479.53	Liters	
-13	CC2-L6-11CC-100304	ISO 10312	Air	10/3/2004	19:05	1	530.45	Liters	1
-14	CC2-L6-1CC-100304	ISO 10312	Air	10/3/2004	19:05	1	533.62	Liters	1
-15	CC2-L6-2CC-100304	ISO 10312	Air	10/3/2004	19:05	1	523	Liters	1

Comments: ISO 10312 PER STATEMENT OF WORK, STANDARD TURN AROUND TIME

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

SAMPLE SET #1

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
	[illegible]	10/6/04	FED-X B/L#	10/6/04	1845						
			829691975701								
			D Jones	10/7/04	9:45						

B4760

041172 2 of 5

CHAIN OF CUSTODY RECORD

No: 0440.01CP-0001

Site #: 0440.01CP

EPA Contract #:

Contact Name:

Contact Phone:

Cooler #:

Lab:

Lab Phone:

Lab #	Sample #	Analyses	Matrix	Date Collected	Sample Time	Numb Cont	Volume	Vol Units	Priority
-16	CC2-L6-3CC-100304	ISO 10312	Air	10/3/2004	19:05	1	520.12	Liters	1
-17	CC2-L6-4CC-100304	ISO 10312	Air	10/3/2004	1905	1	542.69	Liters	1
-31	RHB-H2-1FD-100304	ISO 10312	Air	10/3/2004	19:07	1	1186.08	Liters	2
-32	RHB-H2-2FD-100304	ISO 10312	Air	10/3/2004	19:07	1	1220	Liters	2
-33	RHB-H2-3FD-100304	ISO 10312	Air	10/3/2004	19:07	1	1140.7	Liters	2
-59	RHB-H2-4FD-100304	ISO 10312	Air	10/3/2004	19:05	1	1207.2	Liters	
-60	RHB-H2-5FD-100304	ISO 10312	Air	10/3/2004	19:05	1	1083.32	Liters	
-61	RHB-L2-14CH-100304	ISO 10312	Air	10/3/2004	19:05	1	301.32	Liters	
-34	RHB-L2-1CH-100304	ISO 10312	Air	10/3/2004	19:05	1	309.12	Liters	2
-62	RHB-L2-1NA-100304	ISO 10312	Air	10/3/2004	19:05	1	318.6	Liters	
-63	RHB-L2-1ZB-100304	ISO 10312	Air	10/3/2004	19:05	1	326.4	Liters	
-35	RHB-L2-2CH-100304	ISO 10312	Air	10/3/2004	19:05	1	293.4	Liters	2
-36	RHB-L2-3CH-100304	ISO 10312	Air	10/3/2004	19:05	1	306.48	Liters	2
-37	RHB-L2-4CH-100304	ISO 10312	Air	10/3/2004	19:05	1	312.48	Liters	2
-38	RHB-L2-5CH-100304	ISO 10312	Air	10/3/2004	19:05	1	295.56	Liters	2
-64	RHB-L2-FB-100304	ISO 10312	Air	10/3/2004		1			Filter Blank
-65	RHS-H2-1FD-100304	ISO 10312	Air	10/3/2004	16:21	1	455.68	Liters	
-66	RHS-H2-2FD-100304	ISO 10312	Air	10/3/2004	16:22	1	472.81	Liters	
-67	RHS-H2-3FD-100304	ISO 10312	Air	10/3/2004	16:23	1	480.95	Liters	
-68	RHS-H2-4FD-100304	ISO 10312	Air	10/3/2004	16:21	1	931.5	Liters	

Comments: ISO 10312 PER STATEMENT OF WORK, STANDARD TURN AROUND TIME

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
	[illegible]	10/6/04	FED-X	10/6/04	1845						
			D Jones	10/7/04	9:45						

R4700

041172 3 of 5

EPA Contract #:

CHAIN OF CUSTODY RECORD

Site #: 0440.01CP

Contact Name:

Contact Phone:

No: 0440.01CP-0001

Cooler #:

Lab:

Lab Phone:

Lab #	Sample #	Analyses	Matrix	Date Collected	Sample Time	Numb Cont	Volume	Vol Units	Priority
-69	RHS-H2-5FD-100304	ISO 10312	Air	10/3/2004	16:21	1	935.53	Liters	
-70	RHS-L2-14CH-100304	ISO 10312	Air	10/3/2004	16:18	1	223.65	Liters	
-71	RHS-L2-1CH-100304	ISO 10312	Air	10/3/2004	16:18	1	221.94	Liters	
-72	RHS-L2-1NA-100304	ISO 10312	Air	10/3/2004	16:18	1	223.83	Liters	
-73	RHS-L2-2CH-100304	ISO 10312	Air	10/3/2004	16:18	1	232.47	Liters	
-74	RHS-L2-3CH-100304	ISO 10312	Air	10/3/2004	16:18	1	229.32	Liters	
-75	RHS-L2-4CH-100304	ISO 10312	Air	10/3/2004	16:18	1	228.06	Liters	
-76	RHS-L2-5CH-100304	ISO 10312	Air	10/3/2004	16:18	1	233.06	Liters	
-18	SVBA-H2-1FD-100204	ISO 10312	Air	10/2/2004	1826	1	556.69	Liters	1
-19	SVBA-H2-2FD-100204	ISO 10312	Air	10/2/2004	18:25	1	531.47	Liters	1
-20	SVBA-H2-3FD-100204	ISO 10312	Air	10/2/2004	18:25	1	562.41	Liters	1
-77	SVBA-H2-4FD-100204	ISO 10312	Air	10/2/2004	18:24	1	1195.08	Liters	
-78	SVBA-H2-5FD-100204	ISO 10312	Air	10/2/2004	18:24	1	1198.92	Liters	
-39	SVBA-L2-11CH-100204	ISO 10312	Air	10/2/2004	1824	1	296.24	Liters	2
-40	SVBA-L2-1CH-100204	ISO 10312	Air	10/2/2004	18:24	1	292.44	Liters	2
-79	SVBA-L2-1NA-100204	ISO 10312	Air	10/2/2004	18:24	1	293.4	Liters	
-80	SVBA-L2-1ZB-100204	ISO 10312	Air	10/2/2004	19:07	1	301.32	Liters	
-41	SVBA-L2-2CH-100204	ISO 10312	Air	10/2/2004	18:24	1	297.72	Liters	2
-42	SVBA-L2-3CH-100204	ISO 10312	Air	10/2/2004	18:24	1	299.52	Liters	2
-43	SVBA-L2-4CH-100204	ISO 10312	Air	10/2/2004	18:24	1	293.28	Liters	2

Comments: ISO 10312 PER STATEMENT OF WORK, STANDARD TURN AROUND TIME

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
	[signature]	10/6/04	FED-X	10/6/04	1845						
			D Jones	10/7/04	9:45						

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041172 4 of 5

CHAIN OF CUSTODY RECORD

No: 0440.01CP-0001

Site #: 0440.01CP

Cooler #:

EPA Contract #:

Contact Name:

Lab:

Contact Phone:

Lab Phone:

Lab #	Sample #	Analyses	Matrix	Date Collected	Sample Time	Numb Cont	Volume	Vol Units	Priority
-44	SVBA-L2-5CH-100204	ISO 10312	Air	10/2/2004	18:24	1	291.12	Liters	2
-81	SVBB-H2-12FD-100304	ISO 10312	Air	10/3/2004	12:10	1	557.15	Liters	
-21	SVBB-H2-1FD-100304	ISO 10312	Air	10/3/2004	12:09	1	611.75	Liters	1
-20	SVBB-H2-2FD-100304	ISO 10312	Air	10/3/2004	12:10	1	563.3	Liters	1
-23	SVBB-H2-3FD-100304	ISO 10312	Air	10/3/2004	12:08	1	580.91	Liters	1
-82	SVBB-H2-4FD-100304	ISO 10312	Air	10/3/2004	12:05	1	1205.89	Liters	
-83	SVBB-H2-5FD-100304	ISO 10312	Air	10/3/2004	12:05	1	1210	Liters	
-45	SVBB-L2-12CH-100304	ISO 10312	Air	10/3/2004	12:05	1	288.75	Liters	2
-46	SVBB-L2-1CH-100304	ISO 10312	Air	10/3/2004	12:06	1	302.56	Liters	2
-84	SVBB-L2-1NA-100304	ISO 10312	Air	10/3/2004	12:06	1	306.71	Liters	
-85	SVBB-L2-1ZB-100304	ISO 10312	Air	10/3/2004	12:06	1	302.56	Liters	
-47	SVBB-L2-2CH-100304	ISO 10312	Air	10/3/2004	12:05	1	309.16	Liters	2
-48	SVBB-L2-3CH-100304	ISO 10312	Air	10/3/2004	12:05	1	312.66	Liters	2
-49	SVBB-L2-4CH-100304	ISO 10312	Air	10/3/2004	12:05	1	299.35	Liters	2
-50	SVBB-L2-5CH-100304	ISO 10312	Air	10/3/2004	12:05	1	313.51	Liters	2
-51	SVM-H2-1FD-100204	ISO 10312	Air	10/2/2004	13:16	1	1209.75	Liters	2
-52	SVM-H2-2FD-100204	ISO 10312	Air	10/2/2004	13:16	1	1192.92	Liters	2
-53	SVM-H2-3FD-100204	ISO 10312	Air	10/2/2004	13:16	1	1215.12	Liters	2
-86	SVM-H2-4FD-100204	ISO 10312	Air	10/2/2004	13:15	1	1194.88	Liters	
-87	SVM-H2-5FD-100204	ISO 10312	Air	10/2/2004	13:16	1	1194.26	Liters	

Comments: ISO 10312 PER STATEMENT OF WORK, STANDARD TURN AROUND TIME

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
	[illegible]	10/6/04	FED-X	10/6/04	1845						
			D Jones	10/7/04	9:45						

B476 ⊙

041172 5 of 5

CHAIN OF CUSTODY RECORD

No: 0440.01CP-0001

Site #: 0440.01CP

Contact Name:

Contact Phone:

EPA Contract #:

Cooler #:

Lab:

Lab Phone:

Lab #	Sample #	Analyses	Matrix	Date Collected	Sample Time	Numb Cont	Volume	Vol Units	Priority
-88	SVM-L2-15AD-100204	ISO 10312	Air	10/2/2004	13:16	1	304.76	Liters	
-89	SVM-L2-1AD-100204	ISO 10312	Air	10/2/2004	13:16	1	305.61	Liters	
-90	SVM-L2-2AD-100204	ISO 10312	Air	10/2/2004	13:16	1	306.83	Liters	
-91	SVM-L2-3AD-100204	ISO 10312	Air	10/2/2004	13:16	1	305.98	Liters	
-92	SVM-L2-4AD-100204	ISO 10312	Air	10/2/2004	13:16	1	307.93	Liters	
-93	SVM-L2-5AD-100204	ISO 10312	Air	10/2/2004	13:16	1	306.46	Liters	
-94	SVM-L2-6AD-100204	ISO 10312	Air	10/2/2004	13:16	1	311.83	Liters	
-24	TPG-L2-11CH-100404	ISO 10312	Air	10/4/2004	11:15	1	288.72	Liters	1
-25	TPG-L2-1CH-100404	ISO 10312	Air	10/4/2004	11:15	1	291.6	Liters	1
-26	TPG-L2-1ZB-100404	ISO 10312	Air	10/4/2004	16:00	1	303.6	Liters	1
-27	TPG-L2-2CH-100404	ISO 10312	Air	10/4/2004	11:15	1	290.4	Liters	1
-28	TPG-L2-3CH-100404	ISO 10312	Air	10/4/2004	11:15	1	299.16	Liters	1
-29	TPG-L2-4CH-100404	ISO 10312	Air	10/4/2004	11:15	1	290	Liters	1
-30	TPG-L2-5CH-100404	ISO 10312	Air	10/4/2004	11:15	1	288.84	Liters	1
-95	TPG-L2-FB-100404	ISO 10312	Air	10/4/2004		1			Filter Blank

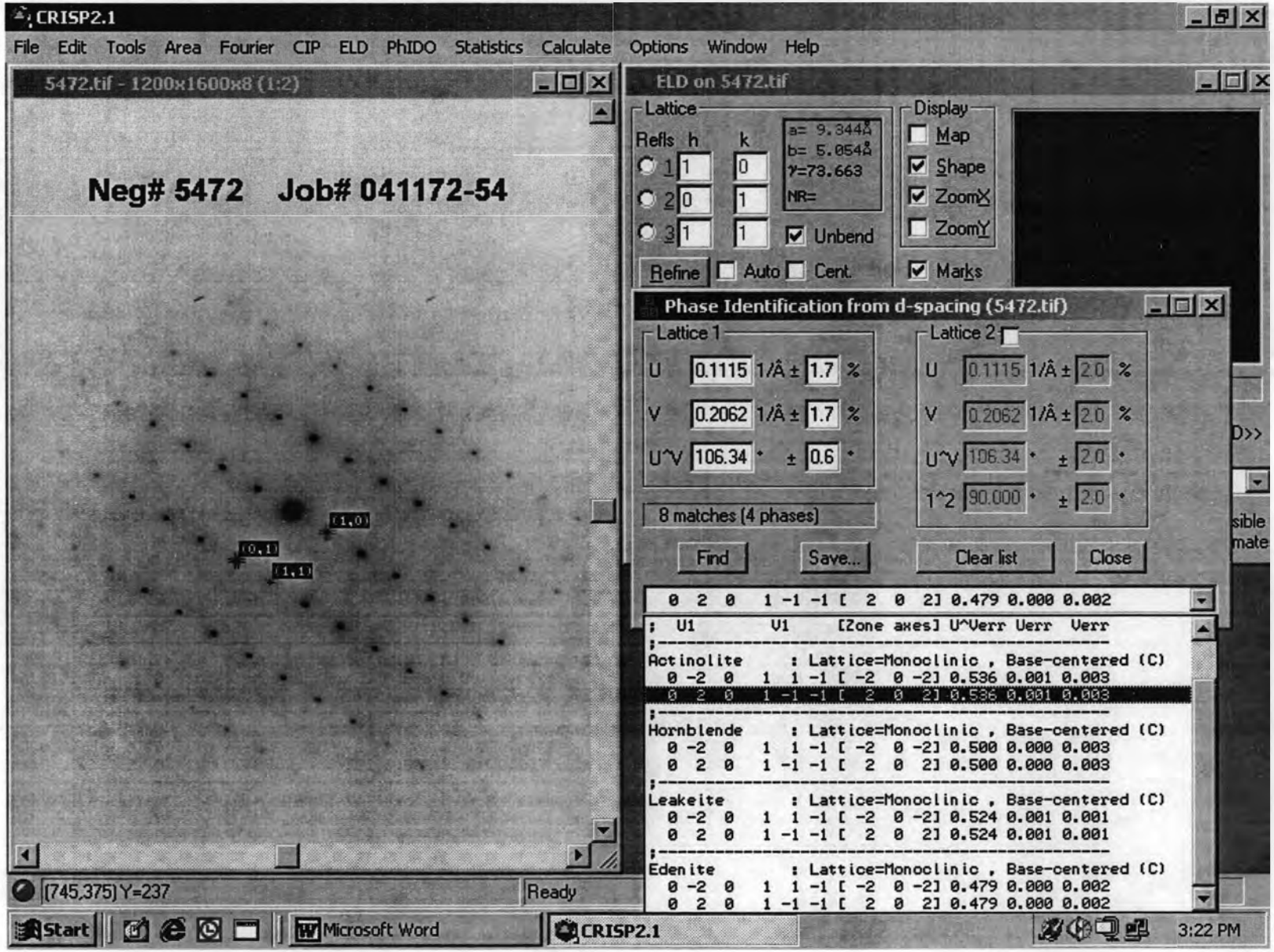
Comments: ISO 10312 PER STATEMENT OF WORK, STANDARD TURN AROUND TIME

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
	[illegible]	10/6/04	FED-X	10/6/04	1845						
			D Jones	10/7/04	9:45						

JobNumb	Sampl	Gri	GridO	AnalyteID	Negativ	EDSNum	Comment
041172	54	A	1	actin xx	5472	15350	Zone Axis [1 0 1] - KM
041172	54	A	3	chrys xx	5473	15351	Verified - KM
041172	55	B	21	chrys xx	5655	15485	Verified - KM
041172	55	A	1	actin xx	5654	15494	Zone Axis - [1 3 4] KM
041172	56	A	4	actin xx	5710	15558	Zone Axis - [5 -1 -2] - KBM
041172	56	A	1	chrys xx	5709	15557	Verified - KM
041172	56	A	1	actin xx		15556	
041172	57	A	5	actin xx	5681	15533	Zone Axis - [2 0 3] KBM
041172	57	A	8	chrys xx	5682	15534	Verified - KM
041172	57	A	9	actin xx		15535	
041172	58	A	4	chrys xx	1149	837	Verified - KM
041172	58	A	6	actin xx	1150	836	Zone Axis [7 1 6] - JH
041172	59	A	2	chrys xx	5684	15536	Verified - KM
041172	59	B	21	actin xx	5685	15537	Zone Axis - [3 -1 2] - KBM
041172	60	B	23	actin xx	5686	15538	Zone Axis [2 0 3] - KBM
041172	61	A	12	actin xx		15539	
041172	61	A	24	actin xx	5687	15540	Zone Axis [5 3 4] - KBM
041172	62	A	26	chrys xx	5688	15541	Verified - KM
041172	62	C	74	actin xx	5698	15547	Zone Axis [1 0 0] - JH
041172	65	A	15	actin xx		839	
041172	65	A	17	actin xx	1173	859	Zone Axis [1 0 0] - JH
041172	66	B	43	chrys xx	1152	840	Verified - KM
041172	69	A	6	actin xx	1153	842	Zone Axis [1 1 0] - JH
041172	70	A	8	actin xx	1154	843	Zone Axis - [2 1 4] KM
041172	73	C	74	actin xx	1167	855	Zone Axis - [5 1 0] KM
041172	73	A	9	actin xx	1163	852	Zone Axis - [5 3 4] KM
041172	74	B	43	actin xx	1166	854	Zone Axis - [1 -3 -6] - KM
041172	75	C	74	actin xx	1224	15563	Zone Axis [2 0 1] - JH
041172	76	C	67	chrys xx	5729	15575	Verified - JH
041172	77	B	20	actin xx	1169	857	Zone Axis - [5 -1 2] KM
041172	78	A	1	actin xx	1171	15564	Zone Axis - [3 -1 -10] KM
041172	81	B	29	actin xx	5730	15576	Zone Axis - [5 3 2] KM
041172	82	B	19	actin xx	1188	876	Zone Axis - [5 1 2] KM
041172	82	B	19	chrys xx	1190	877	Verified - JH
041172	83	B	15	feedn xx	1191	878	Alumino-PotassicFerro-edenit
041172	87	A	2	actin xx	1225	906	Zone Axis [5 1 2] - JH
041172	88	A	28	actin xx	1226	15603	Zone Axis [0 1 2] - JH
041172	89	B	44	actin xx	1196	882	Zone Axis - [3 1 0] KM
041172	90	A	3	actin xx	1227	895	Zone Axis [4 0 3] - JH
041172	91	A	2	chrys xx	1212	896	Verified - JH
041172	91	A	15	actin xx	1213	897	Zone Axis - [7 1 0] KM
041172	92	A	16	chrys xx	1216	900	Verified - JH
041172	92	B	55	chrys xx	1217	901	Verified - JH
041172	92	C	83	actin xx	1218	902	Zone Axis [3 2 3] - JH
041172	93	A	15	actin xx	5770	15617	Zone Axis - [1 0 1] KM
041172	94	B	46	chrys xx	1221	905	Verified - JH
041172	94	B	43	actin xx	1220	904	Zone Axis [4 1 3] - JH

ACTINOLITE
[1 0 1]
041172-54 Neg #5472



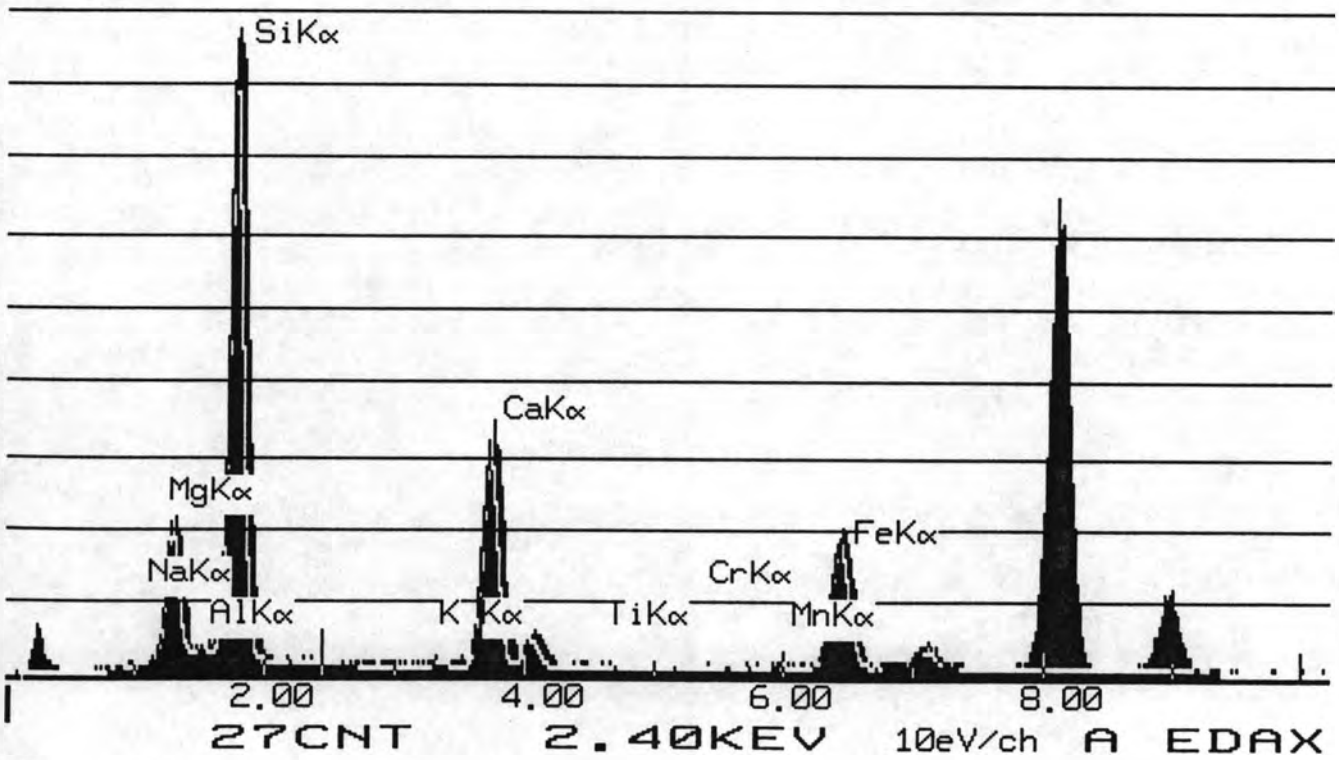
INTE-% :
LABEL = 041172-54 15350
23-NOV-72 02:47:56
36.174 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	91.557	10.166	16.856
ALK	2.847	0.190	0.359
SIK	409.768	25.588	54.742
K K	3.151	0.327	0.394
CAK	176.369	10.500	14.692
TIK	1.382	0.116	0.194
MNK	1.355	0.116	0.150
FEK	111.544	8.822	12.613

TOTAL			100.000

USED PEIF: USER

22-NOV-04 02:48:20 SUPER QUANT
RATE= 0CPS TIME= 36LSEC
FS= 1739/ 1739 PRST= 200LSEC
A =041172-54 15350



	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	54.742	Si+4	7.7604	7.7604							
Al2O3	0.359	Al+3	0.0600	0.0600	**0.0000**						
TiO2	0.194	Ti+4	0.0207	0.0207	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	12.613	Fe+3	0.0135			0.0135	0.0000				
MgO	16.856	Mg+2	3.5624			3.5624	**0.0000**				
MnO	0.15	Fe+2	1.4802			1.4241	**0.0561**				
CaO	14.692	Mn+2	0.0180			0.0000	**0.0180**				
Na2O	0	Ca+2	2.2314					1.9259	0.3054		
K2O	0.394	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0712							0.0712	0.0000
Total	**100**		**Excess**	T site	**0.0000**	C site	**0.0741**	B site	**0.3054406**	A site	**0**
			Total	**7.8411**		**5.0000**		**1.9259**		**0.0712**	**0.0000**
			%Fill	**98.014**		**100**		**96.2956**			

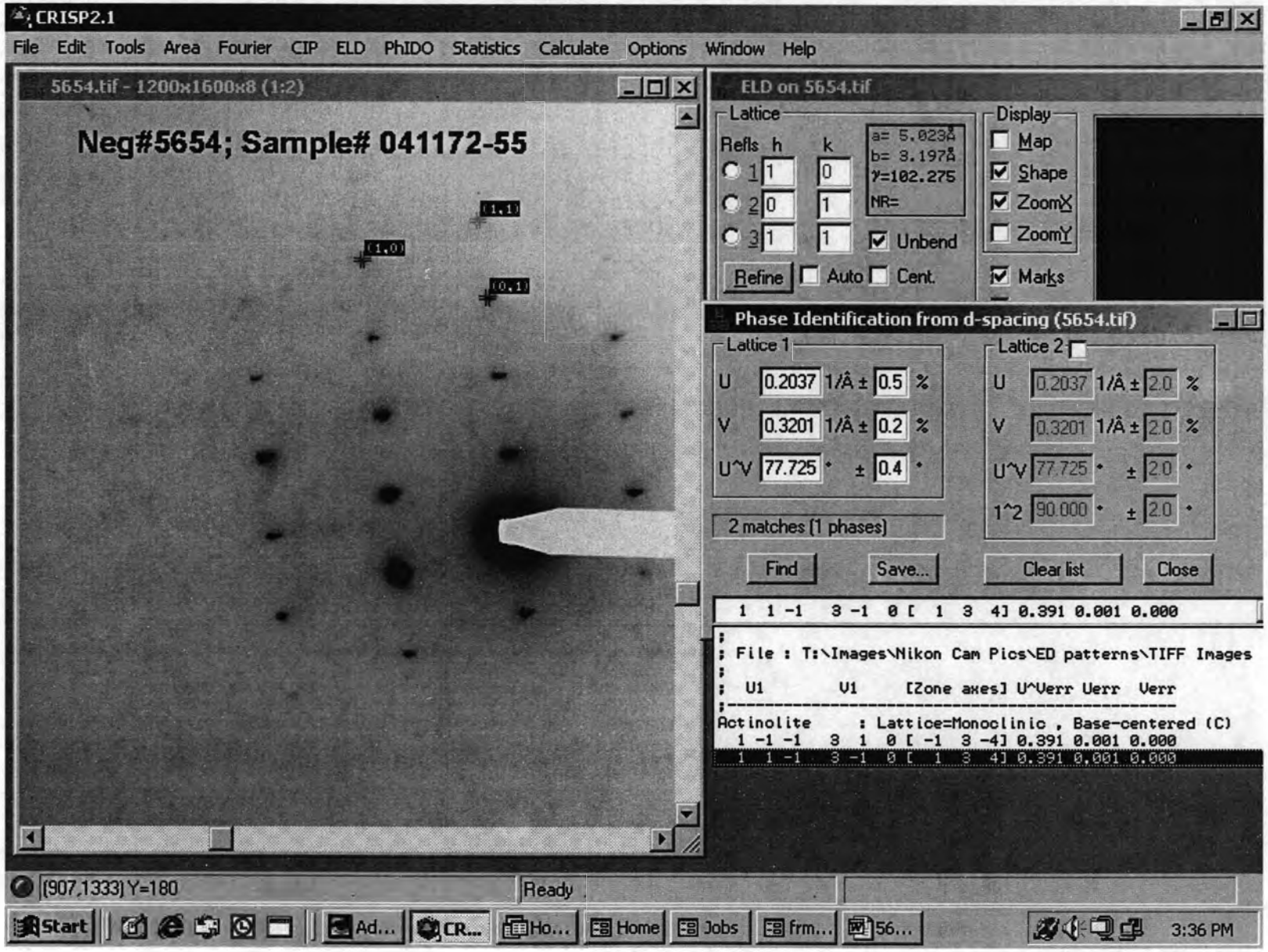
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

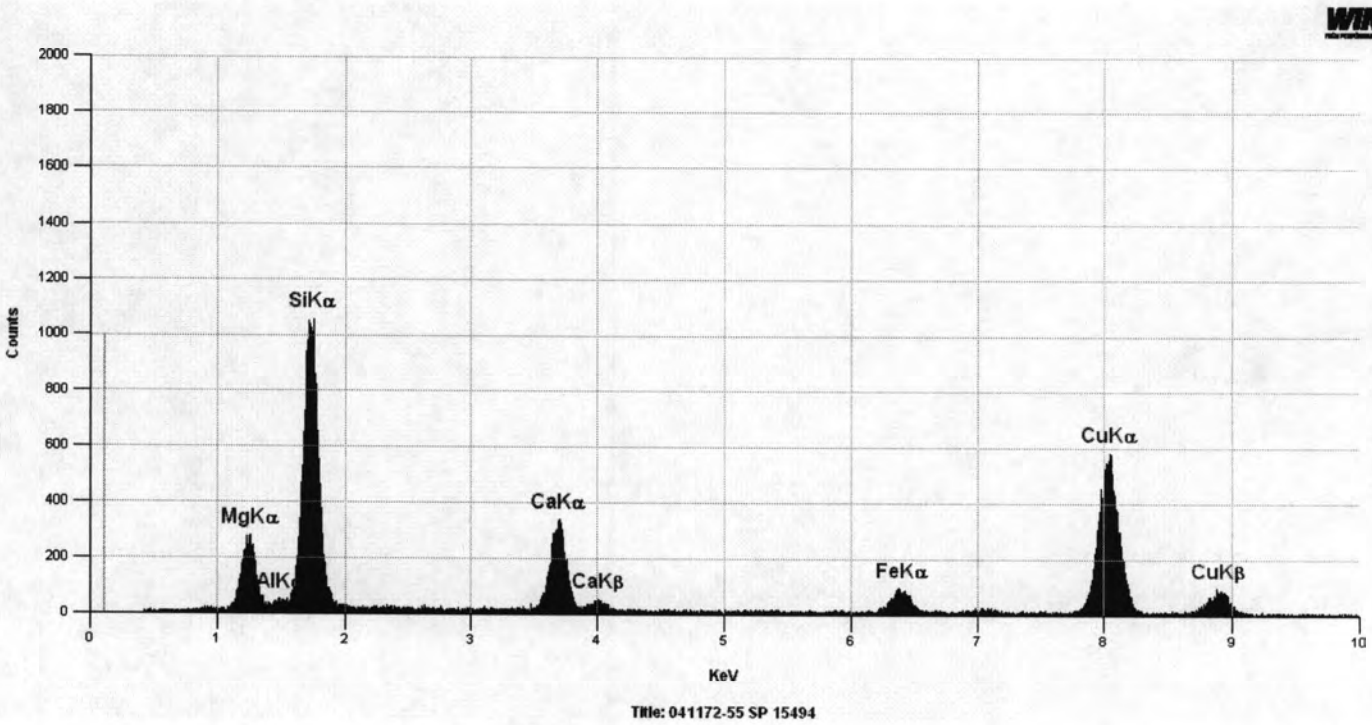
Sample # **041172-54-15350**

Values		Satisfied Conditions
(Ca,Na)@B	1.93	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.93	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.07	Si > 7.5
Mg/(Mg+Fe2)	0.71	(Mg/(Mg+Fe2))< 0.9
Si	7.76	

Mineral Analysis Program (Version 5.0)

ACTINOLITE
[1 3 4]





Quantitative Analysis Results - Standardless Analysis :
041172-55 SP 15494 Fri, Jan 28 2005
EDS Parameters - 100KV, Takeoff Angle: 38.0°, Fit Index: 46.17
Correction: CLIFF LORIMER, Cycles: 1

Element	Atoms%	Compound	Weight%	Error(±)	Norm%
Mg	9.75	MgO	18.53	0.82	18.53
Si	22.59	SiO2	63.99	1.38	63.99
Ca	4.63	CaO	12.23	0.56	12.23
Fe	1.39	Fe2O3	5.25	0.60	5.25
<Total>	100.00		100.00		100.00

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	63.99	Si+4	8.0000	8.0000							
Al2O3	0	Al+3	0.0000	0.0000	**0.0000**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	5.25	Fe+3	0.0524			0.0524	0.0000				
MgO	18.53	Mg+2	3.8573			3.8573	**0.0000**				
MnO	0	Fe+2	0.6823			0.6823	**0.0000**				
CaO	12.23	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	1.8752					1.8752	0.0000		
K2O	0	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0000							0.0000	0.0000
Total	**100**		**Excess**	T site	**0.0000**	C site	**0.0000**	B site	**0**	A site	**0**
			Total	**8**		**4.5921**		**1.8752**		**0.0000**	**0.0000**
			%Fill	**100**		**91.8417**		**93.7598**			

Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # 041172-55-15494

Values		Satisfied Conditions
(Ca,Na)@B	1.88	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.88	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.00	Si > 7.5
Mg/(Mg+Fe2)	0.85	(Mg/(Mg+Fe2))< 0.9
Si	8.00	

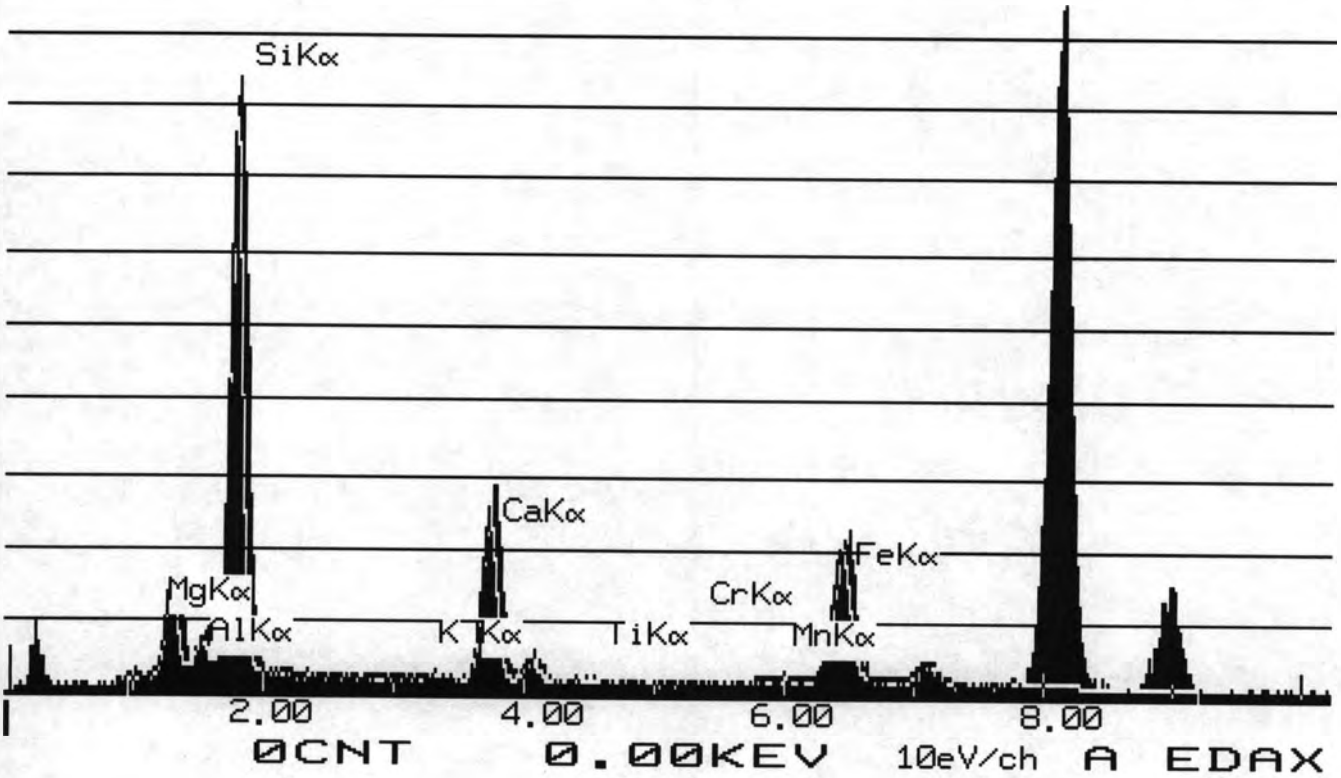
Mineral Analysis Program (Version 5.0)

INTE-% :
LABEL = 041172-56 15556
12-DEC-72 21:50:48
20.006 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	56.684	7.567	12.546
ALK	19.894	1.595	3.014
SIK	351.649	26.401	56.481
CAK	125.714	8.999	12.591
TIK	1.350	0.136	0.227
FEK	111.368	10.590	15.141
TOTAL			100.000

USED PEIF: USER

11-DEC-04 21:51:43 SUPER QUANT
RATE= 7307CPS TIME= 20LSEC
FS= 891/ 891 PRST= 200LSEC
A =041172-56 15556



	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	56.481	Si+4	7.9439	7.9439							
Al2O3	3.014	Al+3	0.4996	0.0561	**0.4435**						
TiO2	0.227	Ti+4	0.0240	0.0000	**0.0240**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	15.141	Fe+3	0.0160			0.0160	0.0000				
MgO	12.546	Mg+2	2.6306			2.6306	**0.0000**				
MnO	0	Fe+2	1.7629			1.7629	**0.0000**				
CaO	12.591	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	1.8972					1.8972	0.0000		
K2O	0	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0000							0.0000	0.0000
Total	**100**		**Excess**	T site	**0.4675**	C site	**0.0000**	B site	**0**	A site	**0**
			Total	**8**		**4.8771**		**1.8972**		**0.0000**	**0.0000**
			%Fill	**100**		**97.5413**		**94.8603**			

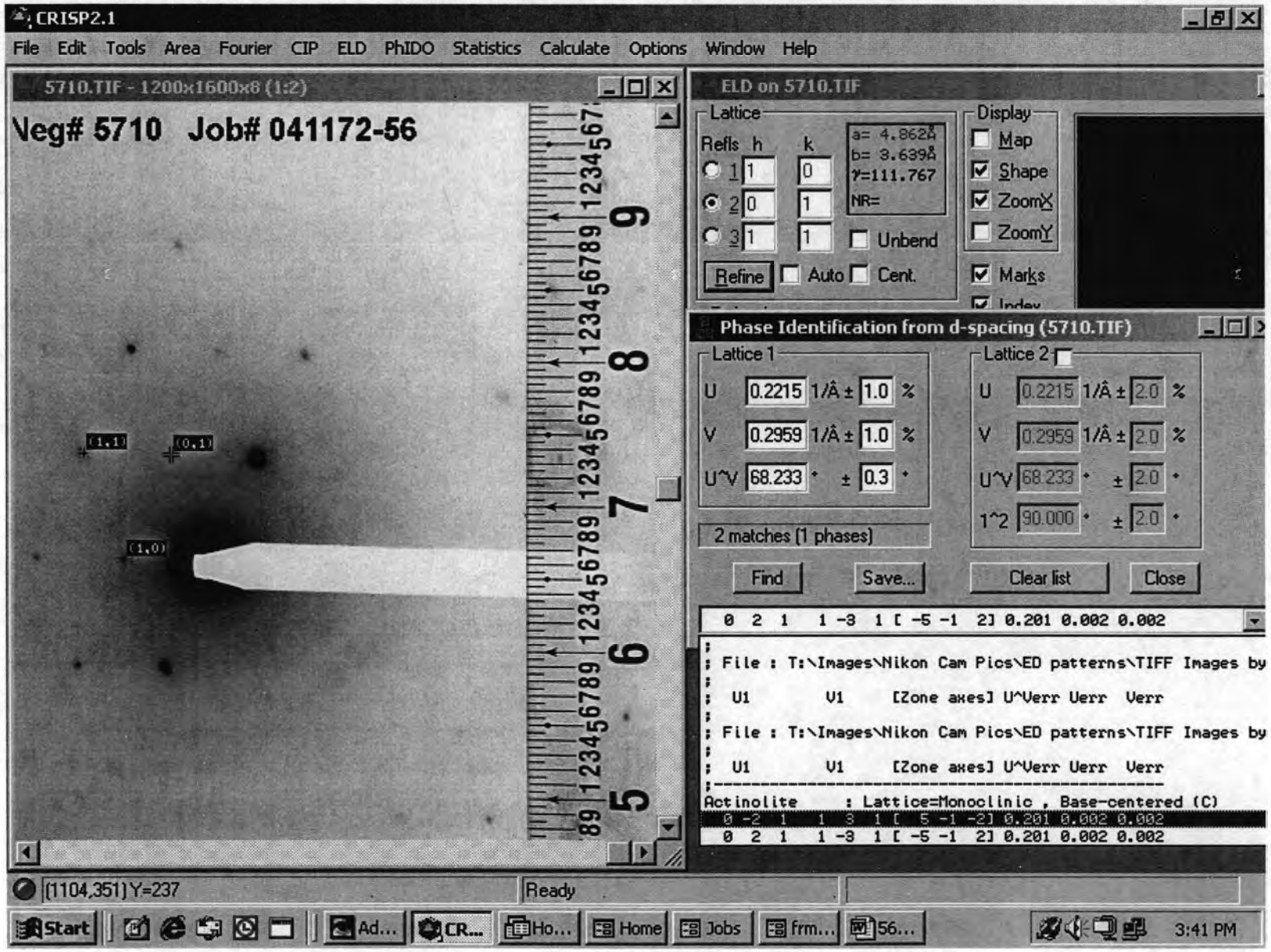
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # 041172-56-15556

Values		Satisfied Conditions
(Ca,Na)@B	1.90	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.90	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.00	Si > 7.5
Mg/(Mg+Fe2)	0.60	(Mg/(Mg+Fe2))< 0.9
Si	7.94	

Mineral Analysis Program (Version 5.0)

ACTINOLITE
[5 -1 -2]



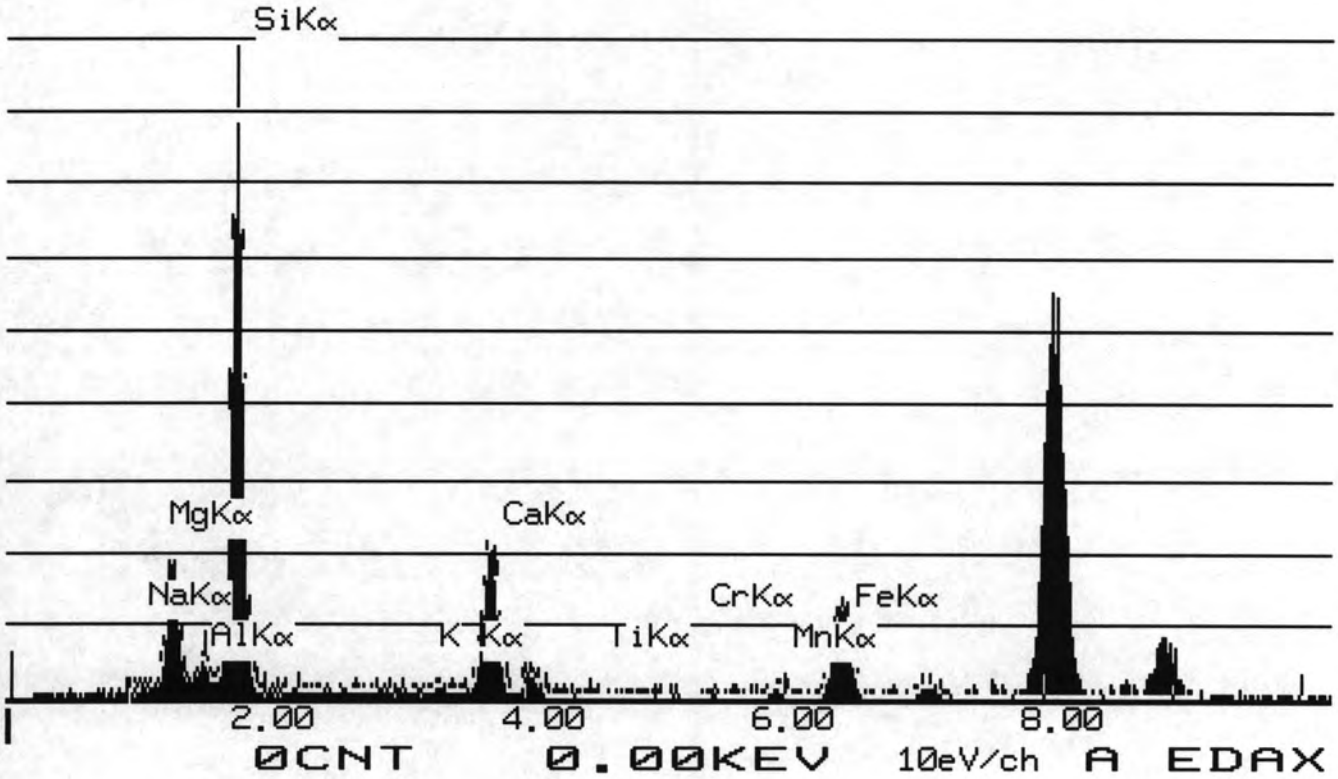
INTE-% :
LABEL = 041172-56 15558
12-DEC-72 23:15:18
42.815 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	13.757	10.800	17.907
ALK	2.639	1.245	2.352
SIK	60.750	26.823	57.384
K K	0.934	0.685	0.826
CAK	17.984	7.571	10.593
TIK	0.397	0.236	0.393
CRK	0.537	0.315	0.460
MNK	1.191	0.723	0.934
FEK	11.445	6.400	9.151

TOTAL			100.000

USED PEIF: USER

11-DEC-04 23:16:51 SUPER QUANT
RATE= 346CPS TIME= 43LSEC
FS= 295/ 295 PRST= 200LSEC
A =041172-56 15558



	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	57.384	Si+4	7.8380	7.8380							
Al2O3	2.352	Al+3	0.3786	0.1620	**0.2166**						
TiO2	0.393	Ti+4	0.0404	0.0000	**0.0404**						
Cr2O3	0.46	Cr+3	0.0497			0.0497	0.0000				
Fe(total)O	9.151	Fe+3	0.4609			0.4609	0.0000				
MgO	17.907	Mg+2	3.6464			3.6464	**0.0000**				
MnO	0.934	Fe+2	0.5330			0.5330	**0.0000**				
CaO	10.593	Mn+2	0.1080			0.0530	**0.0550**				
Na2O	0	Ca+2	1.5501					1.5501	0.0000		
K2O	0.826	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.1439							0.1439	0.0000
Total	**100**		**Excess**	T site	**0.2570**	C site	**0.0550**	B site	**0**	A site	**0**
			Total	**8**		**5.0000**		**1.5501**		**0.1439**	**0.0000**
			%Fill	**100**		**100**		**77.5044**			

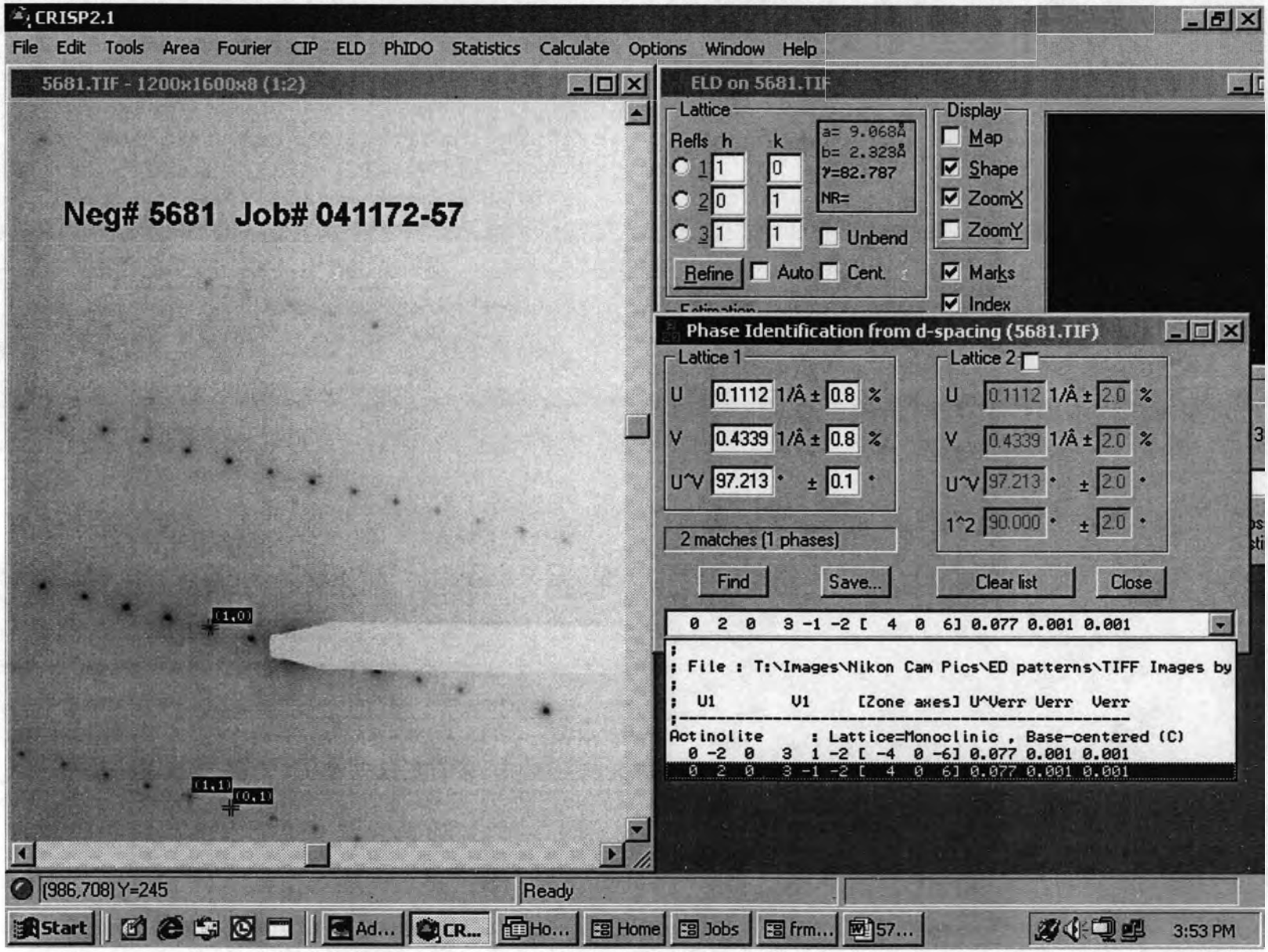
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041172-56-15558**

Values		Satisfied Conditions
(Ca,Na)@B	1.55	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.55	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.14	Si > 7.5
Mg/(Mg+Fe2)	0.87	(Mg/(Mg+Fe2))< 0.9
Si	7.84	

Mineral Analysis Program (Version 5.0)

ACTINOLITE
[2 0 3]



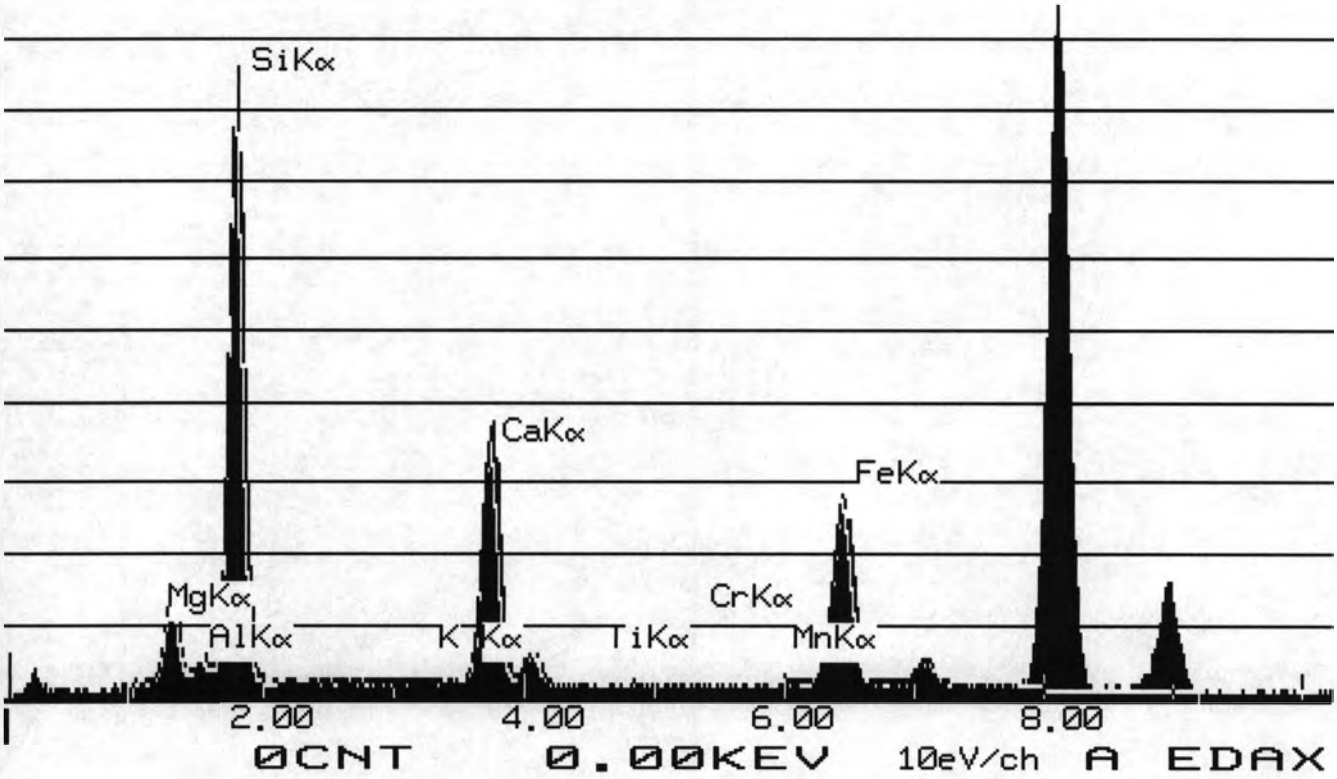
INTE-% :
LABEL = 041172-57 15533
09-DEC-72 21:54:11
55.746 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	37.402	6.584	10.917
ALK	7.462	0.789	1.491
SIK	248.753	24.628	52.687
CAK	123.543	11.661	16.317
FEK	103.685	13.001	18.589

TOTAL			100.000

USED PEIF: USER

08-DEC-04 21:55:06 SUPER QUANT
RATE= 1976CPS TIME= 56LSEC
FS= 1664/ 1664 PRST= 200LSEC
A =041172-57 15533



	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	52.687	Si+4	7.7006	7.7006							
Al2O3	1.491	Al+3	0.2568	0.2568	0.0000						
TiO2	0	Ti+4	0.0000	0.0000	0.0000						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	18.589	Fe+3	0.0204			0.0204	0.0000				
MgO	10.917	Mg+2	2.3788			2.3788	0.0000				
MnO	0	Fe+2	2.2491			2.2491	0.0000				
CaO	16.317	Mn+2	0.0000			0.0000	0.0000				
Na2O	0	Ca+2	2.5550					2.0000	0.5550		
K2O	0	Na+	0.0000					0.0000	0.0000	0.0000	0.0000
		K+	0.0000							0.0000	0.0000
Total	100.001		Excess	T site	0.0000	C site	0.0000	B site	0.5549623	A site	0
			Total	7.9574		4.6483		2.0000		0.0000	0.0000
			%Fill	99.468		92.9669		100			

Prefix	none
Name	actinolite
Modifier	none
Group	Calcic Amphibole

Sample # 041172-57-15533

Values		Satisfied Conditions
(Ca,Na)@B	2.00	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	2.00	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.00	Si > 7.5
Mg/(Mg+Fe2)	0.51	(Mg/(Mg+Fe2))< 0.9
Si	7.70	

Mineral Analysis Program (Version 5.0)

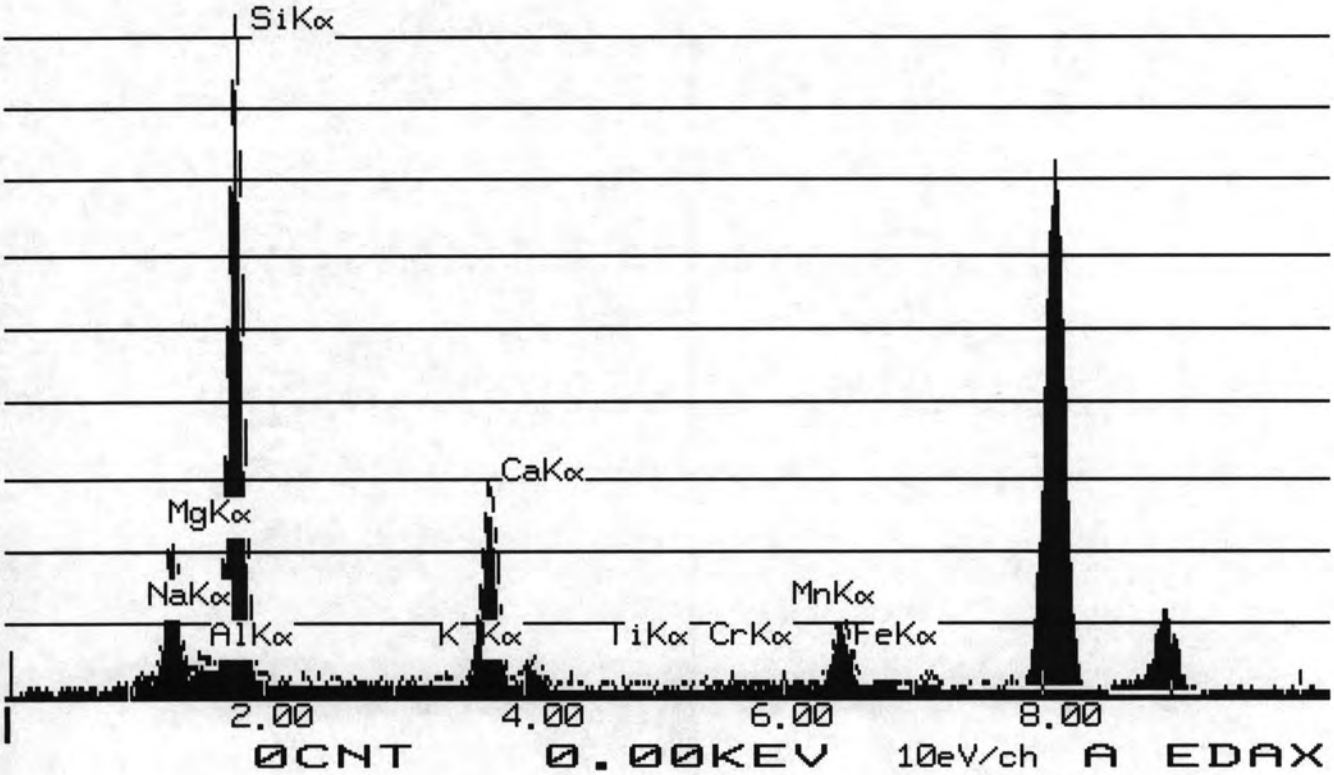
INTE-% :
LABEL = 041172-57 15535
09-DEC-72 22:36:27
42.727 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	27.032	11.747	19.478
ALK	2.387	0.623	1.177
SIK	112.834	27.577	58.997
K K	0.889	0.361	0.435
CAK	40.771	9.500	13.293
FEK	14.956	4.630	6.619

TOTAL			100.000

USED PEIF: USER

08-DEC-04 22:37:14 SUPER QUANT
RATE= 22CPS TIME= 42LSEC
FS= 533/ 533 PRST= 200LSEC
A =041172-57 15535



	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	58.977	Si+4	8.0000	8.0000							
Al2O3	1.177	Al+3	0.1905	0.0000	**0.1905**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	6.619	Fe+3	0.0080			0.0080	0.0000				
MgO	19.478	Mg+2	3.9534			3.9534	**0.0000**				
MnO	0	Fe+2	0.7478			0.7478	**0.0000**				
CaO	13.293	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	1.9400					1.9400	0.0000		
K2O	0.435	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0775							0.0775	0.0000
Total	**99.979**		**Excess**	T site	**0.1905**	C site	**0.0000**	B site	**0**	A site	**0**
			Total	**8**		**4.8997**		**1.9400**		**0.0775**	**0.0000**
			%Fill	**100**		**97.9946**		**96.9984**			

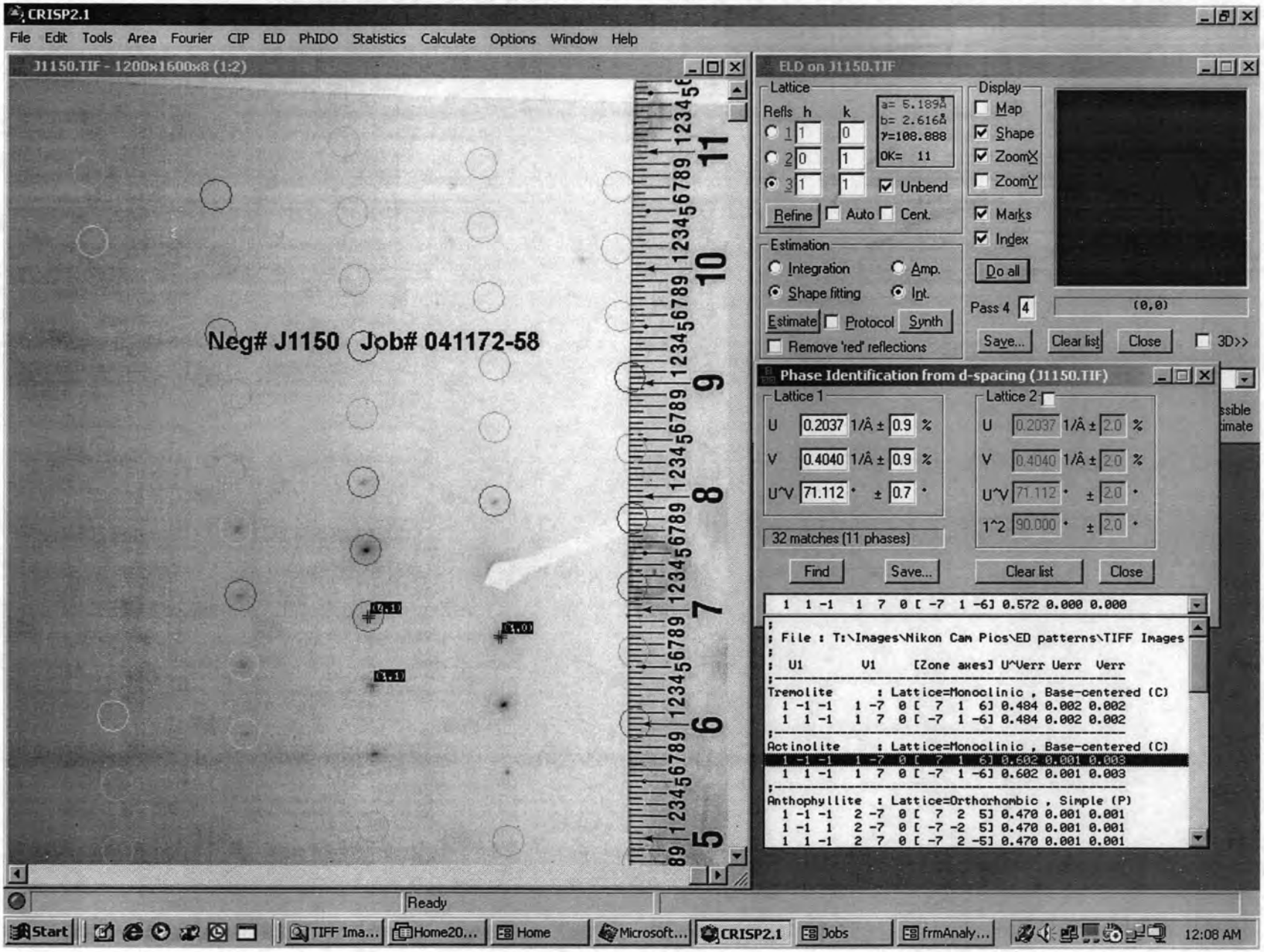
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041172-57-15535**

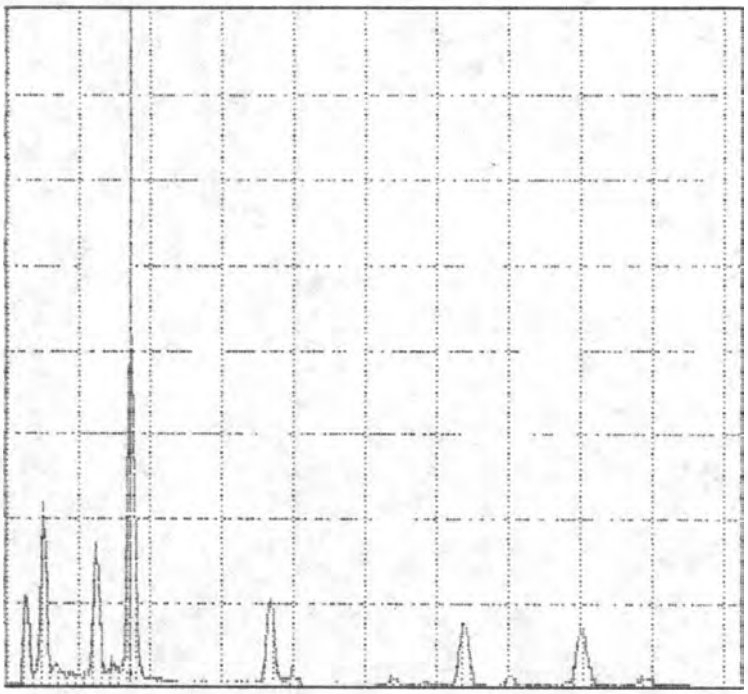
Values		Satisfied Conditions
(Ca,Na)@B	1.94	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.94	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.08	Si > 7.5
Mg/(Mg+Fe2)	0.84	(Mg/(Mg+Fe2))< 0.9
Si	8.00	

Mineral Analysis Program (Version 5.0)

Sample 041172-58
ACTINOLITE
[7 1 6]



TN-5500 University of Washington / JHU THU 09-DEC-04 13:34
Cursor: 1.720keV = 532 ROI (1) 0.000: 0.000



0.000 VFS = 1024 10.240

40 041172-58 SP 836

*X 'SQMTF'

SQMTF: QUANTIFY
Standardless Analysis

Refit _K K' _K K"
Refit _ALK' _ALK" _FEK" _NAK' _K K
Chi-sqd = 2.43

Element	Net Counts	
Si-K	6586 +/-	116
Mg-K	2222 +/-	110
Al-K	325 +/-	55
Ca-K	1822 +/-	83
Fe-K	1734 +/-	56
Na-K	183 +/-	60
K -K	0 +/-	0

REF.S EDS:SIK EDS:MGK EDS:ALK EDS:CAK EDS:FEK EDS:NAK
EDS:K K

041172-58 SP 836

EL-LINE	PEAK	K-FACTOR	CEL/CREF	ATOM%	EL WT%	WT%	FORMULA
SI-K	6586	1.000	1.000	21.01	22.02	57.89	SIO2
MG-K	2222	1.000	0.337	8.27	9.12	15.20	MGO
AL-K	325	0.750	0.037	0.81	1.00	1.89	AL2O3
CA-K	1822	0.949	0.263	3.87	7.10	9.94	CAO
FE-K	1734	1.399	0.369	3.87	9.96	14.23	FE2O3
NA-K	183	0.549	0.015	0.39	0.41	0.85	NA2O3
K-K	0	1.059	0.000	0.00	0.00	0.00	K2O
O			1.680	61.77	45.39		

1,30

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	57.89	Si+4	7.9935	7.9935							
Al2O3	1.89	Al+3	0.3076	0.0065	**0.3011**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	14.23	Fe+3	0.5027			0.5027	0.0000				
MgO	15.2	Mg+2	3.1290			3.1290	**0.0000**				
MnO	0	Fe+2	1.0844			1.0672	**0.0172**				
CaO	9.94	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0.85	Ca+2	1.4704					1.4704	0.0000		
K2O	0	Na+	0.2275					0.2275	**0.0000**	0.0000	0.0000
		K+	0.0000							0.0000	0.0000
Total	**100**		**Excess**	T site	**0.3011**	C site	**0.0172**	B site	**0**	A site	**0**
			Total	**8**		**5.0000**		**1.6980**		**0.0000**	**0.0000**
Prefix	none		**%Fill**	**100**		**100**		**84.8984**			

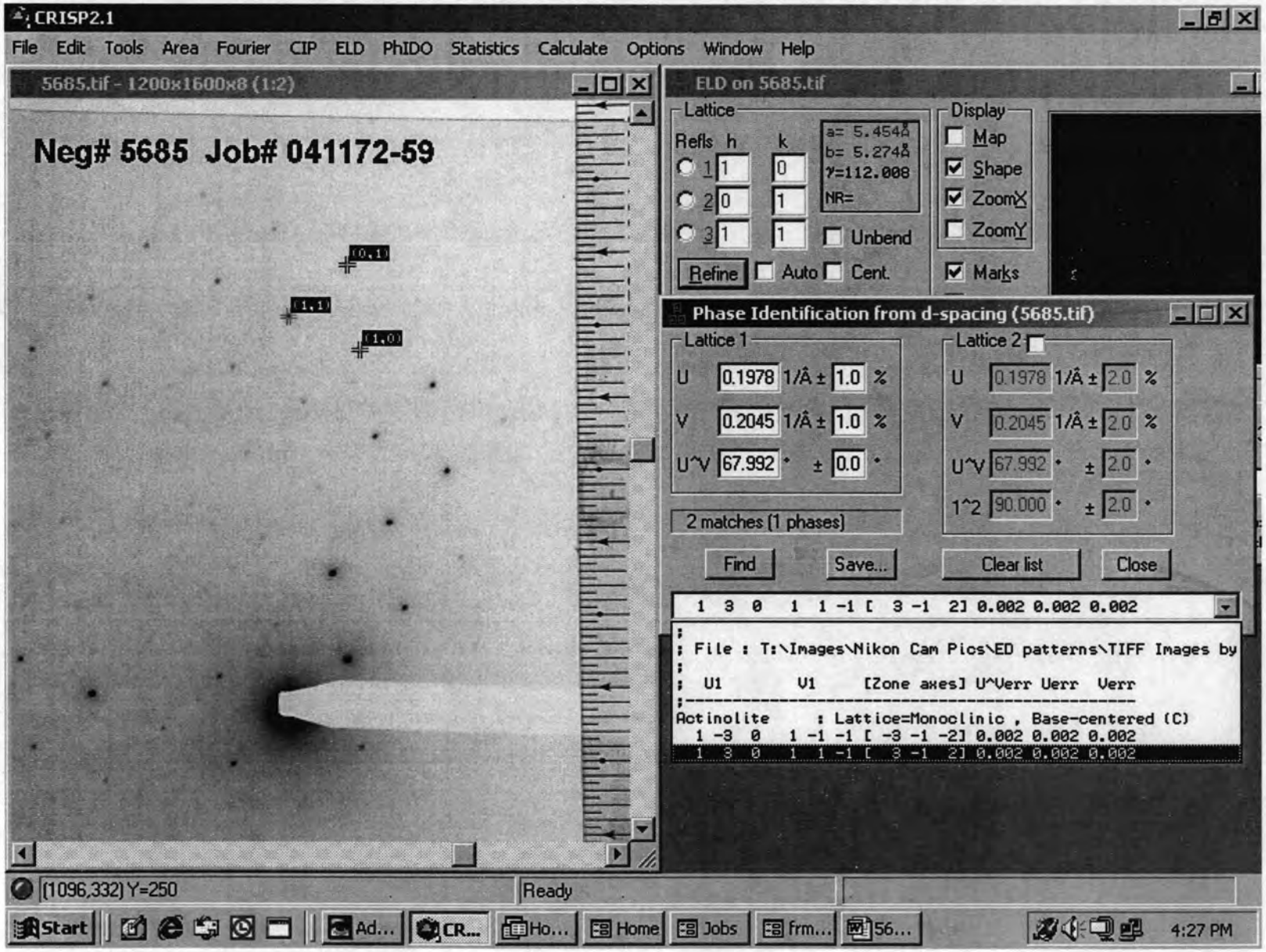
Name probable actinolite Ca values below optimal levels
Modifier none
Group Calcic Amphibole

Sample # 041172-58-836

Values		Satisfied Conditions
(Ca,Na)@B	1.70	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.23	1 < Ca@B < 1.5 and (Na,K)@A < 0.5
Ca@B	1.47	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.00	Si > 7.5
Mg/(Mg+Fe2)	0.74	(Mg/(Mg+Fe2))< 0.9
Si	7.99	

Mineral Analysis Program (Version 5.0)

ACTINOLITE
[3 -1 2]



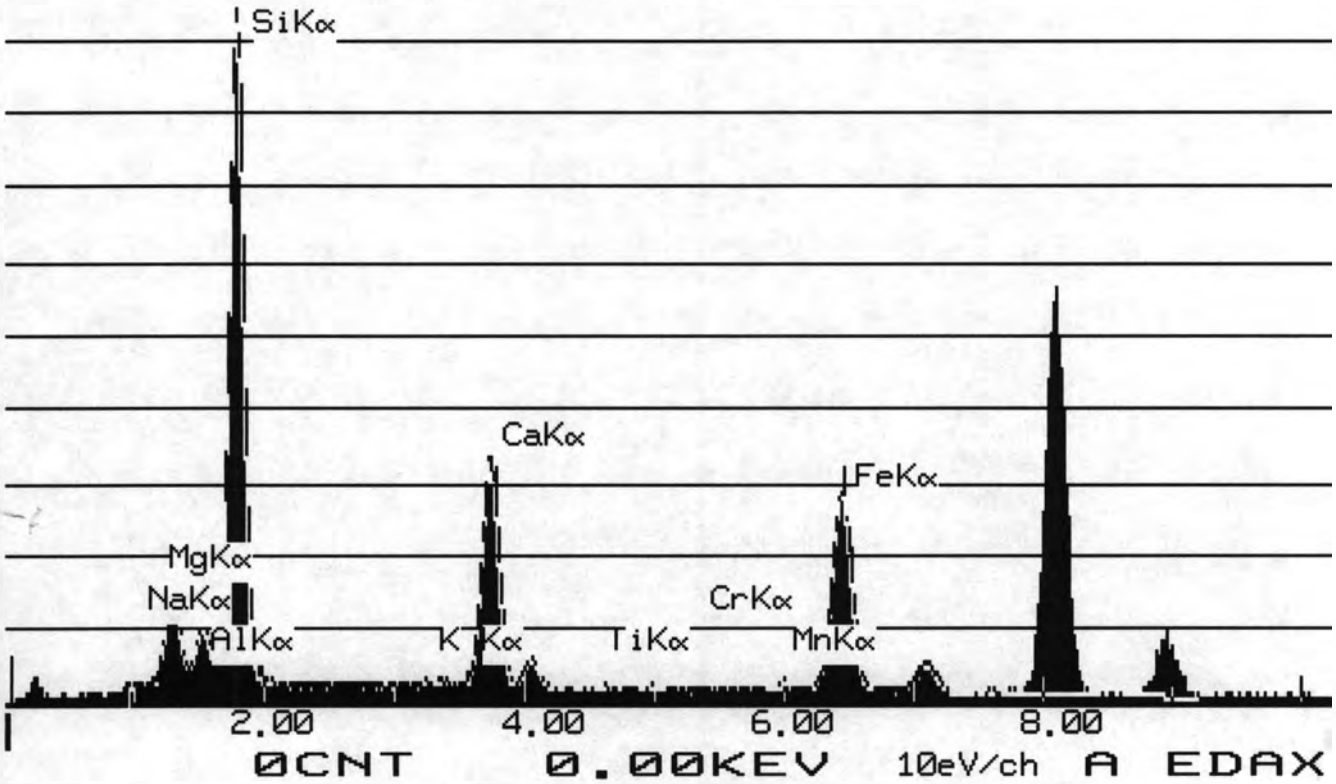
INTE-% :
LABEL = 041172-59 15537
10-DEC-72 02:15:18
80.374 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	20.330	6.637	11.005
ALK	11.036	2.164	4.089
SIK	134.696	24.733	52.912
K K	0.684	0.209	0.252
CAK	55.404	9.699	13.571
MNK	0.622	0.157	0.203
FEK	54.035	12.567	17.967

TOTAL			100.000

USED PEIF: USER

09-DEC-04 02:16:27 SUPER QUANT
RATE= 1016CPS TIME= 80LSEC
FS= 1138/ 1138 PRST= 200LSEC
A =041172-59 15537



	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	52.912	Si+4	7.6344	7.6344							
Al2O3	4.089	Al+3	0.6953	0.3656	0.3297						
TiO2	0	Ti+4	0.0000	0.0000	0.0000						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	17.967	Fe+3	0.0195			0.0195	0.0000				
MgO	11.005	Mg+2	2.3672			2.3672	0.0000				
MnO	0.203	Fe+2	2.1460			2.1460	0.0000				
CaO	13.571	Mn+2	0.0248			0.0248	0.0000				
Na2O	0	Ca+2	2.0978					2.0000	0.0978		
K2O	0.252	Na+	0.0000					0.0000	0.0000	0.0000	0.0000
		K+	0.0464							0.0464	0.0000
Total	99.999		Excess	T site	0.3297	C site	0.0000	B site	0.0977558	A site	0
			Total	8		4.8872		2.0000		0.0464	0.0000
			%Fill	100		97.7449		100			

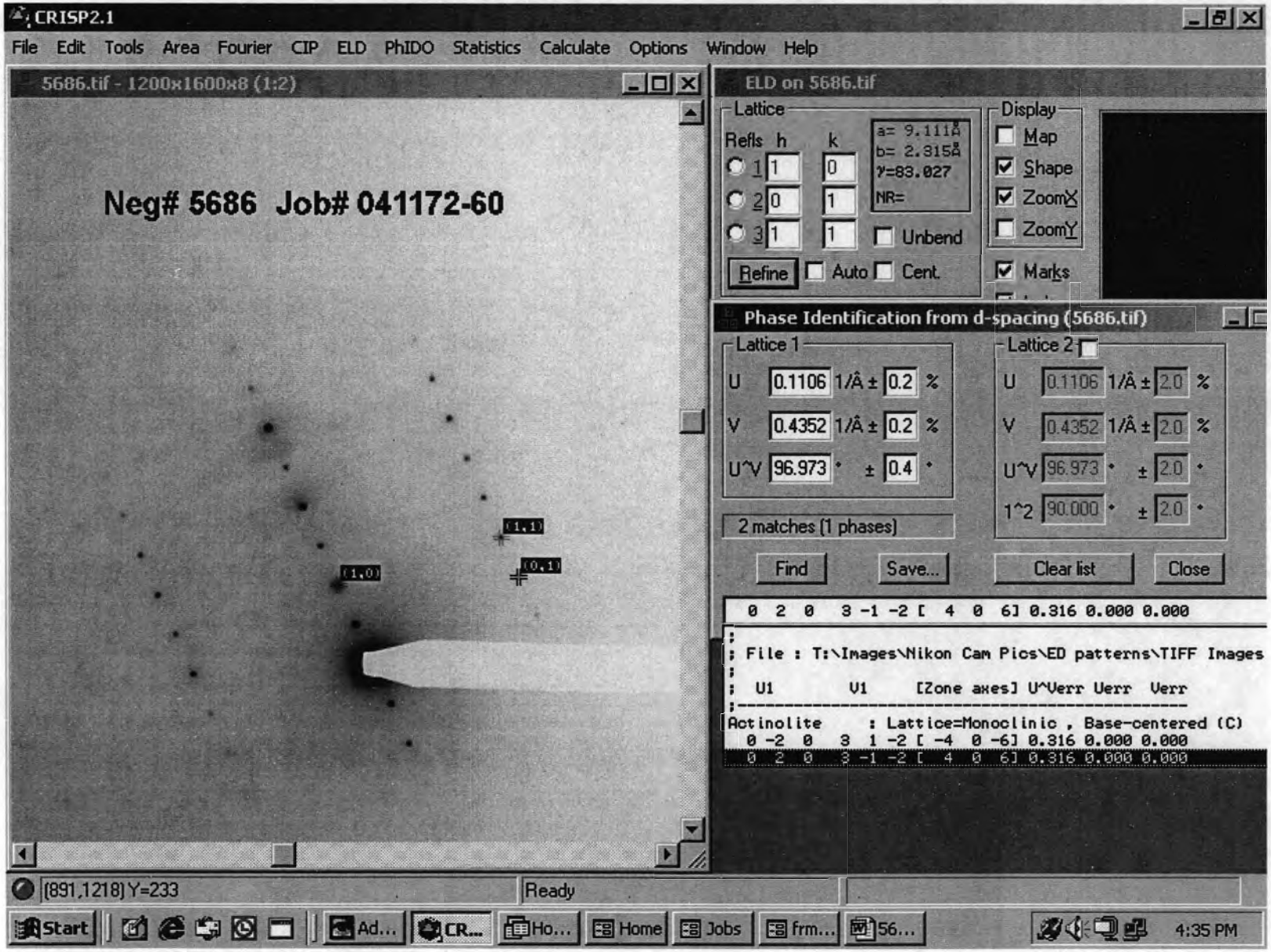
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # 041172-59-15537

Values		Satisfied Conditions
(Ca,Na)@B	2.00	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	2.00	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.05	Si > 7.5
Mg/(Mg+Fe2)	0.52	(Mg/(Mg+Fe2))< 0.9
Si	7.63	

Mineral Analysis Program (Version 5.0)

ACTINOLITE
[2 0 3]



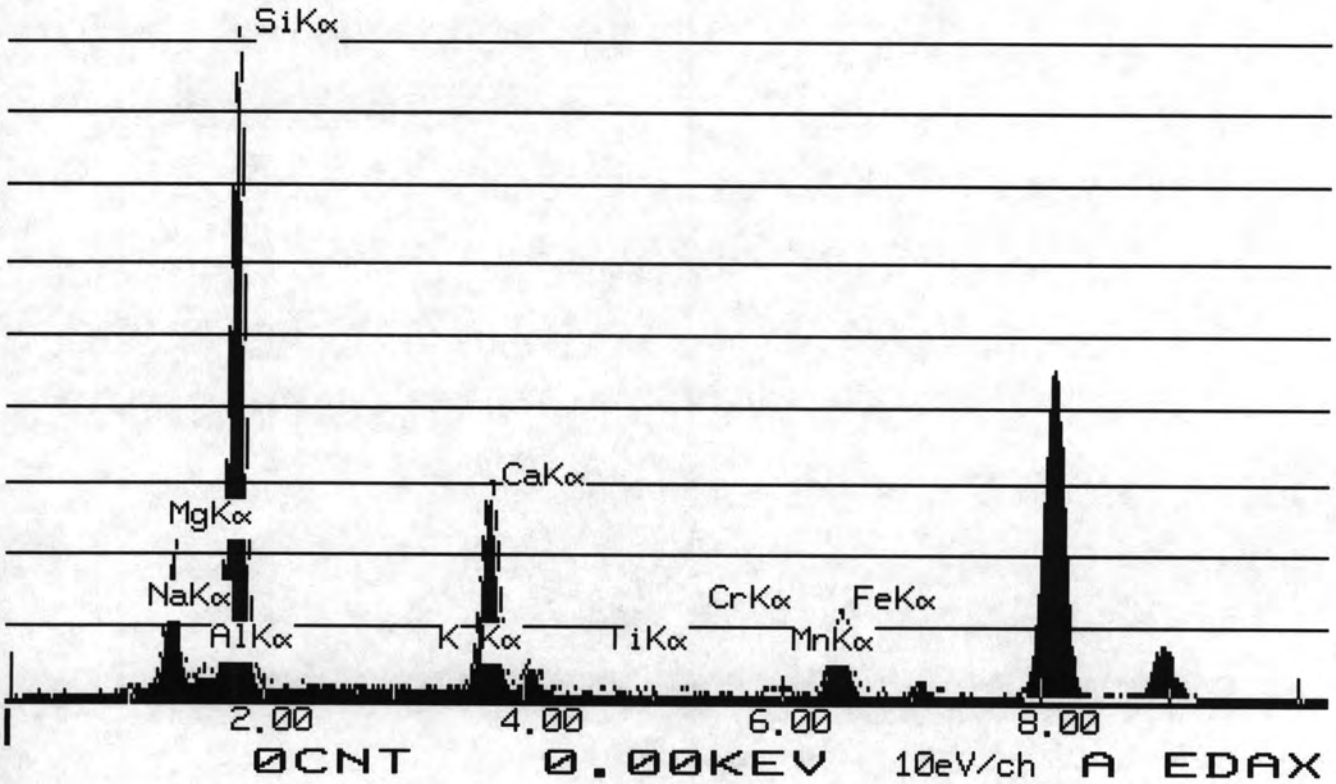
INTE-% :
LABEL = 041172-60 15538
10-DEC-72 02:34:55
44.053 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	49.803	11.062	18.342
ALK	3.496	0.466	0.881
SIK	218.417	27.285	58.373
CAK	86.078	10.252	14.345
MNK	0.567	0.098	0.126
FEK	35.071	5.549	7.934

TOTAL			100.000

USED PEIF: USER

09-DEC-04 02:36:08 SUPER QUANT
RATE= 2632CPS TIME= 44LSEC
FS= 1048/ 1048 PRST= 200LSEC
A =041172-60 15538



	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	58.373	Si+4	8.0000	8.0000							
Al2O3	0.881	Al+3	0.1425	0.0000	**0.1425**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	7.934	Fe+3	0.0083			0.0083	0.0000				
MgO	18.342	Mg+2	3.7490			3.7490	**0.0000**				
MnO	0.126	Fe+2	0.9006			0.9006	**0.0000**				
CaO	14.345	Mn+2	0.0149			0.0149	**0.0000**				
Na2O	0	Ca+2	2.1071					2.0000	0.1071		
K2O	0	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0000							0.0000	0.0000
Total	**100.001**		**Excess**	T site	**0.1425**	C site	**0.0000**	B site	**0.1070885**	A site	**0**
			Total	**8**		**4.8154**		**2.0000**		**0.0000**	**0.0000**
			%Fill	**100**		**96.3078**		**100**			

Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041172-60-15538**

Values		Satisfied Conditions
(Ca,Na)@B	2.00	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	2.00	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.00	Si > 7.5
Mg/(Mg+Fe2)	0.81	(Mg/(Mg+Fe2))< 0.9
Si	8.00	

Mineral Analysis Program (Version 5.0)

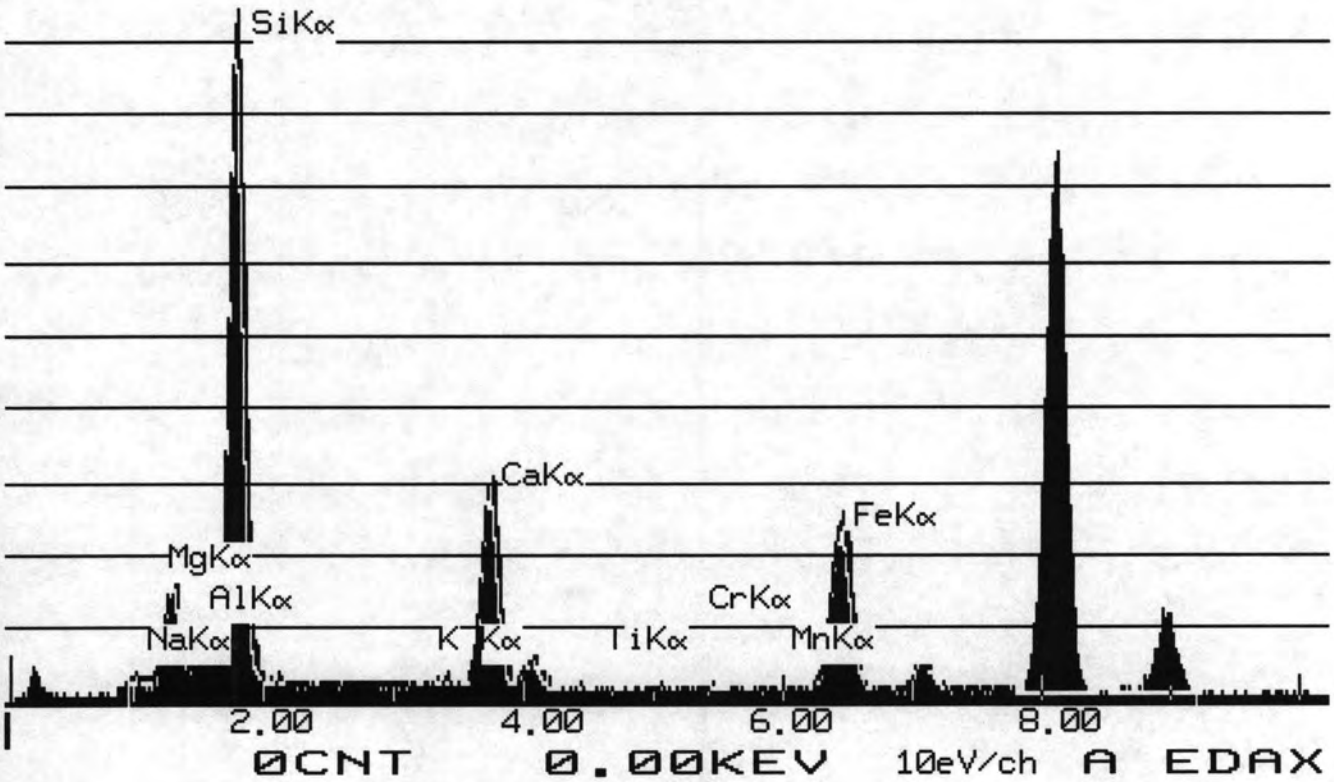
INTE-% :
LABEL = 041172-61 15539
10-DEC-72 04:16:37
24.450 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	59.469	6.914	11.464
ALK	23.395	1.634	3.087
SIK	400.130	26.164	55.975
K K	2.413	0.262	0.316
CAK	146.710	9.146	12.798
FEK	138.162	11.442	16.360

TOTAL			100.000

USED PEIF: USER

09-DEC-04 04:17:27 SUPER QUANT
RATE=*****CPS TIME= 24LSEC
FS= 1057/ 1057 PRST= 200LSEC
A =041172-61 15539



	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	55.975	Si+4	7.9502	7.9502							
Al2O3	3.087	Al+3	0.5167	0.0498	**0.4669**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	16.36	Fe+3	0.0175			0.0175	0.0000				
MgO	11.464	Mg+2	2.4274			2.4274	**0.0000**				
MnO	0	Fe+2	1.9236			1.9236	**0.0000**				
CaO	12.798	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	1.9474					1.9474	0.0000		
K2O	0	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0000							0.0000	0.0000
Total	**99.684**		**Excess**	T site	**0.4669**	C site	**0.0000**	B site	**0**	A site	**0**
			Total	**8**		**4.8354**		**1.9474**		**0.0000**	**0.0000**
			%Fill	**100**		**96.7071**		**97.3682**			

Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

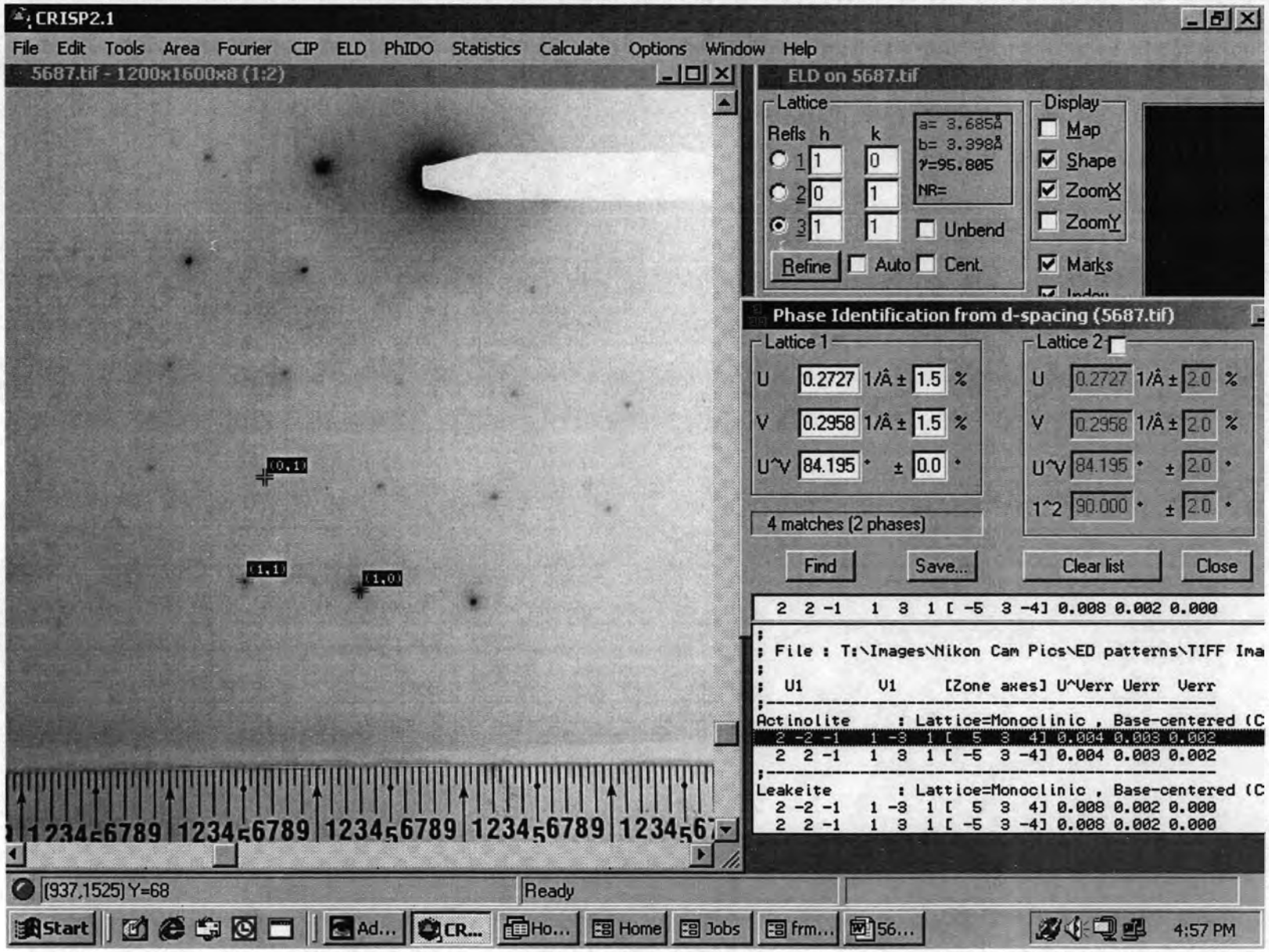
Sample # 041172-61-15539

Values		Satisfied Conditions
(Ca,Na)@B	1.95	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.95	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.00	Si > 7.5
Mg/(Mg+Fe2)	0.56	(Mg/(Mg+Fe2))< 0.9
Si	7.95	

Mineral Analysis Program (Version 5.0)

Materials Data, Inc. Materials Data, Inc. Materials Data, Inc. Materials Data, Inc.

ACTINOLITE
[5 3 4]
Neg# 5687, Job# 041172-61



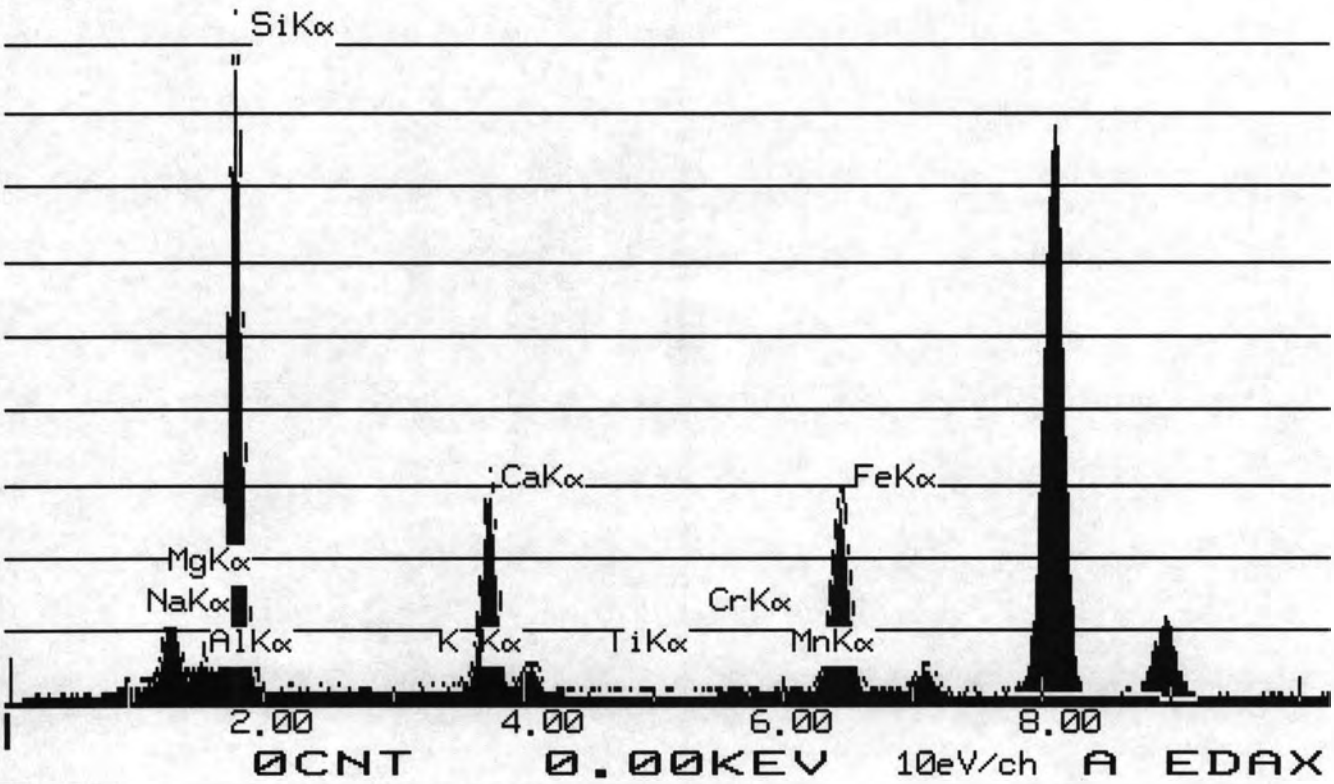
INTE-% :
LABEL = 041172-61 15540
10-DEC-72 05:04:31
33.331 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	54.604	6.817	11.303
ALK	12.811	0.961	1.815
SIK	364.914	25.621	54.813
CAK	141.789	9.492	13.281
MNK	0.750	0.072	0.094
FEK	147.040	13.076	18.695

TOTAL			100.000

USED PEIF: USER

09-DEC-04 05:05:26 SUPER QUANT
RATE= 2857CPS TIME= 33LSEC
FS= 1285/ 1285 PRST= 200LSEC
A =041172-61 15540



	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	54.813	Si+4	7.8951	7.8951							
Al2O3	1.815	Al+3	0.3081	0.1049	**0.2032**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	18.695	Fe+3	0.0203			0.0203	0.0000				
MgO	11.303	Mg+2	2.4271			2.4271	**0.0000**				
MnO	0.094	Fe+2	2.2292			2.2292	**0.0000**				
CaO	13.281	Mn+2	0.0115			0.0115	**0.0000**				
Na2O	0	Ca+2	2.0494					2.0000	0.0494		
K2O	0	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0000							0.0000	0.0000
Total	**100.001**		**Excess**	T site	**0.2032**	C site	**0.0000**	B site	**0.0494118**	A site	**0**
			Total	**8**		**4.8913**		**2.0000**		**0.0000**	**0.0000**
			%Fill	**100**		**97.8253**		**100**			

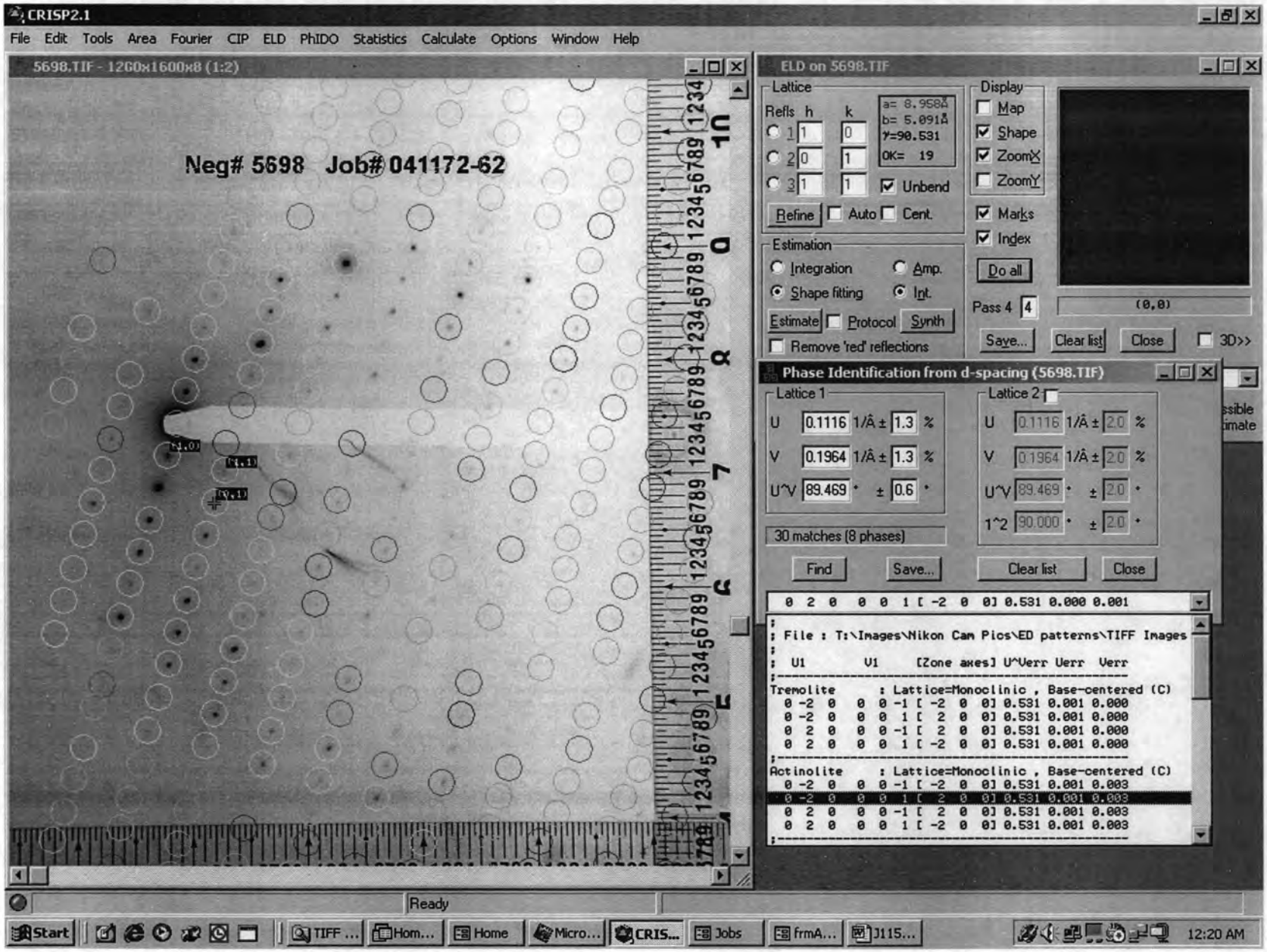
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041172-61-15540**

Values		Satisfied Conditions
(Ca,Na)@B	2.00	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	2.00	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.00	Si > 7.5
Mg/(Mg+Fe2)	0.52	(Mg/(Mg+Fe2))< 0.9
Si	7.90	

Mineral Analysis Program (Version 5.0)

Sample 041172-62
ACTINOLITE
[1 0 0]



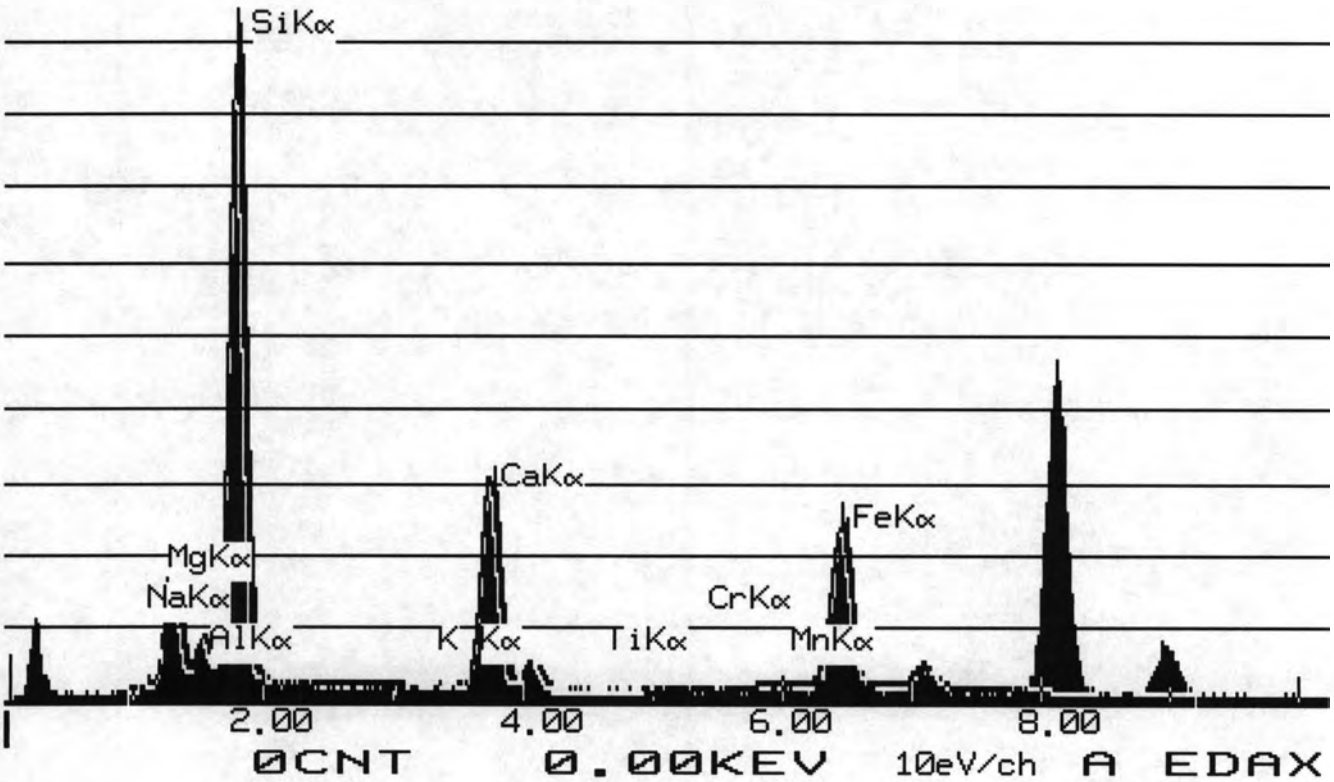
INTE-% :
LABEL = 041172-62 SP 15547
11-DEC-72 06:46:23
27.868 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
NAK	0.986	0.210	0.283
MGK	88.308	8.875	14.716
ALK	31.075	1.876	3.545
SIK	435.294	24.604	52.638
CAK	180.885	9.748	13.639
FEK	148.304	10.617	15.180

TOTAL			100.000

USED PEIF: USER

10-DEC-04 06:47:12 SUPER QUANT
RATE= 919CPS TIME= 28LSEC
FS= 1382/ 1382 PRST= 200LSEC
A =041172-62 SP 15547



	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	52.638	Si+4	7.5003	7.5003							
Al2O3	3.545	Al+3	0.5953	0.4997	**0.0956**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	15.18	Fe+3	0.1302			0.1302	0.0000				
MgO	14.716	Mg+2	3.1260			3.1260	**0.0000**				
MnO	0	Fe+2	1.6640			1.6481	**0.0158**				
CaO	13.639	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0.283	Ca+2	2.0820					1.9842	0.0978		
K2O	0	Na+	0.0782					0.0000	**0.0782**	0.0782	0.0000
		K+	0.0000							0.0000	0.0000
Total	**100.001**		**Excess**	T site	**0.0956**	C site	**0.0158**	B site	**0.1760191**	A site	**0**
			Total	**8**		**5.0000**		**1.9842**		**0.0782**	**0.0000**
			%Fill	**100**		**100**		**99.2089**			

Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041172-62-15547**

Values		Satisfied Conditions
(Ca,Na)@B	1.98	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.98	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.08	Si > 7.5
Mg/(Mg+Fe2)	0.65	(Mg/(Mg+Fe2))< 0.9
Si	7.50	

Mineral Analysis Program (Version 5.0)

Refit _NAK' _NAK" _K K' _K K"
Refit _MGK" _ALK' _CAK" _NAK
Chi-sqd = 1.73

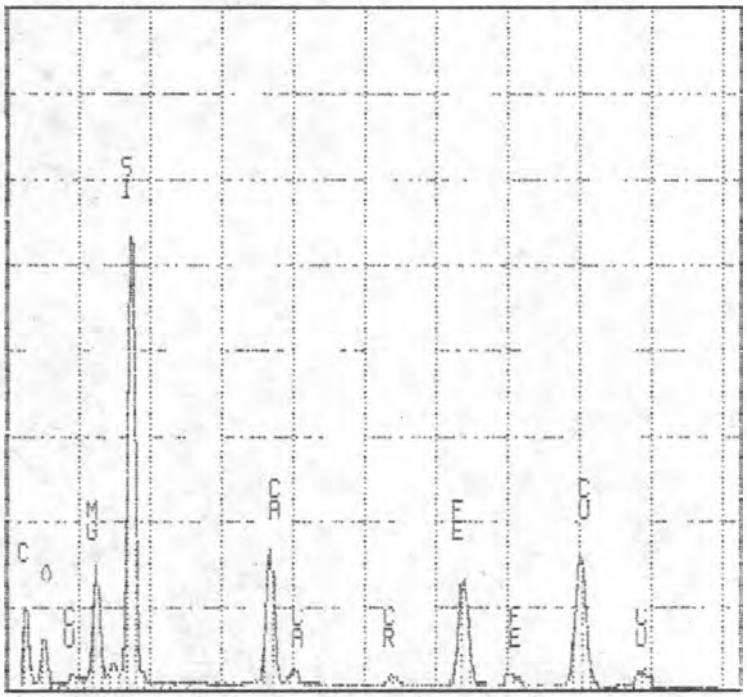
Element	Net Counts		
Si-K	8596	+/-	144
Mg-K	2097	+/-	66
Al-K	511	+/-	172
Ca-K	3258	+/-	48
Fe-K	3037	+/-	109
Na-K	0	+/-	0
K -K	56	+/-	25

K REF.S EDS:SIK EDS:MGK EDS:ALK EDS:CAK EDS:FEK EDS:NAK EDS:K

041172-65 839

EL-LINE	PEAK	K-FACTOR	CFL/CREF	ATOM%	FI WT%	WT%	FORMULA
SI-K	8596	1.000	1.000	20.77	25.95	55.61	SIO2
MG-K	2097	1.000	0.244	5.91	6.33	10.56	MGO
AL-K	511	0.750	0.045	0.96	1.16	2.19	AL2O3
CA-K	3258	0.949	0.360	5.23	9.34	13.08	CAO
FE-K	3037	1.399	0.495	5.14	12.84	18.34	FE2O3
NA-K	0	0.549	0.000	0.00	0.00	0.00	NA2O3
K-K	56	1.059	0.007	0.10	0.18	0.22	K2O
O			1.703	61.88	44.19		

TN-5400 University of Washington / JHO FRI 10-OCT-04 20:21
Cursor: 0.000KeV = 0 ROI (1) 0 0MM: 0 000



0.000 VFS = 1024 10.240
63 041172-65 839

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	55.61	Si+4	7.9751	7.9751							
Al2O3	2.19	Al+3	0.3701	0.0249	**0.3453**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	18.34	Fe+3	0.0198			0.0198	0.0000				
MgO	10.56	Mg+2	2.2577			2.2577	**0.0000**				
MnO	0	Fe+2	2.1773			2.1773	**0.0000**				
CaO	13.08	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	2.0096					2.0000	0.0096		
K2O	0.22	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0402							0.0402	0.0000
Total	**100**		**Excess**	T site	**0.3453**	C site	**0.0000**	B site	**0.0096268**	A site	**0**
			Total	**8**		**4.8001**		**2.0000**		**0.0402**	**0.0000**
			%Fill	**100**		**96.0028**		**100**			

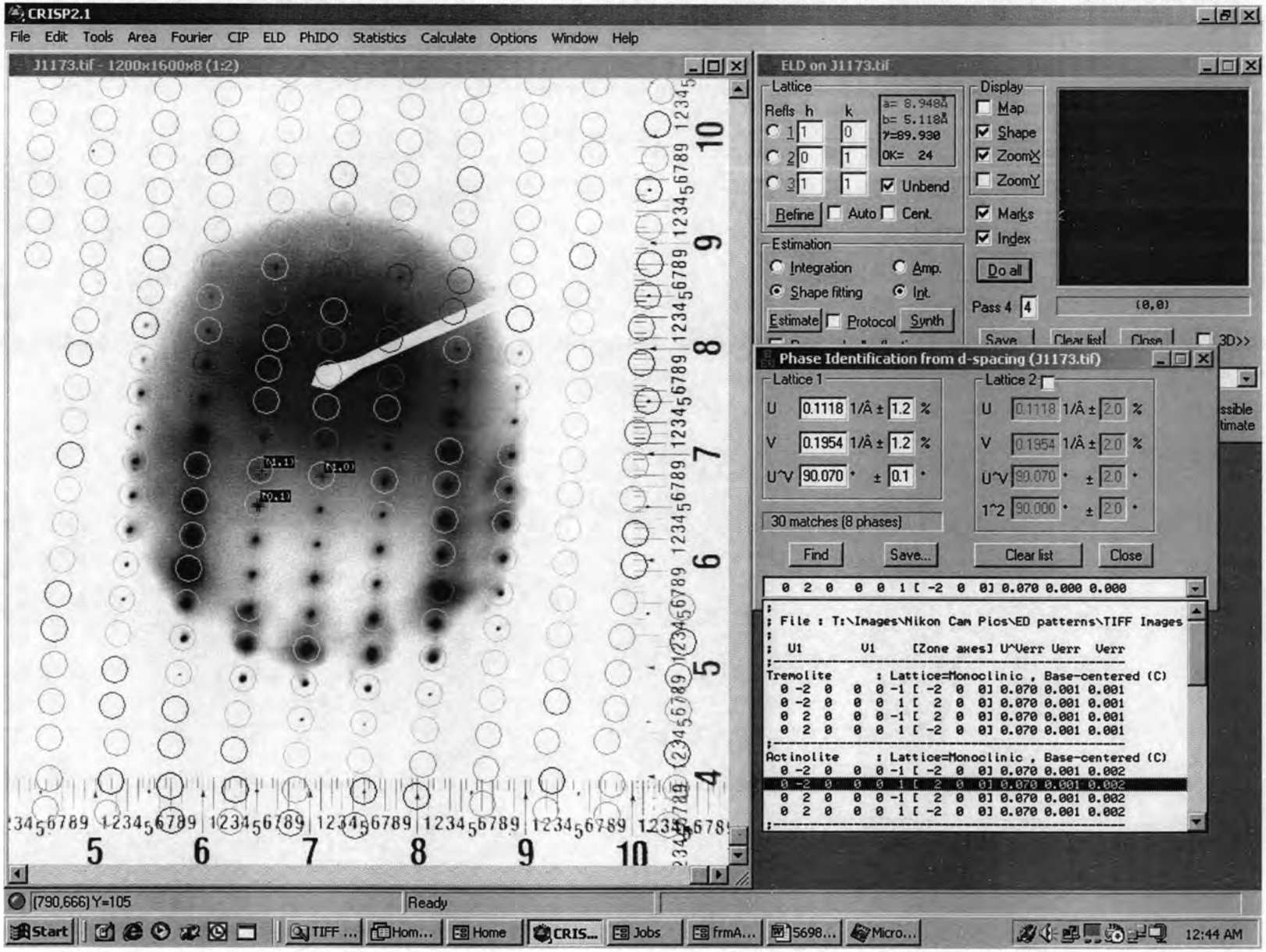
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041172-65-839**

Values		Satisfied Conditions
(Ca,Na)@B	2.00	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	2.00	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.04	Si > 7.5
Mg/(Mg+Fe2)	0.51	(Mg/(Mg+Fe2))< 0.9
Si	7.98	

Mineral Analysis Program (Version 5.0)

Sample 041172-65
Neg #1173
ACTINOLITE
[1 0 0]



```
*
*X 'SQMTF'
SQMTF -3B/80
*X 'SQMTF'
SQMTF: QUANTIFY
Standardless Analysis
TN-FLEXTRAN [10.B]

Refit _ALK' _ALK" _NAK' _NAK" _K K' _K K"
Refit _ALK _CAK" _FEK" _NAK
Refit _MGK"
Chi-sqd = 10.77

Element          Net Counts
  Si-K          21341 +/-   200
  Mg-K           9072 +/-    95
  Al-K              0 +/-     0
  Ca-K           7179 +/-   103
  Fe-K           2429 +/-    79
  Na-K              0 +/-     0
  K -K             50 +/-    38


REF.S  EDS:SIK    EDS:MGK    EDS:ALK    EDS:CAK    EDS:FEK    EDS:NAK
 EDS:K K

041172-65 SP859

EL-LINE   PEAK   K-FACTOR   CEL/CREF   ATOM%   EL WT%    WT%   FORMULA
 SI-K    21341    1.000      1.000    21.55   28.33   60.71   SIO2
MG-K     9072    1.000      0.425    10.69   12.04   20.07   MGO
 AL-K       0    0.750      0.000     0.00    0.00    0.00   AL2O3
CA-K     7179    0.949      0.320     4.82    9.06   12.68   CAO
 FE-K    2429    1.399      0.159     1.72    4.52    6.45   FE2O3
NA-K        0    0.549      0.000     0.00    0.00    0.00   NA2O3
 K-K       50    1.059      0.002     0.04    0.07    0.09   K2O
O                          1.623    61.19   45.98
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TN-5500 University of Washington / JEOL WED 15-DEC-04 21:08

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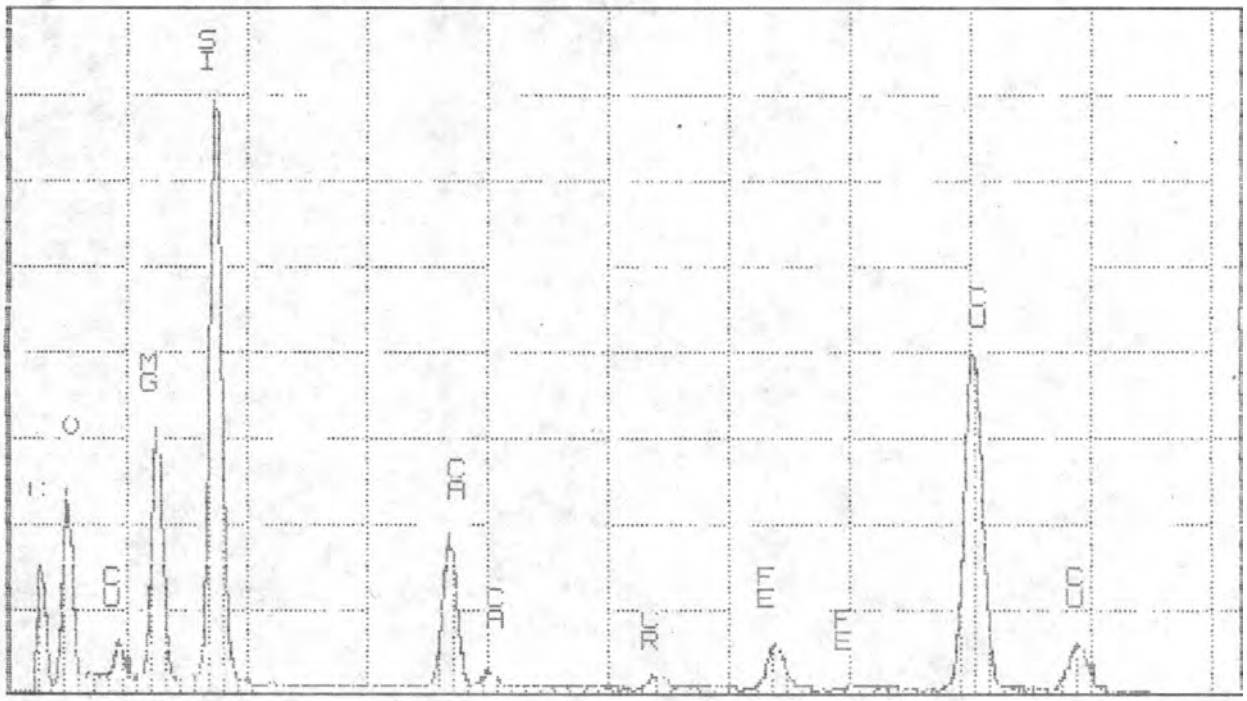


0.000 VFS = 2048 10.240

0 041172-65 SP859

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	60.71	Si+4	8.0000	8.0000							
Al2O3	0	Al+3	0.0000	0.0000	**0.0000**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	6.45	Fe+3	0.0212			0.0212	0.0000				
MgO	20.07	Mg+2	4.0968			4.0968	**0.0000**				
MnO	0	Fe+2	0.7533			0.7533	**0.0000**				
CaO	12.68	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	1.8753					1.8753	0.0000		
K2O	0.09	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0403							0.0403	0.0000
Total	**100**		**Excess**	T site	**0.0000**	C site	**0.0000**	B site	**0**	A site	**0**
			Total	**8**		**4.8712**		**1.8753**		**0.0403**	**0.0000**
			%Fill	**100**		**97.4249**		**93.7673**			

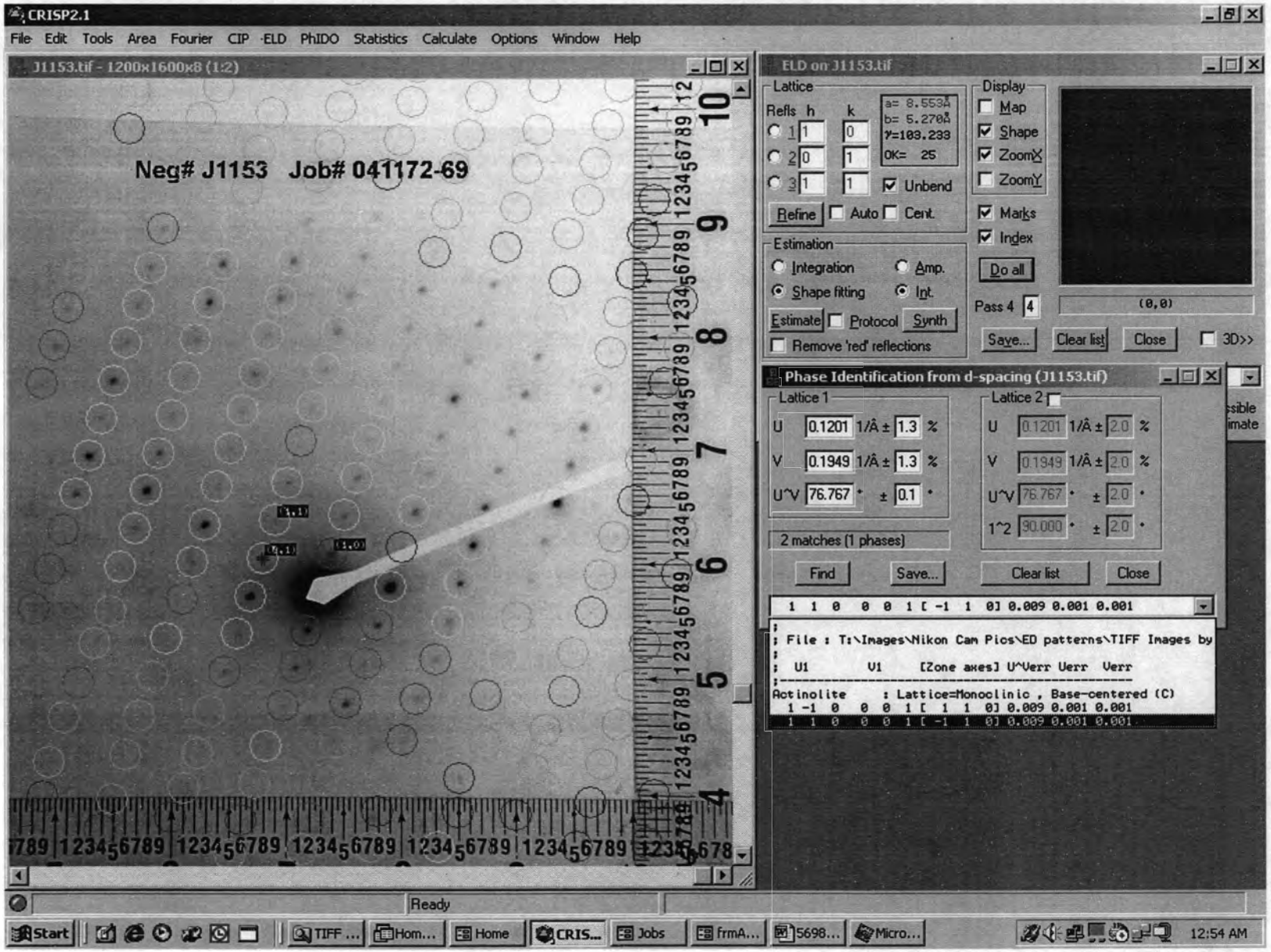
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041172-65-859**

Values		Satisfied Conditions
(Ca,Na)@B	1.88	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.88	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.04	Si > 7.5
Mg/(Mg+Fe2)	0.84	(Mg/(Mg+Fe2))< 0.9
Si	8.00	

Mineral Analysis Program (Version 5.0)

Sample 041172-69
Neg #1153
ACTINOLITE
[1 1 0]



TN-550M University of Washington / JEOL SAT 11-DEC-04 12:52
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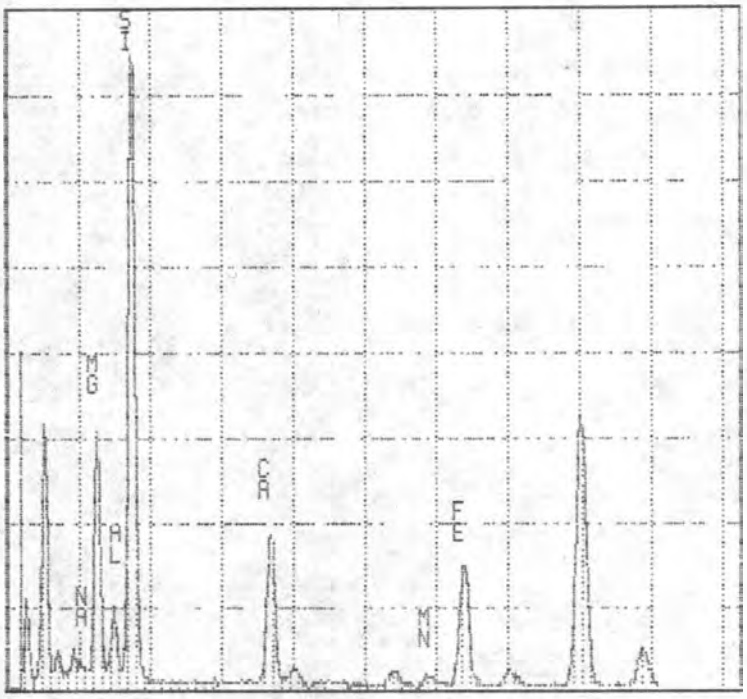

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0 EXEC(7-C) DATA LABEL

```
TN FLEXTRAN [13-B]
*Z\ZX 'SQMTF'
 SQMTF -3B/80

SQMTF: QUANTIFY
 Standardless Analysis

Refit _NAK' _NAK"
 Refit _ALK' _ALK" _NAK
Chi-sqd = 4.13
```

Element	Net Counts		
Si-K	11017	+/-	153
Mg-K	3680	+/-	123
Al-K	1136	+/-	78
Ca-K	3427	+/-	117
Fe-K	3251	+/-	111
Na-K	0	+/-	0
K -K	114	+/-	64

REF.S EDS:SIK EDS:MGK EDS:ALK EDS:CAK EDS:FEK EDS:NAK
EDS:K K

041172-69 SP 842

EL-LINE	PEAK	K-FACTOR	CEL/CREF	ATOM%	EL WT%	WT%	FORMULA
SI-K	11017	1.000	1.000	20.32	25.89	55.47	SIU2
MG-K	3680	1.000	0.334	7.92	8.65	14.41	MGO
AL-K	1136	0.750	0.077	1.63	2.00	3.78	AL2O3
CA-K	3427	0.949	0.296	4.20	7.65	10.71	CAO
FE-K	3251	1.399	0.413	4.70	10.70	15.28	FE2U3
NA-K	0	0.549	0.000	0.00	0.00	0.00	NA2O3
K-K	114	1.059	0.011	0.16	0.29	0.34	K2O
O			1.732	61.57	44.83		

1,30

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	55.47	Si+4	7.7112	7.7112							
Al2O3	3.78	Al+3	0.6193	0.2888	**0.3304**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	15.28	Fe+3	0.6713			0.6713	0.0000				
MgO	14.41	Mg+2	2.9864			2.9864	**0.0000**				
MnO	0	Fe+2	1.0302			1.0118	**0.0184**				
CaO	10.71	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	1.5950					1.5950	0.0000		
K2O	0.34	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0603							0.0603	0.0000
Total	**99.99**		**Excess**	T site	**0.3304**	C site	**0.0184**	B site	**0**	A site	**0**
			Total	**8**		**5.0000**		**1.5950**		**0.0603**	**0.0000**
			%Fill	**100**		**100**		**79.7523**			

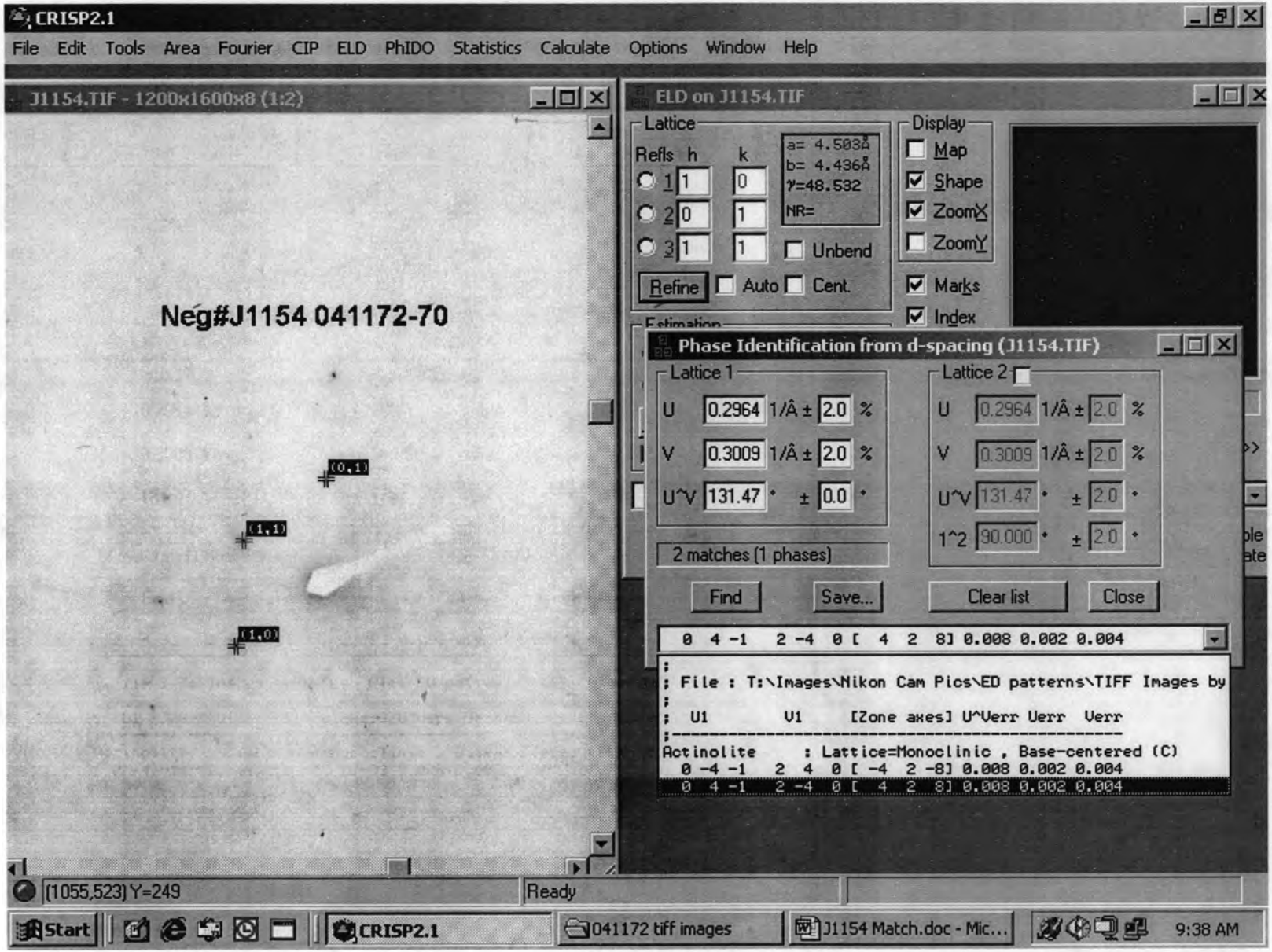
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041172-69-842**

Values		Satisfied Conditions
(Ca,Na)@B	1.60	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.60	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.06	Si > 7.5
Mg/(Mg+Fe2)	0.74	(Mg/(Mg+Fe2))< 0.9
Si	7.71	

Mineral Analysis Program (Version 5.0)

Neg#J1154; Sample# 041172-70
ACTINOLITE
[2 1 4]



TN-5500 University of Washington / JEOL SAT 11-DEC-04 16:08
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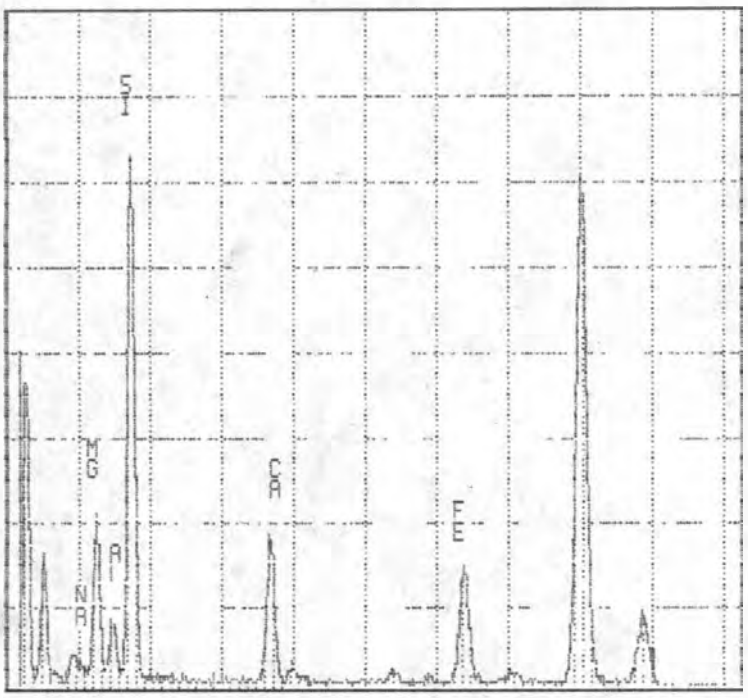

0.000 B- 5 VFS = 512 10.240
47 041172-70 SP 843

*X]\][\!'W\WSQN\NN\NMR\RTD\DF'

SQMTF: QUANTIFY
Standardless Analysis

Refit _NAK' _NAK" _K K' _K K"
Refit _FEK" _NAK _K K
Refit _MGK" _ALK" _CAK"
Chi-sqd = 2.41

Element	Net Counts		
Si-K	4746	+/-	112
Mg-K	1395	+/-	45
Al-K	568	+/-	43
Ca-K	1643	+/-	49
Fe-K	1474	+/-	57
Na-K	0	+/-	0
K -K	0	+/-	0

REF,S EDS:SIK EDS:MGK EDS:ALK EDS:CAK EDS:FEK EDS:NAK
EDS:K K

041172-70 SP 843

EL-LINE	PEAK	K-FACTOR	CEL/CREF	ATUM%	EL WT%	WT%	FORMULA
SI-K	4746	1.000	1.000	20.31	25.74	55.16	SIO2
MG-K	1395	1.000	0.294	6.97	7.57	12.62	MGO
AL-K	568	0.750	0.090	1.89	2.31	4.37	AL2O3
CA-K	1643	0.949	0.329	4.68	8.47	11.86	CAO
FE-K	1474	1.399	0.435	4.42	11.19	15.99	FE2O3
NA-K	0	0.549	0.000	0.00	0.00	0.00	NA2O3
K-K	0	1.059	0.000	0.00	0.00	0.00	K2O
O			1.737	61.73	44.71		

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*

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	55.16	Si+4	7.7708	7.7708							
Al2O3	4.37	Al+3	0.7255	0.2292	0.4963						
TiO2	0	Ti+4	0.0000	0.0000	0.0000						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	15.99	Fe+3	0.1187			0.1187	0.0000				
MgO	12.62	Mg+2	2.6505			2.6505	0.0000				
MnO	0	Fe+2	1.7518			1.7346	0.0172				
CaO	11.86	Mn+2	0.0000			0.0000	0.0000				
Na2O	0	Ca+2	1.7900					1.7900	0.0000		
K2O	0	Na+	0.0000					0.0000	0.0000	0.0000	0.0000
		K+	0.0000							0.0000	0.0000
Total	100		Excess	T site	0.4963	C site	0.0172	B site	0	A site	0
			Total	8		5.0000		1.7900		0.0000	0.0000
			%Fill	100		100		89.4986			

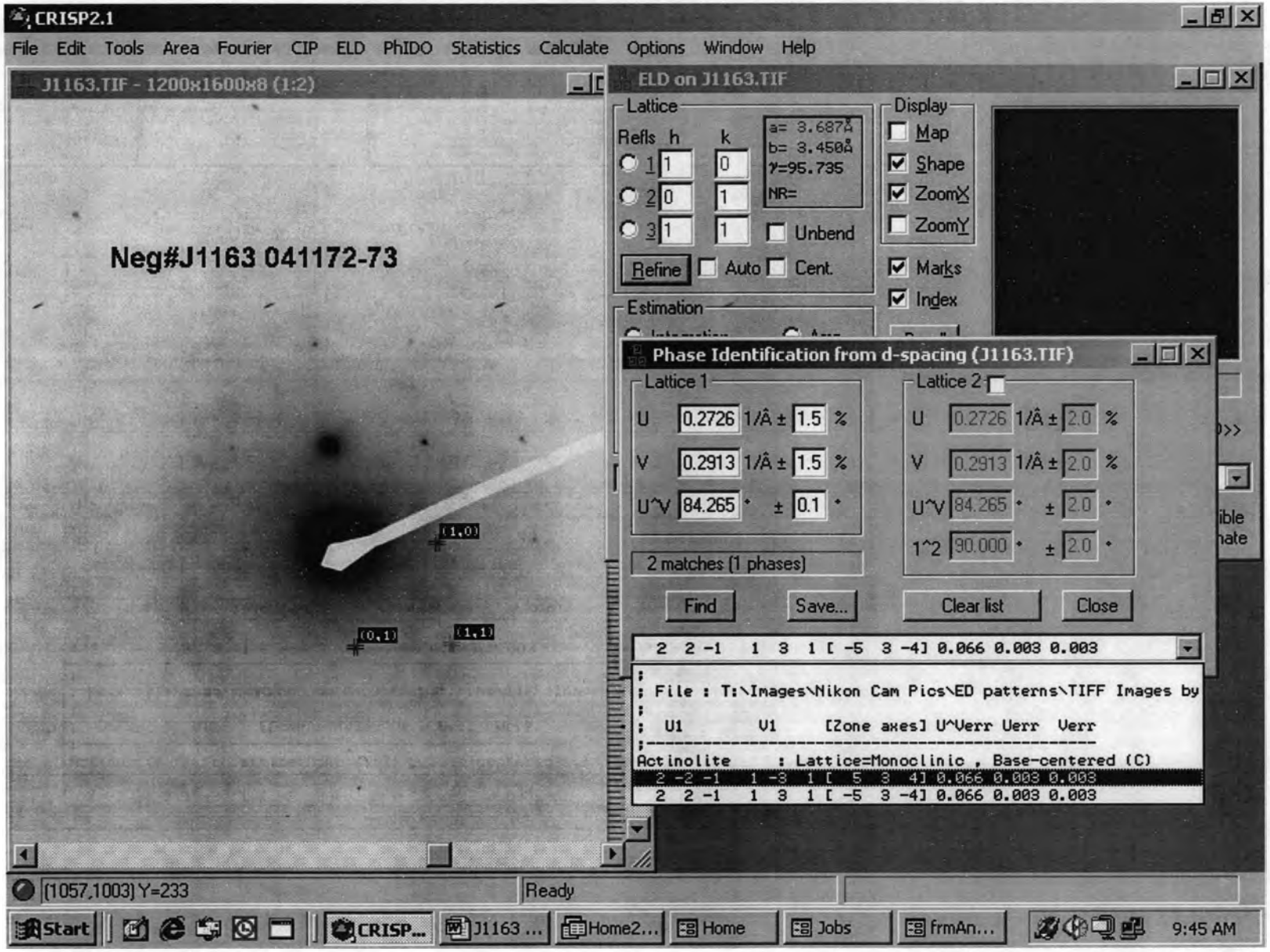
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # 041172-70-843

Values		Satisfied Conditions
(Ca,Na)@B	1.79	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.79	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.00	Si > 7.5
Mg/(Mg+Fe2)	0.60	(Mg/(Mg+Fe2))< 0.9
Si	7.77	

Mineral Analysis Program (Version 5.0)

Neg#J1163; Sample# 041172-73
ACTINOLITE
[5 3 4]



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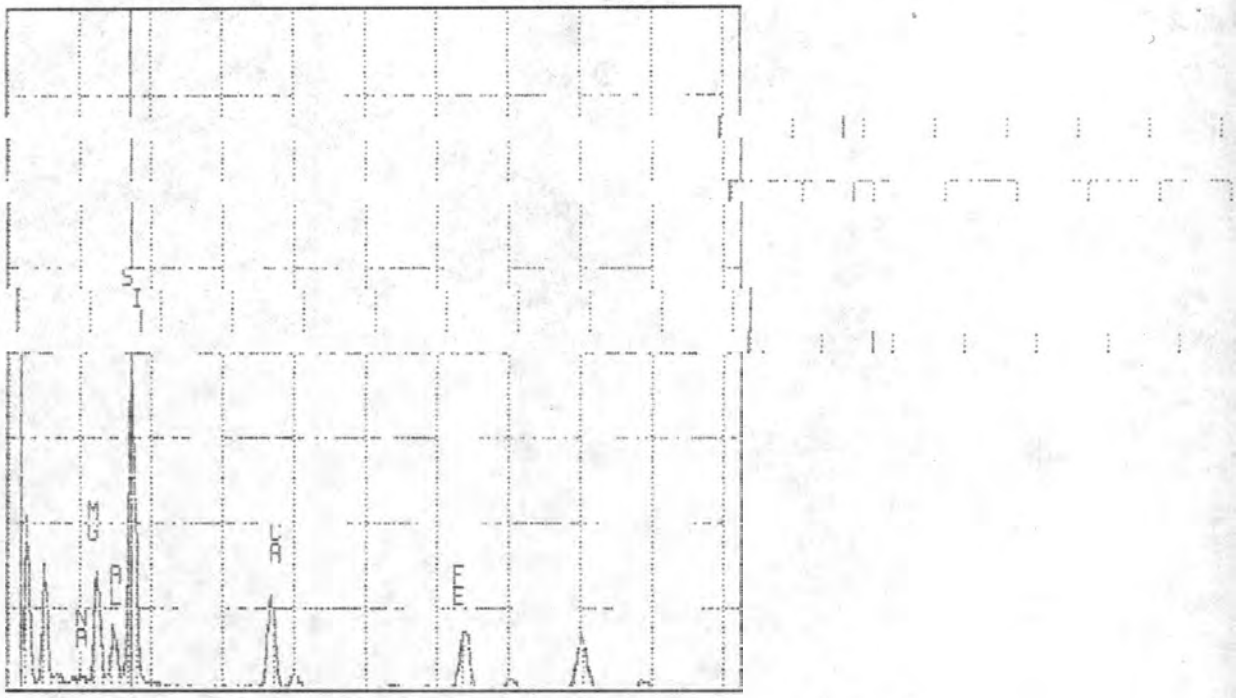


0.000 R- 5 VFS = 2048 10.240
68 041172-73 SP 852

TN/FLEXTRAN [13-B]
*X SQMTF

SQMTF: QUANTITY
Standardless Analysis
SQMTF -3B/80
Chi-sqd = 2.86

Element	Net Counts		
Si-K	11274	+/-	206
Mg-K	3645	+/-	213
Al-K	1895	+/-	269
Ca-K	4078	+/-	125
Fe-K	3245	+/-	108
Na-K	405	+/-	110
K -K	120	+/-	67

REF.S EDS:SIK EDS:MGK EDS:ALK EDS:CAK EDS:FEK EDS:NAK
EDS:K K

041172-73 SP 852

EL-LINE	PEAK	K-FACTOR	CEL/CREF	ATOM%	EL WT%	WT%	FORMULA
SI-K	11274	1.000	1.000	19.46	24.81	53.16	SIO2
MG-K	3645	1.000	0.323	7.34	8.02	13.37	MGO
AL-K	1895	0.750	0.126	2.54	3.13	5.91	AL2O3
CA-K	4078	0.949	0.344	4.68	8.53	11.94	CAO
FE-K	3245	1.399	0.403	3.92	10.00	14.28	FE2O3
NA-K	405	0.549	0.020	0.47	0.49	1.00	NA2O3
K-K	120	1.059	0.011	0.16	0.28	0.34	K2O
O			1.804	61.42	44.75		

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	53.16	Si+4	7.5129	7.5129							
Al2O3	5.91	Al+3	0.9843	0.4871	**0.4973**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	14.28	Fe+3	0.0456			0.0456	0.0000				
MgO	13.37	Mg+2	2.8170			2.8170	**0.0000**				
MnO	0	Fe+2	1.6369			1.6369	**0.0000**				
CaO	11.94	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	1	Ca+2	1.8078					1.8078	0.0000		
K2O	0.34	Na+	0.2740					0.1922	**0.0818**	0.0818	0.0000
		K+	0.0613							0.0613	0.0000
Total	**100**		**Excess**	T site	**0.4973**	C site	**0.0000**	B site	**0.0817882**	A site	**0**
			Total	**8**		**4.9967**		**2.0000**		**0.1431**	**0.0000**
			%Fill	**100**		**99.9338**		**100**			

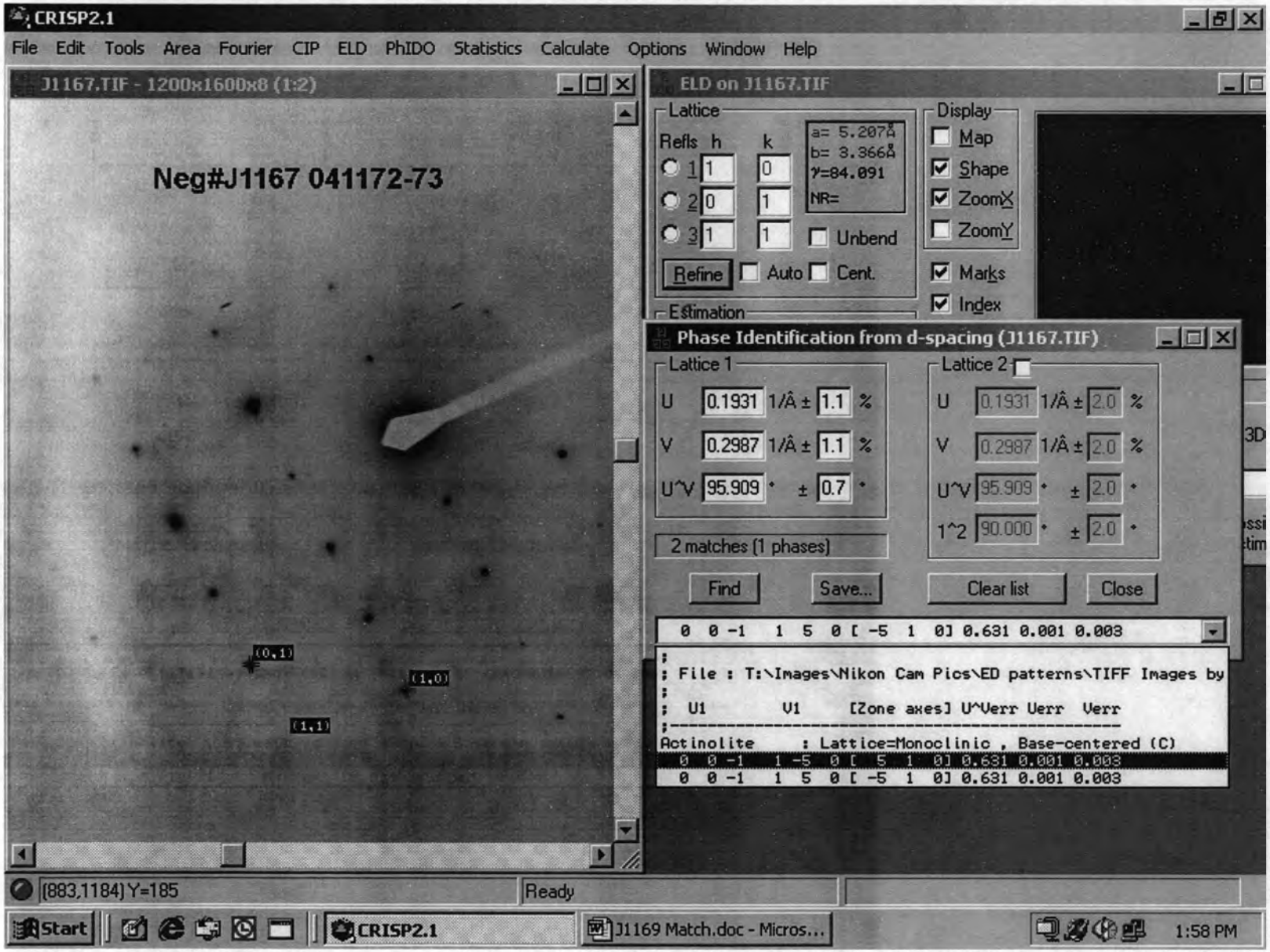
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

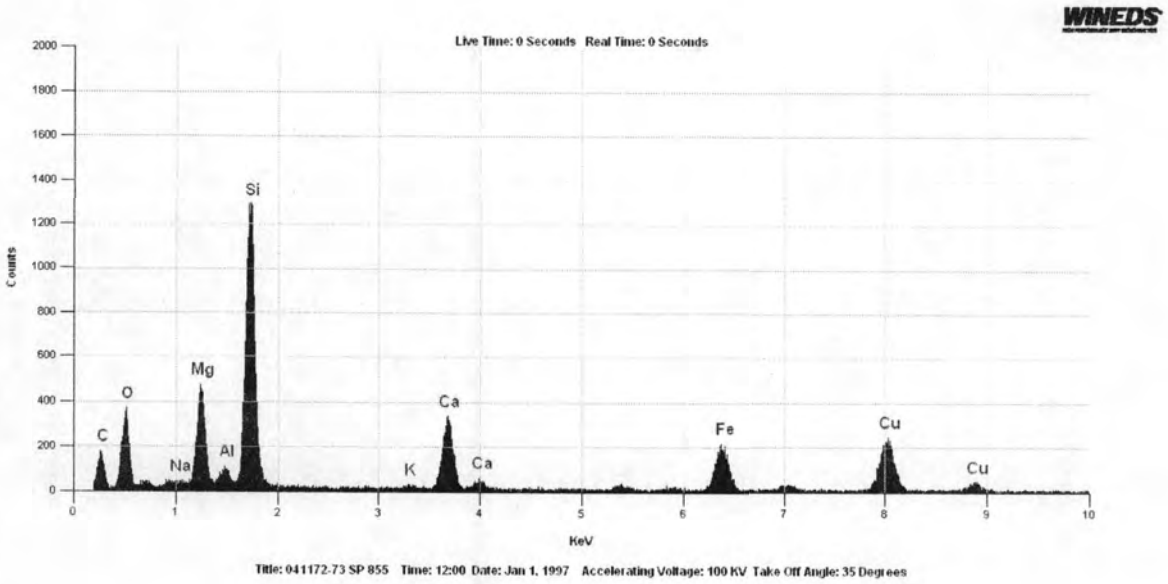
Sample # **041172-73-852**

Values		Satisfied Conditions
(Ca,Na)@B	2.00	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.19	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.81	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.14	Si > 7.5
Mg/(Mg+Fe2)	0.63	(Mg/(Mg+Fe2))< 0.9
Si	7.51	

Mineral Analysis Program (Version 5.0)

Neg#J1167; Sample# 041172-73
ACTINOLITE
[5 1 0]





Quantitative Analysis Results - Standardless Analysis :
041172-73 SP 855 Jan 1, 1997
EDS Parameters - 100KV, Takeoff Angle: 35.0°, Fit Index: 495.21
Correction: CLIFF LORIMER, Cycles: 1

Element	Atoms%	Compound	Weight%	Error(±)	Norm%
Na	0.35	Na2O	0.49	0.22	0.49
Mg	7.28	MgO	13.43	0.38	13.43
Al	0.83	Al2O3	1.94	0.16	1.94
Si	21.49	SiO2	59.05	0.95	59.05
K	0.14	K2O	0.31	0.12	0.31
Ca	4.81	CaO	12.33	0.46	12.33
Fe	3.41	Fe2O3	12.45	0.73	12.45
<Total>	100.00		100.00		100.00

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	59.05	Si+4	8.0000	8.0000							
Al2O3	1.94	Al+3	0.3328	0.0000	**0.3328**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	12.45	Fe+3	0.0231			0.0231	0.0000				
MgO	13.43	Mg+2	2.8160			2.8160	**0.0000**				
MnO	0	Fe+2	1.4514			1.4514	**0.0000**				
CaO	12.33	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0.49	Ca+2	1.8602					1.8602	0.0000		
K2O	0.31	Na+	0.1707					0.1398	**0.0309**	0.0309	0.0000
		K+	0.0719							0.0719	0.0000
Total	**100**		**Excess**	T site	**0.3328**	C site	**0.0000**	B site	**0.0309187**	A site	**0**
			Total	**8**		**4.6233**		**2.0000**		**0.1028**	**0.0000**
			%Fill	**100**		**92.4665**		**100**			

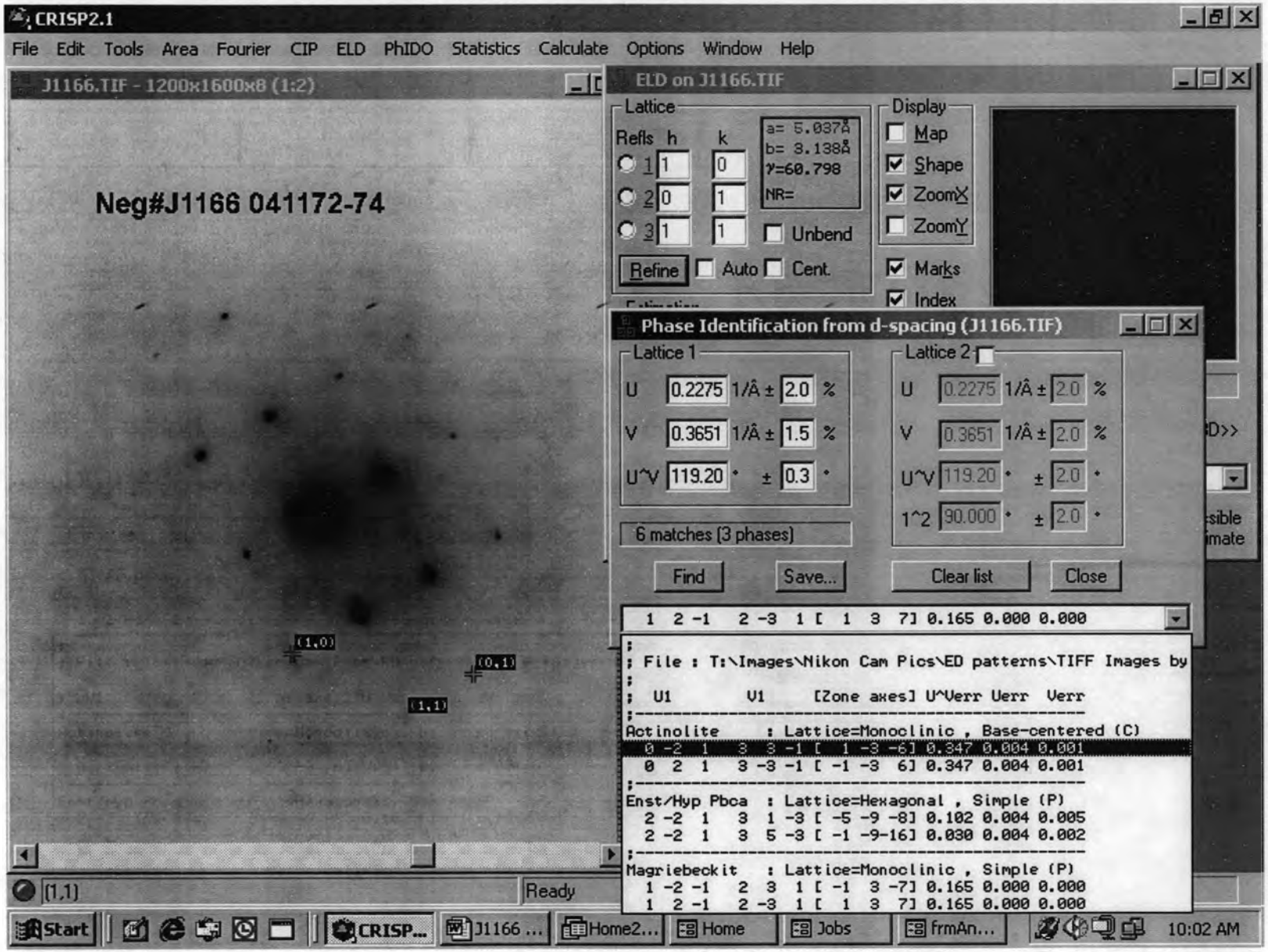
Prefix none
Name **actinolite**
Modifier none
Group **Calcic Amphibole**

Sample # **041172-73-855**

Values		Satisfied Conditions
(Ca,Na)@B	2.00	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.14	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.86	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.10	Si > 7.5
Mg/(Mg+Fe2)	0.66	(Mg/(Mg+Fe2))< 0.9
Si	8.00	

Mineral Analysis Program (Version 5.0)

Neg#J1166; Sample# 041172-74
ACTINOLITE
[1 -3 -6]



```
@*@ 'SQMTF'
*
SQMTF: QUANTIFY
Standardless Analysis

Refit _NAK' _NAK"
 Refit _ALK' _ALK" _FEK" _NAK  _K K"
 Chi-sqd = 2.98

 Element          Net Counts
  Si-K          17633 +/-   190
   Mg-K          6577 +/-   148
  Al-K            999 +/-    88
   Ca-K          5795 +/-   152
  Fe-K          2503 +/-    74
   Na-K            0 +/-     0
  K -K           150 +/-    37

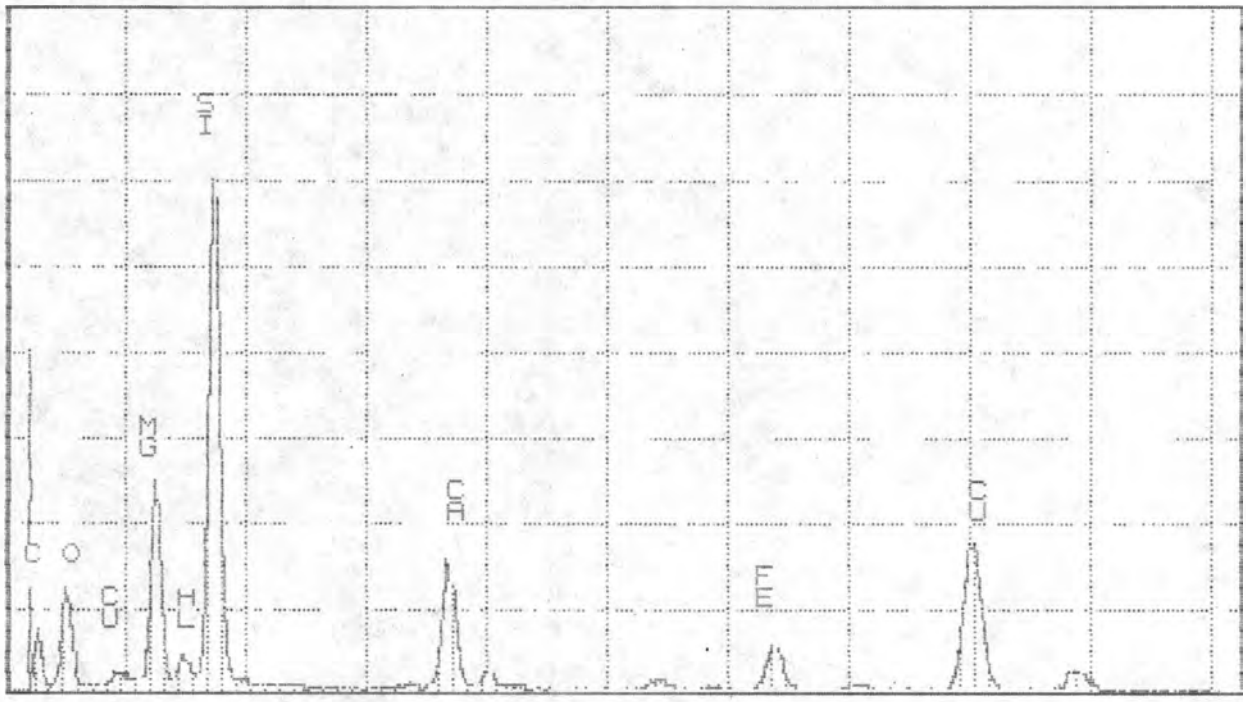

K REF.S  EDS:SIK    EDS:MGK    EDS:ALK    EDS:CAK    EDS:FEK    EDS:NAK    EDS:

041472-74 SP854

EL-LINE   PEAK  K-FACTOR   CH/CREF  ATOM%  EL WT%    WT%  FORMULA
 SI-K    17633   1.000     1.000   21.39  27.96   59.91  SIO2
MG-K      6577   1.000     0.373    9.31  10.43   17.38  MGO
 AL-K      999   0.750     0.043    0.94   1.19    2.25  AL2O3
CA-K      5795   0.949     0.317    4.67   8.73   12.22  CAO
 FE-K     2503   1.399     0.199    2.13   5.56    7.94  FE2O3
NA-K        0   0.549     0.000    0.00   0.00    0.00  NA2O3
 K-K      150   1.059     0.009    0.14   0.25    0.31  K2O
O                         1.641   61.43  45.84
```

TN-5500 University of Washington / JEOL TUE 14-DEC-04 01:07

Cursor: 0.000keV = 0



0.000 B- 5 VFS = 2048 10 240

24 041472-74 SP854

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1,30
*
```

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	59.91	Si+4	8.0000	8.0000							
Al2O3	2.25	Al+3	0.3714	0.0000	**0.3714**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	7.94	Fe+3	0.0157			0.0157	0.0000				
MgO	17.38	Mg+2	3.5428			3.5428	**0.0000**				
MnO	0	Fe+2	0.9080			0.9080	**0.0000**				
CaO	12.22	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	1.7965					1.7965	0.0000		
K2O	0.31	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0665							0.0665	0.0000
Total	**100.01**		**Excess**	T site	**0.3714**	C site	**0.0000**	B site	**0**	A site	**0**
			Total	**8**		**4.8380**		**1.7965**		**0.0665**	**0.0000**
			%Fill	**100**		**96.7597**		**89.8253**			

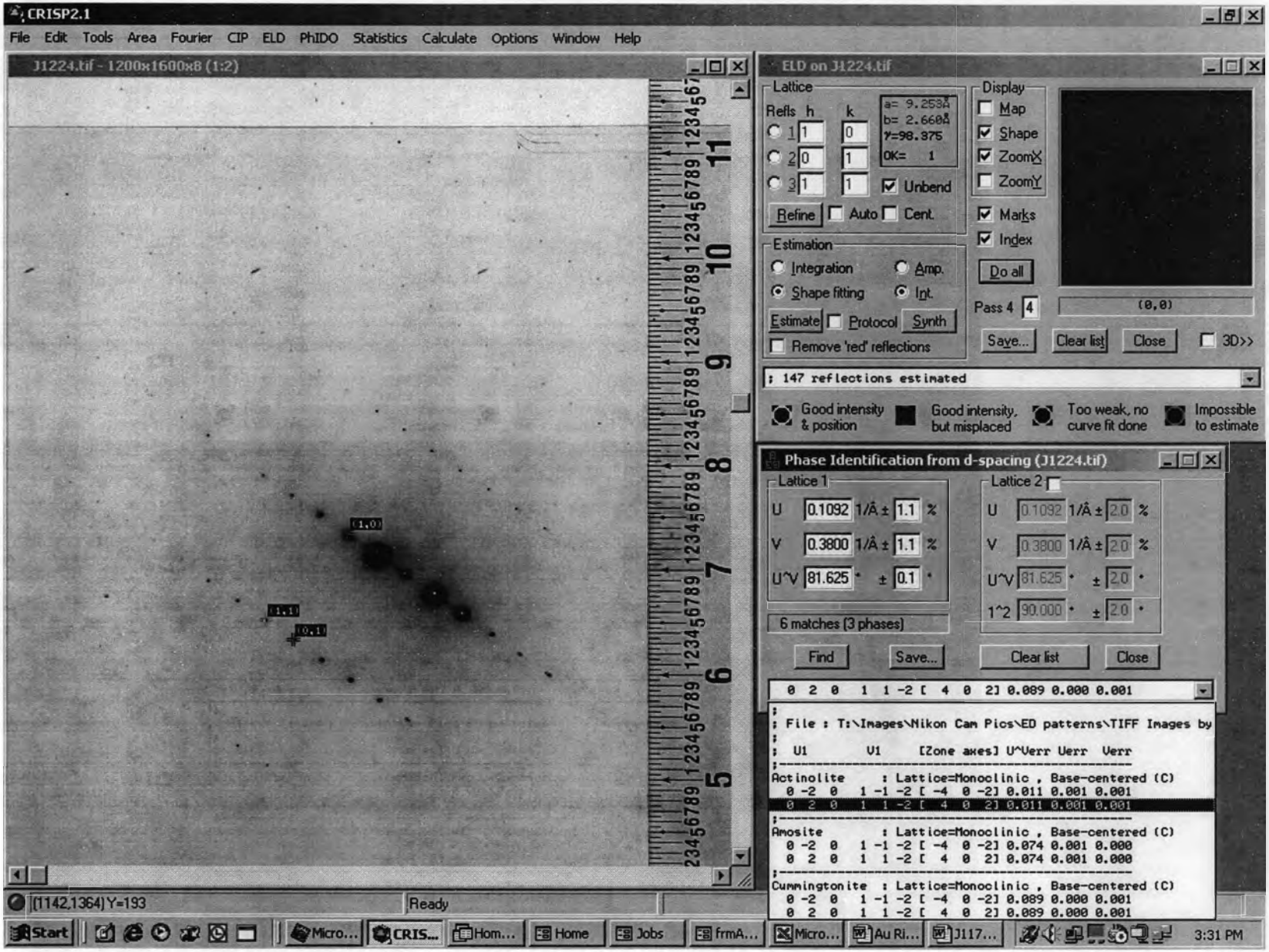
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041172-74-854**

Values		Satisfied Conditions
(Ca,Na)@B	1.80	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.80	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.07	Si > 7.5
Mg/(Mg+Fe2)	0.80	(Mg/(Mg+Fe2))< 0.9
Si	8.00	

Mineral Analysis Program (Version 5.0)

Sample 041172-75
Neg #1224
ACTINOLITE
[2 0 1]



INTE-% :
LABEL = 041172-75 SP 15563
15-DEC-72 03:29:24
50.329 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	31.016	8.212	13.617
ALK	14.663	2.332	4.407
SIK	175.743	26.172	55.991
K K	0.457	0.113	0.136
CAK	64.952	9.222	12.904
FEK	48.004	9.054	12.945
TOTAL			100.000

USED PEIF: USER

14-DEC-04 03:30:19 SUPER QUANT
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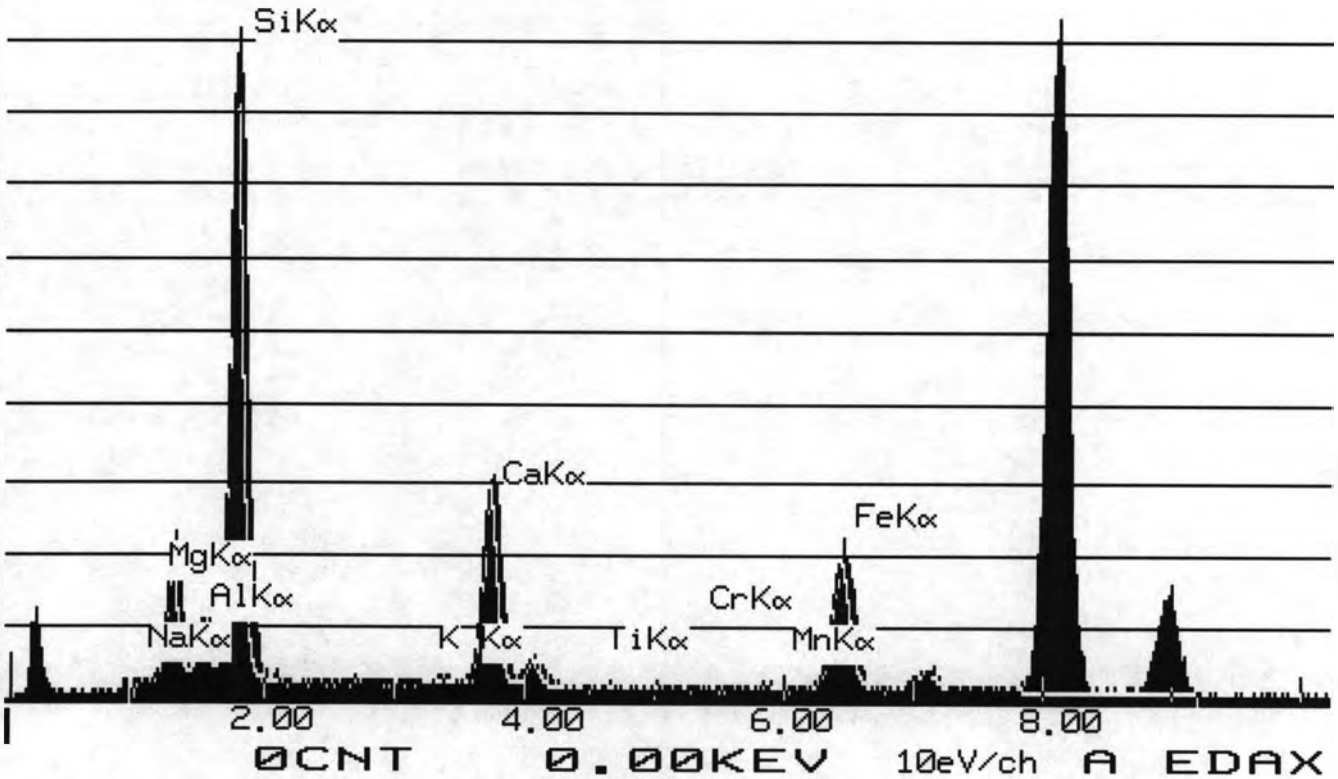
FS= 1026/ 1026 PRST= 200LSEC
A =041172-75 SP 15563



	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	55.991	Si+4	7.8121	7.8121							
Al2O3	4.407	Al+3	0.7246	0.1879	**0.5367**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	12.945	Fe+3	0.0136			0.0136	0.0000				
MgO	13.617	Mg+2	2.8324			2.8324	**0.0000**				
MnO	0	Fe+2	1.4952			1.4952	**0.0000**				
CaO	12.904	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	1.9288					1.9288	0.0000		
K2O	0.136	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0242							0.0242	0.0000
Total	**100**		**Excess**	T site	**0.5367**	C site	**0.0000**	B site	**0**	A site	**0**
			Total	**8**		**4.8779**		**1.9288**		**0.0242**	**0.0000**
			%Fill	**100**		**97.5574**		**96.4417**			

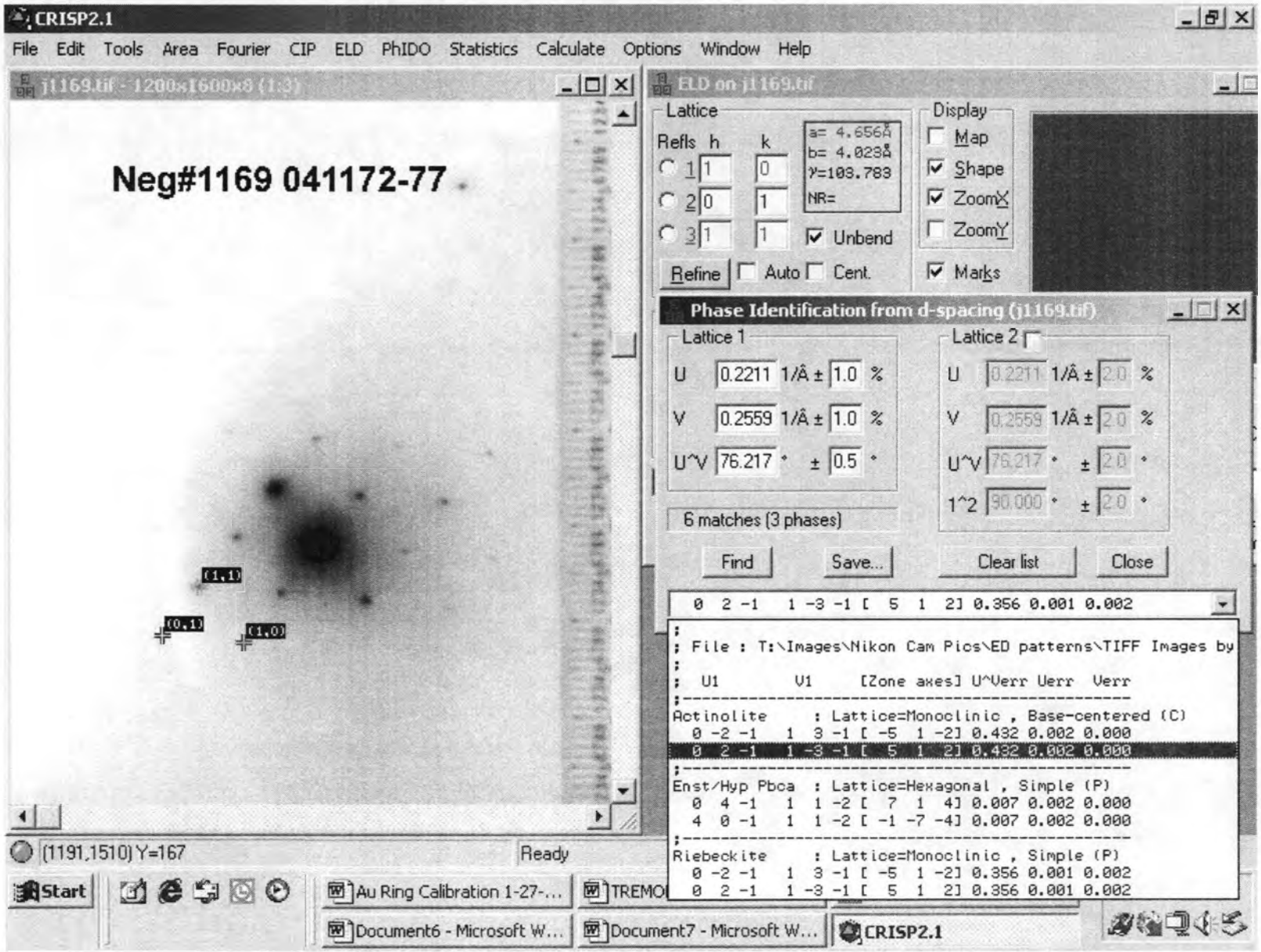
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # 041172-75-15563

Values		Satisfied Conditions
(Ca,Na)@B	1.93	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.93	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.02	Si > 7.5
Mg/(Mg+Fe2)	0.65	(Mg/(Mg+Fe2))< 0.9
Si	7.81	

Mineral Analysis Program (Version 5.0)

Neg#J1169; Sample# 041172-77
ACTINOLITE
[5 1 2]



SQMTF: QUANTIFY
Standardless Analysis

Refit _K K' _K K"
Refit _ALK' _ALK"
Chi-sqd = 2.13

Element	Net Counts	
Si-K	6608 +/-	123
Mg-K	1805 +/-	121
Al-K	859 +/-	65
Ca-K	2278 +/-	95
Fe-K	2389 +/-	92
Na-K	192 +/-	74
K -K	63 +/-	23

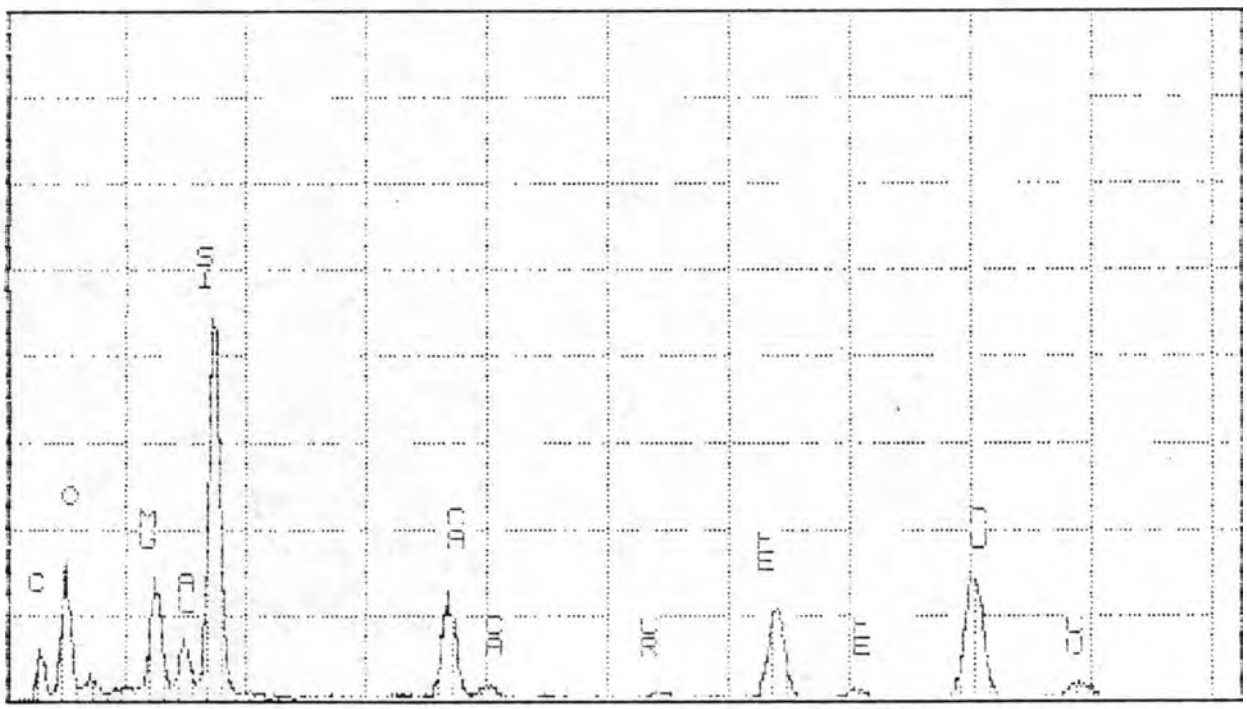
REF.S EDS:SIK EDS:MGK EDS:ALK EDS:CAK EDS:FEK EDS:NAK
EDS:K K

EXEC(7-C) DATA LABEL

EL-LINE	PEAK	K-FACTOR	CEL/CREF	ATOM%	EL WT%	WT%	FORMULA
SI-K	6608	1.000	1.000	19.84	24.94	53.45	SIO2
MG-K	1805	1.000	0.273	6.32	6.81	11.36	MGO
AL-K	859	0.750	0.098	2.01	2.43	4.60	AL2O3
CA-K	2278	0.949	0.327	4.55	8.17	11.44	CAO
FE-K	2389	1.399	0.506	5.02	12.63	18.04	FE2O3
NA-K	192	0.549	0.016	0.39	0.40	0.82	NA2O3
K-K	63	1.059	0.010	0.15	0.26	0.31	K2O
O			1.778	61.73	44.36		

1;30
*
0;0
*

TN-5500 University of Washington / JEOL WED 15-DEC-04 02:19
Cursor: 0.000KeV = 0



0.000 VFS = 1024 10 240
0 041172-77 SP857

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	53.45	Si+4	7.6589	7.6589							
Al2O3	4.6	Al+3	0.7768	0.3411	**0.4357**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	18.04	Fe+3	0.0778			0.0778	0.0000				
MgO	11.36	Mg+2	2.4267			2.4267	**0.0000**				
MnO	0	Fe+2	2.0751			2.0597	**0.0154**				
CaO	11.44	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0.82	Ca+2	1.7562					1.7562	0.0000		
K2O	0.31	Na+	0.2278					0.2278	**0.0000**	0.0000	0.0000
		K+	0.0567							0.0567	0.0000
Total	**100.02**		**Excess**	T site	**0.4357**	C site	**0.0154**	B site	**0**	A site	**0**
			Total	**8**		**5.0000**		**1.9840**		**0.0567**	**0.0000**
			%Fill	**100**		**100**		**99.1987**			

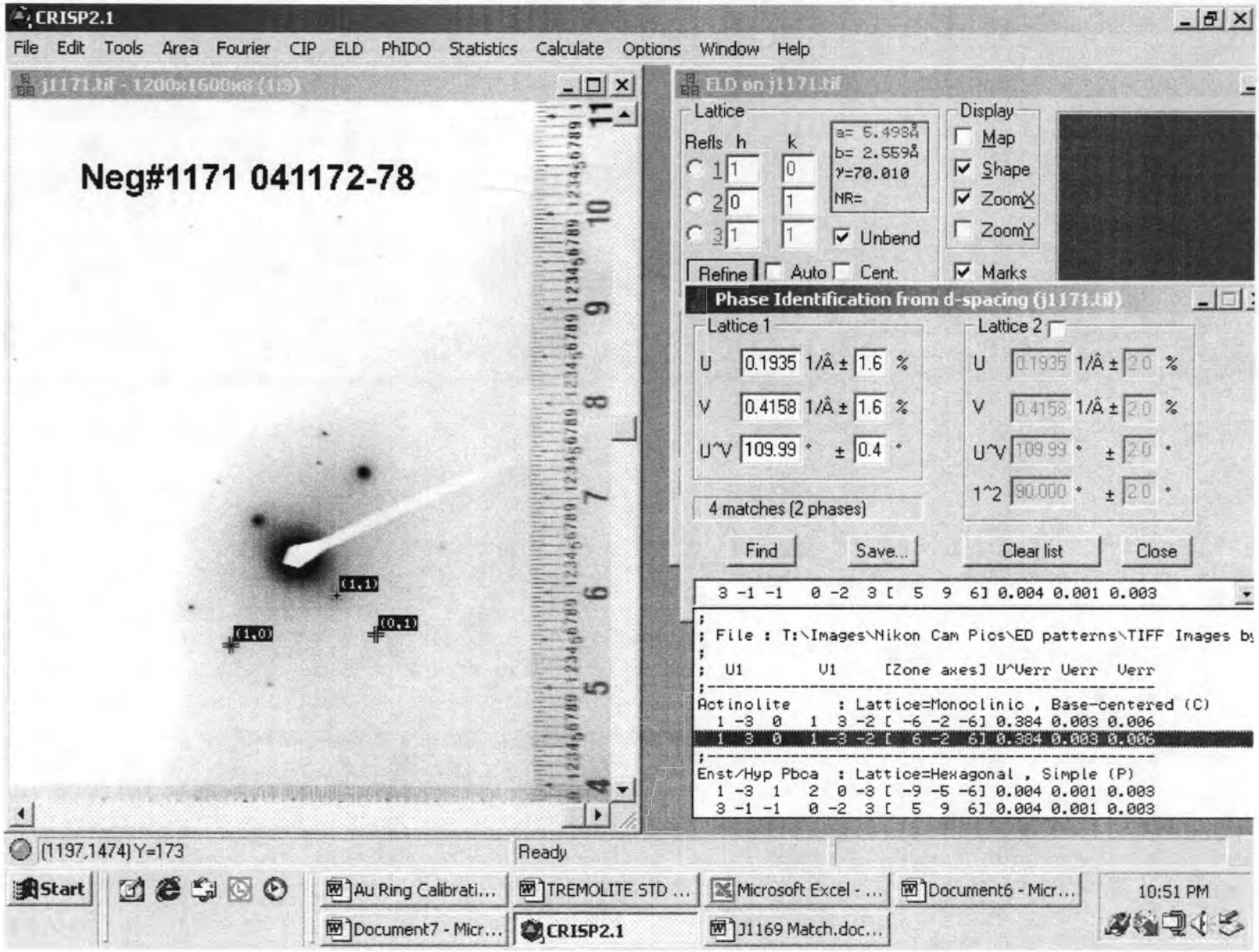
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041172-77-857**

Values		Satisfied Conditions
(Ca,Na)@B	1.98	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.23	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.76	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.06	Si > 7.5
Mg/(Mg+Fe2)	0.54	(Mg/(Mg+Fe2))< 0.9
Si	7.66	

Mineral Analysis Program (Version 5.0)

Neg#J1171; Sample# 041172-78
ACTINOLITE
[3 1 3]

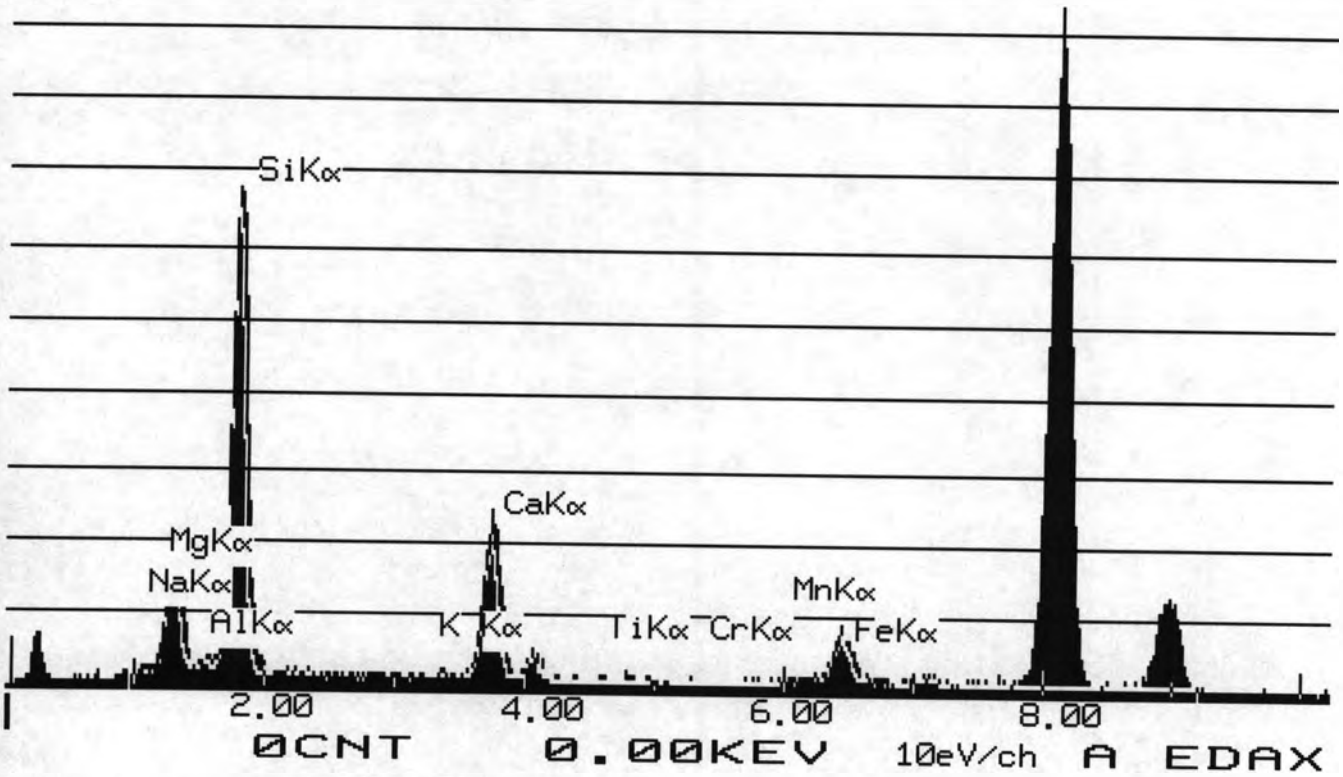


INTE-% :
LABEL = 041172-78 SP 15564
15-DEC-72 21:50:48
80.650 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	19.938	11.927	19.777
ALK	0.707	0.254	0.480
SIK	84.017	28.268	60.475
K K	0.273	0.153	0.184
CAK	28.803	9.240	12.928
FEK	10.105	4.306	6.157
TOTAL			100.000

USED PEIF: USER

14-DEC-04 21:51:44 SUPER QUANT
RATE= 190CPS TIME= 81LSEC
FS= 1021/ 1021 PRST= 200LSEC
A =041172-78 SP 15564



	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	60.475	Si+4	8.0000	8.0000							
Al2O3	0.48	Al+3	0.0922	0.0000	**0.0922**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	6.157	Fe+3	0.0164			0.0164	0.0000				
MgO	19.777	Mg+2	4.0195			4.0195	**0.0000**				
MnO	0	Fe+2	0.7105			0.7105	**0.0000**				
CaO	12.928	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	1.8982					1.8982	0.0000		
K2O	0.184	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0489							0.0489	0.0000
Total	100.001		Excess	T site	0.0922	C site	0.0000	B site	0	A site	0
			Total	8		4.8386		1.8982		0.0489	0.0000
			%Fill	100		96.7722		94.9087			

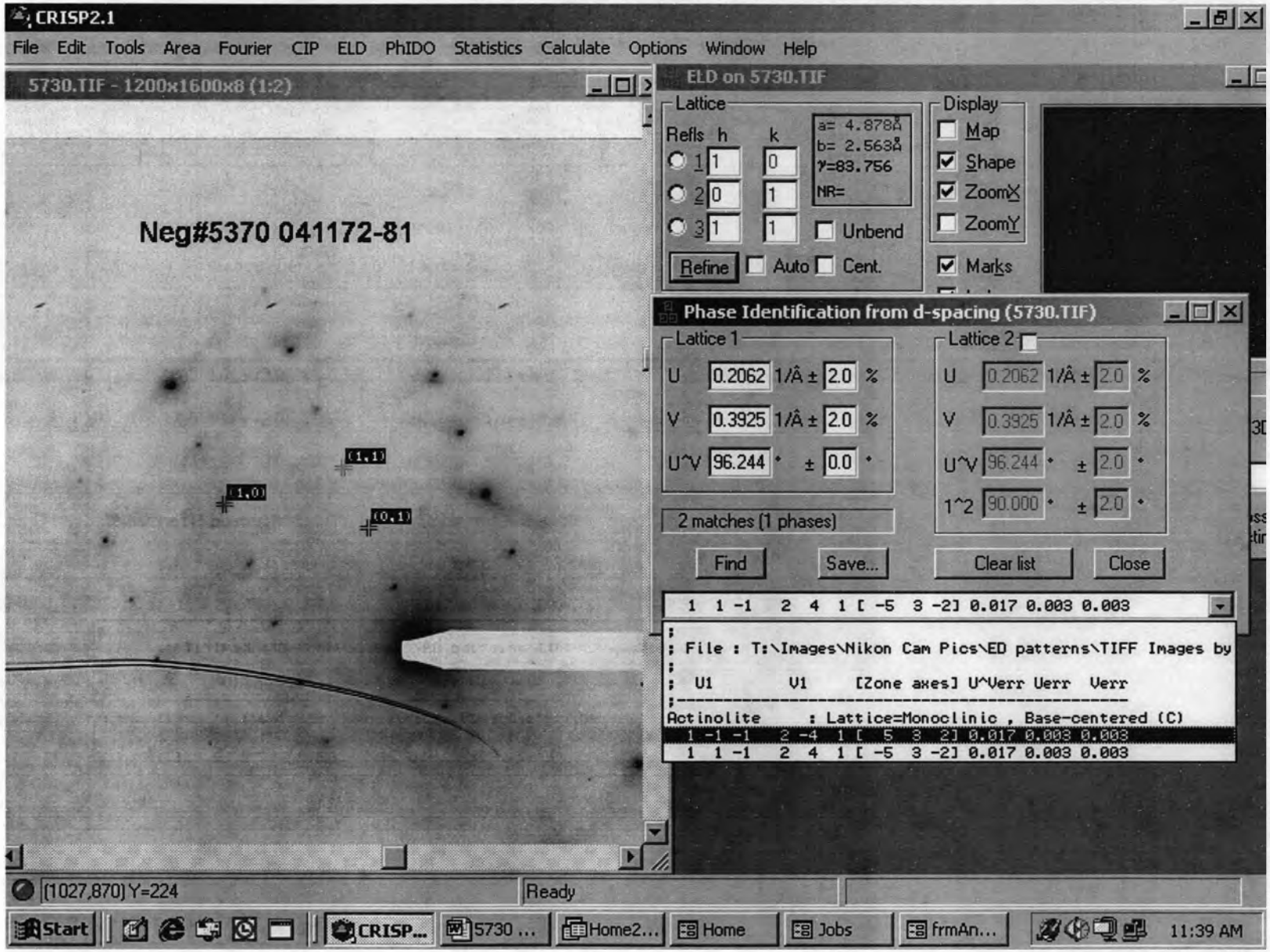
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # 041172-78-15564

Values		Satisfied Conditions
(Ca,Na)@B	1.90	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.90	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.05	Si > 7.5
Mg/(Mg+Fe2)	0.85	(Mg/(Mg+Fe2))< 0.9
Si	8.00	

Mineral Analysis Program (Version 5.0)

Neg#5730; Sample# 041172-81
ACTINOLITE
[5 3 2]



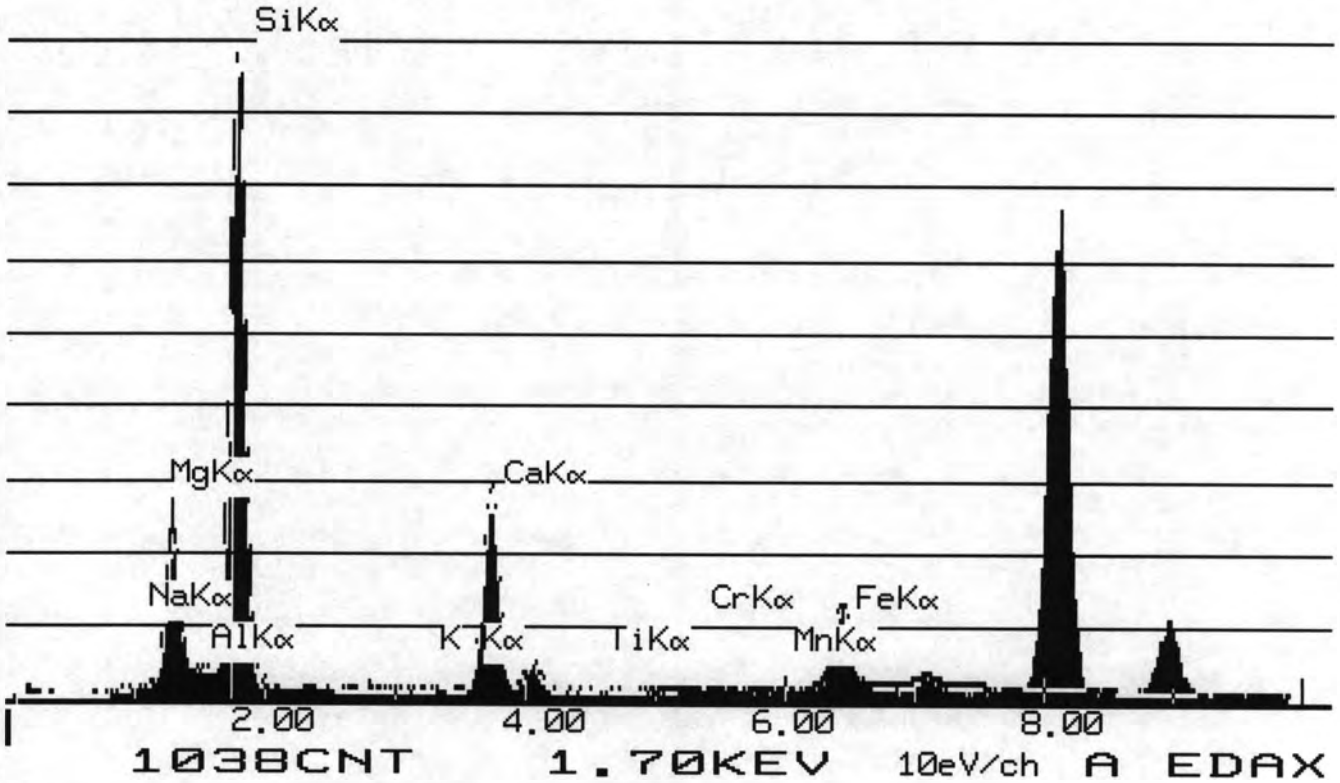
INTE-% :
LABEL = 041172-81 SP 15576
16-DEC-72 23:19:28
48.185 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	59.957	11.050	18.321
ALK	5.043	0.558	1.055
SIK	269.256	27.909	59.707
K K	0.789	0.136	0.164
CAK	93.495	9.239	12.928
FEK	41.694	5.474	7.826

TOTAL			100.000

USED PEIF: USER

15-DEC-04 23:19:41 SUPER QUANT
RATE= 1286CPS TIME= 48LSEC
FS= 1321/ 1321 PRST= 200LSEC
A =041172-81 SP 15576



	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	59.707	Si+4	8.0000	8.0000							
Al2O3	1.055	Al+3	0.1809	0.0000	**0.1809**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	7.826	Fe+3	0.0156			0.0156	0.0000				
MgO	18.321	Mg+2	3.7446			3.7446	**0.0000**				
MnO	0	Fe+2	0.8979			0.8979	**0.0000**				
CaO	12.928	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	1.9051					1.9051	0.0000		
K2O	0.164	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0412							0.0412	0.0000
Total	**100.001**		**Excess**	T site	**0.1809**	C site	**0.0000**	B site	**0**	A site	**0**
			Total	**8**		**4.8389**		**1.9051**		**0.0412**	**0.0000**
			%Fill	**100**		**96.7786**		**95.2572**			

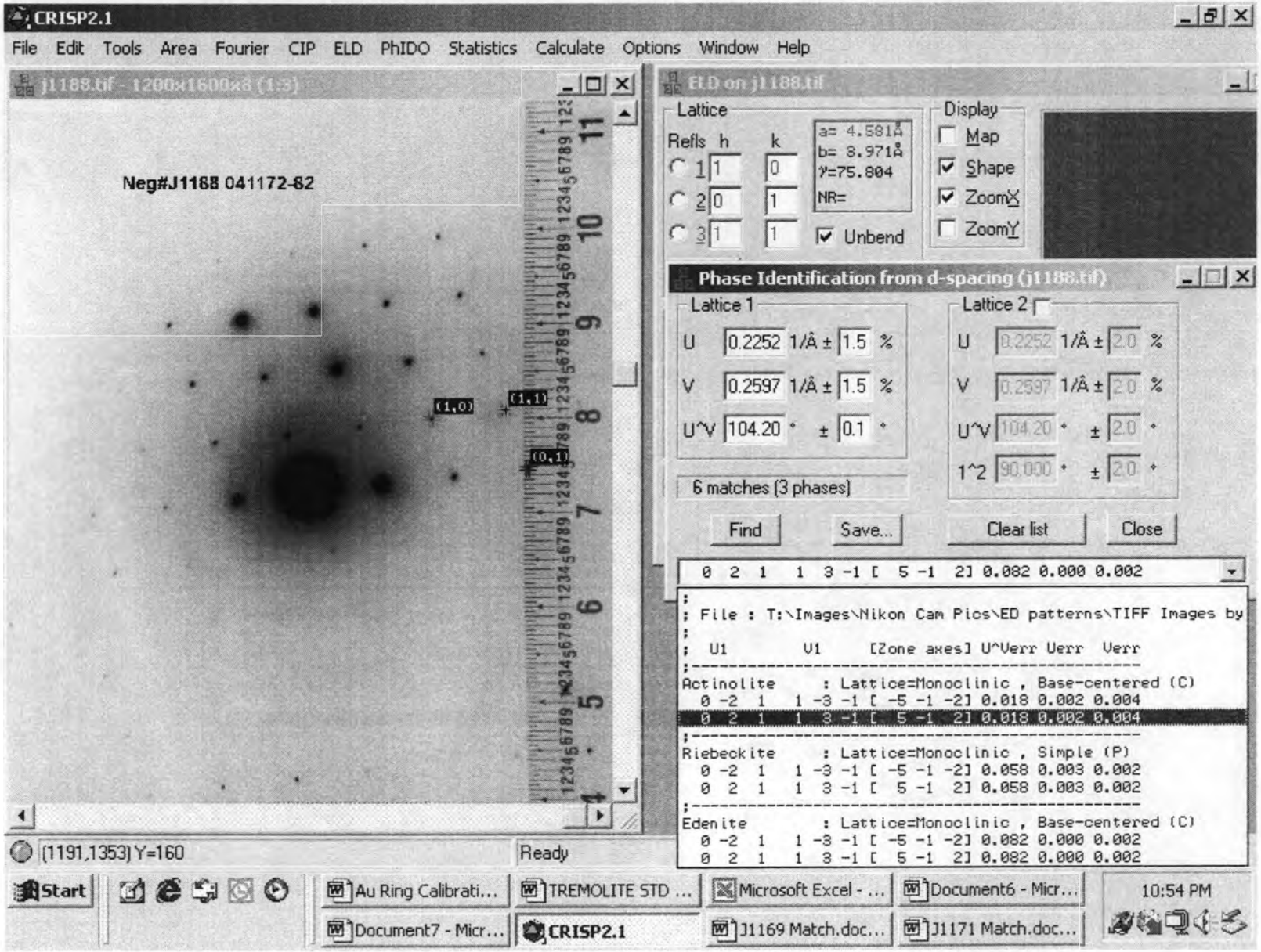
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041172-81-15576**

Values		Satisfied Conditions
(Ca,Na)@B	1.91	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.91	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.04	Si > 7.5
Mg/(Mg+Fe2)	0.81	(Mg/(Mg+Fe2))< 0.9
Si	8.00	

Mineral Analysis Program (Version 5.0)

Neg#J1188; Sample# 041172-82
ACTINOLITE
[5 -1 2]



SQMTF: QUANTIFY
Standardless Analysis

Refit _NAK' _NAK"
Refit _ALK' _FEK" _NAK
Chi-sqd = 4.05

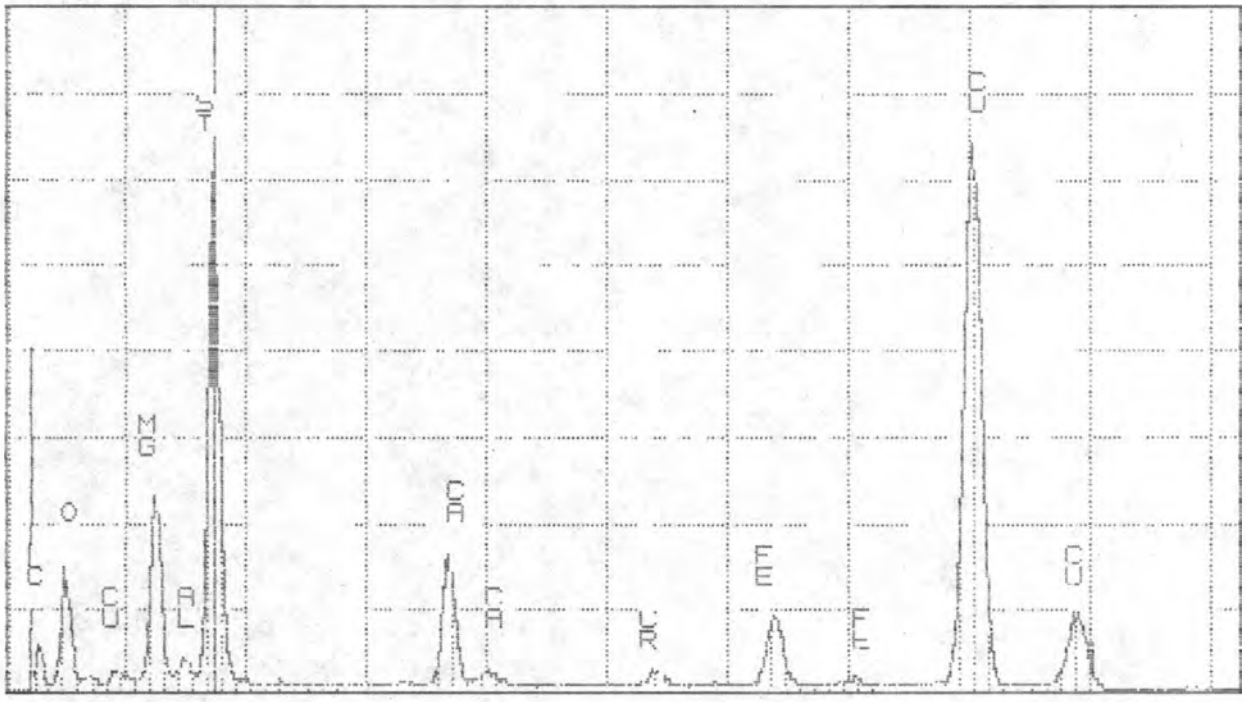
Element	Net Counts		
Si-K	18413	+/-	213
Mg-K	6367	+/-	161
Al-K	1174	+/-	276
Ca-K	5545	+/-	158
Fe-K	3923	+/-	94
Na-K	0	+/-	0
K -K	174	+/-	91

PEAKS EDS:SiK EDS:MGK EDS:ALK EDS:CAK EDS:FEK EDS:NAK EDS:

041172-82 SP876

EL-LINE	PEAK	K-FACTOR	CEL/CREF	ATOM%	EL WT%	WT%	FORMULA
SI-K	18413	1.000	1.000	21.21	27.41	58.73	SIO2
MG-K	6367	1.000	0.346	8.56	9.48	15.80	MGO
AL-K	1174	0.750	0.048	1.05	1.31	2.48	AL2O3
CA-K	5545	0.949	0.286	4.25	7.84	10.98	CAO
FE-K	3923	1.399	0.298	3.16	8.18	11.68	FE2O3
NA-K	0	0.549	0.000	0.00	0.00	0.00	NA2O
K-K	174	1.059	0.010	0.15	0.28	0.33	K2O
O			1.660	61.62	45.51		

TN-5500 University of Washington / JEOL FRI 17-DEC-04 23:12
Cursor: 1.740keV = 1615



0.000 8- 5 VFS = 2048 10.240
38 041172-82 SP876

1,30
*

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	58.73	Si+4	8.0000	8.0000							
Al2O3	2.48	Al+3	0.4071	0.0000	0.4071						
TiO2	0	Ti+4	0.0000	0.0000	0.0000						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	11.68	Fe+3	0.1606			0.1606	0.0000				
MgO	15.8	Mg+2	3.2478			3.2478	0.0000				
MnO	0	Fe+2	1.1746			1.1746	0.0000				
CaO	10.98	Mn+2	0.0000			0.0000	0.0000				
Na2O	0	Ca+2	1.6252					1.6252	0.0000		
K2O	0.33	Na+	0.0000					0.0000	0.0000	0.0000	0.0000
		K+	0.0642							0.0642	0.0000
Total	100		Excess	T site	0.4071	C site	0.0000	B site	0	A site	0
			Total	8		4.9900		1.6252		0.0642	0.0000
			%Fill	100		99.801		81.2611			

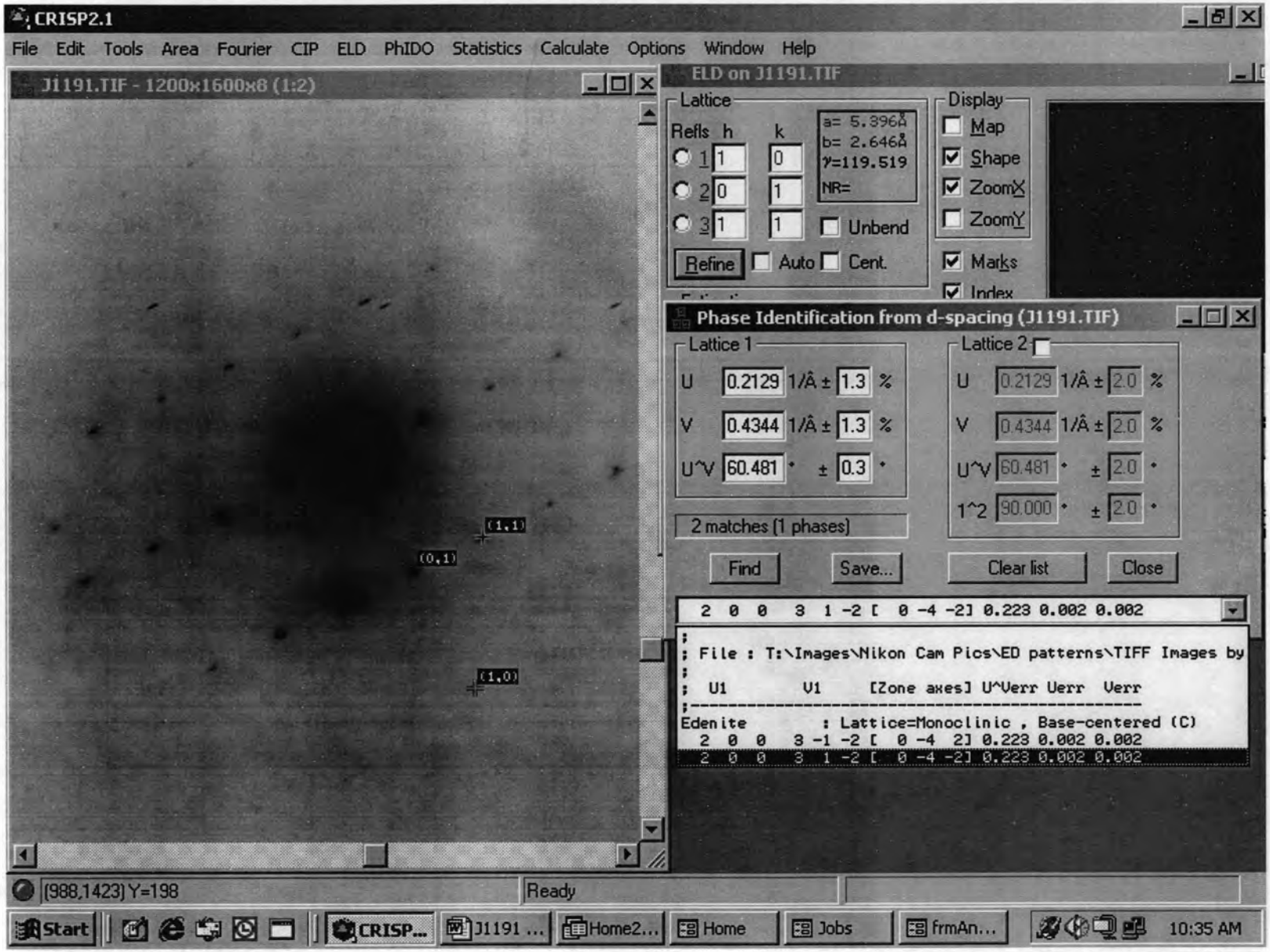
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # 041172-82-876

Values		Satisfied Conditions
(Ca,Na)@B	1.63	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.63	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.06	Si > 7.5
Mg/(Mg+Fe2)	0.73	(Mg/(Mg+Fe2))< 0.9
Si	8.00	

Mineral Analysis Program (Version 5.0)

Neg#J1191; Sample# 041172-83
EDENITE
[0 2 1]



SQMTF: QUANTIFY
Standardless Analysis

Chi-sqd = 6.76

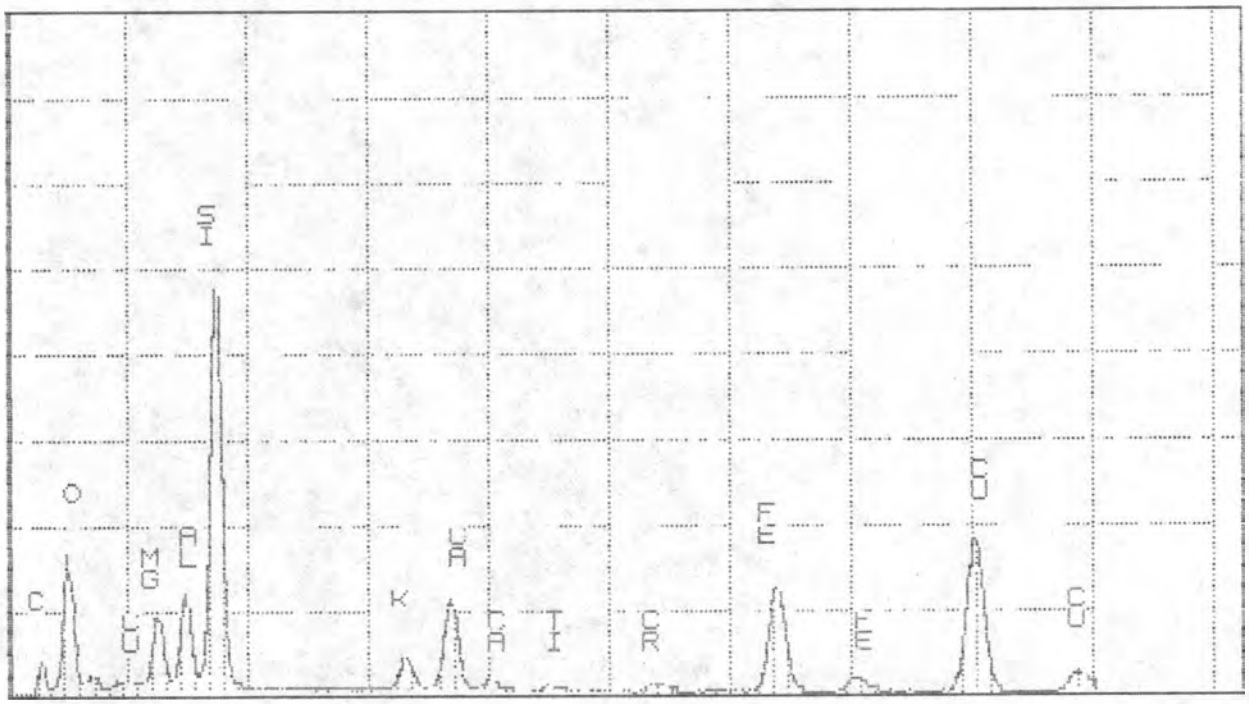
Element	Net Counts	
Si-K	28487 +/-	330
Mg-K	4738 +/-	298
Al-K	6478 +/-	416
Ca-K	8491 +/-	210
Fe-K	11597 +/-	210
Na-K	656 +/-	156
K -K	2923 +/-	160

PEAKS EDS:SIK EDS:MGK EDS:ALK EDS:CAK EDS:FEK EDS:NAK EDS:

041172-83 SP878

EL-LINE	PEAK	K-FACTOR	CHL/CREF	ATOM%	EL WT%	WT%	FORMULA
SI-K	28487	1.000	1.000	19.63	24.33	52.14	SIO2
MG-K	4738	1.000	0.166	3.81	4.05	6.75	MGO
AL-K	6478	0.750	0.171	3.47	4.15	7.84	AL2O3
CA-K	8491	0.949	0.283	3.89	6.84	9.65	CAO
FE-K	11597	1.399	0.570	5.59	13.87	19.81	FE2O3
NA-K	656	0.549	0.013	0.30	0.31	0.63	NA2O3
K-K	2923	1.054	0.109	1.53	2.65	3.19	K2O
O			1.798	61.77	43.76		

TN-5500 University of Washington / JEOL SHF 18-DEC-04 00:15
Cursor: 0.000keV = 0



0.000 VFS = 4096 10.240

0 041172-83 SP878

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	52.14	Si+4	7.5992	7.5992							
Al2O3	7.84	Al+3	1.3466	0.4008	**0.9458**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	19.81	Fe+3	0.0217			0.0217	0.0000				
MgO	6.75	Mg+2	1.4666			1.4666	**0.0000**				
MnO	0	Fe+2	2.3901			2.3901	**0.0000**				
CaO	9.65	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0.63	Ca+2	1.5068					1.5068	0.0000		
K2O	3.19	Na+	0.1780					0.1780	**0.0000**	0.0000	0.0000
		K+	0.5931							0.5931	0.0000
Total	100.01		Excess	T site	0.9458	C site	0.0000	B site	0	A site	0
			Total	8		4.8243		1.6848		0.5931	0.0000
			%Fill	100		96.4864		84.239			

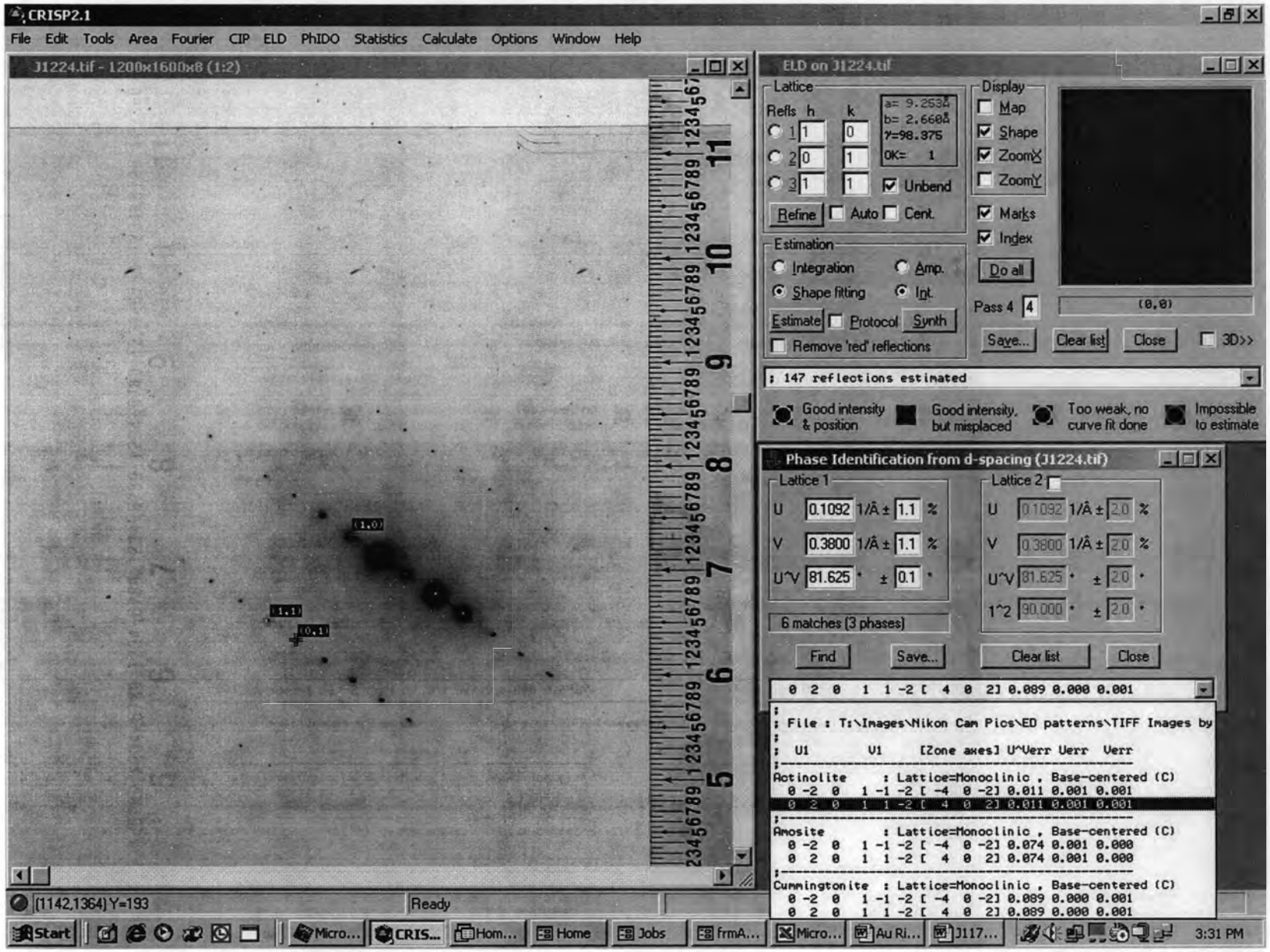
Prefix Alumino-Potassic
Name ferro-edenite
Modifier none
Group Calcic Amphibole

Sample # 041172-83-878

Values		Satisfied Conditions
(Ca,Na)@B	1.68	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.18	Ca@B >= 1.5 and (Na,K)@A >= 0.5
Ca@B	1.51	(Mg/(Mg+Fe2))< 0.5
(Na,K)@A	0.59	Si > 6.5
Mg/(Mg+Fe2)	0.38	
Si	7.60	

Mineral Analysis Program (Version 5.0)

Sample 041172-87
Neg #1225
ACTINOLITE
[5 1 2]



SUMIF: QUANTIFY
Standardless Analysis

Refit _K K' _K K"
Refit _MGK'
Chi-sqd = 5.42

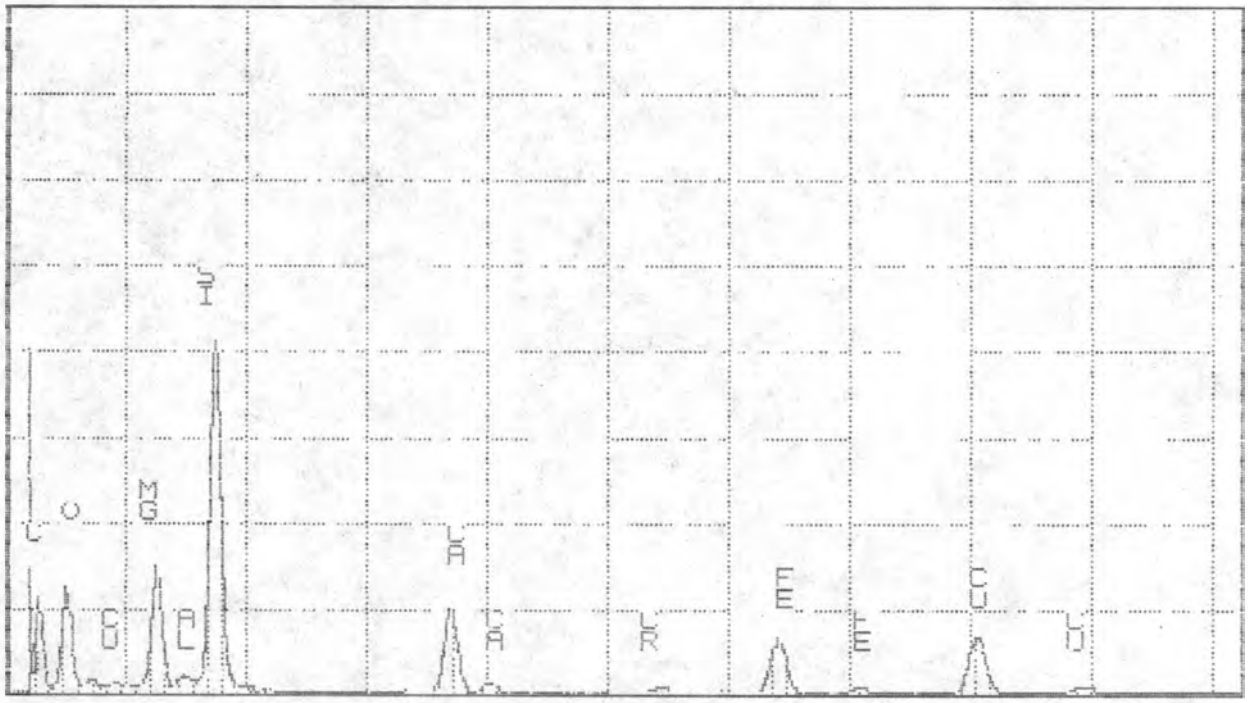
Element	Net Counts		
Si-K	23444	+/-	287
Mg-K	7730	+/-	271
Al-K	1191	+/-	310
Ca-K	7431	+/-	166
Fe-K	5763	+/-	148
Na-K	530	+/-	140
K -K	100	+/-	40

IRHRS EDS:SIK EDS:MGK EDS:ALK EDS:CAK EDS:FEK EDS:NAK EDS:

041172-87 SP906

EL-LINE	PEAK	K-FACTOR	CEL/CREF	ATOM%	EL WT%	WT%	FORMULA
SI-K	23444	1.000	1.000	21.00	26.96	57.78	SIO2
MG-K	7730	1.000	0.330	8.08	8.89	14.82	MGO
AL-K	1191	0.750	0.038	0.83	1.03	1.94	AL2O3
CA-K	7431	0.949	0.301	4.43	8.12	11.37	CAO
FE-K	5763	1.399	0.344	3.61	9.28	13.26	FE2O3
NA-K	530	0.549	0.012	0.32	0.34	0.69	NA2O3
K-K	100	1.059	0.005	0.07	0.12	0.15	K2O
O			1.678	61.67	45.26		

TN-5500 University of Washington / JEOL TUE 28-DEC-04 18:11
Cursor: 0 000keV = 0



0.000 B- 5 VFS = 4096 10.240
71 041172-87 SP906

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	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	57.78	Si+4	8.0000	8.0000							
Al2O3	1.94	Al+3	0.3223	0.0000	**0.3223**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	13.26	Fe+3	0.0164			0.0164	0.0000				
MgO	14.82	Mg+2	3.0868			3.0868	**0.0000**				
MnO	0	Fe+2	1.5342			1.5342	**0.0000**				
CaO	11.37	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0.69	Ca+2	1.7035					1.7035	0.0000		
K2O	0.15	Na+	0.1960					0.1960	**0.0000**	0.0000	0.0000
		K+	0.0309							0.0309	0.0000
Total	**100.01**		**Excess**	T site	**0.3223**	C site	**0.0000**	B site	**0**	A site	**0**
			Total	**8**		**4.9597**		**1.8995**		**0.0309**	**0.0000**
			%Fill	**100**		**99.195**		**94.973**			

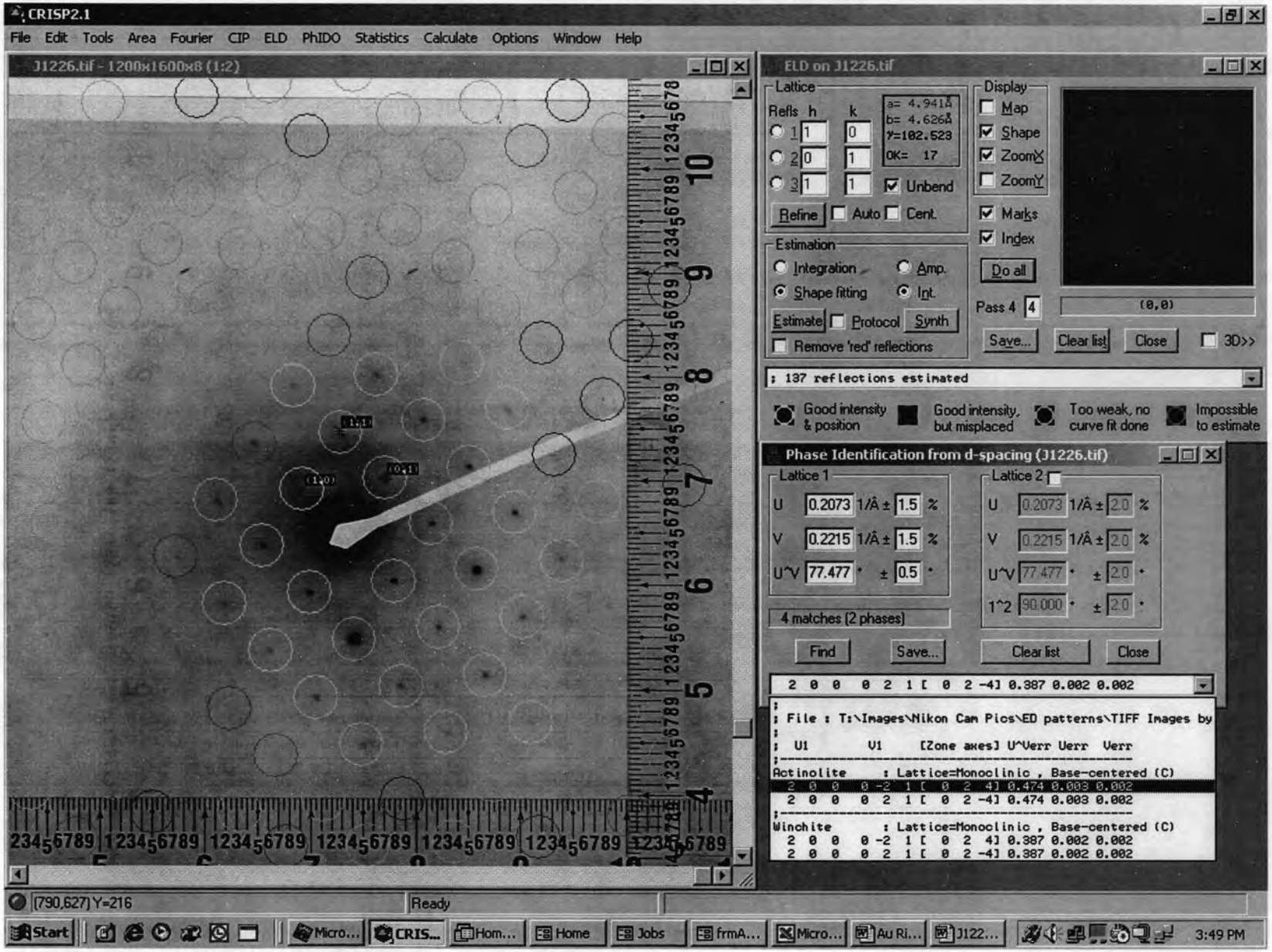
Prefix none
Name actinolite
Modifier none
Group **Calcic Amphibole**

Sample # **041172-87-906**

Values		**Satisfied Conditions**
(Ca,Na)@B	**1.90**	**(Ca,Na)@B >= 1 and Na@B < 0.5**
Na@B	**0.20**	**Ca@B >= 1.5 and (Na,K)@A < 0.5**
Ca@B	**1.70**	**(Mg/(Mg+Fe2))>= 0.5**
(Na,K)@A	**0.03**	**Si > 7.5**
Mg/(Mg+Fe2)	**0.67**	**(Mg/(Mg+Fe2))< 0.9**
Si	**8.00**	

Mineral Analysis Program (Version 5.0)

Sample 041172-88
Neg #1226
ACTINOLITE
[0 1 2]



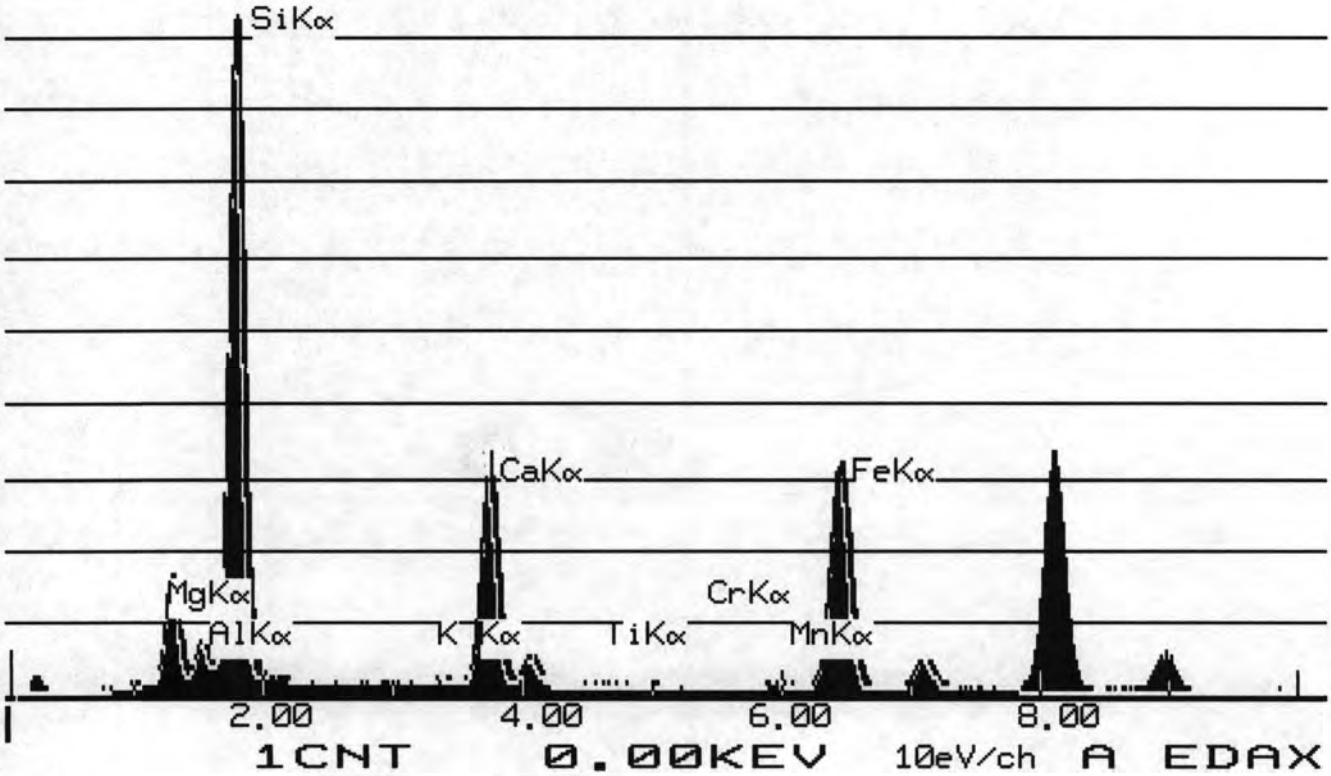
INTE-% :
LABEL = 041172-88 15603
19-DEC-72 05:43:40
59.889 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
NAK	0.701	0.078	0.106
MGK	126.450	6.672	11.063
ALK	43.981	1.394	2.634
SIK	832.884	24.716	52.877
K K	6.412	0.316	0.381
CAK	308.068	8.716	12.196
TIK	0.785	0.031	0.052
CRK	0.584	0.023	0.034
MNK	8.098	0.331	0.427
FEK	376.494	14.151	20.232

TOTAL			100.000

USED PEIF: USER

18-DEC-04 05:44:29 SUPER QUANT
RATE= 4111CPS TIME= 60LSEC
FS= 5521/ 5521 PRST=9999LSEC
A =041172-88 15603



	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	52.877	Si+4	7.6796	7.6796							
Al2O3	2.634	Al+3	0.4508	0.3204	**0.1304**						
TiO2	0.052	Ti+4	0.0057	0.0000	**0.0057**						
Cr2O3	0.034	Cr+3	0.0039			0.0039	0.0000				
Fe(total)O	20.232	Fe+3	0.2432			0.2432	0.0000				
MgO	11.063	Mg+2	2.3954			2.3954	**0.0000**				
MnO	0.427	Fe+2	2.1868			2.1868	**0.0000**				
CaO	12.196	Mn+2	0.0525			0.0346	**0.0179**				
Na2O	0.106	Ca+2	1.8976					1.8976	0.0000		
K2O	0.381	Na+	0.0298					0.0298	**0.0000**	0.0000	0.0000
		K+	0.0706							0.0706	0.0000
Total	**100.002**		**Excess**	T site	**0.1361**	C site	**0.0179**	B site	**0**	A site	**0**
			Total	**8**		**5.0000**		**1.9275**		**0.0706**	**0.0000**
			%Fill	**100**		**100**		**96.3738**			

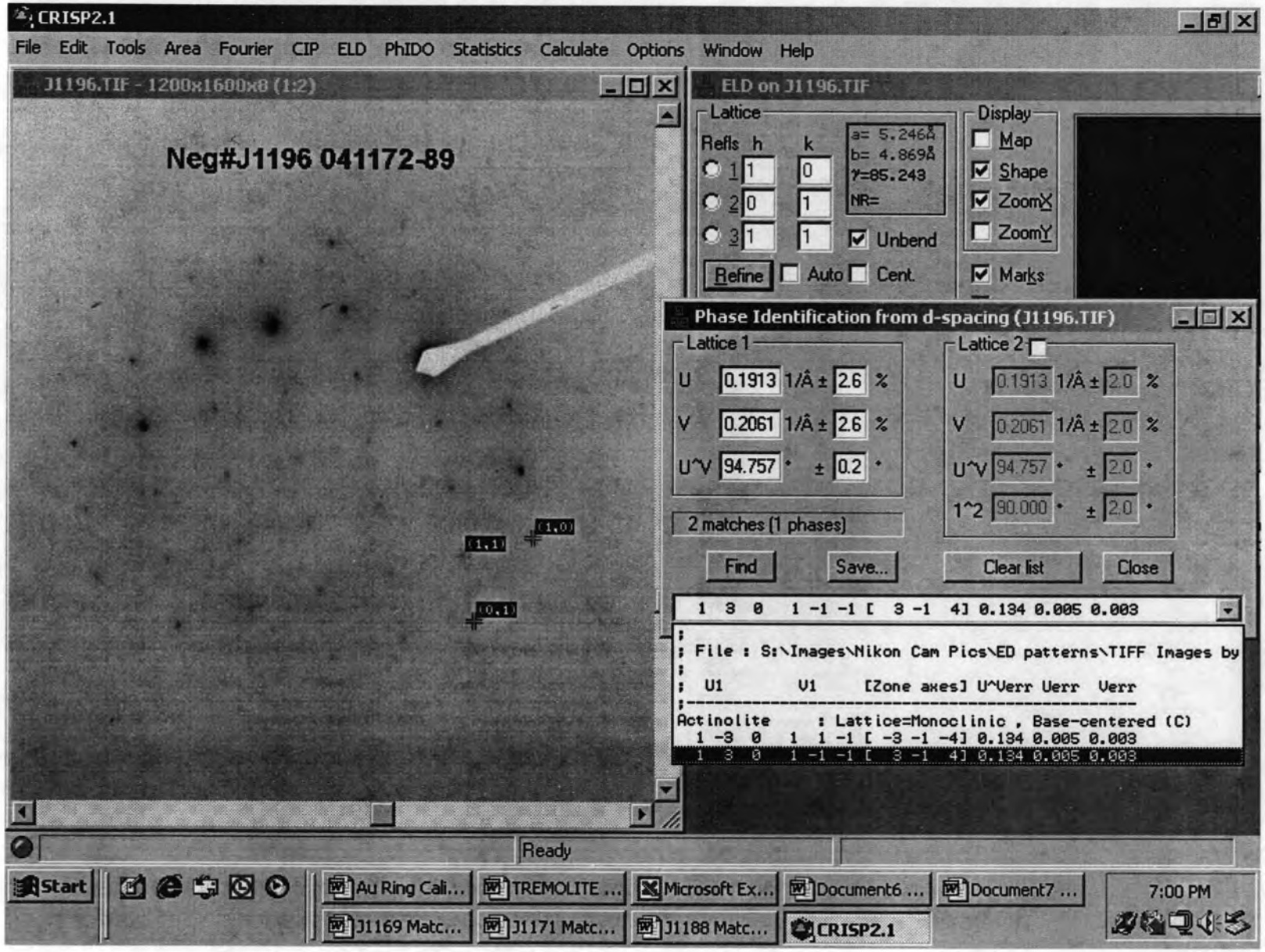
Prefix none
Name **actinolite**
Modifier none
Group **Calcic Amphibole**

Sample # **041172-88-15603**

Values		**Satisfied Conditions**
(Ca,Na)@B	**1.93**	**(Ca,Na)@B >= 1 and Na@B < 0.5**
Na@B	**0.03**	**Ca@B >= 1.5 and (Na,K)@A < 0.5**
Ca@B	**1.90**	**(Mg/(Mg+Fe2))>= 0.5**
(Na,K)@A	**0.07**	**Si > 7.5**
Mg/(Mg+Fe2)	**0.52**	**(Mg/(Mg+Fe2))< 0.9**
Si	**7.68**	

Mineral Analysis Program (Version 5.0)

Neg#J1196; Sample# 041172-89
ACTINOLITE
[3 -1 4]



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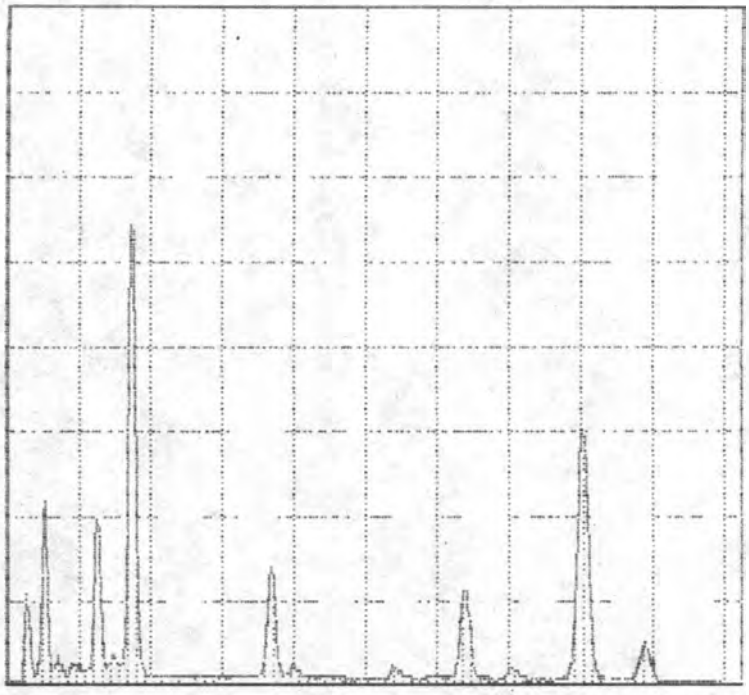
TN-5500 University of Washington / JEOL TUE 21-DEC-04 10:46

Cursor: 0.000keV = 0



0.000 VFS = 2048 10.240

32 041172-89 SP 882

TN FLEXTRAN [13-B]

SQMTF: QUANTIFY
SQMTF: SQ2000
Standardless Analysis

Chi-sqd = 4.00

Element	Net Counts	
Si-K	16254 +/-	241
Mg-K	4953 +/-	239
Al-K	736 +/-	283
Ca-K	4985 +/-	146
Fe-K	5110 +/-	147
Na-K	323 +/-	128
K -K	113 +/-	81

REF.S EDS:SIK EDS:MGK EDS:ALK EDS:CAK EDS:FEK EDS:NAK
EDS:K K

041172-89 SP 882

EL-LINE	PEAK	K-FACTOR	CEL/CREF	ATOM%	EL WT%	WT%	FORMULA
SI-K	16254	1.000	1.000	20.84	26.43	56.64	SIO2
MG-K	4953	1.000	0.305	7.41	8.06	13.43	MGO
AL-K	736	0.750	0.034	0.73	0.90	1.70	AL2O3
CA-K	4985	0.949	0.291	4.25	7.70	10.78	CAO
FE-K	5110	1.399	0.440	4.59	11.63	16.62	FE2O3
NA-K	323	0.549	0.011	0.28	0.29	0.59	NA2O3
K-K	113	1.059	0.007	0.11	0.20	0.24	K2O
O			1.694	61.79	44.79		

TN FLEXTRAN [13-B]

TRF\\\\\\\F\RF'
/H0

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	56.64	Si+4	7.9820	7.9820							
Al2O3	1.7	Al+3	0.2823	0.0180	**0.2643**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	16.62	Fe+3	0.2644			0.2644	0.0000				
MgO	13.43	Mg+2	2.8216			2.8216	**0.0000**				
MnO	0	Fe+2	1.6647			1.6498	**0.0150**				
CaO	10.78	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0.59	Ca+2	1.6275					1.6275	0.0000		
K2O	0.24	Na+	0.1612					0.1612	**0.0000**	0.0000	0.0000
		K+	0.0431							0.0431	0.0000
Total	**100**		**Excess**	T site	**0.2643**	C site	**0.0150**	B site	**0**	A site	**0**
			Total	**8**		**5.0000**		**1.7887**		**0.0431**	**0.0000**
			%Fill	**100**		**100**		**89.4361**			

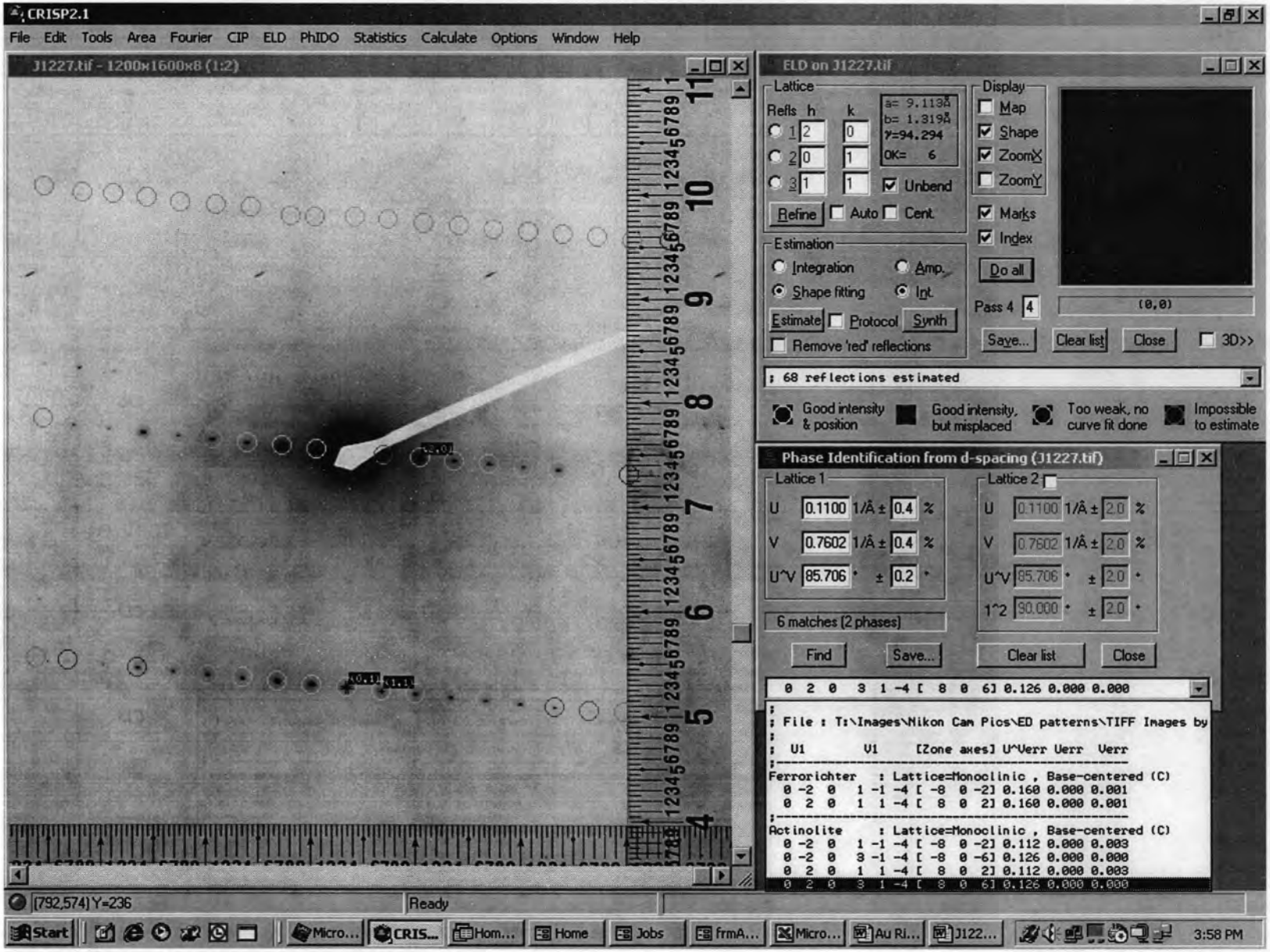
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041172-89-882**

Values		Satisfied Conditions
(Ca,Na)@B	1.79	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.16	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.63	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.04	Si > 7.5
Mg/(Mg+Fe2)	0.63	(Mg/(Mg+Fe2))< 0.9
Si	7.98	

Mineral Analysis Program (Version 5.0)

Sample 041172-90
Neg #1227
ACTINOLITE
[4 0 3]



*X 'SQMTF'
SQMTF -3B/80

SQMTF: QUANTIFY
Standardless Analysis
Chi-sqd = 4.35

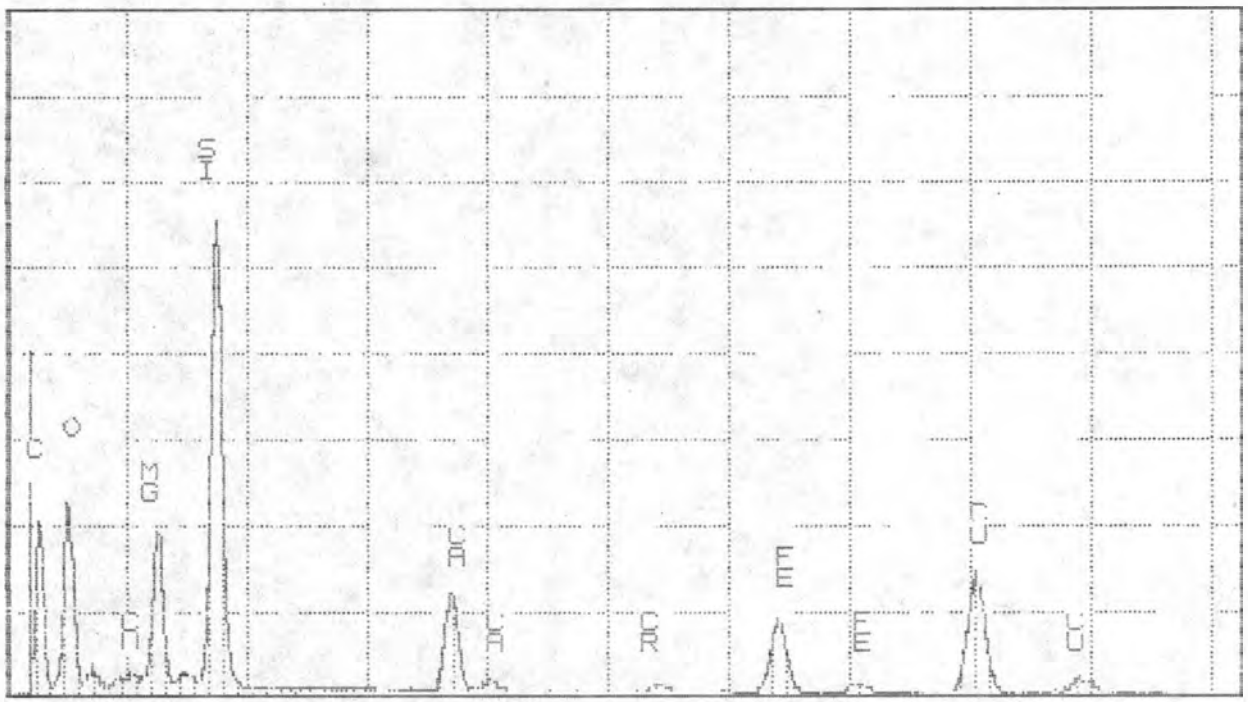
Element	Net Counts	
Si-K	15238 +/-	235
Mg-K	4983 +/-	243
Al-K	513 +/-	267
Ca-K	4390 +/-	132
Fe-K	3962 +/-	123
Na-K	723 +/-	126
K -K	169 +/-	72

REF.S EDS:SIK EDS:MGK EDS:ALK EDS:CAK EDS:FEK EDS:NAK
EDS:K K

041172-90 SP 895

EL-LINE	PEAK	K-FACTOR	CEL/CREF	ATOM%	EL WT%	WT%	FORMULA
Si-K	15238	1.000	1.000	21.01	26.98	57.81	SIO2
MG-K	4983	1.000	0.327	8.02	8.82	14.71	MGO
AL-K	513	0.750	0.025	0.55	0.68	1.29	AL2O3
CA-K	4390	0.949	0.274	4.03	7.38	10.34	CAO
FE-K	3962	1.399	0.364	3.82	9.82	14.03	FE2O3
NA-K	723	0.549	0.026	0.67	0.70	1.44	NA2O3
K-K	169	1.059	0.012	0.18	0.32	0.38	K2O
O			1.679	61.72	45.29		

TN-5500 University of Washington / JEOL THU 23-DEC-04 10:07
Cursor: 0.000keV = 0



0.000 B- 5 VFS = 2048 10.240
112 041172-90 SP 895

1,30
*

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	57.81	Si+4	8.0000	8.0000							
Al2O3	1.29	Al+3	0.2201	0.0000	**0.2201**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	14.03	Fe+3	0.0490			0.0490	0.0000				
MgO	14.71	Mg+2	3.0867			3.0867	**0.0000**				
MnO	0	Fe+2	1.6025			1.6025	**0.0000**				
CaO	10.34	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	1.44	Ca+2	1.5632					1.5632	0.0000		
K2O	0.38	Na+	0.4088					0.4088	**0.0000**	0.0000	0.0000
		K+	0.0758							0.0758	0.0000
Total	**100**		**Excess**	T site	**0.2201**	C site	**0.0000**	B site	**0**	A site	**0**
			Total	**8**		**4.9584**		**1.9720**		**0.0758**	**0.0000**
			%Fill	**100**		**99.167**		**98.5991**			

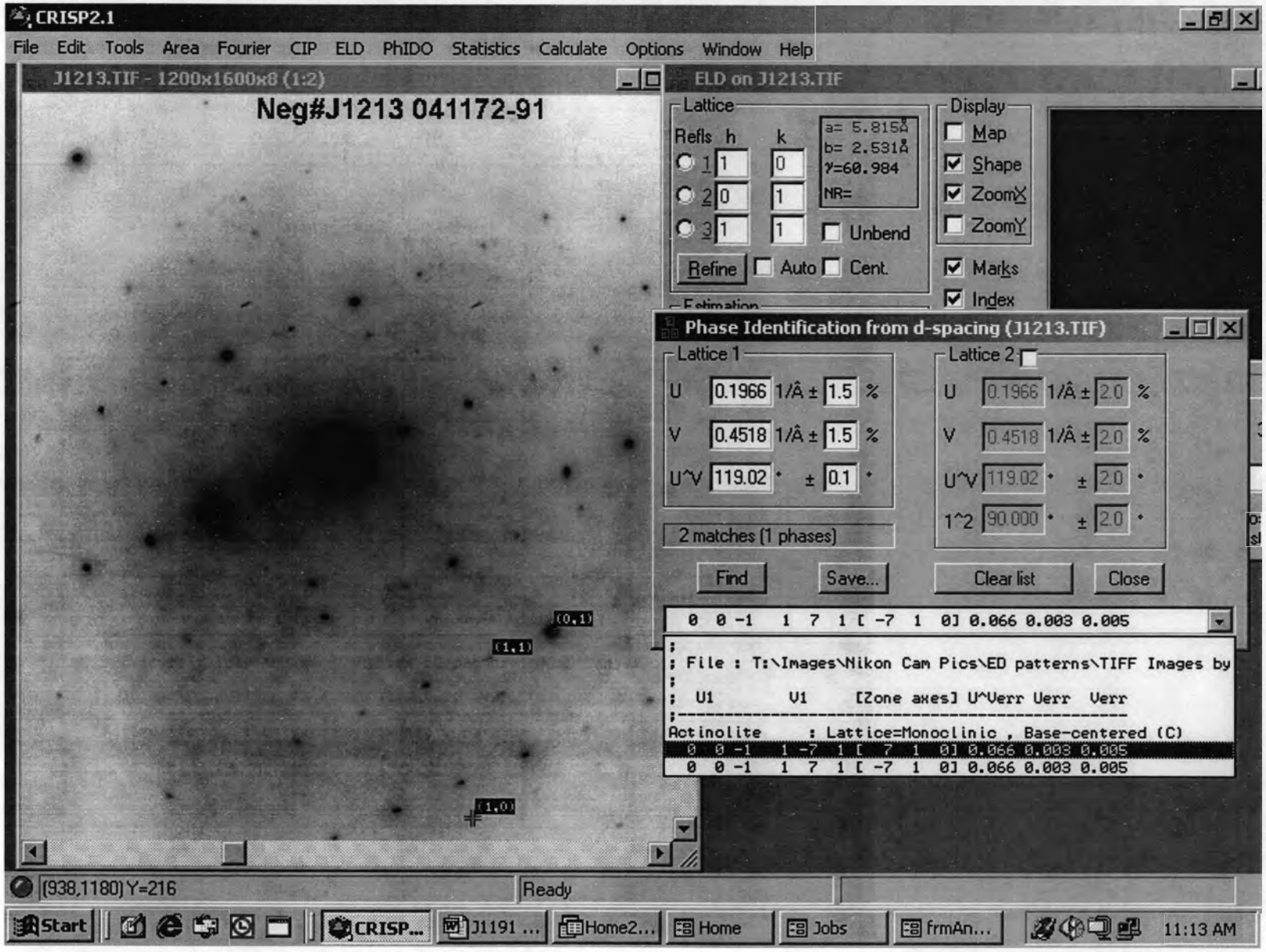
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041172-90-895**

Values		Satisfied Conditions
(Ca,Na)@B	1.97	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.41	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.56	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.08	Si > 7.5
Mg/(Mg+Fe2)	0.66	(Mg/(Mg+Fe2))< 0.9
Si	8.00	

Mineral Analysis Program (Version 5.0)

Neg#J1213; Sample# 041172-91
ACTINOLITE
[7 1 0]



*SUMTF: QUANTIFY
*Standardless Analysis

Refit _K K' _K K"
Refit _ALK' _ALK" _NAK'
Chi-sqd = 7.24

Element	Net Counts	
Si-K	28449 +/-	250
Mg-K	9479 +/-	224
Al-K	1139 +/-	115
Ca-K	9226 +/-	181
Fe-K	7795 +/-	171
Na-K	724 +/-	118
K -K	77 +/-	41

0411/2-91 SP 897

EL-LINE	PEAK	K-FACTOR	CEL/CREF	ATOM%	EL WT%	WT%	FORMULA
SI-K	28449	1.000	1.000	20.78	26.55	56.89	SIO2
MG-K	9479	1.000	0.333	8.08	8.85	14.75	MGO
AL-K	1139	0.750	0.040	0.65	0.80	1.51	AL2O3
CA-K	9226	0.949	0.308	4.48	8.18	11.45	CAO
FE-K	7795	1.399	0.384	3.99	10.19	14.55	FE2O3
NA-K	724	0.549	0.014	0.35	0.37	0.76	NA2O3
K-K	77	1.059	0.003	0.04	0.08	0.09	K2O
O			1.695	61.63	44.99		

TN-5500 University of Washington / JEOL THU 28-OCT-04 14:48
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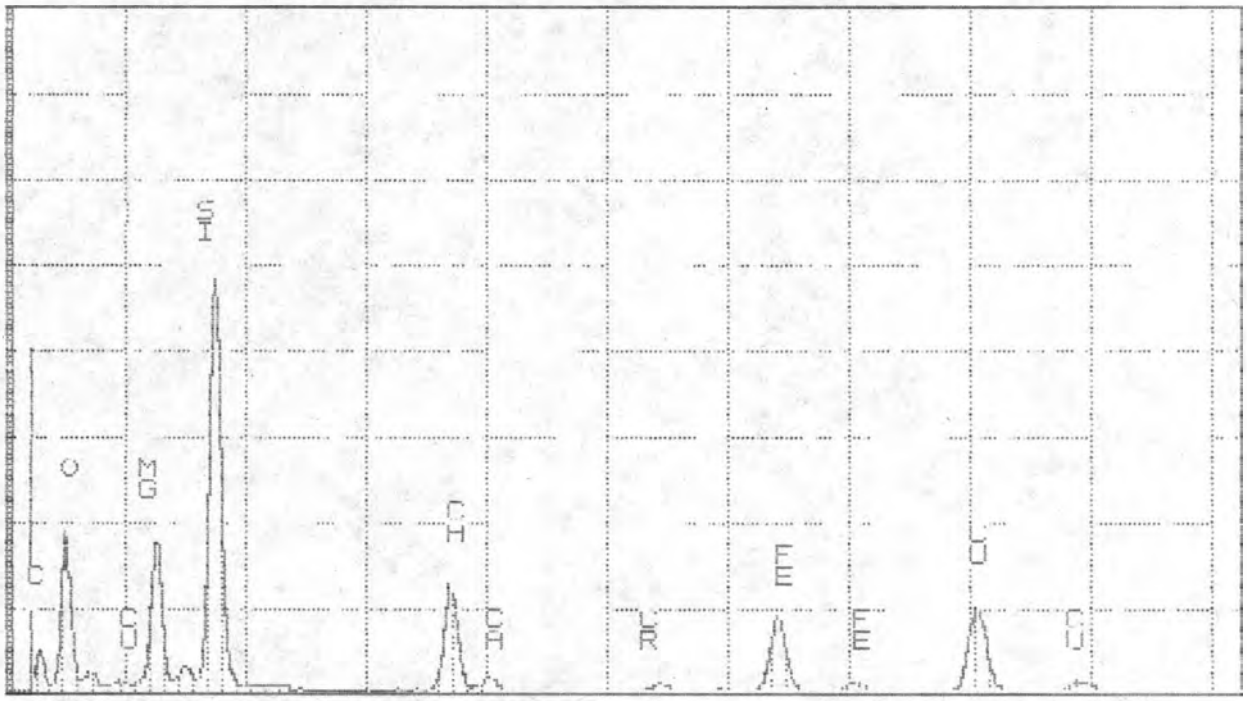


0 000 B- 5 VFS = 4096 10.240
30 041172-91 SP 897

1,30
*
0.0

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	56.89	Si+4	7.9844	7.9844							
Al2O3	1.51	Al+3	0.2498	0.0156	**0.2341**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	14.55	Fe+3	0.0768			0.0768	0.0000				
MgO	14.75	Mg+2	3.0862			3.0862	**0.0000**				
MnO	0	Fe+2	1.6222			1.6029	**0.0193**				
CaO	11.45	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0.76	Ca+2	1.7216					1.7216	0.0000		
K2O	0.09	Na+	0.2068					0.2068	**0.0000**	0.0000	0.0000
		K+	0.0161							0.0161	0.0000
Total	**100**		**Excess**	T site	**0.2341**	C site	**0.0193**	B site	**0**	A site	**0**
			Total	**8**		**5.0000**		**1.9284**		**0.0161**	**0.0000**
			%Fill	**100**		**100**		**96.4194**			

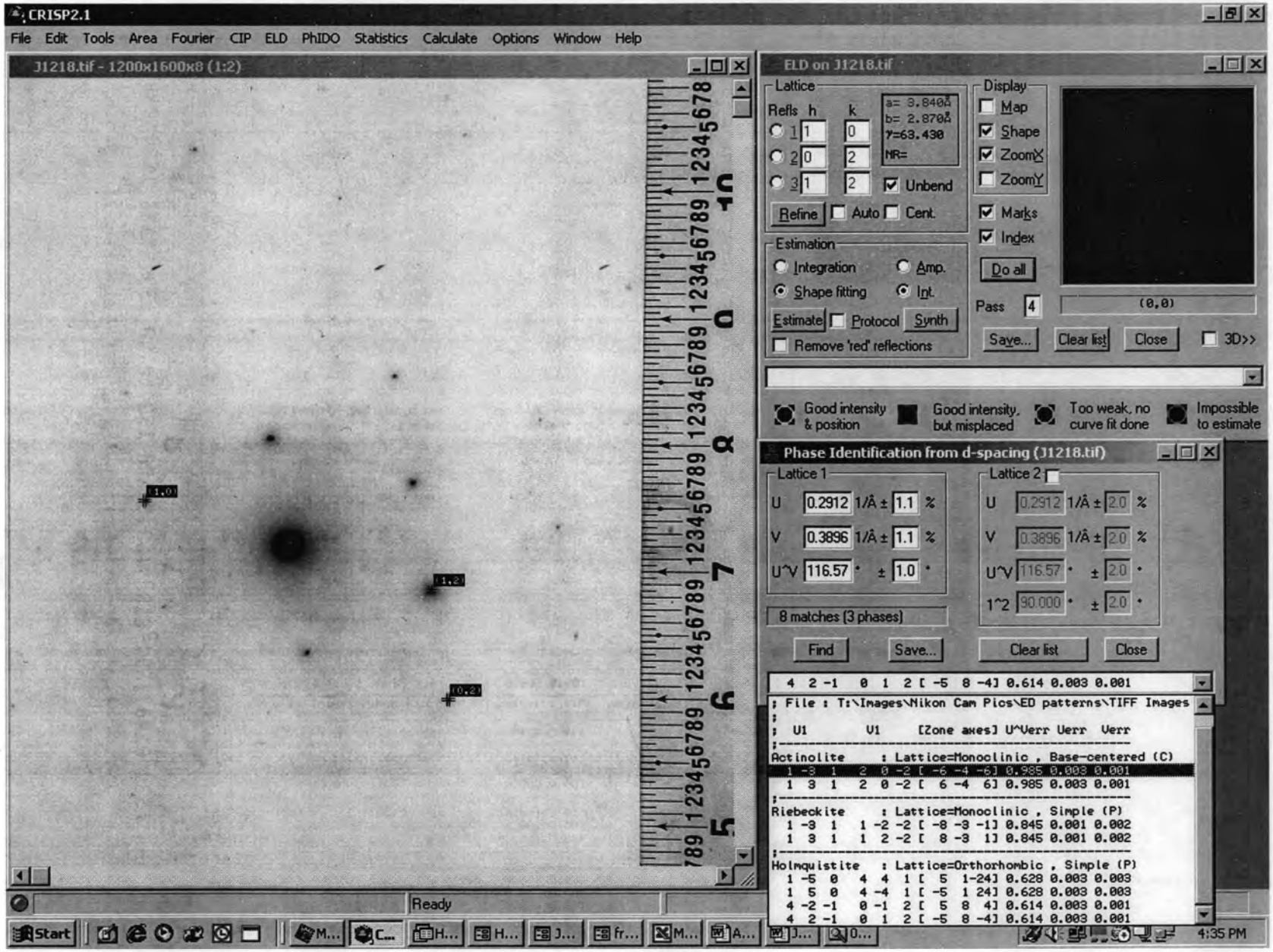
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041172-91-897**

Values		Satisfied Conditions
(Ca,Na)@B	1.93	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.21	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.72	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.02	Si > 7.5
Mg/(Mg+Fe2)	0.66	(Mg/(Mg+Fe2))< 0.9
Si	7.98	

Mineral Analysis Program (Version 5.0)

Sample 041172-92
Neg #1218
ACTINOLITE
[3 2 3]



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SUMTF: QUANTIFY
Standardless Analysis

Chi-sqd = 7.98

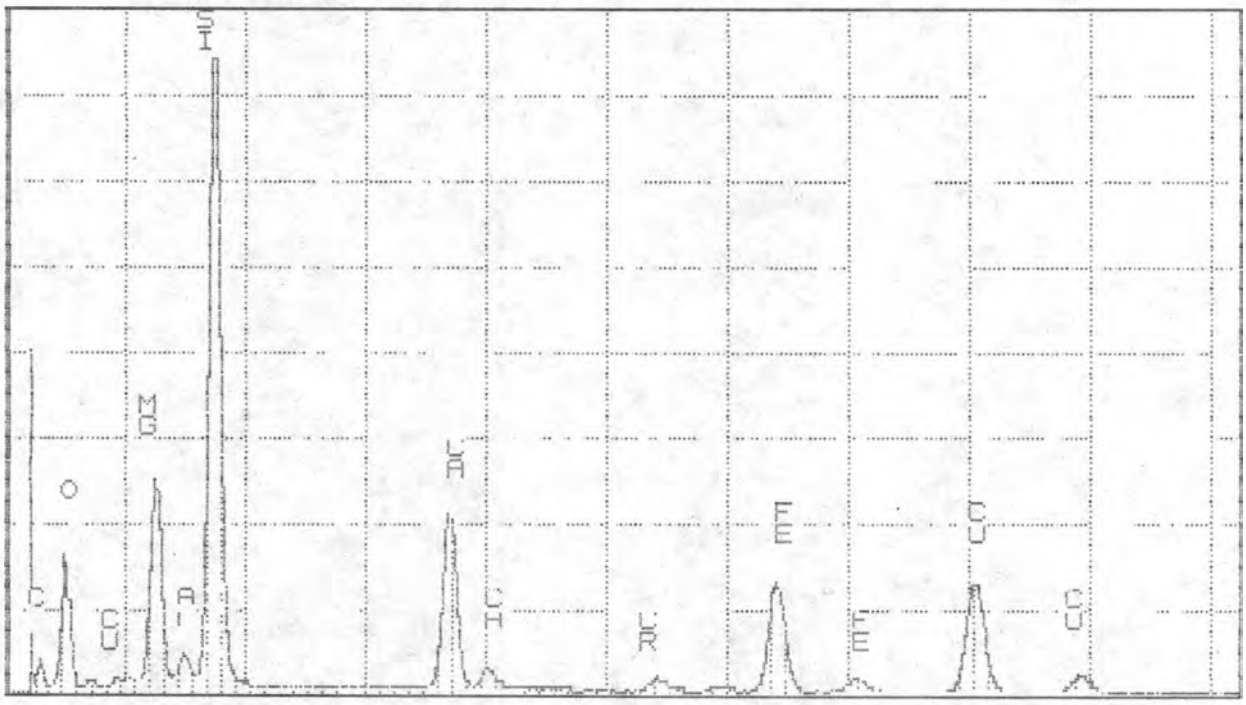
Element	Net Counts	
Si-K	43597 +/-	393
Mg-K	13365 +/-	353
Al-K	1818 +/-	436
Ca-K	15896 +/-	244
Fe-K	12025 +/-	213
Na-K	426 +/-	170
K -K	165 +/-	127

REF.S EDS:SIK EDS:MGK EDS:ALK EDS:CAK EDS:FEK EDS:NAK
EDS:K K

0411/2-92 SP902

EL-LINE	PEAK	K-FACTOR	CEL/CREF	ATOM%	EL WT%	WT%	FORMULA
SI-K	43597	1.000	1.000	20.90	26.56	56.91	SIO2
MG-K	13365	1.000	0.307	7.48	8.14	13.57	MGO
AL-K	1818	0.750	0.031	0.68	0.83	1.57	AL2O3
CA-K	15896	0.949	0.346	5.07	9.20	12.88	CAO
FE-K	12025	1.399	0.286	4.04	10.26	14.65	FE2O3
NA-K	426	0.549	0.005	0.14	0.14	0.29	NA2O3
K-K	165	1.059	0.004	0.06	0.11	0.13	K2O
O			1.686	61.65	44.76		

TN-5500 University of Washington / JEOL MON 27-DEC-04 16:24
Cursor: 0.000keV = 0



0.000 B- 5 VFS = 4096 10.240
40 041172-92 SP902

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	56.91	Si+4	8.0000	8.0000							
Al2O3	1.57	Al+3	0.2620	0.0000	**0.2620**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	14.65	Fe+3	0.0164			0.0164	0.0000				
MgO	13.57	Mg+2	2.8532			2.8532	**0.0000**				
MnO	0	Fe+2	1.7103			1.7103	**0.0000**				
CaO	12.88	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0.29	Ca+2	1.9462					1.9462	0.0000		
K2O	0.13	Na+	0.0826					0.0538	**0.0288**	0.0288	0.0000
		K+	0.0249							0.0249	0.0000
Total	**100**		**Excess**	T site	**0.2620**	C site	**0.0000**	B site	**0.0288098**	A site	**0**
			Total	**8**		**4.8419**		**2.0000**		**0.0537**	**0.0000**
			%Fill	**100**		**96.8372**		**100**			

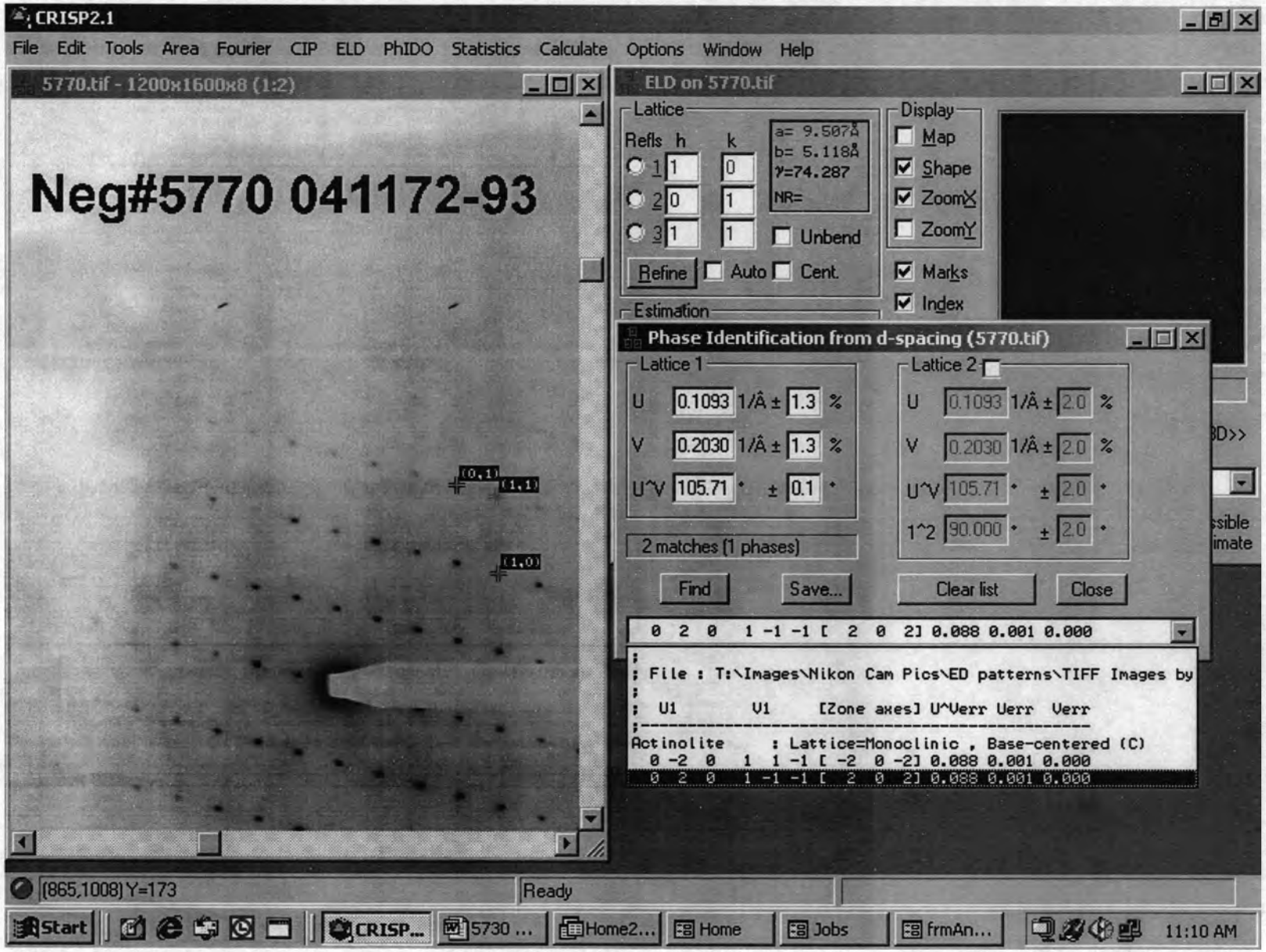
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041172-92-902**

Values		Satisfied Conditions
(Ca,Na)@B	2.00	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.05	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.95	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.05	Si > 7.5
Mg/(Mg+Fe2)	0.63	(Mg/(Mg+Fe2))< 0.9
Si	8.00	

Mineral Analysis Program (Version 5.0)

Neg#5770; Sample# 041172-93
ACTINOLITE
[1 0 1]



Title: 041411-03 50000x h Title: 041411-03 50000x h Title: 041411-03 50000x h Title: 041411-03 50000x h

INTE-% :
LABEL = 041172-93 15617
24-DEC-72 03:36:19
65.106 LIVE SECONDS

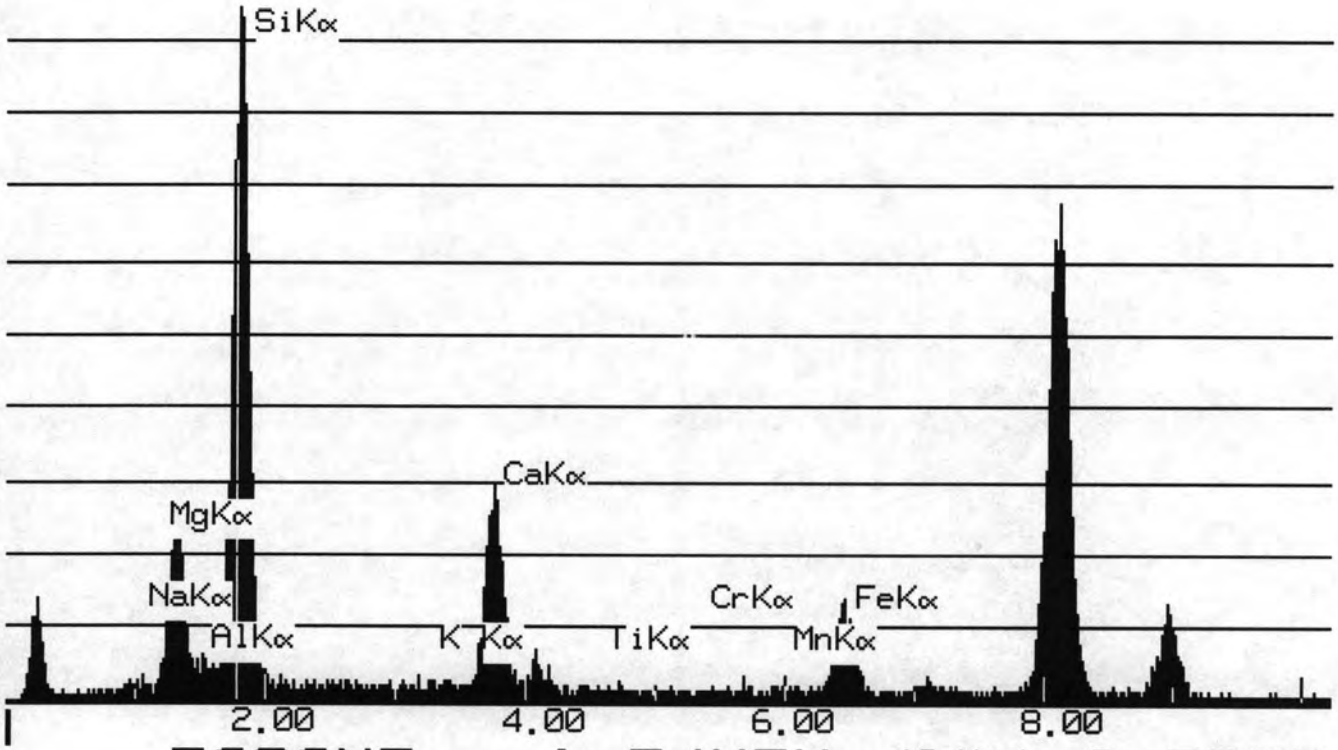
ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	21.058	10.724	17.782
SIK	98.547	28.227	60.387
K K	0.323	0.154	0.185
CAK	33.023	9.018	12.618
CRK	0.415	0.158	0.230
MNK	0.630	0.248	0.320
FEK	16.343	5.929	8.477

TOTAL			100.000

USED PEIF: USER

Bb-Out
Actinolite

23-DEC-04 03:36:36 SUPER QUANT
RATE= 129CPS TIME= 65LSEC
FS= 718/ 718 PRST=9999LSEC
A =041172-93 15617



562CNT 1.74KEV 10eV/ch A EDAX

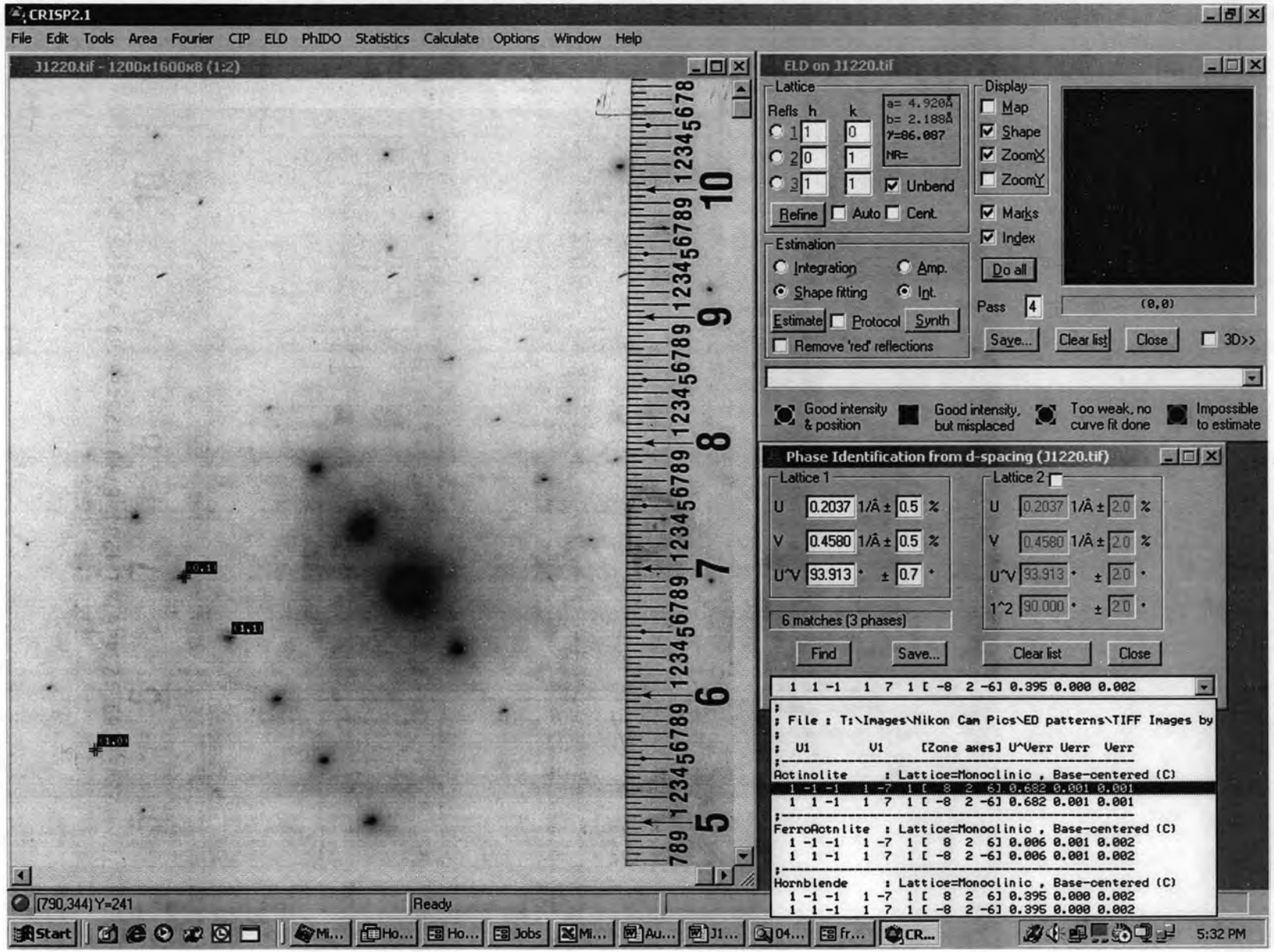
	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	60.387	Si+4	8.0000	8.0000							
Al2O3	0	Al+3	0.0000	0.0000	**0.0000**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0.23	Cr+3	0.0383			0.0383	0.0000				
Fe(total)O	8.477	Fe+3	0.0215			0.0215	0.0000				
MgO	17.782	Mg+2	3.6678			3.6678	**0.0000**				
MnO	0.32	Fe+2	0.9860			0.9860	**0.0000**				
CaO	12.618	Mn+2	0.0659			0.0659	**0.0000**				
Na2O	0	Ca+2	1.8809					1.8809	0.0000		
K2O	0.185	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0540							0.0540	0.0000
Total	**99.999**		**Excess**	T site	**0.0000**	C site	**0.0000**	B site	**0**	A site	**0**
			Total	**8**		**4.7795**		**1.8809**		**0.0540**	**0.0000**
Prefix	none		**%Fill**	**100**		**95.5905**		**94.0462**			
Name	actinolite										
Modifier	none										
Group	**Calcic Amphibole**										

Sample # **041172-93-15617**

Values		**Satisfied Conditions**
(Ca,Na)@B	**1.88**	**(Ca,Na)@B >= 1 and Na@B < 0.5**
Na@B	**0.00**	**Ca@B >= 1.5 and (Na,K)@A < 0.5**
Ca@B	**1.88**	**(Mg/(Mg+Fe2))>= 0.5**
(Na,K)@A	**0.05**	**Si > 7.5**
Mg/(Mg+Fe2)	**0.79**	**(Mg/(Mg+Fe2))< 0.9**
Si	**8.00**	

Mineral Analysis Program (Version 5.0)

Sample 041172-94
Neg #1220
ACTINOLITE
[4 1 3]



SQMTF: QUANTIFY
Standardless Analysis

Refit _NAK' _NAK"
Refit _ALK" _NAK _K K' _K K"
Refit _MGK'
Chi-sqrd = 8.19

Element	Net Counts		
Si-K	13763	+/-	202
Mg-K	5341	+/-	155
Al-K	862	+/-	77
Ca-K	4665	+/-	140
Fe-K	3131	+/-	114
Na-K	0	+/-	0
K -K	93	+/-	35

REF.S EDS:SIK EDS:MGK EDS:ALK EDS:CAK EDS:FEK EDS:NAK
EDS:K K

0411/2-94 SP904

EL-LINE	PEAK	K-FACTOR	CEL/CREF	ATOM%	HI WT%	WT%	FORMULA
SI-K	13763	1.000	1.000	20.47	26.36	56.50	SIO2
MG-K	5341	1.000	0.388	9.27	10.23	17.05	MGO
AL-K	862	0.750	0.047	1.00	1.24	2.34	AL2O3
CA-K	4665	0.949	0.322	4.62	8.49	11.89	CAO
FE-K	3131	1.399	0.319	3.26	8.40	12.00	FE2O3
NA-K	0	0.549	0.000	0.00	0.00	0.00	NA2O
K-K	93	1.059	0.007	0.11	0.19	0.23	K2O
O			1.710	61.28	45.04		

TN-5500 University of Washington / JEOL TUE 28-DEC-04 11:48
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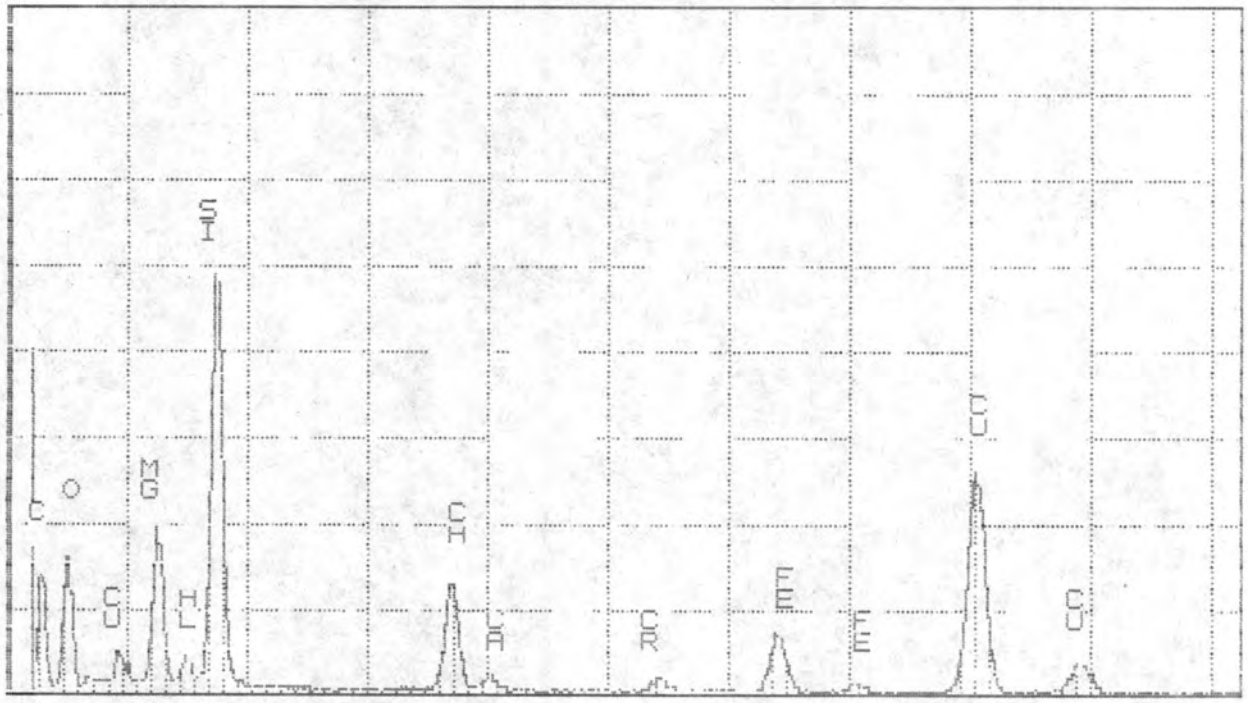

0.0MM R- 5 VFS = 2048 10.240
82 041172-94 SP904

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Monday, January 31, 2005 Lab/Cor Report Number: *041172R6*

Howard Edwards
Ecology and Environment, Inc.
350 Sansome
Ste 300
San Francisco CA 94104

Phone: 415-981-2811
Fax: 415-981-0801

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS
Project Number: 0440.01CP-0001
Client Reference:
Sample Receipt Date: 10/7/2004

Enclosed please find results for samples submitted to our laboratory. A list of samples and analyses follows:

Lab/Cor Analysis #	Client Sample # and Description	Analysis Type and Notes
Batch #: B4760		
S54-A1	CC2-H8-1CT-100304	ISO 10312, direct
S55-A1	CC2-H8-2CT-100304	ISO 10312, direct
S56-A1	CC2-H8-3CT-100304	ISO 10312, direct
S57-A1	CC2-H8-4CT-100304	ISO 10312, direct
S58-A1	CC2-H8-5CT-100304	ISO 10312, direct
S59-A1	RHB-H2-4FD-100304	ISO 10312, direct
S60-A1	RHB-H2-5FD-100304	ISO 10312, direct
S61-A1	RHB-L2-14CH-100304	ISO 10312, direct
S62-A1	RHB-L2-1NA-100304	ISO 10312, direct
S63-A1	RHB-L2-1ZB-100304	ISO 10312, direct
S64-A1	RHB-L2-FB-100304 FILTER BLANK	ISO 10312, direct
S65-A1	RHS-H2-1FD-100304	ISO 10312, direct
S66-A1	RHS-H2-2FD-100304	ISO 10312, direct
S67-A1	RHS-H2-3FD-100304	ISO 10312, direct
S68-A1	RHS-H2-4FD-100304	ISO 10312, direct
S69-A1	RHS-H2-5FD-100304	ISO 10312, direct
S70-A1	RHS-L2-14CH-100304	ISO 10312, direct
S71-A1	RHS-L2-1CH-100304	ISO 10312, direct
S72-A1	RHS-L2-1NA-100304	ISO 10312, direct
S73-A1	RHS-L2-2CH-100304	ISO 10312, direct
S74-A1	RHS-L2-3CH-100304	ISO 10312, direct
S75-A1	RHS-L2-4CH-100304	ISO 10312, direct
S76-A1	RHS-L2-5CH-100304	ISO 10312, direct
S77-A1	SVBA-H2-4FD-100204	ISO 10312, direct
S78-A1	SVBA-H2-5FD-100204	ISO 10312, direct
S79-A1	SVBA-L2-1NA-100204	ISO 10312, direct
S80-A1	SVBA-L2-1ZB-100204	ISO 10312, direct
S81-A1	SVBB-H2-12FD-100304	ISO 10312, direct
S82-A1	SVBB-H2-4FD-100304	ISO 10312, direct

S83-A1	SVBB-H2-5FD-100304	ISO 10312, direct
S84-A1	SVBB-L2-1NA-100304	ISO 10312, direct
S85-A1	SVBB-L2-1ZB-100304	ISO 10312, direct
S86-A1	SVM-H2-4FD-100204	ISO 10312, direct
S87-A1	SVM-H2-5FD-100204	ISO 10312, direct
S88-A1	SVM-L2-15AD-100204	ISO 10312, direct
S89-A1	SVM-L2-1AD-100204	ISO 10312, direct
S90-A1	SVM-L2-2AD-100204	ISO 10312, direct
S91-A1	SVM-L2-3AD-100204	ISO 10312, direct
S92-A1	SVM-L2-4AD-100204	ISO 10312, direct
S93-A1	SVM-L2-5AD-100204	ISO 10312, direct
S94-A1	SVM-L2-6AD-100204	ISO 10312, direct
S95-A1	TPG-L2-FB-100404 FILTER BLANK	ISO 10312, direct

ISO 10312, direct

Preparation and analysis of the above samples was conducted in accordance with the ISO method 10312 (Direct) for the identification of asbestos. Briefly, the samples were collapsed with acetone, then etched in a low temperature plasma etcher to remove the top surface of the filter and other organics. The samples were carbon coated at high vacuum with a thin layer of carbon, placed on 200 mesh copper grids and allowed to dissolve in acetone until cleared of filter debris.

TEM analysis was performed using a transmission electron microscope equipped with an EDS X ray analyzer. The air samples were analyzed at various approximate screen magnifications of 5,000x for PCM equivalent structures, 10,000x for asbestos structures greater than 5.0 micrometer lengths, and 20,000x for asbestos structures greater than 0.5 micrometer lengths. An accelerating voltage of 100 KV was applied. The sizing of grid openings was performed on the microscope at a magnification of approximately 550X.

Disclaimer

This test report relates only to the items tested in this report. Interpretation of these results is the sole responsibility of the client.

If further clarification of these results is needed, please call us. Thank you for allowing the staff at Lab/Cor, Inc. the opportunity to provide you with analytical services.

Sincerely,

by KM 2/1/05

John Harris, M.P.H.
Laboratory Director

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S54 A1
Client Sample No. CC2-H8-1CT-100304
Description
Analysis Date 11/12/2004
Analyst TM

Volume (L) 5013.54
No. of Grid Openings 18
Filter Area (mm2) 385
Area Analyzed (mm2) 0.261
Analytical Sens. (struc/cc) 0.000294
Dectection Limit. (struc/cc) 0.000880

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	46.0	0.00353	0.00183 - 0.00617	12
Total Asbestos Structures	46.0	0.00353	0.00183 - 0.00617	12
Asbestos Structures > 5um	26.8	0.00206	0.000829 - 0.00425	7
Asbestos Fibers and Bundles > 5um	15.3	0.00118	0.000321 - 0.00302	4
PCM Equivalent Fibers-US	15.3	0.00118	0.000321 - 0.00302	4
PCM Equivalent Structures-US	11.5	0.000883	0.00 - 0.00228	3
PROTOCOL ASB STRUCS 5-10	0.0	<0.000880	0.00 - 0.000880	0
PROTOCOL ASB STRUCS >10	0.0	<0.000880	0.00 - 0.000880	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.000880	0.00 - 0.000880	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.000880	0.00 - 0.000880	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.000880	0.00 - 0.000880	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.000880	0.00 - 0.000880	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.000880	0.00 - 0.000880	0
PROTOCOL AMPH STRUCS >10	0.0	<0.000880	0.00 - 0.000880	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.000880	0.00 - 0.000880	0
AHERA-like Total Structures 3:1	46.0	0.00353	0.00183 - 0.00617	12
AHERA-like Asb Strucs >5 and 3:1	26.8	0.00206	0.000829 - 0.00425	7
AHERA-like Asb Strucs 5 - 10 and 3:1	7.7	0.000589	0.00 - 0.00185	2
AHERA-like Asb Strucs >10 and 3:1	19.2	0.00147	0.000478 - 0.00344	5
Total Other Amphibole Strucs 3:1	0.0	<0.000880	0.00 - 0.000880	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.000880	0.00 - 0.000880	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.000880	0.00 - 0.000880	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.000880	0.00 - 0.000880	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S55 A1
Client Sample No. CC2-H8-2CT-100304
Description
Analysis Date 12/2/2004
Analyst KM

Volume (L) 3647.28
No. of Grid Openings 25
Filter Area (mm2) 385
Area Analyzed (mm2) 0.362
Analytical Sens. (struc/cc) 0.000291
Dectection Limit. (struc/cc) 0.000871

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	30.4	0.00321	0.00160 - 0.00574	11
Total Asbestos Structures	30.4	0.00321	0.00160 - 0.00574	11
Asbestos Structures > 5um	16.6	0.00175	0.000642 - 0.00381	6
Asbestos Fibers and Bundles > 5um	8.3	0.000874	0.00 - 0.00226	3
PCM Equivalent Fibers-US	5.5	0.000583	0.00 - 0.00184	2
PCM Equivalent Structures-US	5.5	0.000583	0.00 - 0.00184	2
PROTOCOL ASB STRUCS 5-10	2.8	0.000291	0.00 - 0.00138	1
PROTOCOL ASB STRUCS >10	0.0	<0.000871	0.00 - 0.000871	0
PROTOCOL ASB STRUCS TOTAL	2.8	0.000291	0.00 - 0.00138	1
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.000871	0.00 - 0.000871	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.000871	0.00 - 0.000871	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.000871	0.00 - 0.000871	0
PROTOCOL AMPH STRUCS 5-10	2.8	0.000291	0.00 - 0.00138	1
PROTOCOL AMPH STRUCS >10	0.0	<0.000871	0.00 - 0.000871	0
PROTOCOL AMPH STRUCS TOTAL	2.8	0.000291	0.00 - 0.00138	1
AHERA-like Total Structures 3:1	30.4	0.00321	0.00160 - 0.00574	11
AHERA-like Asb Strucs >5 and 3:1	16.6	0.00175	0.000642 - 0.00381	6
AHERA-like Asb Strucs 5 - 10 and 3:1	13.8	0.00146	0.000473 - 0.00340	5
AHERA-like Asb Strucs >10 and 3:1	2.8	0.000291	0.00 - 0.00138	1
Total Other Amphibole Strucs 3:1	0.0	<0.000871	0.00 - 0.000871	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.000871	0.00 - 0.000871	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.000871	0.00 - 0.000871	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.000871	0.00 - 0.000871	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S56 A1
Client Sample No. CC2-H8-3CT-100304
Description
Analysis Date 12/12/2004
Analyst TM

Volume (L) 4690
No. of Grid Openings 19
Filter Area (mm2) 385
Area Analyzed (mm2) 0.275
Analytical Sens. (struc/cc) 0.000298
Dectection Limit. (struc/cc) 0.000892

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	40.0	0.00328	0.00164 - 0.00587	11
Total Asbestos Structures	40.0	0.00328	0.00164 - 0.00587	11
Asbestos Structures > 5um	7.3	0.000596	0.00 - 0.00188	2
Asbestos Fibers and Bundles > 5um	3.6	0.000298	0.00 - 0.00141	1
PCM Equivalent Fibers-US	3.6	0.000298	0.00 - 0.00141	1
PCM Equivalent Structures-US	0.0	<0.000892	0.00 - 0.000892	0
PROTOCOL ASB STRUCS 5-10	0.0	<0.000892	0.00 - 0.000892	0
PROTOCOL ASB STRUCS >10	0.0	<0.000892	0.00 - 0.000892	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.000892	0.00 - 0.000892	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.000892	0.00 - 0.000892	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.000892	0.00 - 0.000892	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.000892	0.00 - 0.000892	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.000892	0.00 - 0.000892	0
PROTOCOL AMPH STRUCS >10	0.0	<0.000892	0.00 - 0.000892	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.000892	0.00 - 0.000892	0
AHERA-like Total Structures 3:1	40.0	0.00328	0.00164 - 0.00587	11
AHERA-like Asb Strucs >5 and 3:1	7.3	0.000596	0.00 - 0.00188	2
AHERA-like Asb Strucs 5 - 10 and 3:1	3.6	0.000298	0.00 - 0.00141	1
AHERA-like Asb Strucs >10 and 3:1	3.6	0.000298	0.00 - 0.00141	1
Total Other Amphibole Strucs 3:1	0.0	<0.000892	0.00 - 0.000892	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.000892	0.00 - 0.000892	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.000892	0.00 - 0.000892	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.000892	0.00 - 0.000892	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S57 A1
Client Sample No. CC2-H8-4CT-100304
Description
Analysis Date 12/9/2004
Analyst DW

Volume (L) 4366.96
No. of Grid Openings 22
Filter Area (mm2) 385
Area Analyzed (mm2) 0.319
Analytical Sens. (struc/cc) 0.000277
Dectection Limit. (struc/cc) 0.000827

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	31.4	0.00277	0.00133 - 0.00509	10
Total Asbestos Structures	31.4	0.00277	0.00133 - 0.00509	10
Asbestos Structures > 5um	25.1	0.00221	0.000955 - 0.00436	8
Asbestos Fibers and Bundles > 5um	15.7	0.00138	0.000449 - 0.00323	5
PCM Equivalent Fibers-US	15.7	0.00138	0.000449 - 0.00323	5
PCM Equivalent Structures-US	9.4	0.000830	0.00 - 0.00214	3
PROTOCOL ASB STRUCS 5-10	0.0	<0.000827	0.00 - 0.000827	0
PROTOCOL ASB STRUCS >10	0.0	<0.000827	0.00 - 0.000827	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.000827	0.00 - 0.000827	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.000827	0.00 - 0.000827	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.000827	0.00 - 0.000827	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.000827	0.00 - 0.000827	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.000827	0.00 - 0.000827	0
PROTOCOL AMPH STRUCS >10	0.0	<0.000827	0.00 - 0.000827	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.000827	0.00 - 0.000827	0
AHERA-like Total Structures 3:1	31.4	0.00277	0.00133 - 0.00509	10
AHERA-like Asb Strucs >5 and 3:1	25.1	0.00221	0.000955 - 0.00436	8
AHERA-like Asb Strucs 5 - 10 and 3:1	18.8	0.00166	0.000609 - 0.00361	6
AHERA-like Asb Strucs >10 and 3:1	6.3	0.000553	0.00 - 0.00174	2
Total Other Amphibole Strucs 3:1	0.0	<0.000827	0.00 - 0.000827	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.000827	0.00 - 0.000827	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.000827	0.00 - 0.000827	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.000827	0.00 - 0.000827	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S58 A1
Client Sample No. CC2-H8-5CT-100304
Description
Analysis Date 12/9/2004
Analyst KM

Volume (L) 3479.53
No. of Grid Openings 8
Filter Area (mm2) 385
Area Analyzed (mm2) 0.116
Analytical Sens. (struc/cc) 0.000955
Dectection Limit. (struc/cc) 0.00285

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	51.8	0.00573	0.00210 - 0.0125	6
Total Asbestos Structures	51.8	0.00573	0.00210 - 0.0125	6
Asbestos Structures > 5um	17.3	0.00191	0.00 - 0.00601	2
Asbestos Fibers and Bundles > 5um	8.6	0.000955	0.00 - 0.00452	1
PCM Equivalent Fibers-US	8.6	0.000955	0.00 - 0.00452	1
PCM Equivalent Structures-US	8.6	0.000955	0.00 - 0.00452	1
PROTOCOL ASB STRUCS 5-10	0.0	<0.00285	0.00 - 0.00285	0
PROTOCOL ASB STRUCS >10	0.0	<0.00285	0.00 - 0.00285	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00285	0.00 - 0.00285	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00285	0.00 - 0.00285	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00285	0.00 - 0.00285	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00285	0.00 - 0.00285	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00285	0.00 - 0.00285	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00285	0.00 - 0.00285	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00285	0.00 - 0.00285	0
AHERA-like Total Structures 3:1	51.8	0.00573	0.00210 - 0.0125	6
AHERA-like Asb Strucs >5 and 3:1	17.3	0.00191	0.00 - 0.00601	2
AHERA-like Asb Strucs 5 - 10 and 3:1	8.6	0.000955	0.00 - 0.00452	1
AHERA-like Asb Strucs >10 and 3:1	8.6	0.000955	0.00 - 0.00452	1
Total Other Amphibole Strucs 3:1	0.0	<0.00285	0.00 - 0.00285	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00285	0.00 - 0.00285	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00285	0.00 - 0.00285	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00285	0.00 - 0.00285	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S59 A1
Client Sample No. RHB-H2-4FD-100304
Description
Analysis Date 12/9/2004
Analyst DW

Volume (L) 1207.2
No. of Grid Openings 23
Filter Area (mm2) 385
Area Analyzed (mm2) 0.333
Analytical Sens. (struc/cc) 0.000957
Dectection Limit. (struc/cc) 0.00286

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	18.0	0.00574	0.00211 - 0.0125	6
Total Asbestos Structures	21.0	0.00670	0.00269 - 0.0138	7
Asbestos Structures > 5um	6.0	0.00191	0.00 - 0.00603	2
Asbestos Fibers and Bundles > 5um	0.0	<0.00286	0.00 - 0.00286	0
PCM Equivalent Fibers-US	0.0	<0.00286	0.00 - 0.00286	0
PCM Equivalent Structures-US	0.0	<0.00288	0.00 - 0.00286	0
PROTOCOL ASB STRUCS 5-10	0.0	<0.00286	0.00 - 0.00286	0
PROTOCOL ASB STRUCS >10	0.0	<0.00286	0.00 - 0.00286	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00286	0.00 - 0.00286	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00286	0.00 - 0.00286	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00286	0.00 - 0.00286	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00286	0.00 - 0.00286	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00286	0.00 - 0.00286	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00286	0.00 - 0.00286	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00286	0.00 - 0.00286	0
AHERA-like Total Structures 3:1	15.0	0.00478	0.00155 - 0.0112	5
AHERA-like Asb Strucs >5 and 3:1	6.0	0.00191	0.00 - 0.00603	2
AHERA-like Asb Strucs 5 - 10 and 3:1	3.0	0.000957	0.00 - 0.00454	1
AHERA-like Asb Strucs >10 and 3:1	3.0	0.000957	0.00 - 0.00454	1
Total Other Amphibole Struca 3:1	0.0	<0.00286	0.00 - 0.00286	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00286	0.00 - 0.00286	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00286	0.00 - 0.00286	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00286	0.00 - 0.00286	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S60 A1
Client Sample No. RHB-H2-5FD-100304
Description
Analysis Date 12/9/2004
Analyst DW

Volume (L) 1083.32
No. of Grid Openings 25
Filter Area (mm2) 385
Area Analyzed (mm2) 0.362
Analytical Sens. (struc/cc) 0.000981
Dectection Limit. (struc/cc) 0.00293

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	2.8	0.000981	0.00 - 0.00465	1
Total Asbestos Structures	2.8	0.000981	0.00 - 0.00465	1
Asbestos Structures > 5um	0.0	<0.00293	0.00 - 0.00293	0
Asbestos Fibers and Bundles > 5um	0.0	<0.00293	0.00 - 0.00293	0
PCM Equivalent Fibers-US	0.0	<0.00293	0.00 - 0.00293	0
PCM Equivalent Structures-US	0.0	<0.00293	0.00 - 0.00293	0
PROTOCOL ASB STRUCS 5-10	0.0	<0.00293	0.00 - 0.00293	0
PROTOCOL ASB STRUCS >10	0.0	<0.00293	0.00 - 0.00293	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00293	0.00 - 0.00293	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00293	0.00 - 0.00293	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00293	0.00 - 0.00293	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00293	0.00 - 0.00293	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00293	0.00 - 0.00293	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00293	0.00 - 0.00293	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00293	0.00 - 0.00293	0
AHERA-like Total Structures 3:1	2.8	0.000981	0.00 - 0.00465	1
AHERA-like Asb Struca >5 and 3:1	0.0	<0.00293	0.00 - 0.00293	0
AHERA-like Asb Strucs 5 - 10 and 3:1	0.0	<0.00293	0.00 - 0.00293	0
AHERA-like Asb Strucs >10 and 3:1	0.0	<0.00293	0.00 - 0.00293	0
Total Other Amphibole Strucs 3:1	0.0	<0.00293	0.00 - 0.00293	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00293	0.00 - 0.00293	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00293	0.00 - 0.00293	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00293	0.00 - 0.00293	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S61 A1
Client Sample No. RHB-L2-14CH-100304
Description
Analysis Date 12/9/2004
Analyst DW

Volume (L) 301.32
No. of Grid Openings 89
Filter Area (mm2) 385
Area Analyzed (mm2) 1.29
Analytical Sens. (struc/cc) 0.000991
Dectection Limit. (struc/cc) 0.00296

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	3.9	0.00495	0.00161 - 0.0116	5
Total Asbestos Structures	3.9	0.00495	0.00161 - 0.0116	5
Asbestos Structures > 5um	1.6	0.00198	0.00 - 0.00624	2
Asbestos Fibers and Bundles > 5um	1.6	0.00198	0.00 - 0.00624	2
PCM Equivalent Fibers-US	1.6	0.00198	0.00 - 0.00624	2
PCM Equivalent Structures-US	0.8	0.000991	0.00 - 0.00470	1
PROTOCOL ASB STRUCS 5-10	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL ASB STRUCS >10	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00296	0.00 - 0.00296	0
AHERA-like Total Structures 3:1	3.9	0.00495	0.00161 - 0.0116	5
AHERA-like Asb Strucs >5 and 3:1	1.6	0.00198	0.00 - 0.00624	2
AHERA-like Asb Strucs 5 - 10 and 3:1	1.6	0.00198	0.00 - 0.00624	2
AHERA-like Asb Strucs >10 and 3:1	0.0	<0.00296	0.00 - 0.00296	0
Total Other Amphibole Strucs 3:1	0.0	<0.00296	0.00 - 0.00296	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00296	0.00 - 0.00296	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00296	0.00 - 0.00296	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00296	0.00 - 0.00296	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S62 A1
Client Sample No. RHB-L2-1NA-100304
Description
Analysis Date 12/10/2004
Analyst KM

Volume (L) 318.6
No. of Grid Openings 83
Filter Area (mm2) 385
Area Analyzed (mm2) 1.20
Analytical Sens. (struc/cc) 0.00100
Dectection Limit. (struc/cc) 0.00300

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	4.2	0.00502	0.00163 - 0.0117	5
Total Asbestos Structures	4.2	0.00502	0.00163 - 0.0117	5
Asbestos Structures > 5um	0.8	0.00100	0.00 - 0.00476	1
Asbestos Fibers and Bundles > 5um	0.8	0.00100	0.00 - 0.00476	1
PCM Equivalent Fibers-US	0.8	0.00100	0.00 - 0.00476	1
PCM Equivalent Structures-US	0.8	0.00100	0.00 - 0.00476	1
PROTOCOL ASB STRUCS 5-10	0.0	<0.00300	0.00 - 0.00300	0
PROTOCOL ASB STRUCS >10	0.0	<0.00300	0.00 - 0.00300	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00300	0.00 - 0.00300	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00300	0.00 - 0.00300	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00300	0.00 - 0.00300	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00300	0.00 - 0.00300	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00300	0.00 - 0.00300	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00300	0.00 - 0.00300	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00300	0.00 - 0.00300	0
AHERA-like Total Structures 3:1	4.2	0.00502	0.00163 - 0.0117	5
AHERA-like Asb Strucs >5 and 3:1	0.8	0.00100	0.00 - 0.00476	1
AHERA-like Asb Strucs 5 - 10 and 3:1	0.0	<0.00300	0.00 - 0.00300	0
AHERA-like Asb Strucs >10 and 3:1	0.8	0.00100	0.00 - 0.00476	1
Total Other Amphibole Strucs 3:1	0.0	<0.00300	0.00 - 0.00300	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00300	0.00 - 0.00300	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00300	0.00 - 0.00300	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00300	0.00 - 0.00300	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S63 A1
Client Sample No. RHB-L2-1ZB-100304
Description
Analysis Date 12/10/2004
Analyst DW

Volume (L) 326.4
No. of Grid Openings 88
Filter Area (mm2) 385
Area Analyzed (mm2) 1.28
Analytical Sens. (struc/cc) 0.000925
Dectection Limit. (struc/cc) 0.00277

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	0.0	<0.00277	0.00 - 0.00277	0
Total Asbestos Structures	0.0	<0.00277	0.00 - 0.00277	0
Asbestos Structures > 5um	0.0	<0.00277	0.00 - 0.00277	0
Asbestos Fibers and Bundles > 5um	0.0	<0.00277	0.00 - 0.00277	0
PCM Equivalent Fibers-US	0.0	<0.00277	0.00 - 0.00277	0
PCM Equivalent Structures-US	0.0	<0.00277	0.00 - 0.00277	0
PROTOCOL ASB STRUCS 5-10	0.0	<0.00277	0.00 - 0.00277	0
PROTOCOL ASB STRUCS >10	0.0	<0.00277	0.00 - 0.00277	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00277	0.00 - 0.00277	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00277	0.00 - 0.00277	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00277	0.00 - 0.00277	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00277	0.00 - 0.00277	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00277	0.00 - 0.00277	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00277	0.00 - 0.00277	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00277	0.00 - 0.00277	0
AHERA-like Total Structures 3:1	0.0	<0.00277	0.00 - 0.00277	0
AHERA-like Asb Strucs >5 and 3:1	0.0	<0.00277	0.00 - 0.00277	0
AHERA-like Asb Strucs 5 - 10 and 3:1	0.0	<0.00277	0.00 - 0.00277	0
AHERA-like Asb Strucs >10 and 3:1	0.0	<0.00277	0.00 - 0.00277	0
Total Other Amphibole Strucs 3:1	0.0	<0.00277	0.00 - 0.00277	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00277	0.00 - 0.00277	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00277	0.00 - 0.00277	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00277	0.00 - 0.00277	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S64 A1
Client Sample No. RHB-L2-FB-100304
Description FILTER BLANK
Analysis Date 12/15/2004
Analyst KM

Volume (L) 0
No. of Grid Openings 10
Filter Area (mm2) 385
Area Analyzed (mm2) 0.145
Analytical Sens. (struc/cc) NA
Dectection Limit. (struc/cc) NA

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	0.0	NA	NA	0
Total Asbestos Structures	0.0	NA	NA	0
Asbestos Structures > 5um	0.0	NA	NA	0
Asbestos Fibers and Bundles > 5um	0.0	NA	NA	0
PCM Equivalent Fibers-US	0.0	NA	NA	0
PCM Equivalent Structures-US	0.0	NA	NA	0
PROTOCOL ASB STRUCS 5-10	0.0	NA	NA	0
PROTOCOL ASB STRUCS >10	0.0	NA	NA	0
PROTOCOL ASB STRUCS TOTAL	0.0	NA	NA	0
PROTOCOL CHRYS STRUCS 5-10	0.0	NA	NA	0
PROTOCOL CHRYS STRUCS >10	0.0	NA	NA	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	NA	NA	0
PROTOCOL AMPH STRUCS 5-10	0.0	NA	NA	0
PROTOCOL AMPH STRUCS >10	0.0	NA	NA	0
PROTOCOL AMPH STRUCS TOTAL	0.0	NA	NA	0
AHERA-like Total Structures 3:1	0.0	NA	NA	0
AHERA-like Asb Strucs >5 and 3:1	0.0	NA	NA	0
AHERA-like Asb Strucs 5 - 10 and 3:1	0.0	NA	NA	0
AHERA-like Asb Strucs >10 and 3:1	0.0	NA	NA	0
Total Other Amphibole Strucs 3:1	0.0	NA	NA	0
Other Amphibole Strucs >5 and 3:1	0.0	NA	NA	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	NA	NA	0
Other Amphibole Strucs >10 and 3:1	0.0	NA	NA	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S65 A1
Client Sample No. RHS-H2-1FD-100304
Description
Analysis Date 12/10/2004
Analyst DW

Volume (L) 455.68
No. of Grid Openings 59
Filter Area (mm2) 385
Area Analyzed (mm2) 0.855
Analytical Sens. (struc/cc) 0.000988
Dectection Limit. (struc/cc) 0.00295

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	2.3	0.00198	0.00 - 0.00623	2
Total Asbestos Structures	2.3	0.00198	0.00 - 0.00623	2
Asbestos Structures > 5um	1.2	0.000988	0.00 - 0.00468	1
Asbestos Fibers and Bundles > 5um	1.2	0.000988	0.00 - 0.00468	1
PCM Equivalent Fibers-US	1.2	0.000988	0.00 - 0.00468	1
PCM Equivalent Structures-US	1.2	0.000988	0.00 - 0.00468	1
PROTOCOL ASB STRUCS 5-10	0.0	<0.00295	0.00 - 0.00295	0
PROTOCOL ASB STRUCS >10	0.0	<0.00295	0.00 - 0.00295	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00295	0.00 - 0.00295	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00295	0.00 - 0.00295	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00295	0.00 - 0.00295	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00295	0.00 - 0.00295	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00295	0.00 - 0.00295	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00295	0.00 - 0.00295	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00295	0.00 - 0.00295	0
AHERA-like Total Structures 3:1	2.3	0.00198	0.00 - 0.00623	2
AHERA-like Asb Strucs >5 and 3:1	1.2	0.000988	0.00 - 0.00468	1
AHERA-like Asb Strucs 5 - 10 and 3:1	0.0	<0.00295	0.00 - 0.00295	0
AHERA-like Asb Strucs >10 and 3:1	1.2	0.000988	0.00 - 0.00468	1
Total Other Amphibole Strucs 3:1	0.0	<0.00295	0.00 - 0.00295	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00295	0.00 - 0.00295	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00295	0.00 - 0.00295	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00295	0.00 - 0.00295	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S66 A1
Client Sample No. RHS-H2-2FD-100304
Description
Analysis Date 12/10/2004
Analyst KM

Volume (L) 472.81
No. of Grid Openings 57
Filter Area (mm2) 385
Area Analyzed (mm2) 0.826
Analytical Sens. (struc/cc) 0.000986
Dectection Limit. (struc/cc) 0.00295

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	2.4	0.00197	0.00 - 0.00621	2
Total Asbestos Structures	2.4	0.00197	0.00 - 0.00621	2
Asbestos Structures > 5um	0.0	<0.00295	0.00 - 0.00295	0
Asbestos Fibers and Bundles > 5um	0.0	<0.00295	0.00 - 0.00295	0
PCM Equivalent Fibers-US	0.0	<0.00295	0.00 - 0.00295	0
PCM Equivalent Structures-US	0.0	<0.00295	0.00 - 0.00295	0
PROTOCOL ASB STRUCS 5-10	0.0	<0.00295	0.00 - 0.00295	0
PROTOCOL ASB STRUCS >10	0.0	<0.00295	0.00 - 0.00295	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00295	0.00 - 0.00295	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00295	0.00 - 0.00295	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00295	0.00 - 0.00295	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00295	0.00 - 0.00295	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00295	0.00 - 0.00295	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00295	0.00 - 0.00295	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00295	0.00 - 0.00295	0
AHERA-like Total Structures 3:1	2.4	0.00197	0.00 - 0.00621	2
AHERA-like Asb Strucs >5 and 3:1	0.0	<0.00295	0.00 - 0.00295	0
AHERA-like Asb Strucs 5 - 10 and 3:1	0.0	<0.00295	0.00 - 0.00295	0
AHERA-like Asb Strucs >10 and 3:1	0.0	<0.00295	0.00 - 0.00295	0
Total Other Amphibole Strucs 3:1	0.0	<0.00295	0.00 - 0.00295	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00295	0.00 - 0.00295	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00295	0.00 - 0.00295	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00295	0.00 - 0.00295	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S67 A1
Client Sample No. RHS-H2-3FD-100304
Description
Analysis Date 12/11/2004
Analyst TM

Volume (L) 480.95
No. of Grid Openings 56
Filter Area (mm2) 385
Area Analyzed (mm2) 0.811
Analytical Sens. (struc/cc) 0.000987
Dectection Limit. (struc/cc) 0.00295

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	0.0	<0.00295	0.00 - 0.00295	0
Total Asbestos Structures	0.0	<0.00295	0.00 - 0.00295	0
Asbestos Structures > 5um	0.0	<0.00295	0.00 - 0.00295	0
Asbestos Fibers and Bundles > 5um	0.0	<0.00295	0.00 - 0.00295	0
PCM Equivalent Fibers-US	0.0	<0.00295	0.00 - 0.00295	0
PCM Equivalent Structures-US	0.0	<0.00295	0.00 - 0.00295	0
PROTOCOL ASB STRUCS 5-10	0.0	<0.00295	0.00 - 0.00295	0
PROTOCOL ASB STRUCS >10	0.0	<0.00295	0.00 - 0.00295	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00295	0.00 - 0.00295	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00295	0.00 - 0.00295	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00295	0.00 - 0.00295	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00295	0.00 - 0.00295	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00295	0.00 - 0.00295	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00295	0.00 - 0.00295	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00295	0.00 - 0.00295	0
AHERA-like Total Structures 3:1	0.0	<0.00295	0.00 - 0.00295	0
AHERA-like Asb Strucs >5 and 3:1	0.0	<0.00295	0.00 - 0.00295	0
AHERA-like Asb Strucs 5 - 10 and 3:1	0.0	<0.00295	0.00 - 0.00295	0
AHERA-like Asb Strucs >10 and 3:1	0.0	<0.00295	0.00 - 0.00295	0
Total Other Amphibole Strucs 3:1	0.0	<0.00295	0.00 - 0.00295	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00295	0.00 - 0.00295	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00295	0.00 - 0.00295	0
Other Amphibole Struca >10 and 3:1	0.0	<0.00295	0.00 - 0.00295	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S68 A1
Client Sample No. RHS-H2-4FD-100304
Description
Analysis Date 12/11/2004
Analyst KM

Volume (L) 931.5
No. of Grid Openings 30
Filter Area (mm2) 385
Area Analyzed (mm2) 0.435
Analytical Sens. (struc/cc) 0.000951
Dectection Limit. (struc/cc) 0.00284

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	0.0	<0.00284	0.00 - 0.00284	0
Total Asbestos Structures	0.0	<0.00284	0.00 - 0.00284	0
Asbestos Structures > 5um	0.0	<0.00284	0.00 - 0.00284	0
Asbestos Fibers and Bundles > 5um	0.0	<0.00284	0.00 - 0.00284	0
PCM Equivalent Fibers-US	0.0	<0.00284	0.00 - 0.00284	0
PCM Equivalent Structures-US	0.0	<0.00284	0.00 - 0.00284	0
PROTOCOL ASB STRUCS 5-10	0.0	<0.00284	0.00 - 0.00284	0
PROTOCOL ASB STRUCS >10	0.0	<0.00284	0.00 - 0.00284	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00284	0.00 - 0.00284	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00284	0.00 - 0.00284	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00284	0.00 - 0.00284	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00284	0.00 - 0.00284	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00284	0.00 - 0.00284	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00284	0.00 - 0.00284	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00284	0.00 - 0.00284	0
AHERA-like Total Structures 3:1	0.0	<0.00284	0.00 - 0.00284	0
AHERA-like Asb Strucs >5 and 3:1	0.0	<0.00284	0.00 - 0.00284	0
AHERA-like Asb Strucs 5 - 10 and 3:1	0.0	<0.00284	0.00 - 0.00284	0
AHERA-like Asb Strucs >10 and 3:1	0.0	<0.00284	0.00 - 0.00284	0
Total Other Amphibole Strucs 3:1	0.0	<0.00284	0.00 - 0.00284	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00284	0.00 - 0.00284	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00284	0.00 - 0.00284	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00284	0.00 - 0.00284	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S69 A1
Client Sample No. RHS-H2-5FD-100304
Description
Analysis Date 12/11/2004
Analyst KM

Volume (L) 935.53
No. of Grid Openings 30
Filter Area (mm2) 385
Area Analyzed (mm2) 0.435
Analytical Sens. (struc/cc) 0.000947
Dectection Limit. (struc/cc) 0.00283

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	4.6	0.00189	0.00 - 0.00596	2
Total Asbestos Structures	4.6	0.00189	0.00 - 0.00596	2
Asbestos Structures > 5um	2.3	0.000947	0.00 - 0.00449	1
Asbestos Fibers and Bundles > 5um	0.0	<0.00283	0.00 - 0.00283	0
PCM Equivalent Fibers-US	0.0	<0.00283	0.00 - 0.00283	0
PCM Equivalent Structures-US	0.0	<0.00283	0.00 - 0.00283	0
PROTOCOL ASB STRUCS 5-10	0.0	<0.00283	0.00 - 0.00283	0
PROTOCOL ASB STRUCS >10	0.0	<0.00283	0.00 - 0.00283	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00283	0.00 - 0.00283	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00283	0.00 - 0.00283	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00283	0.00 - 0.00283	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00283	0.00 - 0.00283	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00283	0.00 - 0.00283	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00283	0.00 - 0.00283	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00283	0.00 - 0.00283	0
AHERA-like Total Structures 3:1	4.6	0.00189	0.00 - 0.00596	2
AHERA-like Asb Strucs >5 and 3:1	2.3	0.000947	0.00 - 0.00449	1
AHERA-like Asb Strucs 5 - 10 and 3:1	2.3	0.000947	0.00 - 0.00449	1
AHERA-like Asb Strucs >10 and 3:1	0.0	<0.00283	0.00 - 0.00283	0
Total Other Amphibole Strucs 3:1	0.0	<0.00283	0.00 - 0.00283	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00283	0.00 - 0.00283	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00283	0.00 - 0.00283	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00283	0.00 - 0.00283	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S70 A1
Client Sample No. RHS-L2-14CH-100304
Description
Analysis Date 12/11/2004
Analyst KM

Volume (L) 223.65
No. of Grid Openings 120
Filter Area (mm2) 385
Area Analyzed (mm2) 1.74
Analytical Sens. (struc/cc) 0.000990
Dectection Limit. (struc/cc) 0.00296

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	0.6	0.000990	0.00 - 0.00469	1
Total Asbestos Structures	0.6	0.000990	0.00 - 0.00469	1
Asbestos Structures > 5um	0.6	0.000990	0.00 - 0.00469	1
Asbestos Fibers and Bundles > 5um	0.0	<0.00296	0.00 - 0.00296	0
PCM Equivalent Fibers-US	0.6	0.000990	0.00 - 0.00469	1
PCM Equivalent Structures-US	0.6	0.000990	0.00 - 0.00469	1
PROTOCOL ASB STRUCS 5-10	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL ASB STRUCS >10	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00296	0.00 - 0.00296	0
AHERA-like Total Structures 3:1	0.6	0.000990	0.00 - 0.00469	1
AHERA-like Asb Strucs >5 and 3:1	0.6	0.000990	0.00 - 0.00469	1
AHERA-like Asb Strucs 5 - 10 and 3:1	0.6	0.000990	0.00 - 0.00469	1
AHERA-like Asb Strucs >10 and 3:1	0.0	<0.00296	0.00 - 0.00296	0
Total Other Amphibole Strucs 3:1	0.0	<0.00296	0.00 - 0.00296	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00296	0.00 - 0.00296	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00296	0.00 - 0.00296	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00296	0.00 - 0.00296	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S71 A1
Client Sample No. RHS-L2-1CH-100304
Description
Analysis Date 12/13/2004
Analyst JH

Volume (L) 221.94
No. of Grid Openings 120
Filter Area (mm2) 385
Area Analyzed (mm2) 1.74
Analytical Sens. (struc/cc) 0.000998
Dectection Limit. (struc/cc) 0.00298

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	0.0	<0.00298	0.00 - 0.00298	0
Total Asbestos Structures	0.0	<0.00298	0.00 - 0.00298	0
Asbestos Structures > 5um	0.0	<0.00298	0.00 - 0.00298	0
Asbestos Fibers and Bundles > 5um	0.0	<0.00298	0.00 - 0.00298	0
PCM Equivalent Fibers-US	0.0	<0.00298	0.00 - 0.00298	0
PCM Equivalent Structures-US	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL ASB STRUCS 5-10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL ASB STRUCS >10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00298	0.00 - 0.00298	0
AHERA-like Total Structures 3:1	0.0	<0.00298	0.00 - 0.00298	0
AHERA-like Asb Strucs >5 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
AHERA-like Asb Strucs 5 - 10 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
AHERA-like Asb Strucs >10 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
Total Other Amphibole Strucs 3:1	0.0	<0.00298	0.00 - 0.00298	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00298	0.00 - 0.00298	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S72 A1
Client Sample No. RHS-L2-1NA-100304
Description
Analysis Date 12/11/2004
Analyst TM

Volume (L) 223.83
No. of Grid Openings 119
Filter Area (mm2) 385
Area Analyzed (mm2) 1.72
Analytical Sens. (struc/cc) 0.000998
Dectection Limit. (struc/cc) 0.00298

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	0.0	<0.00298	0.00 - 0.00298	0
Total Asbestos Structures	0.0	<0.00298	0.00 - 0.00298	0
Asbestos Structures > 5um	0.0	<0.00298	0.00 - 0.00298	0
Asbestos Fibers and Bundles > 5um	0.0	<0.00298	0.00 - 0.00298	0
PCM Equivalent Fibers-US	0.0	<0.00298	0.00 - 0.00298	0
PCM Equivalent Structures-US	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL ASB STRUCS 5-10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL ASB STRUCS >10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00298	0.00 - 0.00298	0
AHERA-like Total Structures 3:1	0.0	<0.00298	0.00 - 0.00298	0
AHERA-like Asb Strucs >5 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
AHERA-like Asb Struca 5 - 10 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
AHERA-like Asb Strucs >10 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
Total Other Amphibole Strucs 3:1	0.0	<0.00298	0.00 - 0.00298	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00298	0.00 - 0.00298	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S73 A1
Client Sample No. RHS-L2-2CH-100304
Description
Analysis Date 12/13/2004
Analyst KM

Volume (L) 232.47
No. of Grid Openings 115
Filter Area (mm2) 385
Area Analyzed (mm2) 1.67
Analytical Sens. (struc/cc) 0.000994
Dectection Limit. (struc/cc) 0.00297

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	2.4	0.00398	0.00108 - 0.0102	4
Total Asbestos Structures	2.4	0.00398	0.00108 - 0.0102	4
Asbestos Structures > 5um	1.8	0.00298	0.00 - 0.00770	3
Asbestos Fibers and Bundles > 5um	1.8	0.00298	0.00 - 0.00770	3
PCM Equivalent Fibers-US	1.2	0.00199	0.00 - 0.00626	2
PCM Equivalent Structures-US	0.6	0.000994	0.00 - 0.00471	1
PROTOCOL ASB STRUCS 5-10	0.0	<0.00297	0.00 - 0.00297	0
PROTOCOL ASB STRUCS >10	0.0	<0.00297	0.00 - 0.00297	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00297	0.00 - 0.00297	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00297	0.00 - 0.00297	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00297	0.00 - 0.00297	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00297	0.00 - 0.00297	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00297	0.00 - 0.00297	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00297	0.00 - 0.00297	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00297	0.00 - 0.00297	0
AHERA-like Total Structures 3:1	2.4	0.00398	0.00108 - 0.0102	4
AHERA-like Asb Strucs >5 and 3:1	1.8	0.00298	0.00 - 0.00770	3
AHERA-like Asb Strucs 5 - 10 and 3:1	1.2	0.00199	0.00 - 0.00626	2
AHERA-like Asb Strucs >10 and 3:1	0.6	0.000994	0.00 - 0.00471	1
Total Other Amphibole Strucs 3:1	0.0	<0.00297	0.00 - 0.00297	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00297	0.00 - 0.00297	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00297	0.00 - 0.00297	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00297	0.00 - 0.00297	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S74 A1
Client Sample No. RHS-L2-3CH-100304
Description
Analysis Date 12/13/2004
Analyst JH

Volume (L) 229.32
No. of Grid Openings 116
Filter Area (mm2) 385
Area Analyzed (mm2) 1.68
Analytical Sens. (struc/cc) 0.000999
Dectection Limit. (struc/cc) 0.00299

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	0.6	0.000999	0.00 - 0.00473	1
Total Asbestos Structures	0.6	0.000999	0.00 - 0.00473	1
Asbestos Structures > 5um	0.6	0.000999	0.00 - 0.00473	1
Asbestos Fibers and Bundles > 5um	0.6	0.000999	0.00 - 0.00473	1
PCM Equivalent Fibers-US	0.6	0.000999	0.00 - 0.00473	1
PCM Equivalent Structures-US	0.6	0.000999	0.00 - 0.00473	1
PROTOCOL ASB STRUCS 5-10	0.0	<0.00299	0.00 - 0.00299	0
PROTOCOL ASB STRUCS >10	0.0	<0.00299	0.00 - 0.00299	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00299	0.00 - 0.00299	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00299	0.00 - 0.00299	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00299	0.00 - 0.00299	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00299	0.00 - 0.00299	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00299	0.00 - 0.00299	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00299	0.00 - 0.00299	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00299	0.00 - 0.00299	0
AHERA-like Total Structures 3:1	0.6	0.000999	0.00 - 0.00473	1
AHERA-like Asb Strucs >5 and 3:1	0.6	0.000999	0.00 - 0.00473	1
AHERA-like Asb Strucs 5 - 10 and 3:1	0.6	0.000999	0.00 - 0.00473	1
AHERA-like Asb Strucs >10 and 3:1	0.0	<0.00299	0.00 - 0.00299	0
Total Other Amphibole Strucs 3:1	0.0	<0.00299	0.00 - 0.00299	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00299	0.00 - 0.00299	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00299	0.00 - 0.00299	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00299	0.00 - 0.00299	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S75 A1
Client Sample No. RHS-L2-4CH-100304
Description
Analysis Date 12/14/2004
Analyst KM

Volume (L) 228.06
No. of Grid Openings 117
Filter Area (mm2) 385
Area Analyzed (mm2) 1.70
Analytical Sens. (struc/cc) 0.000996
Dectection Limit. (struc/cc) 0.00298

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	0.6	0.000996	0.00 - 0.00472	1
Total Asbestos Structures	0.6	0.000996	0.00 - 0.00472	1
Asbestos Structures > 5um	0.6	0.000996	0.00 - 0.00472	1
Asbestos Fibers and Bundles > 5um	0.6	0.000996	0.00 - 0.00472	1
PCM Equivalent Fibers-US	0.6	0.000996	0.00 - 0.00472	1
PCM Equivalent Structures-US	0.6	0.000996	0.00 - 0.00472	1
PROTOCOL ASB STRUCS 5-10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL ASB STRUCS >10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00298	0.00 - 0.00298	0
AHERA-like Total Structures 3:1	0.6	0.000996	0.00 - 0.00472	1
AHERA-like Asb Strucs >5 and 3:1	0.6	0.000996	0.00 - 0.00472	1
AHERA-like Asb Strucs 5 - 10 and 3:1	0.6	0.000996	0.00 - 0.00472	1
AHERA-like Asb Strucs >10 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
Total Other Amphibole Strucs 3:1	0.0	<0.00298	0.00 - 0.00298	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00298	0.00 - 0.00298	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S76 A1
Client Sample No. RHS-L2-5CH-100304
Description
Analysis Date 12/14/2004
Analyst DW

Volume (L) 233.06
No. of Grid Openings 115
Filter Area (mm2) 385
Area Analyzed (mm2) 1.67
Analytical Sens. (struc/cc) 0.000991
Dectection Limit. (struc/cc) 0.00296

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	1.2	0.00198	0.00 - 0.00625	2
Total Asbestos Structures	1.2	0.00198	0.00 - 0.00625	2
Asbestos Structures > 5um	0.0	<0.00296	0.00 - 0.00296	0
Asbestos Fibers and Bundles > 5um	0.0	<0.00296	0.00 - 0.00296	0
PCM Equivalent Fibers-US	0.0	<0.00296	0.00 - 0.00296	0
PCM Equivalent Structures-US	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL ASB STRUCS 5-10	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL ASB STRUCS >10	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00296	0.00 - 0.00296	0
AHERA-like Total Structures 3:1	1.2	0.00198	0.00 - 0.00625	2
AHERA-like Asb Strucs >5 and 3:1	0.0	<0.00296	0.00 - 0.00296	0
AHERA-like Asb Strucs 5 - 10 and 3:1	0.0	<0.00296	0.00 - 0.00296	0
AHERA-like Asb Strucs >10 and 3:1	0.0	<0.00296	0.00 - 0.00296	0
Total Other Amphibole Strucs 3:1	0.0	<0.00296	0.00 - 0.00296	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00296	0.00 - 0.00296	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00296	0.00 - 0.00296	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00296	0.00 - 0.00296	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S77 A1
Client Sample No. SVBA-H2-4FD-100204
Description
Analysis Date 12/14/2004
Analyst JH

Volume (L) 1195.08
No. of Grid Openings 23
Filter Area (mm2) 385
Area Analyzed (mm2) 0.333
Analytical Sens. (struc/cc) 0.000967
Dectection Limit. (struc/cc) 0.00289

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	6.0	0.00193	0.00 - 0.00609	2
Total Asbestos Structures	6.0	0.00193	0.00 - 0.00609	2
Asbestos Structures > 5um	3.0	0.000967	0.00 - 0.00458	1
Asbestos Fibers and Bundles > 5um	3.0	0.000967	0.00 - 0.00458	1
PCM Equivalent Fibers-US	3.0	0.000967	0.00 - 0.00458	1
PCM Equivalent Structures-US	3.0	0.000967	0.00 - 0.00458	1
PROTOCOL ASB STRUCS 5-10	0.0	<0.00289	0.00 - 0.00289	0
PROTOCOL ASB STRUCS >10	0.0	<0.00289	0.00 - 0.00289	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00289	0.00 - 0.00289	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00289	0.00 - 0.00289	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00289	0.00 - 0.00289	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00289	0.00 - 0.00289	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00289	0.00 - 0.00289	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00289	0.00 - 0.00289	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00289	0.00 - 0.00289	0
AHERA-like Total Structures 3:1	6.0	0.00193	0.00 - 0.00609	2
AHERA-like Asb Strucs >5 and 3:1	3.0	0.000967	0.00 - 0.00458	1
AHERA-like Asb Strucs 5 - 10 and 3:1	3.0	0.000967	0.00 - 0.00458	1
AHERA-like Asb Strucs >10 and 3:1	0.0	<0.00289	0.00 - 0.00289	0
Total Other Amphibole Strucs 3:1	0.0	<0.00289	0.00 - 0.00289	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00289	0.00 - 0.00289	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00289	0.00 - 0.00289	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00289	0.00 - 0.00289	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S78 A1
Client Sample No. SVBA-H2-5FD-100204
Description
Analysis Date 12/15/2004
Analyst KM

Volume (L) 1198.92
No. of Grid Openings 23
Filter Area (mm2) 385
Area Analyzed (mm2) 0.333
Analytical Sens. (struc/cc) 0.000964
Dectection Limit. (struc/cc) 0.00288

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	9.0	0.00289	0.00 - 0.00747	3
Total Asbestos Structures	9.0	0.00289	0.00 - 0.00747	3
Asbestos Structures > 5um	3.0	0.000964	0.00 - 0.00457	1
Asbestos Fibers and Bundles > 5um	3.0	0.000964	0.00 - 0.00457	1
PCM Equivalent Fibers-US	3.0	0.000964	0.00 - 0.00457	1
PCM Equivalent Structures-US	3.0	0.000964	0.00 - 0.00457	1
PROTOCOL ASB STRUCS 5-10	3.0	0.000964	0.00 - 0.00457	1
PROTOCOL ASB STRUCS >10	0.0	<0.00288	0.00 - 0.00288	0
PROTOCOL ASB STRUCS TOTAL	3.0	0.000964	0.00 - 0.00457	1
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00288	0.00 - 0.00288	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00288	0.00 - 0.00288	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00288	0.00 - 0.00288	0
PROTOCOL AMPH STRUCS 5-10	3.0	0.000964	0.00 - 0.00457	1
PROTOCOL AMPH STRUCS >10	0.0	<0.00288	0.00 - 0.00288	0
PROTOCOL AMPH STRUCS TOTAL	3.0	0.000964	0.00 - 0.00457	1
AHERA-like Total Structures 3:1	9.0	0.00289	0.00 - 0.00747	3
AHERA-like Asb Strucs >5 and 3:1	3.0	0.000964	0.00 - 0.00457	1
AHERA-like Asb Strucs 5 - 10 and 3:1	3.0	0.000964	0.00 - 0.00457	1
AHERA-like Asb Strucs >10 and 3:1	0.0	<0.00288	0.00 - 0.00288	0
Total Other Amphibole Strucs 3:1	0.0	<0.00288	0.00 - 0.00288	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00288	0.00 - 0.00288	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00288	0.00 - 0.00288	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00288	0.00 - 0.00288	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S79 A1
Client Sample No. SVBA-L2-1NA-100204
Description
Analysis Date 12/16/2004
Analyst JH

Volume (L) 293.4
No. of Grid Openings 91
Filter Area (mm2) 385
Area Analyzed (mm2) 1.32
Analytical Sens. (struc/cc) 0.000995
Dectection Limit. (struc/cc) 0.00298

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	0.0	<0.00298	0.00 - 0.00298	0
Total Asbestos Structures	0.0	<0.00298	0.00 - 0.00298	0
Asbestos Structures > 5um	0.0	<0.00298	0.00 - 0.00298	0
Asbestos Fibers and Bundles > 5um	0.0	<0.00298	0.00 - 0.00298	0
PCM Equivalent Fibers-US	0.0	<0.00298	0.00 - 0.00298	0
PCM Equivalent Structures-US	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL ASB STRUCS 5-10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL ASB STRUCS >10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00298	0.00 - 0.00298	0
AHERA-like Total Structures 3:1	0.0	<0.00298	0.00 - 0.00298	0
AHERA-like Asb Strucs >5 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
AHERA-like Asb Strucs 5 - 10 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
AHERA-like Asb Strucs >10 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
Total Other Amphibole Strucs 3:1	0.0	<0.00298	0.00 - 0.00298	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00298	0.00 - 0.00298	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S80 A1
Client Sample No. SVBA-L2-1ZB-100204
Description
Analysis Date 12/15/2004
Analyst TM

Volume (L) 301.32
No. of Grid Openings 89
Filter Area (mm2) 385
Area Analyzed (mm2) 1.29
Analytical Sens. (struc/cc) 0.000991
Dectection Limit. (struc/cc) 0.00296

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	0.0	<0.00296	0.00 - 0.00296	0
Total Asbestos Structures	0.0	<0.00296	0.00 - 0.00296	0
Asbestos Structures > 5um	0.0	<0.00296	0.00 - 0.00296	0
Asbestos Fibers and Bundles > 5um	0.0	<0.00296	0.00 - 0.00296	0
PCM Equivalent Fibers-US	0.0	<0.00296	0.00 - 0.00296	0
PCM Equivalent Structures-US	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL ASB STRUCS 5-10	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL ASB STRUCS >10	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00296	0.00 - 0.00296	0
AHERA-like Total Structures 3:1	0.0	<0.00296	0.00 - 0.00296	0
AHERA-like Asb Strucs >5 and 3:1	0.0	<0.00296	0.00 - 0.00296	0
AHERA-like Asb Strucs 5 - 10 and 3:1	0.0	<0.00296	0.00 - 0.00296	0
AHERA-like Asb Strucs >10 and 3:1	0.0	<0.00296	0.00 - 0.00296	0
Total Other Amphibole Strucs 3:1	0.0	<0.00296	0.00 - 0.00296	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00296	0.00 - 0.00296	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00296	0.00 - 0.00296	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00296	0.00 - 0.00296	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S81 A1
Client Sample No. SVBB-H2-12FD-100304
Description
Analysis Date 12/16/2004
Analyst KM

Volume (L) 557.15
No. of Grid Openings 48
Filter Area (mm2) 385
Area Analyzed (mm2) 0.696
Analytical Sens. (struc/cc) 0.000994
Dectection Limit. (struc/cc) 0.00297

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	2.9	0.00199	0.00 - 0.00626	2
Total Asbestos Structures	2.9	0.00199	0.00 - 0.00626	2
Asbestos Structures > 5um	0.0	<0.00297	0.00 - 0.00297	0
Asbestos Fibers and Bundles > 5um	0.0	<0.00297	0.00 - 0.00297	0
PCM Equivalent Fibers-US	0.0	<0.00297	0.00 - 0.00297	0
PCM Equivalent Structures-US	0.0	<0.00297	0.00 - 0.00297	0
PROTOCOL ASB STRUCS 5-10	0.0	<0.00297	0.00 - 0.00297	0
PROTOCOL ASB STRUCS >10	0.0	<0.00297	0.00 - 0.00297	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00297	0.00 - 0.00297	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00297	0.00 - 0.00297	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00297	0.00 - 0.00297	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00297	0.00 - 0.00297	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00297	0.00 - 0.00297	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00297	0.00 - 0.00297	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00297	0.00 - 0.00297	0
AHERA-like Total Structures 3:1	2.9	0.00199	0.00 - 0.00626	2
AHERA-like Asb Strucs >5 and 3:1	0.0	<0.00297	0.00 - 0.00297	0
AHERA-like Asb Strucs 5 - 10 and 3:1	0.0	<0.00297	0.00 - 0.00297	0
AHERA-like Asb Strucs >10 and 3:1	0.0	<0.00297	0.00 - 0.00297	0
Total Other Amphibole Strucs 3:1	0.0	<0.00297	0.00 - 0.00297	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00297	0.00 - 0.00297	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00297	0.00 - 0.00297	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00297	0.00 - 0.00297	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S82 A1
Client Sample No. SVBB-H2-4FD-100304
Description
Analysis Date 12/17/2004
Analyst JH

Volume (L) 1205.89
No. of Grid Openings 23
Filter Area (mm2) 385
Area Analyzed (mm2) 0.333
Analytical Sens. (struc/cc) 0.000958
Dectection Limit. (struc/cc) 0.00286

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	6.0	0.00192	0.00 - 0.00604	2
Total Asbestos Structures	6.0	0.00192	0.00 - 0.00604	2
Asbestos Structures > 5um	3.0	0.000958	0.00 - 0.00454	1
Asbestos Fibers and Bundles > 5um	3.0	0.000958	0.00 - 0.00454	1
PCM Equivalent Fibers-US	3.0	0.000958	0.00 - 0.00454	1
PCM Equivalent Structures-US	3.0	0.000958	0.00 - 0.00454	1
PROTOCOL ASB STRUCS 5-10	0.0	<0.00286	0.00 - 0.00286	0
PROTOCOL ASB STRUCS >10	0.0	<0.00286	0.00 - 0.00286	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00286	0.00 - 0.00286	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00286	0.00 - 0.00286	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00286	0.00 - 0.00286	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00286	0.00 - 0.00286	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00286	0.00 - 0.00286	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00286	0.00 - 0.00286	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00286	0.00 - 0.00286	0
AHERA-like Total Structures 3:1	6.0	0.00192	0.00 - 0.00604	2
AHERA-like Asb Strucs >5 and 3:1	3.0	0.000958	0.00 - 0.00454	1
AHERA-like Asb Strucs 5 - 10 and 3:1	3.0	0.000958	0.00 - 0.00454	1
AHERA-like Asb Strucs >10 and 3:1	0.0	<0.00286	0.00 - 0.00286	0
Total Other Amphibole Strucs 3:1	0.0	<0.00286	0.00 - 0.00286	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00286	0.00 - 0.00286	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00286	0.00 - 0.00286	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00286	0.00 - 0.00286	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S83 A1
Client Sample No. SVBB-H2-5FD-100304
Description
Analysis Date 12/17/2004
Analyst JH

Volume (L) 1210
No. of Grid Openings 22
Filter Area (mm2) 385
Area Analyzed (mm2) 0.319
Analytical Sens. (struc/cc) 0.000998
Dectection Limit. (struc/cc) 0.00298

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	3.1	0.000998	0.00 - 0.00473	1
Total Asbestos Structures	0.0	<0.00298	0.00 - 0.00298	0
Asbestos Structures > 5um	0.0	<0.00298	0.00 - 0.00298	0
Asbestos Fibers and Bundles > 5um	0.0	<0.00298	0.00 - 0.00298	0
PCM Equivalent Fibers-US	3.1	0.000998	0.00 - 0.00473	1
PCM Equivalent Structures-US	3.1	0.000998	0.00 - 0.00473	1
PROTOCOL ASB STRUCS 5-10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL ASB STRUCS >10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00298	0.00 - 0.00298	0
AHERA-like Total Structures 3:1	0.0	<0.00298	0.00 - 0.00298	0
AHERA-like Asb Strucs >5 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
AHERA-like Asb Strucs 5 - 10 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
AHERA-like Asb Strucs >10 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
Total Other Amphibole Strucs 3:1	3.1	0.000998	0.00 - 0.00473	1
Other Amphibole Strucs >5 and 3:1	3.1	0.000998	0.00 - 0.00473	1
Other Amphibole Strucs 5 - 10 and 3:1	3.1	0.000998	0.00 - 0.00473	1
Other Amphibole Strucs >10 and 3:1	0.0	<0.00298	0.00 - 0.00298	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S84 A1
Client Sample No. SVBB-L2-1NA-100304
Description
Analysis Date 12/18/2004
Analyst KM

Volume (L) 306.71
No. of Grid Openings 88
Filter Area (mm2) 385
Area Analyzed (mm2) 1.28
Analytical Sens. (struc/cc) 0.000984
Dectection Limit. (struc/cc) 0.00294

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	0.0	<0.00294	0.00 - 0.00294	0
Total Asbestos Structures	0.0	<0.00294	0.00 - 0.00294	0
Asbestos Structures > 5um	0.0	<0.00294	0.00 - 0.00294	0
Asbestos Fibers and Bundles > 5um	0.0	<0.00294	0.00 - 0.00294	0
PCM Equivalent Fibers-US	0.0	<0.00294	0.00 - 0.00294	0
PCM Equivalent Structures-US	0.0	<0.00294	0.00 - 0.00294	0
PROTOCOL ASB STRUCS 5-10	0.0	<0.00294	0.00 - 0.00294	0
PROTOCOL ASB STRUCS >10	0.0	<0.00294	0.00 - 0.00294	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00294	0.00 - 0.00294	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00294	0.00 - 0.00294	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00294	0.00 - 0.00294	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00294	0.00 - 0.00294	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00294	0.00 - 0.00294	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00294	0.00 - 0.00294	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00294	0.00 - 0.00294	0
AHERA-like Total Structures 3:1	0.0	<0.00294	0.00 - 0.00294	0
AHERA-like Asb Strucs >5 and 3:1	0.0	<0.00294	0.00 - 0.00294	0
AHERA-like Asb Strucs 5 - 10 and 3:1	0.0	<0.00294	0.00 - 0.00294	0
AHERA-like Asb Strucs >10 and 3:1	0.0	<0.00294	0.00 - 0.00294	0
Total Other Amphibole Strucs 3:1	0.0	<0.00294	0.00 - 0.00294	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00294	0.00 - 0.00294	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00294	0.00 - 0.00294	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00294	0.00 - 0.00294	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S85 A1
Client Sample No. SVBB-L2-1ZB-100304
Description
Analysis Date 12/18/2004
Analyst TM

Volume (L) 302.56
No. of Grid Openings 88
Filter Area (mm2) 385
Area Analyzed (mm2) 1.28
Analytical Sens. (struc/cc) 0.000998
Dectection Limit. (struc/cc) 0.00298

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	0.0	<0.00298	0.00 - 0.00298	0
Total Asbestos Structures	0.0	<0.00298	0.00 - 0.00298	0
Asbestos Structures > 5um	0.0	<0.00298	0.00 - 0.00298	0
Asbestos Fibers and Bundles > 5um	0.0	<0.00298	0.00 - 0.00298	0
PCM Equivalent Fibers-US	0.0	<0.00298	0.00 - 0.00298	0
PCM Equivalent Structures-US	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL ASB STRUCS 5-10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL ASB STRUCS >10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00298	0.00 - 0.00298	0
AHERA-like Total Structures 3:1	0.0	<0.00298	0.00 - 0.00298	0
AHERA-like Asb Strucs >5 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
AHERA-like Asb Strucs 5 - 10 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
AHERA-like Asb Strucs >10 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
Total Other Amphibole Strucs 3:1	0.0	<0.00298	0.00 - 0.00298	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00298	0.00 - 0.00298	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No.	B4760 S86 A1	**Volume (L)**	1194.88
Client Sample No.	SVM-H2-4FD-100204	**No. of Grid Openings**	23
Description		**Filter Area (mm2)**	385
Analysis Date	12/18/2004	**Area Analyzed (mm2)**	0.333
Analyst	KM	**Analytical Sens. (struc/cc)**	0.000967
		Dectection Limit. (struc/cc)	0.00289

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	0.0	<0.00289	0.00 - 0.00289	0
Total Asbestos Structures	0.0	<0.00289	0.00 - 0.00289	0
Asbestos Structures > 5um	0.0	<0.00289	0.00 - 0.00289	0
Asbestos Fibers and Bundles > 5um	0.0	<0.00289	0.00 - 0.00289	0
PCM Equivalent Fibers-US	0.0	<0.00289	0.00 - 0.00289	0
PCM Equivalent Structures-US	0.0	<0.00289	0.00 - 0.00289	0
PROTOCOL ASB STRUCS 5-10	0.0	<0.00289	0.00 - 0.00289	0
PROTOCOL ASB STRUCS >10	0.0	<0.00289	0.00 - 0.00289	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00289	0.00 - 0.00289	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00289	0.00 - 0.00289	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00289	0.00 - 0.00289	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00289	0.00 - 0.00289	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00289	0.00 - 0.00289	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00289	0.00 - 0.00289	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00289	0.00 - 0.00289	0
AHERA-like Total Structures 3:1	0.0	<0.00289	0.00 - 0.00289	0
AHERA-like Asb Strucs >5 and 3:1	0.0	<0.00289	0.00 - 0.00289	0
AHERA-like Asb Strucs 5 - 10 and 3:1	0.0	<0.00289	0.00 - 0.00289	0
AHERA-like Asb Strucs >10 and 3:1	0.0	<0.00289	0.00 - 0.00289	0
Total Other Amphibole Strucs 3:1	0.0	<0.00289	0.00 - 0.00289	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00289	0.00 - 0.00289	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00289	0.00 - 0.00289	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00289	0.00 - 0.00289	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S87 A1
Client Sample No. SVM-H2-5FD-100204
Description
Analysis Date 12/18/2004
Analyst KM

Volume (L) 1194.26
No. of Grid Openings 23
Filter Area (mm2) 385
Area Analyzed (mm2) 0.333
Analytical Sens. (struc/cc) 0.000967
Dectection Limit. (struc/cc) 0.00289

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	18.0	0.00580	0.00213 - 0.0126	6
Total Asbestos Structures	18.0	0.00580	0.00213 - 0.0126	6
Asbestos Structures > 5um	12.0	0.00387	0.00105 - 0.00991	4
Asbestos Fibers and Bundles > 5um	12.0	0.00387	0.00105 - 0.00991	4
PCM Equivalent Fibers-US	12.0	0.00387	0.00105 - 0.00991	4
PCM Equivalent Structures-US	12.0	0.00387	0.00105 - 0.00991	4
PROTOCOL ASB STRUCS 5-10	0.0	<0.00289	0.00 - 0.00289	0
PROTOCOL ASB STRUCS >10	0.0	<0.00289	0.00 - 0.00289	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00289	0.00 - 0.00289	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00289	0.00 - 0.00289	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00289	0.00 - 0.00289	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00289	0.00 - 0.00289	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00289	0.00 - 0.00289	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00289	0.00 - 0.00289	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00289	0.00 - 0.00289	0
AHERA-like Total Structures 3:1	18.0	0.00580	0.00213 - 0.0126	6
AHERA-like Asb Strucs >5 and 3:1	12.0	0.00387	0.00105 - 0.00991	4
AHERA-like Asb Strucs 5 - 10 and 3:1	3.0	0.000967	0.00 - 0.00459	1
AHERA-like Asb Strucs >10 and 3:1	9.0	0.00290	0.00 - 0.00750	3
Total Other Amphibole Strucs 3:1	0.0	<0.00289	0.00 - 0.00289	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00289	0.00 - 0.00289	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00289	0.00 - 0.00289	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00289	0.00 - 0.00289	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S88 A1
Client Sample No. SVM-L2-15AD-100204
Description
Analysis Date 12/18/2004
Analyst TM

Volume (L) 304.76
No. of Grid Openings 87
Filter Area (mm2) 385
Area Analyzed (mm2) 1.26
Analytical Sens. (struc/cc) 0.00100
Dectection Limit. (struc/cc) 0.00300

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	0.8	0.00100	0.00 - 0.00475	1
Total Asbestos Structures	0.8	0.00100	0.00 - 0.00475	1
Asbestos Structures > 5um	0.8	0.00100	0.00 - 0.00475	1
Asbestos Fibers and Bundles > 5um	0.0	<0.00300	0.00 - 0.00300	0
PCM Equivalent Fibers-US	0.0	<0.00300	0.00 - 0.00300	0
PCM Equivalent Structures-US	0.0	<0.00300	0.00 - 0.00300	0
PROTOCOL ASB STRUCS 5-10	0.0	<0.00300	0.00 - 0.00300	0
PROTOCOL ASB STRUCS >10	0.0	<0.00300	0.00 - 0.00300	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00300	0.00 - 0.00300	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00300	0.00 - 0.00300	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00300	0.00 - 0.00300	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00300	0.00 - 0.00300	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00300	0.00 - 0.00300	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00300	0.00 - 0.00300	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00300	0.00 - 0.00300	0
AHERA-like Total Structures 3:1	0.8	0.00100	0.00 - 0.00475	1
AHERA-like Asb Strucs >5 and 3:1	0.8	0.00100	0.00 - 0.00475	1
AHERA-like Asb Strucs 5 - 10 and 3:1	0.8	0.00100	0.00 - 0.00475	1
AHERA-like Asb Strucs >10 and 3:1	0.0	<0.00300	0.00 - 0.00300	0
Total Other Amphibole Strucs 3:1	0.0	<0.00300	0.00 - 0.00300	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00300	0.00 - 0.00300	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00300	0.00 - 0.00300	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00300	0.00 - 0.00300	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S89 A1
Client Sample No. SVM-L2-1AD-100204
Description
Analysis Date 12/19/2004
Analyst KM

Volume (L) 305.61
No. of Grid Openings 87
Filter Area (mm2) 385
Area Analyzed (mm2) 1.26
Analytical Sens. (struc/cc) 0.000999
Dectection Limit. (struc/cc) 0.00299

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	4.0	0.00500	0.00162 - 0.0117	5
Total Asbestos Structures	4.0	0.00500	0.00162 - 0.0117	5
Asbestos Structures > 5um	0.8	0.000999	0.00 - 0.00474	1
Asbestos Fibers and Bundles > 5um	0.8	0.000999	0.00 - 0.00474	1
PCM Equivalent Fibers-US	0.0	<0.00299	0.00 - 0.00299	0
PCM Equivalent Structures-US	0.0	<0.00299	0.00 - 0.00299	0
PROTOCOL ASB STRUCS 5-10	0.0	<0.00299	0.00 - 0.00299	0
PROTOCOL ASB STRUCS >10	0.0	<0.00299	0.00 - 0.00299	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00299	0.00 - 0.00299	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00299	0.00 - 0.00299	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00299	0.00 - 0.00299	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00299	0.00 - 0.00299	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00299	0.00 - 0.00299	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00299	0.00 - 0.00299	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00299	0.00 - 0.00299	0
AHERA-like Total Structures 3:1	4.0	0.00500	0.00162 - 0.0117	5
AHERA-like Asb Strucs >5 and 3:1	0.8	0.000999	0.00 - 0.00474	1
AHERA-like Asb Strucs 5 - 10 and 3:1	0.0	<0.00299	0.00 - 0.00299	0
AHERA-like Asb Strucs >10 and 3:1	0.8	0.000999	0.00 - 0.00474	1
Total Other Amphibole Strucs 3:1	0.0	<0.00299	0.00 - 0.00299	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00299	0.00 - 0.00299	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00299	0.00 - 0.00299	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00299	0.00 - 0.00299	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S90 A1
Client Sample No. SVM-L2-2AD-100204
Description
Analysis Date 12/23/2004
Analyst JH

Volume (L) 306.83
No. of Grid Openings 87
Filter Area (mm2) 385
Area Analyzed (mm2) 1.26
Analytical Sens. (struc/cc) 0.000995
Dectection Limit. (struc/cc) 0.00298

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	4.0	0.00498	0.00162 - 0.0116	5
Total Asbestos Structures	4.0	0.00498	0.00162 - 0.0116	5
Asbestos Structures > 5um	3.2	0.00398	0.00108 - 0.0102	4
Asbestos Fibers and Bundles > 5um	3.2	0.00398	0.00108 - 0.0102	4
PCM Equivalent Fibers-US	2.4	0.00299	0.00 - 0.00771	3
PCM Equivalent Structures-US	2.4	0.00299	0.00 - 0.00771	3
PROTOCOL ASB STRUCS 5-10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL ASB STRUCS >10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00298	0.00 - 0.00298	0
AHERA-like Total Structures 3:1	4.0	0.00498	0.00182 - 0.0116	5
AHERA-like Asb Strucs >5 and 3:1	3.2	0.00398	0.00108 - 0.0102	4
AHERA-like Asb Strucs 5 - 10 and 3:1	0.8	0.000995	0.00 - 0.00472	1
AHERA-like Asb Strucs >10 and 3:1	2.4	0.00299	0.00 - 0.00771	3
Total Other Amphibole Strucs 3:1	0.0	<0.00298	0.00 - 0.00298	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00298	0.00 - 0.00298	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No.	B4760 S91 A1	**Volume (L)**	305.98
Client Sample No.	SVM-L2-3AD-100204	**No. of Grid Openings**	87
Description		**Filter Area (mm2)**	385
Analysis Date	12/23/2004	**Area Analyzed (mm2)**	1.26
Analyst	JH	**Analytical Sens. (struc/cc)**	0.000998
		Dectection Limit. (struc/cc)	0.00298

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	5.6	0.00699	0.00281 - 0.0144	7
Total Asbestos Structures	5.6	0.00699	0.00281 - 0.0144	7
Asbestos Structures > 5um	4.8	0.00599	0.00220 - 0.0130	6
Asbestos Fibers and Bundles > 5um	4.8	0.00599	0.00220 - 0.0130	6
PCM Equivalent Fibers-US	4.0	0.00499	0.00162 - 0.0116	5
PCM Equivalent Structures-US	4.0	0.00499	0.00162 - 0.0116	5
PROTOCOL ASB STRUCS 5-10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL ASB STRUCS >10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00298	0.00 - 0.00298	0
AHERA-like Total Structures 3:1	5.6	0.00699	0.00281 - 0.0144	7
AHERA-like Asb Strucs >5 and 3:1	4.8	0.00599	0.00220 - 0.0130	6
AHERA-like Asb Strucs 5 - 10 and 3:1	3.2	0.00399	0.00109 - 0.0102	4
AHERA-like Asb Strucs >10 and 3:1	1.6	0.00200	0.00 - 0.00629	2
Total Other Amphibole Strucs 3:1	0.0	<0.00298	0.00 - 0.00298	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00298	0.00 - 0.00298	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S92 A1
Client Sample No. SVM-L2-4AD-100204
Description
Analysis Date 12/27/2004
Analyst JH

Volume (L) 307.93
No. of Grid Openings 87
Filter Area (mm2) 385
Area Analyzed (mm2) 1.26
Analytical Sens. (struc/cc) 0.000992
Dectection Limit. (struc/cc) 0.00297

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	2.4	0.00298	0.00 - 0.00769	3
Total Asbestos Structures	2.4	0.00298	0.00 - 0.00769	3
Asbestos Structures > 5um	0.8	0.000992	0.00 - 0.00470	1
Asbestos Fibers and Bundles > 5um	0.8	0.000992	0.00 - 0.00470	1
PCM Equivalent Fibers-US	0.8	0.000992	0.00 - 0.00470	1
PCM Equivalent Structures-US	0.8	0.000992	0.00 - 0.00470	1
PROTOCOL ASB STRUCS 5-10	0.0	<0.00297	0.00 - 0.00297	0
PROTOCOL ASB STRUCS >10	0.0	<0.00297	0.00 - 0.00297	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00297	0.00 - 0.00297	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00297	0.00 - 0.00297	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00297	0.00 - 0.00297	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00297	0.00 - 0.00297	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00297	0.00 - 0.00297	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00297	0.00 - 0.00297	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00297	0.00 - 0.00297	0
AHERA-like Total Structures 3:1	2.4	0.00298	0.00 - 0.00769	3
AHERA-like Asb Strucs >5 and 3:1	0.8	0.000992	0.00 - 0.00470	1
AHERA-like Asb Struca 5 - 10 and 3:1	0.8	0.000992	0.00 - 0.00470	1
AHERA-like Asb Strucs >10 and 3:1	0.0	<0.00297	0.00 - 0.00297	0
Total Other Amphibole Strucs 3:1	0.0	<0.00297	0.00 - 0.00297	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00297	0.00 - 0.00297	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00297	0.00 - 0.00297	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00297	0.00 - 0.00297	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S93 A1
Client Sample No. SVM-L2-5AD-100204
Description
Analysis Date 12/26/2004
Analyst TM

Volume (L) 306.46
No. of Grid Openings 67
Filter Area (mm2) 385
Area Analyzed (mm2) 1.26
Analytical Sens. (struc/cc) 0.000997
Dectection Limit. (struc/cc) 0.00298

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	4.0	0.00498	0.00162 - 0.0116	5
Total Asbestos Structures	4.0	0.00498	0.00162 - 0.0116	5
Asbestos Structures > 5um	3.2	0.00399	0.00109 - 0.0102	4
Asbestos Fibers and Bundles > 5um	2.4	0.00299	0.00 - 0.00772	3
PCM Equivalent Fibers-US	2.4	0.00299	0.00 - 0.00772	3
PCM Equivalent Structures-US	1.6	0.00199	0.00 - 0.00628	2
PROTOCOL ASB STRUCS 5-10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL ASB STRUCS >10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL ASB STRUCS TOTAL	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL CHRYS STRUCS 5-10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL CHRYS STRUCS >10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL AMPH STRUCS 5-10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL AMPH STRUCS >10	0.0	<0.00298	0.00 - 0.00298	0
PROTOCOL AMPH STRUCS TOTAL	0.0	<0.00298	0.00 - 0.00298	0
AHERA-like Total Structures 3:1	4.0	0.00498	0.00162 - 0.0116	5
AHERA-like Asb Strucs >5 and 3:1	3.2	0.00399	0.00109 - 0.0102	4
AHERA-like Asb Strucs 5 - 10 and 3:1	3.2	0.00399	0.00109 - 0.0102	4
AHERA-like Asb Strucs >10 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
Total Other Amphibole Strucs 3:1	0.0	<0.00298	0.00 - 0.00298	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
Other Amphibole Struca 5 - 10 and 3:1	0.0	<0.00298	0.00 - 0.00298	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00298	0.00 - 0.00298	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S94 A1
Client Sample No. SVM-L2-6AD-100204
Description
Analysis Date 12/28/2004
Analyst JH

Volume (L) 311.83
No. of Grid Openings 86
Filter Area (mm2) 385
Area Analyzed (mm2) 1.25
Analytical Sens. (struc/cc) 0.000991
Dectection Limit. (struc/cc) 0.00296

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	2.4	0.00297	0.00 - 0.00768	3
Total Asbestos Structures	2.4	0.00297	0.00 - 0.00768	3
Asbestos Structures > 5um	1.6	0.00198	0.00 - 0.00624	2
Asbestos Fibers and Bundles > 5um	1.6	0.00198	0.00 - 0.00624	2
PCM Equivalent Fibers-US	1.6	0.00198	0.00 - 0.00624	2
PCM Equivalent Structures-US	0.8	0.000991	0.00 - 0.00470	1
PROTOCOL ASB STRUCS 5-10	1.6	0.00198	0.00 - 0.00624	2
PROTOCOL ASB STRUCS >10	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL ASB STRUCS TOTAL	1.6	0.00198	0.00 - 0.00624	2
PROTOCOL CHRYS STRUCS 5-10	0.8	0.000991	0.00 - 0.00470	1
PROTOCOL CHRYS STRUCS >10	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL CHRYS STRUCS TOTAL	0.8	0.000991	0.00 - 0.00470	1
PROTOCOL AMPH STRUCS 5-10	0.8	0.000991	0.00 - 0.00470	1
PROTOCOL AMPH STRUCS >10	0.0	<0.00296	0.00 - 0.00296	0
PROTOCOL AMPH STRUCS TOTAL	0.8	0.000991	0.00 - 0.00470	1
AHERA-like Total Structures 3:1	2.4	0.00297	0.00 - 0.00768	3
AHERA-like Asb Strucs >5 and 3:1	1.6	0.00198	0.00 - 0.00624	2
AHERA-like Asb Strucs 5 - 10 and 3:1	1.6	0.00198	0.00 - 0.00624	2
AHERA-like Asb Strucs >10 and 3:1	0.0	<0.00296	0.00 - 0.00296	0
Total Other Amphibole Strucs 3:1	0.0	<0.00296	0.00 - 0.00296	0
Other Amphibole Strucs >5 and 3:1	0.0	<0.00296	0.00 - 0.00296	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	<0.00296	0.00 - 0.00296	0
Other Amphibole Strucs >10 and 3:1	0.0	<0.00296	0.00 - 0.00296	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

ANALYSIS DETAIL

Lab/Cor Sample No. B4760 S95 A1
Client Sample No. TPG-L2-FB-100404
Description FILTER BLANK
Analysis Date 12/27/2004
Analyst JH

Volume (L) 0
No. of Grid Openings 10
Filter Area (mm2) 385
Area Analyzed (mm2) 0.145
Analytical Sens. (struc/cc) NA
Dectection Limit. (struc/cc) NA

Structure Type	Filter Density (s/mm2)	Concen-tration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count
Primary Asbestos Structures	0.0	NA	NA	0
Total Asbestos Structures	0.0	NA	NA	0
Asbestos Structures > 5um	0.0	NA	NA	0
Asbestos Fibera and Bundles > 5um	0.0	NA	NA	0
PCM Equivalent Fibers-US	0.0	NA	NA	0
PCM Equivalent Structures-US	0.0	NA	NA	0
PROTOCOL ASB STRUCS 5-10	0.0	NA	NA	0
PROTOCOL ASB STRUCS >10	0.0	NA	NA	0
PROTOCOL ASB STRUCS TOTAL	0.0	NA	NA	0
PROTOCOL CHRYS STRUCS 5-10	0.0	NA	NA	0
PROTOCOL CHRYS STRUCS >10	0.0	NA	NA	0
PROTOCOL CHRYS STRUCS TOTAL	0.0	NA	NA	0
PROTOCOL AMPH STRUCS 5-10	0.0	NA	NA	0
PROTOCOL AMPH STRUCS >10	0.0	NA	NA	0
PROTOCOL AMPH STRUCS TOTAL	0.0	NA	NA	0
AHERA-like Total Structures 3:1	0.0	NA	NA	0
AHERA-like Asb Strucs >5 and 3:1	0.0	NA	NA	0
AHERA-like Asb Strucs 5 - 10 and 3:1	0.0	NA	NA	0
AHERA-like Asb Strucs >10 and 3:1	0.0	NA	NA	0
Total Other Amphibole Strucs 3:1	0.0	NA	NA	0
Other Amphibole Strucs >5 and 3:1	0.0	NA	NA	0
Other Amphibole Strucs 5 - 10 and 3:1	0.0	NA	NA	0
Other Amphibole Strucs >10 and 3:1	0.0	NA	NA	0

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: CC2-H8-1CT-100304 *Lab/Cor Sample No.:* B4760 S54 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	B44	AZQ	1		MD1-1	17	7.75	2.2			Actinolite	AS>5, TAS_AHRA, AS>5_AHRA, AS>10_AHRA
A	1	B44	AZQ		1	MB	15.5	3.75	4.1	5472	15350	Mg, Al, Si, Ca, Fe Actinolite Zone Axis [1 0 1] - KM	
A	2	B24		NSD									
A	3	B4	CDQ	2	2	F	0.7	0.1	7.0	5473	15351	Mg Si, Fe Chrysotile Verified - KM	TAS_AHRA
A	3	B4	CMQ	3		MD1-0	6	4	1.5			Chrysotile	AS>5, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
A	3	B4	CMQ		3	MF	4.5	0.1	45			Mg, Si, Fe Chrysotile	
A	4	C14	AQ	4	4	F	13.3	1.75	7.6			Mg, Si, Ca, Fe Actinolite	AS>5, AFB>5, PCMEF-US, PCMES-US, TAS_AHRA, AS>5_AHRA, AS>10_AHRA
A	5	C34	CMQ	5	5	F	0.7	0.05	14			Mg, Si Chrysotile	TAS_AHRA
A	5	C34	AQ	6	6	F	2	0.25	8.0			Mg, Al, Si, Ca, Fe Actinolite	TAS_AHRA
A	6	C43		NSD									
A	7	C23		NSD									
A	8	B13	AQ	7	7	F	11.5	0.8	14			Mg, Si, Ca, Fe Actinolite	AS>5, AFB>5, PCMEF-US, PCMES-US, TAS_AHRA, AS>5_AHRA, AS>10_AHRA
B	9	B34		NSD									
B	10	B14	AQ	8		MD1-1	30.5	5.5	5.5			Actinolite	AS>5, TAS_AHRA, AS>5_AHRA, AS>10_AHRA
B	10	B14	AQ		8	MF	26	1.5	17			Mg, Al, Si, Ca, Fe Actinolite	AFB>5, PCMEF-US
B	11	C4		NSD									
B	12	C24	AQ	9	9	F	4.25	1.1	3.9			Mg, Al, Si, Ca, Fe Actinolite	TAS_AHRA
B	13	C44		NSD									
C	14	B44	AQ	10	10	F	6	1.75	3.4			Mg, Al, Si, Ca, Fe Actinolite	AS>5, AFB>5, PCMEF-US, PCMES-US, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
C	15	B24		NSD									
C	16	B4		NSD									
C	17	C14		NSD									
C	18	C44	AQ	11	11	F	3.45	0.3	12			Mg, Al, Si, Ca, Fe Actinolite	TAS_AHRA
C	18	C44	AQ	12		MD1-0	10.5	8	1.3			Actinolite	AS>5, TAS_AHRA, AS>5_AHRA, AS>10_AHRA
C	18	C44	AQ		12	MF	4	0.4	10			Mg, Al, Si, Ca, Fe Actinolite Alumino-actinolite	

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: CC2-H8-2CT-100304 *Lab/Cor Sample No.:* B4760 S55 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	B42	AQ	1		MD1-0	6	5	1.2			Actinolite	AS>5, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
A	1	B42	AQ		1	MF	3.3	0.3	11			Mg, Al, Si, Ca, Fe Actinolite	
A	1	B42	AZQ	2		MD1-0	6.5	4.5	1.4			Actinolite	AS>5, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
A	1	B42	AZQ		2	MF	1.5	0.2	7.5	5654	15494	Mg, Al, Si, Ca, Fe Actinolite Zone Axis - [1 3 4] KM	
A	2	B22		NSD									
A	3	B2		NSD									
A	4	C12	CMQ	3		MD1-0	2.5	1.2	2.1			Chrysotile	TAS_AHRA
A	4	C12	CMQ		3	MF	0.7	0.1	7.0			Mg, Si Chrysotile	
A	5	A31		NSD									
A	6	A11	ADQ	4		MD1-0	4.5	3.8	1.2			Actinolite	TAS_AHRA
A	6	A11	ADQ		4	MF	1.6	0.5	3.2			Mg, Al, Si, Ca, Fe Actinolite	
A	6	A11	ADQ	5		MD1-0	6.5	6.5	1.0			Actinolite	AS>5, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
A	6	A11	ADQ		5	MF	4.5	0.8	5.6			Mg, Al, Si, Ca, Fe Actinolite	
A	7	D1		NSD									
A	8	D21	ADQ	6		MD1-1	20	20	1.0			Actinolite	AS>5, TAS_AHRA, AS>5_AHRA, AS>10_AHRA
A	8	D21	ADQ		6	MF	16.8	3.8	4.4			Mg, Al, Si, Ca, Fe Actinolite	AFB>5
A	9	D41		NSD									
A	10	C20		NSD									
A	11	C40		NSD									
A	12	A40		NSD									
A	13	A20		NSD									
B	14	B43		NSD									
B	15	B23		NSD									
B	16	B3		NSD									
B	17	C13		NSD									
B	18	C33		NSD									
B	19	B31		NSD									
B	20	B11	AQ	7	7	F	8	0.5	16			Mg, Al, Si, Ca, Fe Actinolite	AS>5, AFB>5, PCMEF-US, PCMES-US, PSAS 5-10, PSAS TOT, PSAM 5-10, PSAM TOT, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: CC2-H8-2CT-100304 *Lab/Cor Sample No.:* B4760 S55 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
B	20	B11	AQ	8	8	F	7	0.8	8.8			Mg, Al, Si, Ca, Fe Actinolite	AS>5, AFB>5, PCMEF-US, PCMES-US, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
B	21	C1	CDQ	9	9	F	0.6	0.08	7.5	5655	15485	Mg, Si Chrysotile Verified - KM	TAS_AHRA
B	22	C21		NSD									
B	23	C41	AQ	10		MD1-0	5	4	1.2			Actinolite	TAS_AHRA
B	23	C41	AQ		10	MF	4.2	0.5	8.4			Mg, Al, Si, Ca, Fe Actinolite	
B	24	A10	AQ	11	11	F	2.7	0.5	5.4			Mg, Al, Si, Ca, Fe Actinolite	TAS_AHRA
B	25	D10		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: CC2-H8-3CT-100304 *Lab/Cor Sample No.:* B4760 S56 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	B44	AQ	1		MD1-0	6.5	6.5	1.0			Actinolite	AS>5, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
A	1	B44	AQ		1	MF	2.75	0.4	6.9		15556	Mg, Al, Si, Ca, Fe Actinolite	
A	1	B44	AQ	2		MD1-1	16	11	1.5			Actinolite	AS>5, TAS_AHRA, AS>5_AHRA, AS>10_AHRA
A	1	B44	AQ		2	MF	11	2	5.5			Mg, Al, Si, Ca, Fe Actinolite	AFB>5, PCMEF-US
A	1	B44	CDQ	3	3	F	1.1	0.05	22	5709	15557	Mg, Al, Si, Fe Chrysotile Verified - KM	TAS_AHRA
A	2	B24		NSD									
A	3	B4		NSD									
A	4	C14	AZQ	4	4	F	1.5	0.25	6.0	5710	15558	Mg, Al, Si, Ca, Fe Actinolite Zone Axis - [5 -1 -2] - KBM	TAS_AHRA
A	5	C34	AQ	5	5	F	1.3	0.3	4.3			Mg, Al, Si, Ca, Fe Actinolite	TAS_AHRA
A	6	C43		NSD									
A	7	C23	AQ	6	6	F	3.75	1.05	3.6			Mg, Si, Ca, Fe Actinolite	TAS_AHRA
A	8	C3	AQ	7	7	F	3.35	1.1	3.0			Mg, Al, Si, Ca, Fe Actinolite	TAS_AHRA
A	8	C3	AQ	8	8	F	4.5	1	4.5			Mg, Al, Si, Ca, Fe Actinolite	TAS_AHRA
A	9	B13		NSD									
A	10	B33		NSD									
B	11	B44	AQ	9		MD1-0	4.25	2.25	1.9			Actinolite	TAS_AHRA
B	11	B44	AQ		9	MF	2.5	0.5	5.0			Mg, Al, Si, Ca, Fe Actinolite	
B	12	B24		NSD									
B	13	B4		NSD									
B	14	C14	AQ	10	10	F	0.7	0.2	3.5			Mg, Al, Si, Ca, Fe Actinolite	TAS_AHRA
B	15	C34		NSD									
B	16	C43		NSD									
B	17	C23		NSD									
B	18	C3		NSD									
B	19	B13	CMQ	11	11	F	2.9	0.05	58			Mg, Si Chrysotile	TAS_AHRA

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: CC2-H8-4CT-100304 *Lab/Cor Sample No.:* B4760 S57 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	B44		NSD									
A	2	B24		NSD									
A	3	B4	AQ	1	1	F	6	1	6.0			Actinolite	AS>5, AFB>5, PCMEF-US, PCMES-US, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
A	4	C14		NSD									
A	5	C34	AZQ	2		MD1-0	7.5	6	1.2			Actinolite	AS>5, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
A	5	C34	AZQ		2	MF	1.3	0.4	3.2	5681	15533	Mg, Al, Si, Ca, Fe Actinolite Zone Axis - [2 0 3] KBM	
A	6	C43	AQ	3	3	F	9	2.5	3.6			Mg, Al, Si, Ca, Fe Actinolite	AS>5, AFB>5, PCMEF-US, PCMES-US, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
A	6	C43	AQ	4	4	F	9	1.2	7.5			Mg, Al, Si, Ca, Fe Actinolite	AS>5, AFB>5, PCMEF-US, PCMES-US, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
A	7	C42		NSD									
A	8	C22	AQ	5		MD1-1	16	8	2.0			Actinolite	AS>5, TAS_AHRA, AS>5_AHRA, AS>10_AHRA
A	8	C22	AQ		5	MF	15	2.5	6.0			Mg, Al, Si, Ca, Fe Actinolite	AFB>5, PCMEF-US
A	8	C22	CDQ	6	6	F	1.5	0.1	15	5682	15534	Mg, Si Chrysotile Verified - KM	TAS_AHRA
A	9	C2	AQ	7	7	F	1.3	0.3	4.3		15535	Mg, Al, Si, Ca, Fe Actinolite	TAS_AHRA
A	10	B12	AQ	8		MD1-0	7	7	1.0			Actinolite	AS>5, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
A	10	B12	AQ		8	MF	2.5	0.75	3.3			Mg, Al, Si, Ca, Fe Actinolite	
A	11	B30		NSD									
A	12	B10		NSD									
B	13	A31		NSD									
B	14	A11		NSD									
B	15	D1		NSD									
B	16	D21		NSD									
B	17	D41	AQ	9		MD1-0	70	18	3.9			Actinolite	AS>5, TAS_AHRA, AS>5_AHRA, AS>10_AHRA
B	17	D41	AQ		9	MF	4.5	0.6	7.5			Mg, Al, Si, Ca, Fe Actinolite	
B	18	C41	AQ	10		MD1-1	9	9	1.0			Actinolite	AS>5, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
B	18	C41	AQ		10	MF	7.5	1.5	5.0			Mg, Al, Si, Ca, Fe Actinolite	AFB>5, PCMEF-US
B	19	C21		NSD									
B	20	C1		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: CC2-H8-4CT-100304 *Lab/Cor Sample No.:* B4760 S57 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
B	21	B11		NSD									
B	22	B31		NSD									

Sample No.: CC2-H8-5CT-100304 *Lab/Cor Sample No.:* B4760 S58 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	A31		NSD									
A	2	A1	ADQ	1		MD1-0	2	0.7	2.9			Mg, Al, Si, Ca, Fe Actinolite	TAS_AHRA
A	2	A1	ADQ		1	MF	2	0.35	5.7			Mg, Al, Si, Ca, Fe Actinolite	
A	3	B44		NSD									
A	4	B24	CDQ	2	2	F	2	0.1	20	1149	837	Mg, Si Chrysotile Verified - KM	TAS_AHRA
A	5	B4	ADQ	3	3	F	9	3	3.0			Mg, Al, Si, Ca, Fe Actinolite	AS>5, AFB>5, PCMEF-US, PCMES-US, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
A	6	B13	AZQ	4	4	F	2.8	0.7	4.0	1150	836	Mg, Al, Si, Ca, Fe Actinolite Zone Axis [7 1 6] - JH	TAS_AHRA
B	7	A10	ADQ	5	5	F	3	0.4	7.5			Mg, Al, Si, Ca, Fe Actinolite	TAS_AHRA
B	6	C11	CD	6		MD1-0	15	5	3.0			Chrysotile	AS>5, TAS_AHRA, AS>5_AHRA, AS>10_AHRA
B	8	C11	CD		6	MB	1.5	0.2	7.5			Chrysotile	

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHB-H2-4FD-100304 *Lab/Cor Sample No.:* B4760 S59 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	B44		NSD									
A	2	B24	CDQ	1		MD2-0	3	2.5	1.2			Chrysotile	TAS_AHRA
A	2	B24	CDQ		1	MF	2	0.1	20	5684	15536	Mg, Si Chrysotile Verified - KM	
A	2	B24	CDQ		2	MF	1	0.1	10			Mg, Si Chrysotile	
A	3	B4		NSD									
A	4	C14		NSD									
A	5	C34		NSD									
A	6	C43		NSD									
A	7	C42		NSD									
A	8	C22		NSD									
A	9	C2		NSD									
A	10	B12		NSD									
A	11	B42		NSD									
A	12	B41	AQ	2		MD1-0	7.5	5	1.5			Actinolite	AS>5, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
A	12	B41	AQ		3	MF	3.75	0.85	4.4			Mg, Al, Si, Ca, Fe Actinolite	
A	13	B21	CDQ	3		MD1-0	15	15	1.0			Chrysotile	AS>5, TAS_AHRA, AS>5_AHRA, AS>10_AHRA
A	13	B21	CDQ		4	MF	2	0.1	20			Mg, Si Chrysotile	
A	14	B1		NSD									
B	15	B42	CDQ	4	5	CC10-0	4	4	1.0			Mg, Si Chrysotile	
B	16	B21		NSD									
B	17	B1		NSD									
B	18	D41		NSD									
B	19	D21		NSD									
B	20	D1		NSD									
B	21	A11	AZQ	5	6	F	2.5	0.6	4.2	5685	15537	Mg, Al, Si, Ca, Fe Actinolite Zone Axis - [3 -1 2] - KBM	TAS_AHRA
B	22	A42	CMQ	6		MD1-0	2.5	2.5	1.0			Chrysotile	TAS_AHRA
B	22	A42	CMQ		7	MF	2	0.1	20			Mg, Si Chrysotile	
B	23	A22		NSD									

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A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHB-H2-5FD-100304 *Lab/Cor Sample No.:* B4760 S60 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	B44		NSD									
A	2	B24		NSD									
A	3	B4		NSD									
A	4	C14		NSD									
A	5	C34		NSD									
A	6	C43		NSD									
A	7	C42		NSD									
A	8	C22		NSD									
A	9	C2		NSD									
A	10	B12		NSD									
A	11	B32		NSD									
A	12	B41		NSD									
A	13	B21		NSD									
A	14	B1		NSD									
B	15	B43		NSD									
B	16	B23		NSD									
B	17	B3		NSD									
B	18	C13		NSD									
B	19	C33		NSD									
B	20	C41		NSD									
B	21	C21		NSD									
B	22	C1		NSD									
B	23	B11	AZQ	1	1	F	2.5	0.8	3.1	5686	15538	Mg, Al, Si, Ca, Fe Actinolite Zone Axis [2 0 3] - KBM	TAS_AHRA
B	24	B31		NSD									
B	25	B40		NSD									

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A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHB-L2-14CH-100304 *Lab/Cor Sample No.:* B4760 S61 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	B44		NSD									
A	2	B34		NSD									
A	3	B24		NSD									
A	4	B14		NSD									
A	5	B4		NSD									
A	6	C4		NSD									
A	7	C14		NSD									
A	8	C24		NSD									
A	9	C34		NSD									
A	10	C44		NSD									
A	11	B42		NSD									
A	12	B32	AQ	1		MD1-1	10	1.5	8.7			Actinolite	AS>5, PCMES-US, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
A	12	B32	AQ		1	MF	10	1.2	8.3		15539	Mg, Al, Si, Ca, Fe Actinolite	AFB>5, PCMEF-US
A	13	B22		NSD									
A	14	B12		NSD									
A	15	B2		NSD									
A	16	C2		NSD									
A	17	C12		NSD									
A	18	C42		NSD									
A	19	B41		NSD									
A	20	B31		NSD									
A	21	B11		NSD									
A	22	B1		NSD									
A	23	C1		NSD									
A	24	C11	AZQ	2		MD1-1	7.5	5	1.5			Actinolite	AS>5, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
A	24	C11	AZQ		2	MF	5.5	0.75	7.3	5687	15540	Mg, Al, Si, Ca, Fe Actinolite Zone Axis [5 3 4] - KBM	AFB>5, PCMEF-US
A	25	C31		NSD									
A	26	C41		NSD									
A	27	C40		NSD									
A	28	C30		NSD									
A	29	C20		NSD									
A	30	C10		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHB-L2-14CH-100304 *Lab/Cor Sample No.:* B4760 S61 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
B	31	B44		NSD									
B	32	B34	AQ	3		MD1-0	4	2	2.0			Actinolite	TAS_AHRA
B	32	B34	AQ		3	MF	2.5	0.65	3.8			Mg, Al, Si, Ca, Fe Actinolite	
B	33	B24		NSD									
B	34	B14		NSD									
B	35	B4		NSD									
B	36	C4		NSD									
B	37	C14		NSD									
B	38	C24		NSD									
B	39	C34		NSD									
B	40	C44		NSD									
B	41	C42		NSD									
B	42	C32		NSD									
B	43	C22	AQ	4	4	F	4	0.75	5.3			Mg, Al, Si, Ca, Fe Actinolite	TAS_AHRA
B	44	C12		NSD									
B	45	C2		NSD									
B	46	B2	AQ	5	5	F	5	1.3	3.8			Mg, Al, Si, Ca, Fe Actinolite	TAS_AHRA
B	47	B12		NSD									
B	48	B22		NSD									
B	49	B32		NSD									
B	50	B42		NSD									
B	51	B40		NSD									
B	52	B30		NSD									
B	53	B20		NSD									
B	54	B10		NSD									
B	55	C10		NSD									
B	56	C20		NSD									
B	57	C30		NSD									
B	58	C40		NSD									
B	59	D41		NSD									
B	60	D31		NSD									
B	61	D21		NSD									
B	62	D11		NSD									
B	63	D1		NSD									

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Report # 041172R6

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Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHB-L2-14CH-100304 *Lab/Cor Sample No.:* B4760 S61 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
B	64	A1		NSD									
C	65	B44		NSD									
C	66	B34		NSD									
C	67	B24		NSD									
C	68	B14		NSD									
C	69	B4		NSD									
C	70	C4		NSD									
C	71	C14		NSD									
C	72	C42		NSD									
C	73	C32		NSD									
C	74	C22		NSD									
C	75	C12		NSD									
C	76	C2		NSD									
C	77	B2		NSD									
C	78	B12		NSD									
C	79	B22		NSD									
C	80	B32		NSD									
C	81	B42		NSD									
C	82	A41		NSD									
C	83	A1		NSD									
C	84	D1		NSD									
C	85	D11		NSD									
C	86	D21		NSD									
C	87	D31		NSD									
C	88	D41		NSD									
C	89	D40		NSD									

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A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHB-L2-1NA-100304 *Lab/Cor Sample No.:* B4760 S62 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	B44		NSD									
A	2	B34		NSD									
A	3	B24		NSD									
A	4	B14		NSD									
A	5	B4		NSD									
A	6	C4		NSD									
A	7	C14		NSD									
A	8	C24		NSD									
A	9	C34		NSD									
A	10	C44		NSD									
A	11	B43		NSD									
A	12	B33		NSD									
A	13	B23		NSD									
A	14	B13		NSD									
A	15	B3		NSD									
A	16	C3		NSD									
A	17	C13		NSD									
A	18	B42		NSD									
A	19	B32		NSD									
A	20	B22		NSD									
A	21	B12		NSD									
A	22	B2		NSD									
A	23	B41		NSD									
A	24	B31		NSD									
A	25	B21		NSD									
A	26	A42	CDQ	1	1	B	4.5	0.4	11	5688	15541	Mg, Si Chrysotile Verified - KM	TAS_AHRA
A	27	A32		NSD									
A	28	A22		NSD									
B	29	B44		NSD									
B	30	B24		NSD									
B	31	B4		NSD									
B	32	C14		NSD									
B	33	C44		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHB-L2-1NA-100304 *Lab/Cor Sample No.:* B4760 S62 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
B	34	B33		NSD									
B	35	B13	CDQ	2	2	F	0.5	0.08	6.2			Mg, Si Chrysotile	TAS_AHRA
B	36	B3		NSD									
B	37	C3		NSD									
B	38	C33		NSD									
B	39	B42		NSD									
B	40	B22		NSD									
B	41	B2		NSD									
B	42	C22		NSD									
B	43	C42		NSD									
B	44	B31		NSD									
B	45	B11		NSD									
B	46	C1		NSD									
B	47	C21		NSD									
B	48	C41		NSD									
B	49	A31		NSD									
B	50	A11		NSD									
B	51	D1		NSD									
B	52	D21		NSD									
B	53	D10		NSD									
B	54	D30		NSD									
B	55	B30		NSD									
B	56	B10		NSD									
C	57	C14		NSD									
C	58	C24		NSD									
C	59	B33		NSD									
C	60	B23		NSD									
C	61	C22		NSD									
C	62	B42		NSD									
C	63	B32	CDQ	3		MD1-0	3.5	1.5	2.3			Chrysotile	TAS_AHRA
C	63	B32	CDQ		3	MF	2	0.1	20			Mg, Si Chrysotile	
C	64	B22		NSD									
C	65	B12		NSD									
C	66	C41		NSD									

Lab/Cor, Inc.

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Report # 041172R6

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Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHB-L2-1NA-100304 *Lab/Cor Sample No.:* B4760 S62 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
C	67	B41	ADQ	4	4	F	13	1.7	7.6			Mg, Al, Si, Ca, Fe Actinolite	AS>5, AFB>5, PCMEF-US, PCMES-US, TAS_AHRA, AS>5_AHRA, AS>10_AHRA
C	68	B21		NSD									
C	69	B11		NSD									
C	70	C10		NSD									
C	71	C40		NSD									
C	72	B40		NSD									
C	73	B30		NSD									
C	74	B20	AZQ	5		MD1-0	2.5	0.4	6.2			Actinolite	TAS_AHRA
C	74	B20	AZQ		5	MF	2.1	0.22	9.5	5698	15547	Mg, Al, Si, Ca, Fe Actinolite Zone Axis [1 0 0] - JH	
C	75	A30		NSD									
C	76	A20		NSD									
C	77	A10		NSD									
C	78	A41		NSD									
C	79	A31		NSD									
C	80	A21		NSD									
C	81	A11		NSD									
C	82	A1		NSD									
C	83	D1		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHB-L2-1ZB-100304 *Lab/Cor Sample No.:* B4760 S63 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	B44		NSD									
A	2	B34		NSD									
A	3	B24		NSD									
A	4	B14		NSD									
A	5	B4		NSD									
A	6	C4		NSD									
A	7	C14		NSD									
A	8	C24		NSD									
A	9	C34		NSD									
A	10	C44		NSD									
A	11	C42		NSD									
A	12	C32		NSD									
A	13	C22		NSD									
A	14	C12		NSD									
A	15	C2		NSD									
A	16	A41		NSD									
A	17	A31		NSD									
A	18	A21		NSD									
A	19	A11		NSD									
A	20	A1		NSD									
A	21	D1		NSD									
A	22	D11		NSD									
A	23	D21		NSD									
A	24	D32		NSD									
A	25	D22		NSD									
A	26	D12		NSD									
A	27	D2		NSD									
A	28	A2		NSD									
A	29	A12		NSD									
A	30	A22		NSD									
A	31	A32		NSD									
A	32	A42		NSD									
B	33	A44		NSD									
B	34	A43		NSD									

Lab/Cor, Inc.

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Report # 041172R6

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Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHB-L2-1ZB-100304 *Lab/Cor Sample No.:* B4760 S63 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
B	35	A42		NSD									
B	36	A41		NSD									
B	37	A40		NSD									
B	38	B40		NSD									
B	39	B41		NSD									
B	40	B42		NSD									
B	41	B43		NSD									
B	42	B44		NSD									
B	43	B34		NSD									
B	44	B33		NSD									
B	45	B32		NSD									
B	46	B31		NSD									
B	47	B30		NSD									
B	48	A30		NSD									
B	49	A31		NSD									
B	50	A32		NSD									
B	51	A33		NSD									
B	52	A34		NSD									
B	53	A24		NSD									
B	54	A23		NSD									
B	55	A22		NSD									
B	56	A21		NSD									
B	57	A20		NSD									
B	58	B20		NSD									
B	59	B21		NSD									
B	60	B22		NSD									
B	61	B23		NSD									
B	62	B24		NSD									
C	63	B44		NSD									
C	64	B34		NSD									
C	65	B24		NSD									
C	66	B14		NSD									
C	67	B4		NSD									
C	68	C4		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHB-L2-1ZB-100304 *Lab/Cor Sample No.:* B4760 S63 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
C	69	C14		NSD									
C	70	C24		NSD									
C	71	C34		NSD									
C	72	C43		NSD									
C	73	C42		NSD									
C	74	C41		NSD									
C	75	C40		NSD									
C	76	D40		NSD									
C	77	A13		NSD									
C	78	A3		NSD									
C	79	D3		NSD									
C	80	D13		NSD									
C	81	D12		NSD									
C	82	D2		NSD									
C	83	A2		NSD									
C	84	A12		NSD									
C	85	D11		NSD									
C	86	D21		NSD									
C	87	D20		NSD									
C	88	D10		NSD									

Sample No.: RHB-L2-FB-100304 *Lab/Cor Sample No.:* B4760 S64 A1

Descripiton: FILTER BLANK

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	A31		NSD									
A	2	A11		NSD									
A	3	D11		NSD									
A	4	B1		NSD									
A	5	C11		NSD									
B	6	B11		NSD									
B	7	C1		NSD									
B	8	C21		NSD									
B	9	D21		NSD									
B	10	D1		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-H2-1FD-100304 *Lab/Cor Sample No.:* B4760 S65 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	B44		NSD									
A	2	B34		NSD									
A	3	B24		NSD									
A	4	B14		NSD									
A	5	B4		NSD									
A	6	C4		NSD									
A	7	C14		NSD									
A	8	C24		NSD									
A	9	C34		NSD									
A	10	C44		NSD									
A	11	C42		NSD									
A	12	C32		NSD									
A	13	C22		NSD									
A	14	C12		NSD									
A	15	C2	AQ	1	1	F	11	2.5	4.4		839	Mg,Al,Si,Ca,Fe Actinolite	AS>5, AFB>5, PCMEF-US, PCMES-US, TAS_AHRA, AS>5_AHRA, AS>10_AHRA
A	16	B2		NSD									
A	17	B12	AZQ	2	2	F	4.5	0.65	6.9	1173	859	Mg,Al,Si,Ca,Fe Actinolite Zone Axis [1 0 0] - JH	TAS_AHRA
A	18	B22		NSD									
A	19	B32		NSD									
A	20	B42		NSD									
A	21	A41		NSD									
A	22	A31		NSD									
A	23	A21		NSD									
A	24	A11		NSD									
A	25	A1		NSD									
A	26	D1		NSD									
A	27	D11		NSD									
A	28	D21		NSD									
A	29	D31		NSD									
A	30	D41		NSD									
B	31	B44		NSD									
B	32	B34		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-H2-1FD-100304 *Lab/Cor Sample No.:* B4760 S65 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
B	33	B24		NSD									
B	34	B14		NSD									
B	35	B4		NSD									
B	36	C4		NSD									
B	37	C14		NSD									
B	38	C24		NSD									
B	39	C34		NSD									
B	40	C44		NSD									
B	41	C42		NSD									
B	42	C32		NSD									
B	43	C22		NSD									
B	44	C12		NSD									
B	45	C2		NSD									
B	46	B2		NSD									
B	47	B12		NSD									
B	46	B22		NSD									
B	49	B32		NSD									
B	50	B42		NSD									
B	51	A41		NSD									
B	52	A31		NSD									
B	53	A21		NSD									
B	54	A11		NSD									
B	55	A1		NSD									
B	56	D1		NSD									
B	57	D11		NSD									
B	58	D21		NSD									
B	59	D31		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-H2-2FD-100304 *Lab/Cor Sample No.:* B4760 S66 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	B44		NSD									
A	2	B24		NSD									
A	3	B4		NSD									
A	4	C14		NSD									
A	5	C34		NSD									
A	6	B33		NSD									
A	7	B13		NSD									
A	8	C3		NSD									
A	9	C23		NSD									
A	10	C43		NSD									
A	11	B42		NSD									
A	12	B22		NSD									
A	13	B2		NSD									
A	14	C12		NSD									
A	15	C32		NSD									
A	16	B31		NSD									
A	17	B11		NSD									
A	18	C1		NSD									
A	19	C21		NSD									
A	20	C41		NSD									
B	21	A44		NSD									
B	22	A34		NSD									
B	23	A24		NSD									
B	24	A14		NSD									
B	25	A4		NSD									
B	26	D4		NSD									
B	27	D14		NSD									
B	28	D24		NSD									
B	29	D34		NSD									
B	30	D44		NSD									
B	31	A43		NSD									
B	32	A33		NSD									
B	33	A23		NSD									
B	34	A13		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-H2-2FD-100304 *Lab/Cor Sample No.:* B4760 S66 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
B	35	A3		NSD									
B	36	D3		NSD									
B	37	D13		NSD									
B	38	D23		NSD									
B	39	D33		NSD									
B	40	D43		NSD									
B	41	A42		NSD									
B	42	A32		NSD									
B	43	A41	CDQ	1	1	F	1.2	0.1	12	1152	840	Mg, Si Chrysotile Verified - KM	TAS_AHRA
B	44	A31		NSD									
C	45	A42		NSD									
C	46	A32		NSD									
C	47	A22		NSD									
C	48	A12		NSD									
C	49	A2		NSD									
C	50	D12		NSD									
C	51	D32		NSD									
C	52	D42		NSD									
C	53	D10		NSD									
C	54	C1		NSD									
C	55	C11		NSD									
C	56	C21	CD	2	2	F	0.8	0.08	10			Mg, Si Chrysotile	TAS_AHRA
C	57	C41		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-H2-3FD-100304 *Lab/Cor Sample No.:* B4760 S67 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	B44		NSD									
A	2	B24		NSD									
A	3	B4		NSD									
A	4	C14		NSD									
A	5	C34		NSD									
A	6	C43		NSD									
A	7	B23		NSD									
A	8	C3		NSD									
A	9	B13		NSD									
A	10	B33		NSD									
A	11	B42		NSD									
A	12	B22		NSD									
A	13	B2		NSD									
A	14	C12		NSD									
A	15	C32		NSD									
A	16	C41		NSD									
A	17	C21		NSD									
A	18	C1		NSD									
A	19	B11		NSD									
A	20	B31		NSD									
A	21	B40		NSD									
A	22	B20		NSD									
A	23	C10		NSD									
A	24	C30		NSD									
A	25	D40		NSD									
A	26	D20		NSD									
A	27	A10		NSD									
A	28	A30		NSD									
B	29	B44		NSD									
B	30	B24		NSD									
B	31	B4		NSD									
B	32	C14		NSD									
B	33	C34		NSD									
B	34	C23		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-H2-3FD-100304 *Lab/Cor Sample No.:* B4760 S67 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
B	35	C3		NSD									
B	36	B13		NSD									
B	37	B33		NSD									
B	38	B42		NSD									
B	39	B22		NSD									
B	40	B2		NSD									
B	41	C12		NSD									
B	42	C32		NSD									
B	43	C21		NSD									
B	44	C1		NSD									
B	45	B11		NSD									
B	46	B31		NSD									
B	47	B40		NSD									
B	48	B20		NSD									
B	49	C10		NSD									
B	50	C30		NSD									
B	51	D40		NSD									
B	52	D20		NSD									
B	53	A10		NSD									
B	54	A30		NSD									
B	55	A41		NSD									
B	56	A21		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-H2-4FD-100304 *Lab/Cor Sample No.:* B4760 S68 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	B22		NSD									
A	2	B2		NSD									
A	3	C12		NSD									
A	4	C32		NSD									
A	5	B41		NSD									
A	6	B31		NSD									
A	7	B21		NSD									
A	8	B11		NSD									
A	9	B1		NSD									
A	10	A42		NSD									
A	11	A32		NSD									
A	12	A22		NSD									
A	13	A12		NSD									
A	14	A1		NSD									
A	15	D1		NSD									
B	16	B32		NSD									
B	17	B12		NSD									
B	18	C2		NSD									
B	19	C22		NSD									
B	20	C42		NSD									
B	21	A41		NSD									
B	22	A21		NSD									
B	23	A1		NSD									
B	24	D11		NSD									
B	25	D31		NSD									
B	26	A23		NSD									
B	27	A13		NSD									
B	28	D3		NSD									
B	29	D23		NSD									
B	30	D43		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-H2-5FD-100304 *Lab/Cor Sample No.:* B4760 S69 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	B42		NSD									
A	2	B22		NSD									
A	3	B2		NSD									
A	4	C12		NSD									
A	5	C32		NSD									
A	6	A31	AZQ	1		MD1-0	6.5	6	1.1			Actinolite	AS>5, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
A	6	A31	AZQ		1	MF	2.5	0.5	5.0	1153	842	Mg, Al, Si, Ca, Fe Actinolite Zone Axis [1 1 0] - JH	
A	7	A11		NSD									
A	8	D1		NSD									
A	9	D41	ADQ	2	2	F	2	0.35	5.7			Mg, Al, Si, Ca, Fe Actinolite	TAS_AHRA
A	10	D21		NSD									
A	11	B41		NSD									
A	12	B21		NSD									
A	13	B1		NSD									
A	14	C11		NSD									
A	15	C31		NSD									
B	16	B3		NSD									
B	17	C13		NSD									
B	18	C33		NSD									
B	19	B22		NSD									
B	20	B2		NSD									
B	21	C12		NSD									
B	22	C32		NSD									
B	23	B11		NSD									
B	24	C1		NSD									
B	25	C21		NSD									
B	26	C41		NSD									
B	27	D31		NSD									
B	28	D41		NSD									
B	29	A41		NSD									
B	30	A31		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-L2-14CH-100304 *Lab/Cor Sample No.:* B4760 S70 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	B34		NSD									
A	2	B14		NSD									
A	3	B4		NSD									
A	4	C4		NSD									
A	5	C14		NSD									
A	6	C34		NSD									
A	7	B33		NSD									
A	8	B13	AZQ	1	1	B	6.5	1.6	4.1	1154	843	Mg, Al, Si, Ca, Fe Actinolite Zone Axis - [2 1 4] KM	AS>5, PCMEF-US, PCMES-US, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
A	9	C3		NSD									
A	10	C23		NSD									
A	11	C43		NSD									
A	12	B42		NSD									
A	13	B22		NSD									
A	14	B2		NSD									
A	15	C12		NSD									
A	16	C32		NSD									
A	17	B31		NSD									
A	18	B11		NSD									
A	19	C1		NSD									
A	20	C21		NSD									
A	21	C41		NSD									
A	22	A21		NSD									
A	23	A11		NSD									
A	24	A1		NSD									
A	25	D1		NSD									
A	26	A42		NSD									
A	27	A32		NSD									
A	28	A22		NSD									
A	29	A12		NSD									
A	30	A2		NSD									
B	31	B44		NSD									
B	32	B34		NSD									
B	33	B24		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-L2-14CH-100304 *Lab/Cor Sample No.:* B4760 S70 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
B	34	B14		NSD									
B	35	B4		NSD									
B	36	C43		NSD									
B	37	B43		NSD									
B	38	B33		NSD									
B	39	B13		NSD									
B	40	B3		NSD									
B	41	C3		NSD									
B	42	C33		NSD									
B	43	C43		NSD									
B	44	B2		NSD									
B	45	C2		NSD									
B	46	C22		NSD									
B	47	C32		NSD									
B	48	C42		NSD									
B	49	C31		NSD									
B	50	C41		NSD									
B	51	B41		NSD									
B	52	B21		NSD									
B	53	B11		NSD									
B	54	B1		NSD									
B	55	C1		NSD									
B	56	A31		NSD									
B	57	A11		NSD									
B	58	D11		NSD									
B	59	D21		NSD									
B	60	D42		NSD									
C	61	B44		NSD									
C	62	B34		NSD									
C	63	B24		NSD									
C	64	B14		NSD									
C	65	B4		NSD									
C	66	C4		NSD									
C	67	C14		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

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Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-L2-14CH-100304 *Lab/Cor Sample No.:* B4760 S70 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
C	68	C24		NSD									
C	69	C34		NSD									
C	70	C43		NSD									
C	71	C42		NSD									
C	72	C32		NSD									
C	73	C22		NSD									
C	74	C12		NSD									
C	75	C2		NSD									
C	76	B2		NSD									
C	77	B12		NSD									
C	78	B22		NSD									
C	79	B32		NSD									
C	80	B42		NSD									
C	81	A41		NSD									
C	82	A31		NSD									
C	83	A21		NSD									
C	84	A1		NSD									
C	85	D1		NSD									
C	86	D11		NSD									
C	87	D21		NSD									
C	88	D31		NSD									
C	89	D41		NSD									
C	90	D40		NSD									
C	91	C40		NSD									
D	92	B24		NSD									
D	93	B14		NSD									
D	94	B4		NSD									
D	95	C4		NSD									
D	96	C14		NSD									
D	97	C24		NSD									
D	98	C33		NSD									
D	99	C23		NSD									
D	100	C13		NSD									
D	101	C3		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-L2-14CH-100304 *Lab/Cor Sample No.:* B4760 S70 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
D	102	B3		NSD									
D	103	B13		NSD									
D	104	B43		NSD									
D	105	B42		NSD									
D	106	B41		NSD									
D	107	B40		NSD									
D	108	A40		NSD									
D	109	A41		NSD									
D	110	A42		NSD									
D	111	A43		NSD									
D	112	A44		NSD									
D	113	A34		NSD									
D	114	A33		NSD									
D	115	A32		NSD									
D	116	A31		NSD									
D	117	A30		NSD									
D	118	B30		NSD									
D	119	B31		NSD									
D	120	B32		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-L2-1CH-100304 *Lab/Cor Sample No.:* B4760 S71 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	A33		NSD									
A	2	A13		NSD									
A	3	D3		NSD									
A	4	D23		NSD									
A	5	D43		NSD									
A	6	D41		NSD									
A	7	D21		NSD									
A	8	D1		NSD									
A	9	A11		NSD									
A	10	A31		NSD									
A	11	B40		NSD									
A	12	B20		NSD									
A	13	B10		NSD									
A	14	C10		NSD									
A	15	C30		NSD									
A	16	C40		NSD									
A	17	C41		NSD									
A	18	C21		NSD									
A	19	C1		NSD									
A	20	B11		NSD									
A	21	B31		NSD									
A	22	B41		NSD									
A	23	B43		NSD									
A	24	B23		NSD									
A	25	B3		NSD									
A	26	C13		NSD									
A	27	C33		NSD									
A	28	C43		NSD									
A	29	C44		NSD									
A	30	C42		NSD									
B	31	B34		NSD									
B	32	B14		NSD									
B	33	C4		NSD									
B	34	C24		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-L2-1CH-100304 *Lab/Cor Sample No.:* B4760 S71 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
B	35	C33		NSD									
B	36	C23		NSD									
B	37	C21		NSD									
B	38	C1		NSD									
B	39	B11		NSD									
B	40	B31		NSD									
B	41	B41		NSD									
B	42	B40		NSD									
B	43	B20		NSD									
B	44	B10		NSD									
B	45	C10		NSD									
B	46	C30		NSD									
B	47	C40		NSD									
B	48	D41		NSD									
B	49	D21		NSD									
B	50	D1		NSD									
B	51	A11		NSD									
B	52	A31		NSD									
B	53	A41		NSD									
B	54	A43		NSD									
B	55	A23		NSD									
B	56	A3		NSD									
B	57	D13		NSD									
B	58	D33		NSD									
B	59	D43		NSD									
B	60	D34		NSD									
C	61	A34		NSD									
C	62	A14		NSD									
C	63	A4		NSD									
C	64	D34		NSD									
C	65	D42		NSD									
C	66	D22		NSD									
C	67	A22		NSD									
C	68	A42		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-L2-1CH-100304 *Lab/Cor Sample No.:* B4760 S71 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
C	69	A1		NSD									
C	70	D1		NSD									
C	71	D11		NSD									
C	72	D31		NSD									
C	73	D41		NSD									
C	74	C40		NSD									
C	75	C30		NSD									
C	76	C10		NSD									
C	77	B30		NSD									
C	78	B31		NSD									
C	79	B1		NSD									
C	80	C11		NSD									
C	81	C21		NSD									
C	82	C41		NSD									
C	83	C43		NSD									
C	84	C23		NSD									
C	85	C3		NSD									
C	86	B13		NSD									
C	87	B33		NSD									
C	88	B34		NSD									
C	89	B14		NSD									
C	90	C4		NSD									
D	91	A34		NSD									
D	92	A14		NSD									
D	93	A4		NSD									
D	94	D14		NSD									
D	95	D34		NSD									
D	96	D42		NSD									
D	97	D12		NSD									
D	98	A2		NSD									
D	99	A22		NSD									
D	100	A42		NSD									
D	101	A40		NSD									
D	102	A20		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

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Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-L2-1CH-100304 *Lab/Cor Sample No.:* B4760 S71 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
D	103	A10		NSD									
D	104	D40		NSD									
D	105	C41		NSD									
D	106	C31		NSD									
D	107	B11		NSD									
D	108	B31		NSD									
D	109	B41		NSD									
D	110	B43		NSD									
D	111	B33		NSD									
D	112	B13		NSD									
D	113	C13		NSD									
D	114	C33		NSD									
D	115	C43		NSD									
D	116	C44		NSD									
D	117	C24		NSD									
D	118	B4		NSD									
D	119	B14		NSD									
D	120	B34		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-L2-1NA-100304 *Lab/Cor Sample No.:* B4760 S72 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	B44		NSD									
A	2	B24		NSD									
A	3	B4		NSD									
A	4	C14		NSD									
A	5	C34		NSD									
A	6	C43		NSD									
A	7	C23		NSD									
A	8	C3		NSD									
A	9	B13		NSD									
A	10	B33		NSD									
A	11	B42		NSD									
A	12	B22		NSD									
A	13	B2		NSD									
A	14	C12		NSD									
A	15	C32		NSD									
A	16	C41		NSD									
A	17	C21		NSD									
A	18	C1		NSD									
A	19	B11		NSD									
A	20	B31		NSD									
A	21	B40		NSD									
A	22	B20		NSD									
A	23	C10		NSD									
A	24	C30		NSD									
A	25	D40		NSD									
A	26	D20		NSD									
A	27	A41		NSD									
A	28	A21		NSD									
A	29	A1		NSD									
A	30	B11		NSD									
B	31	B44		NSD									
B	32	B24		NSD									
B	33	B4		NSD									
B	34	C14		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-L2-1NA-100304 *Lab/Cor Sample No.:* B4760 S72 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
B	35	C34		NSD									
B	36	C43		NSD									
B	37	C23		NSD									
B	38	C3		NSD									
B	39	B13		NSD									
B	40	B33		NSD									
B	41	B42		NSD									
B	42	B22		NSD									
B	43	B2		NSD									
B	44	C12		NSD									
B	45	C32		NSD									
B	46	C21		NSD									
B	47	C1		NSD									
B	48	B21		NSD									
B	49	B31		NSD									
B	50	B40		NSD									
B	51	B20		NSD									
B	52	C10		NSD									
B	53	A42		NSD									
B	54	A32		NSD									
B	55	A22		NSD									
B	56	A12		NSD									
B	57	A2		NSD									
B	58	D2		NSD									
B	59	D12		NSD									
B	60	D40		NSD									
B	61	D30		NSD									
B	62	D20		NSD									
B	63	D10		NSD									
B	64	A10		NSD									
B	65	A20		NSD									
B	66	A30		NSD									
B	67	A40		NSD									
C	68	B44		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-L2-1NA-100304 *Lab/Cor Sample No.:* B4760 S72 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
C	69	B34		NSD									
C	70	B24		NSD									
C	71	B14		NSD									
C	72	B4		NSD									
C	73	C4		NSD									
C	74	C14		NSD									
C	75	C24		NSD									
C	76	C34		NSD									
C	77	C42		NSD									
C	78	C32		NSD									
C	79	C22		NSD									
C	80	C12		NSD									
C	81	C2		NSD									
C	82	B2		NSD									
C	83	B12		NSD									
C	84	B22		NSD									
C	85	B42		NSD									
C	86	A41		NSD									
C	87	A31		NSD									
C	88	A21		NSD									
C	89	A11		NSD									
C	90	A1		NSD									
C	91	D1		NSD									
C	92	D11		NSD									
C	93	D21		NSD									
C	94	D31		NSD									
C	95	D41		NSD									
C	96	C40		NSD									
C	97	C20		NSD									
C	98	C20		NSD									
C	99	C10		NSD									
C	100	B10		NSD									
D	101	B43		NSD									
D	102	B33		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-L2-1NA-100304 *Lab/Cor Sample No.:* B4760 S72 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
D	103	B23		NSD									
D	104	B13		NSD									
D	105	B3		NSD									
D	106	C3		NSD									
D	107	C13		NSD									
D	108	C23		NSD									
D	109	C33		NSD									
D	110	C43		NSD									
D	111	B41		NSD									
D	112	B31		NSD									
D	113	B21		NSD									
D	114	B11		NSD									
D	115	B1		NSD									
D	116	C1		NSD									
D	117	C11		NSD									
D	118	C21		NSD									
D	119	C31		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-L2-2CH-100304 *Lab/Cor Sample No.:* B4760 S73 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	B44		NSD									
A	2	B34		NSD									
A	3	C14		NSD									
A	4	C24		NSD									
A	5	C34		NSD									
A	6	B23		NSD									
A	7	C23		NSD									
A	8	C33		NSD									
A	9	B12	AZQ	1	1	F	2	0.25	8.0	1163	852	Mg, Al, Si, Ca, Fe Actinolite Zone Axis - [5 3 4] KM	TAS_AHRA
A	10	B2		NSD									
A	11	B31		NSD									
A	12	B11		NSD									
A	13	B1		NSD									
A	14	C21		NSD									
A	15	C31		NSD									
A	16	C10		NSD									
A	17	C40		NSD									
A	18	B40		NSD									
A	19	B30		NSD									
A	20	D10		NSD									
A	21	D20		NSD									
A	22	A41		NSD									
A	23	A11		NSD									
A	24	D1		NSD									
A	25	D11		NSD									
A	26	D21		NSD									
A	27	D41		NSD									
A	28	A42		NSD									
A	29	A22		NSD									
A	30	A12		NSD									
B	31	B44		NSD									
B	32	B24		NSD									
B	33	B4		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-L2-2CH-100304 *Lab/Cor Sample No.:* B4760 S73 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
B	34	C14		NSD									
B	35	C34		NSD									
B	36	B33		NSD									
B	37	B13		NSD									
B	38	C3		NSD									
B	39	C23		NSD									
B	40	C43		NSD									
B	41	B42		NSD									
B	42	B22		NSD									
B	43	B2		NSD									
B	44	C12		NSD									
B	45	C32		NSD									
B	46	B31		NSD									
B	47	B11		NSD									
B	48	B1		NSD									
B	49	C11		NSD									
B	50	C31		NSD									
B	51	A31		NSD									
B	52	A11		NSD									
B	53	D1		NSD									
B	54	D21		NSD									
B	55	D41		NSD									
B	56	A42		NSD									
B	57	A22		NSD									
B	58	A2		NSD									
B	59	D12		NSD									
B	60	D32		NSD									
C	61	B24		NSD									
C	62	B4		NSD									
C	63	C14		NSD									
C	64	C34		NSD									
C	65	B33		NSD									
C	66	B13		NSD									
C	67	C3		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

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Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-L2-2CH-100304 *Lab/Cor Sample No.:* B4760 S73 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
C	68	C23		NSD									
C	69	C43		NSD									
C	70	B42		NSD									
C	71	B22		NSD									
C	72	B2		NSD									
C	73	C12		NSD									
C	74	C32	AZQ	2	2	F	18	4	4.5	1167	855	Mg, Al, Si, Ca, Fe Actinolite Zone Axis - [5 1 0] KM	AS>5, AFB>5, TAS_AHRA, AS>5_AHRA, AS>10_AHRA
C	75	B31		NSD									
C	76	B11		NSD									
C	77	C1		NSD									
C	78	C21	ADQ	3	3	F	5.8	1.8	3.2			Mg, Al, Si, Ca, Fe Actinolite	AS>5, AFB>5, PCMEF-US, PCMES-US, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
C	79	C41		NSD									
C	80	A31		NSD									
C	81	A11		NSD									
C	82	D1		NSD									
C	83	D21		NSD									
C	84	D41		NSD									
C	85	A42		NSD									
C	86	A22		NSD									
C	87	A2	AQ	4		MD1-1	7.5	4	1.9			Actinolite	AS>5, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
C	87	A2	AQ		4	MF	7.5	1.5	5.0			Mg, Al, Si, Ca, Fe Actinolite	AFB>5, PCMEF-US
C	88	D12		NSD									
C	89	D32		NSD									
C	90	A10		NSD									
D	91	A44		NSD									
D	92	A24		NSD									
D	93	A4		NSD									
D	94	D14		NSD									
D	95	D34		NSD									
D	96	A33		NSD									
D	97	A13		NSD									
D	98	D3		NSD									

Lab/Cor, Inc.

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Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-L2-2CH-100304 *Lab/Cor Sample No.:* B4760 S73 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
D	99	D23		NSD									
D	100	D43		NSD									
D	101	A42		NSD									
D	102	A22		NSD									
D	103	A2		NSD									
D	104	D12		NSD									
D	105	D32		NSD									
D	106	A31		NSD									
D	107	A11		NSD									
D	108	D1		NSD									
D	109	D21		NSD									
D	110	D41		NSD									
D	111	B41		NSD									
D	112	B21		NSD									
D	113	B1		NSD									
D	114	C11		NSD									
D	115	C31		NSD									

Lab/Cor, Inc.

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Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-L2-3CH-100304 *Lab/Cor Sample No.:* B4760 S74 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	A34		NSD									
A	2	A14		NSD									
A	3	D4		NSD									
A	4	D24		NSD									
A	5	D44		NSD									
A	6	D42		NSD									
A	7	D22		NSD									
A	8	D2		NSD									
A	9	A12		NSD									
A	10	A32		NSD									
A	11	A42		NSD									
A	12	A40		NSD									
A	13	A20		NSD									
A	14	A10		NSD									
A	15	D10		NSD									
A	16	D30		NSD									
A	17	D40		NSD									
A	18	C41		NSD									
A	19	C21		NSD									
A	20	C1		NSD									
A	21	B11		NSD									
A	22	B31		NSD									
A	23	B41		NSD									
A	24	B43		NSD									
A	25	B23		NSD									
A	26	B3		NSD									
A	27	C13		NSD									
A	28	C33		NSD									
A	29	C43		NSD									
A	30	C24		NSD									
B	31	A34		NSD									
B	32	A14		NSD									
B	33	C4		NSD									
B	34	C24		NSD									

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TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-L2-3CH-100304 *Lab/Cor Sample No.:* B4760 S74 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
B	35	C44		NSD									
B	36	D42		NSD									
B	37	D22		NSD									
B	38	D2		NSD									
B	39	A12		NSD									
B	40	A32		NSD									
B	41	A42		NSD									
B	42	A40		NSD									
B	43	A20	AZQ	1	1	F	7.5	1	7.5	1166	854	Mg, Al, Si, Ca, Fe Actinolite Zone Axis - [1 -3 -6] - KM	AS>5, AFB>5, PCMEF-US, PCMES-US, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
B	44	A10		NSD									
B	45	D10		NSD									
B	46	D30		NSD									
B	47	D40		NSD									
B	48	C41		NSD									
B	49	C21		NSD									
B	50	C1		NSD									
B	51	B11		NSD									
B	52	B31		NSD									
B	53	B41		NSD									
B	54	B43		NSD									
B	55	B23		NSD									
B	56	B3		NSD									
B	57	C13		NSD									
B	58	C33		NSD									
B	59	C43		NSD									
B	60	C24		NSD									
C	61	B44		NSD									
C	62	B24		NSD									
C	63	B4		NSD									
C	64	C14		NSD									
C	65	C34		NSD									
C	66	B33		NSD									
C	67	B13		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-L2-3CH-100304 *Lab/Cor Sample No.:* B4760 S74 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
C	68	C3		NSD									
C	69	C23		NSD									
C	70	C43		NSD									
C	71	B42		NSD									
C	72	B22		NSD									
C	73	B2		NSD									
C	74	C12		NSD									
C	75	C32		NSD									
C	76	B31		NSD									
C	77	B11		NSD									
C	78	C1		NSD									
C	79	C21		NSD									
C	80	C41		NSD									
C	81	A41		NSD									
C	82	A21		NSD									
C	83	A1		NSD									
C	84	D11		NSD									
C	85	D31		NSD									
C	86	A32		NSD									
C	87	A12		NSD									
C	88	D2		NSD									
C	89	D22		NSD									
C	90	D42		NSD									
D	91	B44		NSD									
D	92	B24		NSD									
D	93	B4		NSD									
D	94	C14		NSD									
D	95	C34		NSD									
D	96	B33		NSD									
D	97	B13		NSD									
D	98	C3		NSD									
D	99	C23		NSD									
D	100	C43		NSD									
D	101	B42		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-L2-3CH-100304 *Lab/Cor Sample No.:* B4760 S74 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
D	102	B22		NSD									
D	103	B2		NSD									
D	104	C12		NSD									
D	105	C32		NSD									
D	106	B31		NSD									
D	107	B11		NSD									
D	108	C1		NSD									
D	109	C21		NSD									
D	110	C41		NSD									
D	111	A42		NSD									
D	112	A32		NSD									
D	113	A22		NSD									
D	114	A12		NSD									
D	115	A2		NSD									
D	116	D2		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-L2-4CH-100304 *Lab/Cor Sample No.:* B4760 S75 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	B34		NSD									
A	2	B14		NSD									
A	3	C4		NSD									
A	4	C24		NSD									
A	5	C44		NSD									
A	6	B43		NSD									
A	7	B23		NSD									
A	8	B3		NSD									
A	9	C13		NSD									
A	10	C33		NSD									
A	11	B32		NSD									
A	12	B12		NSD									
A	13	C2		NSD									
A	14	C22		NSD									
A	15	C42		NSD									
A	16	B41		NSD									
A	17	B21		NSD									
A	18	B1		NSD									
A	19	C11		NSD									
A	20	C31		NSD									
A	21	A41		NSD									
A	22	A21		NSD									
A	23	A1		NSD									
A	24	D11		NSD									
A	25	D31		NSD									
A	26	A32		NSD									
A	27	A12		NSD									
A	28	D2		NSD									
A	29	D22		NSD									
A	30	D42		NSD									
B	31	B34		NSD									
B	32	B14		NSD									
B	33	C4		NSD									
B	34	C24		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-L2-4CH-100304 *Lab/Cor Sample No.:* B4760 S75 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
B	35	C44		NSD									
B	36	B43		NSD									
B	37	B23		NSD									
B	38	B3		NSD									
B	39	C13		NSD									
B	40	C33		NSD									
B	41	B32		NSD									
B	42	B12		NSD									
B	43	C2		NSD									
B	44	C22		NSD									
B	45	C42		NSD									
B	46	B41		NSD									
B	47	B21		NSD									
B	48	B1		NSD									
B	49	C11		NSD									
B	50	C31		NSD									
B	51	A41		NSD									
B	52	A21		NSD									
B	53	A1		NSD									
B	54	D11		NSD									
B	55	D31		NSD									
B	56	A32		NSD									
B	57	A12		NSD									
B	58	D2		NSD									
B	59	D22		NSD									
B	60	D42		NSD									
C	61	B44		NSD									
C	62	B24		NSD									
C	63	B4		NSD									
C	64	C14		NSD									
C	65	C34		NSD									
C	66	B33		NSD									
C	67	B13		NSD									
C	68	C3		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-L2-4CH-100304 *Lab/Cor Sample No.:* B4760 S75 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
C	69	C23		NSD									
C	70	C43		NSD									
C	71	B32		NSD									
C	72	B12		NSD									
C	73	C2		NSD									
C	74	A44	AZQ	1	1	F	8.5	1.5	5.7	1224	15563	Mg, Al, Si, Ca, Fe Actinolite Zone Axis [2 0 1] - JH	AS>5, AFB>5, PCMEF-US, PCMES-US, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
C	75	A34		NSD									
C	76	A14		NSD									
C	77	D4		NSD									
C	78	D24		NSD									
C	79	D44		NSD									
C	80	D43		NSD									
C	81	D23		NSD									
C	82	D3		NSD									
C	83	A13		NSD									
C	84	A33		NSD									
C	85	A42		NSD									
C	86	A22		NSD									
C	87	A2		NSD									
C	88	D12		NSD									
C	89	D32		NSD									
C	90	D41		NSD									
D	91	A44		NSD									
D	92	A24		NSD									
D	93	A4		NSD									
D	94	D14		NSD									
D	95	D34		NSD									
D	96	D43		NSD									
D	97	D23		NSD									
D	98	D3		NSD									
D	99	A13		NSD									
D	100	A33		NSD									
D	101	A42		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-L2-4CH-100304 *Lab/Cor Sample No.:* B4760 S75 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
D	102	A22		NSD									
D	103	A2		NSD									
D	104	D12		NSD									
D	105	D32		NSD									
D	106	D41		NSD									
D	107	D21		NSD									
D	108	D1		NSD									
D	109	A11		NSD									
D	110	A31		NSD									
D	111	B41		NSD									
D	112	B21		NSD									
D	113	B1		NSD									
D	114	C11		NSD									
D	115	C31		NSD									
D	116	C42		NSD									
D	117	C22		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-L2-5CH-100304 *Lab/Cor Sample No.:* B4760 S76 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	B44		NSD									
A	2	B34		NSD									
A	3	B24		NSD									
A	4	B14		NSD									
A	5	B4		NSD									
A	6	C4		NSD									
A	7	C14		NSD									
A	8	C24		NSD									
A	9	C34		NSD									
A	10	C44		NSD									
A	11	C42		NSD									
A	12	C32		NSD									
A	13	C22		NSD									
A	14	C12		NSD									
A	15	C2		NSD									
A	16	B2		NSD									
A	17	B12		NSD									
A	18	B22		NSD									
A	19	B32		NSD									
A	20	B42		NSD									
A	21	A41		NSD									
A	22	A31		NSD									
A	23	A21		NSD									
A	24	A11		NSD									
A	25	A1		NSD									
A	26	D1		NSD									
A	27	D11		NSD									
A	28	D21		NSD									
A	29	D31		NSD									
A	30	D41		NSD									
B	31	B40		NSD									
B	32	B30		NSD									
B	33	B20		NSD									
B	34	B10		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-L2-5CH-100304 *Lab/Cor Sample No.:* B4760 S76 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
B	35	A10		NSD									
B	36	A20		NSD									
B	37	A30		NSD									
B	38	A40		NSD									
B	39	A43		NSD									
B	40	A33		NSD									
B	41	A23		NSD									
B	42	A13		NSD									
B	43	A3		NSD									
B	44	D3		NSD									
B	45	D13		NSD									
B	46	D23		NSD									
B	47	D33		NSD									
B	48	D43		NSD									
B	49	D42		NSD									
B	50	D32		NSD									
B	51	C10		NSD									
B	52	C20		NSD									
B	53	C30		NSD									
B	54	C40		NSD									
B	55	D40		NSD									
B	56	D30		NSD									
B	57	D20		NSD									
B	58	D10		NSD									
B	59	D22		NSD									
B	60	D12		NSD									
C	61	A44		NSD									
C	62	A24		NSD									
C	63	A4		NSD									
C	64	D14		NSD									
C	65	D34		NSD									
C	66	D43		NSD									
C	67	D23	CDQ	1	1	F	1.2	0.1	12	5729	15575	Mg, Si Chrysotile Verified - JH	TAS_AHRA
C	67	D23	CDQ	2	2	F	1	0.1	10			Mg, Si Chrysotile	TAS_AHRA

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-L2-5CH-100304 *Lab/Cor Sample No.:* B4760 S76 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
C	68	D3		NSD									
C	69	A13		NSD									
C	70	A33		NSD									
C	71	A42		NSD									
C	72	A22		NSD									
C	73	A2		NSD									
C	74	D12		NSD									
C	75	D32		NSD									
C	76	D41		NSD									
C	77	D21		NSD									
C	78	D1		NSD									
C	79	A11		NSD									
C	80	A31		NSD									
C	81	B41		NSD									
C	82	B21		NSD									
C	83	B1		NSD									
C	84	C11		NSD									
C	85	C31		NSD									
C	86	C42		NSD									
C	87	C22		NSD									
C	88	C2		NSD									
C	89	B12		NSD									
C	90	B32		NSD									
D	91	A44		NSD									
D	92	A24		NSD									
D	93	A4		NSD									
D	94	D14		NSD									
D	95	D34		NSD									
D	96	D43		NSD									
D	97	D23		NSD									
D	98	D3		NSD									
D	99	A13		NSD									
D	100	A33		NSD									
D	101	A42		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: RHS-L2-5CH-100304 *Lab/Cor Sample No.:* B4760 S76 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
D	102	A22		NSD									
D	103	A2		NSD									
D	104	D12		NSD									
D	105	D32		NSD									
D	106	D41		NSD									
D	107	D21		NSD									
D	108	D1		NSD									
D	109	A11		NSD									
D	110	A13		NSD									
D	111	B41		NSD									
D	112	B21		NSD									
D	113	B1		NSD									
D	114	C11		NSD									
D	115	C31		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVBA-H2-4FD-100204 *Lab/Cor Sample No.:* B4760 S77 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	A32		NSD									
A	2	A12		NSD									
A	3	D2		NSD									
A	4	D22		NSD									
A	5	C40		NSD									
A	6	C20		NSD									
A	7	B10		NSD									
A	8	B30		NSD									
A	9	B22		NSD									
A	10	B2		NSD									
A	11	C12		NSD									
A	12	C32		NSD									
A	13	C42		NSD									
B	14	A33		NSD									
B	15	A13		NSD									
B	16	D3		NSD									
B	17	D23		NSD									
B	18	D43		NSD									
B	19	C40		NSD									
B	20	C20	AZQ	1	1	F	4.5	0.6	7.5	1169	857	Mg,Al, Si, Ca, Fe Actinolite Zone Axis - [5 -1 2] KM	TAS_AHRA
B	21	B10	ADQ	2	2	F	7	1	7.0			Mg,Al, Si, Ca, Fe Actinolite	AS>5, AFB>5, PCMEF-US, PCMES-US, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
B	22	B30		NSD									
B	23	B12		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVBA-H2-5FD-100204 *Lab/Cor Sample No.:* B4760 S78 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	A42	AZQ	1		MD1-1	5.7	1	5.7			Actinolite	AS>5, PCMES-US, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
A	1	A42	AZQ		1	MF	5.7	0.3	19	1171	15564	Mg,Al, Si, Ca, Fe Actinolite Zone Axis - [3 -1 -10] KM	AFB>5, PCMEF-US, PSAS 5-10, PSAS TOT, PSAM 5-10, PSAM TOT
A	2	A22		NSD									
A	3	A2		NSD									
A	4	D12		NSD									
A	5	D32		NSD									
A	6	C41		NSD									
A	7	C21		NSD									
A	8	C1		NSD									
A	9	B11		NSD									
A	10	B31		NSD									
A	11	B43	ADQ	2	2	F	4	1	4.0			Mg,Al, Si, Ca, Fe Actinolite	TAS_AHRA
A	12	B23		NSD									
B	13	B43		NSD									
B	14	B23		NSD									
B	15	B3		NSD									
B	16	C13		NSD									
B	17	C33		NSD									
B	18	B41	ADQ	3	3	F	1.3	0.3	4.3			Mg, Al, Si, Ca, Fe Actinolite	TAS_AHRA
B	19	B21		NSD									
B	20	B1		NSD									
B	21	C11		NSD									
B	22	C31		NSD									
B	23	D1		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVBA-L2-1NA-100204 *Lab/Cor Sample No.:* B4760 S79 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	B44		NSD									
A	2	B24		NSD									
A	3	B4		NSD									
A	4	C14		NSD									
A	5	C34		NSD									
A	6	B43		NSD									
A	7	B23		NSD									
A	8	B3		NSD									
A	9	C13		NSD									
A	10	C33		NSD									
A	11	B32		NSD									
A	12	B12		NSD									
A	13	C2		NSD									
A	14	C22		NSD									
A	15	C42		NSD									
A	16	B41		NSD									
A	17	B21		NSD									
A	18	C11		NSD									
A	19	C21		NSD									
A	20	C31		NSD									
A	21	A41		NSD									
A	22	A21		NSD									
A	23	A1		NSD									
A	24	D11		NSD									
A	25	D31		NSD									
A	26	A32		NSD									
A	27	A12		NSD									
A	28	D2		NSD									
A	29	D22		NSD									
A	30	D42		NSD									
A	31	A10		NSD									
B	32	A43		NSD									
B	33	A13		NSD									
B	34	A3		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVBA-L2-1NA-100204 *Lab/Cor Sample No.:* B4760 S79 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
B	35	D11		NSD									
B	36	A1		NSD									
B	37	A21		NSD									
B	38	A41		NSD									
B	39	B40		NSD									
B	40	B20		NSD									
B	41	B10		NSD									
B	42	C10		NSD									
B	43	C30		NSD									
B	44	C42		NSD									
B	45	C22		NSD									
B	46	C2		NSD									
B	47	B12		NSD									
B	48	B32		NSD									
B	49	B42		NSD									
B	50	B43		NSD									
B	51	B23		NSD									
B	52	B3		NSD									
B	53	C13		NSD									
B	54	C33		NSD									
B	55	C43		NSD									
B	56	C44		NSD									
B	57	C24		NSD									
B	58	C4		NSD									
B	59	B14		NSD									
B	60	B34		NSD									
B	61	B44		NSD									
C	62	A34		NSD									
C	63	A14		NSD									
C	64	D4		NSD									
C	65	D24		NSD									
C	66	D44		NSD									
C	67	D42		NSD									
C	68	D22		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVBA-L2-1NA-100204 *Lab/Cor Sample No.:* B4760 S79 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
C	69	D2		NSD									
C	70	A12		NSD									
C	71	A32		NSD									
C	72	A42		NSD									
C	73	A40		NSD									
C	74	A20		NSD									
C	75	A10		NSD									
C	76	D10		NSD									
C	77	D30		NSD									
C	78	D40		NSD									
C	79	C41		NSD									
C	80	C21		NSD									
C	81	C1		NSD									
C	82	B11		NSD									
C	83	B31		NSD									
C	84	B41		NSD									
C	85	B43		NSD									
C	86	B23		NSD									
C	87	B3		NSD									
C	88	C13		NSD									
C	89	C33		NSD									
C	90	C43		NSD									
C	91	C24		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVBA-L2-1ZB-100204 *Lab/Cor Sample No.:* B4760 S80 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	C44		NSD									
A	2	C42		NSD									
A	3	D32		NSD									
A	4	C31		NSD									
A	5	C33		NSD									
A	6	C24		NSD									
A	7	C22		NSD									
A	8	C20		NSD									
A	9	D21		NSD									
A	10	D23		NSD									
A	11	C14		NSD									
A	12	D10		NSD									
A	13	C11		NSD									
A	14	C13		NSD									
A	15	C4		NSD									
A	16	C2		NSD									
A	17	D1		NSD									
A	18	A2		NSD									
A	19	B1		NSD									
A	20	B3		NSD									
A	21	B14		NSD									
A	22	B12		NSD									
A	23	B10		NSD									
A	24	A11		NSD									
A	25	A13		NSD									
A	26	A22		NSD									
A	27	A20		NSD									
A	28	B21		NSD									
A	29	B23		NSD									
A	30	B24		NSD									
B	31	C44		NSD									
B	32	C42		NSD									
B	33	C40		NSD									
B	34	D41		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVBA-L2-1ZB-100204 *Lab/Cor Sample No.:* B4760 S80 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
B	35	D43		NSD									
B	36	D34		NSD									
B	37	D32		NSD									
B	38	D30		NSD									
B	39	C31		NSD									
B	40	C33		NSD									
B	41	C24		NSD									
B	42	C22		NSD									
B	43	C20		NSD									
B	44	A44		NSD									
B	45	A24		NSD									
B	46	A4		NSD									
B	47	D14		NSD									
B	48	D23		NSD									
B	49	D3		NSD									
B	50	A13		NSD									
B	51	A33		NSD									
B	52	A42		NSD									
B	53	A22		NSD									
B	54	A2		NSD									
B	55	D12		NSD									
B	56	D21		NSD									
B	57	D1		NSD									
B	58	A11		NSD									
B	59	A31		NSD									
B	60	A40		NSD									
C	61	A44		NSD									
C	62	A24		NSD									
C	63	A4		NSD									
C	64	D14		NSD									
C	65	D34		NSD									
C	66	D43		NSD									
C	67	D23		NSD									
C	68	D3		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVBA-L2-1ZB-100204 *Lab/Cor Sample No.:* B4760 S80 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
C	69	A13		NSD									
C	70	A33		NSD									
C	71	A42		NSD									
C	72	A22		NSD									
C	73	A2		NSD									
C	74	D12		NSD									
C	75	D32		NSD									
C	76	D41		NSD									
C	77	D21		NSD									
C	78	D1		NSD									
C	79	A11		NSD									
C	80	A41		NSD									
C	81	B41		NSD									
C	82	B21		NSD									
C	83	B1		NSD									
C	84	C11		NSD									
C	85	C31		NSD									
C	86	C42		NSD									
C	87	C22		NSD									
C	88	C2		NSD									
C	89	B12		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVBB-H2-12FD-100304 *Lab/Cor Sample No.:* B4760 S81 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	A44		NSD									
A	2	A24		NSD									
A	3	A4		NSD									
A	4	D14		NSD									
A	5	D34		NSD									
A	6	D43		NSD									
A	7	D23		NSD									
A	8	D3		NSD									
A	9	A13		NSD									
A	10	A33		NSD									
A	11	A42		NSD									
A	12	A22		NSD									
A	13	A2		NSD									
A	14	D12		NSD									
A	15	D32		NSD									
A	16	D41		NSD									
A	17	D21		NSD									
A	18	D1		NSD									
A	19	A11		NSD									
A	20	A31		NSD									
A	21	B41		NSD									
A	22	B21		NSD									
A	23	B1		NSD									
A	24	C11		NSD									
B	25	A42		NSD									
B	26	A22		NSD									
B	27	A2		NSD									
B	28	D12		NSD									
B	29	D32	AZQ	1	1	F	2.5	0.8	3.1	5730	15576	Mg, Al, Si, Ca, Fe Actinolite Zone Axis - [5 3 2] KM	TAS_AHRA
B	29	D32	AQ	2	2	F	4	1	4.0			Mg, Al, Si, Ca, Fe Actinolite	TAS_AHRA
B	30	D41		NSD									
B	31	D21		NSD									
B	32	D1		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVBB-H2-12FD-100304 *Lab/Cor Sample No.:* B4760 S81 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
B	33	A11		NSD									
B	34	A31		NSD									
B	35	A40		NSD									
B	36	A20		NSD									
B	37	B10		NSD									
B	38	B30		NSD									
B	39	B41		NSD									
B	40	B21		NSD									
B	41	B1		NSD									
B	42	C11		NSD									
B	43	C31		NSD									
B	44	C42		NSD									
B	45	C22		NSD									
B	46	C2		NSD									
B	47	B12		NSD									
B	48	B32		NSD									

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A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVBB-H2-4FD-100304 *Lab/Cor Sample No.:* B4760 S82 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	A34		NSD									
A	2	A14		NSD									
A	3	D4		NSD									
A	4	D41		NSD									
A	5	D11		NSD									
A	6	A21		NSD									
A	7	B40		NSD									
A	8	B10		NSD									
A	9	C20		NSD									
A	10	C32		NSD									
A	11	B2		NSD									
A	12	B22		NSD									
B	13	A22		NSD									
B	14	A2		NSD									
B	15	D12		NSD									
B	16	D32		NSD									
B	17	D30		NSD									
B	18	D10		NSD									
B	19	A10	AZQ	1	1	F	9	2	4.5	1188	876	Mg, Al, Si, Ca, Fe Actinolite Zone Axis - [5 1 2] KM	AS>5, AFB>5, PCMEF-US, PCMES-US, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
B	19	A10	CDQ	2		MD1-0	2	1.7	1.2			Chrysotile	TAS_AHRA
B	19	A10	CDQ		2	MF	2	0.05	40	1190	877	Mg, Si Chrysotile Verified - JH	
B	20	A30		NSD									
B	21	B31		NSD									
B	22	B1		NSD									
B	23	C11		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVBB-H2-5FD-100304 *Lab/Cor Sample No.:* B4760 S83 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	A32		NSD									
A	2	A2		NSD									
A	3	D12		NSD									
A	4	D32		NSD									
A	5	D30		NSD									
A	6	D10		NSD									
A	7	A20		NSD									
A	8	B41		NSD									
A	9	B21		NSD									
A	10	C1		NSD									
A	11	C31		NSD									
B	12	A22		NSD									
B	13	A2		NSD									
B	14	D12		NSD									
B	15	D32	OZQ	1	1	F	5.2	0.6	8.7	1191	878	Na, Mg, Al, Si, K, Ca, Fe Ferro-edenite Alumino-PotassicFerro-edenite, Zone Axis - [0 2 1] KM	PCMEF-US, PCMES-US, TOS_AHRA, OS>5_AHRA, OS5-10_AHRA
B	16	D30		NSD									
B	17	D10		NSD									
B	18	A10		NSD									
B	19	A30		NSD									
B	20	B42		NSD									
B	21	B12		NSD									
B	22	C12		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVBB-L2-1NA-100304 *Lab/Cor Sample No.:* B4760 S84 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	A44		NSD									
A	2	A24		NSD									
A	3	A4		NSD									
A	4	D14		NSD									
A	5	D34		NSD									
A	6	A43		NSD									
A	7	A23		NSD									
A	8	A3		NSD									
A	9	D13		NSD									
A	10	D33		NSD									
A	11	A42		NSD									
A	12	A32		NSD									
A	13	A22		NSD									
A	14	A12		NSD									
A	15	A2		NSD									
A	16	D2		NSD									
A	17	D12		NSD									
A	18	D22		NSD									
A	19	A41		NSD									
A	20	A21		NSD									
A	21	A11		NSD									
A	22	A1		NSD									
A	23	D1		NSD									
A	24	D11		NSD									
A	25	D41		NSD									
A	26	B41		NSD									
A	27	B31		NSD									
A	28	B21		NSD									
A	29	B11		NSD									
A	30	C11		NSD									
B	31	B44		NSD									
B	32	B24		NSD									
B	33	B4		NSD									
B	34	C14		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVBB-L2-1NA-100304 *Lab/Cor Sample No.:* B4760 S84 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
B	35	C34		NSD									
B	36	B33		NSD									
B	37	B13		NSD									
B	38	C3		NSD									
B	39	C23		NSD									
B	40	C43		NSD									
B	41	B42		NSD									
B	42	B22		NSD									
B	43	B2		NSD									
B	44	C12		NSD									
B	45	C32		NSD									
B	46	B31		NSD									
B	47	B11		NSD									
B	48	C1		NSD									
B	49	C11		NSD									
B	50	C31		NSD									
B	51	A41		NSD									
B	52	A31		NSD									
B	53	A21		NSD									
B	54	A11		NSD									
B	55	A1		NSD									
B	56	D1		NSD									
B	57	D11		NSD									
B	58	D21		NSD									
B	59	D31		NSD									
B	60	D41		NSD									
C	61	B34		NSD									
C	62	B14		NSD									
C	63	C4		NSD									
C	64	C14		NSD									
C	65	C24		NSD									
C	66	B43		NSD									
C	67	B23		NSD									
C	68	B3		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVBB-L2-1NA-100304 *Lab/Cor Sample No.:* B4760 S84 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
C	69	C13		NSD									
C	70	C33		NSD									
C	71	B32		NSD									
C	72	B12		NSD									
C	73	C2		NSD									
C	74	C22		NSD									
C	75	C42		NSD									
C	76	B41		NSD									
C	77	B21		NSD									
C	78	B1		NSD									
C	79	C11		NSD									
C	80	C31		NSD									
C	81	A41		NSD									
C	82	A21		NSD									
C	83	A1		NSD									
C	84	D11		NSD									
C	85	D31		NSD									
C	86	D20		NSD									
C	87	A40		NSD									
C	88	A20		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVBB-L2-1ZB-100304 *Lab/Cor Sample No.:* B4760 S85 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	C44		NSD									
A	2	C42		NSD									
A	3	C40		NSD									
A	4	D30		NSD									
A	5	C31		NSD									
A	6	C33		NSD									
A	7	C24		NSD									
A	8	C22		NSD									
A	9	C20		NSD									
A	10	D21		NSD									
A	11	D23		NSD									
A	12	D14		NSD									
A	13	D12		NSD									
A	14	D10		NSD									
A	15	C11		NSD									
A	16	C13		NSD									
A	17	C4		NSD									
A	18	C2		NSD									
A	19	D1		NSD									
A	20	D3		NSD									
A	21	A4		NSD									
A	22	A2		NSD									
A	23	B1		NSD									
A	24	B3		NSD									
A	25	B14		NSD									
A	26	B12		NSD									
A	27	B10		NSD									
A	28	A11		NSD									
A	29	A13		NSD									
A	30	A24		NSD									
B	31	C44		NSD									
B	32	C42		NSD									
B	33	C40		NSD									
B	34	D41		NSD									

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A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVBB-L2-1ZB-100304 *Lab/Cor Sample No.:* B4760 S85 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
B	35	D43		NSD									
B	36	D32		NSD									
B	37	D30		NSD									
B	38	C31		NSD									
B	39	C33		NSD									
B	40	C24		NSD									
B	41	C22		NSD									
B	42	C20		NSD									
B	43	D21		NSD									
B	44	D23		NSD									
B	45	D12		NSD									
B	46	D10		NSD									
B	47	C11		NSD									
B	48	C13		NSD									
B	49	C4		NSD									
B	50	C2		NSD									
B	51	D1		NSD									
B	52	D3		NSD									
B	53	A2		NSD									
B	54	B1		NSD									
B	55	B3		NSD									
B	56	B14		NSD									
B	57	B12		NSD									
B	58	B10		NSD									
B	59	A11		NSD									
C	60	C44		NSD									
C	61	C42		NSD									
C	62	C40		NSD									
C	63	D41		NSD									
C	64	D43		NSD									
C	65	D34		NSD									
C	66	D32		NSD									
C	67	D30		NSD									
C	68	C31		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVBB-L2-1ZB-100304 *Lab/Cor Sample No.:* B4760 S85 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
C	69	C33		NSD									
C	70	C24		NSD									
C	71	C22		NSD									
C	72	C20		NSD									
C	73	D21		NSD									
C	74	D23		NSD									
C	75	D14		NSD									
C	76	D12		NSD									
C	77	D10		NSD									
C	78	C11		NSD									
C	79	C13		NSD									
C	80	C4		NSD									
C	81	C2		NSD									
C	82	D1		NSD									
C	83	D3		NSD									
C	84	A4		NSD									
C	85	A2		NSD									
C	86	B1		NSD									
C	87	B3		NSD									
C	88	B14		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVM-H2-4FD-100204 *Lab/Cor Sample No.:* B4760 S86 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	B31		NSD									
A	2	B11		NSD									
A	3	C1		NSD									
A	4	C21		NSD									
A	5	C41		NSD									
A	6	A41		NSD									
A	7	A21		NSD									
A	8	A1		NSD									
A	9	D11		NSD									
A	10	D31		NSD									
A	11	C10		NSD									
A	12	C30		NSD									
B	13	B42		NSD									
B	14	B22		NSD									
B	15	B2		NSD									
B	16	C12		NSD									
B	17	B41		NSD									
B	18	B21		NSD									
B	19	B11		NSD									
B	20	C1		NSD									
B	21	C21		NSD									
B	22	A41		NSD									
B	23	A21		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVM-H2-5FD-100204 *Lab/Cor Sample No.:* B4760 S87 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	2	B12	AQ	NSD		F	13	2.5	5.2			Mg, Al, Si, Ca, Fe Actinolite	AS>5, AFB>5, PCMEF-US, PCMES-US, TAS_AHRA, AS>5_AHRA, AS>10_AHRA
A	1	B32		NSD									
A	2	B12	AZQ	1		MD1-0	4.8	1.5	3.2			Actinolite	TAS_AHRA
A	2	B12	AZQ		1	MF	4.8	0.5	9.6	1225	906	Mg, Al, Si, Ca, Fe Actinolite Zone Axis [5 1 2] - JH	
A	3	C2	AQ	2		MD1-1	9	1.5	6.0			Actinolite	AS>5, PCMES-US, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
A	3	C2	AQ		2	MF	6.8	0.8	8.5			Mg, Al, Si, Ca, Fe Actinolite	AFB>5, PCMEF-US
A	4	C22		NSD									
A	5	C42		NSD									
A	6	B41		NSD									
A	7	B21		NSD									
A	8	B1	AQ	3	3	F	11	1	11			Mg, Al, Si, Ca, Fe Actinolite	AS>5, AFB>5, PCMEF-US, PCMES-US, TAS_AHRA, AS>5_AHRA, AS>10_AHRA
A	9	C11		NSD									
A	10	C31		NSD									
A	11	A20		NSD									
A	12	A10		NSD									
B	13	B2	AQ	4	4	F	5	1.3	3.8			Mg, Al, Si, Ca, Fe Actinolite	TAS_AHRA
B	14	B42		NSD									
B	15	B22		NSD									
B	16	C12	AQ	5	5	F	13.5	2.5	5.4			Mg, Al, Si, Ca, Fe Actinolite	AS>5, AFB>5, PCMEF-US, PCMES-US, TAS_AHRA, AS>5_AHRA, AS>10_AHRA
B	17	C32		NSD									
B	18	A41		NSD									
B	19	A21		NSD									
B	20	A1		NSD									
B	21	D11		NSD									
B	22	D31		NSD									
B	23	D20		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVM-L2-15AD-100204 *Lab/Cor Sample No.:* B4760 S88 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	C44		NSD									
A	2	C42		NSD									
A	3	C40		NSD									
A	4	D41		NSD									
A	5	D43		NSD									
A	6	D34		NSD									
A	7	D32		NSD									
A	8	D30		NSD									
A	9	C31		NSD									
A	10	C33		NSD									
A	11	C24		NSD									
A	12	C22		NSD									
A	13	C20		NSD									
A	14	D21		NSD									
A	15	D23		NSD									
A	16	D14		NSD									
A	17	D12		NSD									
A	18	D10		NSD									
A	19	C11		NSD									
A	20	C13		NSD									
A	21	D1		NSD									
A	22	D3		NSD									
A	23	A4		NSD									
A	24	A2		NSD									
A	25	B1		NSD									
A	26	B3		NSD									
A	27	B14		NSD									
A	28	B12	AZQ	1		MD1-0	5.25	4.75	1.1			Actinolite	AS>5, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
A	28	B12	AZQ		1	MF	4.1	1.2	3.4	1226	15603	Mg, Al, Si, Ca, Fe Actinolite Zone Axis [0 1 2] - JH	
A	29	B10		NSD									
A	30	A13		NSD									
B	31	C42		NSD									
B	32	C40		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVM-L2-15AD-100204 *Lab/Cor Sample No.:* B4760 S88 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
B	33	D41		NSD									
B	34	D43		NSD									
B	35	D34		NSD									
B	36	D32		NSD									
B	37	D30		NSD									
B	38	C31		NSD									
B	39	C33		NSD									
B	40	C22		NSD									
B	41	C20		NSD									
B	42	D21		NSD									
B	43	D23		NSD									
B	44	D14		NSD									
B	45	D12		NSD									
B	46	D10		NSD									
B	47	C11		NSD									
B	48	C13		NSD									
B	49	C4		NSD									
B	50	C2		NSD									
B	51	D1		NSD									
B	52	D3		NSD									
B	53	A4		NSD									
B	54	A2		NSD									
B	55	B1		NSD									
B	56	B14		NSD									
B	57	B12		NSD									
B	58	B10		NSD									
B	59	A11		NSD									
C	60	B42		NSD									
C	61	B22		NSD									
C	62	B2		NSD									
C	63	C12		NSD									
C	64	C32		NSD									
C	65	B31		NSD									
C	66	B11		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVM-L2-15AD-100204 *Lab/Cor Sample No.:* B4760 S88 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
C	67	C1		NSD									
C	68	C21		NSD									
C	69	C41		NSD									
C	70	A41		NSD									
C	71	A21		NSD									
C	72	A1		NSD									
C	73	D11		NSD									
C	74	D31		NSD									
C	75	A32		NSD									
C	76	A12		NSD									
C	77	D2		NSD									
C	78	D22		NSD									
C	79	D42		NSD									
C	80	A43		NSD									
C	81	A23		NSD									
C	82	A3		NSD									
C	83	D13		NSD									
C	84	D33		NSD									
C	85	D20		NSD									
C	86	D30		NSD									
C	87	D40		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVM-L2-1AD-100204 *Lab/Cor Sample No.:* B4760 S89 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	B44		NSD									
A	2	B24		NSD									
A	3	B4		NSD									
A	4	C14		NSD									
A	5	C34		NSD									
A	6	B33		NSD									
A	7	B13		NSD									
A	8	C3		NSD									
A	9	C23		NSD									
A	10	C43		NSD									
A	11	B42		NSD									
A	12	B22		NSD									
A	13	B2		NSD									
A	14	C12		NSD									
A	15	C32		NSD									
A	16	B31		NSD									
A	17	B11		NSD									
A	18	C1		NSD									
A	19	C21		NSD									
A	20	C31		NSD									
A	21	A41		NSD									
A	22	A21		NSD									
A	23	A1		NSD									
A	24	D11		NSD									
A	25	D31		NSD									
A	26	A32		NSD									
A	27	A12		NSD									
A	28	D2		NSD									
A	29	D22		NSD									
A	30	D42		NSD									
B	31	B44		NSD									
B	32	B24		NSD									
B	33	B4		NSD									
B	34	C14		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVM-L2-1AD-100204 *Lab/Cor Sample No.:* B4760 S89 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
B	35	C34		NSD									
B	36	B33		NSD									
B	37	B13		NSD									
B	38	C3		NSD									
B	39	C23		NSD									
B	40	C43		NSD									
B	41	B42		NSD									
B	42	B22		NSD									
B	43	B2		NSD									
B	44	C12	AZQ	1	1	F	3.8	0.5	7.6	1196	882	Mg, Al, Si, Ca, Fe Actinolite Zone Axis - [3 1 0] KM	TAS_AHRA
B	45	C32		NSD									
B	46	B31		NSD									
B	47	B11		NSD									
B	48	C1		NSD									
B	49	C21		NSD									
B	50	C41		NSD									
B	51	A31		NSD									
B	52	A11		NSD									
B	53	D1	AQ	2	2	F	23	4.3	5.3			Mg, Al, Si, Ca, Fe Actinolite	AS>5, AFB>5, TAS_AHRA, AS>5_AHRA, AS>10_AHRA
B	54	D21		NSD									
B	55	D41		NSD									
B	56	A22		NSD									
B	57	A2		NSD									
B	58	D12		NSD									
B	59	D32		NSD									
C	60	C34	AQ	3	3	F	2	0.6	3.3			Mg, Al, Si, Ca, Fe Actinolite	TAS_AHRA
C	61	B44		NSD									
C	62	B24		NSD									
C	63	B4		NSD									
C	64	C14		NSD									
C	65	B33		NSD									
C	66	B13		NSD									
C	67	C3		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVM-L2-1AD-100204 *Lab/Cor Sample No.:* B4760 S89 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
C	68	C23		NSD									
C	69	C43		NSD									
C	70	B42	AQ	4	4	F	5	0.6	8.3			Mg, Al, Si, Ca, Fe Actinolite	TAS_AHRA
C	71	B22		NSD									
C	72	B2		NSD									
C	73	C12		NSD									
C	74	C32		NSD									
C	75	B31		NSD									
C	76	B11		NSD									
C	77	C1		NSD									
C	78	C21		NSD									
C	79	C41		NSD									
C	80	A41	AQ	5	5	F	4	0.5	8.0			Mg, Al, Si, Ca, Fe Actinolite	TAS_AHRA
C	81	A21		NSD									
C	82	A1		NSD									
C	83	D11		NSD									
C	84	D31		NSD									
C	85	A22		NSD									
C	86	A2		NSD									
C	87	D2		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVM-L2-2AD-100204 *Lab/Cor Sample No.:* B4760 S90 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	A33	AQ	1	1	F	23	5	4.6			Mg, Al, Si, Ca, Fe Actinolite	AS>5, AFB>5, TAS_AHRA, AS>5_AHRA, AS>10_AHRA
A	2	A13		NSD									
A	3	A3	AZQ	2	2	F	2.7	0.4	6.8	1227	895	Mg, Al, Si, Ca, Fe Actinolite Zone Axis [4 0 3] - JH	TAS_AHRA
A	4	D11		NSD									
A	5	A1		NSD									
A	6	A21		NSD									
A	7	A41		NSD									
A	8	B40		NSD									
A	9	B20		NSD									
A	10	B10		NSD									
A	11	C10		NSD									
A	12	C30		NSD									
A	13	C42		NSD									
A	14	C22		NSD									
A	15	C2		NSD									
A	16	B12		NSD									
A	17	B32		NSD									
A	18	B42		NSD									
A	19	B44		NSD									
A	20	B24		NSD									
A	21	B4		NSD									
A	22	C14		NSD									
A	23	C34		NSD									
A	24	C44		NSD									
A	25	C33		NSD									
A	26	C13		NSD									
A	27	B3		NSD									
A	28	B23		NSD									
A	29	B43		NSD									
B	30	A34		NSD									
B	31	A4		NSD									
B	32	D14	AQ	3	3	F	14	2	7.0			Mg, Al, Si, Ca, Fe Actinolite	AS>5, AFB>5, PCMEF-US, PCMES-US, TAS_AHRA, AS>5_AHRA, AS>10_AHRA

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVM-L2-2AD-100204 *Lab/Cor Sample No.:* B4760 S90 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
B	33	D34		NSD									
B	34	D44		NSD									
B	35	D42		NSD									
B	36	D22		NSD									
B	37	D2		NSD									
B	38	A12		NSD									
B	39	A32		NSD									
B	40	A42		NSD									
B	41	A40		NSD									
B	42	A20		NSD									
B	43	A10		NSD									
B	44	D10		NSD									
B	45	D30		NSD									
B	46	D40		NSD									
B	47	C41		NSD									
B	48	C21		NSD									
B	49	C1		NSD									
B	50	B1		NSD									
B	51	B21		NSD									
B	52	B41		NSD									
B	53	B43		NSD									
B	54	B23		NSD									
B	55	B3		NSD									
B	56	C13	AQ	4	4	F	15	3	5.0			Mg, Al, Si, Ca, Fe Actinolite	AS>5, AFB>5, PCMEF-US, PCMES-US, TAS_AHRA, AS>5_AHRA, AS>10_AHRA
B	57	C33		NSD									
B	58	C4		NSD									
B	59	B14		NSD									
B	60	B34	AQ	5	5	F	8	1.6	5.0			Mg, Al, Si, Ca, Fe Actinolite	AS>5, AFB>5, PCMEF-US, PCMES-US, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
C	61	A33		NSD									
C	62	A13		NSD									
C	63	D3		NSD									
C	64	D23		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVM-L2-2AD-100204 *Lab/Cor Sample No.:* B4760 S90 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
C	65	D43		NSD									
C	66	D41		NSD									
C	67	D21		NSD									
C	68	D1		NSD									
C	69	A11		NSD									
C	70	A31		NSD									
C	71	A41		NSD									
C	72	B40		NSD									
C	73	B20		NSD									
C	74	B10		NSD									
C	75	C10		NSD									
C	76	C30		NSD									
C	77	C40		NSD									
C	78	C42		NSD									
C	79	C22		NSD									
C	80	C2		NSD									
C	81	B12		NSD									
C	82	B32		NSD									
C	83	B42		NSD									
C	84	B44		NSD									
C	85	B24		NSD									
C	86	B4		NSD									
C	87	C14		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVM-L2-3AD-100204 *Lab/Cor Sample No.:* B4760 S91 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	A33		NSD									
A	2	A13	CDQ	1		MD1-0	4	3	1.3			Chrysotile	TAS_AHRA
A	2	A13	CDQ		1	MF	4	0.05	80	1212	896	Mg, Al, Si Chrysotile Verified - JH	
A	3	D3		NSD									
A	4	D23		NSD									
A	5	D43		NSD									
A	6	D41		NSD									
A	7	D21		NSD									
A	8	D1		NSD									
A	9	A11		NSD									
A	10	A31		NSD									
A	11	A41		NSD									
A	12	B40		NSD									
A	13	B20		NSD									
A	14	B10		NSD									
A	15	C10	AZQ	2	2	F	13	2.5	5.2	1213	897	Mg, Al, Si, Ca, Fe Actinolite Zone Axis - [7 1 0] KM	AS>5, AFB>5, PCMEF-US, PCMES-US, TAS_AHRA, AS>5_AHRA, AS>10_AHRA
A	16	C30		NSD									
A	17	C40		NSD									
A	18	C42		NSD									
A	19	C22		NSD									
A	20	C2	AQ	3	3	B	7.5	1.1	6.8			Mg, Al, Si, Ca, Fe Actinolite	AS>5, AFB>5, PCMEF-US, PCMES-US, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
A	21	B12		NSD									
A	22	B32	AQ	4	4	F	7.5	1.3	5.8			Mg, Al, Si, Ca, Fe Actinolite	AS>5, AFB>5, PCMEF-US, PCMES-US, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
A	23	B42		NSD									
A	24	B44		NSD									
A	25	B34		NSD									
A	26	B14	AQ	5	5	F	9	2.5	3.6			Mg, Al, Si, Ca, Fe Actinolite	AS>5, AFB>5, PCMEF-US, PCMES-US, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
A	27	C4		NSD									
A	28	C24		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVM-L2-3AD-100204 *Lab/Cor Sample No.:* B4760 S91 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	29	C44		NSD									
B	30	A33		NSD									
B	31	A13		NSD									
B	32	D3		NSD									
B	33	D23		NSD									
B	34	D43		NSD									
B	35	D31		NSD									
B	36	D11		NSD									
B	37	A1		NSD									
B	38	A21		NSD									
B	39	A41		NSD									
B	40	B40		NSD									
B	41	B20		NSD									
B	42	B10		NSD									
B	43	C10		NSD									
B	44	C30		NSD									
B	45	C40		NSD									
B	46	C42		NSD									
B	47	C22		NSD									
B	48	C2		NSD									
B	49	B12		NSD									
B	50	B32		NSD									
B	51	B42		NSD									
B	52	B33		NSD									
B	53	B13		NSD									
B	54	C3		NSD									
B	55	C23		NSD									
B	56	C43		NSD									
B	57	C34		NSD									
B	58	C14		NSD									
C	59	A34		NSD									
C	60	A14		NSD									
C	61	D4		NSD									
C	62	D24		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVM-L2-3AD-100204 *Lab/Cor Sample No.:* B4760 S91 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
C	63	D44		NSD									
C	64	D42		NSD									
C	65	D22		NSD									
C	66	D2		NSD									
C	67	A12		NSD									
C	68	A32	AQ	6	6	F	7	2.2	3.2			Mg, Al, Si, Ca, Fe Actinolite	AS>5, AFB>5, PCMEF-US, PCMES-US, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
C	69	A42		NSD									
C	70	A40		NSD									
C	71	A20		NSD									
C	72	D10		NSD									
C	73	D30		NSD									
C	74	D40		NSD									
C	75	C41		NSD									
C	76	C21		NSD									
C	77	C1		NSD									
C	78	B11	AQ	7	7	F	40	4.5	8.9			Mg, Al, Si, Ca, Fe Actinolite	AS>5, AFB>5, TAS_AHRA, AS>5_AHRA, AS>10_AHRA
C	79	B31		NSD									
C	80	B41		NSD									
C	81	B43		NSD									
C	82	B23		NSD									
C	83	B3		NSD									
C	84	C13		NSD									
C	85	C33		NSD									
C	86	C43		NSD									
C	87	C34		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVM-L2-4AD-100204 *Lab/Cor Sample No.:* B4760 S92 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	A44		NSD									
A	2	A24		NSD									
A	3	A4		NSD									
A	4	D14		NSD									
A	5	D34		NSD									
A	6	D42		NSD									
A	7	D22		NSD									
A	8	D2		NSD									
A	9	A12		NSD									
A	10	A42		NSD									
A	11	A40		NSD									
A	12	A20		NSD									
A	13	A10		NSD									
A	14	D10		NSD									
A	15	D30		NSD									
A	16	D40	CDQ	1	1	F	2.2	0.04	55	1216	900	Mg, Si Chrysotile Verified - JH TAS_AHRA	
A	17	C41		NSD									
A	18	C21		NSD									
A	19	C1		NSD									
A	20	B11		NSD									
A	21	B31		NSD									
A	22	B41		NSD									
A	23	B43		NSD									
A	24	B23		NSD									
A	25	B3		NSD									
A	26	C13		NSD									
A	27	C33		NSD									
A	28	C43		NSD									
A	29	C34		NSD									
B	30	A24		NSD									
B	31	A4		NSD									
B	32	D14		NSD									
B	33	D34		NSD									
B	34	D44		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVM-L2-4AD-100204 *Lab/Cor Sample No.:* B4760 S92 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
B	35	D42		NSD									
B	36	D22		NSD									
B	37	D2		NSD									
B	38	A12		NSD									
B	39	A22		NSD									
B	40	A42		NSD									
B	41	A40		NSD									
B	42	A20		NSD									
B	43	A10		NSD									
B	44	D10		NSD									
B	45	D30		NSD									
B	46	D40		NSD									
B	47	C41		NSD									
B	48	C21		NSD									
B	49	C1		NSD									
B	50	B11		NSD									
B	51	B31		NSD									
B	52	B41		NSD									
B	53	B43		NSD									
B	54	B23		NSD									
B	55	B3	CDQ	2	2	F	0.7	0.08	8.8	1217	901	Mg, Si Chrysotile Verified - JH TAS_AHRA	
B	56	C13		NSD									
B	57	C33		NSD									
B	58	C43		NSD									
C	59	A34		NSD									
C	60	A14		NSD									
C	61	D4		NSD									
C	62	D24		NSD									
C	63	D44		NSD									
C	64	D42		NSD									
C	65	D2		NSD									
C	66	A12		NSD									
C	67	A32		NSD									
C	68	A41		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVM-L2-4AD-100204 *Lab/Cor Sample No.:* B4760 S92 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
C	69	A40		NSD									
C	70	A20		NSD									
C	71	A10		NSD									
C	72	D10		NSD									
C	73	D30		NSD									
C	74	D40		NSD									
C	75	C41		NSD									
C	76	C21		NSD									
C	77	C1		NSD									
C	78	B11		NSD									
C	79	B21		NSD									
C	80	B41		NSD									
C	81	B43		NSD									
C	82	B23		NSD									
C	83	B3	AZQ	3	3	F	6	1.5	4.0	1218	902	Mg, Al, Si, Ca, Fe Actinolite Zone Axis [3 2 3] - JH	AS>5, AFB>5, PCMEF-US, PCMES-US, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
C	84	C13		NSD									
C	85	C33		NSD									
C	86	C43		NSD									
C	87	C24		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVM-L2-5AD-100204 *Lab/Cor Sample No.:* B4760 S93 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	B44		NSD									
A	2	B34		NSD									
A	3	B24		NSD									
A	4	B14		NSD									
A	5	B4		NSD									
A	6	C4		NSD									
A	7	C14		NSD									
A	8	C24		NSD									
A	9	C34		NSD									
A	10	C44		NSD									
A	11	B42		NSD									
A	12	B32		NSD									
A	13	B22		NSD									
A	14	B12		NSD									
A	15	B2	AZQ	1	1	F	7.5	1.2	6.2	5770	15617	Mg,Si,Ca,Fe Actinolite Zone Axis - [1 0 1] KM	AS>5, AFB>5, PCMEF-US, PCMES-US, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
A	16	C2		NSD									
A	17	C12		NSD									
A	18	C22		NSD									
A	19	C32		NSD									
A	20	C42		NSD									
A	21	A41		NSD									
A	22	A31		NSD									
A	23	A21		NSD									
A	24	A11		NSD									
A	25	A1		NSD									
A	26	D1		NSD									
A	27	D11		NSD									
A	28	D21		NSD									
A	29	D31		NSD									
A	30	D41		NSD									
B	31	C44		NSD									
B	32	C24		NSD									
B	33	C4		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVM-L2-5AD-100204 *Lab/Cor Sample No.:* B4760 S93 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
B	34	B14		NSD									
B	35	B23		NSD									
B	36	B3	AQ	2		MD1-1	8	3	2.7			Actinolite	AS>5, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
B	36	B3	AQ		2	MF	8	1.25	6.4			Mg, Al, Si, Ca, Fe Actinolite	AFB>5, PCMEF-US
B	37	C13		NSD									
B	38	C33		NSD									
B	39	C22		NSD									
B	40	C2		NSD									
B	41	B12		NSD									
B	42	B21		NSD									
B	43	B1		NSD									
B	44	C11		NSD									
B	45	C31		NSD									
B	46	C20		NSD									
B	47	B10		NSD									
B	48	A20		NSD									
B	49	D10		NSD									
B	50	D30		NSD									
B	51	D1		NSD									
B	52	A11		NSD									
B	53	A22		NSD									
B	54	A2		NSD									
B	55	D12		NSD									
B	56	D32		NSD									
B	57	D23		NSD									
B	58	D3		NSD									
B	59	A13		NSD									
B	60	A24		NSD									
C	61	C44		NSD									
C	62	C24		NSD									
C	63	C4		NSD									
C	64	B14		NSD									
C	65	B23		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVM-L2-5AD-100204 *Lab/Cor Sample No.:* B4760 S93 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
C	66	B3		NSD									
C	67	C13		NSD									
C	68	C33		NSD									
C	69	C42		NSD									
C	70	C22		NSD									
C	71	C2		NSD									
C	72	B12		NSD									
C	73	B21		NSD									
C	74	B1		NSD									
C	75	C11		NSD									
C	76	C31		NSD									
C	77	C40		NSD									
C	78	C20		NSD									
C	79	B10		NSD									
C	80	A20		NSD									
C	81	D10	AQ	3	3	F	10	1.5	6.7			Mg, Si, Ca, Fe Actinolite	AS>5, AFB>5, PCMEF-US, PCMES-US, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
C	82	D30	AQ	4		MD1-0	8	6	1.3			Actinolite	AS>5, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
C	82	D30	AQ		4	MF	4	0.1	40			Mg, Si, Ca, Fe Actinolite	
C	83	D41		NSD									
C	84	D21	AQ	5	5	F	4.5	0.45	10			Mg, Si, Ca, Fe Actinolite	TAS_AHRA
C	85	D1		NSD									
C	86	A11		NSD									
C	87	A22		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVM-L2-6AD-100204 *Lab/Cor Sample No.:* B4760 S94 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
A	1	A44		NSD									
A	2	A24		NSD									
A	3	A4		NSD									
A	4	D14		NSD									
A	5	D34		NSD									
A	6	D44		NSD									
A	7	D42		NSD									
A	8	D22		NSD									
A	9	D2		NSD									
A	10	A12		NSD									
A	11	A32		NSD									
A	12	A42		NSD									
A	13	A40		NSD									
A	14	A20		NSD									
A	15	A10		NSD									
A	16	D10		NSD									
A	17	D30		NSD									
A	18	D40		NSD									
A	19	C41		NSD									
A	20	C21		NSD									
A	21	C1		NSD									
A	22	B11		NSD									
A	23	B31		NSD									
A	24	B41		NSD									
A	25	B43		NSD									
A	26	B23		NSD									
A	27	B3		NSD									
A	28	C13		NSD									
A	29	C33		NSD									
B	30	B44		NSD									
B	31	B24		NSD									
B	32	B4		NSD									
B	33	C14		NSD									
B	34	C34		NSD									

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

Sample No.: SVM-L2-6AD-100204 *Lab/Cor Sample No.:* B4760 S94 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
B	35	C42		NSD									
B	36	C22		NSD									
B	37	C2		NSD									
B	38	B12		NSD									
B	39	B32		NSD									
B	40	B42		NSD									
B	41	B40		NSD									
B	42	B20		NSD									
B	43	B10	AZQ	1	1	F	6	0.5	12	1220	904	Mg, Al, Si, Ca, Fe Actinolite Zone Axis [4 1 3] - JH	AS>5, AFB>5, PCMEF-US, PCMES-US, PSAS 5-10, PSAS TOT, PSAM 5-10, PSAM TOT, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
B	44	C10		NSD									
B	45	C30		NSD									
B	46	C40	CDQ	2		MD1-1	8	3	2.7			Chrysotile	AS>5, TAS_AHRA, AS>5_AHRA, AS5-10_AHRA
B	46	C40	CDQ		2	MB	6	0.25	24	1221	905	Mg, Si Chrysotile Verified - JH	AFB>5, PCMEF-US, PSAS 5-10, PSAS TOT, PCAS 5-10, PCAS TOT
B	47	D41		NSD									
B	48	D21		NSD									
B	49	D1		NSD									
B	50	A11		NSD									
B	51	A31		NSD									
B	52	A41		NSD									
B	53	A43		NSD									
B	54	A23		NSD									
B	55	A3		NSD									
B	56	D13		NSD									
B	57	D33		NSD									
B	58	D43		NSD									
C	59	A43		NSD									
C	60	A23		NSD									
C	61	A3		NSD									
C	62	D13		NSD									
C	63	D33		NSD									

Lab/Cor, Inc.

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Report # 041172R6

Client: Ecology and Environment, Inc.

Project Name: Site# 0440.01CP, 0440.01CP-0001-FINAL RESULTS

TEM ASBESTOS STRUCTURE COUNT - RAW DATA

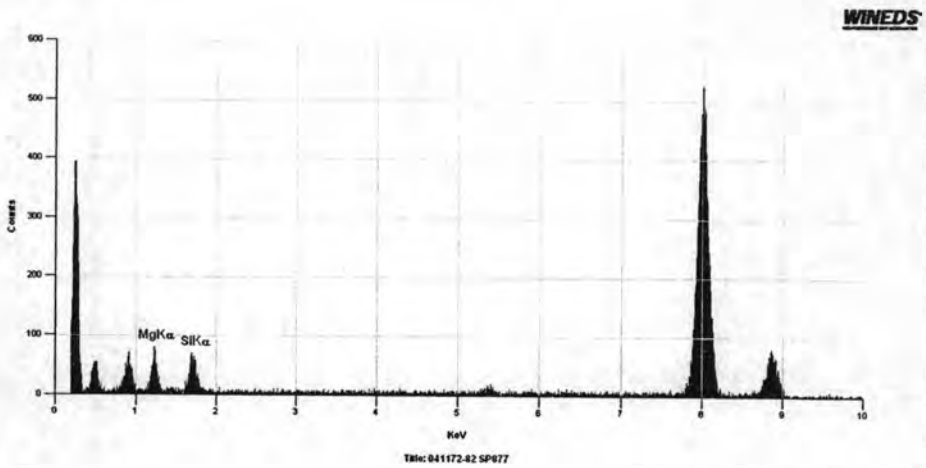
Sample No.: SVM-L2-6AD-100204 *Lab/Cor Sample No.:* B4760 S94 A1

Descripiton:

Gr	No.	Loc.	ID	Prim	Tot	Class	Len	Wid	Asp	Neg#	EDS#	Comment	Count Categories
C	64	D43		NSD									
C	65	D41		NSD									
C	66	D21		NSD									
C	67	D1		NSD									
C	68	A11		NSD									
C	69	A31		NSD									
C	70	A41		NSD									
C	71	B40		NSD									
C	72	B20		NSD									
C	73	B10		NSD									
C	74	C10		NSD									
C	75	C30		NSD									
C	76	C40		NSD									
C	77	C42		NSD									
C	78	C22		NSD									
C	79	C2		NSD									
C	80	B12		NSD									
C	81	B32	AQ	3	3	F	4.5	1.2	3.7			Mg, Al, Si, Ca, Fe Actinolite	TAS_AHRA
C	82	B42		NSD									
C	83	B44		NSD									
C	84	B24		NSD									
C	85	B4		NSD									
C	86	C14		NSD									

JobNumb	Sampl	Gri	GridO	AnalyteID	Negativ	EDSNum	Comment
041172	54	A	1	actin xx	5472	15350	Zone Axis [1 0 1] - KM
041172	54	A	3	chrys xx	5473	15351	Verified - KM
041172	55	B	21	chrys xx	5655	15485	Verified - KM
041172	55	A	1	actin xx	5654	15494	Zone Axis - [1 3 4] KM
041172	56	A	4	actin xx	5710	15558	Zone Axis - [5 -1 -2] - KBM
041172	56	A	1	chrys xx	5709	15557	Verified - KM
041172	56	A	1	actin xx		15556	
041172	57	A	5	actin xx	5681	15533	Zone Axis - [2 0 3] KBM
041172	57	A	8	chrys xx	5682	15534	Verified - KM
041172	57	A	9	actin xx		15535	
041172	58	A	4	chrys xx	1149	837	Verified - KM
041172	58	A	6	actin xx	1150	836	Zone Axis [7 1 6] - JH
041172	59	A	2	chrys xx	5684	15536	Verified - KM
041172	59	B	21	actin xx	5685	15537	Zone Axis - [3 -1 2] - KBM
041172	60	B	23	actin xx	5686	15538	Zone Axis [2 0 3] - KBM
041172	61	A	12	actin xx		15539	
041172	61	A	24	actin xx	5687	15540	Zone Axis [5 3 4] - KBM
041172	62	A	26	chrys xx	5688	15541	Verified - KM
041172	62	C	74	actin xx	5698	15547	Zone Axis [1 0 0] - JH
041172	65	A	15	actin xx		839	
041172	65	A	17	actin xx	1173	859	Zone Axis [1 0 0] - JH
041172	66	B	43	chrys xx	1152	840	Verified - KM
041172	69	A	6	actin xx	1153	842	Zone Axis [1 1 0] - JH
041172	70	A	8	actin xx	1154	843	Zone Axis - [2 1 4] KM
041172	73	C	74	actin xx	1167	855	Zone Axis - [5 1 0] KM
041172	73	A	9	actin xx	1163	852	Zone Axis - [5 3 4] KM
041172	74	B	43	actin xx	1166	854	Zone Axis - [1 -3 -6] - KM
041172	75	C	74	actin xx	1224	15563	Zone Axis [2 0 1] - JH
041172	76	C	67	chrys xx	5729	15575	Verified - JH
041172	77	B	20	actin xx	1169	857	Zone Axis - [5 -1 2] KM
041172	78	A	1	actin xx	1171	15564	Zone Axis - [3 -1 -10] KM
041172	81	B	29	actin xx	5730	15576	Zone Axis - [5 3 2] KM
041172	82	B	19	actin xx	1188	876	Zone Axis - [5 1 2] KM
041172	82	B	19	chrys xx	1190	877	Verified - JH
041172	83	B	15	feedn xx	1191	878	Alumino-PotassicFerro-edenit
041172	87	A	2	actin xx	1225	906	Zone Axis [5 1 2] - JH
041172	88	A	28	actin xx	1226	15603	Zone Axis [0 1 2] - JH
041172	89	B	44	actin xx	1196	882	Zone Axis - [3 1 0] KM
041172	90	A	3	actin xx	1227	895	Zone Axis [4 0 3] - JH
041172	91	A	2	chrys xx	1212	896	Verified - JH
041172	91	A	15	actin xx	1213	897	Zone Axis - [7 1 0] KM
041172	92	A	16	chrys xx	1216	900	Verified - JH
041172	92	B	55	chrys xx	1217	901	Verified - JH
041172	92	C	83	actin xx	1218	902	Zone Axis [3 2 3] - JH
041172	93	A	15	actin xx	5770	15617	Zone Axis - [1 0 1] KM
041172	94	B	46	chrys xx	1221	905	Verified - JH
041172	94	B	43	actin xx	1220	904	Zone Axis [4 1 3] - JH

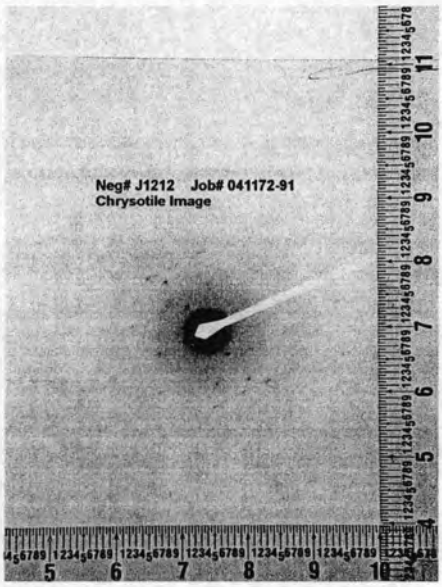
041172-82 Chrysotile Images

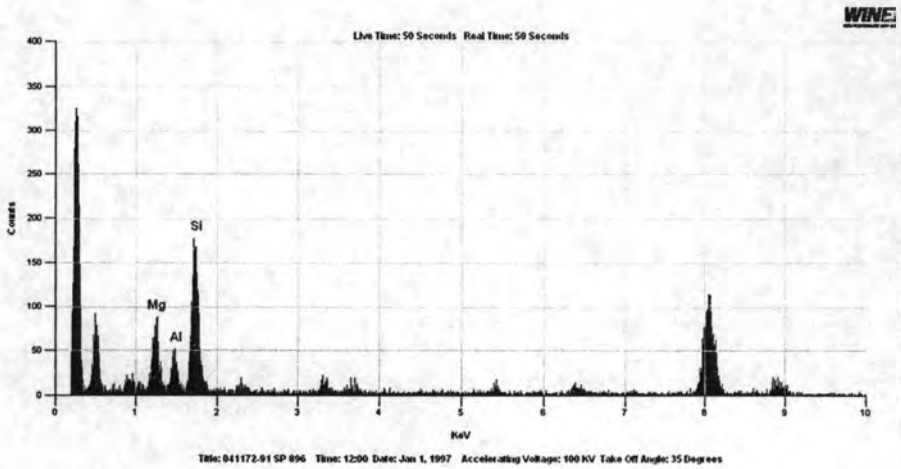


Quantitative Analysis Results - Standardless Analysis :
041172-82 SP877 Jan 1, 1997
EDS Parameters - 100KV, Takeoff Angle: 35.0°, Fit Index: 441.54
Correction: CLIFF LORIMER, Cycles: 1

Element	Atoms%	Compound	Weight%	Error(±)	Norm%
Mg	23.15	MgO	46.45	4.95	46.45
Si	17.90	SiO2	53.55	7.35	53.55
<Total>	100.00		100.00		100.00

041172-91 Chrysotile Images

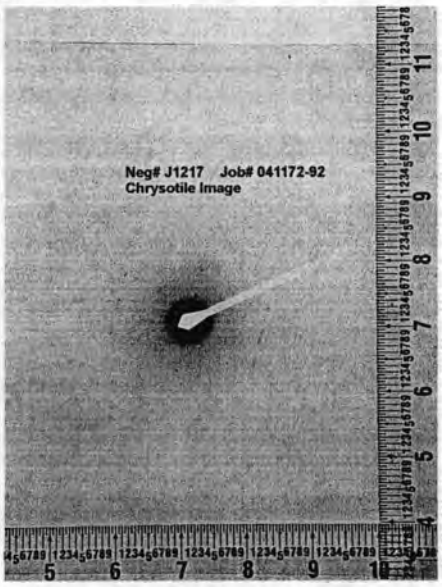


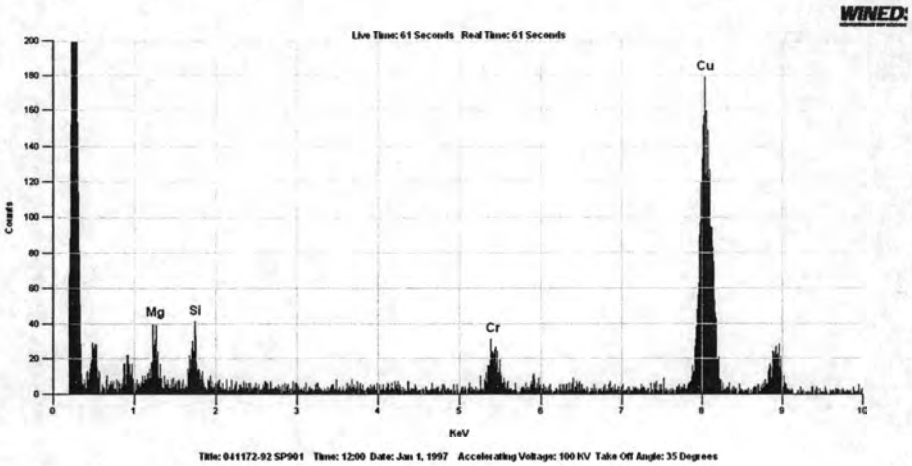


Quantitative Analysis Results - Standardless Analysis :
041172-91 SP 896 Jan 1, 1997
EDS Parameters - 100KV, Takeoff Angle: 35.0°, Fit Index: 247.03
Correction: CLIFF LORIMER, Cycles: 1

Element	Atoms%	Compound	Weight%	Error(±)	Norm%
Mg	10.85	MgO	21.78	1.76	21.78
Al	3.14	Al2O3	7.98	0.88	7.98
Si	23.48	SiO2	70.24	3.42	70.24
<Total>	100.00		100.00		100.00

041172-92 Chrysotile Images

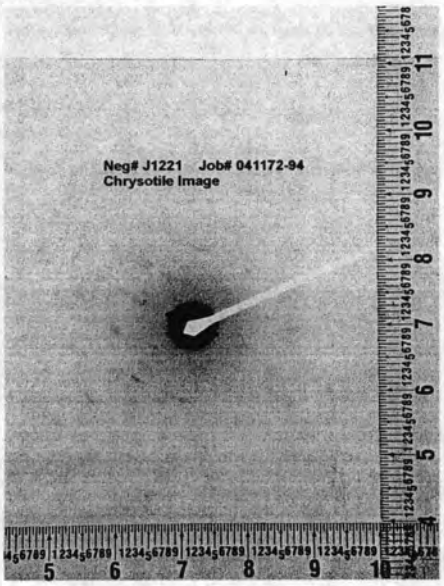


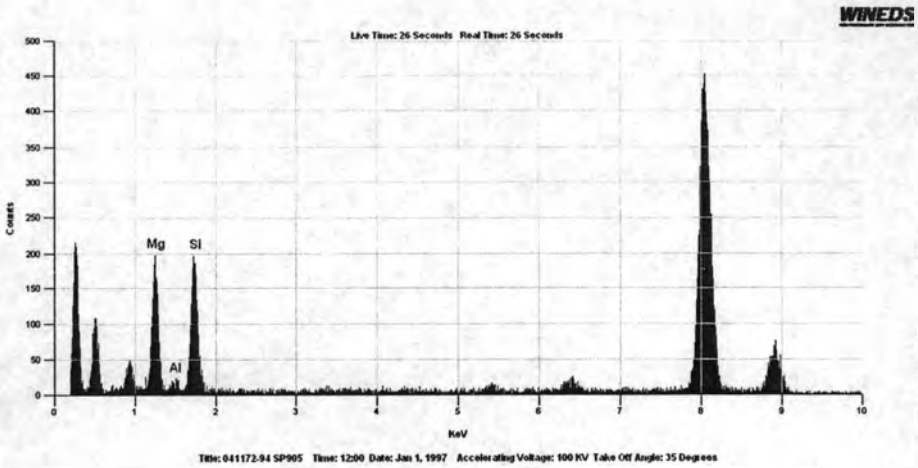


Quantitative Analysis Results - Standardless Analysis :
041172-92 SP901 Jan 1, 1997
EDS Parameters - 100KV, Takeoff Angle: 35.0°, Fit Index: 121.76
Correction: CLIFF LORIMER, Cycles: 1

Element	Atoms%	Compound	Weight%	Error(±)	Norm%
Mg	21.60	MgO	43.36	6.55	43.36
Si	18.93	SiO2	56.64	8.97	56.64
<Total>	100.00		100.00		100.00

041172-94 Chrysotile Images

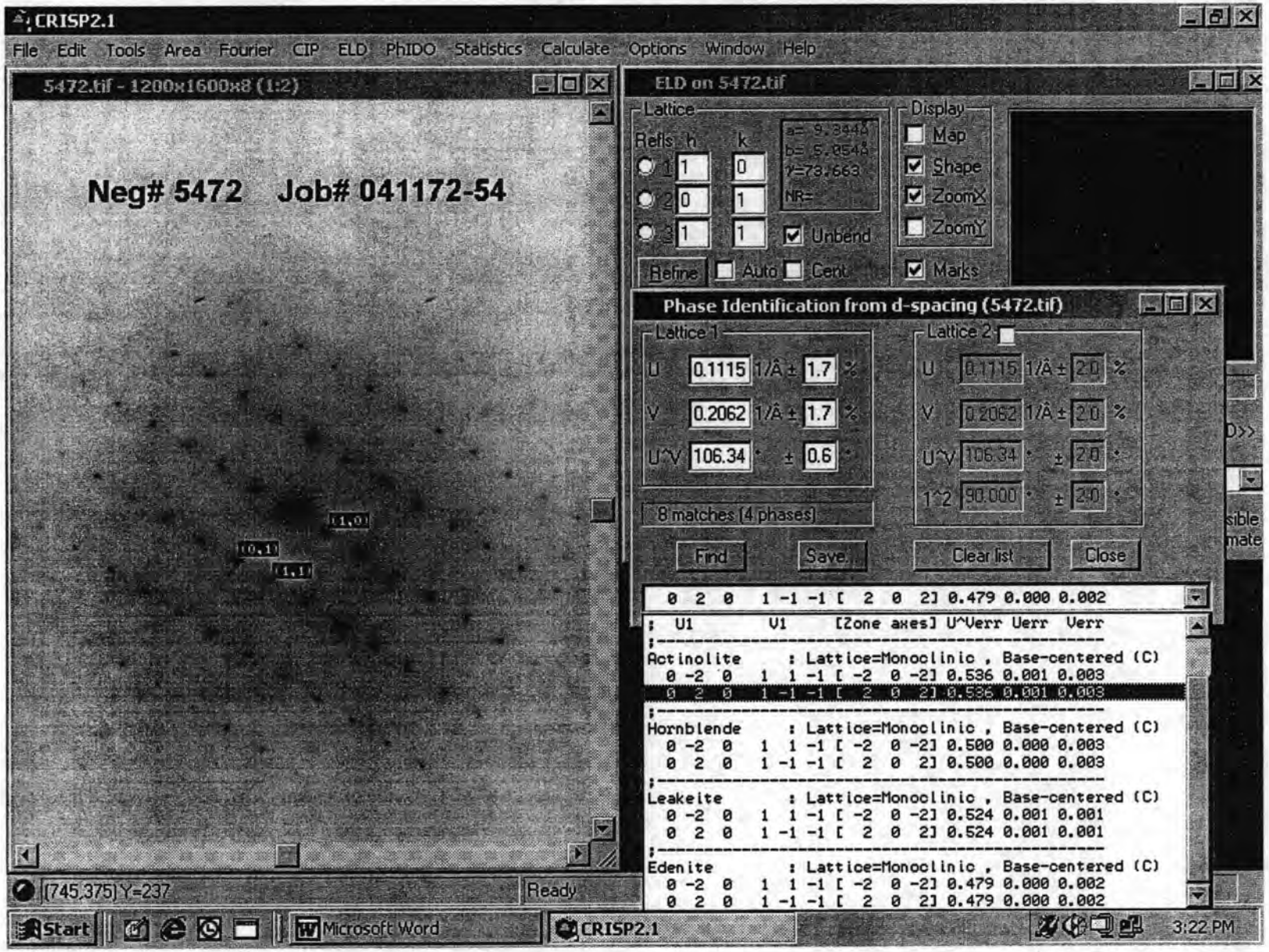




Quantitative Analysis Results - Standardless Analysis :
041172-94 SP905 Jan 1, 1997
EDS Parameters - 100KV, Takeoff Angle: 35.0°, Fit Index: 303.56
Correction: CLIFF LORIMER, Cycles: 1

Element	Atoms%	Compound	Weight%	Error(±)	Norm%
Mg	18.86	MgO	37.85	1.70	37.85
Al	1.13	Al2O3	2.87	0.49	2.87
Si	19.82	SiO2	59.28	2.58	59.28
<Total>	100.00		100.00		100.00

ACTINOLITE
[1 0 1]
041172-54 Neg #5472



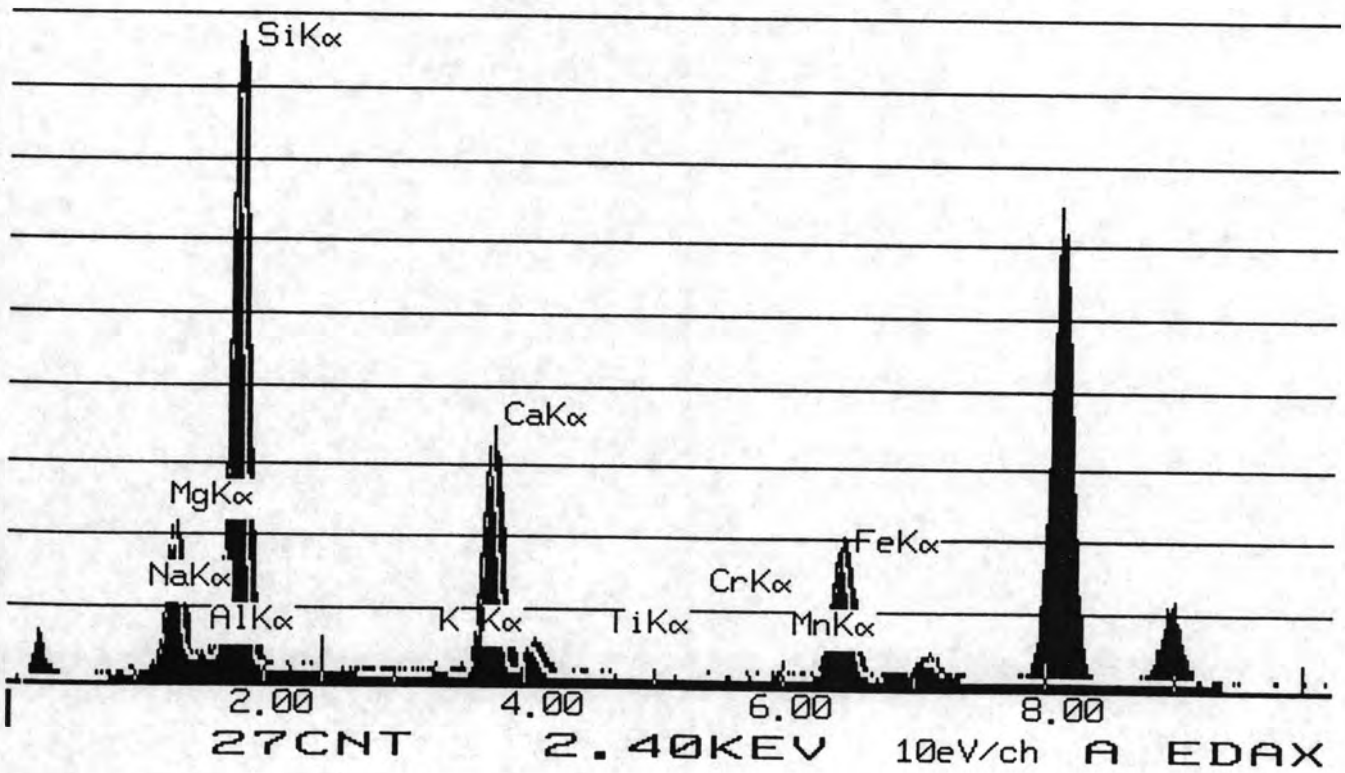
INTE-% :
LABEL = 041172-54 15350
23-NOV-72 02:47:56
36.174 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	91.557	10.166	16.856
ALK	2.847	0.190	0.359
SIK	409.768	25.588	54.742
K K	3.151	0.327	0.394
CAK	176.369	10.500	14.692
TIK	1.382	0.116	0.194
MNK	1.355	0.116	0.150
FEK	111.544	8.822	12.613

TOTAL			100.000

USED PEIF: USER

22-NOV-04 02:48:20 SUPER QUANT
RATE= 0CPS TIME= 36LSEC
FS= 1739/ 1739 PRST= 200LSEC
A =041172-54 15350



	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	54.742	Si+4	7.7604	7.7604							
Al2O3	0.359	Al+3	0.0600	0.0600	**0.0000**						
TiO2	0.194	Ti+4	0.0207	0.0207	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	12.613	Fe+3	0.0135			0.0135	0.0000				
MgO	16.856	Mg+2	3.5624			3.5624	**0.0000**				
MnO	0.15	Fe+2	1.4802			1.4241	**0.0561**				
CaO	14.692	Mn+2	0.0180			0.0000	**0.0180**				
Na2O	0	Ca+2	2.2314					1.9259	0.3054		
K2O	0.394	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0712							0.0712	0.0000
Total	**100**		**Excess**	T site	**0.0000**	C site	**0.0741**	B site	**0.3054406**	A site	**0**
			Total	**7.8411**		**5.0000**		**1.9259**		**0.0712**	**0.0000**
			%Fill	**98.014**		**100**		**96.2956**			

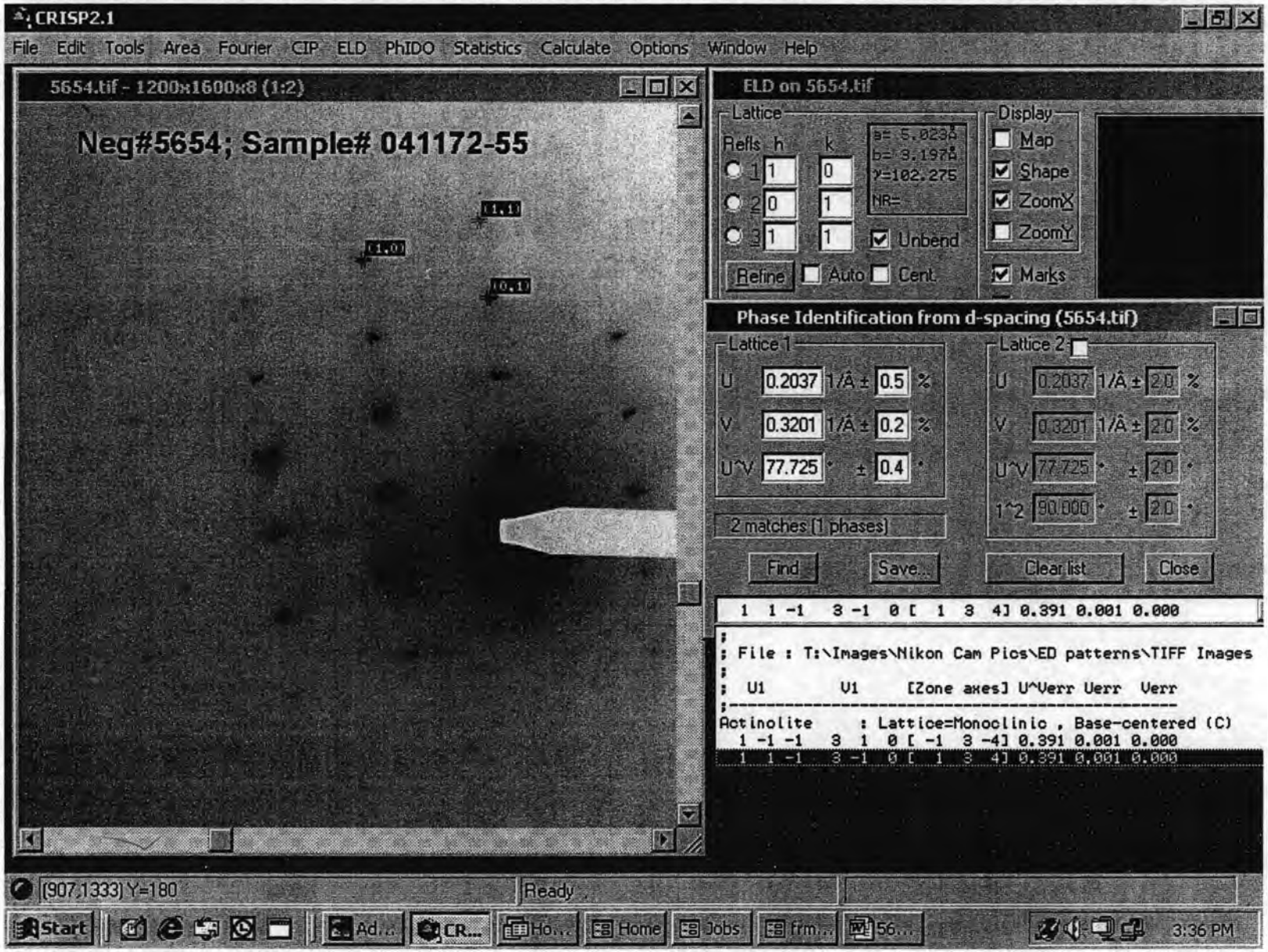
Prefix none
Name **actinolite**
Modifier none
Group **Calcic Amphibole**

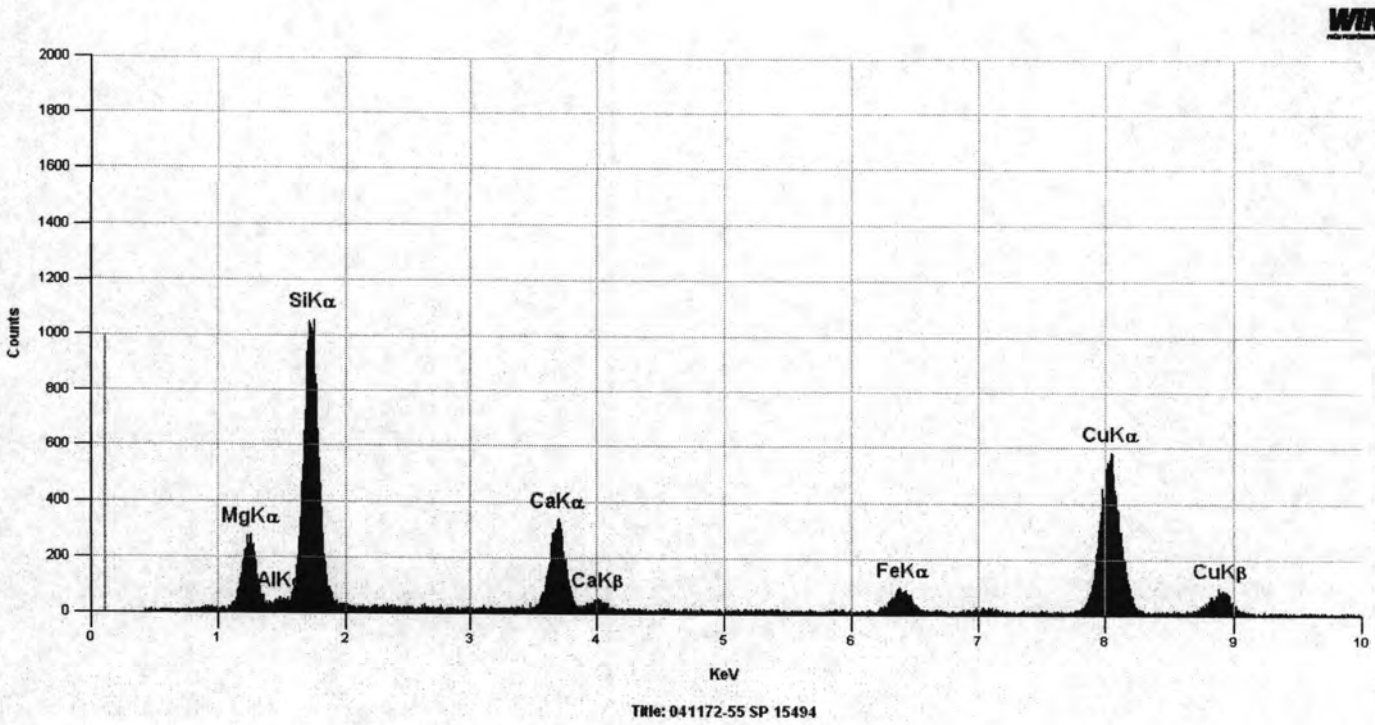
Sample # **041172-54-15350**

Values		**Satisfied Conditions**
(Ca,Na)@B	**1.93**	**(Ca,Na)@B >= 1 and Na@B < 0.5**
Na@B	**0.00**	**Ca@B >= 1.5 and (Na,K)@A < 0.5**
Ca@B	**1.93**	**(Mg/(Mg+Fe2))>= 0.5**
(Na,K)@A	**0.07**	**Si > 7.5**
Mg/(Mg+Fe2)	**0.71**	**(Mg/(Mg+Fe2))< 0.9**
Si	**7.76**	

Mineral Analysis Program (Version 5.0)

ACTINOLITE
[1 3 4]





Quantitative Analysis Results - Standardless Analysis :
041172-55 SP 15494 Fri, Jan 28 2005
EDS Parameters - 100KV, Takeoff Angle: 38.0°, Fit Index: 46.17
Correction: CLIFF LORIMER, Cycles: 1

Element	Atoms%	Compound	Weight%	Error(±)	Norm%
Mg	9.75	MgO	18.53	0.82	18.53
Si	22.59	SiO2	63.99	1.38	63.99
Ca	4.63	CaO	12.23	0.56	12.23
Fe	1.39	Fe2O3	5.25	0.60	5.25
<Total>	100.00		100.00		100.00

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	63.99	Si+4	8.0000	8.0000							
Al2O3	0	Al+3	0.0000	0.0000	**0.0000**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	5.25	Fe+3	0.0524			0.0524	0.0000				
MgO	18.53	Mg+2	3.8573			3.8573	**0.0000**				
MnO	0	Fe+2	0.6823			0.6823	**0.0000**				
CaO	12.23	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	1.8752					1.8752	0.0000		
K2O	0	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0000							0.0000	0.0000
Total	**100**		**Excess**	T site	**0.0000**	C site	**0.0000**	B site	**0**	A site	**0**
			Total	**8**		**4.5921**		**1.8752**		**0.0000**	**0.0000**
			%Fill	**100**		**91.8417**		**93.7598**			

Prefix none
Name **actinolite**
Modifier none
Group **Calcic Amphibole**

Sample # **041172-55-15494**

Values		**Satisfied Conditions**
(Ca,Na)@B	**1.88**	**(Ca,Na)@B >= 1 and Na@B < 0.5**
Na@B	**0.00**	**Ca@B >= 1.5 and (Na,K)@A < 0.5**
Ca@B	**1.88**	**(Mg/(Mg+Fe2))>= 0.5**
(Na,K)@A	**0.00**	**Si > 7.5**
Mg/(Mg+Fe2)	**0.85**	**(Mg/(Mg+Fe2))< 0.9**
Si	**8.00**	

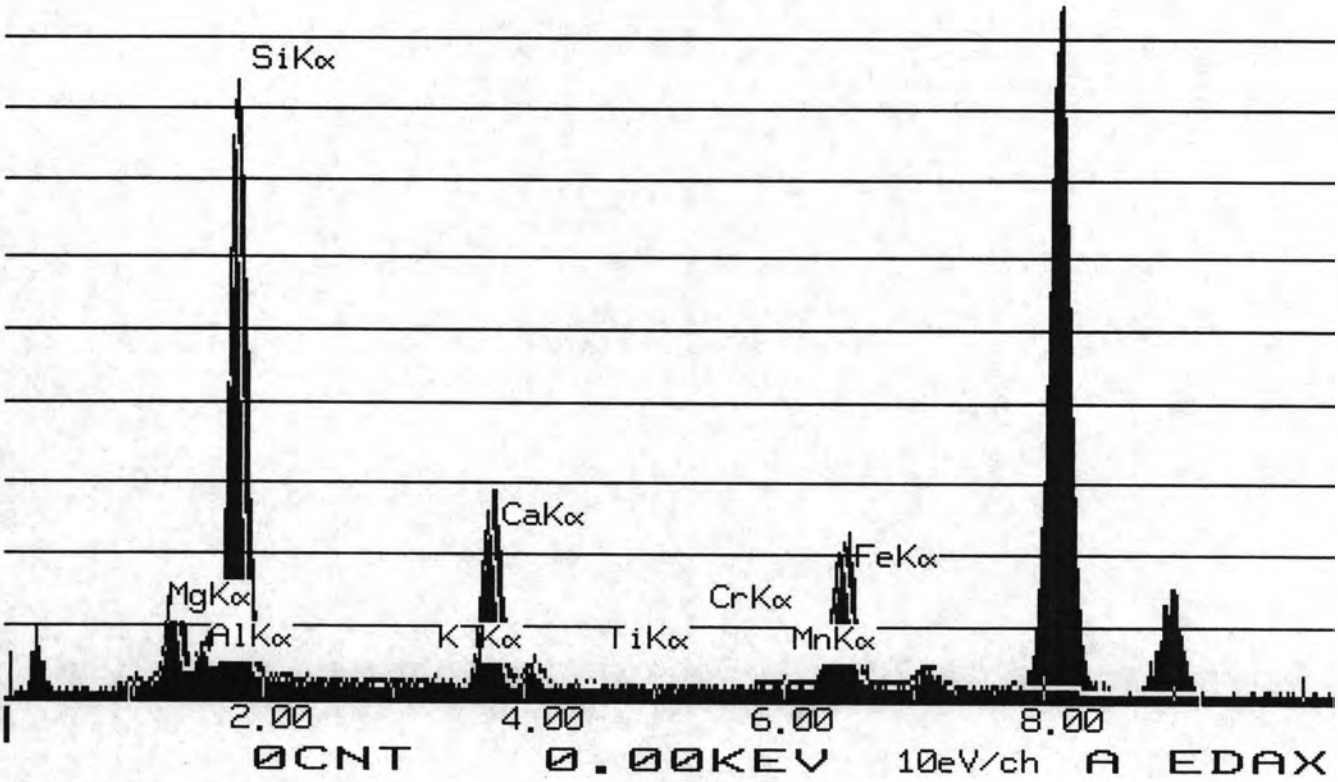
Mineral Analysis Program (Version 5.0)

INTE-% :
LABEL = 041172-56 15556
12-DEC-72 21:50:48
20.006 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	56.684	7.567	12.546
ALK	19.894	1.595	3.014
SIK	351.649	26.401	56.481
CAK	125.714	8.999	12.591
TIK	1.350	0.136	0.227
FEK	111.368	10.590	15.141
TOTAL			100.000

USED PEIF: USER

11-DEC-04 21:51:43 SUPER QUANT
RATE= 7307CPS TIME= 20LSEC
FS= 891/ 891 PRST= 200LSEC
A =041172-56 15556



	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	56.481	Si+4	7.9439	7.9439							
Al2O3	3.014	Al+3	0.4996	0.0561	**0.4435**						
TiO2	0.227	Ti+4	0.0240	0.0000	**0.0240**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	15.141	Fe+3	0.0160			0.0160	0.0000				
MgO	12.546	Mg+2	2.6306			2.6306	**0.0000**				
MnO	0	Fe+2	1.7629			1.7629	**0.0000**				
CaO	12.591	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	1.8972					1.8972	0.0000		
K2O	0	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0000							0.0000	0.0000
Total	**100**		**Excess**	T site	**0.4675**	C site	**0.0000**	B site	**0**	A site	**0**
			Total	**8**		**4.8771**		**1.8972**		**0.0000**	**0.0000**
			%Fill	**100**		**97.5413**		**94.8603**			

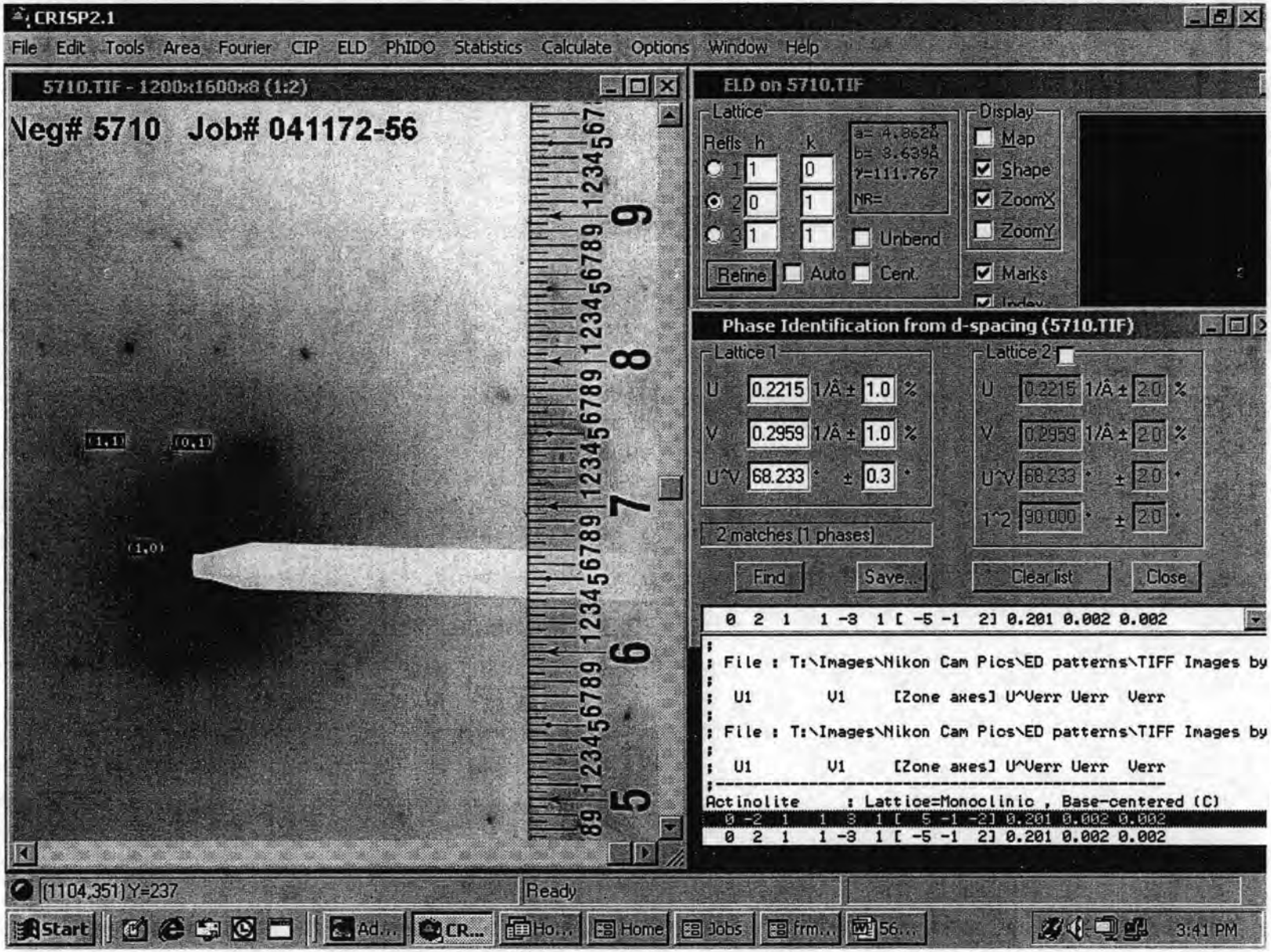
Prefix none
Name **actinolite**
Modifier none
Group **Calcic Amphibole**

Sample # **041172-56-15556**

Values		**Satisfied Conditions**
(Ca,Na)@B	**1.90**	**(Ca,Na)@B >= 1 and Na@B < 0.5**
Na@B	**0.00**	**Ca@B >= 1.5 and (Na,K)@A < 0.5**
Ca@B	**1.90**	**(Mg/(Mg+Fe2))>= 0.5**
(Na,K)@A	**0.00**	**Si > 7.5**
Mg/(Mg+Fe2)	**0.60**	**(Mg/(Mg+Fe2))< 0.9**
Si	**7.94**	

Mineral Analysis Program (Version 5.0)

ACTINOLITE
[5 -1 -2]



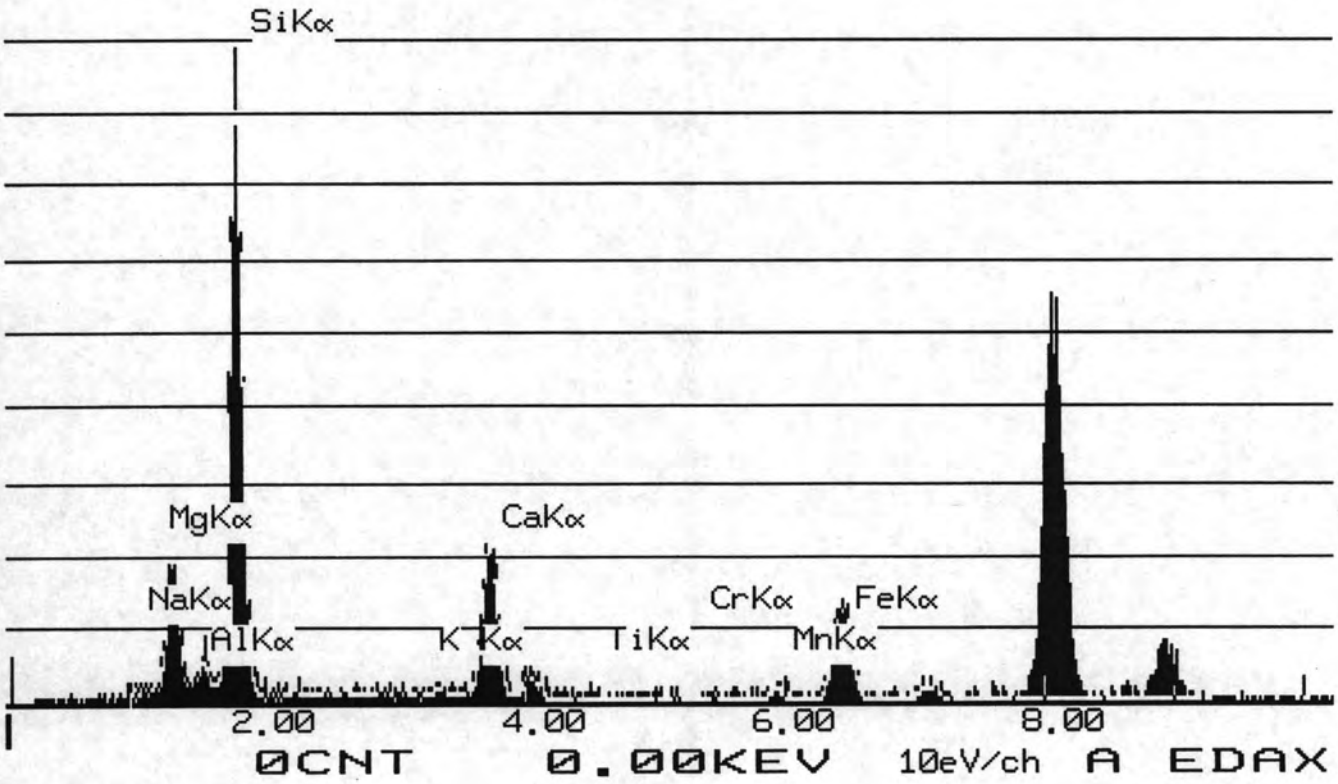
INTE-% :
LABEL = 041172-56 15558
12-DEC-72 23:15:18
42.815 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	13.757	10.800	17.907
ALK	2.639	1.245	2.352
SIK	60.750	26.823	57.384
K K	0.934	0.685	0.826
CAK	17.984	7.571	10.593
TIK	0.397	0.236	0.393
CRK	0.537	0.315	0.460
MNK	1.191	0.723	0.934
FEK	11.445	6.400	9.151

TOTAL			100.000

USED PEIF: USER

11-DEC-04 23:16:51 SUPER QUANT
RATE= 346CPS TIME= 43LSEC
FS= 295/ 295 PRST= 200LSEC
A =041172-56 15558



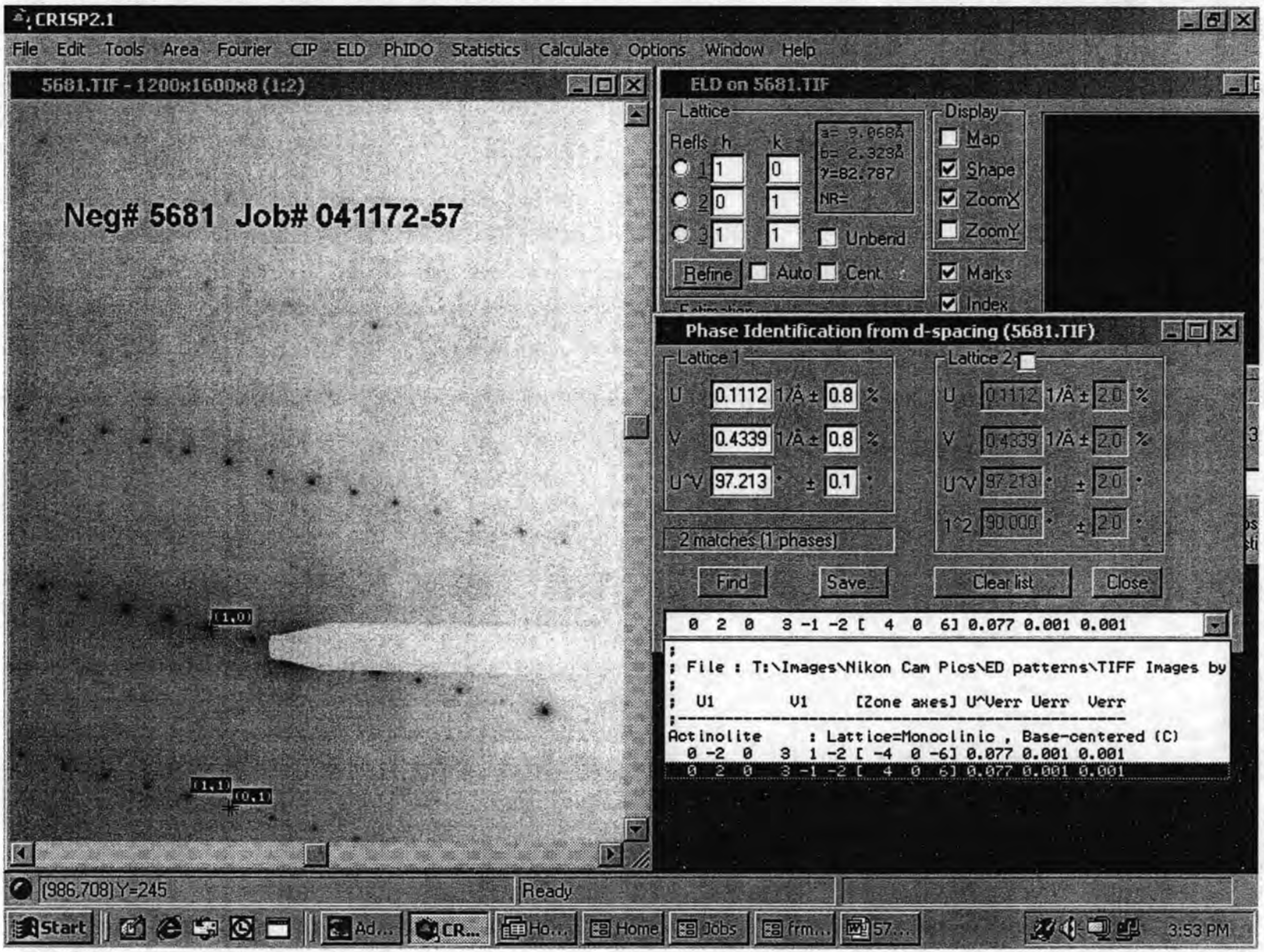
	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	57.384	Si+4	7.8380	7.8380							
Al2O3	2.352	Al+3	0.3786	0.1620	**0.2166**						
TiO2	0.393	Ti+4	0.0404	0.0000	**0.0404**						
Cr2O3	0.46	Cr+3	0.0497			0.0497	0.0000				
Fe(total)O	9.151	Fe+3	0.4609			0.4609	0.0000				
MgO	17.907	Mg+2	3.6464			3.6464	**0.0000**				
MnO	0.934	Fe+2	0.5330			0.5330	**0.0000**				
CaO	10.593	Mn+2	0.1080			0.0530	**0.0550**				
Na2O	0	Ca+2	1.5501					1.5501	0.0000		
K2O	0.826	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.1439							0.1439	0.0000
Total	**100**		**Excess**	T site	**0.2570**	C site	**0.0550**	B site	**0**	A site	**0**
			Total	**8**		**5.0000**		**1.5501**		**0.1439**	**0.0000**
Prefix	none		**%Fill**	**100**		**100**		**77.5044**			
Name	**actinolite**										
Modifier	none										
Group	**Calcic Amphibole**										

Sample # **041172-56-15558**

Values		**Satisfied Conditions**
(Ca,Na)@B	**1.55**	**(Ca,Na)@B >= 1 and Na@B < 0.5**
Na@B	**0.00**	**Ca@B >= 1.5 and (Na,K)@A < 0.5**
Ca@B	**1.55**	**(Mg/(Mg+Fe2))>= 0.5**
(Na,K)@A	**0.14**	**Si > 7.5**
Mg/(Mg+Fe2)	**0.87**	**(Mg/(Mg+Fe2))< 0.9**
Si	**7.84**	

Mineral Analysis Program (Version 5.0)

ACTINOLITE
[2 0 3]



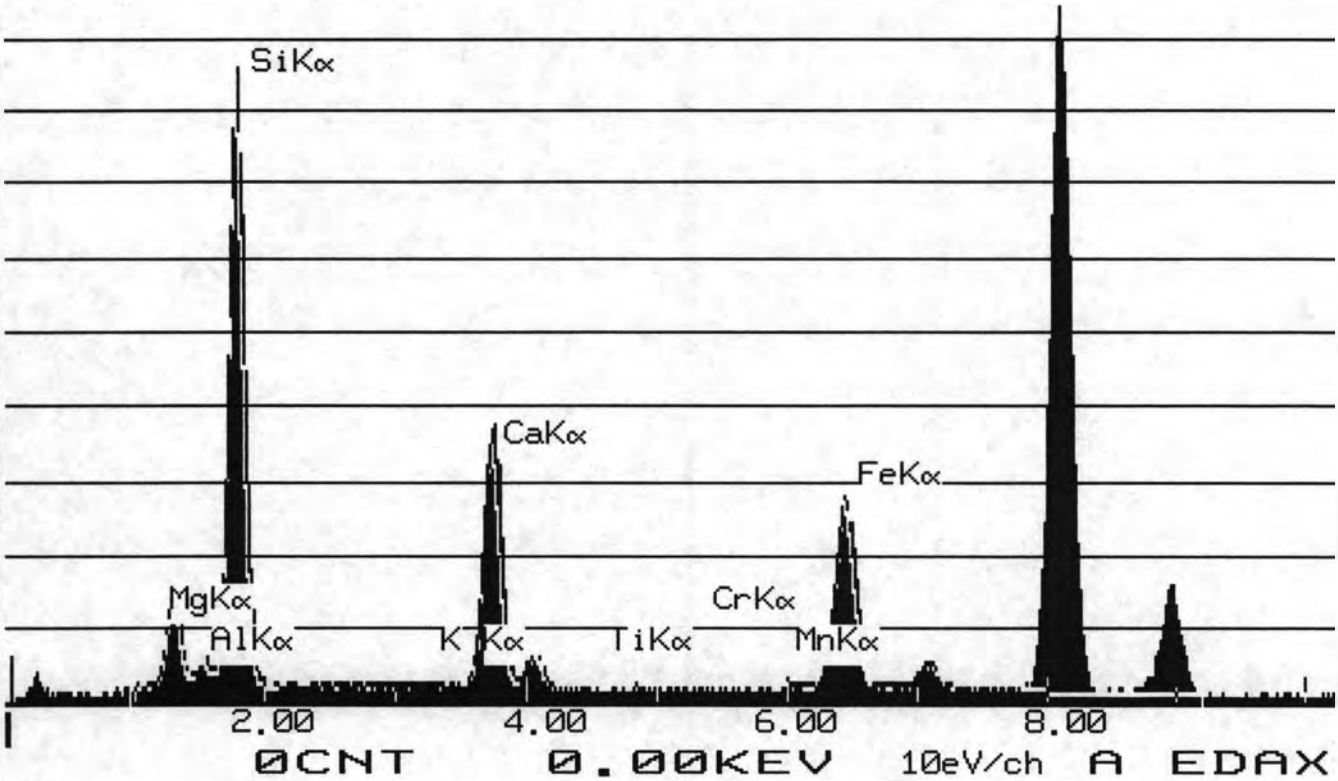
INTE-% :
LABEL = 041172-57 15533
09-DEC-72 21:54:11
55.746 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	37.402	6.584	10.917
ALK	7.462	0.789	1.491
SIK	248.753	24.628	52.687
CAK	123.543	11.661	16.317
FEK	103.685	13.001	18.589

TOTAL			100.000

USED PEIF: USER

08-DEC-04 21:55:06 SUPER QUANT
RATE= 1976CPS TIME= 56LSEC
FS= 1664/ 1664 PRST= 200LSEC
A =041172-57 15533



	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	52.687	Si+4	7.7006	7.7006							
Al2O3	1.491	Al+3	0.2568	0.2568	**0.0000**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	18.589	Fe+3	0.0204			0.0204	0.0000				
MgO	10.917	Mg+2	2.3788			2.3788	**0.0000**				
MnO	0	Fe+2	2.2491			2.2491	**0.0000**				
CaO	16.317	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	2.5550					2.0000	0.5550		
K2O	0	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0000							0.0000	0.0000
Total	**100.001**		**Excess**	T site	**0.0000**	C site	**0.0000**	B site	**0.5549623**	A site	**0**
			Total	**7.9574**		**4.6483**		**2.0000**		**0.0000**	**0.0000**
			%Fill	**99.468**		**92.9669**		**100**			

Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041172-57-15533**

Values		Satisfied Conditions
(Ca,Na)@B	2.00	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	2.00	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.00	Si > 7.5
Mg/(Mg+Fe2)	0.51	(Mg/(Mg+Fe2))< 0.9
Si	7.70	

Mineral Analysis Program (Version 5.0)

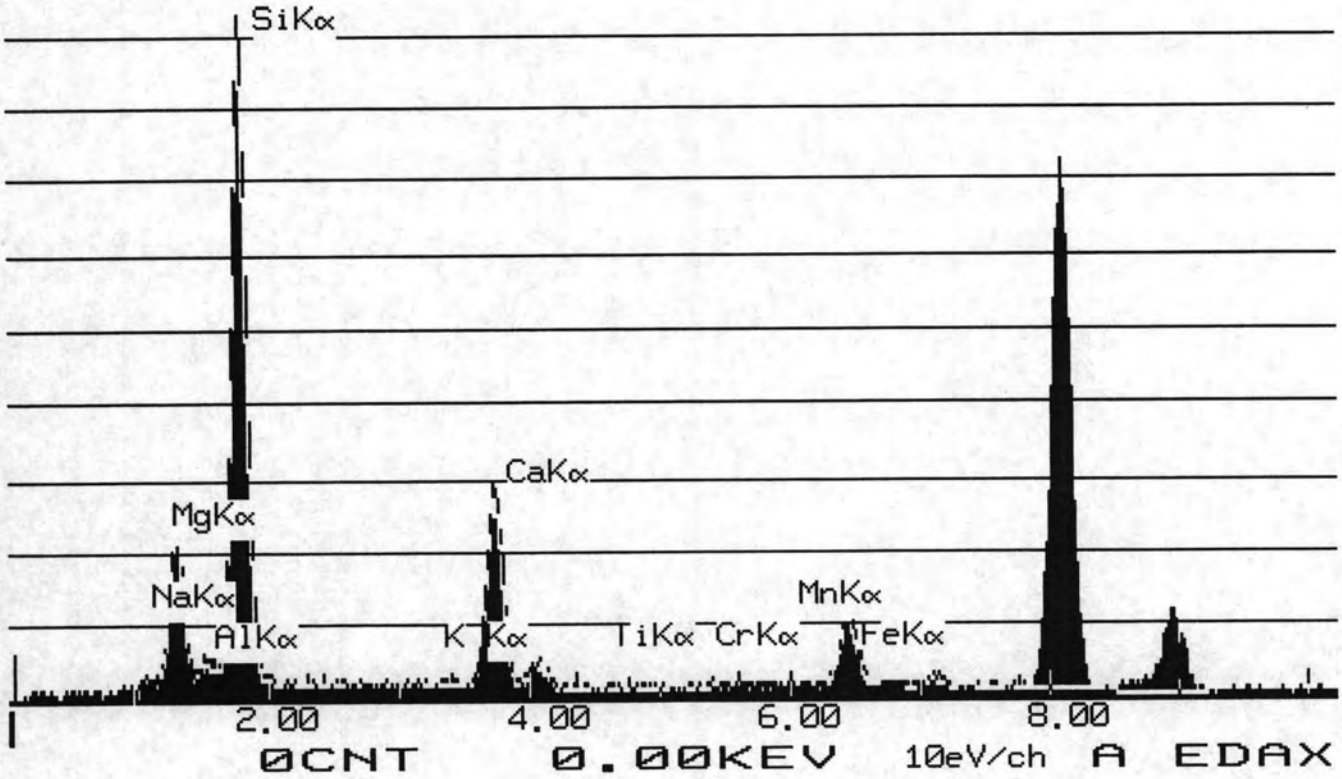
INTE-% :
LABEL = 041172-57 15535
09-DEC-72 22:36:27
42.727 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	27.032	11.747	19.478
ALK	2.387	0.623	1.177
SIK	112.834	27.577	58.997
K K	0.889	0.361	0.435
CAK	40.771	9.500	13.293
FEK	14.956	4.630	6.619

TOTAL			100.000

USED PEIF: USER

08-DEC-04 22:37:14 SUPER QUANT
RATE= 22CPS TIME= 42LSEC
FS= 533/ 533 PRST= 200LSEC
A =041172-57 15535



	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	58.977	Si+4	8.0000	8.0000							
Al2O3	1.177	Al+3	0.1905	0.0000	**0.1905**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	6.619	Fe+3	0.0080			0.0080	0.0000				
MgO	19.478	Mg+2	3.9534			3.9534	**0.0000**				
MnO	0	Fe+2	0.7478			0.7478	**0.0000**				
CaO	13.293	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	1.9400					1.9400	0.0000		
K2O	0.435	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0775							0.0775	0.0000
Total	**99.979**		**Excess**	T site	**0.1905**	C site	**0.0000**	B site	**0**	A site	**0**
			Total	**8**		**4.8997**		**1.9400**		**0.0775**	**0.0000**
			%Fill	**100**		**97.9946**		**96.9984**			

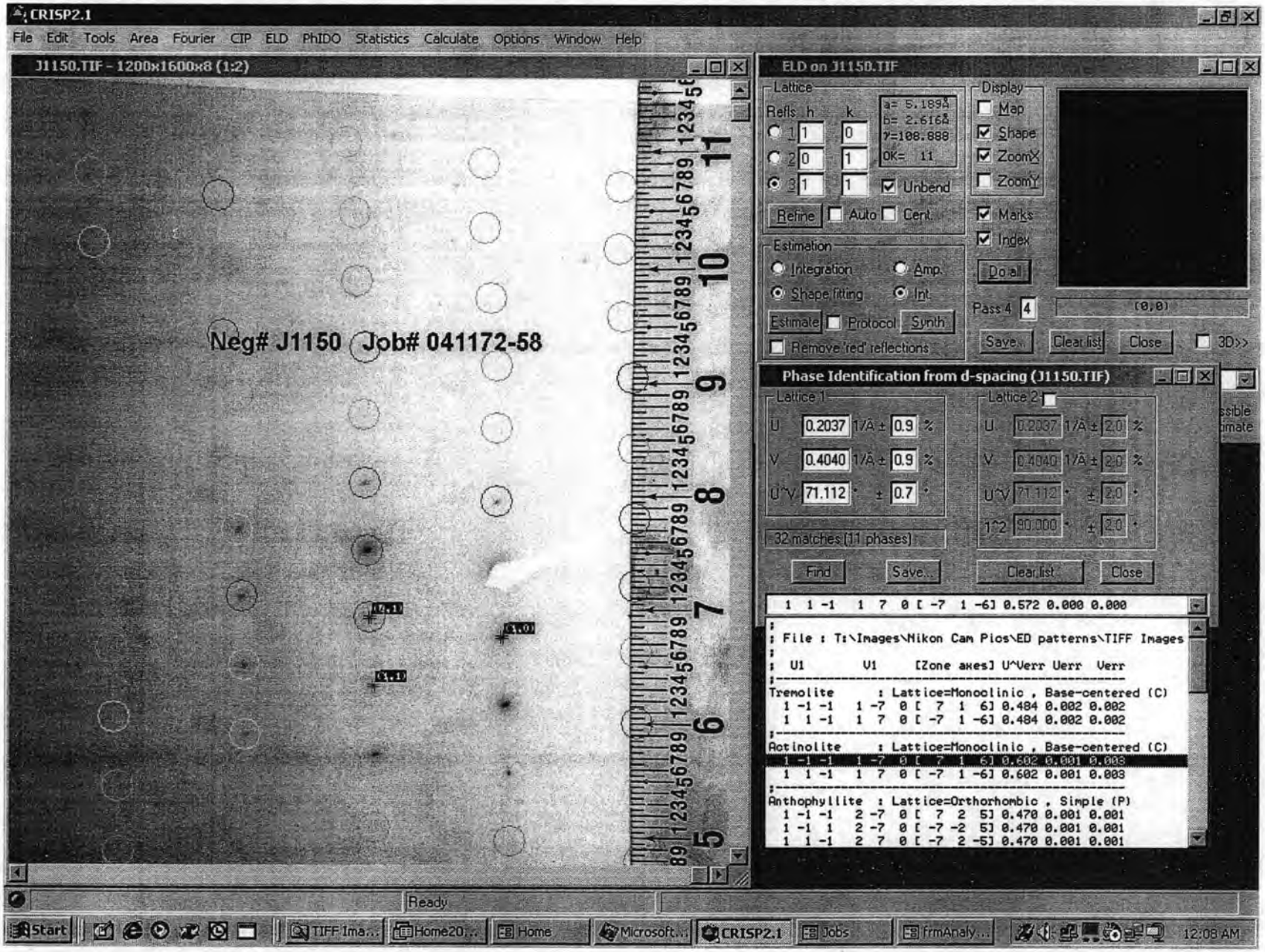
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041172-57-15535**

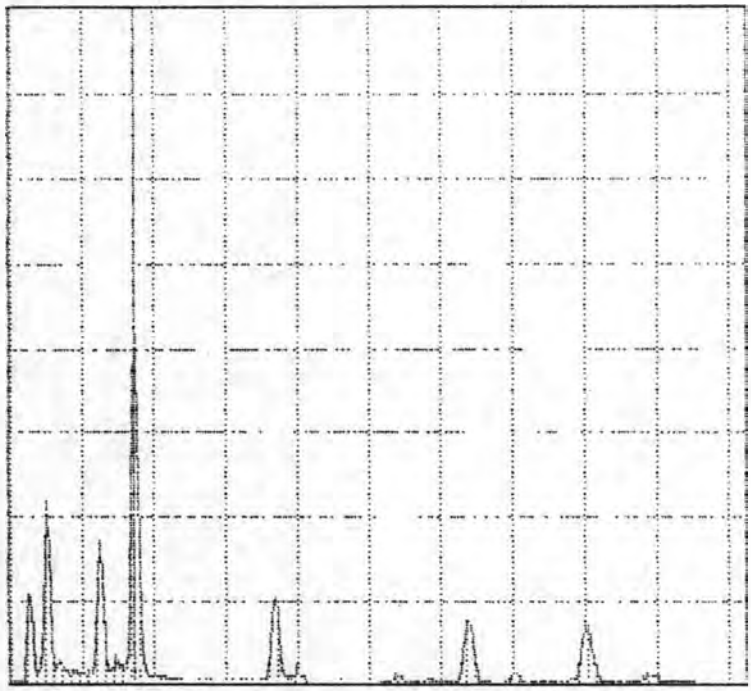
Values		Satisfied Conditions
(Ca,Na)@B	1.94	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.94	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.08	Si > 7.5
Mg/(Mg+Fe2)	0.84	(Mg/(Mg+Fe2))< 0.9
Si	8.00	

Mineral Analysis Program (Version 5.0)

Sample 041172-58
ACTINOLITE
[7 1 6]



TN-5500 University of Washington / JHU THU 09-DEC-04 13:34
Cursor: 1.720keV = 532 ROI (1) 0.000: 0.000



0.000 VFS = 1024 10.240

40 041172-58 SP 836

*X 'SQMTF'

SQMTF: QUANTIFY
Standardless Analysis

Refit _K K' _K K"
Refit _ALK' _ALK" _FEK" _NAK' _K K
Chi-sqd = 2.43

Element	Net Counts		
Si-K	6586	+/-	116
Mg-K	2222	+/-	110
Al-K	325	+/-	55
Ca-K	1822	+/-	83
Fe-K	1734	+/-	56
Na-K	183	+/-	60
K -K	0	+/-	0

REF.S EDS:SIK EDS:MGK EDS:ALK EDS:CAK EDS:FEK EDS:NAK
EDS:K K

041172-58 SP 836

EL-LINE	PEAK	K-FACTOR	CEL/CREF	ATOM%	EL WT%	WT%	FORMULA
SI-K	6586	1.000	1.000	21.01	22.02	57.89	SIO2
MG-K	2222	1.000	0.337	8.27	9.12	15.20	MGO
AL-K	325	0.750	0.037	0.81	1.00	1.89	AL2O3
CA-K	1822	0.949	0.263	3.87	7.10	9.94	CAO
FE-K	1734	1.399	0.369	3.87	9.96	14.23	FE2O3
NA-K	183	0.549	0.015	0.39	0.41	0.85	NA2O3
K-K	0	1.059	0.000	0.00	0.00	0.00	K2O
O			1.680	61.77	45.39		

1,30

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	57.89	Si+4	7.9935	7.9935							
Al2O3	1.89	Al+3	0.3076	0.0065	**0.3011**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	14.23	Fe+3	0.5027			0.5027	0.0000				
MgO	15.2	Mg+2	3.1290			3.1290	**0.0000**				
MnO	0	Fe+2	1.0844			1.0672	**0.0172**				
CaO	9.94	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0.85	Ca+2	1.4704					1.4704	0.0000		
K2O	0	Na+	0.2275					0.2275	**0.0000**	0.0000	0.0000
		K+	0.0000							0.0000	0.0000
Total	**100**		**Excess**	T site	**0.3011**	C site	**0.0172**	B site	**0**	A site	**0**
			Total	**8**		**5.0000**		**1.6980**		**0.0000**	**0.0000**
			%Fill	**100**		**100**		**84.8984**			

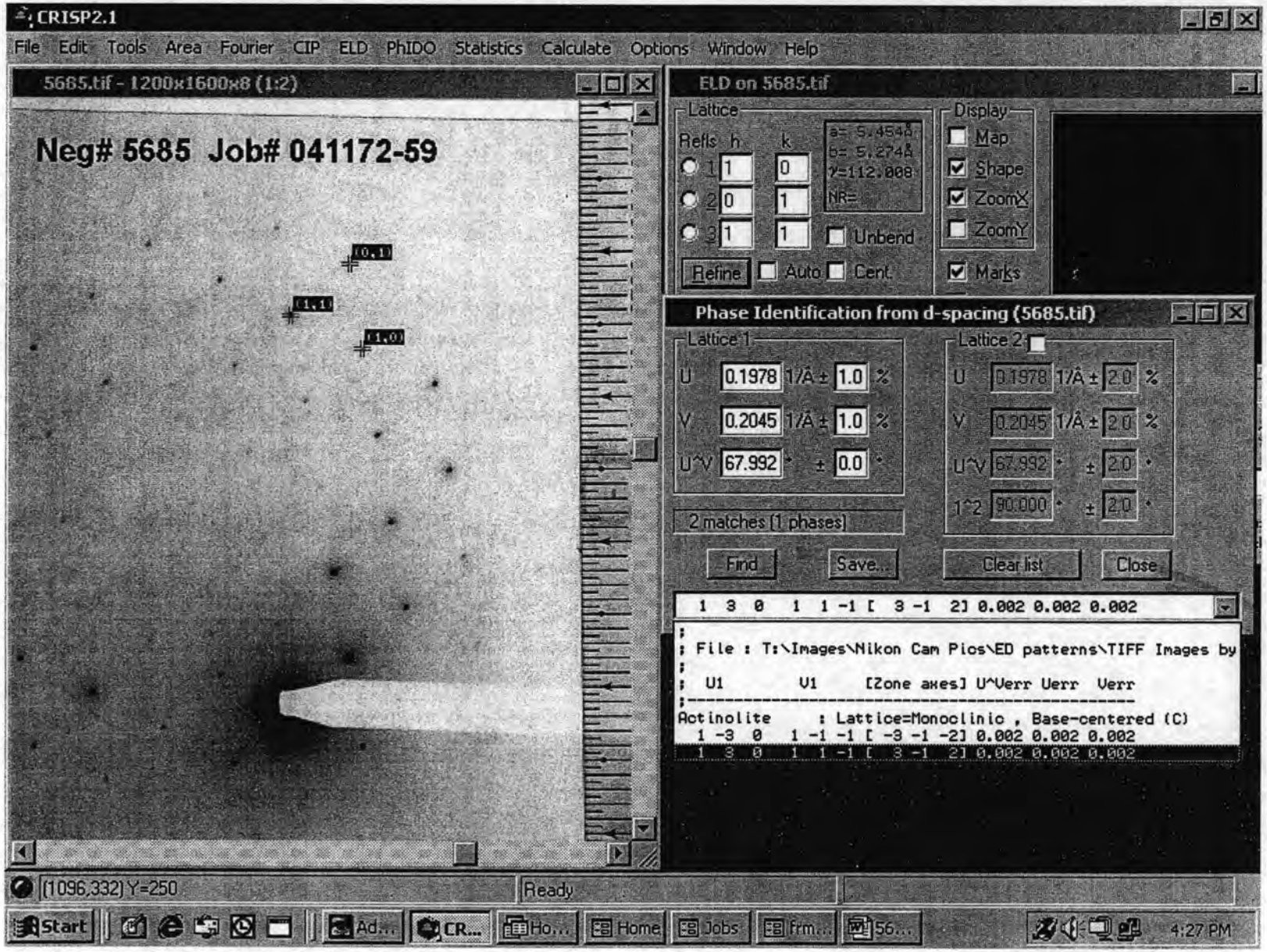
Prefix none
Name **probable actinolite Ca values below optimal levels**
Modifier none
Group **Calcic Amphibole**

Sample # **041172-58-836**

Values		**Satisfied Conditions**
(Ca,Na)@B	**1.70**	**(Ca,Na)@B >= 1 and Na@B < 0.5**
Na@B	**0.23**	**1 < Ca@B < 1.5 and (Na,K)@A < 0.5**
Ca@B	**1.47**	**(Mg/(Mg+Fe2))>= 0.5**
(Na,K)@A	**0.00**	**Si > 7.5**
Mg/(Mg+Fe2)	**0.74**	**(Mg/(Mg+Fe2))< 0.9**
Si	**7.99**	

Mineral Analysis Program (Version 5.0)

ACTINOLITE
[3 -1 2]



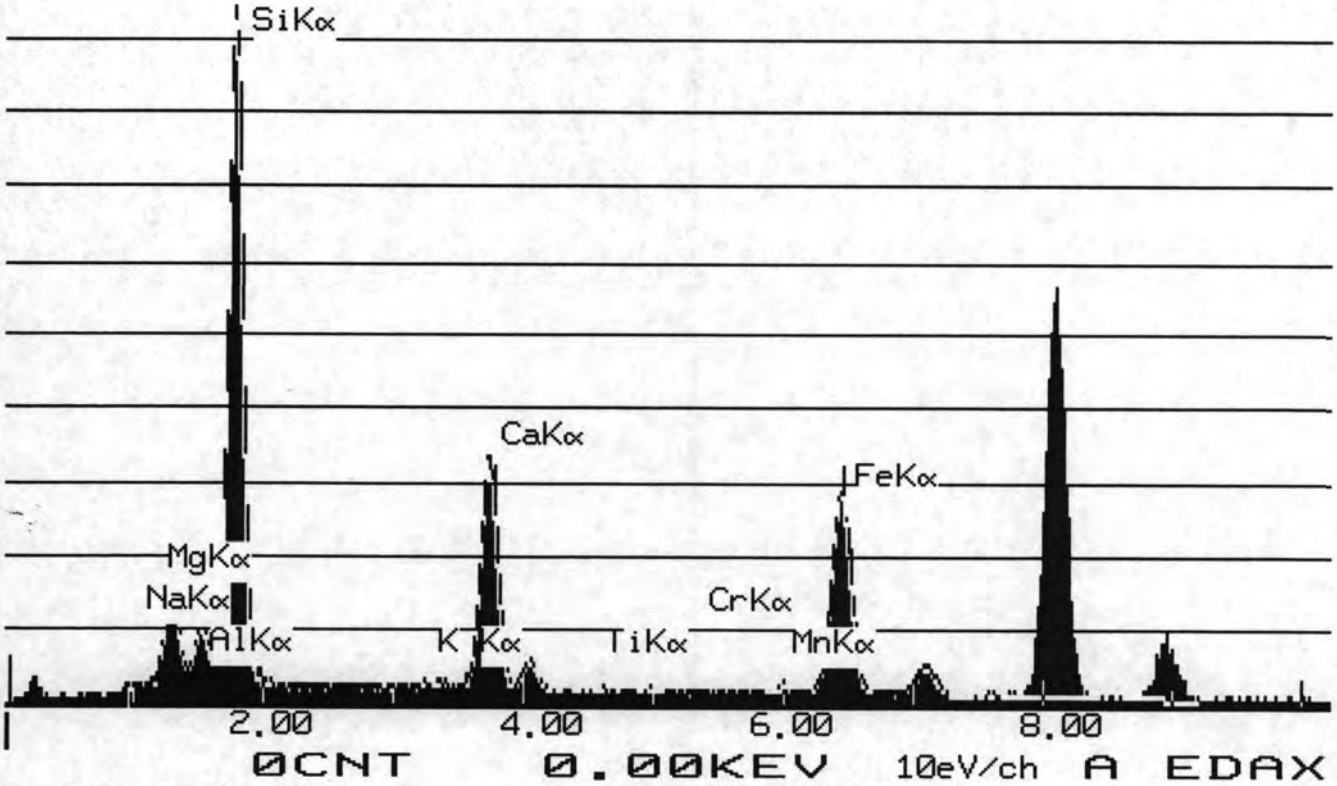
INTE-% :
LABEL = 041172-59 15537
10-DEC-72 02:15:18
80.374 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	20.330	6.637	11.005
ALK	11.036	2.164	4.089
SIK	134.696	24.733	52.912
K K	0.684	0.209	0.252
CAK	55.404	9.699	13.571
MNK	0.622	0.157	0.203
FEK	54.035	12.567	17.967

TOTAL			100.000

USED PEIF: USER

09-DEC-04 02:16:27 SUPER QUANT
RATE= 1016CPS TIME= 80LSEC
FS= 1138/ 1138 PRST= 200LSEC
A =041172-59 15537



	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	52.912	Si+4	7.6344	7.6344							
Al2O3	4.089	Al+3	0.6953	0.3656	**0.3297**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	17.967	Fe+3	0.0195			0.0195	0.0000				
MgO	11.005	Mg+2	2.3672			2.3672	**0.0000**				
MnO	0.203	Fe+2	2.1460			2.1460	**0.0000**				
CaO	13.571	Mn+2	0.0248			0.0248	**0.0000**				
Na2O	0	Ca+2	2.0978					2.0000	0.0978		
K2O	0.252	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0464							0.0464	0.0000
Total	**99.999**		**Excess**	T site	**0.3297**	C site	**0.0000**	B site	**0.0977558**	A site	**0**
			Total	**8**		**4.8872**		**2.0000**		**0.0464**	**0.0000**
			%Fill	**100**		**97.7449**		**100**			

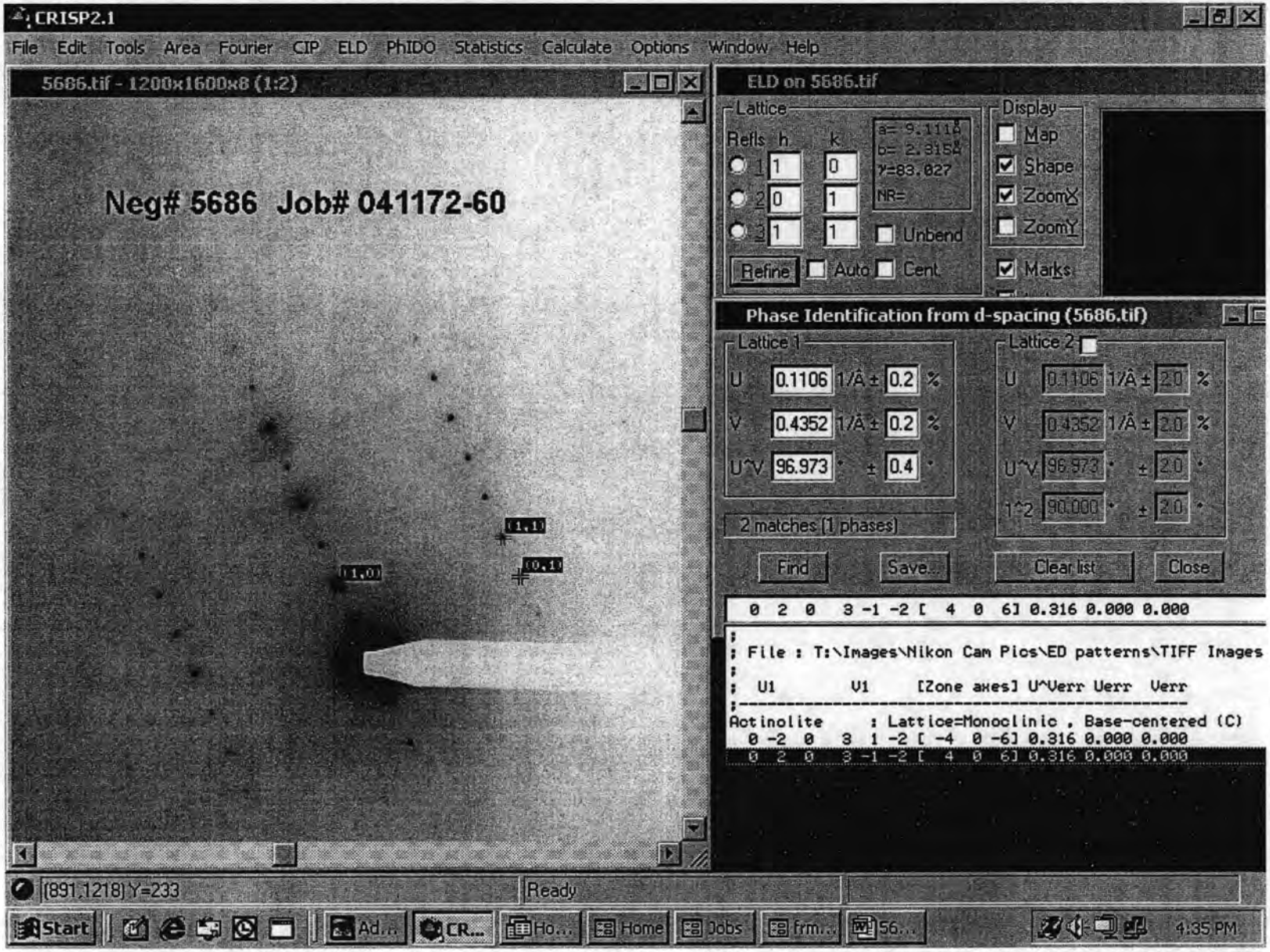
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # 041172-59-15537

Values		Satisfied Conditions
(Ca,Na)@B	2.00	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	2.00	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.05	Si > 7.5
Mg/(Mg+Fe2)	0.52	(Mg/(Mg+Fe2))< 0.9
Si	7.63	

Mineral Analysis Program (Version 5.0)

ACTINOLITE
[2 0 3]

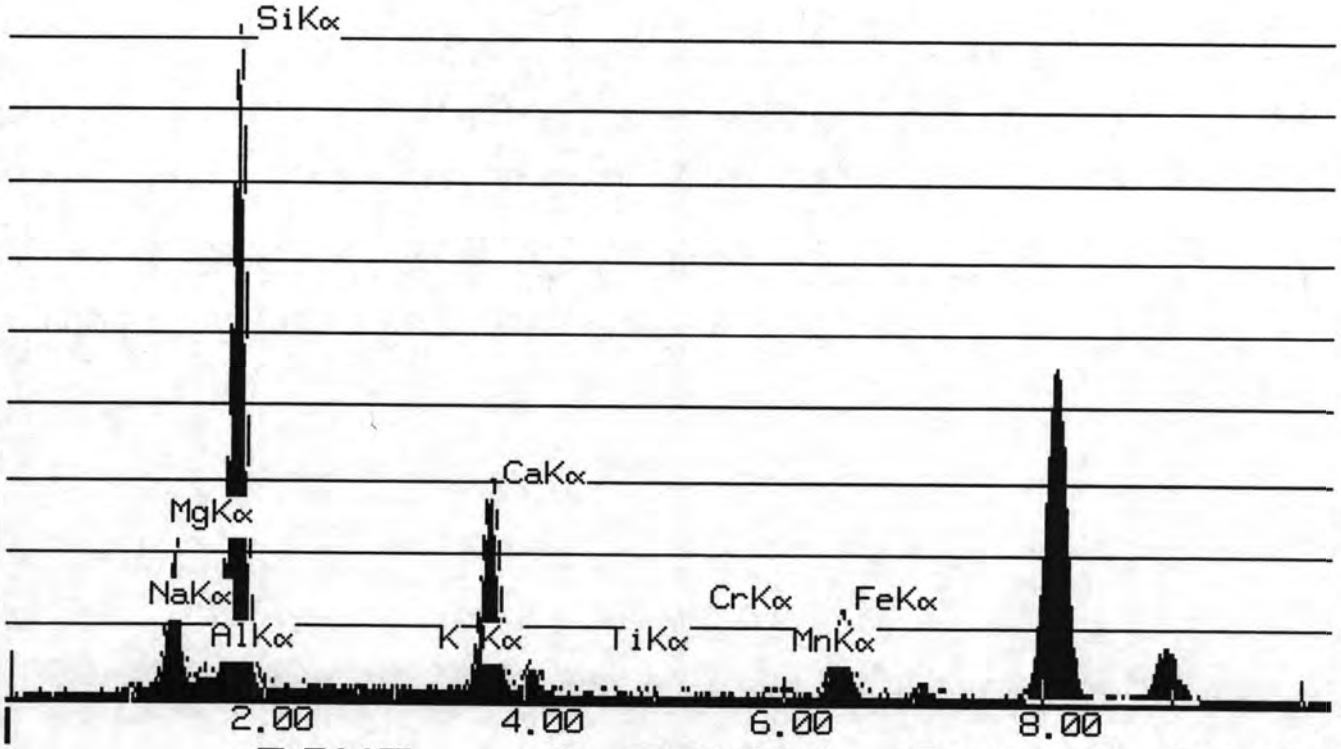


INTE-% :
LABEL = 041172-60 15538
10-DEC-72 02:34:55
44.053 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	49.803	11.062	18.342
ALK	3.496	0.466	0.881
SIK	218.417	27.285	58.373
CAK	86.078	10.252	14.345
MNK	0.567	0.098	0.126
FEK	35.071	5.549	7.934
TOTAL			100.000

USED PEIF: USER

09-DEC-04 02:36:08 SUPER QUANT
RATE= 2632CPS TIME= 44LSEC
FS= 1048/ 1048 PRST= 200LSEC
A =041172-60 15538



0CNT 0.00KEV 10eV/ch A EDAX

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	58.373	Si+4	8.0000	8.0000							
Al2O3	0.881	Al+3	0.1425	0.0000	**0.1425**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	7.934	Fe+3	0.0083			0.0083	0.0000				
MgO	18.342	Mg+2	3.7490			3.7490	**0.0000**				
MnO	0.126	Fe+2	0.9006			0.9006	**0.0000**				
CaO	14.345	Mn+2	0.0149			0.0149	**0.0000**				
Na2O	0	Ca+2	2.1071					2.0000	0.1071		
K2O	0	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0000							0.0000	0.0000
Total	**100.001**		**Excess**	T site	**0.1425**	C site	**0.0000**	B site	**0.1070885**	A site	**0**
			Total	**8**		**4.8154**		**2.0000**		**0.0000**	**0.0000**
			%Fill	**100**		**96.3078**		**100**			

Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041172-60-15538**

Values		Satisfied Conditions
(Ca,Na)@B	2.00	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	2.00	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.00	Si > 7.5
Mg/(Mg+Fe2)	0.81	(Mg/(Mg+Fe2))< 0.9
Si	8.00	

Mineral Analysis Program (Version 5.0)

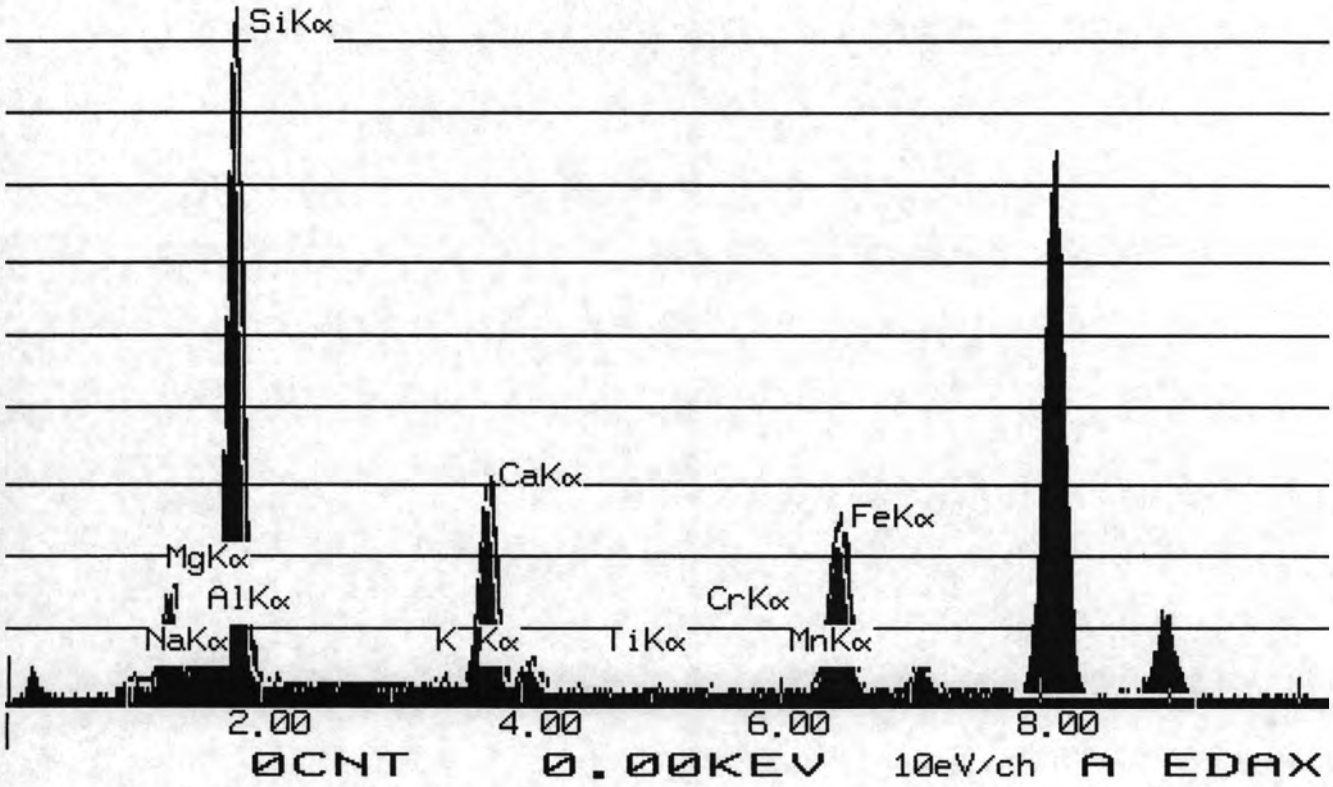
INTE-% :
LABEL = 041172-61 15539
10-DEC-72 04:16:37
24.450 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	59.469	6.914	11.464
ALK	23.395	1.634	3.087
SIK	400.130	26.164	55.975
K K	2.413	0.262	0.316
CAK	146.710	9.146	12.798
FEK	138.162	11.442	16.360

TOTAL			100.000

USED PEIF: USER

09-DEC-04 04:17:27 SUPER QUANT
RATE=****CPS TIME= 24LSEC
FS= 1057/ 1057 PRST= 200LSEC
A =041172-61 15539



	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	55.975	Si+4	7.9502	7.9502							
Al2O3	3.087	Al+3	0.5167	0.0498	**0.4669**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	16.36	Fe+3	0.0175			0.0175	0.0000				
MgO	11.464	Mg+2	2.4274			2.4274	**0.0000**				
MnO	0	Fe+2	1.9236			1.9236	**0.0000**				
CaO	12.798	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	1.9474					1.9474	0.0000		
K2O	0	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0000							0.0000	0.0000
Total	**99.684**		**Excess**	T site	**0.4669**	C site	**0.0000**	B site	**0**	A site	**0**
			Total	**8**		**4.8354**		**1.9474**		**0.0000**	**0.0000**
			%Fill	**100**		**96.7071**		**97.3682**			

Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

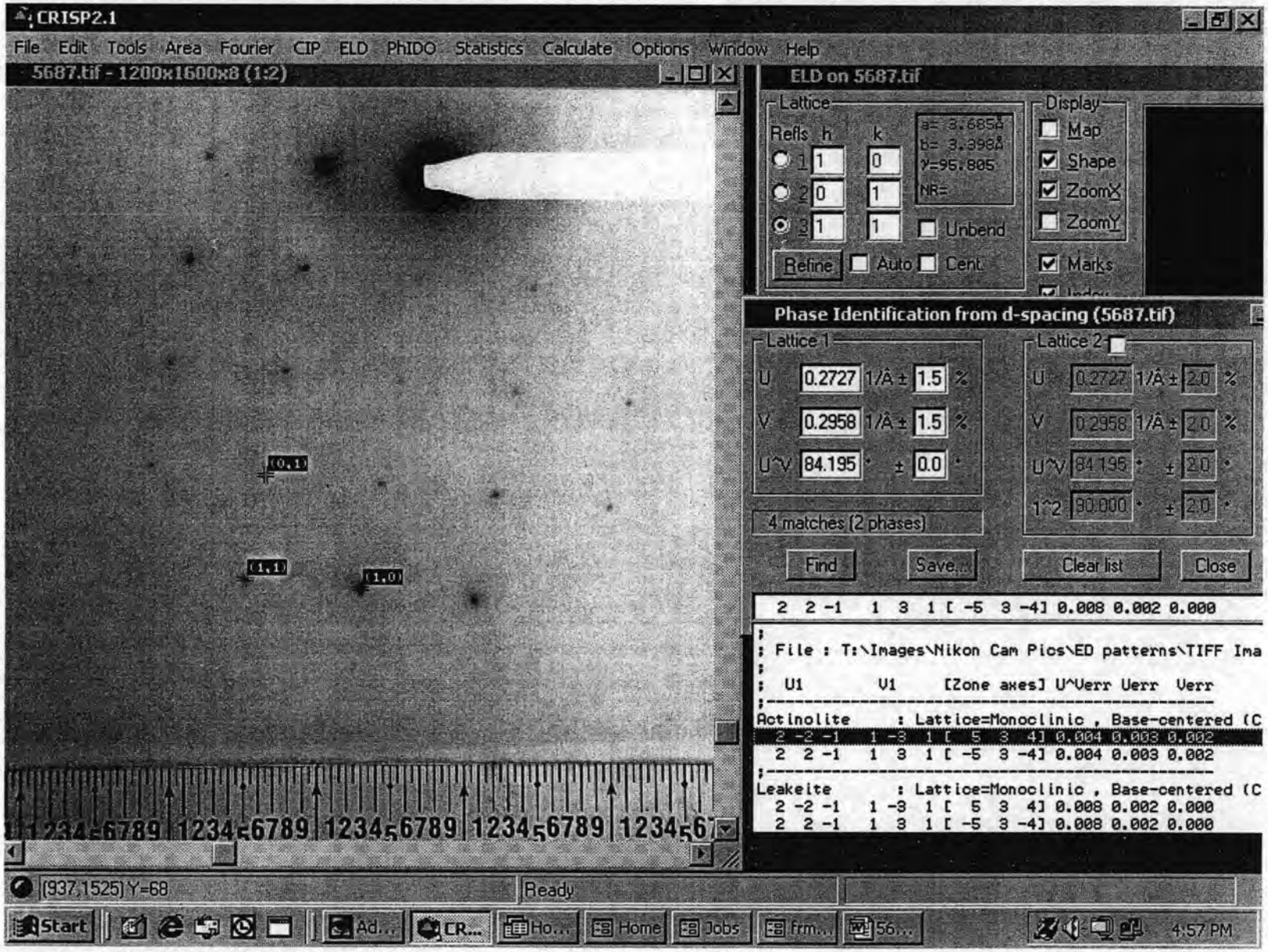
Sample # 041172-61-15539

Values		Satisfied Conditions
(Ca,Na)@B	1.95	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.95	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.00	Si > 7.5
Mg/(Mg+Fe2)	0.56	(Mg/(Mg+Fe2))< 0.9
Si	7.95	

Mineral Analysis Program (Version 5.0)

Materials Data, Inc. Materials Data, Inc. Materials Data, Inc.

ACTINOLITE
[5 3 4]
Neg# 5687, Job# 041172-61



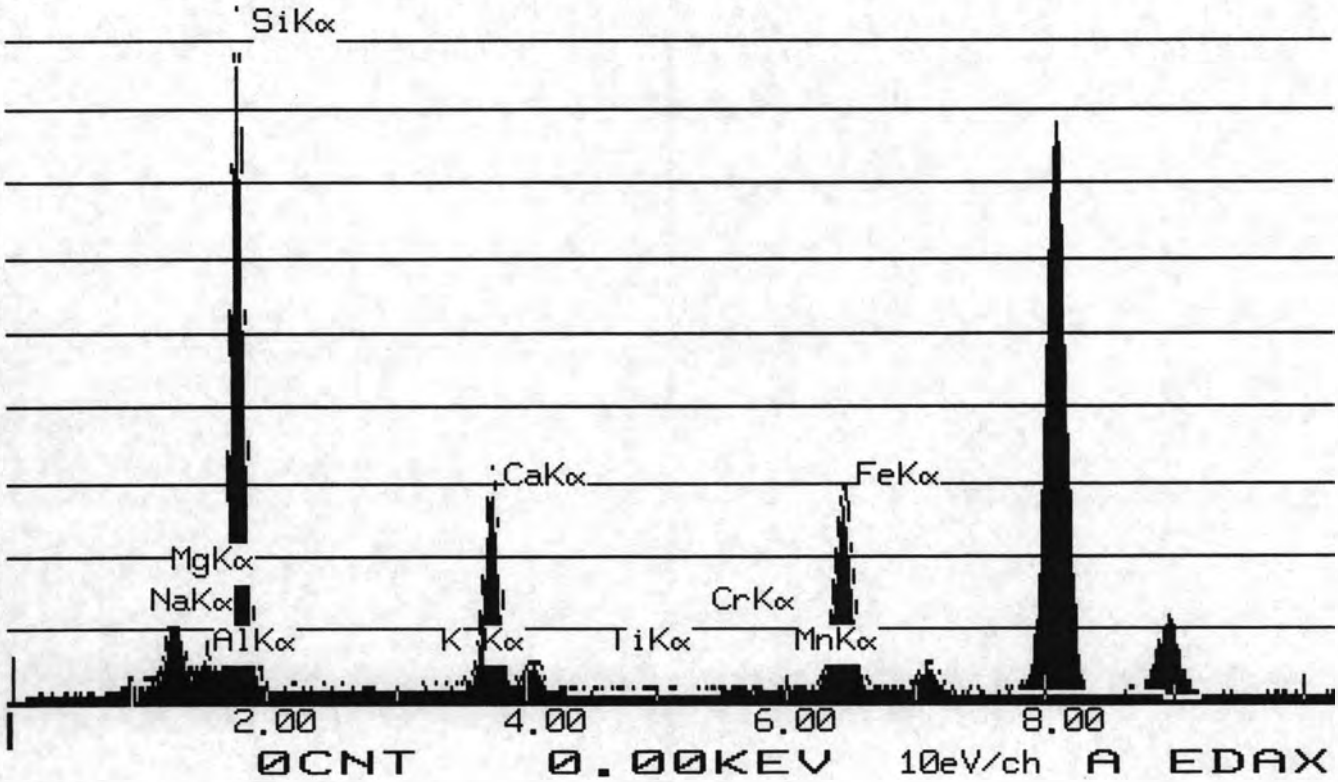
INTE-% :
LABEL = 041172-61 15540
10-DEC-72 05:04:31
33.331 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	54.604	6.817	11.303
ALK	12.811	0.961	1.815
SIK	364.914	25.621	54.813
CAK	141.789	9.492	13.281
MNK	0.750	0.072	0.094
FEK	147.040	13.076	18.695

TOTAL			100.000

USED PEIF: USER

09-DEC-04 05:05:26 SUPER QUANT
RATE= 2857CPS TIME= 33LSEC
FS= 1285/ 1285 PRST= 200LSEC
A =041172-61 15540



	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	54.813	Si+4	7.8951	7.8951							
Al2O3	1.815	Al+3	0.3081	0.1049	**0.2032**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	18.695	Fe+3	0.0203			0.0203	0.0000				
MgO	11.303	Mg+2	2.4271			2.4271	**0.0000**				
MnO	0.094	Fe+2	2.2292			2.2292	**0.0000**				
CaO	13.281	Mn+2	0.0115			0.0115	**0.0000**				
Na2O	0	Ca+2	2.0494					2.0000	0.0494		
K2O	0	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0000							0.0000	0.0000
Total	**100.001**		**Excess**	T site	**0.2032**	C site	**0.0000**	B site	**0.0494118**	A site	**0**
			Total	**8**		**4.8913**		**2.0000**		**0.0000**	**0.0000**
			%Fill	**100**		**97.8253**		**100**			

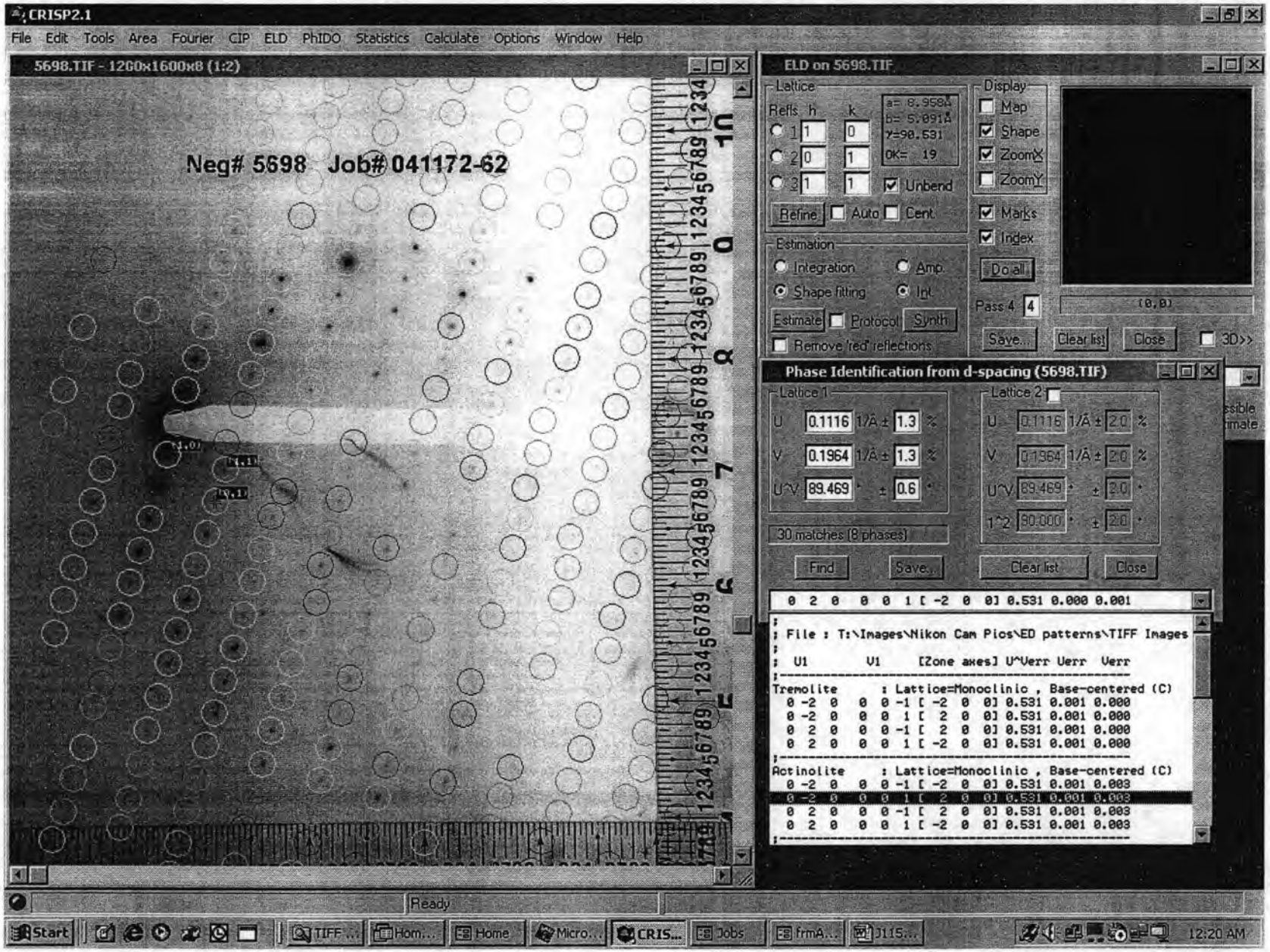
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # 041172-61-15540

Values		Satisfied Conditions
(Ca,Na)@B	2.00	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	2.00	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.00	Si > 7.5
Mg/(Mg+Fe2)	0.52	(Mg/(Mg+Fe2))< 0.9
Si	7.90	

Mineral Analysis Program (Version 5.0)

Sample 041172-62
ACTINOLITE
[1 0 0]



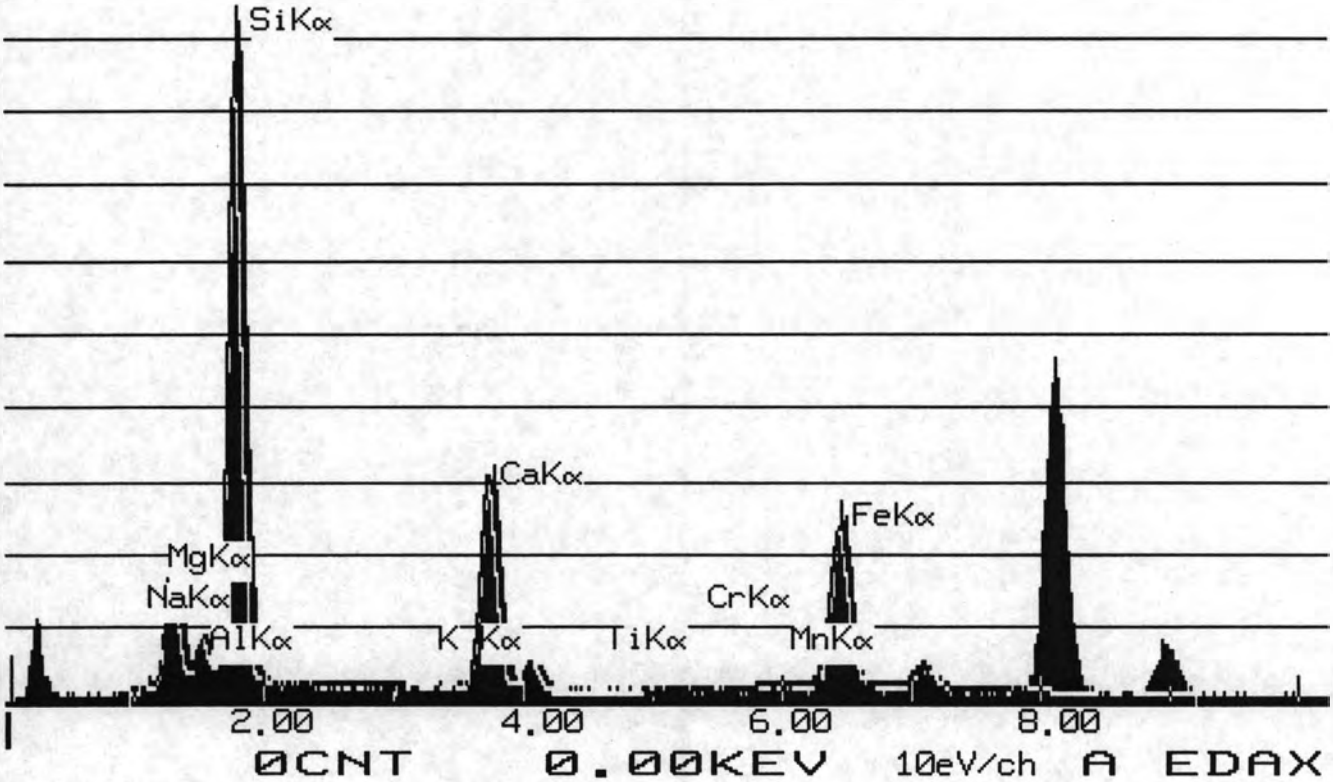
INTE-% :
LABEL = 041172-62 SP 15547
11-DEC-72 06:46:23
27.868 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
NAK	0.986	0.210	0.283
MGK	88.308	8.875	14.716
ALK	31.075	1.876	3.545
SIK	435.294	24.604	52.638
CAK	180.885	9.748	13.639
FEK	148.304	10.617	15.180

TOTAL			100.000

USED PEIF: USER

10-DEC-04 06:47:12 SUPER QUANT
RATE= 919CPS TIME= 28LSEC
FS= 1382/ 1382 PRST= 200LSEC
A =041172-62 SP 15547



	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	52.638	Si+4	7.5003	7.5003							
Al2O3	3.545	Al+3	0.5953	0.4997	**0.0956**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	15.18	Fe+3	0.1302			0.1302	0.0000				
MgO	14.716	Mg+2	3.1260			3.1260	**0.0000**				
MnO	0	Fe+2	1.6640			1.6481	**0.0158**				
CaO	13.639	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0.283	Ca+2	2.0820					1.9842	0.0978		
K2O	0	Na+	0.0782					0.0000	**0.0782**	0.0782	0.0000
		K+	0.0000							0.0000	0.0000
Total	**100.001**		**Excess**	T site	**0.0956**	C site	**0.0158**	B site	**0.1760191**	A site	**0**
			Total	**8**		**5.0000**		**1.9842**		**0.0782**	**0.0000**
			%Fill	**100**		**100**		**99.2089**			

Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # 041172-62-15547

Values		Satisfied Conditions
(Ca,Na)@B	1.98	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.98	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.08	Si > 7.5
Mg/(Mg+Fe2)	0.65	(Mg/(Mg+Fe2))< 0.9
Si	7.50	

Mineral Analysis Program (Version 5.0)

Refit _NAK' _NAK" _K K' _K K"
Refit _MGK" _ALK' _CAK" _NAK
Chi-sqd = 1.73

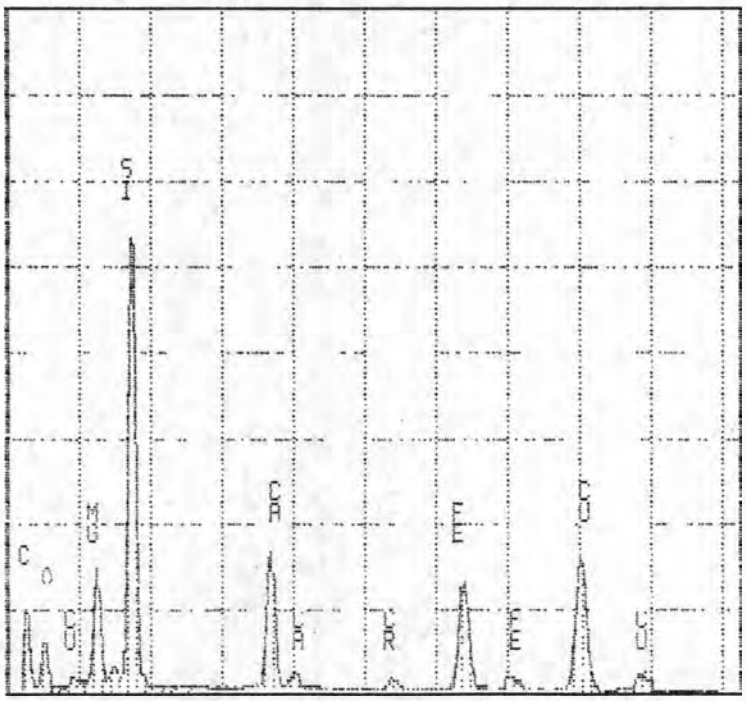
Element	Net Counts		
Si-K	8596	+/-	144
Mg-K	2097	+/-	66
Al-K	511	+/-	172
Ca-K	3258	+/-	68
Fe-K	3037	+/-	109
Na-K	0	+/-	0
K -K	56	+/-	25

K REF.S EDS:SIK EDS:MGK EDS:ALK EDS:CAK EDS:FEK EDS:NAK EDS:

041172-65 839

EL-LINE	PEAK	K-FACTOR	CFL/CREF	ATOM%	FI WT%	WT%	FORMULA
SI-K	8596	1.000	1.000	20.77	25.95	55.61	SIO2
MG-K	2097	1.000	0.244	5.91	6.33	10.56	MGO
AL-K	511	0.750	0.045	0.96	1.16	2.19	AL2O3
CA-K	3258	0.949	0.360	5.23	9.34	13.08	CAO
FE-K	3037	1.399	0.495	5.14	12.84	18.34	FE2O3
NA-K	0	0.549	0.000	0.00	0.00	0.00	NA2O3
K-K	56	1.059	0.007	0.10	0.18	0.22	K2O
O			1.703	61.88	44.19		

TN-5400 University of Washington / JHU FRI 10-OCT-04 20:21
Cursor: 0.000keV = 0 ROI (1) 0 0MM: 0 000



63 041172-65 839

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	55.61	Si+4	7.9751	7.9751							
Al2O3	2.19	Al+3	0.3701	0.0249	**0.3453**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	18.34	Fe+3	0.0198			0.0198	0.0000				
MgO	10.56	Mg+2	2.2577			2.2577	**0.0000**				
MnO	0	Fe+2	2.1773			2.1773	**0.0000**				
CaO	13.08	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	2.0096					2.0000	0.0096		
K2O	0.22	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0402							0.0402	0.0000
Total	**100**		**Excess**	T site	**0.3453**	C site	**0.0000**	B site	**0.0096268**	A site	**0**
			Total	**8**		**4.8001**		**2.0000**		**0.0402**	**0.0000**
			%Fill	**100**		**96.0028**		**100**			

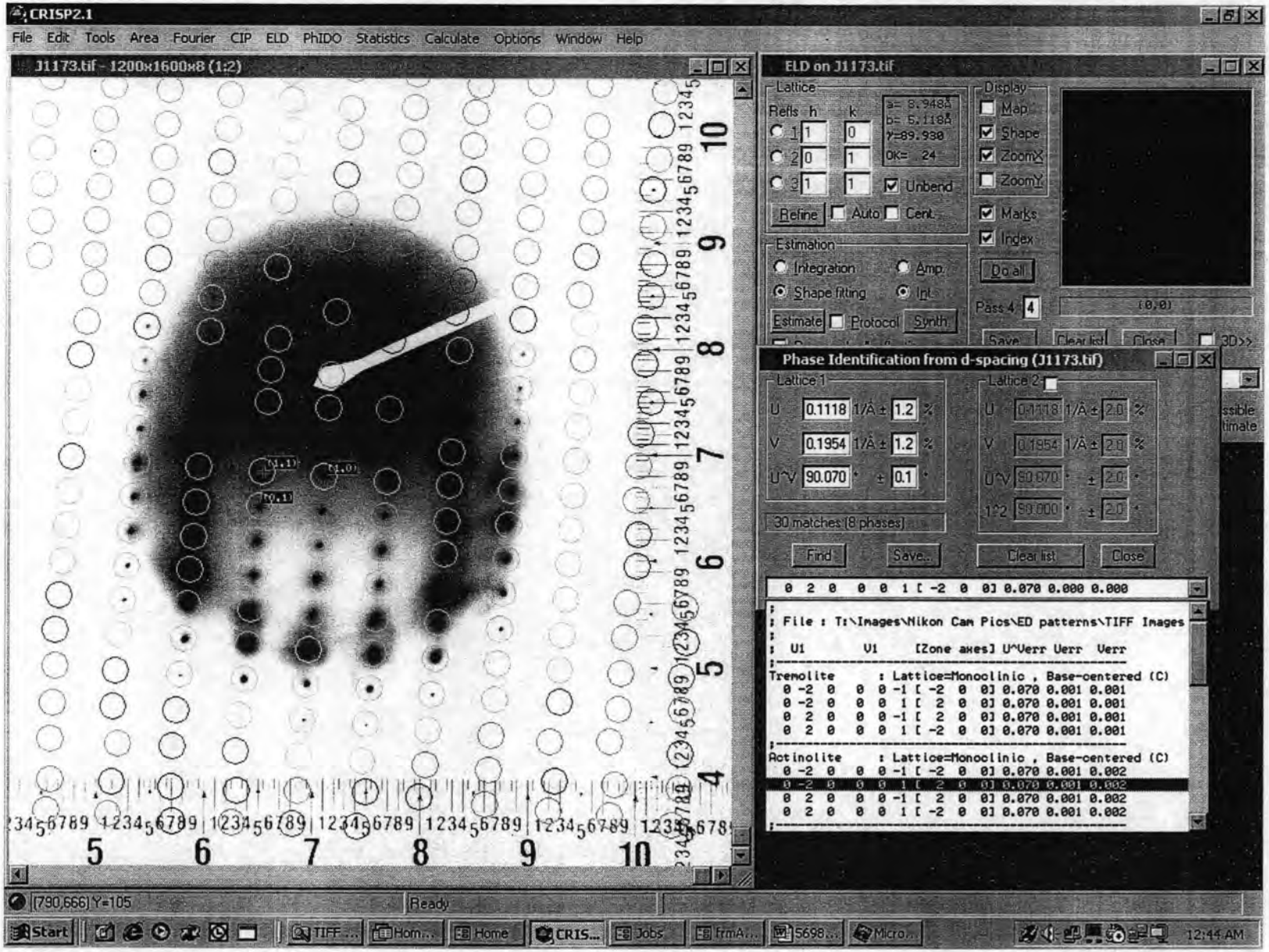
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041172-65-839**

Values		Satisfied Conditions
(Ca,Na)@B	2.00	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	2.00	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.04	Si > 7.5
Mg/(Mg+Fe2)	0.51	(Mg/(Mg+Fe2))< 0.9
Si	7.98	

Mineral Analysis Program (Version 5.0)

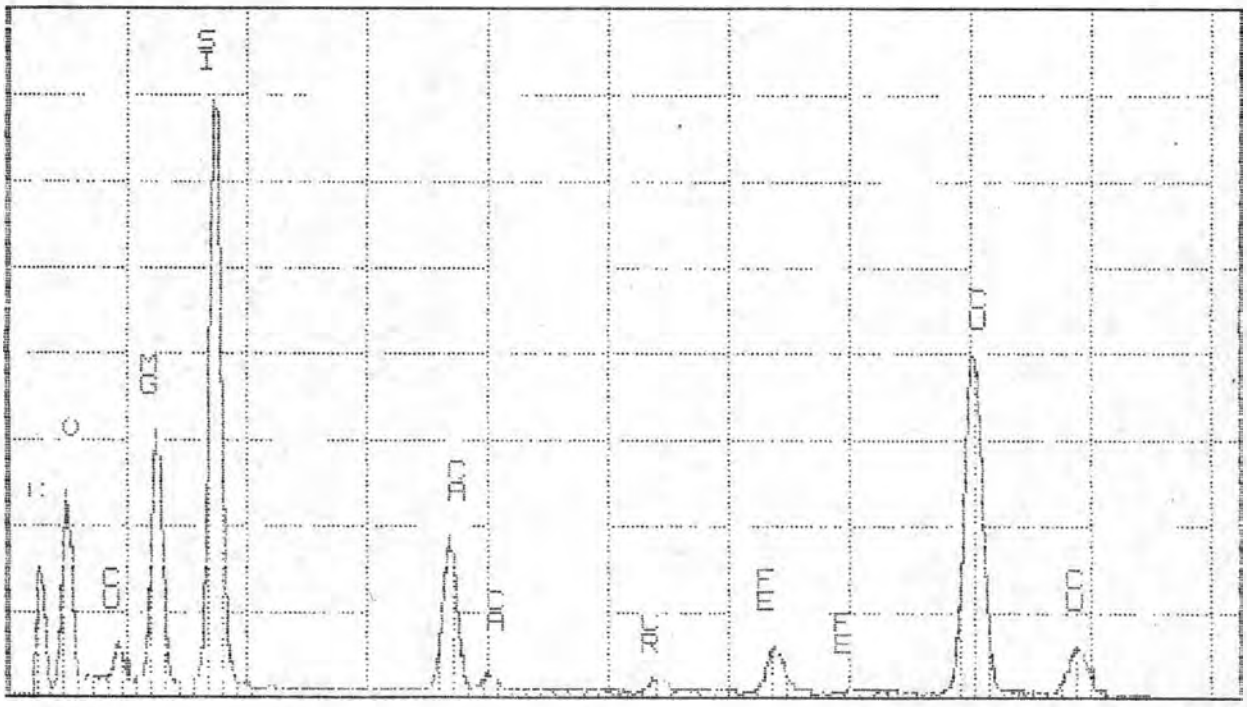
Sample 041172-65
Neg #1173
ACTINOLITE
[1 0 0]



```
*
*X 'SQMTF'
SQMTF -3B/80
*X 'SQMTF'
SQMTF: QUANTIFY
Standardless Analysis
TN-FLEXTRAN [TN-B]

Refit _ALK' _ALK" _NAK' _NAK" _K K' _K K"
Refit _ALK  _CAK" _FEK" _NAK
Refit _MGK"
Chi-sqd = 10.77

Element          Net Counts
  Si-K          21341 +/-   200
  Mg-K           9072 +/-    95
 Al-K              0 +/-     0
  Ca-K           7179 +/-   103
 Fe-K           2429 +/-    79
  Na-K              0 +/-     0
 K -K             50 +/-    38


REF.S  EDS:SIK    EDS:MGK    EDS:ALK    EDS:CAK    EDS:FEK    EDS:NAK
 EDS:K K

041172-65 SP859

EL-LINE   PEAK  K-FACTOR   CEL/CREF  ATOM%  EL WT%    WT%  FORMULA
 SI-K    21341    1.000      1.000   21.55   28.33   60.71  SIO2
MG-K     9072    1.000      0.425   10.69   12.04   20.07  MGO
 AL-K       0    0.750      0.000    0.00    0.00    0.00  AL2O3
CA-K     7179    0.949      0.320    4.82    9.06   12.68  CAO
 FE-K    2429    1.399      0.159    1.72    4.52    6.45  FE2O3
NA-K       0    0.549      0.000    0.00    0.00    0.00  NA2O3
 K-K      50    1.059      0.002    0.04    0.07    0.09  K2O
O                          1.623   61.19   45.98
```

TN-5500 University of Washington / JEOL WED 15-DEC-04 21:08

Cursor: 0.000KeV = 0



0.000 VFS = 2048 10.240

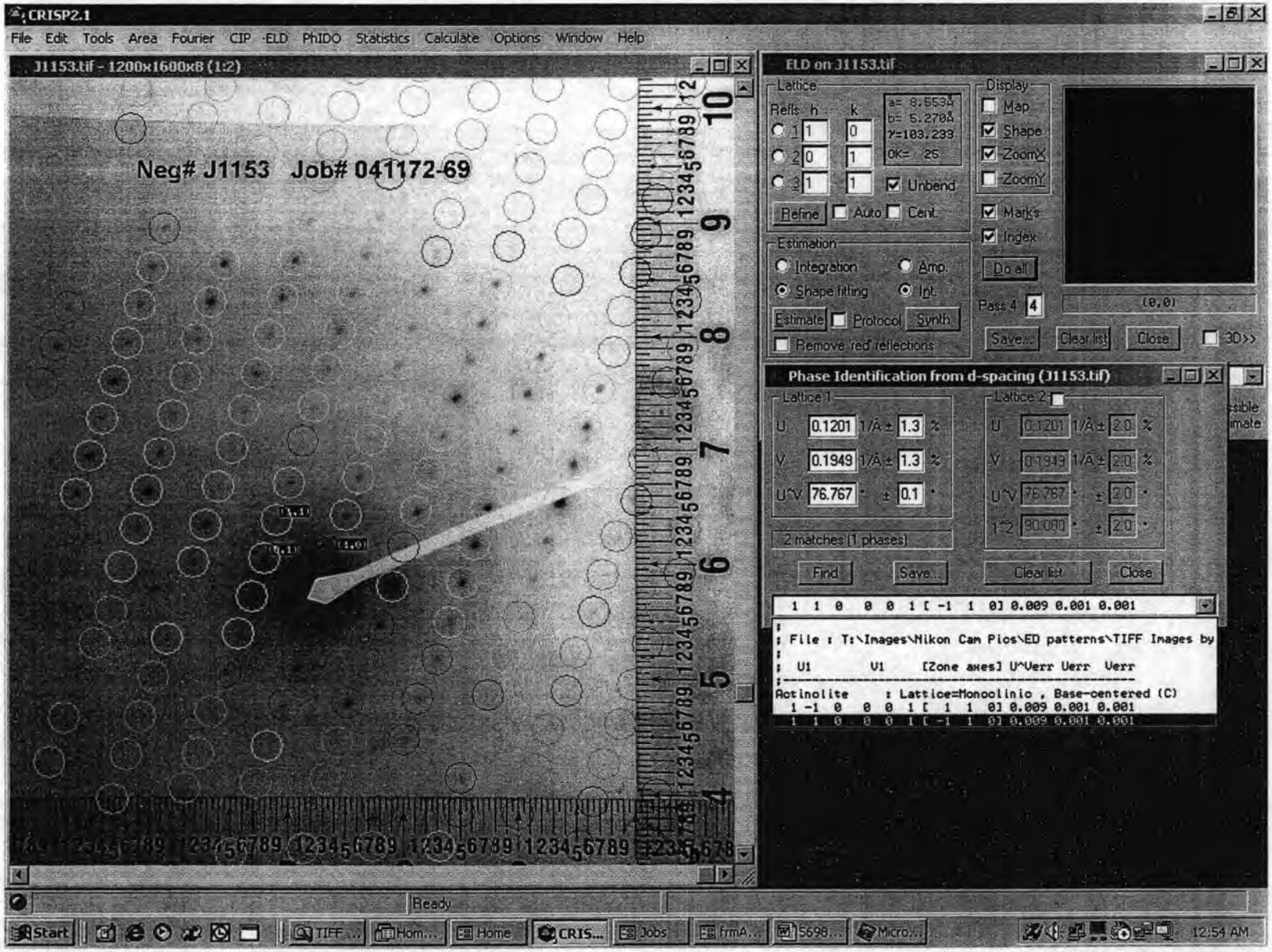
	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	60.71	Si+4	8.0000	8.0000							
Al2O3	0	Al+3	0.0000	0.0000	**0.0000**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	6.45	Fe+3	0.0212			0.0212	0.0000				
MgO	20.07	Mg+2	4.0968			4.0968	**0.0000**				
MnO	0	Fe+2	0.7533			0.7533	**0.0000**				
CaO	12.68	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	1.8753					1.8753	0.0000		
K2O	0.09	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0403							0.0403	0.0000
Total	**100**		**Excess**	T site	**0.0000**	C site	**0.0000**	B site	**0**	A site	**0**
			Total	**8**		**4.8712**		**1.8753**		**0.0403**	**0.0000**
Prefix	none		**%Fill**	**100**		**97.4249**		**93.7673**			
Name	**actinolite**										
Modifier	none										
Group	**Calcic Amphibole**										

Sample # **041172-65-859**

Values		**Satisfied Conditions**
(Ca,Na)@B	**1.88**	**(Ca,Na)@B >= 1 and Na@B < 0.5**
Na@B	**0.00**	**Ca@B >= 1.5 and (Na,K)@A < 0.5**
Ca@B	**1.88**	**(Mg/(Mg+Fe2))>= 0.5**
(Na,K)@A	**0.04**	**Si > 7.5**
Mg/(Mg+Fe2)	**0.84**	**(Mg/(Mg+Fe2))< 0.9**
Si	**8.00**	

Mineral Analysis Program (Version 5.0)

Sample 041172-69
Neg #1153
ACTINOLITE
[1 1 0]



TN-5600 University of Washington / JEOL SAT 11-DEC-04 12:52
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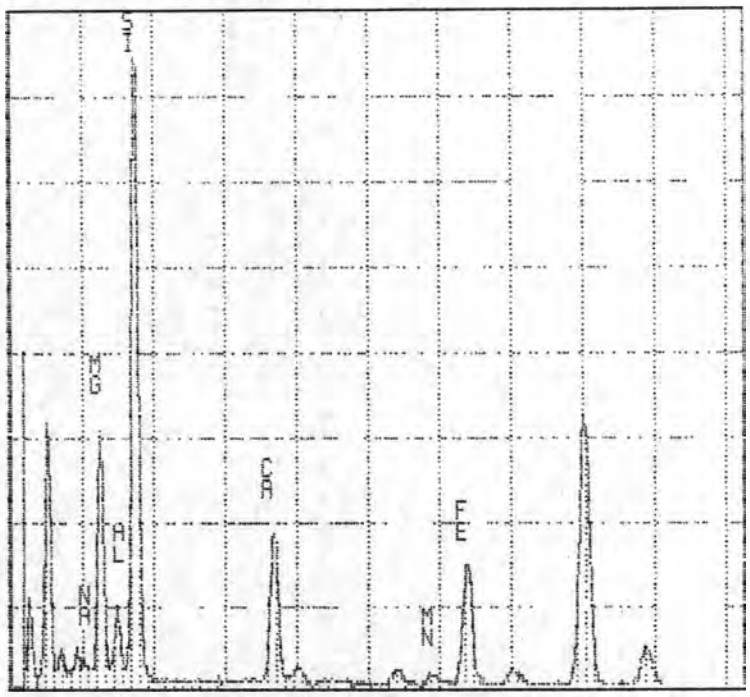


0 EXEC(7-C) DATA LABEL

```
TN FLEXTRAN [13-B]
*Z\ZX 'SQMTF'
 SQMTF -3B/80

SQMTF: QUANTIFY
 Standardless Analysis

Refit _NAK' _NAK"
 Refit _ALK' _ALK" _NAK
Chi-sqd = 4.13

 Element          Net Counts
  Si-K          11017 +/-   153
  Mg-K           3680 +/-   123
  Al-K           1136 +/-    78
  Ca-K           3427 +/-   117
  Fe-K           3251 +/-   111
  Na-K              0 +/-     0
  K -K            114 +/-    64


REF.S  EDS:SIK    EDS:MGK    EDS:ALK    EDS:CAK    EDS:FEK    EDS:NAK
  EDS:K K

041172-69 SP 842

EL-LINE   PEAK  K-FACTOR   CEL/CREF  ATOM%  EL WT%    WT%  FORMULA
 SI-K    11017    1.000      1.000   20.32   25.89   55.47  SIO2
MG-K     3680     1.000      0.334    7.92    8.65   14.41  MGO
 AL-K     1136    0.750      0.077    1.63    2.00    3.78  AL2O3
CA-K     3427     0.949      0.296    4.20    7.65   10.71  CAO
 FE-K    3251     1.399      0.413    4.20   10.70   15.28  FE2O3
NA-K        0     0.549      0.000    0.00    0.00    0.00  NA2O3
 K-K      114     1.059      0.011    0.16    0.29    0.34  K2O
O                           1.732   61.57   44.83
```

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	55.47	Si+4	7.7112	7.7112							
Al2O3	3.78	Al+3	0.6193	0.2888	**0.3304**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	15.28	Fe+3	0.6713			0.6713	0.0000				
MgO	14.41	Mg+2	2.9864			2.9864	**0.0000**				
MnO	0	Fe+2	1.0302			1.0118	**0.0184**				
CaO	10.71	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	1.5950					1.5950	0.0000		
K2O	0.34	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0603							0.0603	0.0000
Total	**99.99**		**Excess**	T site	**0.3304**	C site	**0.0184**	B site	**0**	A site	**0**
			Total	**8**		**5.0000**		**1.5950**		**0.0603**	**0.0000**
			%Fill	**100**		**100**		**79.7523**			

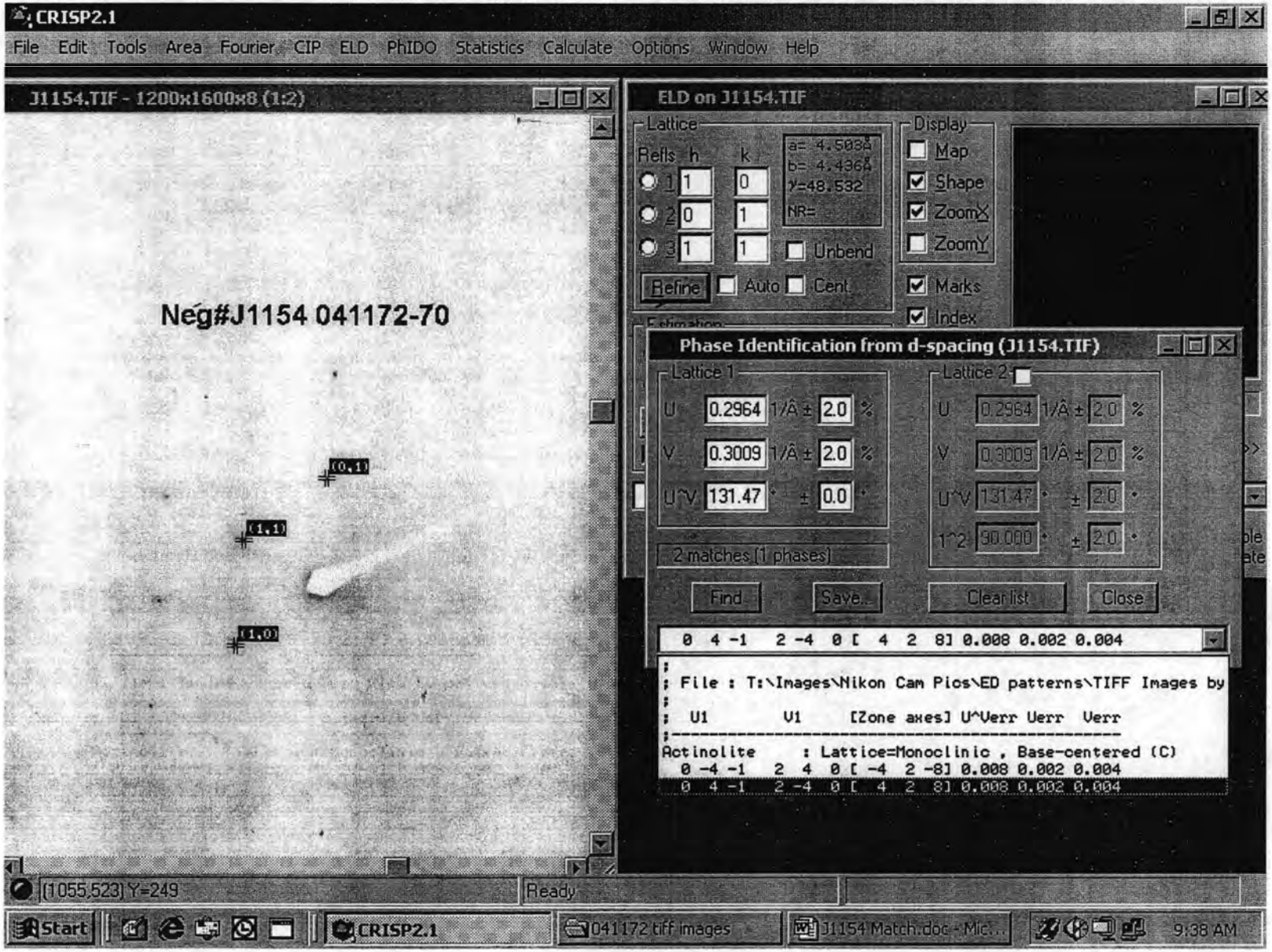
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # 041172-69-842

Values		Satisfied Conditions
(Ca,Na)@B	1.60	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.60	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.06	Si > 7.5
Mg/(Mg+Fe2)	0.74	(Mg/(Mg+Fe2))< 0.9
Si	7.71	

Mineral Analysis Program (Version 5.0)

Neg#J1154; Sample# 041172-70
ACTINOLITE
[2 1 4]



TN-5500 University of Washington / JEOL SAT 11-DEC-04 16:08

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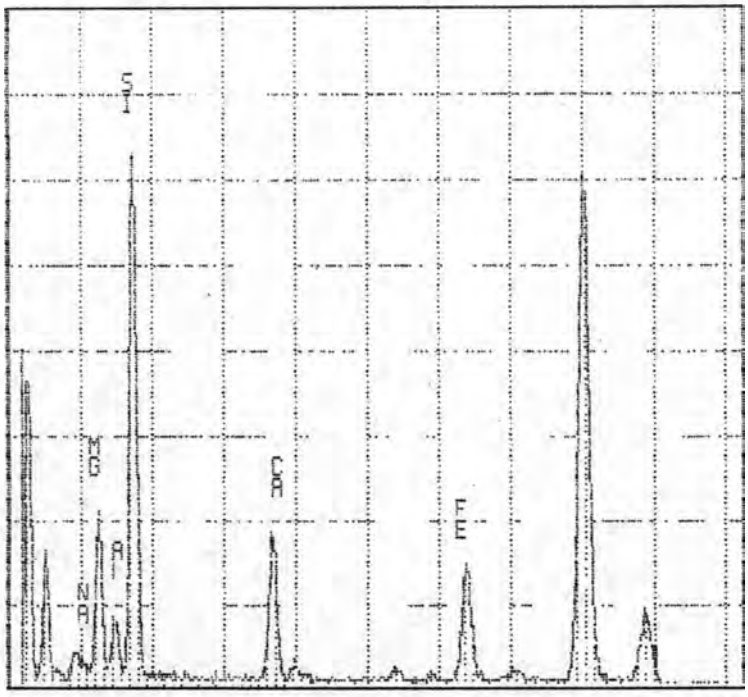


0.000 B- 5 VFS = 512 10.240

47 041172-70 SP 843

*X]\][\!'W\WSQN\NN\NMR\RTD\DF'

SQMTF: QUANTIFY
Standardless Analysis

Refit _NAK' _NAK" _K K' _K K"
Refit _FEK" _NAK _K K
Refit _MGK" _ALK" _CAK"
Chi-sqd = 2.41

Element	Net Counts		
Si-K	4746	+/-	112
Mg-K	1395	+/-	45
Al-K	568	+/-	43
Ca-K	1643	+/-	49
Fe-K	1474	+/-	57
Na-K	0	+/-	0
K -K	0	+/-	0

REF.S EDS:SIK EDS:MGK EDS:ALK EDS:CAK EDS:FEK EDS:NAK
EDS:K K

041172-70 SP 843

EL-LINE	PEAK	K-FACTOR	CEL/CREF	ATOM%	EL WT%	WT%	FORMULA
SI-K	4746	1.000	1.000	20.31	25.74	55.16	SIO2
MG-K	1395	1.000	0.294	6.97	7.57	12.62	MGO
AL-K	568	0.750	0.090	1.89	2.31	4.37	AL2O3
CA-K	1643	0.949	0.329	4.68	8.47	11.86	CAO
FE-K	1474	1.399	0.435	4.42	11.19	15.99	FE2O3
NA-K	0	0.549	0.000	0.00	0.00	0.00	NA2O3
K-K	0	1.059	0.000	0.00	0.00	0.00	K2O
O			1.737	61.73	44.71		

1,30

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	55.16	Si+4	7.7708	7.7708							
Al2O3	4.37	Al+3	0.7255	0.2292	**0.4963**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	15.99	Fe+3	0.1187			0.1187	0.0000				
MgO	12.62	Mg+2	2.6505			2.6505	**0.0000**				
MnO	0	Fe+2	1.7518			1.7346	**0.0172**				
CaO	11.86	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	1.7900					1.7900	0.0000		
K2O	0	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0000							0.0000	0.0000
Total	**100**		**Excess**	T site	**0.4963**	C site	**0.0172**	B site	**0**	A site	**0**
			Total	**8**		**5.0000**		**1.7900**		**0.0000**	**0.0000**
			%Fill	**100**		**100**		**89.4986**			

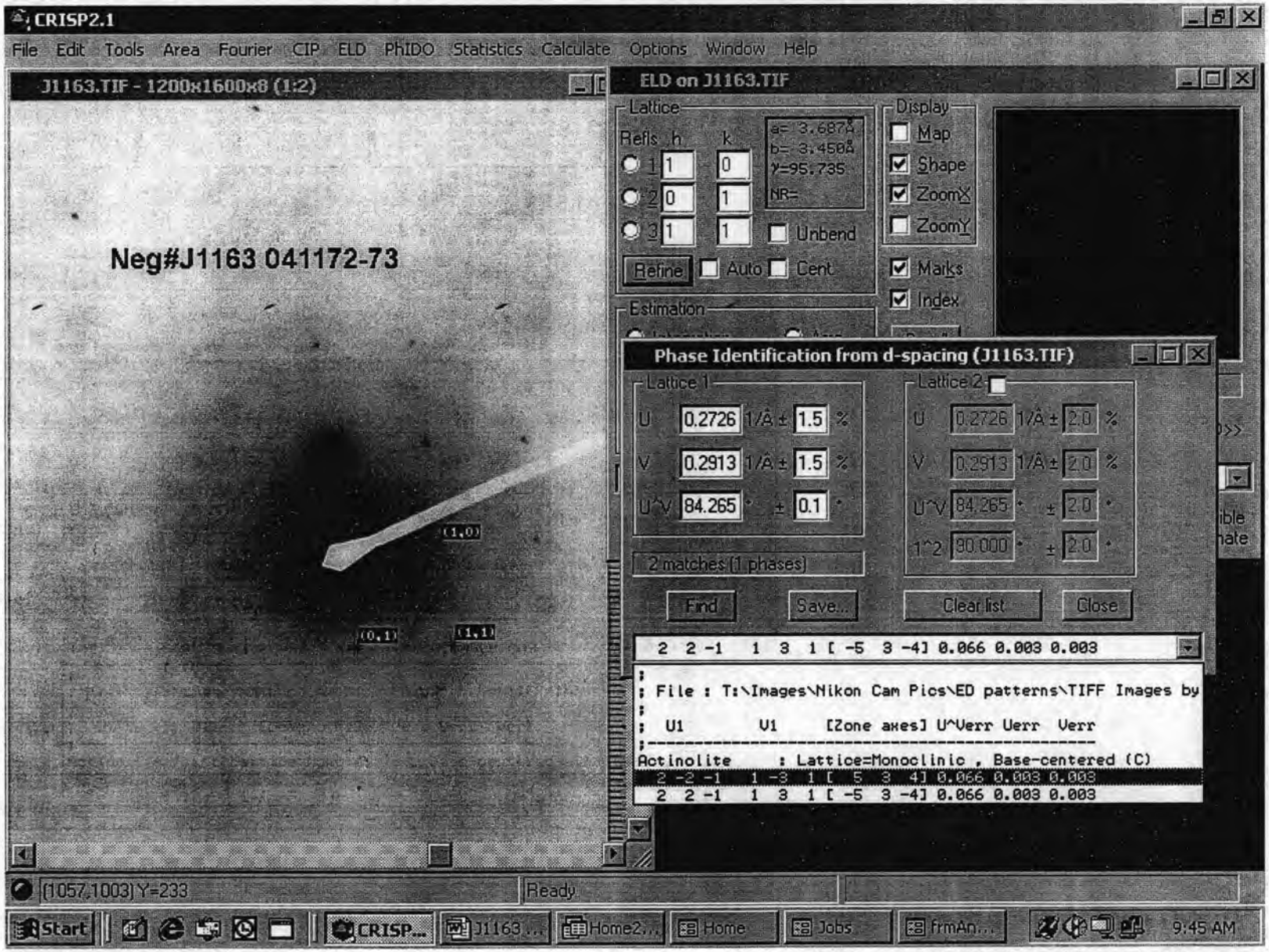
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041172-70-843**

Values		Satisfied Conditions
(Ca,Na)@B	1.79	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.79	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.00	Si > 7.5
Mg/(Mg+Fe2)	0.60	(Mg/(Mg+Fe2))< 0.9
Si	7.77	

Mineral Analysis Program (Version 5.0)

Neg#J1163; Sample# 041172-73
ACTINOLITE
[5 3 4]



TN-5500 University of Washington / JEOL MON 13-DEC-04 10:33
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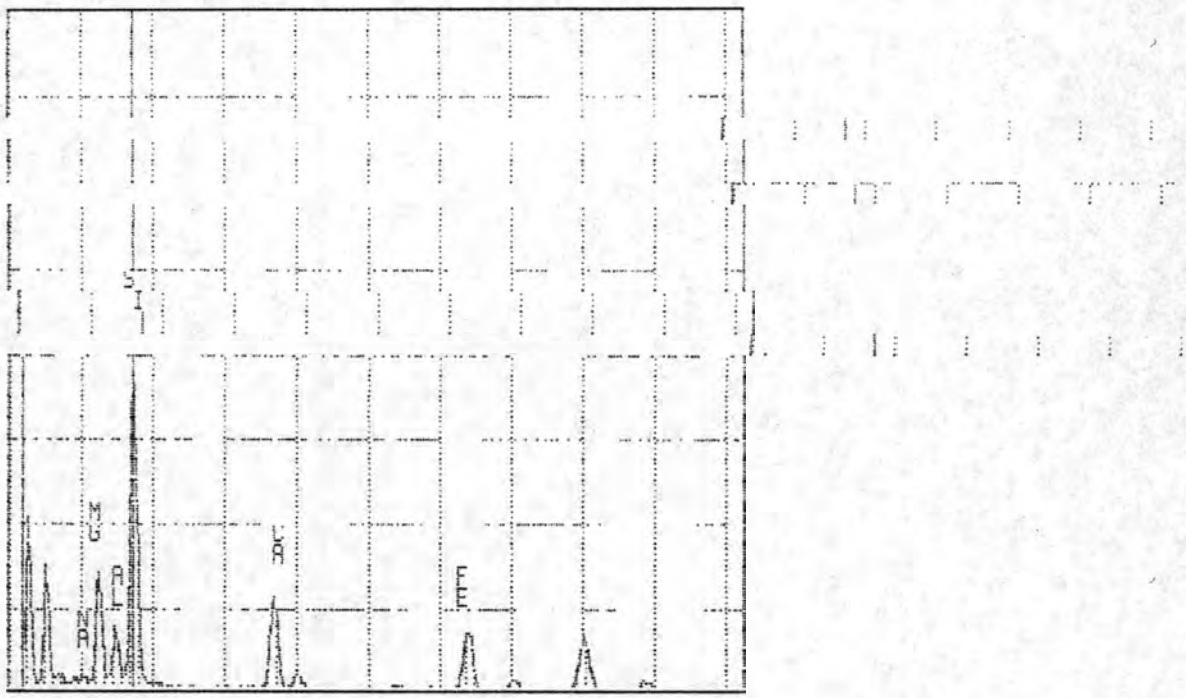


0 000 R- 5 VFS = 2048 10 240
68 041172-73 SP 852

TN FLEXTRAN [13-B]
*X SQMTF

SQMTF: QUANTITY
Quantitative Analysis
SQMTF -3B/80
Chi-sqd = 2.86

Element	Net Counts		
Si-K	11274	+/-	206
Mg-K	3645	+/-	213
Al-K	1895	+/-	269
Ca-K	4078	+/-	125
Fe-K	3245	+/-	108
Na-K	405	+/-	110
K -K	120	+/-	67

REF.S EDS:SIK EDS:MGK EDS:ALK EDS:CAK EDS:FEK EDS:NAK
EDS:K K

041172-73 SP 852

EL-LINE	PEAK	K-FACTOR	CEL/CREF	ATOM%	EL WT%	WT%	FORMULA
SI-K	11274	1.000	1.000	19.46	24.81	53.16	SIO2
MG-K	3645	1.000	0.323	7.34	8.02	13.37	MGO
AL-K	1895	0.750	0.126	2.54	3.13	5.91	AL2O3
CA-K	4078	0.949	0.344	4.68	8.53	11.94	CAO
FE-K	3245	1.399	0.403	3.92	10.00	14.28	FE2O3
NA-K	405	0.549	0.020	0.47	0.49	1.00	NA2O3
K-K	120	1.059	0.011	0.16	0.28	0.34	K2O
O			1.804	61.42	44.75		

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	53.16	Si+4	7.5129	7.5129							
Al2O3	5.91	Al+3	0.9843	0.4871	**0.4973**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	14.28	Fe+3	0.0456			0.0456	0.0000				
MgO	13.37	Mg+2	2.8170			2.8170	**0.0000**				
MnO	0	Fe+2	1.6369			1.6369	**0.0000**				
CaO	11.94	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	1	Ca+2	1.8078					1.8078	0.0000		
K2O	0.34	Na+	0.2740					0.1922	**0.0818**	0.0818	0.0000
		K+	0.0613							0.0613	0.0000
Total	**100**		**Excess**	T site	**0.4973**	C site	**0.0000**	B site	**0.0817882**	A site	**0**
			Total	**8**		**4.9967**		**2.0000**		**0.1431**	**0.0000**
			%Fill	**100**		**99.9338**		**100**			

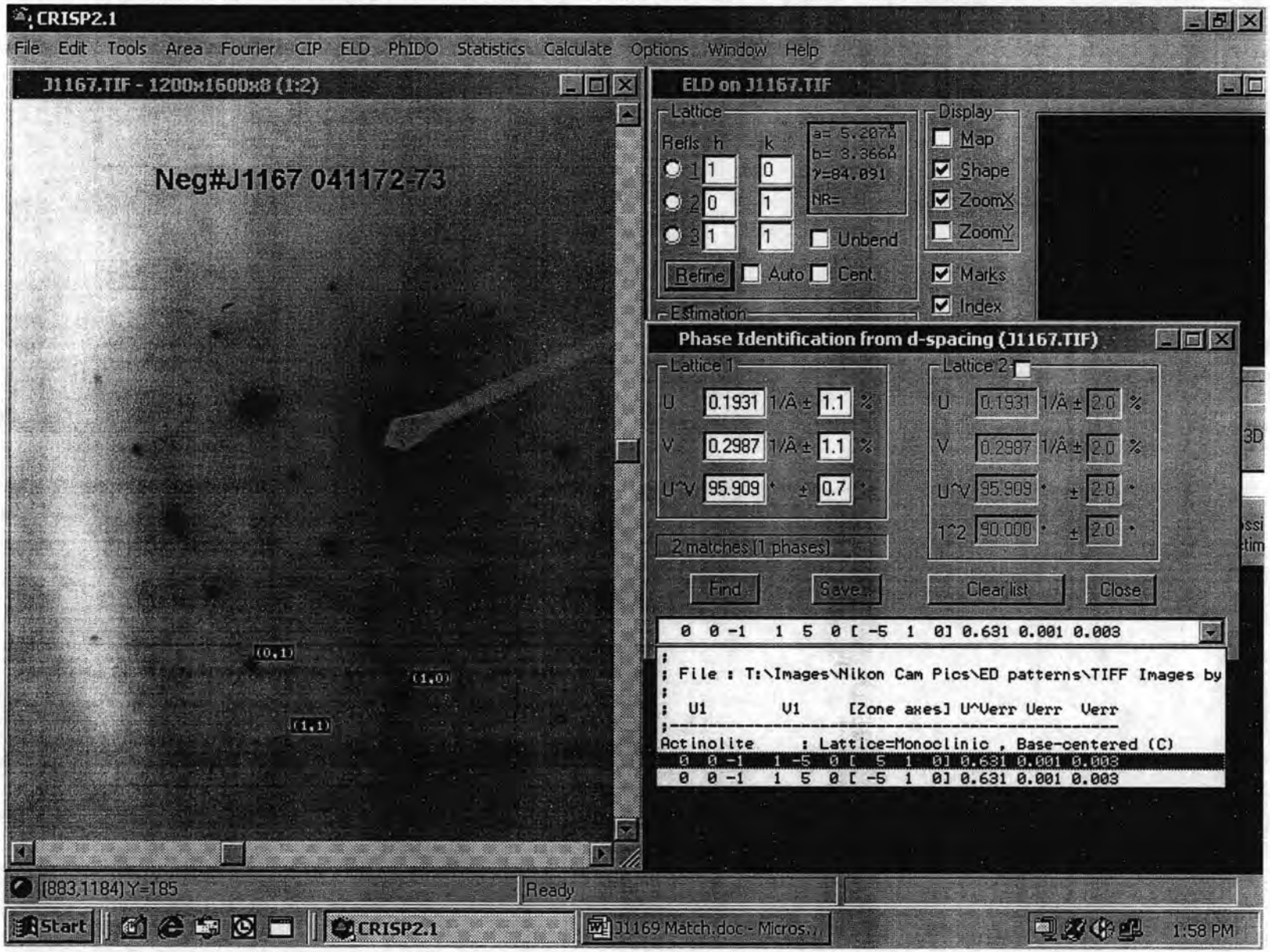
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

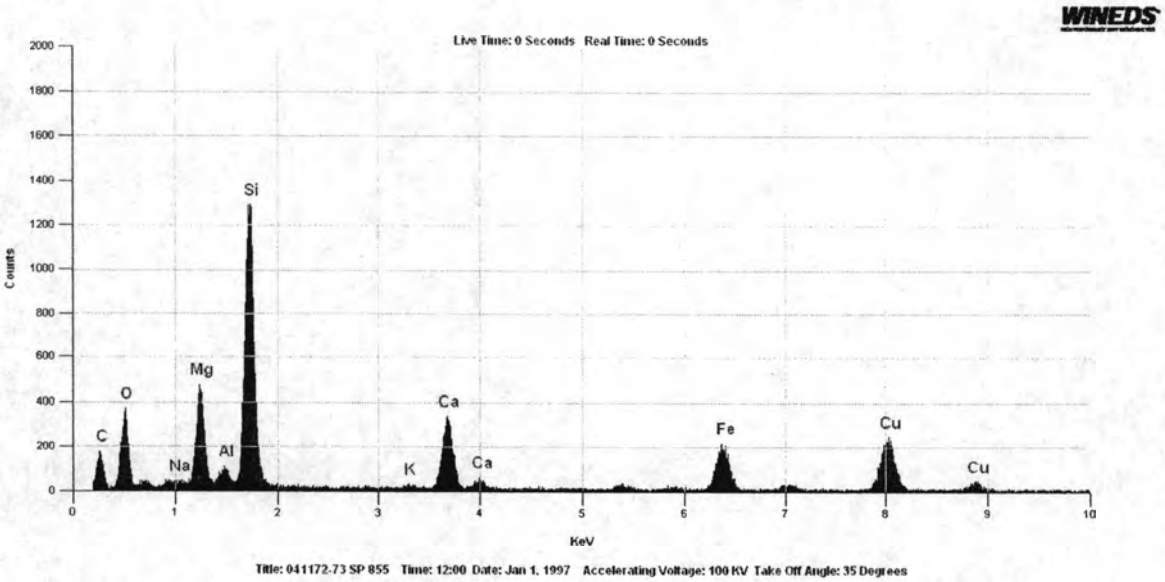
Sample # 041172-73-852

Values		Satisfied Conditions
(Ca,Na)@B	2.00	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.19	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.81	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.14	Si > 7.5
Mg/(Mg+Fe2)	0.63	(Mg/(Mg+Fe2))< 0.9
Si	7.51	

Mineral Analysis Program (Version 5.0)

Neg#J1167; Sample# 041172-73
ACTINOLITE
[5 1 0]





Quantitative Analysis Results - Standardless Analysis :
041172-73 SP 855 Jan 1, 1997
EDS Parameters - 100KV, Takeoff Angle: 35.0°, Fit Index: 495.21
Correction: CLIFF LORIMER, Cycles: 1

Element	Atoms%	Compound	Weight%	Error(±)	Norm%
Na	0.35	Na2O	0.49	0.22	0.49
Mg	7.28	MgO	13.43	0.38	13.43
Al	0.83	Al2O3	1.94	0.16	1.94
Si	21.49	SiO2	59.05	0.95	59.05
K	0.14	K2O	0.31	0.12	0.31
Ca	4.81	CaO	12.33	0.46	12.33
Fe	3.41	Fe2O3	12.45	0.73	12.45
<Total>	100.00		100.00		100.00

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	59.05	Si+4	8.0000	8.0000							
Al2O3	1.94	Al+3	0.3328	0.0000	**0.3328**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	12.45	Fe+3	0.0231			0.0231	0.0000				
MgO	13.43	Mg+2	2.8160			2.8160	**0.0000**				
MnO	0	Fe+2	1.4514			1.4514	**0.0000**				
CaO	12.33	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0.49	Ca+2	1.8602					1.8602	0.0000		
K2O	0.31	Na+	0.1707					0.1398	**0.0309**	0.0309	0.0000
		K+	0.0719							0.0719	0.0000
Total	**100**		**Excess**	T site	**0.3328**	C site	**0.0000**	B site	**0.0309187**	A site	**0**
			Total	**8**		**4.6233**		**2.0000**		**0.1028**	**0.0000**
			%Fill	**100**		**92.4665**		**100**			

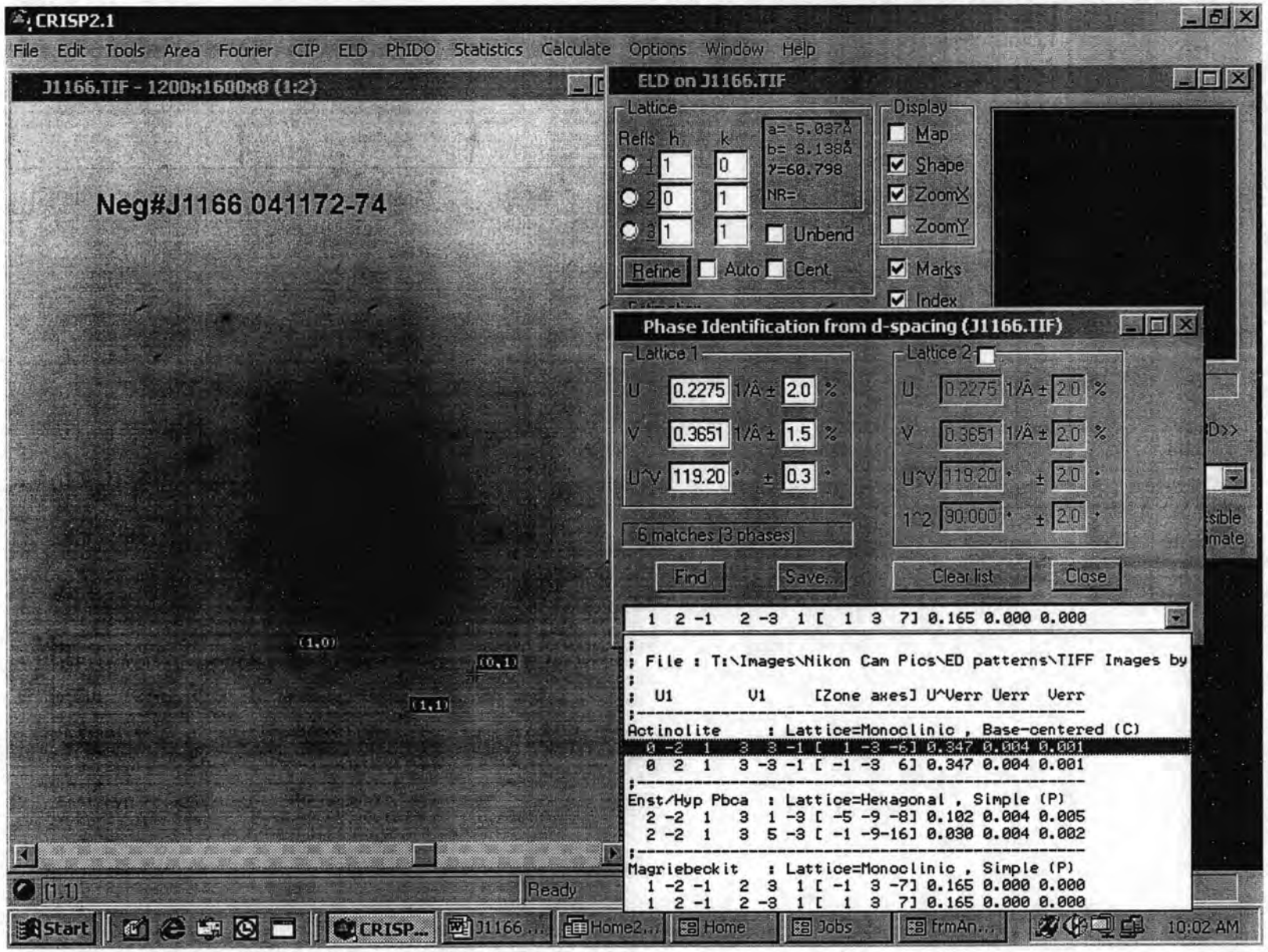
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # 041172-73-855

Values		Satisfied Conditions
(Ca,Na)@B	2.00	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.14	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.86	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.10	Si > 7.5
Mg/(Mg+Fe2)	0.66	(Mg/(Mg+Fe2))< 0.9
Si	8.00	

Mineral Analysis Program (Version 5.0)

Neg#J1166; Sample# 041172-74
ACTINOLITE
[1 -3 -6]



'SUMTF'
*
SUMTF: QUANTIFY
Standardless Analysis

Refit _NAK' _NAK"
Refit _ALK' _ALK" _FEK" _NAK _K K"
Chi-sqd = 2.98

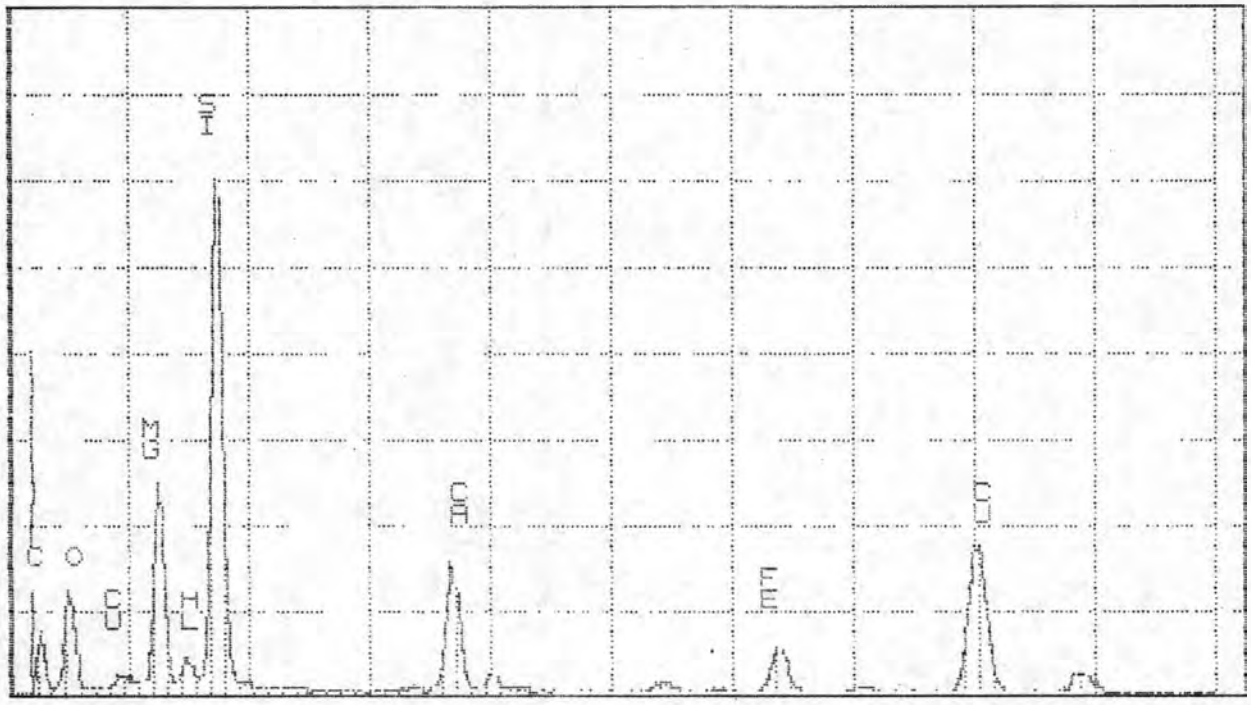
Element	Net Counts	
Si-K	17633 +/-	190
Mg-K	6577 +/-	148
Al-K	999 +/-	88
Ca-K	5795 +/-	152
Fe-K	2503 +/-	74
Na-K	0 +/-	0
K -K	150 +/-	37

K REF.S EDS:SIK EDS:MGK EDS:ALK EDS:CAK EDS:FEK EDS:NAK EDS

0414/2-74 SPR54

EL-LINE	PEAK	K-FACTOR	CHI/CREF	ATOM%	EL WT%	WT%	FORMULA
SI-K	17633	1.000	1.000	21.39	27.96	59.91	SIO2
MG-K	6577	1.000	0.373	9.31	10.43	17.38	MGO
AL-K	999	0.750	0.043	0.94	1.19	2.25	AL2O3
CA-K	5795	0.949	0.317	4.67	8.73	12.22	CAO
FE-K	2503	1.399	0.199	2.13	5.56	7.94	FE2O3
NA-K	0	0.549	0.000	0.00	0.00	0.00	NA2O3
K-K	150	1.059	0.009	0.14	0.25	0.31	K2O
O			1.641	61.43	45.89		

TN-5500 University of Washington / JEOL TUE 14-DEC-04 01:07
Cursor: 0.000keV = 0



0.000 8- 5 VFS = 2048 10 240
24 041472-74 SP854

1.30

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	59.91	Si+4	8.0000	8.0000							
Al2O3	2.25	Al+3	0.3714	0.0000	**0.3714**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	7.94	Fe+3	0.0157			0.0157	0.0000				
MgO	17.38	Mg+2	3.5428			3.5428	**0.0000**				
MnO	0	Fe+2	0.9080			0.9080	**0.0000**				
CaO	12.22	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	1.7965					1.7965	0.0000		
K2O	0.31	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0665							0.0665	0.0000
Total	**100.01**		**Excess**	T site	**0.3714**	C site	**0.0000**	B site	**0**	A site	**0**
			Total	**8**		**4.8380**		**1.7965**		**0.0665**	**0.0000**
			%Fill	**100**		**96.7597**		**89.8253**			

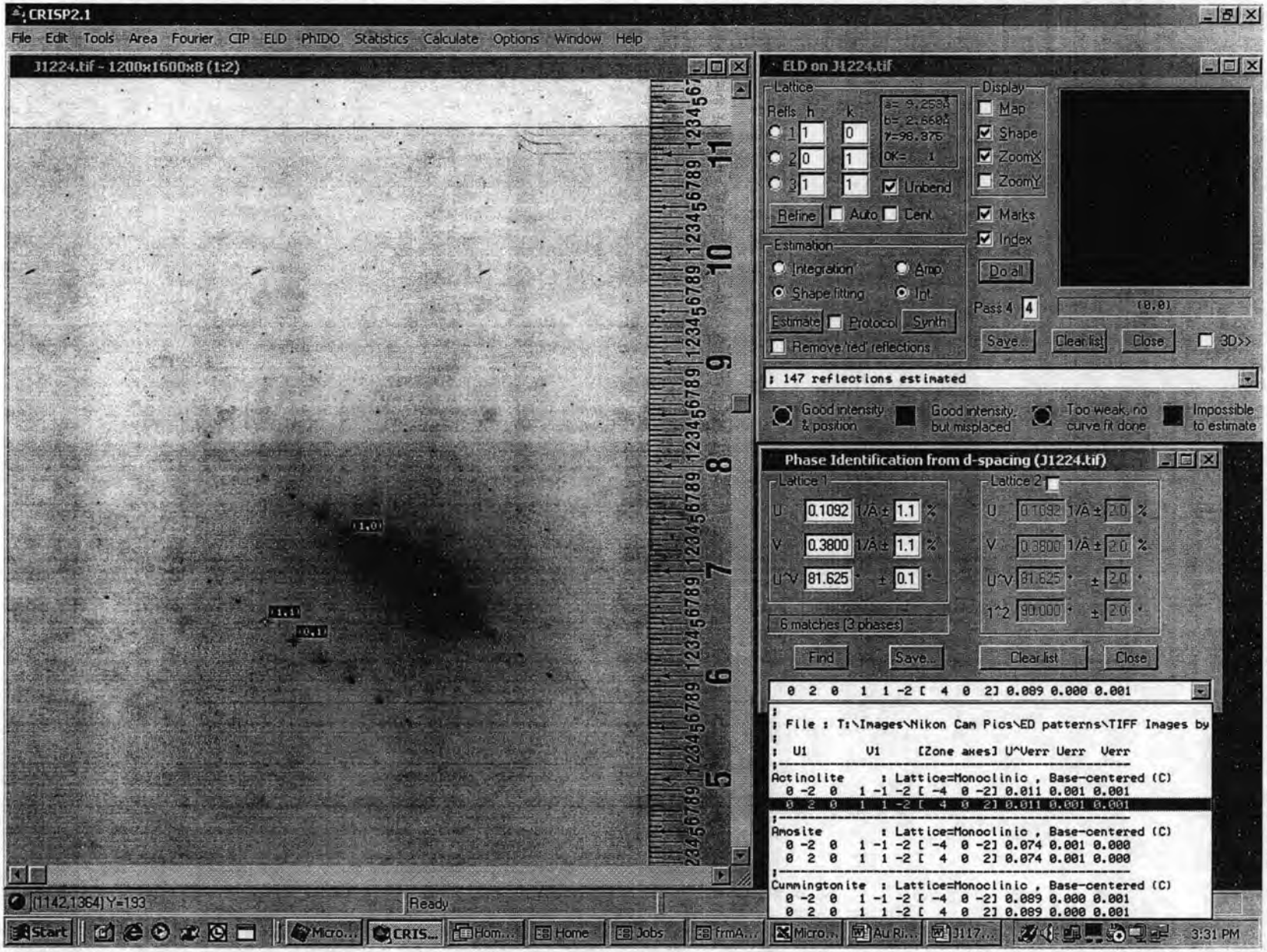
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041172-74-854**

Values		Satisfied Conditions
(Ca,Na)@B	1.80	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.80	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.07	Si > 7.5
Mg/(Mg+Fe2)	0.80	(Mg/(Mg+Fe2))< 0.9
Si	8.00	

Mineral Analysis Program (Version 5.0)

Sample 041172-75
Neg #1224
ACTINOLITE
[2 0 1]



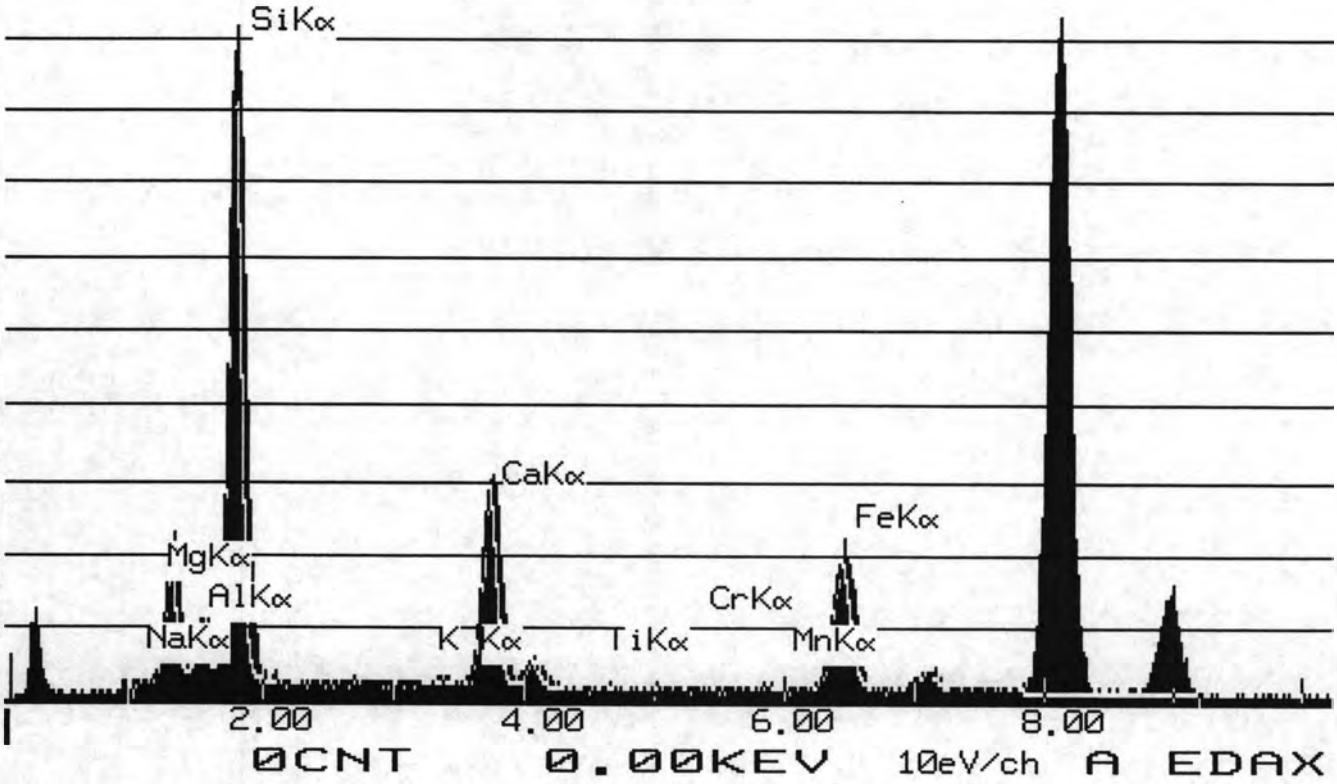
INTE-% :
LABEL = 041172-75 SP 15563
15-DEC-72 03:29:24
50.329 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	31.016	8.212	13.617
ALK	14.663	2.332	4.407
SIK	175.743	26.172	55.991
K K	0.457	0.113	0.136
CAK	64.952	9.222	12.904
FEK	48.004	9.054	12.945

TOTAL			100.000

USED PEIF: USER

14-DEC-04 03:30:19 SUPER QUANT
RATE= 925CPS TIME= 50LSEC
FS= 1026/ 1026 PRST= 200LSEC
A =041172-75 SP 15563



	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	55.991	Si+4	7.8121	7.8121							
Al2O3	4.407	Al+3	0.7246	0.1879	**0.5367**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	12.945	Fe+3	0.0136			0.0136	0.0000				
MgO	13.617	Mg+2	2.8324			2.8324	**0.0000**				
MnO	0	Fe+2	1.4952			1.4952	**0.0000**				
CaO	12.904	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	1.9288					1.9288	0.0000		
K2O	0.136	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0242							0.0242	0.0000
Total	**100**		**Excess**	T site	**0.5367**	C site	**0.0000**	B site	**0**	A site	**0**
			Total	**8**		**4.8779**		**1.9288**		**0.0242**	**0.0000**
			%Fill	**100**		**97.5574**		**96.4417**			

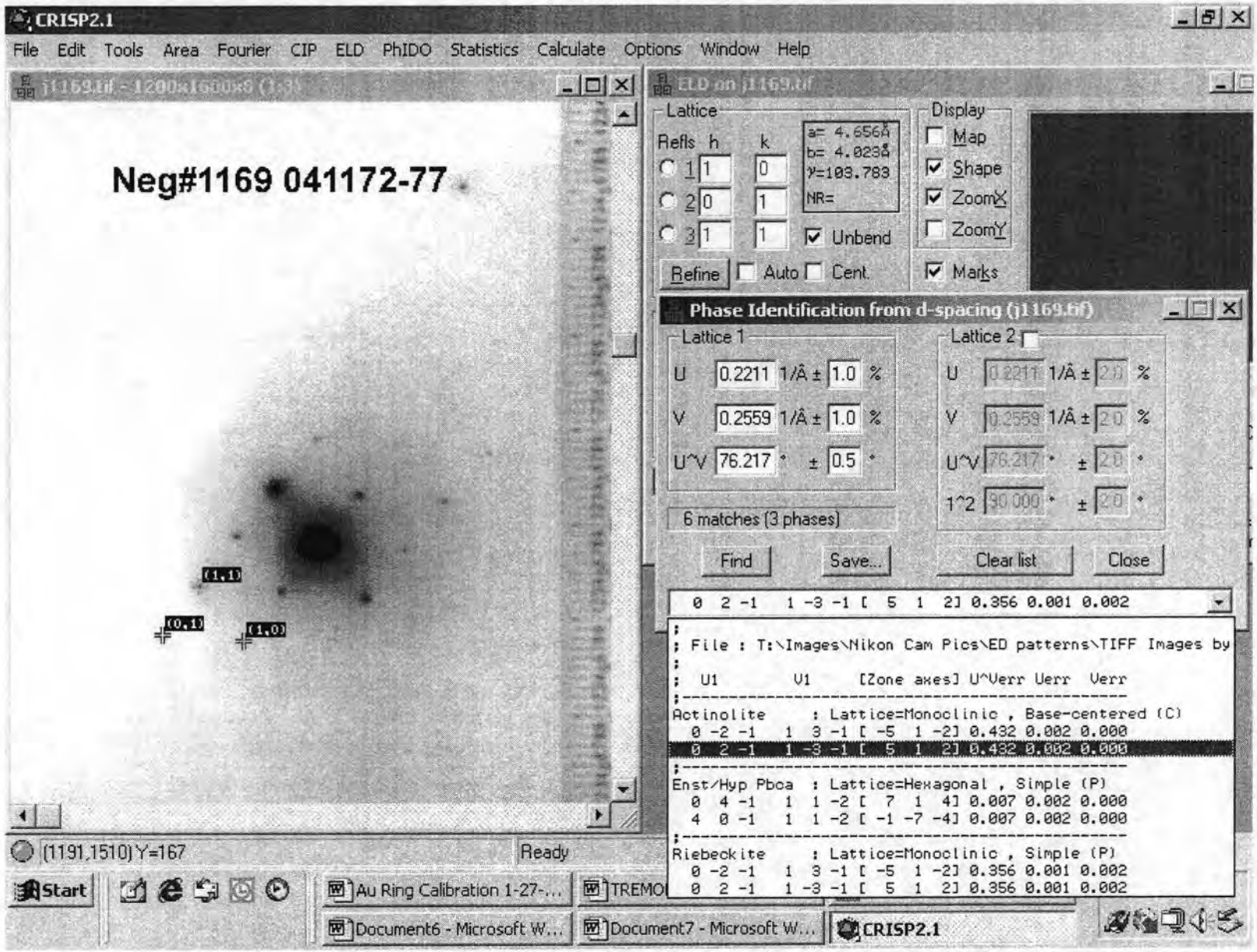
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # 041172-75-15563

Values		Satisfied Conditions
(Ca,Na)@B	1.93	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.93	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.02	Si > 7.5
Mg/(Mg+Fe2)	0.65	(Mg/(Mg+Fe2))< 0.9
Si	7.81	

Mineral Analysis Program (Version 5.0)

Neg#J1169; Sample# 041172-77
ACTINOLITE
[5 1 2]



SQMTF: QUANTIFY
Standardless Analysis

Refit _K K' _K K"
Refit _ALK' _ALK"
Chi-sqd = 2.13

Element	Net Counts	
Si-K	6608 +/-	123
Mg-K	1805 +/-	121
Al-K	859 +/-	65
Ca-K	2278 +/-	95
Fe-K	2389 +/-	92
Na-K	192 +/-	74
K -K	63 +/-	23

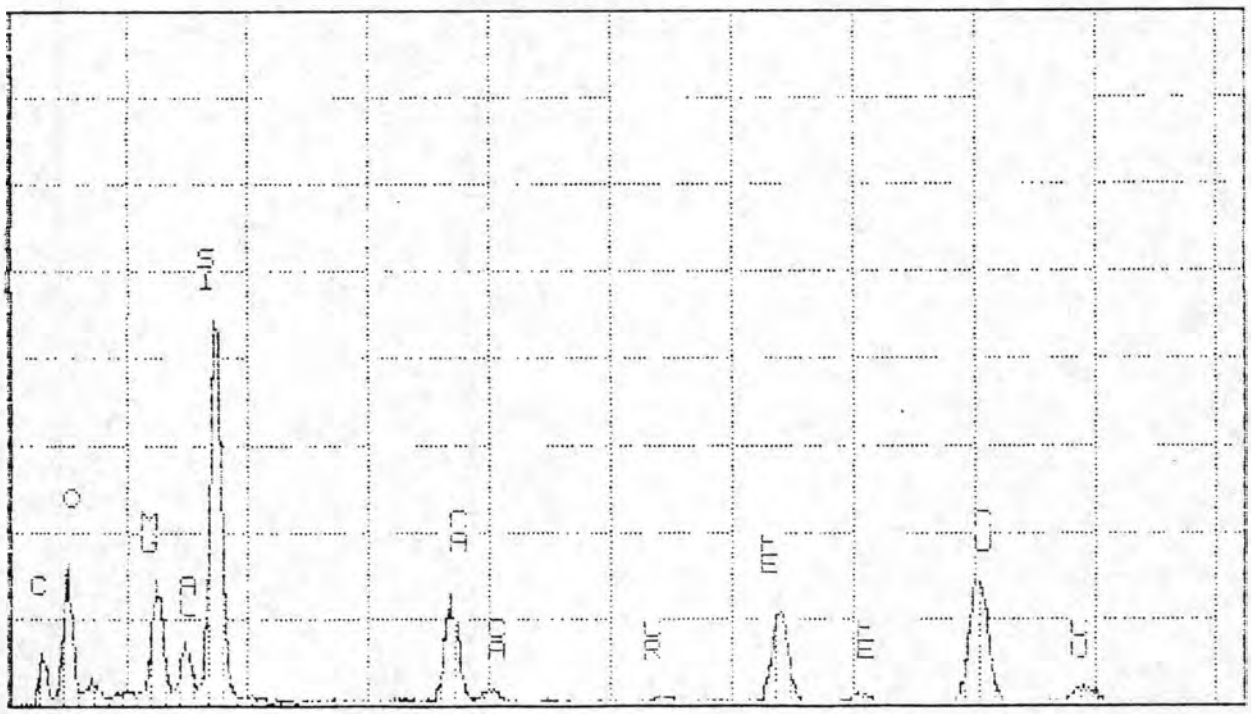
REF.S EDS:SIK EDS:MGK EDS:ALK' EDS:CAK EDS:FEK EDS:NAK
EDS:K K

EXEC(7-C) DATA LABEL

EL-LINE	PEAK	K-FACTOR	CEL/CREF	ATOM%	EL WT%	WT%	FORMULA
SI-K	6608	1.000	1.000	19.84	24.94	53.45	SIO2
MG-K	1805	1.000	0.273	6.32	6.81	11.36	MGO
AL-K	859	0.750	0.098	2.01	2.43	4.60	AL2O3
CA-K	2278	0.949	0.327	4.55	8.17	11.44	CAO
FE-K	2389	1.399	0.506	5.02	12.63	18.04	FE2O3
NA-K	192	0.549	0.016	0.39	0.40	0.82	NA2O3
K-K	63	1.059	0.010	0.15	0.26	0.31	K2O
O			1.778	61.73	44.36		

1,30
*
0,0
*

TN-5500 University of Washington / JEOL WED 15-DEC-04 02:19
Cursor: 0.000KeV = 0



0.000 VFS = 1024 10.240

0 041172-77 SPH57

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	53.45	Si+4	7.6589	7.6589							
Al2O3	4.6	Al+3	0.7768	0.3411	**0.4357**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	18.04	Fe+3	0.0778			0.0778	0.0000				
MgO	11.36	Mg+2	2.4267			2.4267	**0.0000**				
MnO	0	Fe+2	2.0751			2.0597	**0.0154**				
CaO	11.44	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0.82	Ca+2	1.7562					1.7562	0.0000		
K2O	0.31	Na+	0.2278					0.2278	**0.0000**	0.0000	0.0000
		K+	0.0567							0.0567	0.0000
Total	**100.02**		**Excess**	T site	**0.4357**	C site	**0.0154**	B site	**0**	A site	**0**
			Total	**8**		**5.0000**		**1.9840**		**0.0567**	**0.0000**
			%Fill	**100**		**100**		**99.1987**			

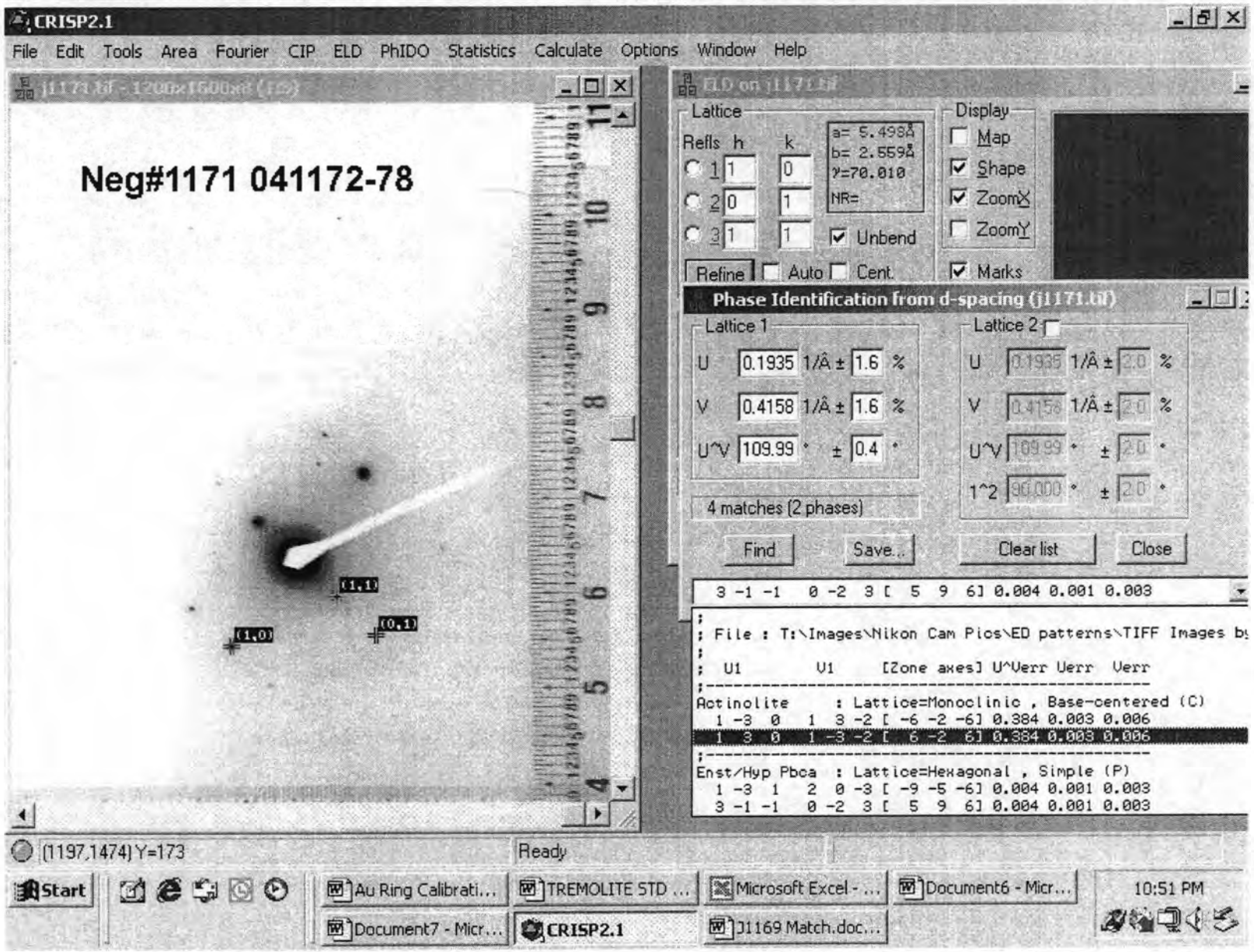
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041172-77-857**

Values		Satisfied Conditions
(Ca,Na)@B	1.98	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.23	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.76	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.06	Si > 7.5
Mg/(Mg+Fe2)	0.54	(Mg/(Mg+Fe2))< 0.9
Si	7.66	

Mineral Analysis Program (Version 5.0)

Neg#J1171; Sample# 041172-78
ACTINOLITE
[3 1 3]

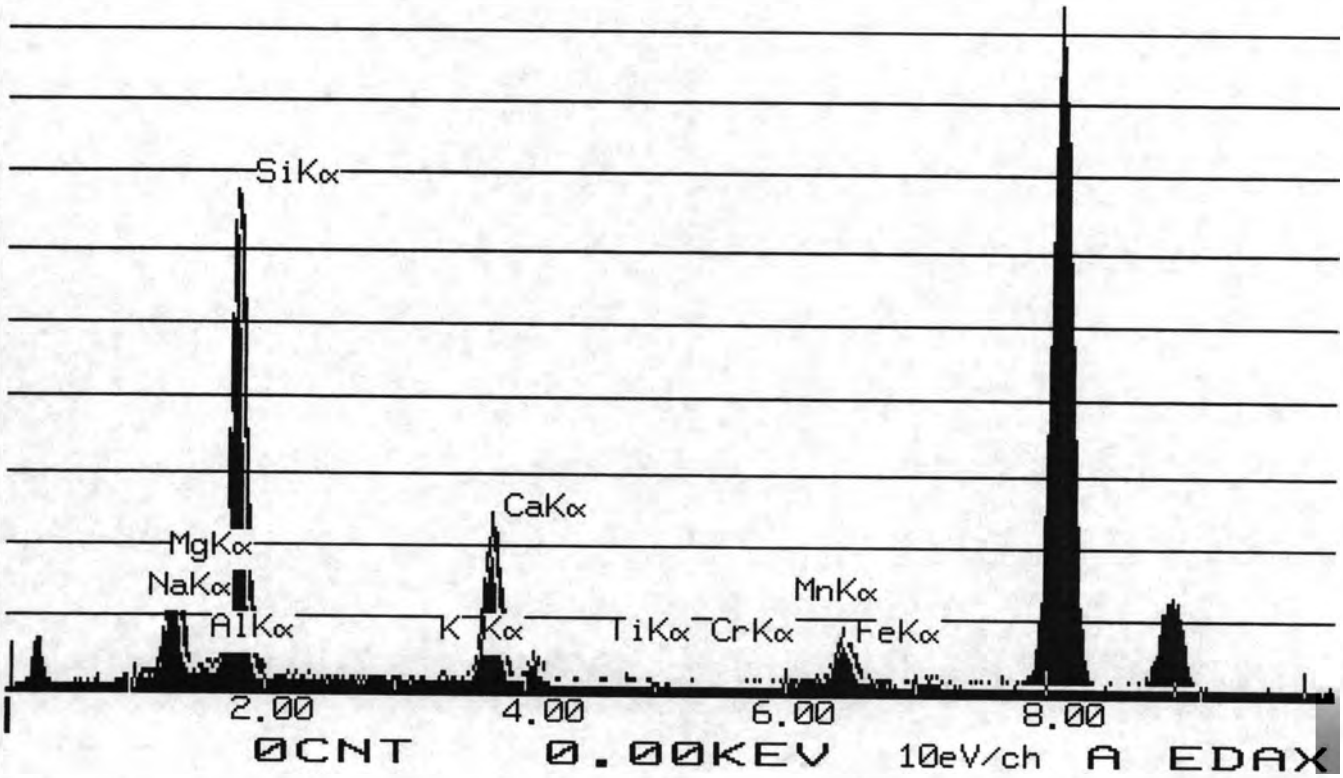


INTE-% :
LABEL = 041172-78 SP 15564
15-DEC-72 21:50:48
80.650 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	19.938	11.927	19.777
ALK	0.707	0.254	0.480
SIK	84.017	28.268	60.475
K K	0.273	0.153	0.184
CAK	28.803	9.240	12.928
FEK	10.105	4.306	6.157
TOTAL			100.000

USED PEIF: USER

14-DEC-04 21:51:44 SUPER QUANT
RATE= 190CPS TIME= 81LSEC
FS= 1021/ 1021 PRST= 200LSEC
A =041172-78 SP 15564



	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	60.475	Si+4	8.0000	8.0000							
Al2O3	0.48	Al+3	0.0922	0.0000	**0.0922**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	6.157	Fe+3	0.0164			0.0164	0.0000				
MgO	19.777	Mg+2	4.0195			4.0195	**0.0000**				
MnO	0	Fe+2	0.7105			0.7105	**0.0000**				
CaO	12.928	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	1.8982					1.8982	0.0000		
K2O	0.184	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0489							0.0489	0.0000
Total	100.001		Excess	T site	0.0922	C site	0.0000	B site	0	A site	0
			Total	8		4.8386		1.8982		0.0489	0.0000
			%Fill	100		96.7722		94.9087			

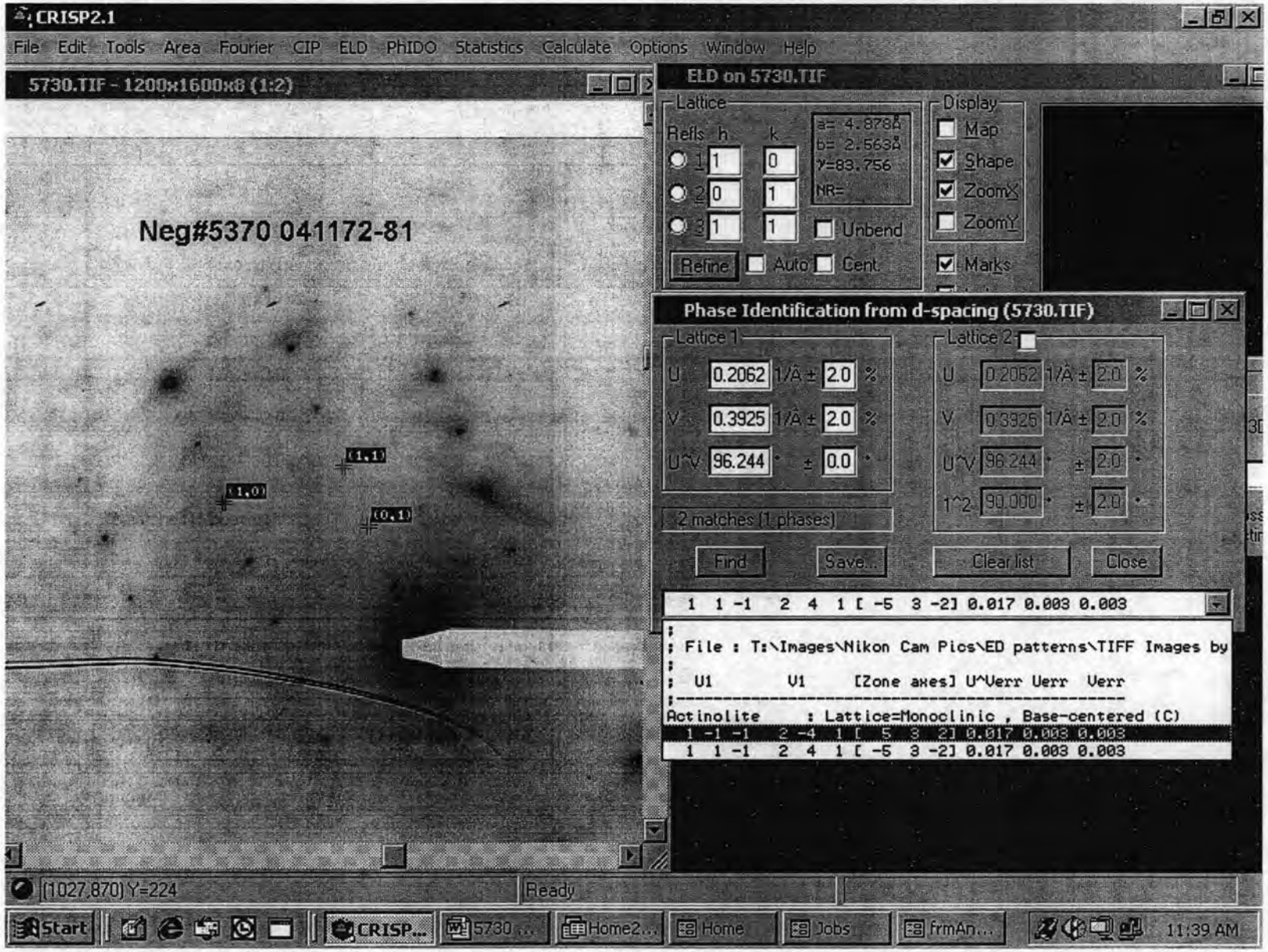
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # 041172-78-15564

Values		Satisfied Conditions
(Ca,Na)@B	1.90	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.90	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.05	Si > 7.5
Mg/(Mg+Fe2)	0.85	(Mg/(Mg+Fe2))< 0.9
Si	8.00	

Mineral Analysis Program (Version 5.0)

Neg#5730; Sample# 041172-81
ACTINOLITE
[5 3 2]

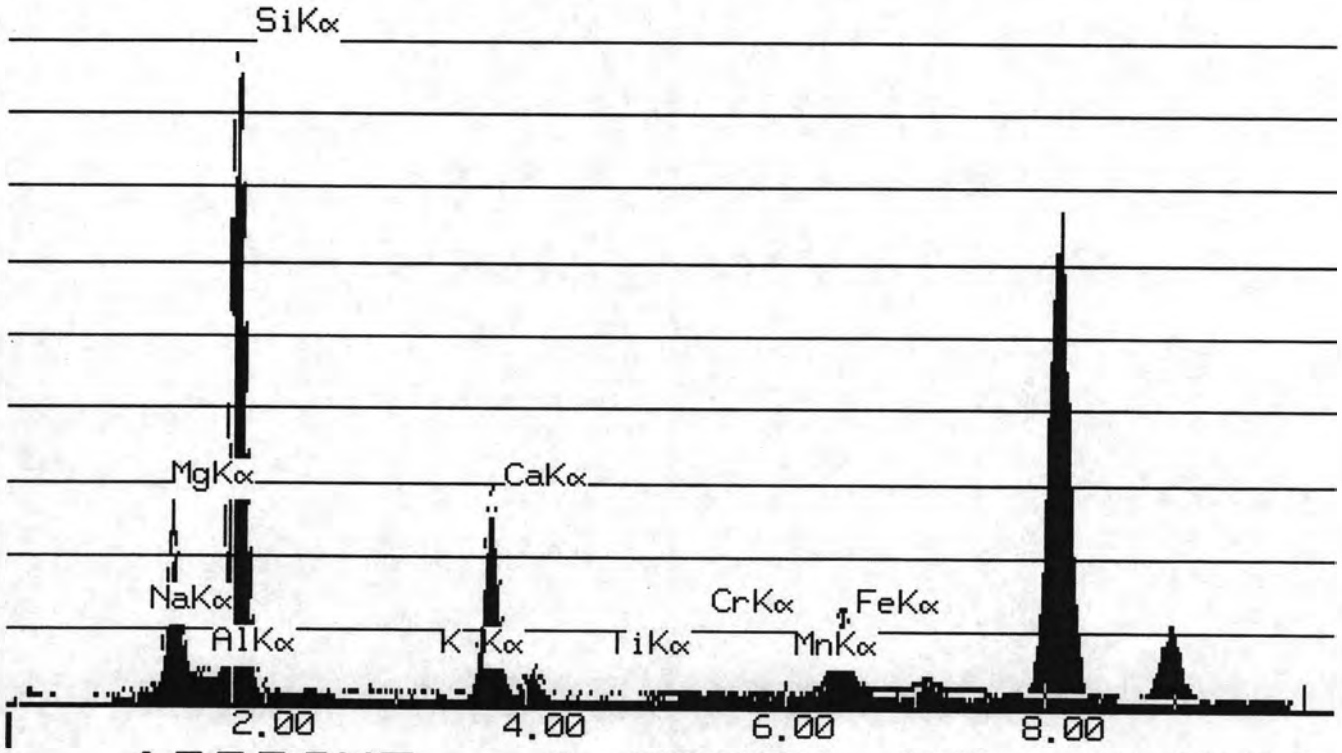


INTE-% :
LABEL = 041172-81 SP 15576
16-DEC-72 23:19:28
48.185 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	59.957	11.050	18.321
ALK	5.043	0.558	1.055
SIK	269.256	27.909	59.707
K K	0.789	0.136	0.164
CAK	93.495	9.239	12.928
FEK	41.694	5.474	7.826
TOTAL			100.000

USED PEIF: USER

15-DEC-04 23:19:41 SUPER QUANT
RATE= 1286CPS TIME= 48LSEC
FS= 1321/ 1321 PRST= 200LSEC
A =041172-81 SP 15576



1038CNT 1.70KEV 10eV/ch A EDAX

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	59.707	Si+4	8.0000	8.0000							
Al2O3	1.055	Al+3	0.1809	0.0000	**0.1809**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	7.826	Fe+3	0.0156			0.0156	0.0000				
MgO	18.321	Mg+2	3.7446			3.7446	**0.0000**				
MnO	0	Fe+2	0.8979			0.8979	**0.0000**				
CaO	12.928	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	1.9051					1.9051	0.0000		
K2O	0.164	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0412							0.0412	0.0000
Total	**100.001**		**Excess**	T site	**0.1809**	C site	**0.0000**	B site	**0**	A site	**0**
			Total	**8**		**4.8389**		**1.9051**		**0.0412**	**0.0000**
			%Fill	**100**		**96.7786**		**95.2572**			

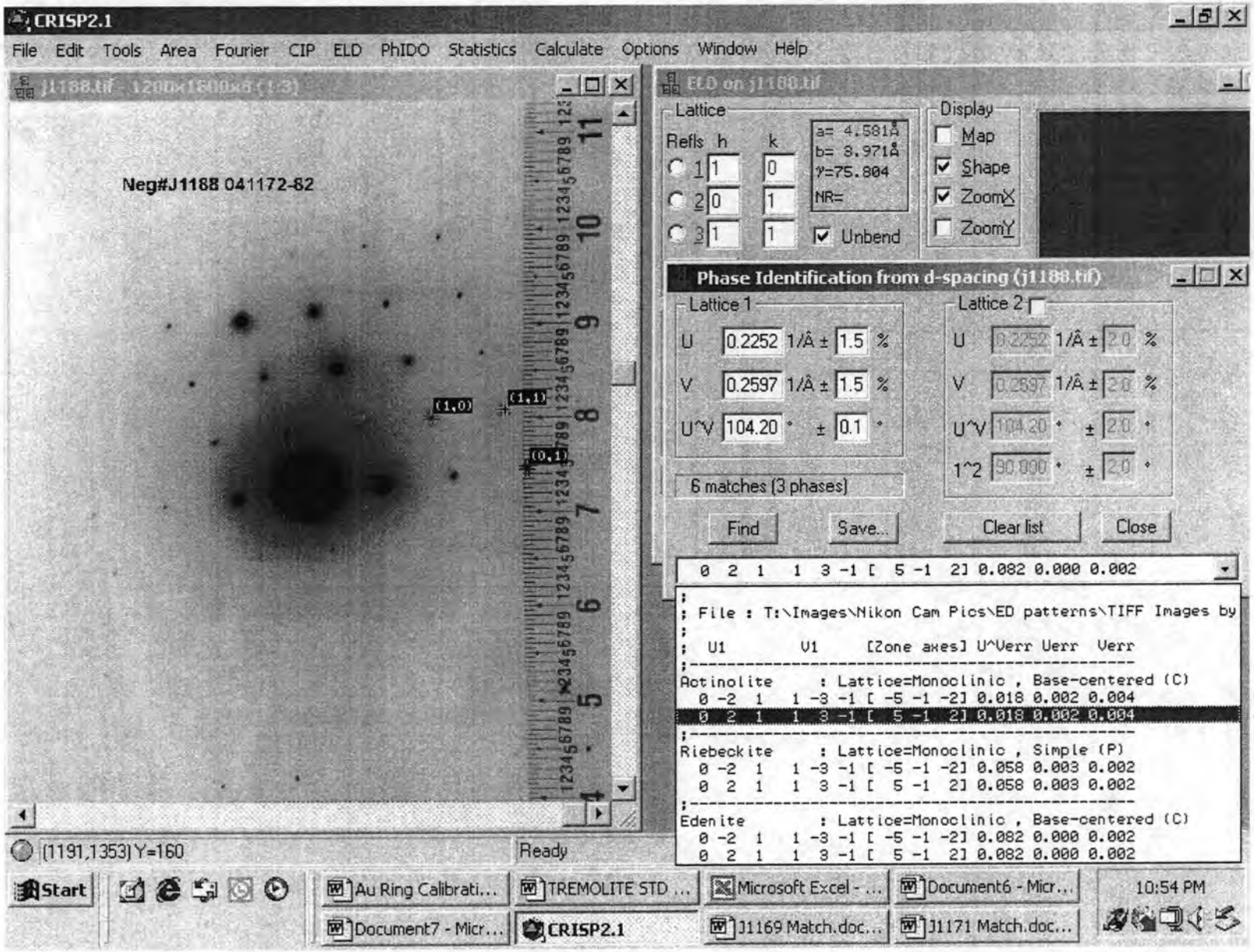
Prefix none
Name **actinolite**
Modifier none
Group **Calcic Amphibole**

Sample # **041172-81-15576**

Values		Satisfied Conditions
(Ca,Na)@B	1.91	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.91	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.04	Si > 7.5
Mg/(Mg+Fe2)	0.81	(Mg/(Mg+Fe2))< 0.9
Si	8.00	

Mineral Analysis Program (Version 5.0)

Neg#J1188; Sample# 041172-82
ACTINOLITE
[5 -1 2]



SQMTF: QUANTUM
Standardless Analysis

Refit _NAK' _NAK"
Refit _ALK' _FEK" _NAK
Chi-sqd = 4.05

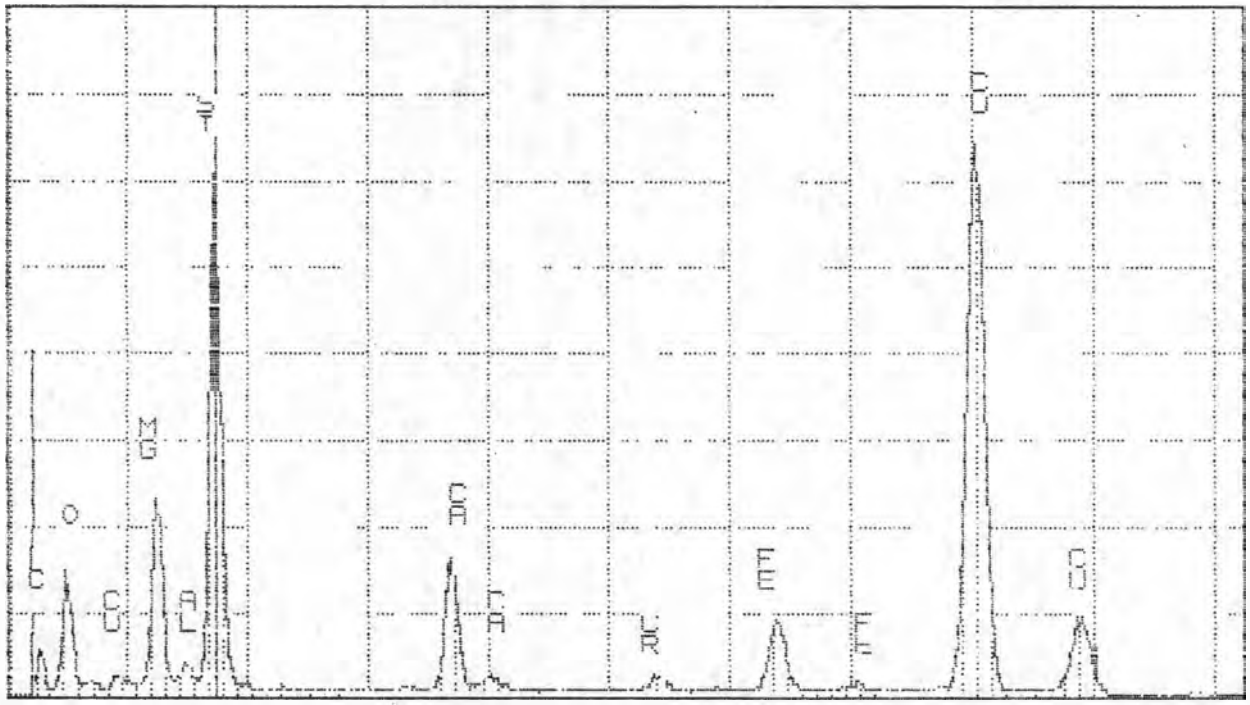
Element	Net Counts		
Si-K	18413	+/-	213
Mg-K	6367	+/-	161
Al-K	1174	+/-	276
Ca-K	5545	+/-	158
Fe-K	3923	+/-	94
Na-K	0	+/-	0
K -K	174	+/-	91

PEAKS EDS:SIK EDS:MGK EDS:ALK EDS:CAK EDS:FEK EDS:NAK EDS:

041172-8V SPR7A

EL-LINE	PEAK	K-FACTOR	CEL/CREF	ATOM%	EL WT%	WT%	FORMULA
SI-K	18413	1.000	1.000	21.21	27.41	58.73	SIO2
MG-K	6367	1.000	0.346	8.56	9.48	15.80	MGO
AL-K	1174	0.750	0.048	1.05	1.31	2.48	AL2O3
CA-K	5545	0.949	0.286	4.25	7.84	10.98	CAO
FE-K	3923	1.349	0.298	3.16	8.18	11.68	FE2O3
NA-K	0	0.549	0.000	0.00	0.00	0.00	NA2O3
K-K	174	1.054	0.010	0.15	0.28	0.33	K2O
O			1.660	61.42	45.51		

TN-5500 University of Washington / JEOL FRI 17-DEC-04 23:12
Cursor: 1.740keV = 1615



0.000 8- 5 VFS = 2048 10.240
38 041172-8V SPR7A

1.30

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	58.73	Si+4	8.0000	8.0000							
Al2O3	2.48	Al+3	0.4071	0.0000	**0.4071**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	11.68	Fe+3	0.1606			0.1606	0.0000				
MgO	15.8	Mg+2	3.2478			3.2478	**0.0000**				
MnO	0	Fe+2	1.1746			1.1746	**0.0000**				
CaO	10.98	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	1.6252					1.6252	0.0000		
K2O	0.33	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0642							0.0642	0.0000
Total	100		Excess	T site	0.4071	C site	0.0000	B site	0	A site	0
			Total	8		4.9900		1.6252		0.0642	0.0000
			%Fill	100		99.801		81.2611			

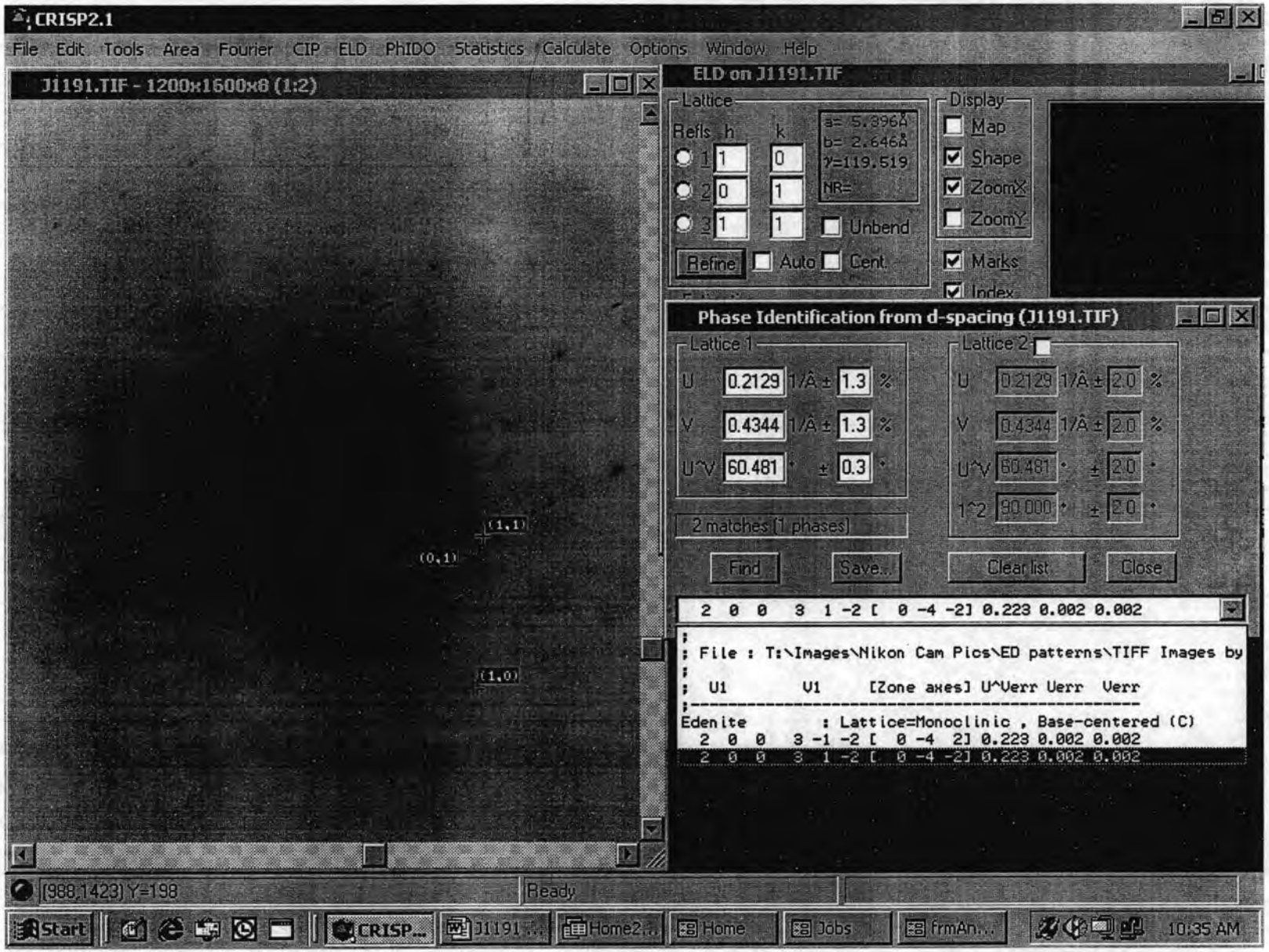
Prefix none
Name **actinolite**
Modifier none
Group **Calcic Amphibole**

Sample # **041172-82-876**

Values		Satisfied Conditions
(Ca,Na)@B	1.63	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.63	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.06	Si > 7.5
Mg/(Mg+Fe2)	0.73	(Mg/(Mg+Fe2))< 0.9
Si	8.00	

Mineral Analysis Program (Version 5.0)

Neg#J1191; Sample# 041172-83
EDENITE
[0 2 1]



SQMTF: QUANTIFY
Standardless Analysis

Chi-sqd = 6.76

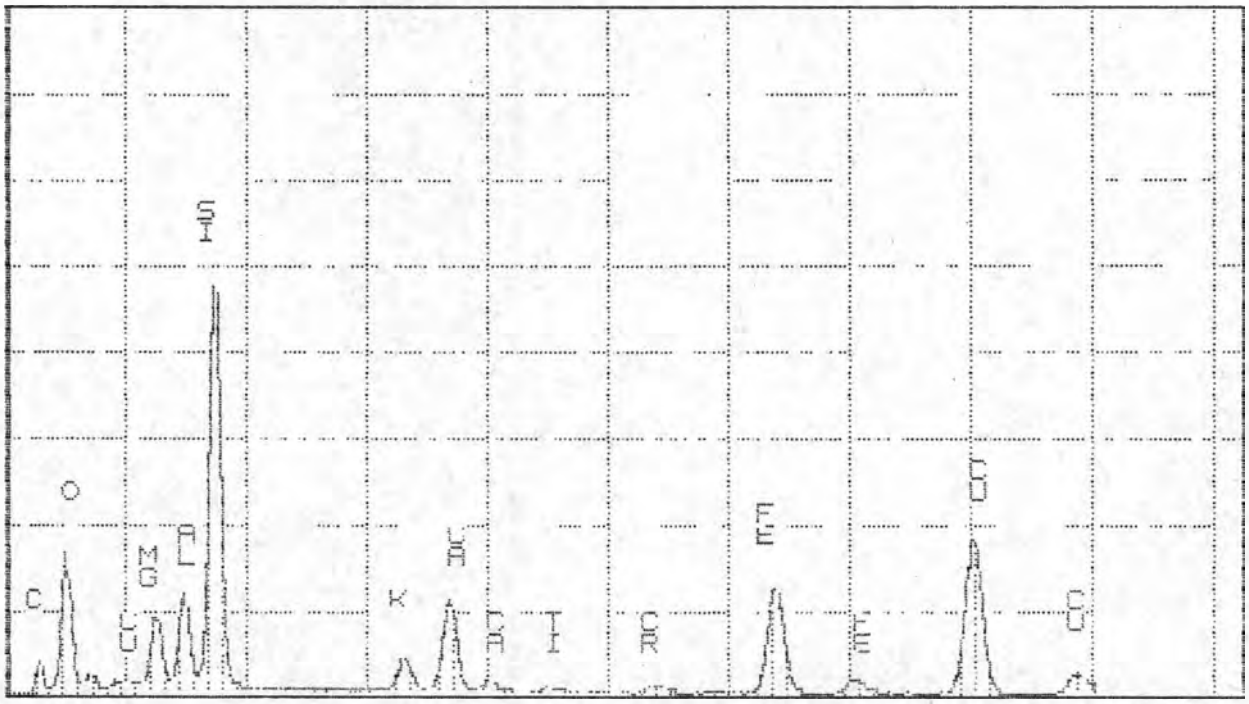
Element	Net Counts	
Si-K	28487 +/-	330
Mg-K	4738 +/-	298
Al-K	6478 +/-	416
Ca-K	8491 +/-	210
Fe-K	11597 +/-	210
Na-K	656 +/-	156
K -K	2923 +/-	160

REF.S EDS:SIK EDS:MGK EDS:ALK EDS:CAK EDS:FEK EDS:NAK EDS:

041172-83 SP878

EL-LINE	PEAK	K-FACTOR	CHI/CREF	ATOM%	EL WT%	WT%	FORMULA
SI-K	28487	1.000	1.000	19.63	24.33	52.14	SIO2
MG-K	4738	1.000	0.166	3.81	4.05	6.75	MGO
AL-K	6478	0.750	0.171	3.47	4.15	7.84	AL2O3
CA-K	8491	0.949	0.283	3.89	6.89	9.65	CAO
FE-K	11597	1.399	0.570	5.59	13.87	19.81	FE2O3
NA-K	656	0.549	0.013	0.30	0.31	0.63	NA2O3
K-K	2923	1.059	0.109	1.53	2.65	3.19	K2O
O			1.798	61.77	43.76		

TN-5500 University of Washington / JEOL SAT 18-DEC-04 00:15
Cursor: 0.000KeV = 0



0.000 VFS = 4096 10.240

0 041172-83 SP878

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	52.14	Si+4	7.5992	7.5992							
Al2O3	7.84	Al+3	1.3466	0.4008	**0.9458**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	19.81	Fe+3	0.0217			0.0217	0.0000				
MgO	6.75	Mg+2	1.4666			1.4666	**0.0000**				
MnO	0	Fe+2	2.3901			2.3901	**0.0000**				
CaO	9.65	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0.63	Ca+2	1.5068					1.5068	0.0000		
K2O	3.19	Na+	0.1780					0.1780	**0.0000**	0.0000	0.0000
		K+	0.5931							0.5931	0.0000
Total	100.01		Excess	T site	**0.9458**	C site	**0.0000**	B site	**0**	A site	**0**
			Total	**8**		**4.8243**		**1.6848**		**0.5931**	**0.0000**
			%Fill	**100**		**96.4864**		**84.239**			

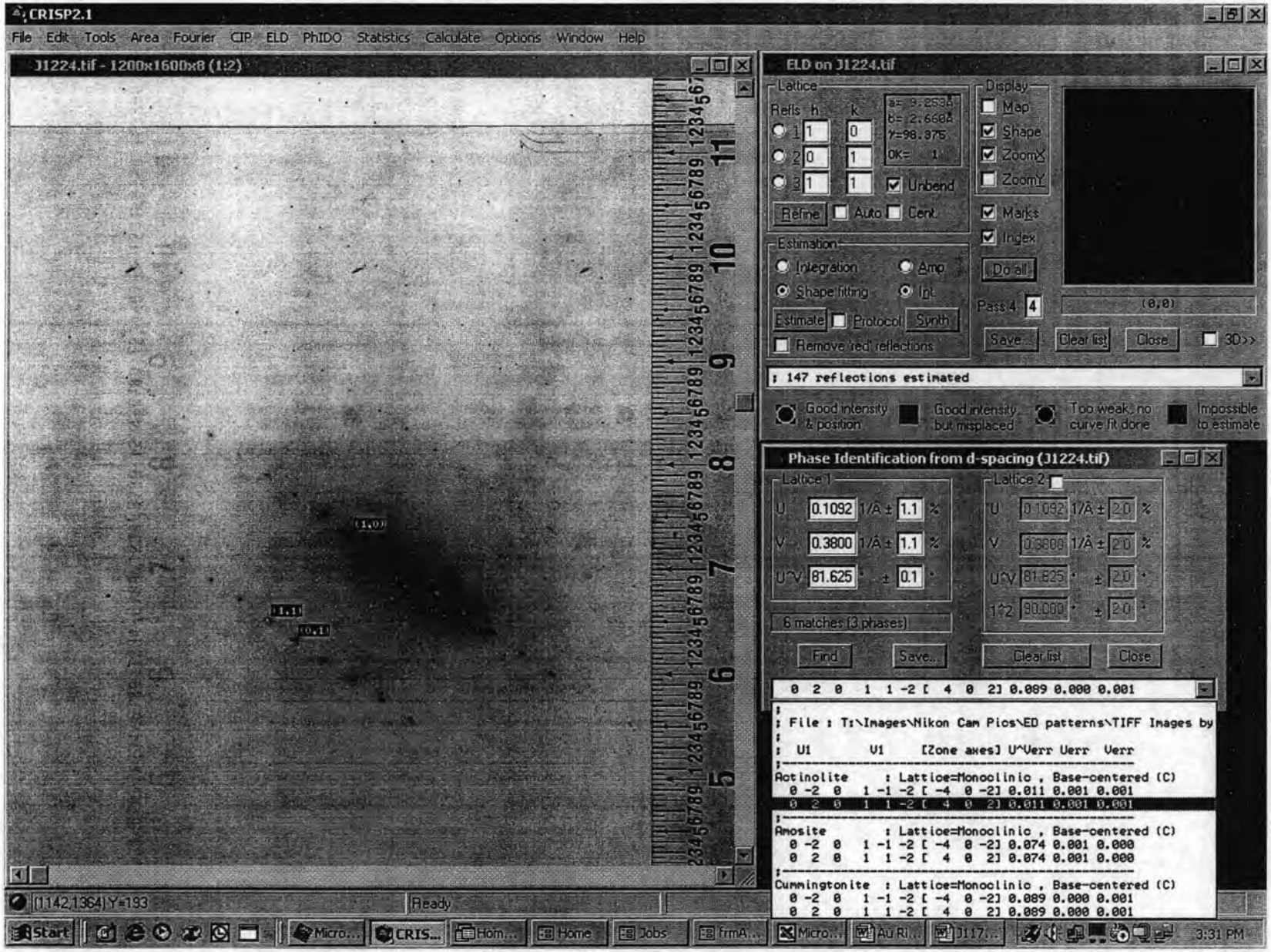
Prefix Alumino-Potassic
Name **ferro-edenite**
Modifier none
Group **Calcic Amphibole**

Sample # **041172-83-878**

Values		**Satisfied Conditions**
(Ca,Na)@B	**1.68**	**(Ca,Na)@B >= 1 and Na@B < 0.5**
Na@B	**0.18**	**Ca@B >= 1.5 and (Na,K)@A >= 0.5**
Ca@B	**1.51**	**(Mg/(Mg+Fe2))< 0.5**
(Na,K)@A	**0.59**	**Si > 6.5**
Mg/(Mg+Fe2)	**0.38**	
Si	**7.60**	

Mineral Analysis Program (Version 5.0)

Sample 041172-87
Neg #1225
ACTINOLITE
[5 1 2]



SWMIF: QUANTIFY
Standardless Analysis

Refit _K K' _K K"
Refit _MGK'
Chi-sqd = 5.42

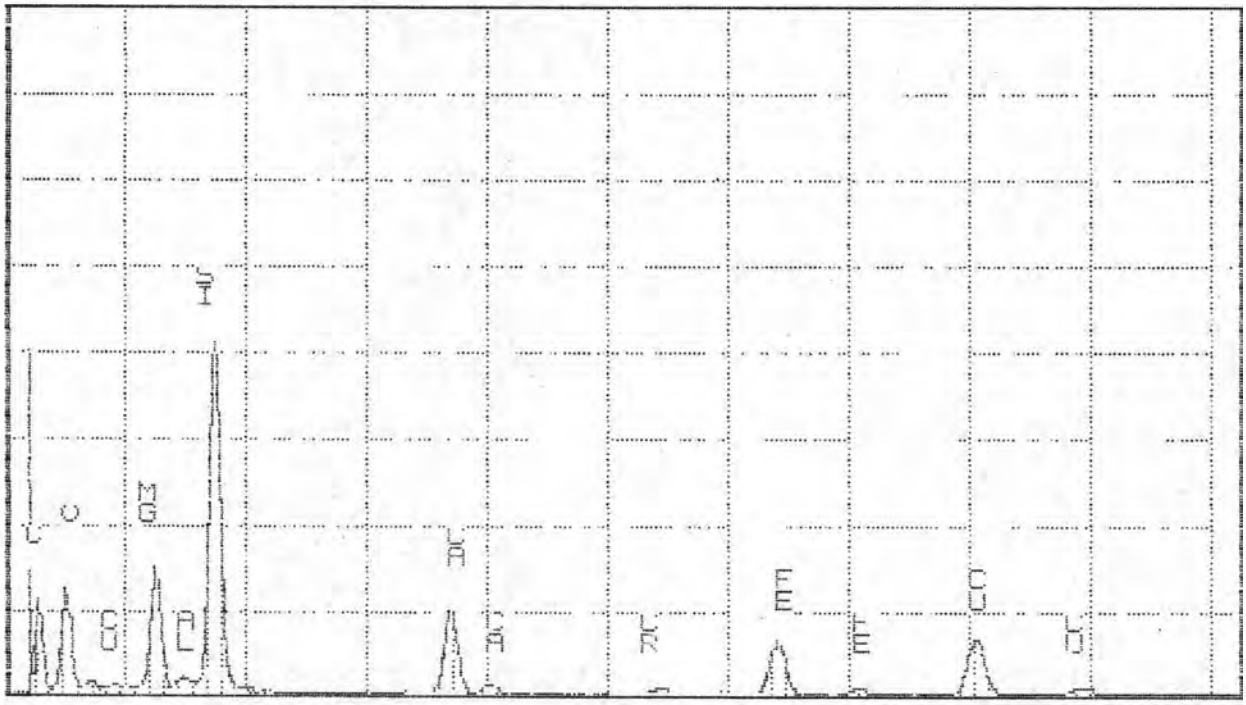
Element	Net Counts		
Si-K	23444	+/-	287
Mg-K	7730	+/-	271
Al-K	1191	+/-	310
Ca-K	7431	+/-	166
Fe-K	5763	+/-	148
Na-K	530	+/-	140
K -K	100	+/-	40

RHKS EDS:SIK EDS:MGK EDS:ALK EDS:CAK EDS:FEK EDS:NAK EDS:

041172-87 SP906

EL-LINE	PEAK	K-FACTOR	CEL/CREF	ATOM%	EL WT%	WT%	FORMULA
SI-K	23444	1.000	1.000	21.00	26.96	57.78	SIO2
MG-K	7730	1.000	0.330	8.08	8.89	14.82	MGO
AL-K	1191	0.750	0.038	0.83	1.03	1.94	AL2O3
CA-K	7431	0.949	0.301	4.43	8.12	11.37	CAO
FE-K	5763	1.399	0.344	3.61	9.28	13.26	FE2O3
NA-K	530	0.549	0.012	0.32	0.34	0.49	NA2O3
K-K	100	1.059	0.005	0.07	0.12	0.15	K2O
O			1.678	61.67	45.26		

TN-5500 University of Washington / JEOL TUE 28-OCT-04 18:11
Cursor: 0 000keV = 0



0.000 B- 5 VFS = 4096 10.240
71 041172-87 SP906

1,30

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	57.78	Si+4	8.0000	8.0000							
Al2O3	1.94	Al+3	0.3223	0.0000	**0.3223**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	13.26	Fe+3	0.0164			0.0164	0.0000				
MgO	14.82	Mg+2	3.0868			3.0868	**0.0000**				
MnO	0	Fe+2	1.5342			1.5342	**0.0000**				
CaO	11.37	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0.69	Ca+2	1.7035					1.7035	0.0000		
K2O	0.15	Na+	0.1960					0.1960	**0.0000**	0.0000	0.0000
		K+	0.0309							0.0309	0.0000
Total	**100.01**		**Excess**	T site	**0.3223**	C site	**0.0000**	B site	**0**	A site	**0**
			Total	**8**		**4.9597**		**1.8995**		**0.0309**	**0.0000**
			%Fill	**100**		**99.195**		**94.973**			

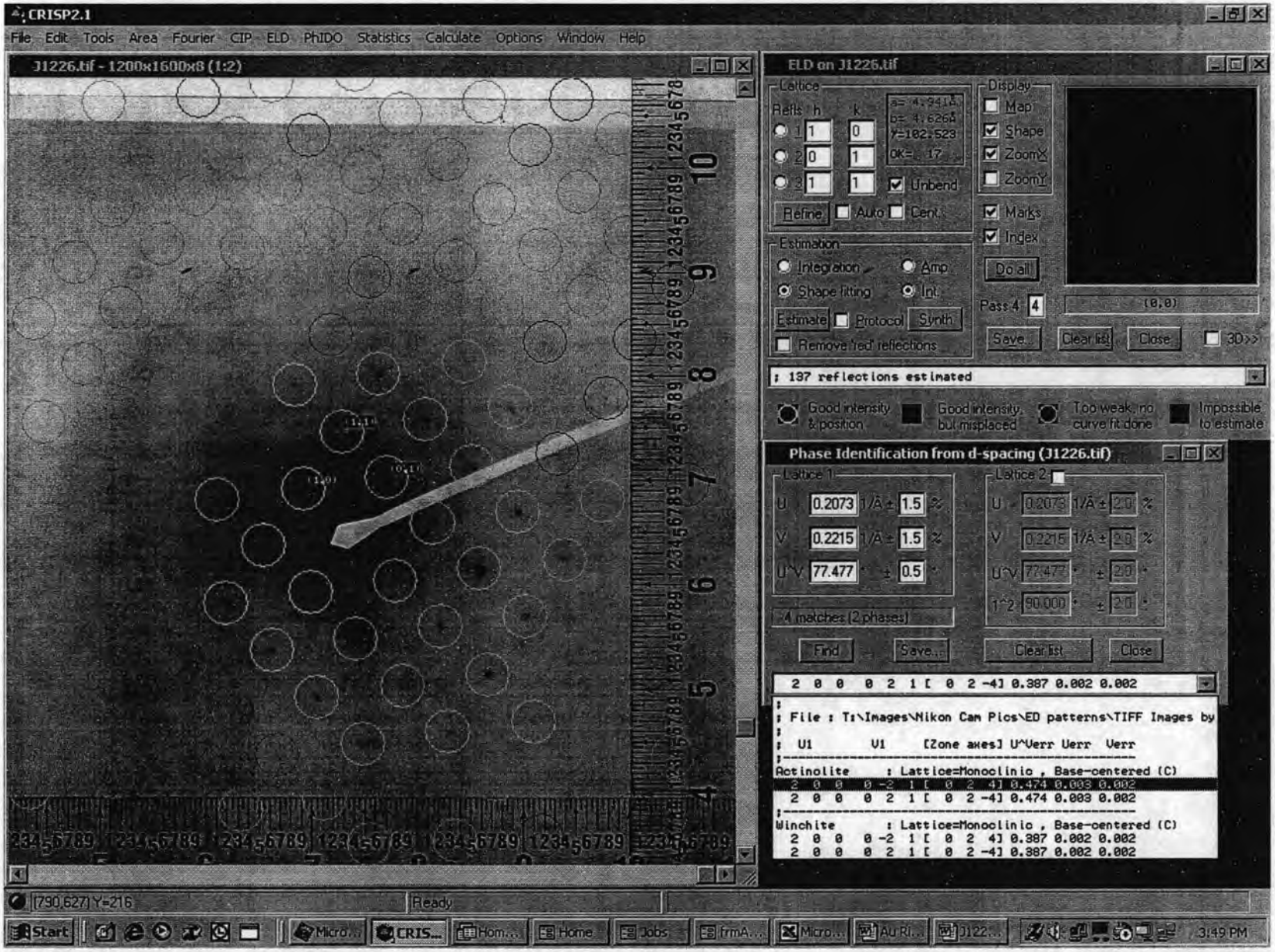
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041172-87-906**

Values		Satisfied Conditions
(Ca,Na)@B	1.90	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.20	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.70	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.03	Si > 7.5
Mg/(Mg+Fe2)	0.67	(Mg/(Mg+Fe2))< 0.9
Si	8.00	

Mineral Analysis Program (Version 5.0)

Sample 041172-88
Neg #1226
ACTINOLITE
[0 1 2]



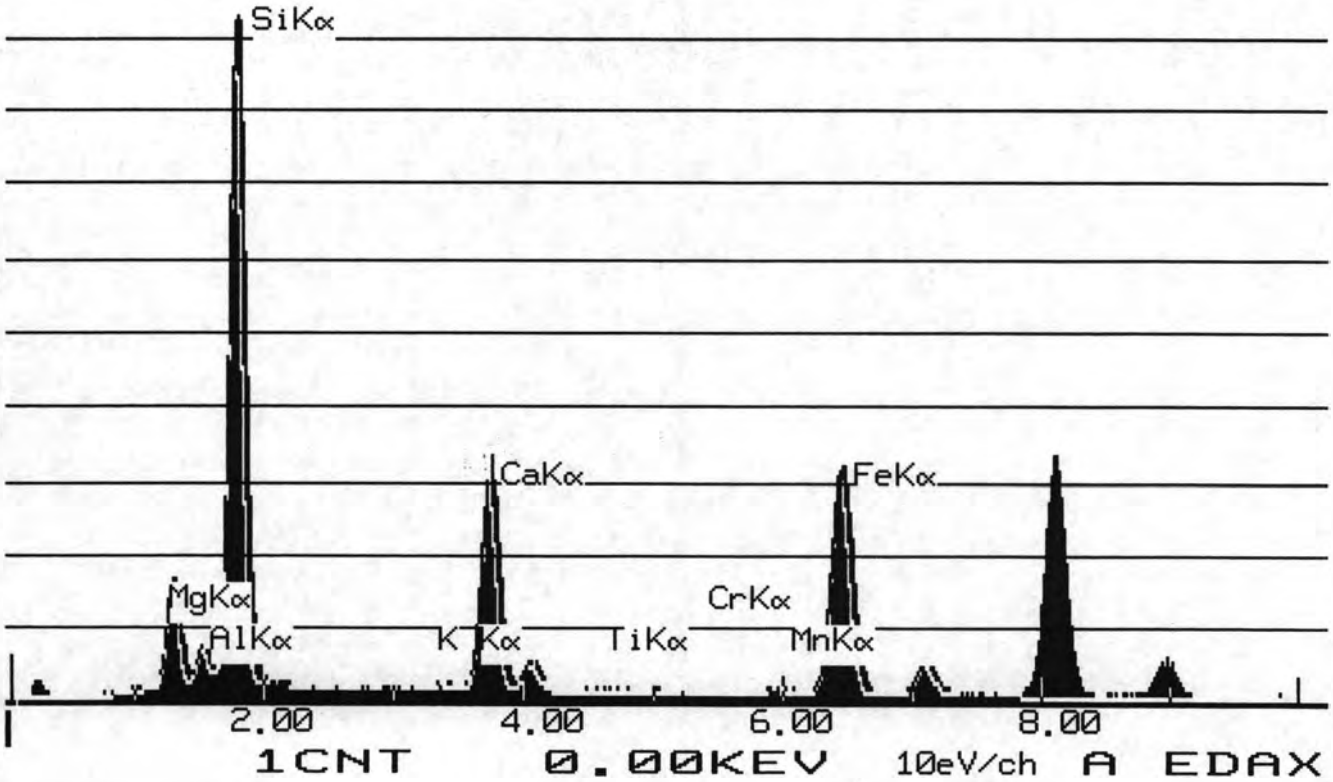
INTE-% :
LABEL = 041172-88 15603
19-DEC-72 05:43:40
59.889 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
NAK	0.701	0.078	0.106
MGK	126.450	6.672	11.063
ALK	43.981	1.394	2.634
SIK	832.884	24.716	52.877
K K	6.412	0.316	0.381
CAK	308.068	8.716	12.196
TIK	0.785	0.031	0.052
CRK	0.584	0.023	0.034
MNK	8.098	0.331	0.427
FEK	376.494	14.151	20.232

TOTAL			100.000

USED PEIF: USER

18-DEC-04 05:44:29 SUPER QUANT
RATE= 4111CPS TIME= 60LSEC
FS= 5521/ 5521 PRST=9999LSEC
A =041172-88 15603



	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	52.877	Si+4	7.6796	7.6796							
Al2O3	2.634	Al+3	0.4508	0.3204	**0.1304**						
TiO2	0.052	Ti+4	0.0057	0.0000	**0.0057**						
Cr2O3	0.034	Cr+3	0.0039			0.0039	0.0000				
Fe(total)O	20.232	Fe+3	0.2432			0.2432	0.0000				
MgO	11.063	Mg+2	2.3954			2.3954	**0.0000**				
MnO	0.427	Fe+2	2.1868			2.1868	**0.0000**				
CaO	12.196	Mn+2	0.0525			0.0346	**0.0179**				
Na2O	0.106	Ca+2	1.8976					1.8976	0.0000		
K2O	0.381	Na+	0.0298					0.0298	**0.0000**	0.0000	0.0000
		K+	0.0706							0.0706	0.0000
Total	**100.002**		**Excess**	T site	**0.1361**	C site	**0.0179**	B site	**0**	A site	**0**
			Total	**8**		**5.0000**		**1.9275**		**0.0706**	**0.0000**
			%Fill	**100**		**100**		**96.3738**			

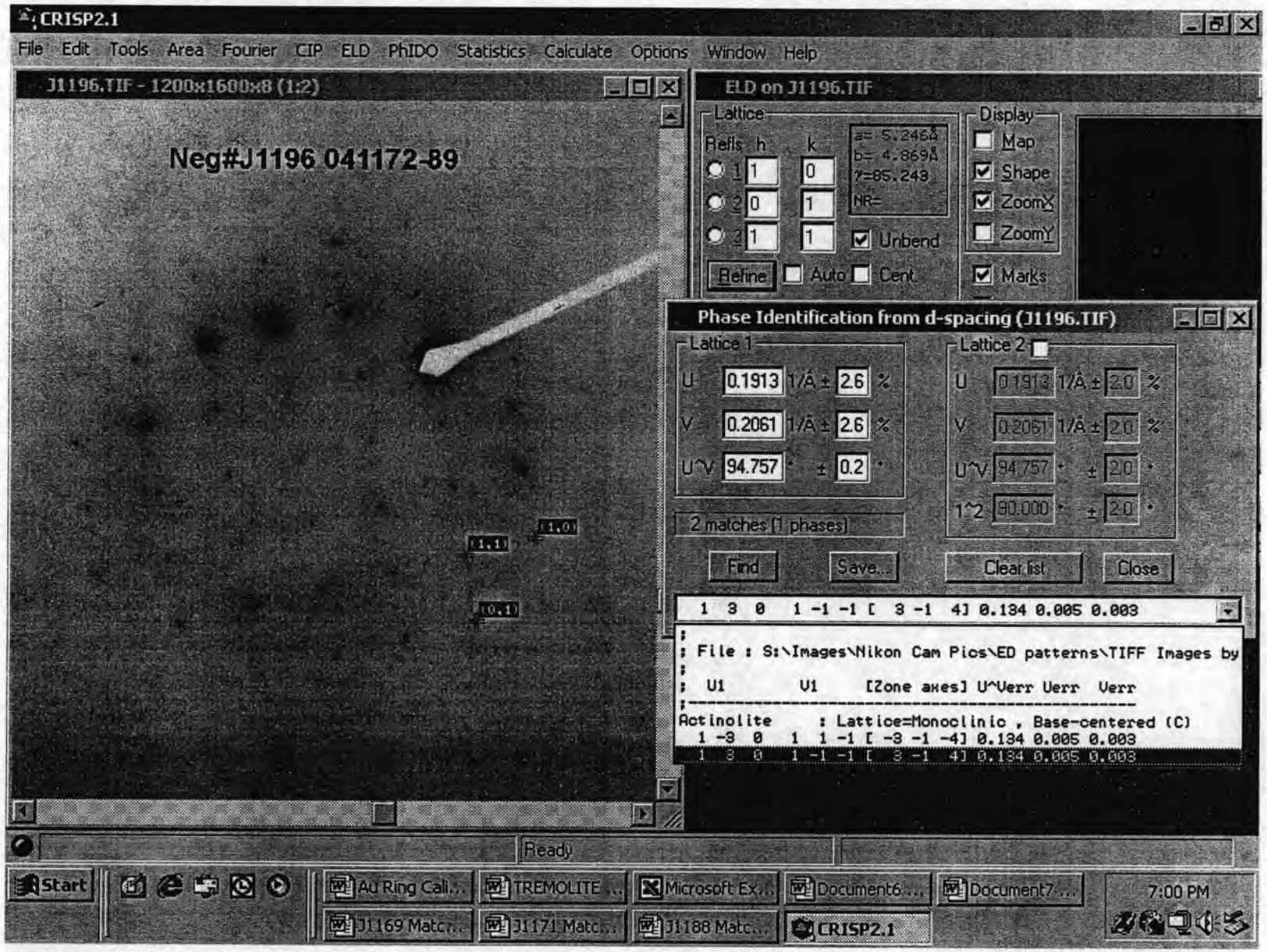
Prefix none
Name **actinolite**
Modifier none
Group **Calcic Amphibole**

Sample # **041172-88-15603**

Values		Satisfied Conditions
(Ca,Na)@B	1.93	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.03	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.90	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.07	Si > 7.5
Mg/(Mg+Fe2)	0.52	(Mg/(Mg+Fe2))< 0.9
Si	7.68	

Mineral Analysis Program (Version 5.0)

Neg#J1196; Sample# 041172-89
ACTINOLITE
[3 -1 4]



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TN-5500 University of Washington / JEOL TUE 21-DEC-04 10:46
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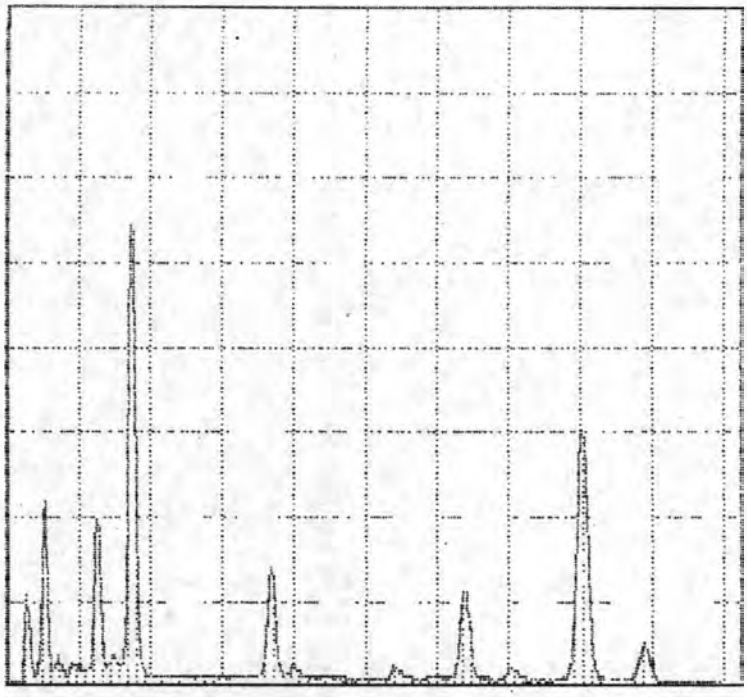


0.000 VFS = 2048 10.240

32 041172-89 SP 882

TN FLEXTRAN [13-B]

SQMTE: QUANTIFY
Standardless Analysis

Chi-sqd = 4.00

Element	Net Counts	
Si-K	16254 +/-	241
Mg-K	4953 +/-	239
Al-K	736 +/-	283
Ca-K	4985 +/-	146
Fe-K	5110 +/-	147
Na-K	323 +/-	128
K -K	113 +/-	81

REF.S EDS:SIK EDS:MGK EDS:ALK EDS:CAK EDS:FEK EDS:NAK
EDS:K K

041172-89 SP 882

EL-LINE	PEAK	K-FACTOR	CEL/CREF	ATOM%	EL WT%	WT%	FORMULA
SI-K	16254	1.000	1.000	20.84	26.43	56.64	SIO2
MG-K	4953	1.000	0.305	7.41	8.06	13.43	MGO
AL-K	736	0.750	0.034	0.73	0.90	1.70	AL2O3
CA-K	4985	0.949	0.291	4.25	7.70	10.78	CAO
FE-K	5110	1.399	0.440	4.59	11.63	16.62	FE2O3
NA-K	323	0.549	0.011	0.28	0.29	0.59	NA2O3
K-K	113	1.059	0.007	0.11	0.20	0.24	K2O
O			1.694	61.79	44.79		

TN FLEXTRAN [13-B]

MTRF\\\\\\\F\RF

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	56.64	Si+4	7.9820	7.9820							
Al2O3	1.7	Al+3	0.2823	0.0180	**0.2643**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	16.62	Fe+3	0.2644			0.2644	0.0000				
MgO	13.43	Mg+2	2.8216			2.8216	**0.0000**				
MnO	0	Fe+2	1.6647			1.6498	**0.0150**				
CaO	10.78	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0.59	Ca+2	1.6275					1.6275	0.0000		
K2O	0.24	Na+	0.1612					0.1612	**0.0000**	0.0000	0.0000
		K+	0.0431							0.0431	0.0000
Total	**100**		**Excess**	T site	**0.2643**	C site	**0.0150**	B site	**0**	A site	**0**
			Total	**8**		**5.0000**		**1.7887**		**0.0431**	**0.0000**
			%Fill	**100**		**100**		**89.4361**			

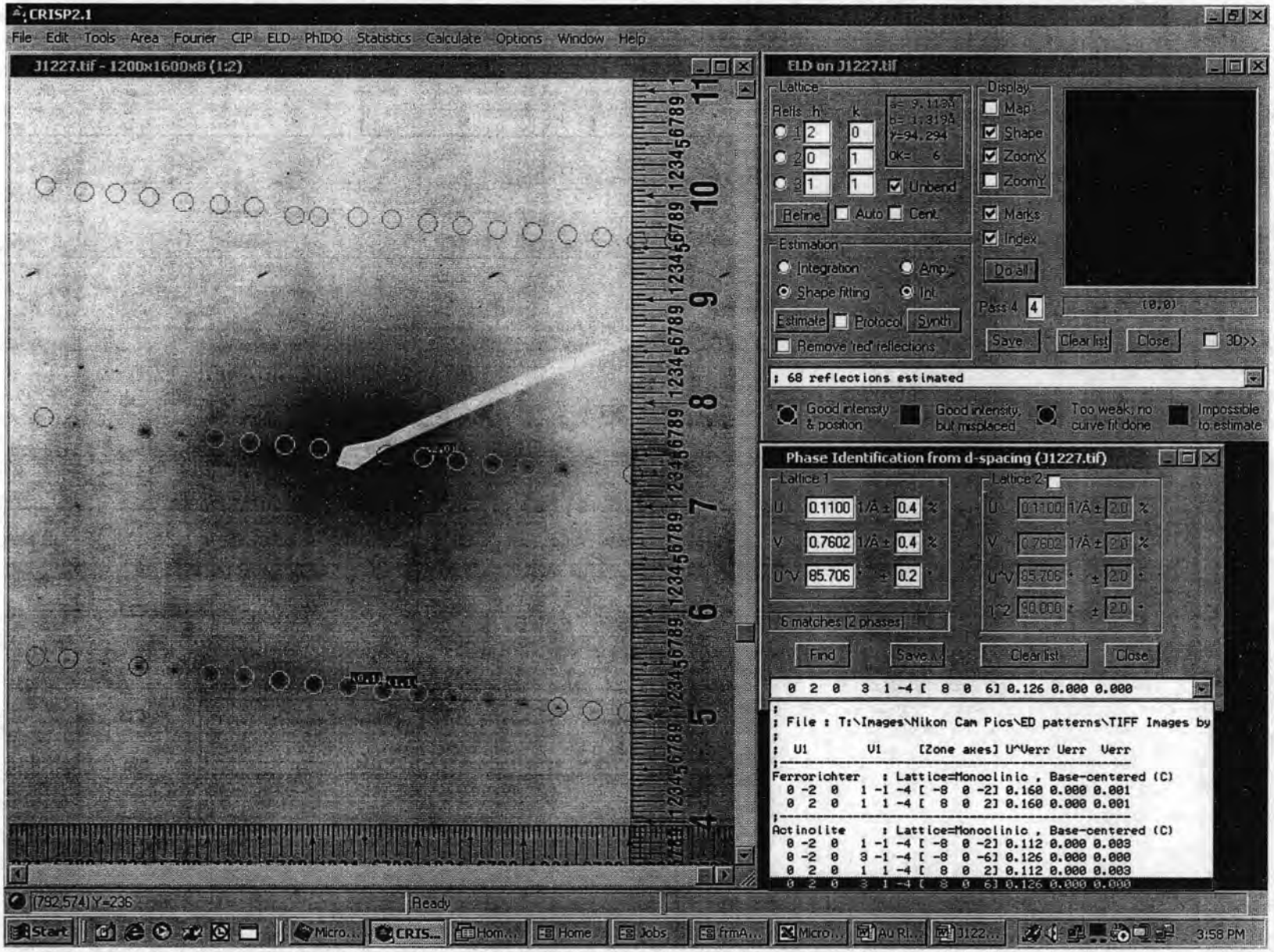
Prefix none
Name **actinolite**
Modifier none
Group **Calcic Amphibole**

Sample # **041172-89-882**

Values		**Satisfied Conditions**
(Ca,Na)@B	**1.79**	**(Ca,Na)@B >= 1 and Na@B < 0.5**
Na@B	**0.16**	**Ca@B >= 1.5 and (Na,K)@A < 0.5**
Ca@B	**1.63**	**(Mg/(Mg+Fe2))>= 0.5**
(Na,K)@A	**0.04**	**Si > 7.5**
Mg/(Mg+Fe2)	**0.63**	**(Mg/(Mg+Fe2))< 0.9**
Si	**7.98**	

Mineral Analysis Program (Version 5.0)

Sample 041172-90
Neg #1227
ACTINOLITE
[4 0 3]



*X 'SQMTF'
SQMTF -3B/80

SQMTF: QUANTIFY
Standardless Analysis
Chi-sqd = 4.35

Element	Net Counts		
Si-K	15238	+/-	235
Mg-K	4983	+/-	243
Al-K	513	+/-	267
Ca-K	4390	+/-	132
Fe-K	3962	+/-	123
Na-K	723	+/-	126
K-K	169	+/-	72

REF.S EDS:SIK EDS:MGK EDS:ALK EDS:CAK EDS:FEK EDS:NAK
EDS:K K

041172-90 SP 895

EL-LINE	PEAK	K-FACTOR	CEL/CREF	ATOM%	EL WT%	WT%	FORMULA
SI-K	15238	1.000	1.000	21.01	26.48	57.81	SIO2
MG-K	4983	1.000	0.327	8.02	8.82	14.71	MGO
AL-K	513	0.750	0.025	0.55	0.68	1.29	AL2O3
CA-K	4390	0.949	0.274	4.03	7.38	10.34	CAO
FE-K	3962	1.399	0.364	3.82	9.82	14.03	FE2O3
NA-K	723	0.549	0.026	0.67	0.70	1.44	NA2O3
K-K	169	1.059	0.012	0.18	0.32	0.38	K2O
O			1.679	61.72	45.29		

TN-5500 University of Washington / JEOL THU 23-DEC-04 10:07
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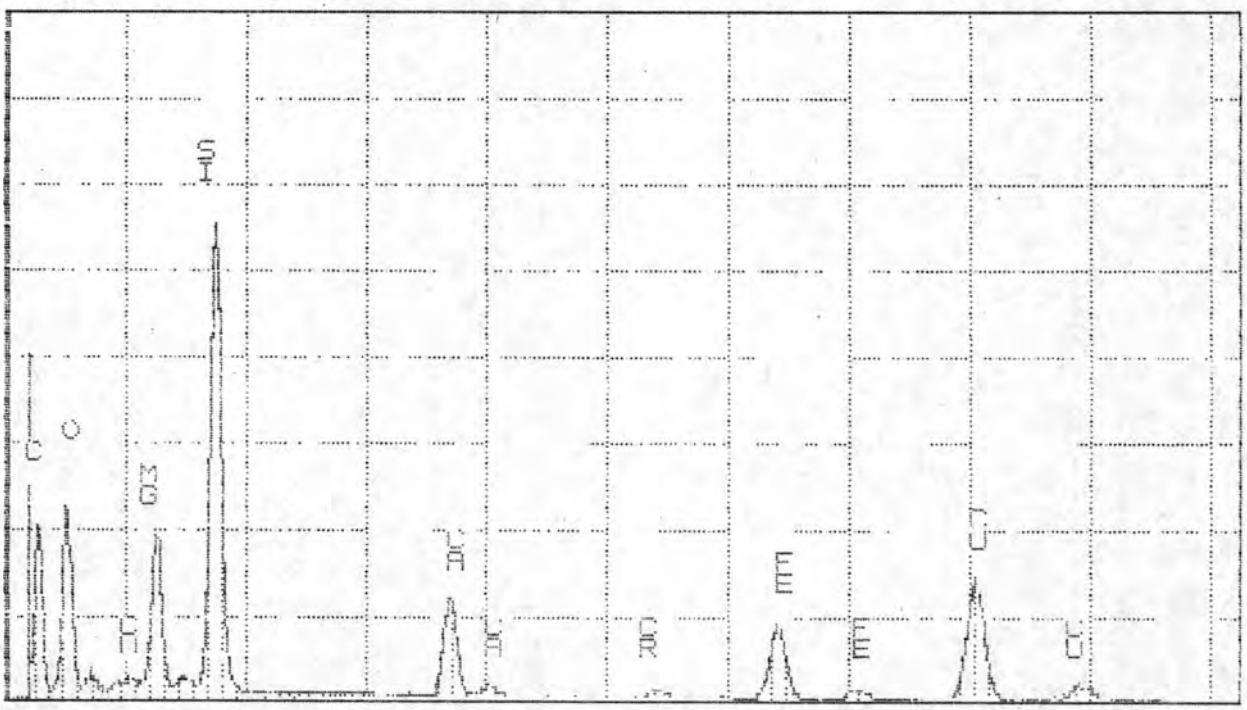

0.000 8- 5 VFS = 2048 10.240
112 041172-90 SP 895

1,30
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	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	57.81	Si+4	8.0000	8.0000							
Al2O3	1.29	Al+3	0.2201	0.0000	**0.2201**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	14.03	Fe+3	0.0490			0.0490	0.0000				
MgO	14.71	Mg+2	3.0867			3.0867	**0.0000**				
MnO	0	Fe+2	1.6025			1.6025	**0.0000**				
CaO	10.34	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	1.44	Ca+2	1.5632					1.5632	0.0000		
K2O	0.38	Na+	0.4088					0.4088	**0.0000**	0.0000	0.0000
		K+	0.0758							0.0758	0.0000
Total	**100**		**Excess**	T site	**0.2201**	C site	**0.0000**	B site	**0**	A site	**0**
			Total	**8**		**4.9584**		**1.9720**		**0.0758**	**0.0000**
			%Fill	**100**		**99.167**		**98.5991**			

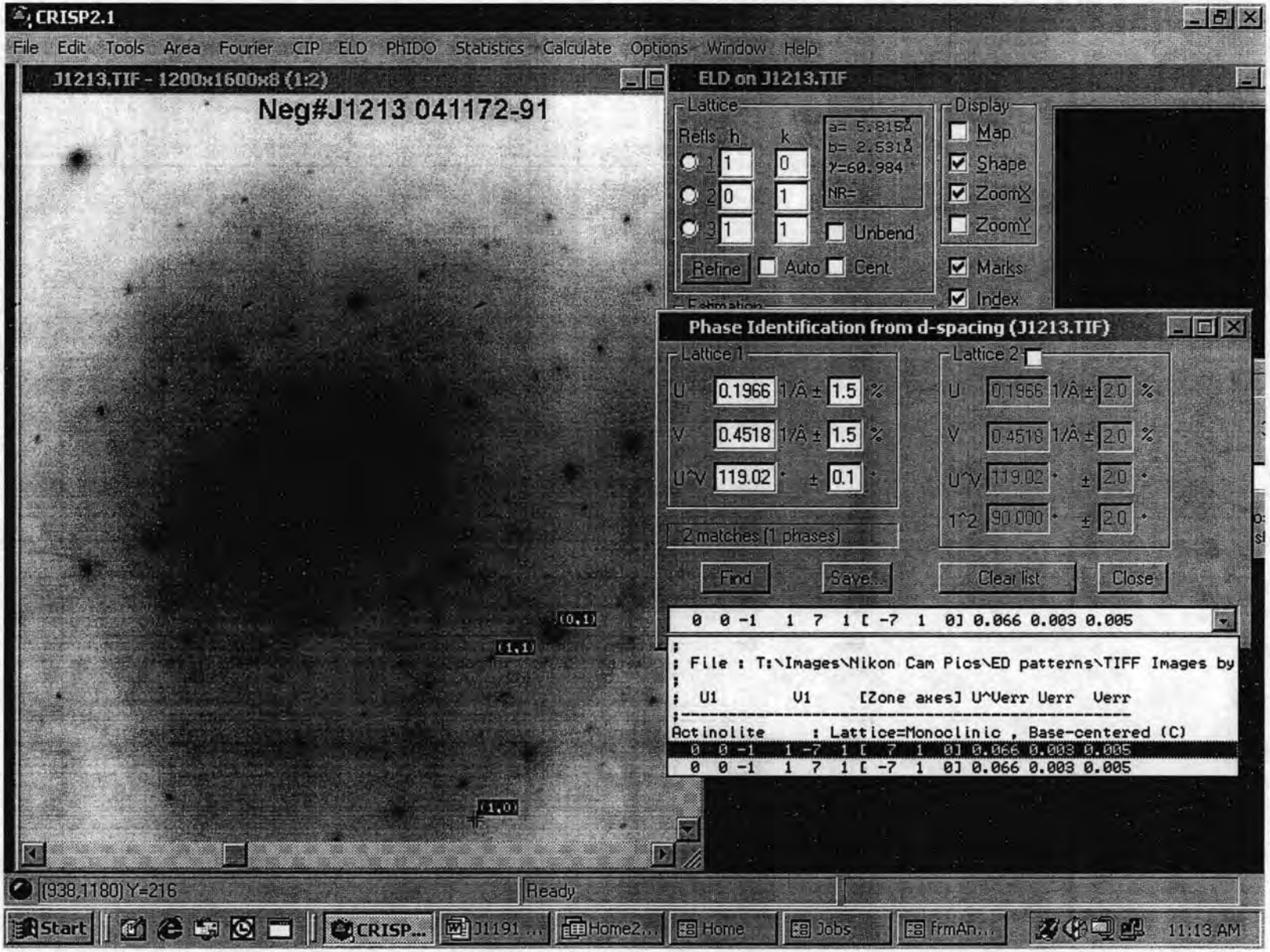
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # 041172-90-895

Values		Satisfied Conditions
(Ca,Na)@B	1.97	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.41	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.56	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.08	Si > 7.5
Mg/(Mg+Fe2)	0.66	(Mg/(Mg+Fe2))< 0.9
Si	8.00	

Mineral Analysis Program (Version 5.0)

Neg#J1213; Sample# 041172-91
ACTINOLITE
[7 1 0]



*SUMTH: QUANTIFY
** /SUMTH/
Standardless Analysis

Refit _K K' _K K"
Refit _ALK' _ALK" _NAK'
Chi-sqd = 7.24

Element	Net Counts	
Si-K	28449 +/-	250
Mg-K	9479 +/-	224
Al-K	1139 +/-	115
Ca-K	9226 +/-	181
Fe-K	7795 +/-	171
Na-K	724 +/-	118
K -K	77 +/-	41

041172-91 SP 897

EL-LINE	PEAK	K-FACTOR	CEL/CREF	ATOM%	EL WT%	WT%	FORMULA
SI-K	28449	1.000	1.000	20.78	26.55	56.89	SIO2
MG-K	9479	1.000	0.333	8.08	8.85	14.75	MGO
AL-K	1139	0.750	0.030	0.65	0.80	1.51	AL2O3
CA-K	9226	0.949	0.308	4.48	8.18	11.45	CAO
FE-K	7795	1.399	0.384	3.99	10.19	14.55	FE2O3
NA-K	724	0.549	0.014	0.35	0.37	0.76	NA2O3
K-K	77	1.059	0.003	0.04	0.08	0.09	K2O
O			1.695	61.63	44.99		

TN-5500 University of Washington / JFOL THU 2X-DEC-04 14:4X
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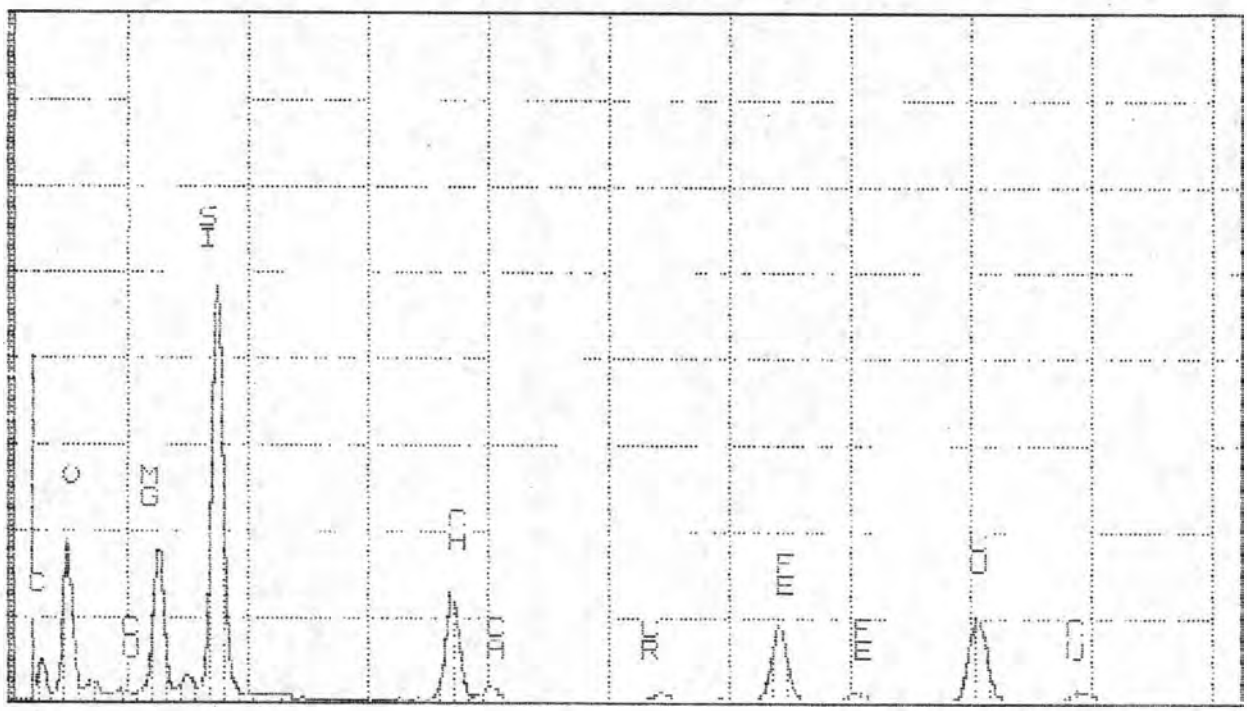

0 000 B- 5 VFS = 4096 10.240
30 041172-91 SP 897

1,30
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	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	56.89	Si+4	7.9844	7.9844							
Al2O3	1.51	Al+3	0.2498	0.0156	**0.2341**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	14.55	Fe+3	0.0768			0.0768	0.0000				
MgO	14.75	Mg+2	3.0862			3.0862	**0.0000**				
MnO	0	Fe+2	1.6222			1.6029	**0.0193**				
CaO	11.45	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0.76	Ca+2	1.7216					1.7216	0.0000		
K2O	0.09	Na+	0.2068					0.2068	**0.0000**	0.0000	0.0000
		K+	0.0161							0.0161	0.0000
Total	**100**		**Excess**	T site	**0.2341**	C site	**0.0193**	B site	**0**	A site	**0**
			Total	**8**		**5.0000**		**1.9284**		**0.0161**	**0.0000**
			%Fill	**100**		**100**		**96.4194**			

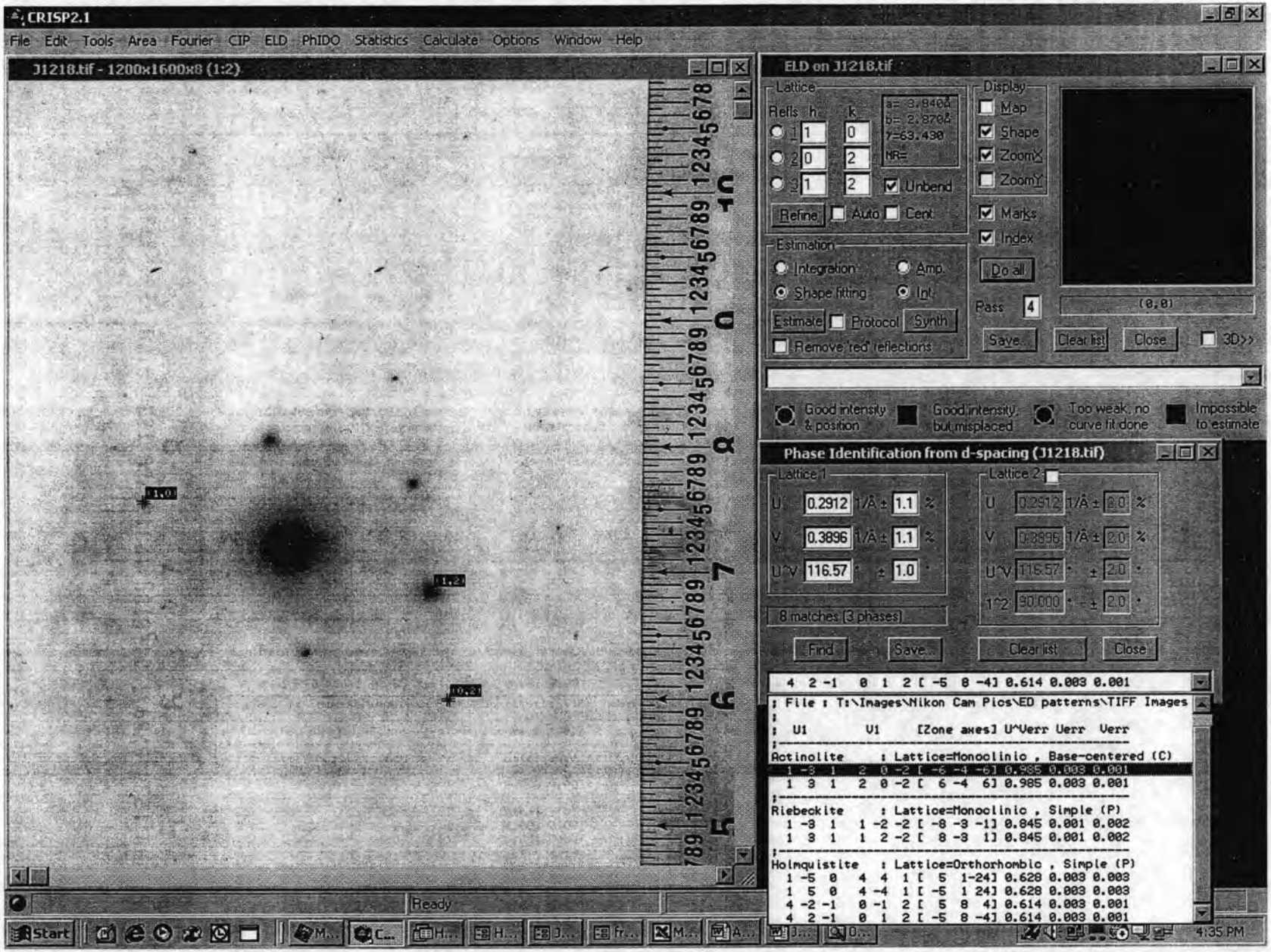
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # 041172-91-897

Values		Satisfied Conditions
(Ca,Na)@B	1.93	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.21	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.72	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.02	Si > 7.5
Mg/(Mg+Fe2)	0.66	(Mg/(Mg+Fe2))< 0.9
Si	7.98	

Mineral Analysis Program (Version 5.0)

Sample 041172-92
Neg #1218
ACTINOLITE
[3 2 3]



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SUMTF: QUANTIFY
Standardless Analysis

Chi-sqd = 7.98

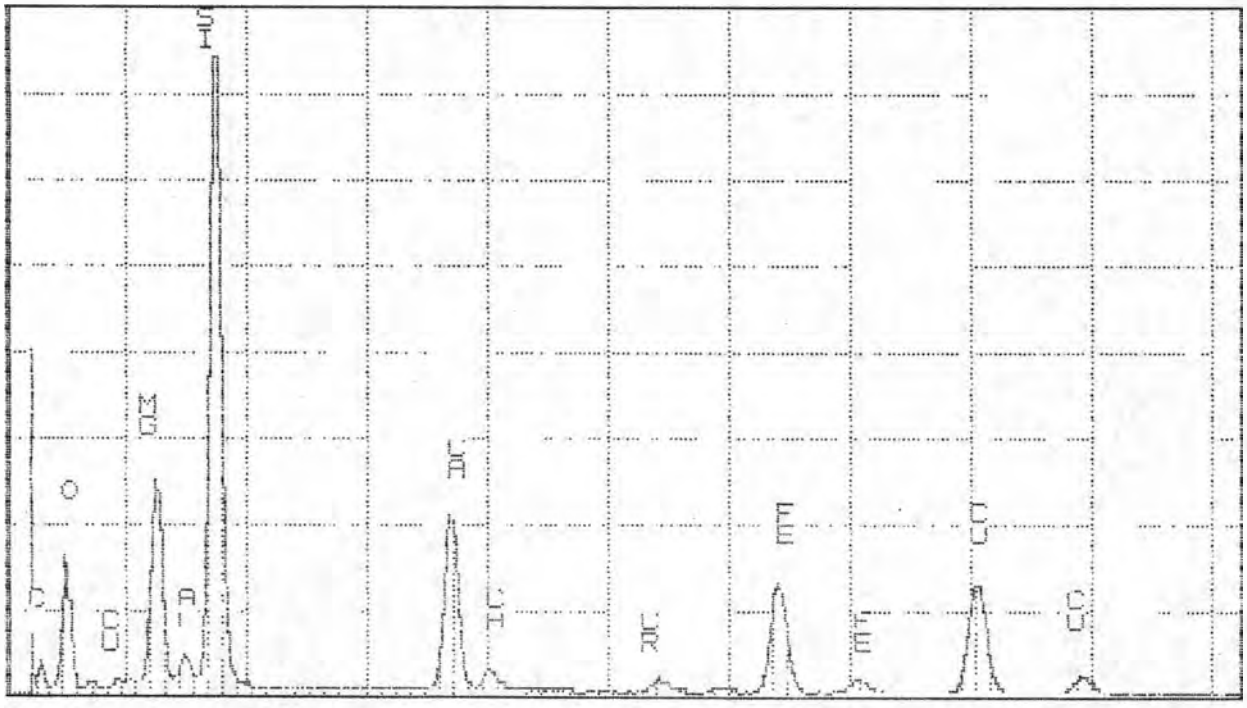
Element	Net Counts	
Si-K	43597 +/-	393
Mg-K	13365 +/-	353
Al-K	1818 +/-	436
Ca-K	15896 +/-	244
Fe-K	17025 +/-	213
Na-K	426 +/-	170
K -K	165 +/-	127

REF.S FDS:SIK EDS:MGK EDS:ALK FDS:CAK FDS:FEK EDS:NAK
FDS:K K

0411/2-92 SP902

EL-LINE	PEAK	K-FACTOR	CEL/CREF	ATOM%	EL WT%	WT%	FORMULA
SI-K	43597	1.000	1.000	20.90	26.56	56.91	SIO2
MG-K	13365	1.000	0.307	7.48	8.14	13.57	MGO
AL-K	1818	0.750	0.031	0.68	0.83	1.57	AL2O3
CA-K	15896	0.949	0.346	5.07	9.20	12.88	CAO
FE-K	17025	1.399	0.286	4.04	10.26	14.65	FE2O3
NA-K	426	0.549	0.005	0.14	0.14	0.29	NA2O3
K-K	165	1.059	0.004	0.06	0.11	0.13	K2O
O			1.686	61.65	44.76		

TN-5500 University of Washington / JEOL MON 27-DEC-04 16:24
Cursor: 0.000keV = 0



0.000 B- 5 VFS = 4096 10.240
40 041172-92 SP902

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	56.91	Si+4	8.0000	8.0000							
Al2O3	1.57	Al+3	0.2620	0.0000	**0.2620**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	14.65	Fe+3	0.0164			0.0164	0.0000				
MgO	13.57	Mg+2	2.8532			2.8532	**0.0000**				
MnO	0	Fe+2	1.7103			1.7103	**0.0000**				
CaO	12.88	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0.29	Ca+2	1.9462					1.9462	0.0000		
K2O	0.13	Na+	0.0826					0.0538	**0.0288**	0.0288	0.0000
		K+	0.0249							0.0249	0.0000
Total	**100**		**Excess**	T site	**0.2620**	C site	**0.0000**	B site	**0.0288098**	A site	**0**
			Total	**8**		**4.8419**		**2.0000**		**0.0537**	**0.0000**
			%Fill	**100**		**96.8372**		**100**			

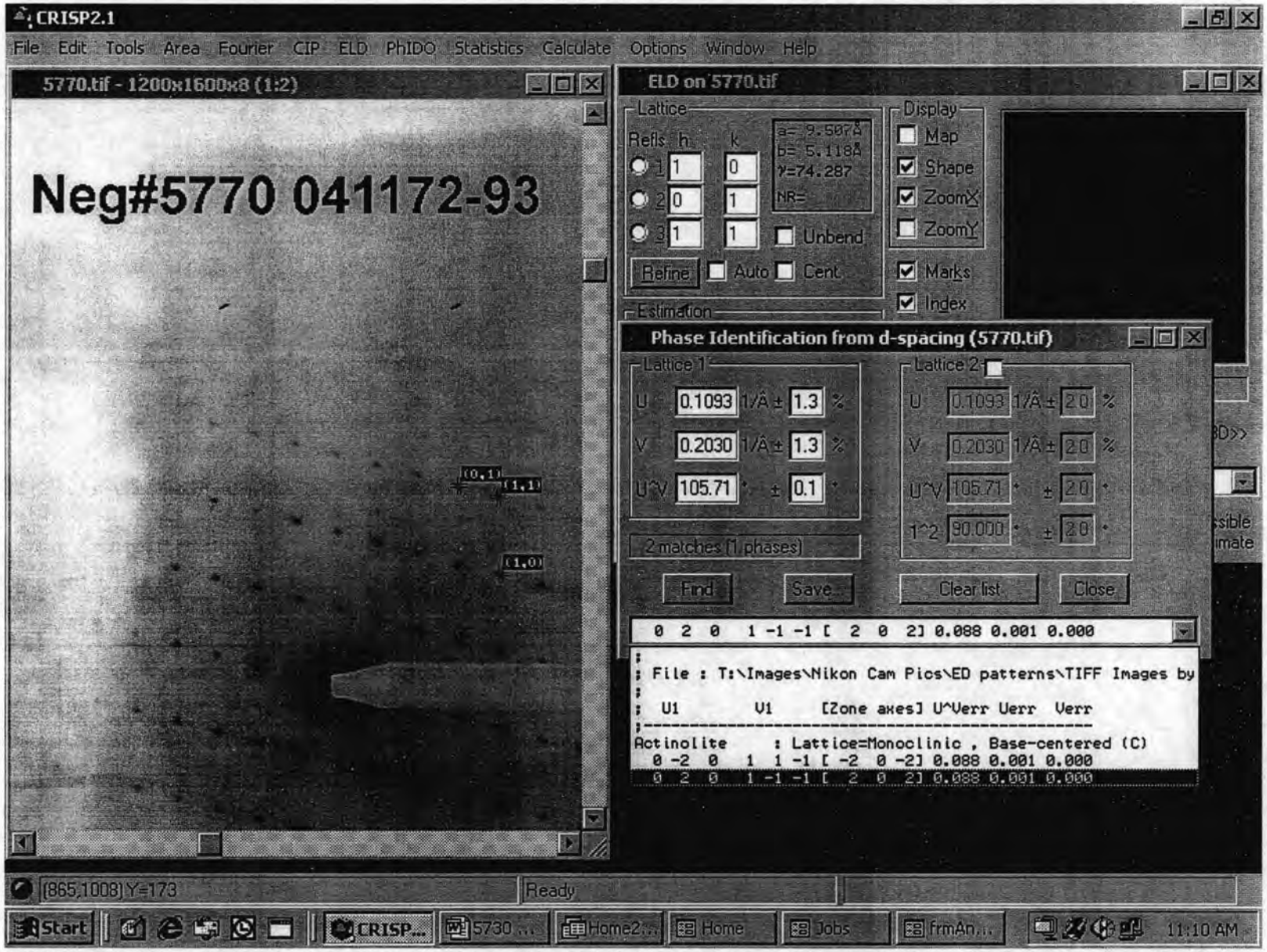
Prefix none
Name **actinolite**
Modifier none
Group **Calcic Amphibole**

Sample # **041172-92-902**

Values		**Satisfied Conditions**
(Ca,Na)@B	**2.00**	**(Ca,Na)@B >= 1 and Na@B < 0.5**
Na@B	**0.05**	**Ca@B >= 1.5 and (Na,K)@A < 0.5**
Ca@B	**1.95**	**(Mg/(Mg+Fe2))>= 0.5**
(Na,K)@A	**0.05**	**Si > 7.5**
Mg/(Mg+Fe2)	**0.63**	**(Mg/(Mg+Fe2))< 0.9**
Si	**8.00**	

Mineral Analysis Program (Version 5.0)

Neg#5770; Sample# 041172-93
ACTINOLITE
[1 0 1]



Title: 041411-03 50000x h Title: 041411-03 50000x h Title: 041411-03 50000x h Title: 041411-03 50000x h

INTE-% :
LABEL = 041172-93 15617
24-DEC-72 03:36:19
65.106 LIVE SECONDS

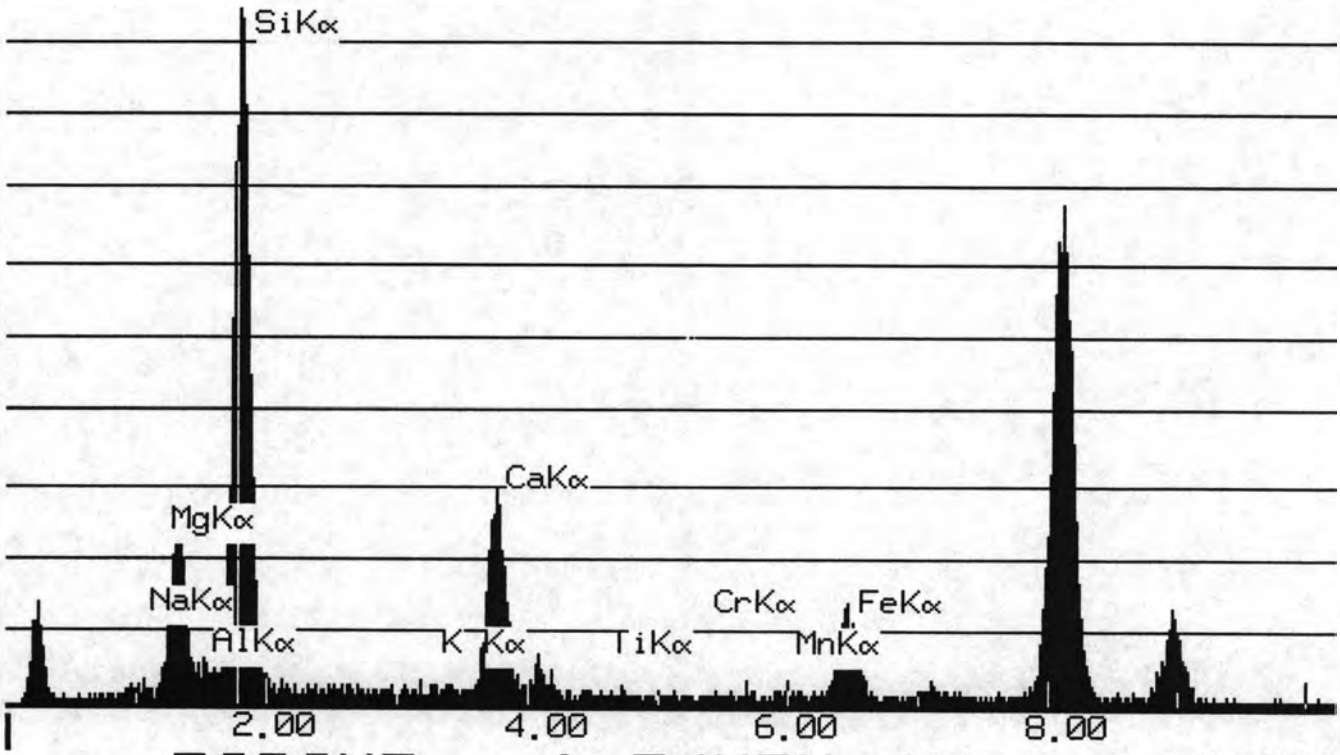
ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	21.058	10.724	17.782
SIK	98.547	28.227	60.387
K K	0.323	0.154	0.185
CAK	33.023	9.018	12.618
CRK	0.415	0.158	0.230
MNK	0.630	0.248	0.320
FEK	16.343	5.929	8.477

TOTAL			100.000

USED PEIF: USER

Bb-Act
Actinolite

23-DEC-04 03:36:36 SUPER QUANT
RATE= 129CPS TIME= 65LSEC
FS= 718/ 718 PRST=9999LSEC
A =041172-93 15617



562CNT 1.74KEV 10eV/ch A EDAX

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	60.387	Si+4	8.0000	8.0000							
Al2O3	0	Al+3	0.0000	0.0000	**0.0000**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0.23	Cr+3	0.0383			0.0383	0.0000				
Fe(total)O	8.477	Fe+3	0.0215			0.0215	0.0000				
MgO	17.782	Mg+2	3.6678			3.6678	**0.0000**				
MnO	0.32	Fe+2	0.9860			0.9860	**0.0000**				
CaO	12.618	Mn+2	0.0659			0.0659	**0.0000**				
Na2O	0	Ca+2	1.8809					1.8809	0.0000		
K2O	0.185	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0540							0.0540	0.0000
Total	**99.999**		**Excess**	T site	**0.0000**	C site	**0.0000**	B site	**0**	A site	**0**
			Total	**8**		**4.7795**		**1.8809**		**0.0540**	**0.0000**
			%Fill	**100**		**95.5905**		**94.0462**			

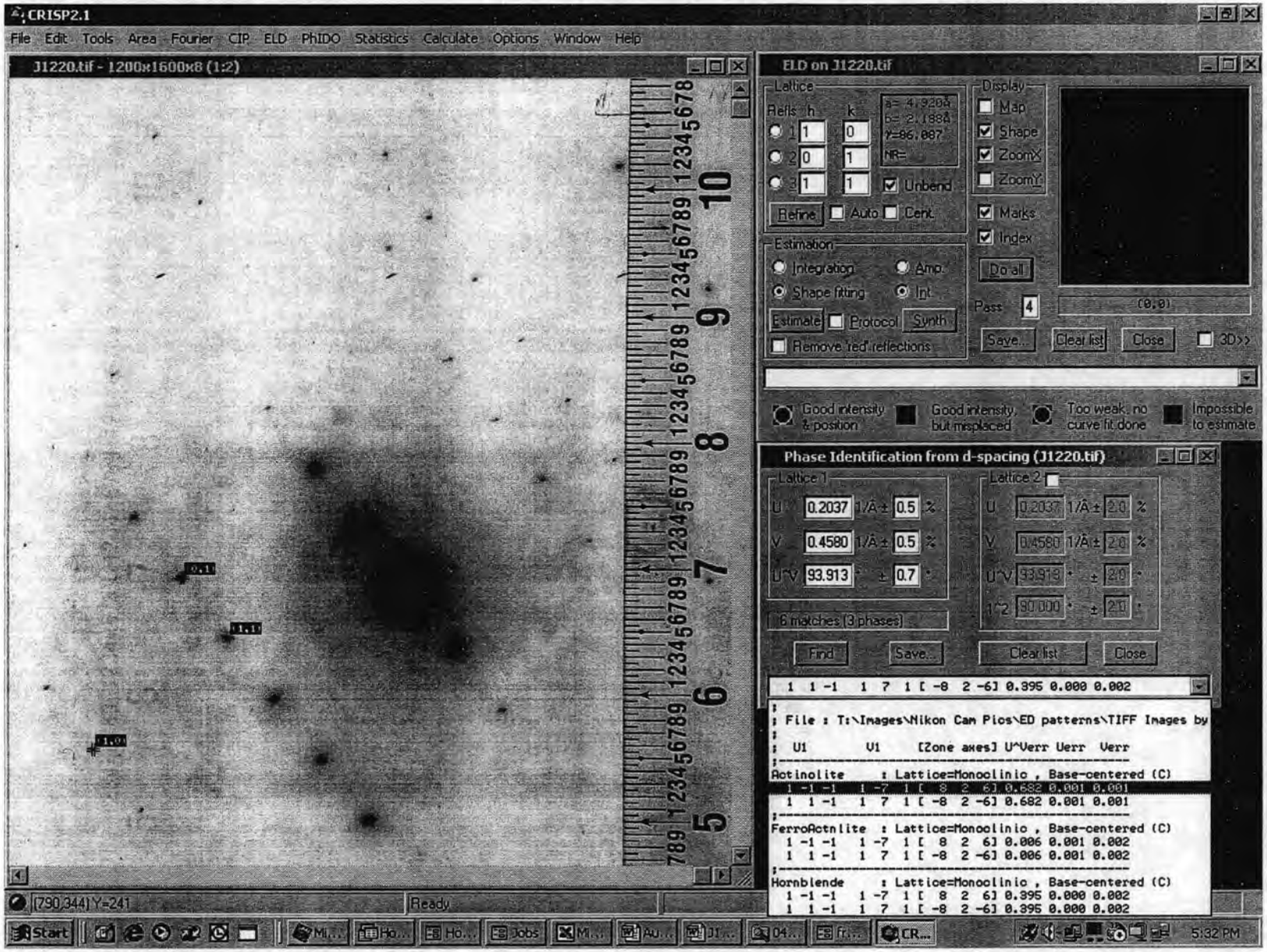
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041172-93-15617**

Values		**Satisfied Conditions**
(Ca,Na)@B	**1.88**	**(Ca,Na)@B >= 1 and Na@B < 0.5**
Na@B	**0.00**	**Ca@B >= 1.5 and (Na,K)@A < 0.5**
Ca@B	**1.88**	**(Mg/(Mg+Fe2))>= 0.5**
(Na,K)@A	**0.05**	**Si > 7.5**
Mg/(Mg+Fe2)	**0.79**	**(Mg/(Mg+Fe2))< 0.9**
Si	**8.00**	

Mineral Analysis Program (Version 5.0)

Sample 041172-94
Neg #1220
ACTINOLITE
[4 1 3]



SQMTF: QUANTIFY
Standardless Analysis

Refit _NAK' _NAK"
Refit _ALK" _NAK _K K' _K K"
Refit _MGK'
Chi-sqd = 8.19

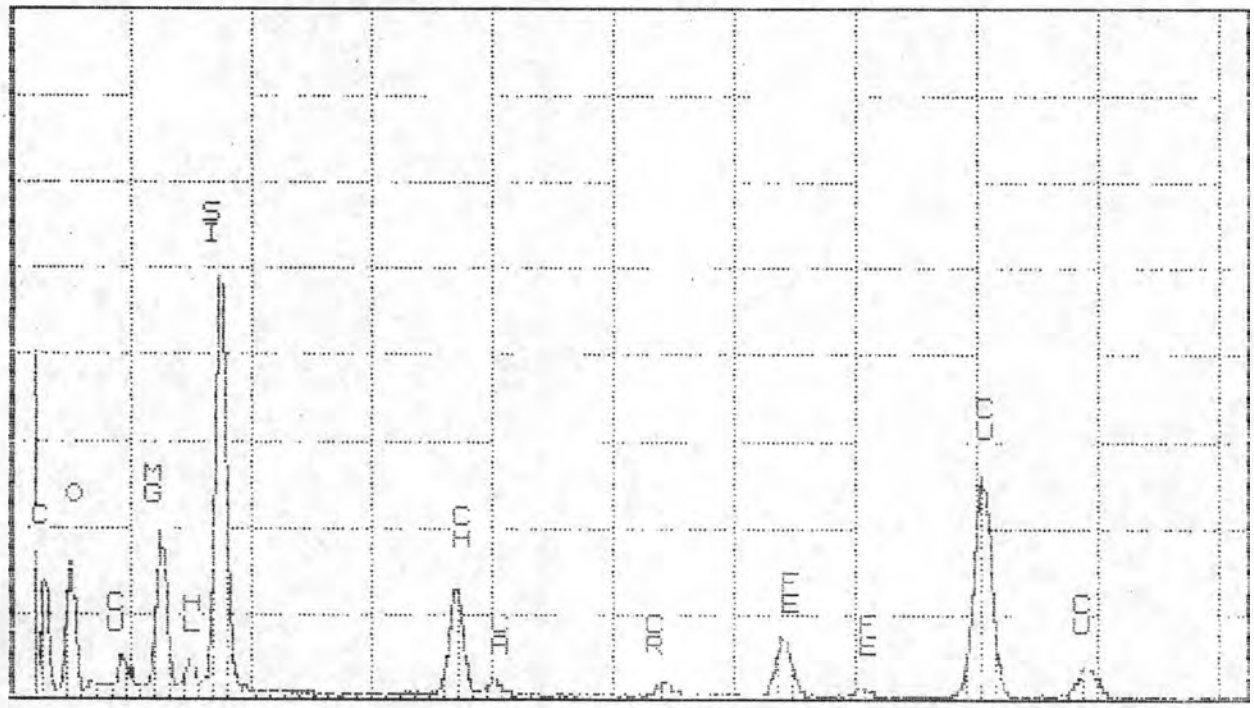
Element	Net Counts		
Si-K	13763	+/-	202
Mg-K	5341	+/-	155
Al-K	862	+/-	77
Ca-K	4665	+/-	140
Fe-K	3131	+/-	114
Na-K	0	+/-	0
K -K	93	+/-	35

REF.S EDS:SIK EDS:MGK EDS:ALK EDS:CAK EDS:FEK EDS:NAK
EDS:K K

0411/2-94 SP904

EL-LINE	PEAK	K-FACTOR	CEL/CREF	ATOM%	HI WT%	WT%	FORMULA
SI-K	13763	1.000	1.000	20.47	26.36	56.50	SIO2
MG-K	5341	1.000	0.388	9.27	10.23	17.05	MGO
AL-K	862	0.750	0.047	1.00	1.24	2.34	AL2O3
CA-K	4665	0.944	0.322	4.62	8.49	11.89	CAO
FE-K	3131	1.399	0.319	3.26	8.40	12.00	FE2O3
NA-K	0	0.549	0.000	0.00	0.00	0.00	NA2O
K-K	93	1.059	0.007	0.11	0.19	0.23	K2O
O			1.710	61.28	45.04		

TN-5500 University of Washington / JEOL TUE 28-DEC-04 11:48
Cursor: 0.000keV = 0



0.0mm R- 5 VFS = 2048 10.240
82 0411/2-94 SP904

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	56.5	Si+4	7.7953	7.7953							
Al2O3	2.34	Al+3	0.3805	0.2047	**0.1758**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	12	Fe+3	0.4360			0.4360	0.0000				
MgO	17.05	Mg+2	3.5070			3.5070	**0.0000**				
MnO	0	Fe+2	0.8999			0.8812	**0.0187**				
CaO	11.89	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	1.7575					1.7575	0.0000		
K2O	0.23	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0405							0.0405	0.0000
Total	**100.01**		**Excess**	T site	**0.1758**	C site	**0.0187**	B site	**0**	A site	**0**
			Total	**8**		**5.0000**		**1.7575**		**0.0405**	**0.0000**
			%Fill	**100**		**100**		**87.8738**			

Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041172-94-904**

Values		Satisfied Conditions
(Ca,Na)@B	1.76	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.76	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.04	Si > 7.5
Mg/(Mg+Fe2)	0.80	(Mg/(Mg+Fe2))< 0.9
Si	7.80	

Mineral Analysis Program (Version 5.0)

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

March 18, 2005

Lisa Johnson
350 Sansome Ste. 300
San Francisco, CA 94104

Re: QC Package for January – March 2005

Lisa –

Attached are the QC packets for January, February and March. They are separated by microscope and then put in chronological order by QC type.

We will include a final QC packet with the final report for the Indirect samples. Please let us know if you require any further information.

Sincerely,

Kate March
Lab/Cor, Inc.
Seattle WA, 98117

(206)781-0155
kmarch@labcor.net

Additional Info

Lab/Cor, Inc.

Facsimile Transmittal Form

To: LISA JOHNSON

Fax #: 415-981-0801 Phone#:

From: KATE MARCH

Date: 3/9/05

Re: MICROSCOPE MAINT. & CALIB. LOGS

pages: 9 including cover sheet

LISA-

Attached are the maintenance and calibration logs for the two microscopes.

Please let me know if you require any further information.

Thanks—
Kate.

7619 Sixth Avenue Northwest, Seattle, WA 98117
Tel. (206) 781-0155 or (888)-522-2674 FAX: (206) 789-8424
www.labcor.net

Lab/Cor, Inc.
Equipment Maintenance Form

Equipment: Philips 410LS Transmission Electron Microscope
Serial Number: D673
Installation Date: Nov. 1990 **Month:** December 2004
Version# 1

Scheduled Maintenance

	1	2	3	4	5	6	7	8	9	10	11
Daily		dw	MQ	TM	KM	KM	dw	KM	dw	MQ	KM
Weekly											
Monthly											
Quarterly											
Yearly											
	12	13	14	15	16	17	18	19	20	21	22
Daily	TM			DW	KM	KM	KM		dw	dw	JH
Weekly										dw	
Monthly										dw	
Quarterly											
Yearly											
	23	24	25	26	27	28	29	30	31		
Daily	MQ	dw				KM	KM	KM			
Weekly											
Monthly											
Quarterly											
Yearly											

Daily: Check for water/ air leaks. Check for vacuum leaks. Grease the specimen rod O' ring lightly. Daily scope alignment.

Weekly: Drain air compressor tank. Check blow-off line for presence of water (behind microscpe column). Press valve at the bottom of glass bulb to expel any residual water in air lines.

Monthly: Check oil level and color in rotary pump in housing behind scope. If level is below the 'fill' mark, add Hydrocarbon based oil only (NO SILICON OIL).

Quarterly: Clean water line filter when water chiller tank and filter and cleaned.

Yearly: Have scope serviced as part of preventative maintenance.

Observations: 12/21 leak detected on top of IBP. Screws tightened & HV2 is now < 8 pA. Goniometer taken apart and cleaned & greased. Translator (right) arm is still tight.
12/20 Detector brought down to room temp to allow any ice crystals on window to vent off. will fill w/ LH_2 to determine if k factors are a success or not

Zeus(t):\\QC\Master Docs\Maintenance Forms\Philips TEM.xls

Lab/Cor, Inc.
Equipment Maintenance Form

Equipment: Philips 410LS Transmission Electron Microscope
Serial Number: D673
Installation Date: Nov. 1990 **Month:** JAN - 05
Version# 1

Scheduled Maintenance

	1	2	3	4	5	6	7	8	9	10	11
Daily	KM	TM	dw	TM	dw	KM		KM		KM	dw
Weekly	KM					RM					
Monthly						KM					
Quarterly											
Yearly											
	12	13	14	15	16	17	18	19	20	21	22
Daily	MQ	JH	dw		MQ		DW	MQ	KM		
Weekly											
Monthly											
Quarterly											
Yearly											
	23	24	25	26	27	28	29	30	31		
Daily		DW	DW			KM			dw		
Weekly											
Monthly											
Quarterly											
Yearly											

Daily: Check for water/ air leaks. Check for vacuum leaks. Grease the specimen rod O' ring lightly. Daily scope alignment.

Weekly: Drain air compressor tank. Check blow-off line for presence of water (behind microscpe column). Press valve at the bottom of glass bulb to expel any residual water in air lines.

Monthly: Check oil level and color in rotary pump in housing behind scope. If level is below the 'fill' mark, add Hydrocarbon based oil only (NO SILICON OIL).

Quarterly: Clean water line filter when water chiller tank and filter and cleaned.

Yearly: Have scope serviced as part of preventative maintenance.

Observations: replaced filament 1/6/05 - using ~ filament again
1/10/05 - had to adjust filament - too close to whenelt cap

Zeus(t):\\QC\Master Docs\Maintenance Forms\Philips TEM.xls

Monthly Calibration Log PHILIPS 410 Lab/Cor, Inc. Date: DECEMBER 2004

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Analyst		dw	MQ	TM	KM	KM	dw	KM	dw	MQ	KM	TM			DW	TM
18K Mag. Calib. SC1																
SC2																
SC3																
SC4																
SC5																
10K Mag. Calibration																
EDS																
EDS Na																
EDS Al																
Gain Inc.																
New Gain																
Cu																
Zero Inc.																
New Zero																
Resolution																
# of Iterations																
Alignment -- FCA															✓	
DA		dw	MQ	TM	KM	KM	dw	KM	dw	MQ	KM	TM			✓	✓
Gold Rings Negative										MQ					✓	
Camera Constant																

Day	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Analyst	KM	KM		dw	KM	JH	MQ	dw				KM	KM	KM		
18K Mag. Calib. SC1					19.3											
SC2					19.3											
SC3					19.3											
SC4					19.2											
SC5					19.3											
10K Mag. Calibration					34.2											
EDS																
EDS Na																
EDS Al																
Gain Inc.																
New Gain																
Cu																
Zero Inc.																
New Zero																
Resolution																
# of Iterations																
Alignment -- FCA						JH	✓	dw								
DA	✓	✓		dw			✓				✓	✓	✓	✓		
Gold Rings Negative							✓									
Camera Constant																

Monthly Calibration Log PHILIPS 410 Lab/Cor, Inc. Date: JANUARY 2005

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Analyst	KM	TM	dw	TM	dw			KM		KM	dw	MQ	TM	dw		MQ
18K Mag. Calib. SC1	19.3															
SC2	19.4															
SC3	19.3															
SC4	19.5															
SC5	19.4															
10K Mag. Calibration	33.8															
EDS																
EDS Na																
EDS Al																
Gain Inc.																
New Gain																
Cu																
Zero Inc.																
New Zero																
Resolution							Scope									
# of Iterations																
Alignment -- FCA	KM		dw				dain	KM		KM	dw					
DA	KM	TM	dw	TM	dw			KM		KM	dw	MQ	TM	dw		MQ
Gold Rings Negative	KM		dw													
Camera Constant																

Day	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Analyst		dw	MQ	KM				dw	DW			KM			DW
18K Mag. Calib. SC1															
SC2															
SC3															
SC4															
SC5															
10K Mag. Calibration															
EDS															
EDS Na															
EDS Al															
Gain Inc.															
New Gain															
Cu															
Zero Inc.															
New Zero															
Resolution															
# of Iterations															
Alignment -- FCA		dw	MQ									KM			DW
DA		dw	MQ	KM				dw	dw			KM			
Gold Rings Negative			MQ												
Camera Constant															

Lab/Cor, Inc.
Equipment Maintenance Form

Equipment: JEOL-1200EX Transmission Electron Microscope
Serial Number: EM157003
Installation Date: Aug. 03 Month: DEC 2004
Version# 1

Scheduled Maintenance

	1	2	3	4	5	6	7	8	9	10	11
Daily	JH	KM		DW			JH	JH	KM	KM	JH
Weekly				DW							JH
Monthly				DW							
Quarterly											
Yearly											
	12	13	14	15	16	17	18	19	20	21	22
Daily	JH	DW	JH	JH	JH	JH	KM	KM			KM
Weekly				JH							KM
Monthly											
Quarterly											
Yearly											
	23	24	25	26	27	28	29	30	31		
Daily	JH			JH	JH	JH	KM	JH	JH		
Weekly											
Monthly											
Quarterly											
Yearly											

Daily: Check for water/ air leaks. Check for vacuum leaks. Grease the specimen rod O' ring lightly. Daily scope alignment.

Weekly: Check water level of chiller and pressure reading.

Monthly: Check oil level and color in rotary pump in housing behind scope. If level is below the 'fill' mark, add Hydrocarbon based oil only (NO SILICON OIL).

Quarterly: Clean water line filter when water chiller tank and filter and cleaned.

Yearly: Have scope serviced as part of preventative maintenance.

Observations:

JEOL 1200EX EDS Resolution Calibration (Version#1) Month: DEC 2004

Analyst	JH	KM		DW			JH	JH	KM	KM	JH	JH	DW	JH	JH	JH
Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
18K Mag. Calib. SC1																
SC2																
SC3																
SC4																
SC5																
10K Mag. Calibration																
EDS																
EDS Na																
EDS Al																
Gain Inc.																
New Gain																
Cu																
Zero Inc.																
New Zero																
Resolution																
# of Iterations																
Alignment -- FCA	JH												DW			JH
DA	JH	KM		DW			JH	JH	KM	KM	JH	JH	DW	JH	JH	JH
Gold Rings Negative													DW			
Camera Constant																

Analyst	JH	KM	KM			KM	JH			JH	JH	JH	KM	JH	JH	
Day	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
18K Mag. Calib. SC1																
SC2																
SC3																
SC4																
SC5																
10K Mag. Calibration																
EDS																
EDS Na																
EDS Al																
Gain Inc.																
New Gain																
Cu																
Zero Inc.																
New Zero																
Resolution																
# of Iterations												JH				
Alignment -- FCA							JH			JH	JH	JH	KM	JH/KM	JH	
DA	JH	KM	KM			KM	JH					JH				
Gold Rings Negative							JH									
Camera Constant																

JEOL 1200 EX EDS Resolution Calibration (Version#1) Month: JAN 05

Analyst		KM	JH	KM	KM	JH	KM			JH	JH	KM	JH			
Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
18K Mag. Calib. SC1																
SC2																
SC3																
SC4																
SC5																
10K Mag. Calibration	New															
EDS						JH				JH	JH					
EDS Na	EDS															
EDS Al																
Gain Inc.	System															
New Gain																
Cu																
Zero Inc.																
New Zero																
Resolution																
# of Iterations																
Alignment -- FCA			JH			JH				JH	JH		JH			
DA		KM	JH	KM		JH	KM			JH	JH	KM	JH			
Gold Rings Negative			JH										JH			
Camera Constant																

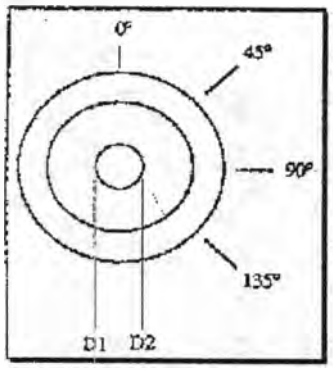
Analyst	JH	JH	KM	JH	KM		JH	KM	JH	JH	KM			TM	
Day	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
18K Mag. Calib. SC1															
SC2															
SC3															
SC4															
SC5															
10K Mag. Calibration															
EDS		JH	KM	JH	KM			JH	JH						
EDS Na															
EDS Al															
Gain Inc.															
New Gain															
Cu															
Zero Inc.															
New Zero															
Resolution															
# of Iterations															
Alignment -- FCA			KM	JH											
DA	JH/KM	JH	KM	JH	KM		JH	KM	KM/JH	JH	KM			TM	
Gold Rings Negative															
Camera Constant															

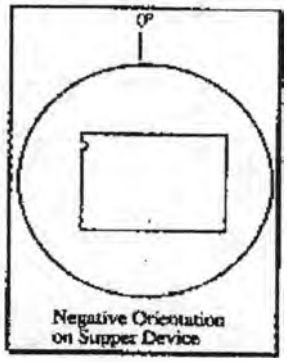
Camera Length and Camera Constant Calibration (Version#1)

Date of Measurement:	3/17/2005	**Average Camera Constant:**	29.817 **mmA**
Negative Number:	J1293	(All 12 Measurements)	
Date Negative was Taken:	1/13/2005	**Average Camera Length:**	805.88 **mm**
Analyst:	KM	(All 12 Measurements)	

Ring #	0 degrees						45 degrees					
	D_1	D_2	D	R	CC	CL	D_1	D_2	D	R	CC	CL
1	69.15	94.50	25.35	12.68	29.85	806.75	70.50	95.75	25.25	12.63	29.73	803.56
2	67.20	96.60	29.40	14.70	29.97	810.09	68.60	97.75	29.15	14.58	29.72	803.20
3	61.00	102.75	41.75	20.88	30.10	813.56	62.50	103.90	41.40	20.70	29.85	806.74

Ring #	90 degrees						135 degrees					
	D_1	D_2	D	R	CC	CL	D_1	D_2	D	R	CC	CL
1	70.95	96.10	25.15	12.58	29.61	800.38	70.15	95.50	25.35	12.68	29.85	806.75
2	69.00	98.05	29.05	14.53	29.62	800.45	68.25	97.45	29.20	14.60	29.77	804.58
3	62.90	104.20	41.30	20.65	29.78	804.79	62.10	103.65	41.55	20.78	29.96	809.66





Measure the first three rings moving outward from the central spot of the diffraction pattern.

D_1 = The smaller measurement on the Supper device (mm).

D_2 = The larger measurement on the Supper device (mm).

$D = D_2 - D_1$

$R = D/2$

CC = Camera Constant

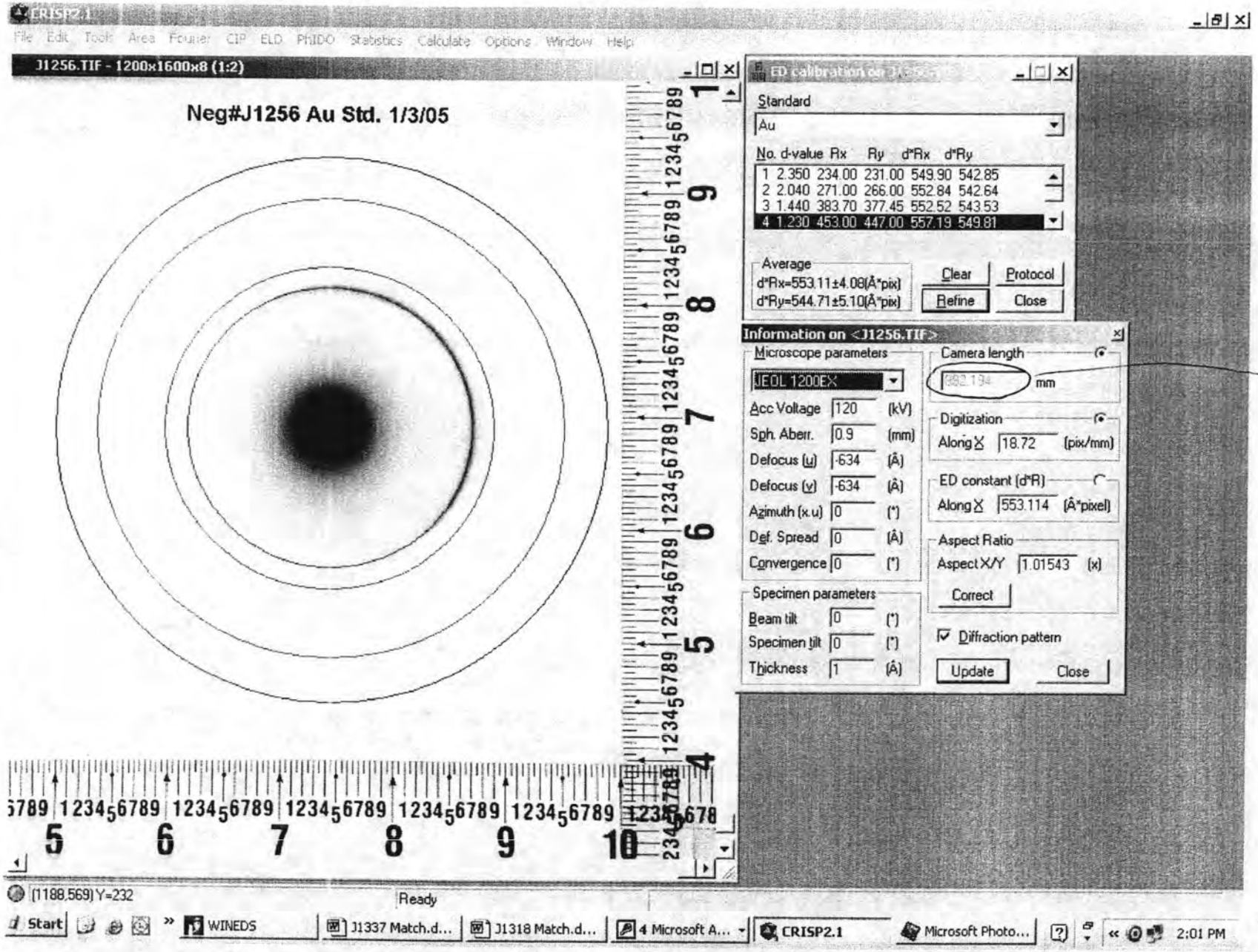
For Ring 1 [111], CC = R*2.355

For Ring 2 [200], CC = R*2.039

For Ring 3 [220], CC = R*1.442

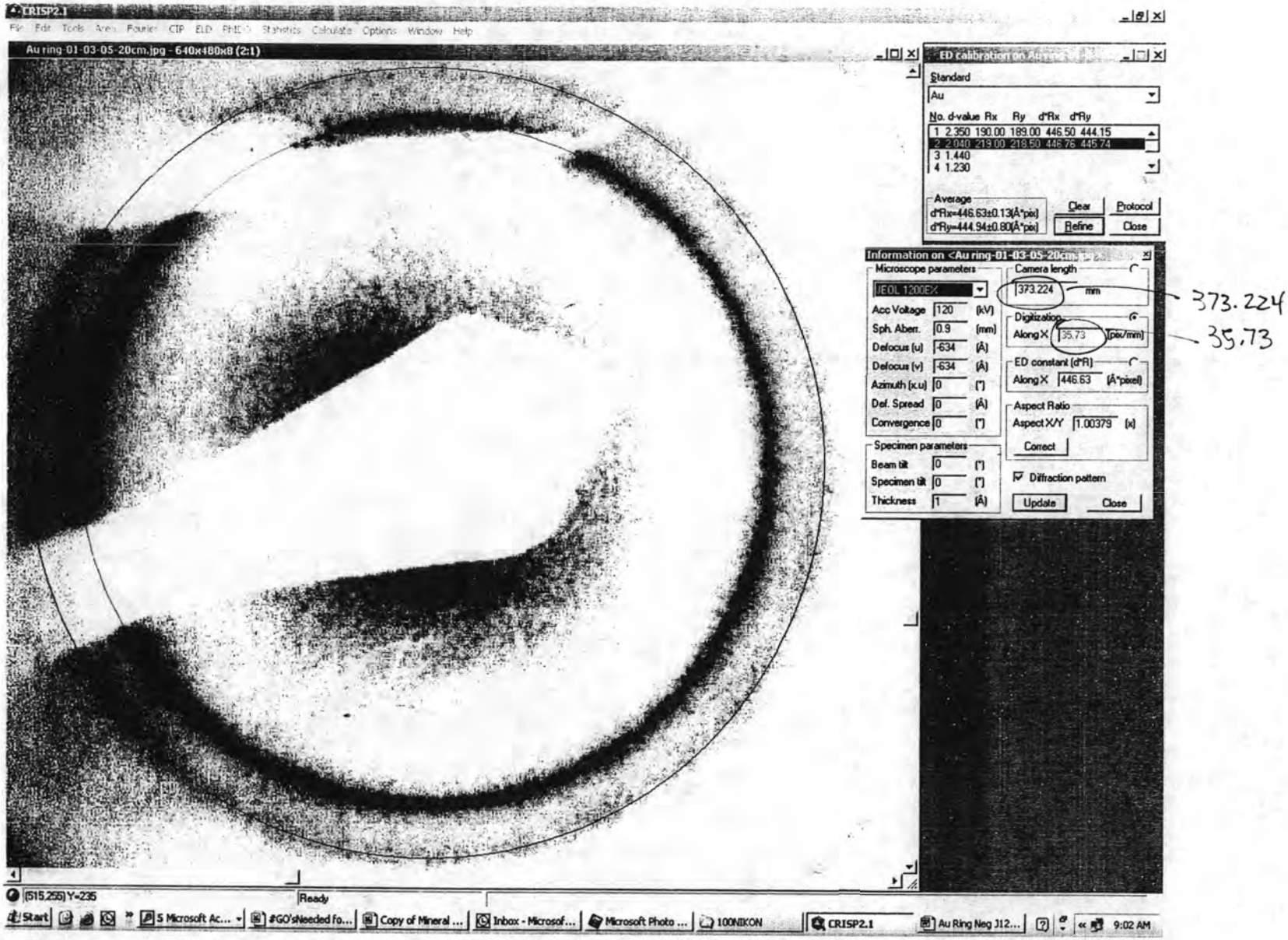
CL = Camera Length = CC/0.037

Au Standard
Joel 1200, Neg#J1256
01/13/05



882.194

Au Standard (20 cm) – GATAN (17.8 mm horiz x 13.3 mm vert)
Joel 1200
1/3/05

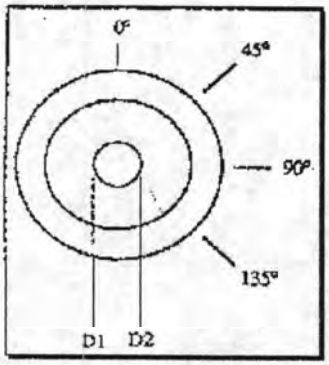


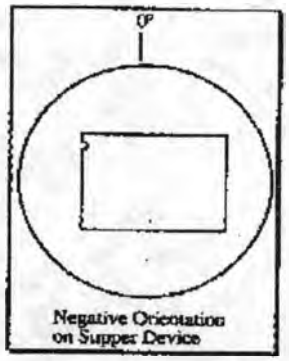
Camera Length and Camera Constant Calibration (Version#1)

Date of Measurement:	3/17/2005	**Average Camera Constant:**	30.093 **mmA**
Negative Number:	J1374	(All 12 Measurements)	
Date Negative was Taken:	2/10/2005	**Average Camera Length:**	813.33 **mm**
Analyst:	KM	(All 12 Measurements)	

Ring #	0 degrees						45 degrees					
	D_1	D_2	D	R	CC	CL	D_1	D_2	D	R	CC	CL
1	72.15	97.95	25.80	12.90	30.38	821.07	79.05	104.65	25.60	12.80	30.14	814.70
2	70.15	99.95	29.80	14.90	30.38	821.11	77.15	106.70	29.55	14.78	30.13	814.22
3	64.90	107.25	42.35	21.18	30.53	825.25	70.90	112.80	41.90	20.95	30.21	816.48

Ring #	90 degrees						135 degrees					
	D_1	D_2	D	R	CC	CL	D_1	D_2	D	R	CC	CL
1	80.10	105.25	25.15	12.58	29.61	800.38	74.20	99.75	25.55	12.78	30.09	813.11
2	78.25	107.30	29.05	14.53	29.62	800.45	72.20	101.70	29.50	14.75	30.08	812.84
3	72.05	113.30	41.25	20.63	29.74	803.82	66.00	107.90	41.90	20.95	30.21	816.48





Measure the first three rings moving outward from the central spot of the diffraction pattern.

D_1 = The smaller measurement on the Supper device (mm).

D_2 = The larger measurement on the Supper device (mm).

$D = D_2 - D_1$

$R = D/2$

CC = Camera Constant

For Ring 1 [111], CC = R*2.355

For Ring 2 [200], CC = R*2.039

For Ring 3 [220], CC = R*1.442

CL = Camera Length = CC/0.037

Screen and Camera Magnification Calibration

Version#3

Date of Measurement: 3/11/2005 **Analyst:** MP

Setting: **20,000**

Camera

Date	Negative #	D_1	D_2	D	# Spaces	Magnification
2/10/2005	1178	50.3	109.6	59.3	7	18298

	SM1	SM2	SM3	SM4	SM5
Screen	22.1	22.4	22	22.2	22.3

Date	# Spaces	Magnification
	22.2	15568

Setting: **10,000**

Camera

Date	Negative #	D_1	D_2	D	# Spaces	Magnification
2/10/2005	1179	38.45	105.4	66.95	15	9641

	SM1	SM2	SM3	SM4	SM5
Screen	44.2	44.1	44	44.3	44.1

Date	# Spaces	Magnification
	44.14	7830

Setting: **5,000**

Camera

Date	Negative #	D_1	D_2	D	# Spaces	Magnification
2/10/2005	1180	38.3	95	56.7	25	4899

D1 = The smaller measurement of the Supper Device in mm.

D2 = The larger measurement of the Supper Device in mm.

D = D2 - D1

Spaces = The number of spaces spanned by the measurement or reported on calibration sheet. For the 18,000x screen mag., take the avg. of the five measurements recorded on the monthly calibration log. For the 10,000x screen mag., only one measurement is recorded on the monthly calibration log.

Camera Magnification = (D/# spaces) * 2160

Screen Magnification = (155/# spaces) * 2160

Screen Magnification Calibration (Jeol 1200)

(Version#1)

Date of Measurement: 3/11/2005

Analyst: KM

Average:

Screen Magnification at 18,000:	15568
Screen Magnification at 10,000:	7830

Setting 20,000

	SM1	SM2	SM3	SM4	SM5
Screen	22.1	22.4	22	22.2	22.3

Date	# Spaces	Magnification
2/10/2005	22.2	15568

Rule

Date	Actual Length (um)	Theoretical Length (um)	Single Unit (um)	Ten Units (um)
2/10/2005	5.14	4.44	0.064	0.642

Setting 10,000

	SM1	SM2	SM3	SM4	SM5
Screen	44.2	44.1	44	44.3	44.1

Date	# Spaces	Magnification
2/10/2005	44.14	7830

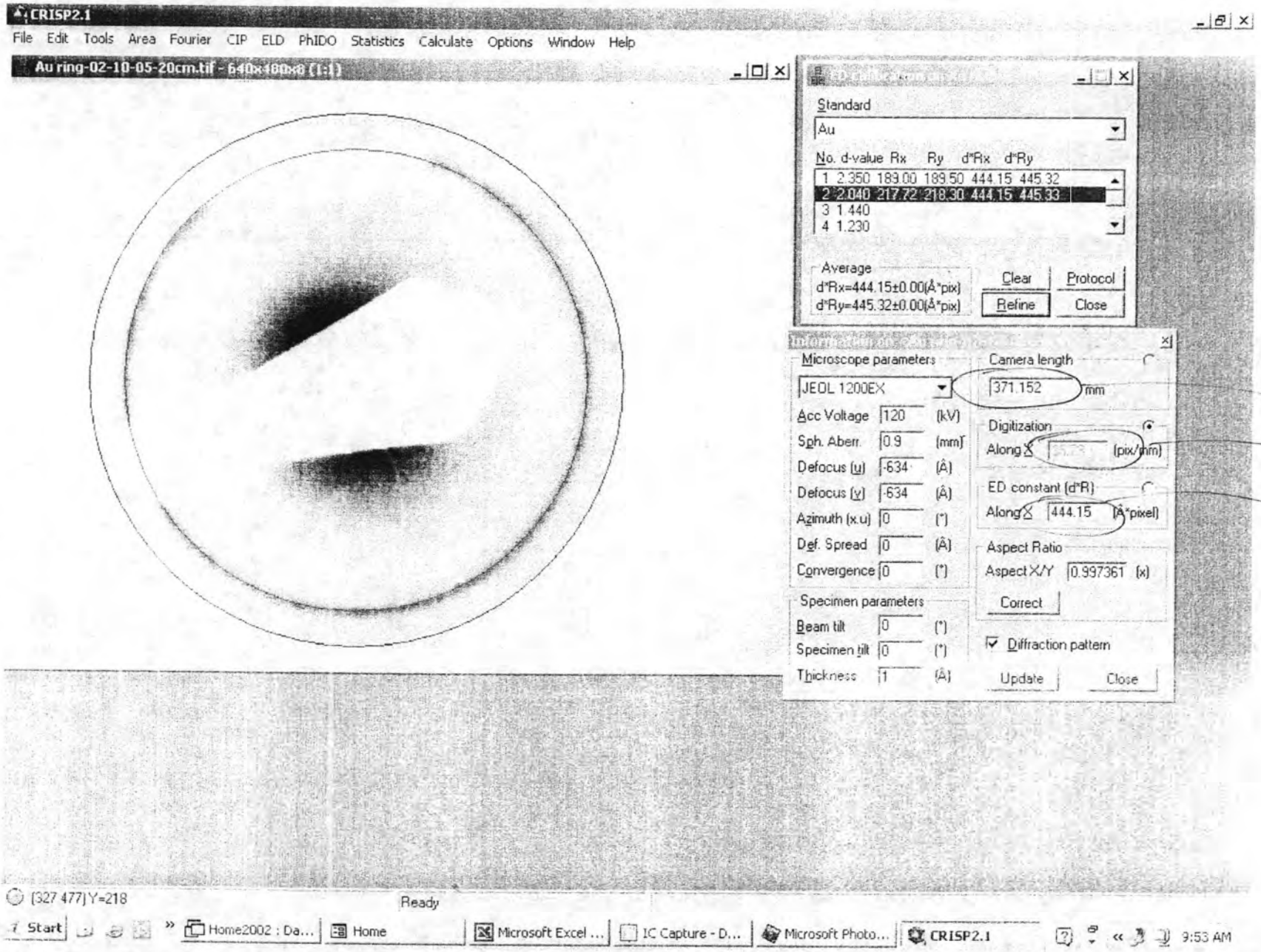
Rule

Date	Actual Length (um)	Theoretical Length (um)	Single Unit (um)	Ten Units (um)
2/10/2005	10.22	8.00	0.128	1.277

Spaces = The number of spaces spanned by the measurement or reported on calibration sheet. For the 18,000x screen mag., take the avg. of the five measurements recorded on the monthly calibration log. For the 10,000x screen mag., only one measurement is recorded on the monthly calibration log.

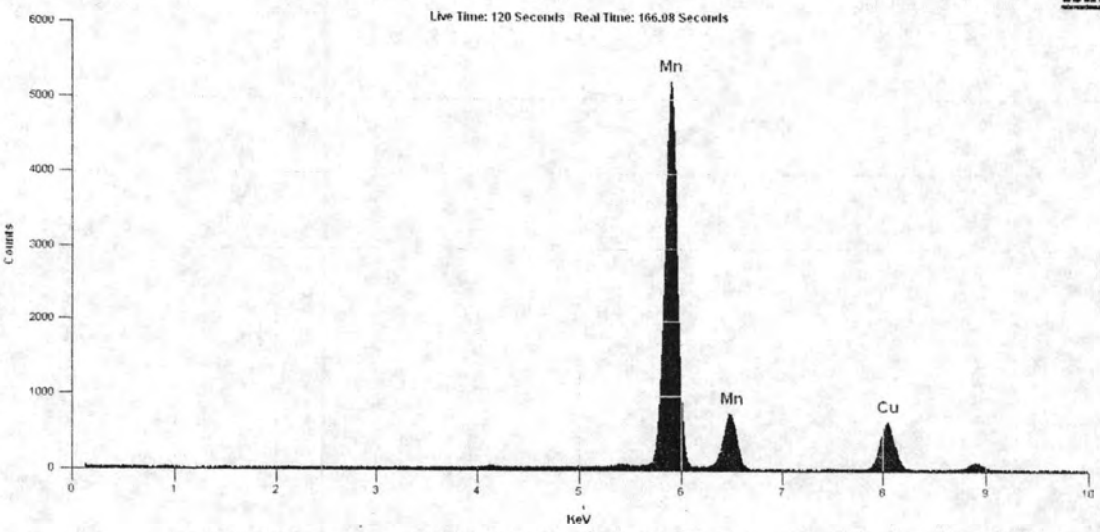
Screen Magnification = (160/# spaces) * 2160

Au Standard – 20 cm GATAN
Joel 1200, Neg#J1374
02/10/05



JEOL

WINEDS



Peak Statistics : Mn **Resolution - 02-10-05 - SP1035**

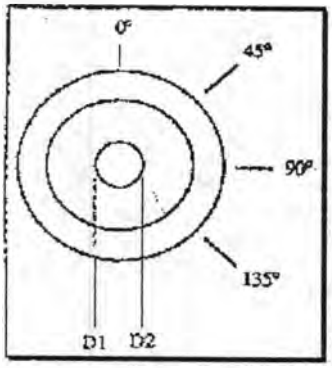
Peak	Energy	Height	FWHM	Area
1	5.896	5130	139	76179
2	6.486	727	149	11559
3	8.040	606	159	10272

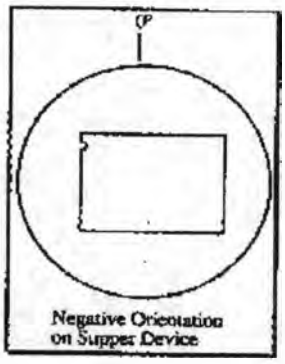
Camera Length and Camera Constant Calibration (Version#1)

Date of Measurement:	3/17/2005	**Average Camera Constant:**	29.826 **mmA**
Negative Number:	J1478	(All 12 Measurements)	
Date Negative was Taken:	3/8/2005	**Average Camera Length:**	806.11 **mm**
Analyst:	KM	(All 12 Measurements)	

Ring #	0 degrees						45 degrees					
	D_1	D_2	D	R	CC	CL	D_1	D_2	D	R	CC	CL
1	74.65	100.30	25.65	12.83	30.20	816.29	80.25	105.45	25.20	12.60	29.67	801.97
2	72.70	102.25	29.55	14.78	30.13	814.22	78.30	107.35	29.05	14.53	29.62	800.45
3	66.35	108.50	42.15	21.08	30.39	821.36	72.00	113.45	41.45	20.73	29.89	807.71

Ring #	90 degrees						135 degrees					
	D_1	D_2	D	R	CC	CL	D_1	D_2	D	R	CC	CL
1	79.20	104.10	24.90	12.45	29.32	792.43	71.90	97.35	25.45	12.73	29.97	809.93
2	77.25	106.00	28.75	14.38	29.31	792.18	69.90	99.30	29.40	14.70	29.97	810.09
3	71.20	112.05	40.85	20.43	29.45	796.02	63.75	105.35	41.60	20.80	29.99	810.64





Measure the first three rings moving outward from the central spot of the diffraction pattern.

D_1 = The smaller measurement on the Supper device (mm).

D_2 = The larger measurement on the Supper device (mm).

$D = D_2 - D_1$

$R = D/2$

CC = Camera Constant

For Ring 1 [111], CC = R*2.355

For Ring 2 [200], CC = R*2.039

For Ring 3 [220], CC = R*1.442

CL = Camera Length = CC/0.037

Screen and Camera Magnification Calibration

Version#2

Date of Measurement: 3/8/2005 **Analyst:** KM

Setting: **20,000**

Camera

Date	Negative #	D_1	D_2	D	# Spaces	Magnification
3/8/2005	1491	28.85	115.35	86.5	9	20760

	SM1	SM2	SM3	SM4	SM5
Screen	22.3	22.2	22.1	22.1	22.4

Date	# Spaces	Magnification
3/8/2005	22.22	15554

Setting: **10,000**

Camera

Date	Negative #	D_1	D_2	D	# Spaces	Magnification
3/8/2005	1492	34.5	109.45	74.95	16	10118

	SM1	SM2	SM3	SM4	SM5
Screen	44	44.2	44.1	44.2	44.1

Date	# Spaces	Magnification
3/8/2005	44.12	7833

Setting: **5,000**

Camera

Date	Negative #	D_1	D_2	D	# Spaces	Magnification
3/8/2005	1493	30.65	103.2	72.55	30	5224

D1 = The smaller measurement of the Supper Device in mm.

D2 = The larger measurement of the Supper Device in mm.

D = D2 - D1

Spaces = The number of spaces spanned by the measurement or reported on calibration sheet. For the 18,000x screen mag., take the avg. of the five measurements recorded on the monthly calibration log. For the 10,000x screen mag., only one measurement is recorded on the monthly calibration log.

Camera Magnification = (D/# spaces) * 2160

Screen Magnification = (155/# spaces) * 2160

Screen Magnification Calibration (Jeol 1200)

(Version#1)

Date of Measurement: 3/8/2005

Analyst: KM

Average:

Screen Magnification at 18,000:	15554
Screen Magnification at 10,000:	7833

Setting 20,000

	SM1	SM2	SM3	SM4	SM5
Screen	22.3	22.2	22.1	22.1	22.4

Date	# Spaces	Magnification
3/8/2005	22.22	15554

Rule

Date	Actual Length (um)	Theoretical Length (um)	Single Unit (um)	Ten Units (um)
3/8/2005	5.14	4.44	0.064	0.643

Setting 10,000

	SM1	SM2	SM3	SM4	SM5
Screen	44	44.2	44.1	44.2	44.1

Date	# Spaces	Magnification
3/8/2005	44.12	7833

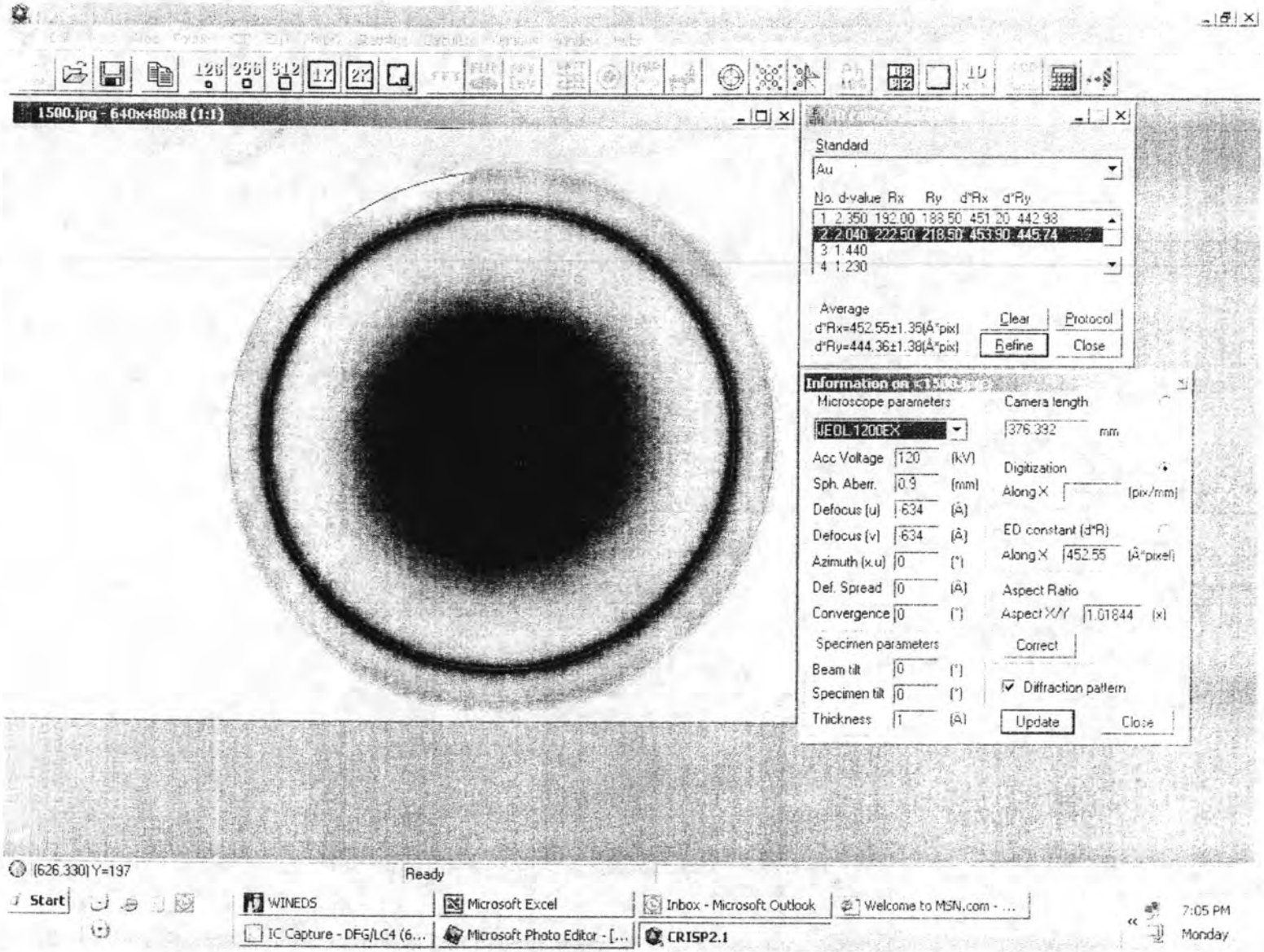
Rule

Date	Actual Length (um)	Theoretical Length (um)	Single Unit (um)	Ten Units (um)
3/8/2005	10.21	8.00	0.128	1.277

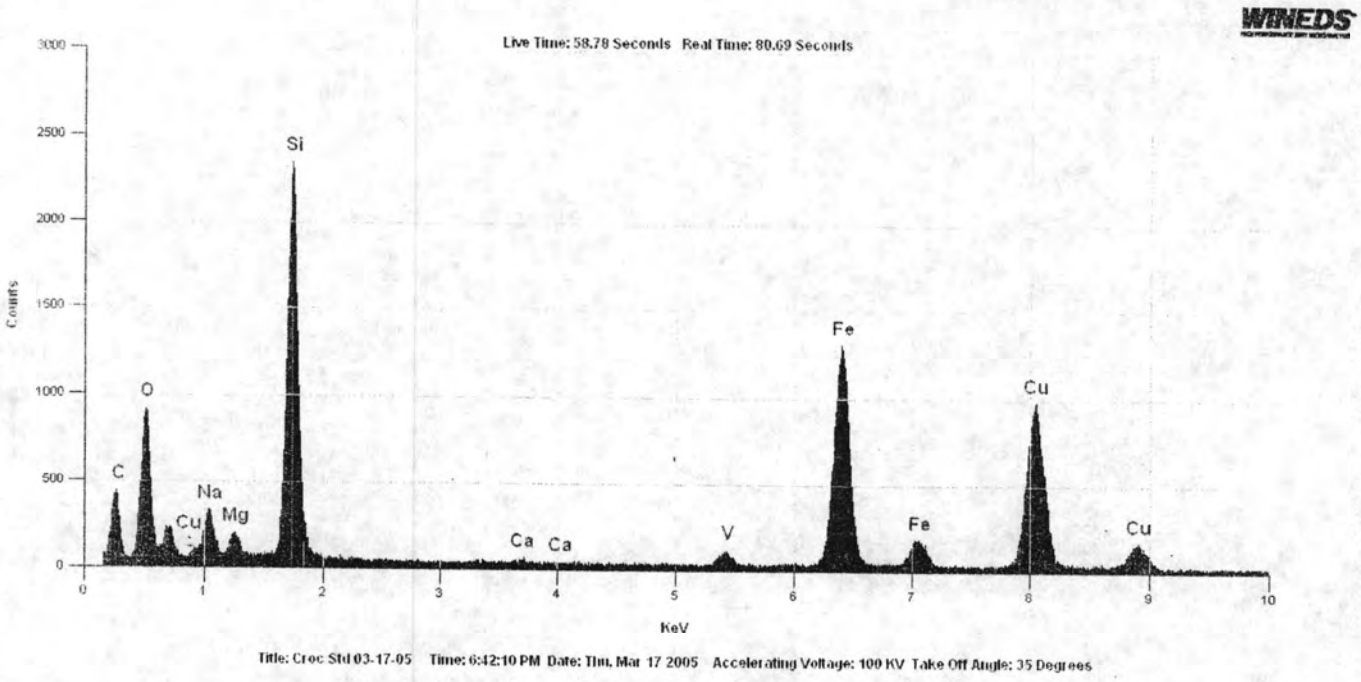
Spaces = The number of spaces spanned by the measurement or reported on calibration sheet. For the 18,000x screen mag., take the avg. of the five measurements recorded on the monthly calibration log. For the 10,000x screen mag., only one measurement is recorded on the monthly calibration log.

Screen Magnification = (160/# spaces) * 2160

Neg# J1500 – Au Ring Stnd.
3/14/05
Gatan Image – 20 cm



CROCIDOLITE STD.
3-17-05
SP# 1164

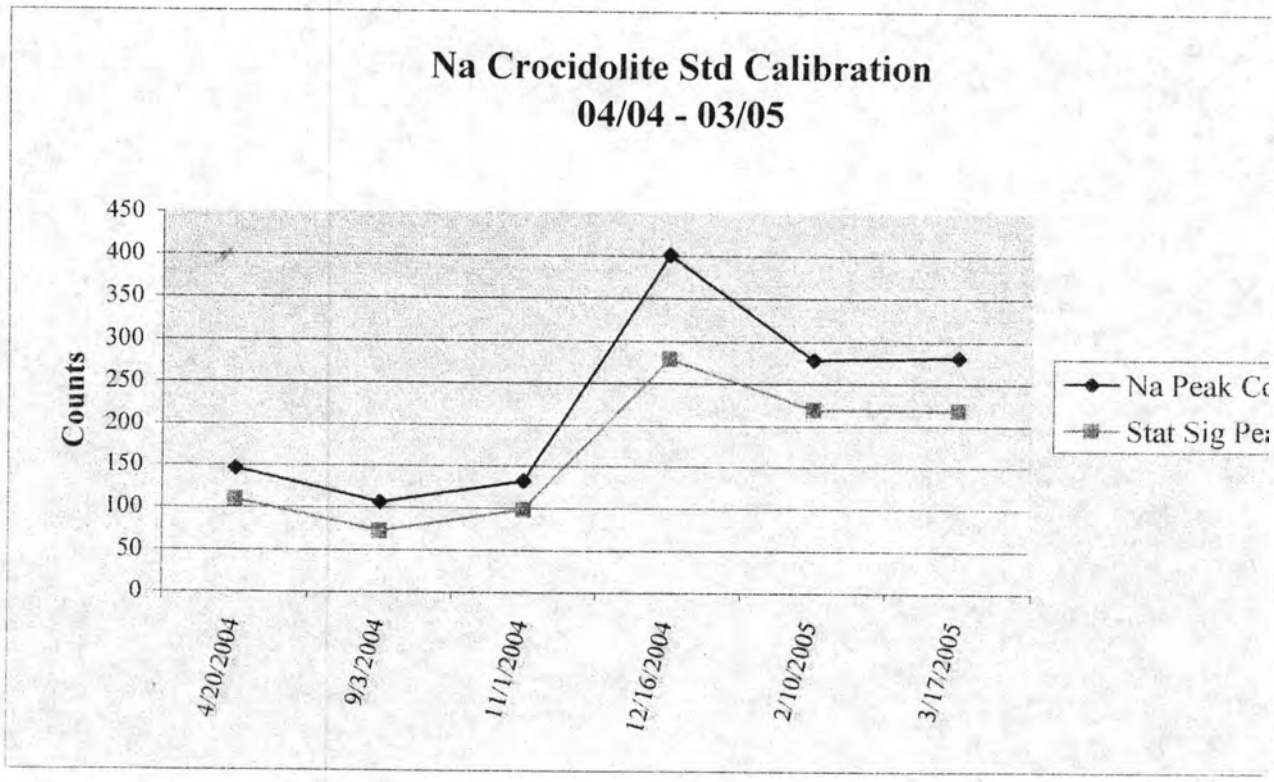


Quantitative Analysis Results - Standardless Analysis :
Croc Std 03-17-05 SP1164 Thu, Mar 17 2005
EDS Parameters - 100KV, Takeoff Angle: 35.0°, Fit Index: 195.11
Correction: CLIFF LORIMER, Cycles: 1

Element	Atoms%	Compound	Weight%	Error(±)	Norm%
Na	2.82	Na2O	3.73	0.24	3.73
Mg	1.46	MgO	2.52	0.20	2.52
Si	21.51	SiO2	55.20	0.86	55.20
Ca	0.12	CaO	0.29	0.16	0.29
Fe	11.22	Fe2O3	38.26	0.99	38.26
<Total>	100.00		100.00		100.00

Na Crocidolite Std. Calibration

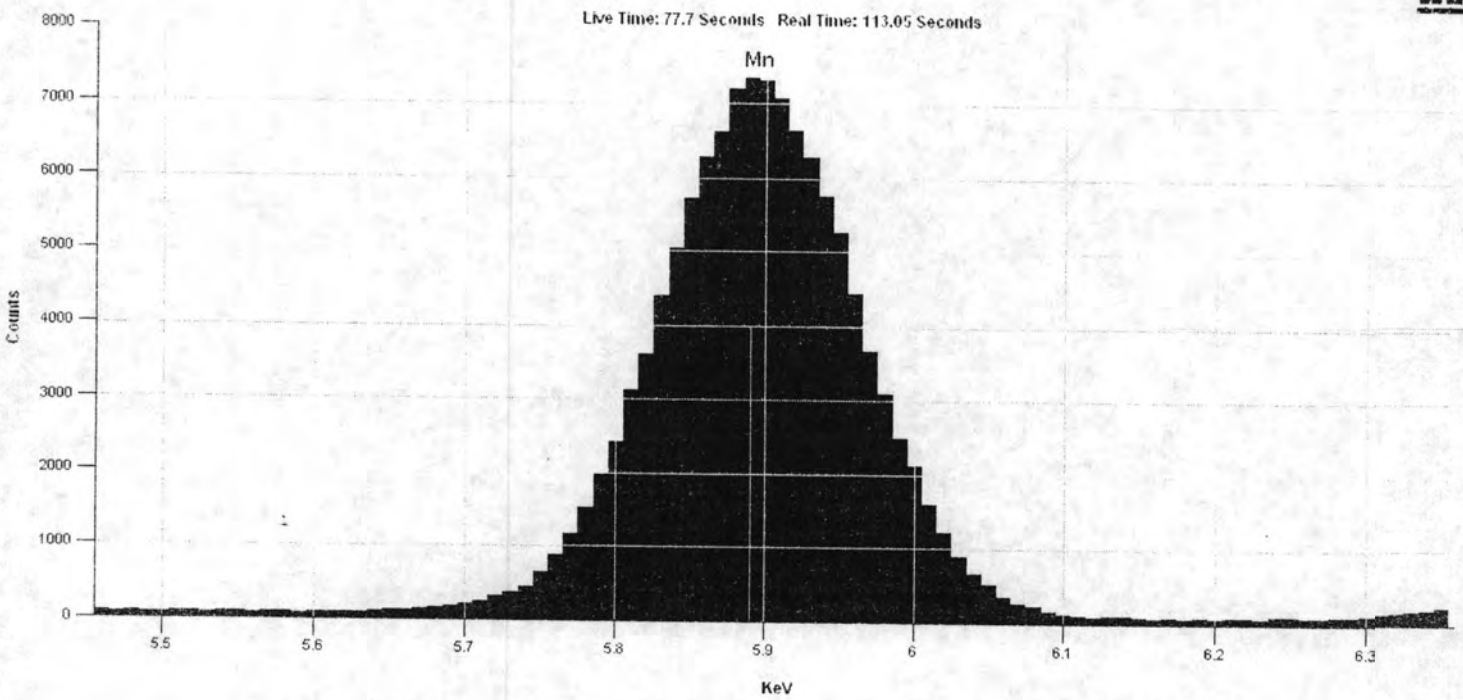
Date	Analyst	EDS #	Fiber Size >5.0um	Peak Counts**	Background Counts***	Stat. Significant Peak	Pass/Fail
4/20/2004	JH	90	5.0 x 0.3	146	36	109	Pass
9/3/2004	KM	484		106	19	72	Pass
11/1/2004	JH	704		132	32	98	Pass
12/16/2004	JH	863		401	78	278.5	Pass
2/10/2005	JH	1034	13 x 0.25	278	80	219	Pass
3/17/2005	KM	1164		281	78	218.5	Pass



Mn RESOLUTION STD.

3-17-05

SP# 1165



Title: Mn Std 3-17-05 SP 1165 Time: 6:53:23 PM Date: Thu, Mar 17 2005 Accelerating Voltage: 100 KV Take Off Angle: 35 Degrees

JEOL MnKa Peak Resolution Calibration

Date	Analyst	EDS	# Channels	Resolution (eV)	Std Dev	Std Dev (2s)	Pass/Fail	
4/5/2004	JH	11						
7/14/2004	KM	380	14	140			Pass	
9/18/2004	JH	506	13.9	139	0.707	1.4142136	Pass	
11/1/2004	JH	705	14.1	141	1.000	2	Pass	
12/16/2004	JH	864	14.1	141	0.957	1.9148542	Pass	
1/21/2005	JH	984	16.4	164	10.654	21.307276	Fail	**Service Technician called to
2/10/2005	JH	1035	13.9	139	9.839	19.677398	Pass	recalibrate EDS system. See attached
3/17/2005	KM	1165	14.4	144	8.981	17.962925	Pass	JEOL Noran WINEDS Maintenance sheet for more information

Lab/Cor, Inc.
Equipment Maintenance Form

Equipment: JEOL - TNAS Noran Detector and WINEDS System
Serial Number: 0029
Installation Date: Jan. 05 **Month:** JAN 05
Version# 1

Scheduled Maintenance

	1	2	3	4	5	6	7	8	9	10	11
Daily											System
Weekly											INSTALLED
Monthly											
Quarterly											
Yearly											
	12	13	14	15	16	17	18	19	20	21	22
Daily											
Weekly										✓	
Monthly											
Quarterly											
Yearly											
	23	24	25	26	27	28	29	30	31		
Daily											
Weekly											
Monthly											
Quarterly											
Yearly											

Daily: Al Calibration to align peaks and calibrate EDS

Weekly: Liquid Nitrogen 3x a week.

Monthly: Mn Resolution, Na Crocidolite tests

Quarterly: K-factors and Albite

Yearly: Additional Mainentance as necessary.

Observations: System installed 1/11/05
Calibrated on 1/21/05 - Called Jim Conners for service 1/21/05 -
Jim CONNERS Here 2/2-2/5 - Discovered ground loop caused by a ground across insulating gasket by a thin thread of metal probably from a cross threaded screw.
- system recalibrated 2/10 = PASSED

Lab/Cor, Inc.
Equipment Maintenance Form

Equipment: JEOL - TNAS Noran Detector and WINEDS System
Serial Number: 0029
Installation Date: Jan. 05 **Month:** Feb 05
Version# 1

Scheduled Maintenance

	1	2	3	4	5	6	7	8	9	10	11
Daily										✓	
Weekly		✓					✓			✓	
Monthly										✓	
Quarterly											
Yearly											
	12	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**
Daily	✓	✓	✓	✓			✓	✓	✓	✓	
Weekly				✓						✓	
Monthly											
Quarterly											
Yearly											
	23	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**		
Daily		✓	✓	✓		✓		[illegible]	[illegible]		
Weekly	✓		✓		✓						
Monthly											
Quarterly											
Yearly											

Daily: Al Calibration to align peaks and calibrate EDS

Weekly: Liquid Nitrogen 3x a week.

Monthly: Mn Resolution, Na Crocidolite tests

Quarterly: K-factors and Albite

Yearly: Additional Mainentance as necessary.

Observations: Full calibration 2/10/05

BEAM DOSE CALIBRATION

(Version#1)

Date:	3/18/2005				
Analyst:	JH				
Microscope:	JEOL 1200EX				
Fiber Length used in analysis (um):					
Time (sec)	**Visual**	**Neg #**	**Recordable Diffraction**	**EDS**	**Photo**
0	Y	ND	ND*		
45	Y	1520	Y		
90	Y	1521	Y		
135	Y	1522	Y		
180	N	1523	Y		
225	N	1524	Y	J1167	J1525
PASS/FAIL	**PASS**		**PASS**		

*ND - Not Done

Visual - Mark "Y" if diffraction pattern is seen on screen, mark "N" if pattern is not seen on screen

Recordable Diffraction - Mark "Y" if diffraction pattern is seen on negative, mark "N" if pattern is not seen on negative

Chrysotile Fiber Specs.: Single fibril, >= 1.0 micron in length

k-factor Calibration

SRM 2063a (Revision# 4)

Date:	3/14/2005			
Analyst:	KM			
Spectra Number	**Mg**	**Si**	**Ca**	**Fe**
1	1.10	1.00	1.24	1.52
2	1.09	1.00	1.17	1.48
3	1.13	1.00	1.14	1.50
4	1.17	1.00	1.16	1.51
5	1.14	1.00	1.23	1.54
Average	1.12	1.00	1.19	1.51
Standard Deviation	0.03	0.00	0.04	0.02
2s	0.06	0.00	0.09	0.04
STDEV Pass/Fail	Pass	Pass	Pass	Pass
Sensitivity (Mg:Fe)	0.74			
Pass/Fail	**PASS**			
Relative Limits	**Mg**		**Ca**	**Fe**
	Pass		Pass	Pass

Sensitivity (Mg:Fe) values greater than 1.5 are failed. Instrument must be taken out of operation, serviced and k-factor calibrations redone before instrument may be place back into service.

SRM 2063a Raw data

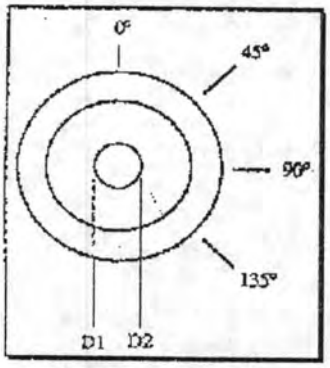
Spectra Number		Mg	Si	Ca	Fe
1	Background	0	0	0	0
	Net Area Counts	9878	34411	12946	9898
	Counts - Background	9878	34411	12946	9898
	Isi/Ia	3.48359992	1	2.65804109	3.47656092
	Ca/Csi	0.31452249	1	0.4664562	0.43646409
	k-factor	1.10	1.00	1.24	1.52
2	Background	0	0	0	0
	Net Area Counts	31921	111103	44429	32791
	Counts - Background	31921	111103	44429	32791
	Isi/Ia	3.48056139	1	2.50068649	3.38821628
	Ca/Csi	0.31452249	1	0.4664562	0.43646409
	k-factor	1.09	1.00	1.17	1.48
3	Background	0	0	0	0
	Net Area Counts	6162	22153	9026	6442
	Counts - Background	6162	22153	9026	6442
	Isi/Ia	3.59509899	1	2.45435409	3.43883887
	Ca/Csi	0.31452249	1	0.4664562	0.43646409
	k-factor	1.13	1.00	1.14	1.50
4	Background	0	0	0	0
	Net Area Counts	5951	22047	8837	6365
	Counts - Background	5951	22047	8837	6365
	Isi/Ia	3.7047555	1	2.49485119	3.46378633
	Ca/Csi	0.31452249	1	0.4664562	0.43646409
	k-factor	1.17	1.00	1.16	1.51
5	Background	0	0	0	0
	Net Area Counts	6189	22351	8463	6344
	Counts - Background	6189	22351	8463	6344
	Isi/Ia	3.61140734	1	2.64102564	3.5231715
	Ca/Csi	0.31452249	1	0.4664562	0.43646409
	k-factor	1.14	1.00	1.23	1.54

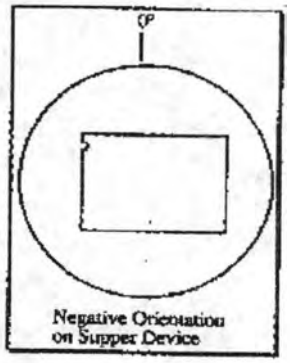
Camera Length and Camera Constant Calibration (Version#1)

Date of Measurement:	3/17/2005	**Average Camera Constant:** (All 12 Measurements)	26.639 **mmA**
Negative Number:	5786		
Date Negative was Taken:	1/11/2005	**Average Camera Length:** (All 12 Measurements)	719.96 **mm**
Analyst:	KM		

Ring #	0 degrees						45 degrees					
	D_1	D_2	D	R	CC	CL	D_1	D_2	D	R	CC	CL
1	79.85	102.40	22.55	11.28	26.55	717.64	84.55	107.15	22.60	11.30	26.61	719.23
2	78.10	104.50	26.40	13.20	26.91	727.43	82.90	108.90	26.00	13.00	26.51	716.41
3	72.65	109.65	37.00	18.50	26.68	721.00	77.50	114.40	36.90	18.45	26.60	719.05

Ring #	90 degrees						135 degrees					
	D_1	D_2	D	R	CC	CL	D_1	D_2	D	R	CC	CL
1	81.00	103.65	22.65	11.33	26.67	720.82	71.15	93.80	22.65	11.33	26.67	720.82
2	79.45	105.40	25.95	12.98	26.46	715.03	69.40	95.50	26.10	13.05	26.61	719.16
3	73.85	110.80	36.95	18.48	26.64	720.03	63.90	101.00	37.10	18.55	26.75	722.95





Measure the first three rings moving outward from the central spot of the diffraction pattern.

D_1 = The smaller measurement on the Supper device (mm).

D_2 = The larger measurement on the Supper device (mm).

$D = D_2 - D_1$

$R = D/2$

CC = Camera Constant

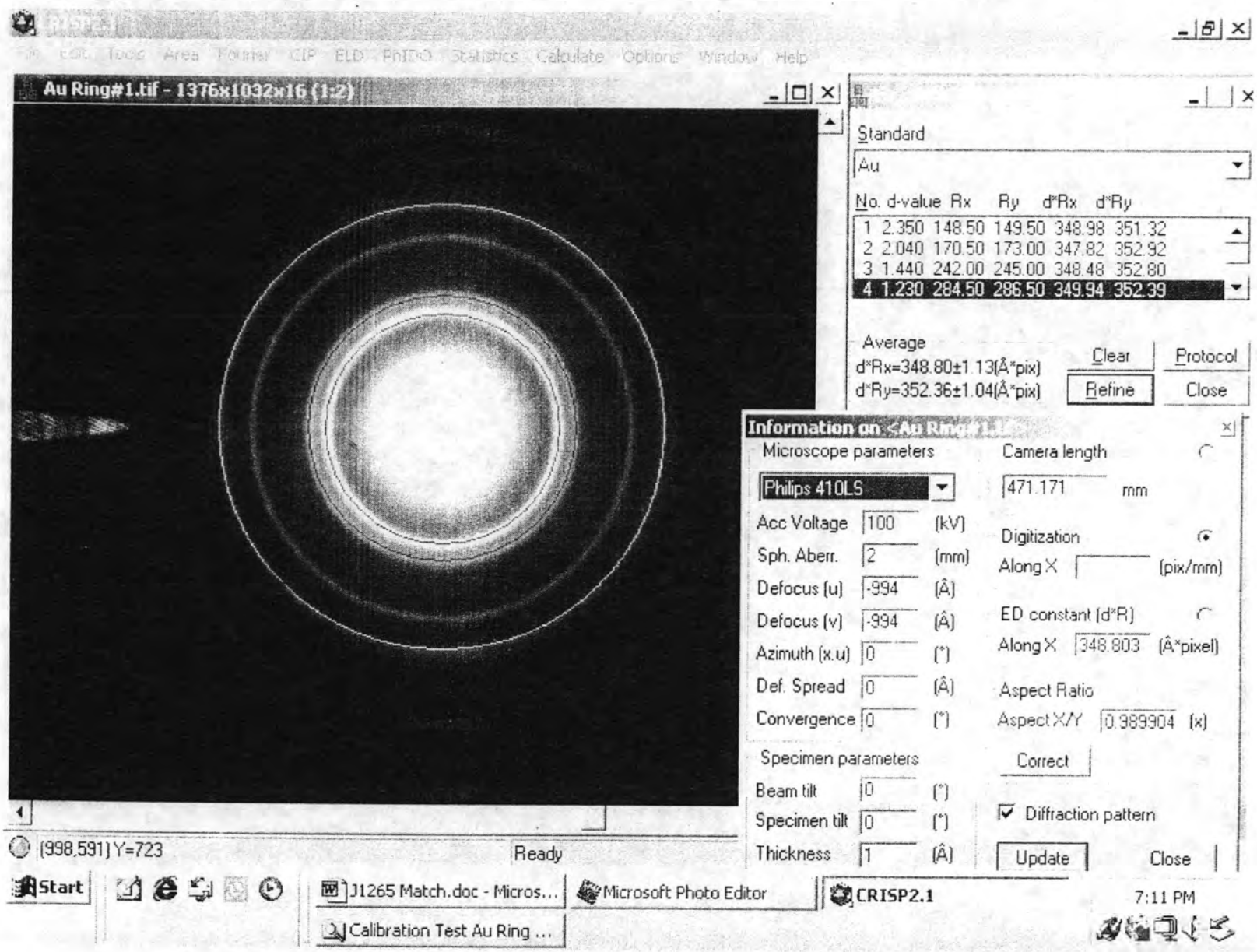
For Ring 1 [111], CC = R*2.355

For Ring 2 [200], CC = R*2.039

For Ring 3 [220], CC = R*1.442

CL = Camera Length = CC/0.037

Au Ring Calibration
1/27/05



Screen and Camera Magnification Calibration

Date of Measurement: 1/1/2005 **Analyst:** dw

Average:

Screen Magnification at 18,000:	17257.73
Screen Magnification at 10,000:	9905.33

Camera Magnification at 18,000:	18306.00
Camera Magnification at 10,000:	10532.84
Camera Magnification at 550:	592.26

Setting 18,000

Camera

Date	Negative #	D_1	D_2	D	# Spaces	Magnification
1/1/2005	5782	40.70	108.50	67.80	8.00	18306.00

Screen

Date	# Spaces	Magnification
1/1/2005	19.40	17257.73

Setting 10,000

Camera

Date	Negative #	D_1	D_2	D	# Spaces	Magnification
1/1/2005	5783	16.00	108.65	92.65	19.00	10532.84

Screen

Date	# Spaces	Magnification
1/1/2005	33.80	9905.33

Setting 550

Camera

Date	Negative #	D_1	D_2	D	# Spaces	Magnification
1/1/2005	5784	75.50	92.50	17.00	62.00	592.26

D1 = The smaller measurement of the Supper Device in mm.

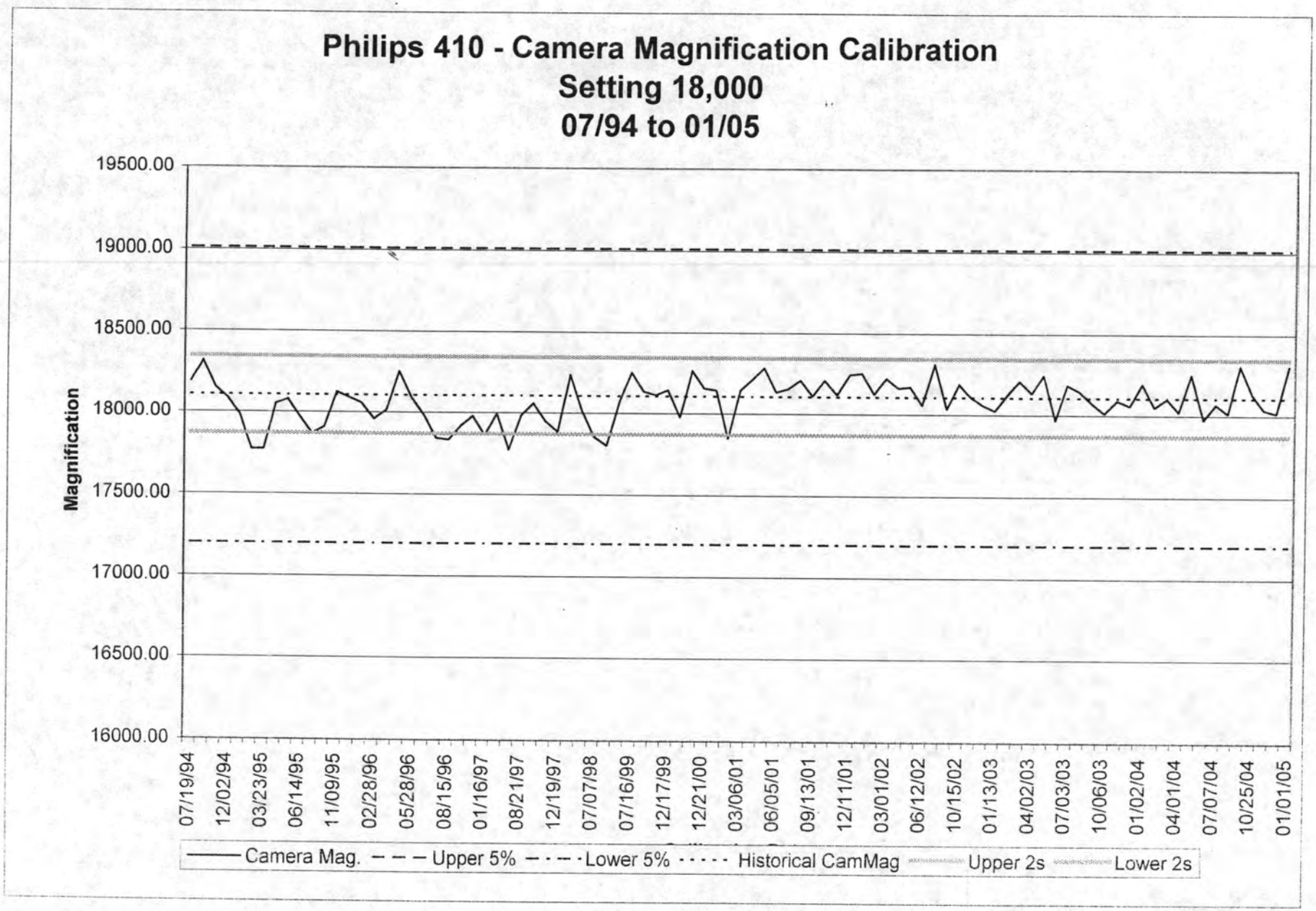
D2 = The larger measurement of the Supper Device in mm.

D = D2 - D1

Spaces = The number of spaces spanned by the measurement or reported on calibration sheet. For the 18,000x screen mag., take the avg. of the five measurements recorded on the monthly calibration log. For the 10,000x screen mag., only one measurement is recorded on the monthly calibration log.

Camera Magnification = (D/# spaces) * 2160

Screen Magnification = (155/# spaces) * 2160


Philips 410 - Camera Magnification Calibration
Setting 18,000
07/94 to 01/05
Magnification
19500.00
19000.00
18500.00
18000.00
17500.00
17000.00
16500.00
16000.00
07/19/94
12/02/94
03/23/95
06/14/95
11/09/95
02/28/96
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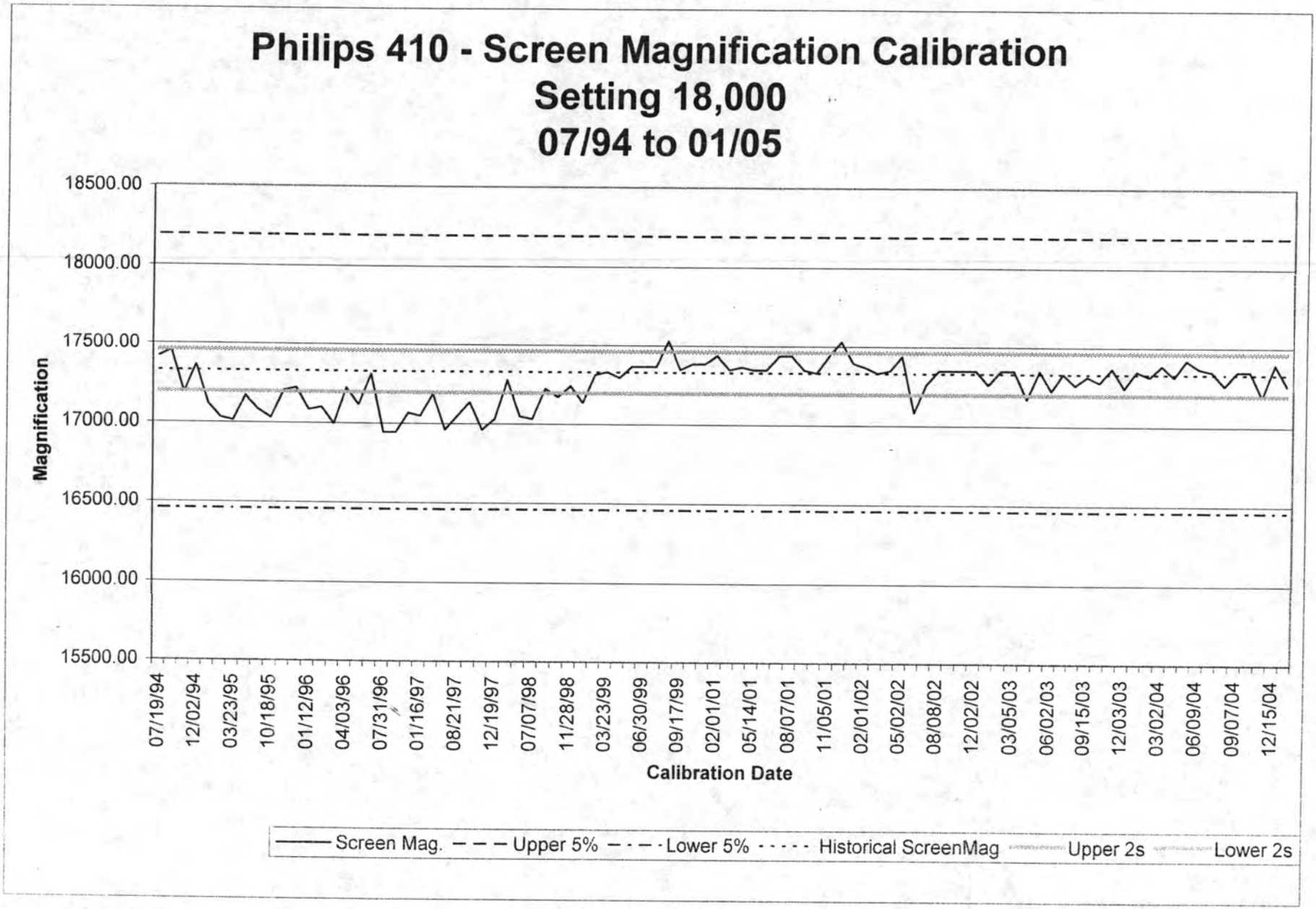
01/13/03
04/02/03
07/03/03
10/06/03
01/02/04
04/01/04
07/07/04
10/25/04
01/01/05
Camera Mag.
Upper 5%
Lower 5%
Historical CamMag
Upper 2s
Lower 2s


Philips 410 - Screen Magnification Calibration
Setting 18,000
07/94 to 01/05
Magnification
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18000.00
17500.00
17000.00
16500.00
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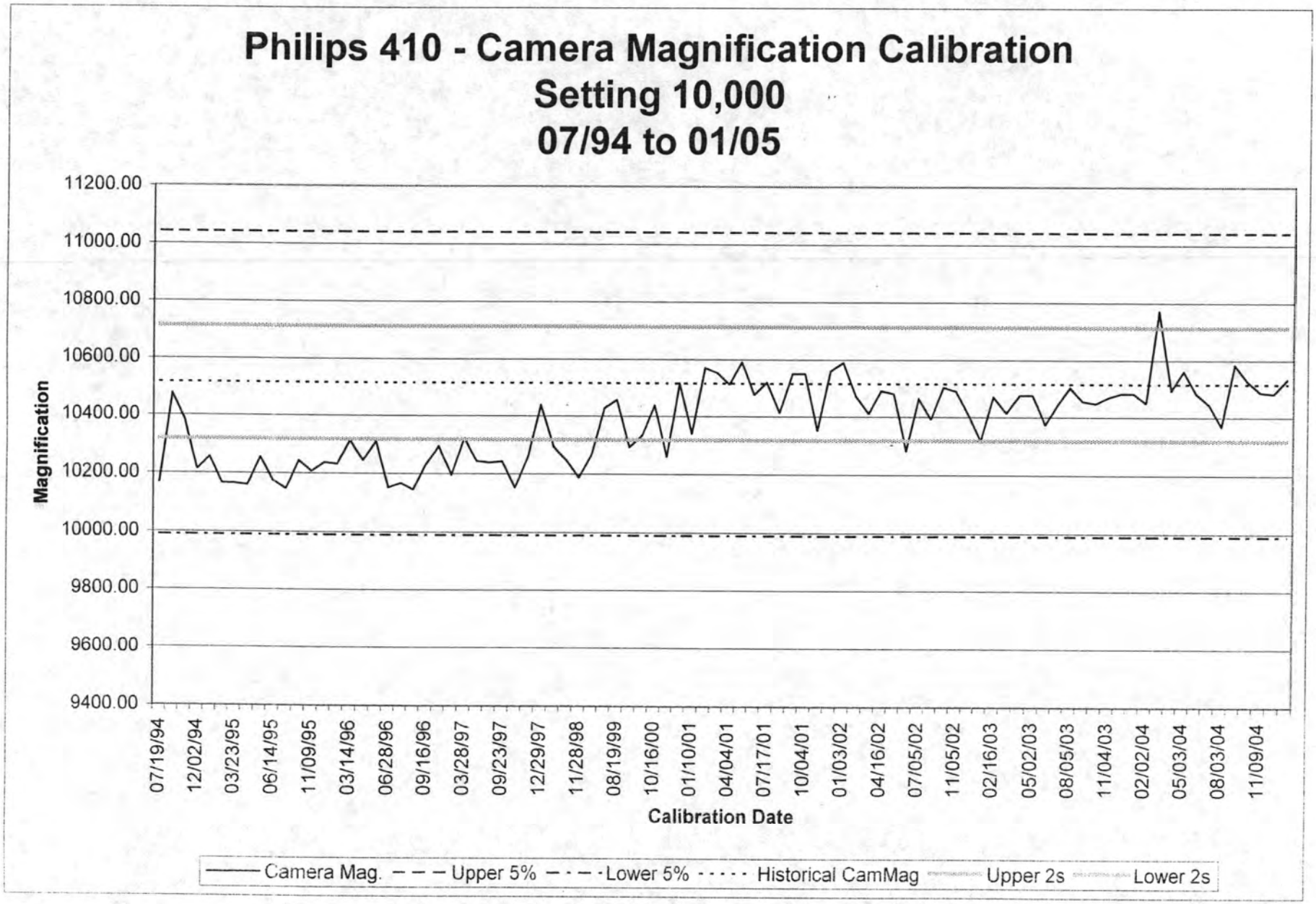
03/05/03
06/02/03
09/15/03
12/03/03
03/02/04
06/09/04
09/07/04
12/15/04
Calibration Date
Screen Mag.
Upper 5%
Lower 5%
Historical ScreenMag
Upper 2s
Lower 2s


Philips 410 - Camera Magnification Calibration
Setting 10,000
07/94 to 01/05
Magnification
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11000.00
10800.00
10600.00
10400.00
10200.00
10000.00
9800.00
9600.00
9400.00
07/19/94
12/02/94
03/23/95
06/14/95
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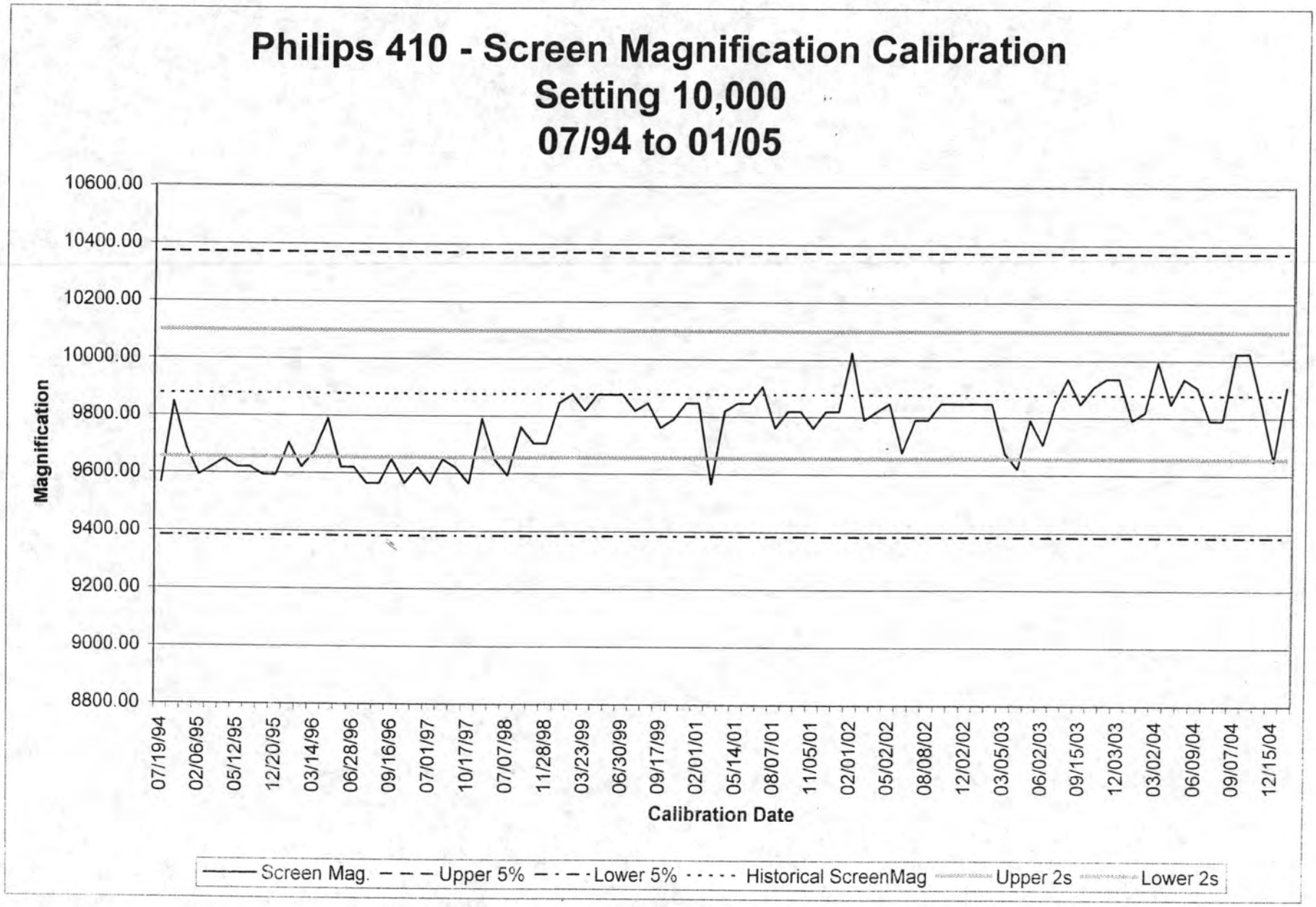
02/16/03
05/02/03
08/05/03
11/04/03
02/02/04
05/03/04
08/03/04
11/09/04
Calibration Date
Camera Mag.
Upper 5%
Lower 5%
Historical CamMag
Upper 2s
Lower 2s


Philips 410 - Screen Magnification Calibration
Setting 10,000
07/94 to 01/05
Magnification
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10400.00
10200.00
10000.00
9800.00
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9400.00
9200.00
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8800.00
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03/05/03
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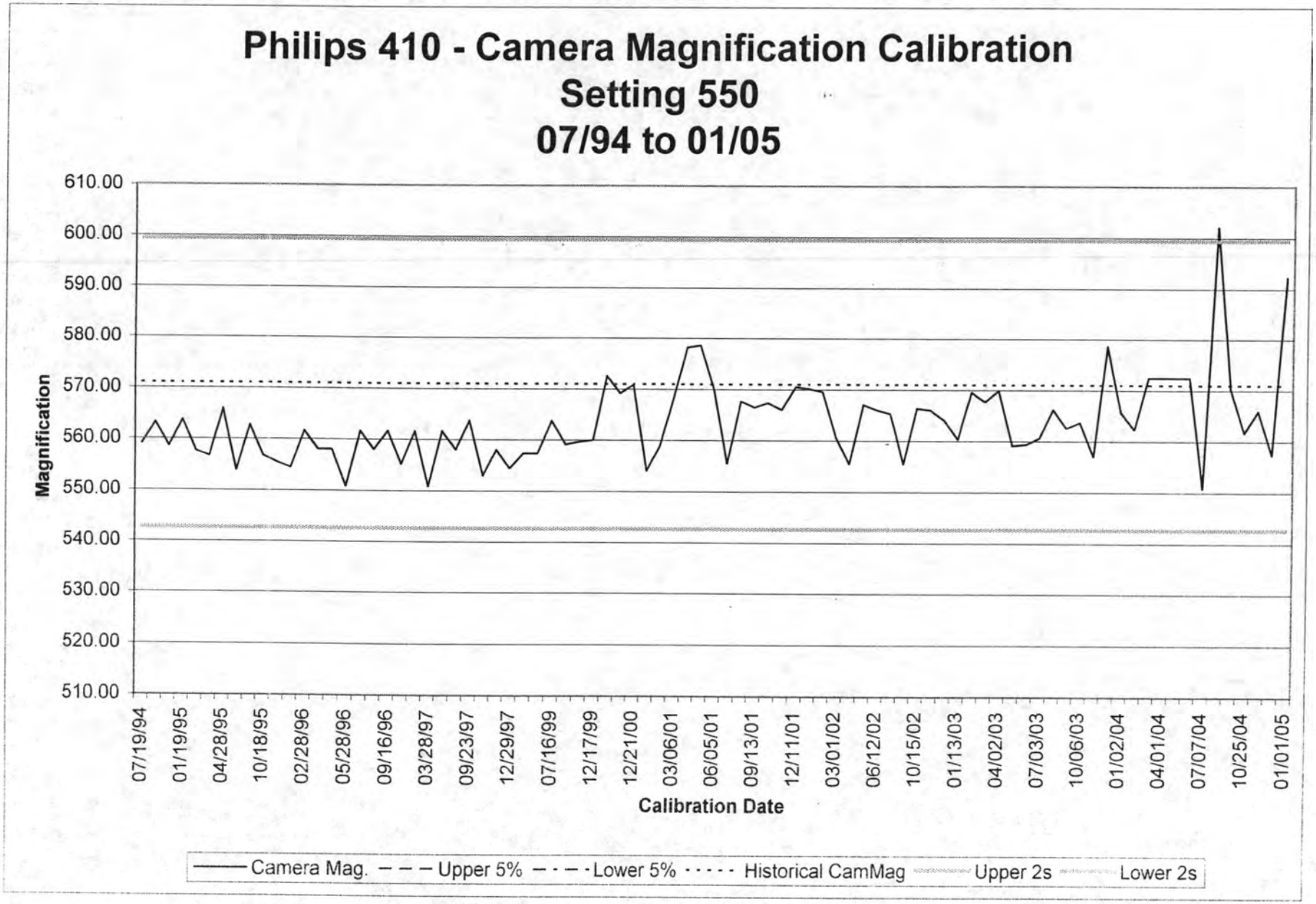
09/15/03
12/03/03
03/02/04
06/09/04
09/07/04
12/15/04
Calibration Date
Screen Mag.
Upper 5%
Lower 5%
Historical ScreenMag
Upper 2s
Lower 2s


Philips 410 - Camera Magnification Calibration
Setting 550
07/94 to 01/05
Magnification
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600.00
590.00
580.00
570.00
560.00
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540.00
530.00
520.00
510.00
07/19/94
01/19/95
04/28/95
10/18/95
02/28/96
05/28/96
09/16/96
03/28/97
09/23/97
12/29/97
07/16/99
12/17/99
12/21/00
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01/13/03
04/02/03
07/03/03
10/06/03
01/02/04
04/01/04
07/07/04
10/25/04
01/01/05
Calibration Date
Camera Mag.
Upper 5%
Lower 5%
Historical CamMag
Upper 2s
Lower 2s

Screen Magnification Calibration (Philips 410)

(Version#1)

Date of Measurement: 1/1/05

Analyst: DW

Average:

Screen Magnification at 18,000:	17258
Screen Magnification at 10,000:	9905

Setting 18,000

Screen

Date	# Spaces	Magnification
1/1/2005	19.4	17258

Large Circle Diameter

Date	Actual Diameter (um)	Theoretical Dia. (um)
1/1/2005	5.29	5.07

Small Circle Diameter

Date	Actual Diameter (um)	Theoretical Dia. (um)
1/1/2005	0.53	0.51

Rule

Date	Actual Length (um)	Theoretical Length (um)	Single Unit (um)	Ten Units (um)
1/1/2005	4.64	4.44	0.058	0.579

Setting 10,000

Screen

Date	# Spaces	Magnification
1/1/2005	33.8	9905

Large Circle Diameter

Date	Actual Diameter (um)	Theoretical Dia. (um)
1/1/2005	9.22	9.13

Small Circle Diameter

Date	Actual Diameter (um)	Theoretical Dia. (um)
1/1/2005	0.92	0.913

Rule

Date	Actual Length (um)	Theoretical Length (um)	Single Unit (um)	Ten Units (um)
1/1/2005	8.08	8.00	0.101	1.010

Spaces = The number of spaces spanned by the measurement or reported on calibration sheet. For the 18,000x screen mag., take the avg. of the five measurements recorded on the monthly calibration log. For the 10,000x screen mag., only one measurement is recorded on the monthly calibration log.

Screen Magnification = (155/# spaces) * 2160

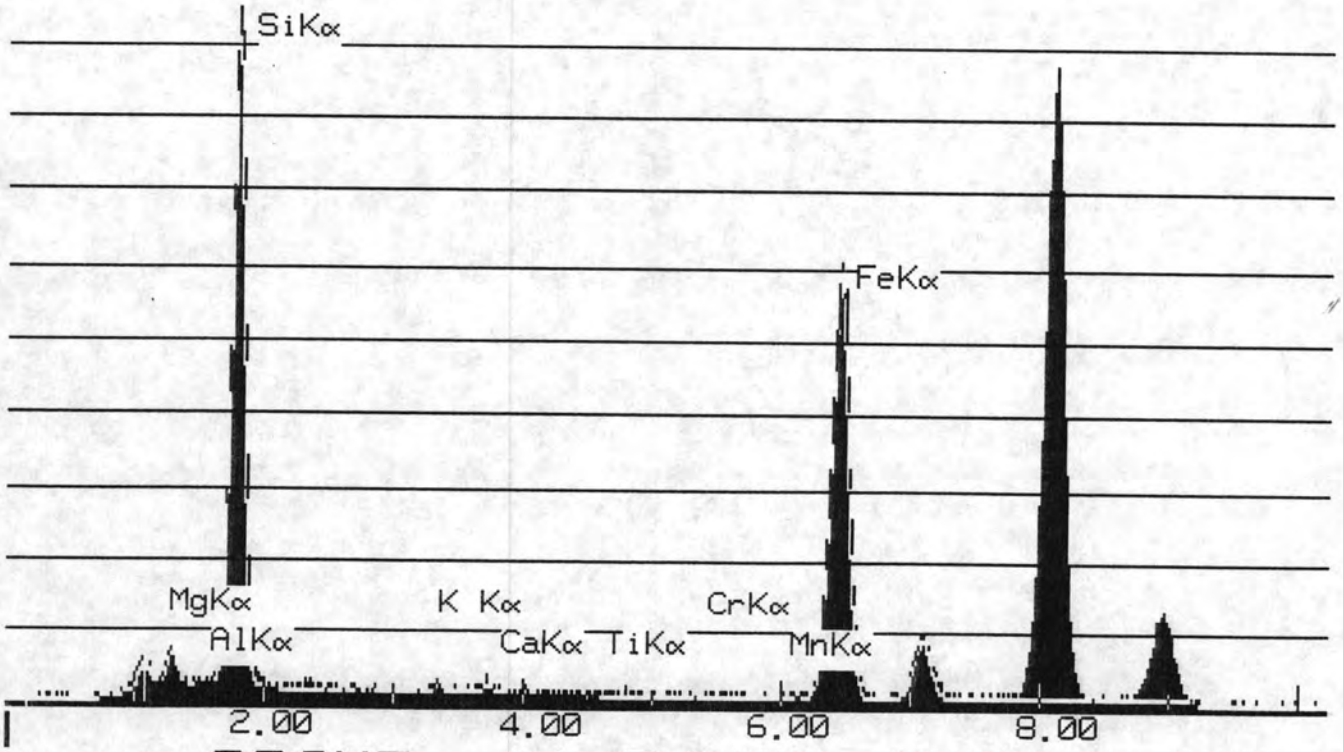
INTE-% :
LABEL = CROC STD 1/1/05 15628
02-JAN-73 03:38:18
115.371 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
NAK	4.516	3.564	4.804
MGK	5.773	2.151	3.566
ALK	0.459	0.103	0.194
SIK	117.742	24.671	52.780
K K	1.031	0.359	0.433
CAK	1.291	0.258	0.361
MNK	0.243	0.070	0.090
FEK	99.549	26.419	37.772

TOTAL			100.000

USED PEIF: USER

01-JAN-05 03:38:52 SUPER QUANT
RATE= 464CPS TIME= 115LSEC
FS= 1457/ 1457 PRST=9999LSEC
A =CROC STD 1/1/05 15628

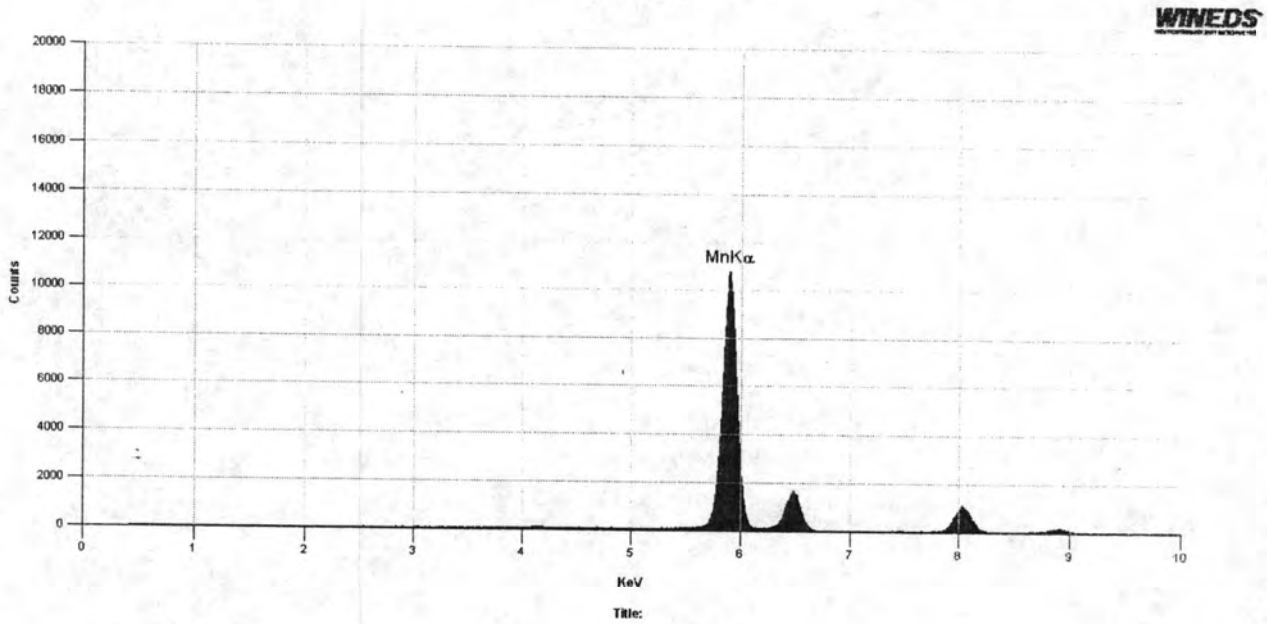


83CNT 1.04KEV 10eV/ch A EDAX

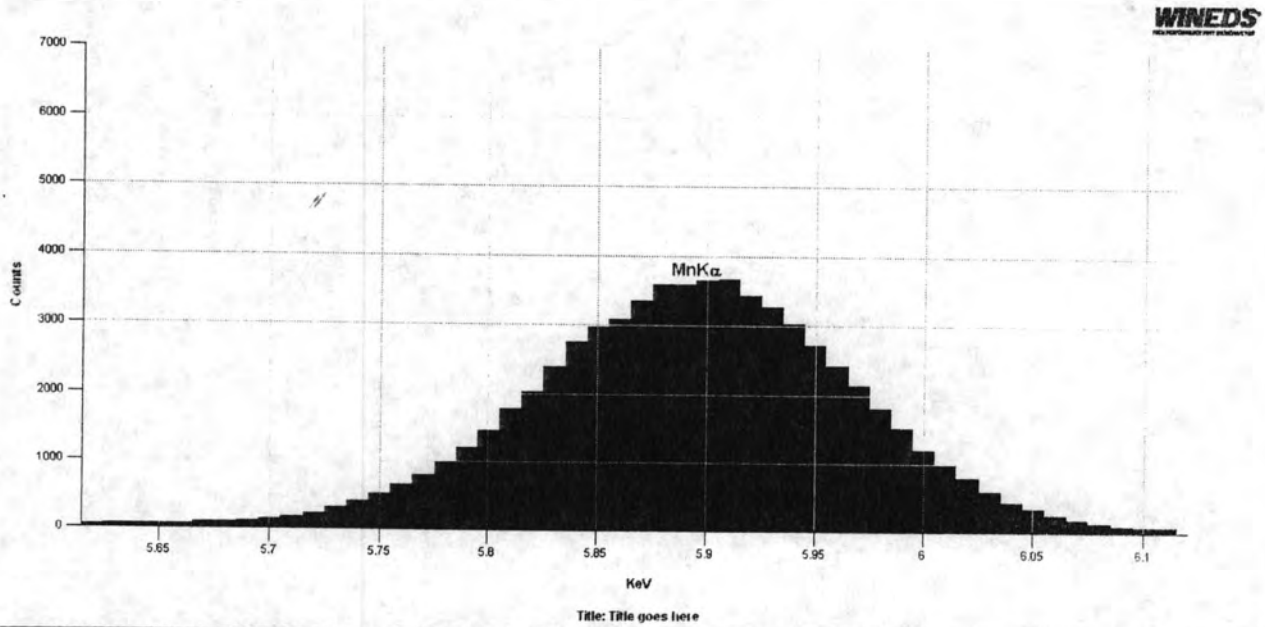
Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Mn Standard
1/6/05
EDS# 15917



Peak	Energy	Height	FWHM	Area
1	5.896	3520	164	61773
2	6.486	531	168	9553
3	8.039	422	181	8190



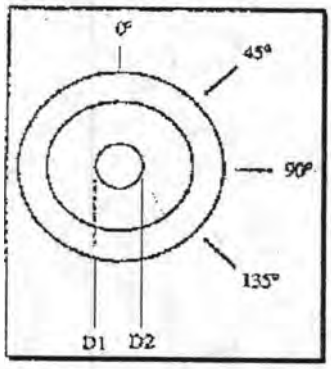
7619 6th Avenue NW, Seattle, WA 98117 **www.labcor.net**
Phone: (206) 781-0155 (Office) **Fax:** (206) 789-8424 (Fax) **E-mail:** mail@labcor.net

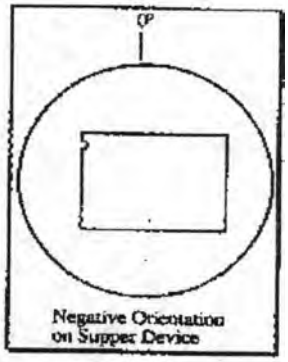
Camera Length and Camera Constant Calibration (Version#1)

Date of Measurement:	3/17/2005	**Average Camera Constant:**	26.575 **mmA**
Negative Number:	5869	(All 12 Measurements)	
Date Negative was Taken:	2/9/2005	**Average Camera Length:**	718.25 **mm**
Analyst:	drw	(All 12 Measurements)	

Ring #	0 degrees						45 degrees					
	D_1	D_2	D	R	CC	CL	D_1	D_2	D	R	CC	CL
1	61.25	83.45	22.20	11.10	26.14	706.50	60.15	82.75	22.60	11.30	26.61	719.23
2	59.50	85.20	25.70	12.85	26.20	708.14	58.45	84.50	26.05	13.03	26.56	717.78
3	54.10	90.65	36.55	18.28	26.35	712.23	53.00	90.00	37.00	18.50	26.68	721.00

Ring #	90 degrees						135 degrees					
	D_1	D_2	D	R	CC	CL	D_1	D_2	D	R	CC	CL
1	65.05	88.00	22.95	11.48	27.02	730.37	73.30	95.85	22.55	11.28	26.55	717.64
2	63.25	89.65	26.40	13.20	26.91	727.43	71.70	97.50	25.80	12.90	26.30	710.89
3	57.80	95.30	37.50	18.75	27.04	730.74	66.20	103.00	36.80	18.40	26.53	717.10





Measure the first three rings moving outward from the central spot of the diffraction pattern.

D_1 = The smaller measurement on the Supper device (mm).

D_2 = The larger measurement on the Supper device (mm).

$D = D_2 - D_1$

$R = D/2$

CC = Camera Constant

For Ring 1 [111], CC = R*2.355

For Ring 2 [200], CC = R*2.039

For Ring 3 [220], CC = R*1.442

CL = Camera Length = CC/0.037

Screen and Camera Magnification Calibration

Date of Measurement: 2/9/2005 **Analyst:** dw

Average:

Screen Magnification at 18,000:	17392.21
Screen Magnification at 10,000:	9905.33

Camera Magnification at 18,000:	18036.00
Camera Magnification at 10,000:	10287.00
Camera Magnification at 550:	547.71

Setting 18,000

Camera

Date	Negative #	D_1	D_2	D	# Spaces	Magnification
2/9/2005	5866	62.85	129.65	66.80	8.00	18036.00

Screen

Date	# Spaces	Magnification
2/9/2005	19.25	17392.21

Setting 10,000

Camera

Date	Negative #	D_1	D_2	D	# Spaces	Magnification
2/9/2005	5867	69.00	126.15	57.15	12.00	10287.00

Screen

Date	# Spaces	Magnification
2/9/2005	33.80	9905.33

Setting 550

Camera

Date	Negative #	D_1	D_2	D	# Spaces	Magnification
2/9/2005	5868	52.50	70.25	17.75	70.00	547.71

D1 = The smaller measurement of the Supper Device in mm.

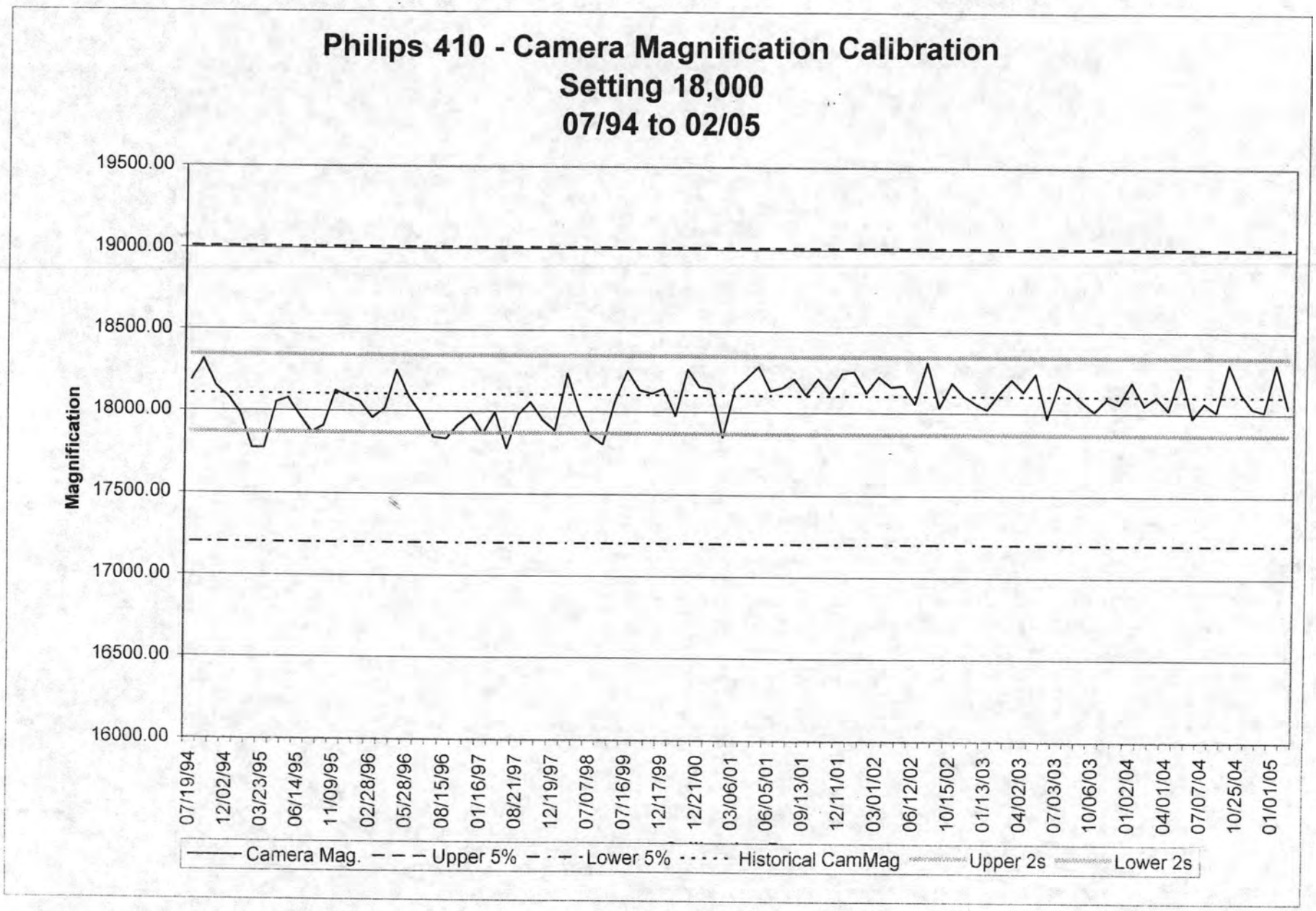
D2 = The larger measurement of the Supper Device in mm.

D = D2 - D1

Spaces = The number of spaces spanned by the measurement or reported on calibration sheet. For the 18,000x screen mag., take the avg. of the five measurements recorded on the monthly calibration log. For the 10,000x screen mag., only one measurement is recorded on the monthly calibration log.

Camera Magnification = (D/# spaces) * 2160

Screen Magnification = (155/# spaces) * 2160


Philips 410 - Camera Magnification Calibration
Setting 18,000
07/94 to 02/05
Magnification
19500.00
19000.00
18500.00
18000.00
17500.00
17000.00
16500.00
16000.00
07/19/94
12/02/94
03/23/95
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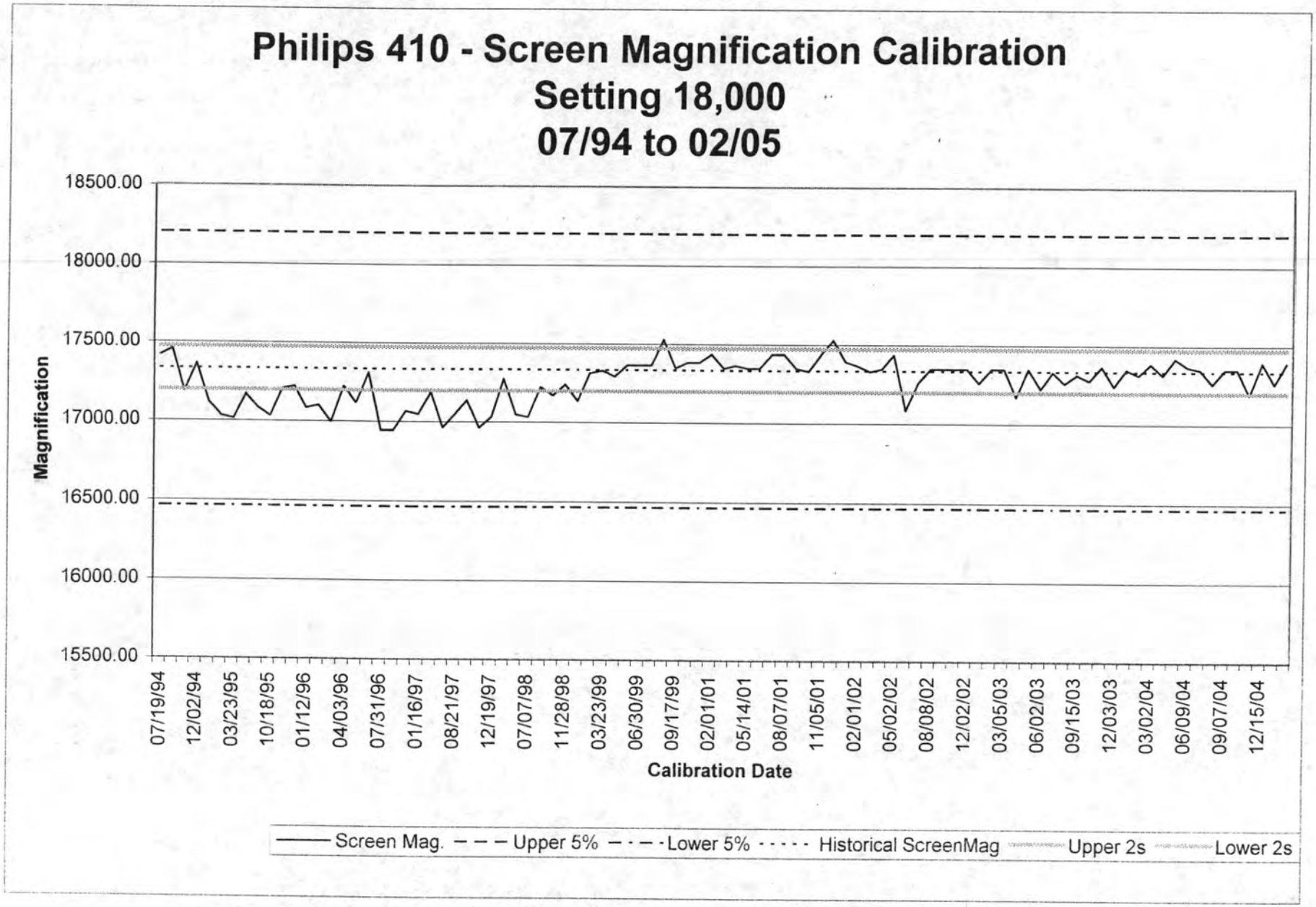
01/13/03
04/02/03
07/03/03
10/06/03
01/02/04
04/01/04
07/07/04
10/25/04
01/01/05
Camera Mag.
Upper 5%
Lower 5%
Historical CamMag
Upper 2s
Lower 2s


Philips 410 - Screen Magnification Calibration
Setting 18,000
07/94 to 02/05
Magnification
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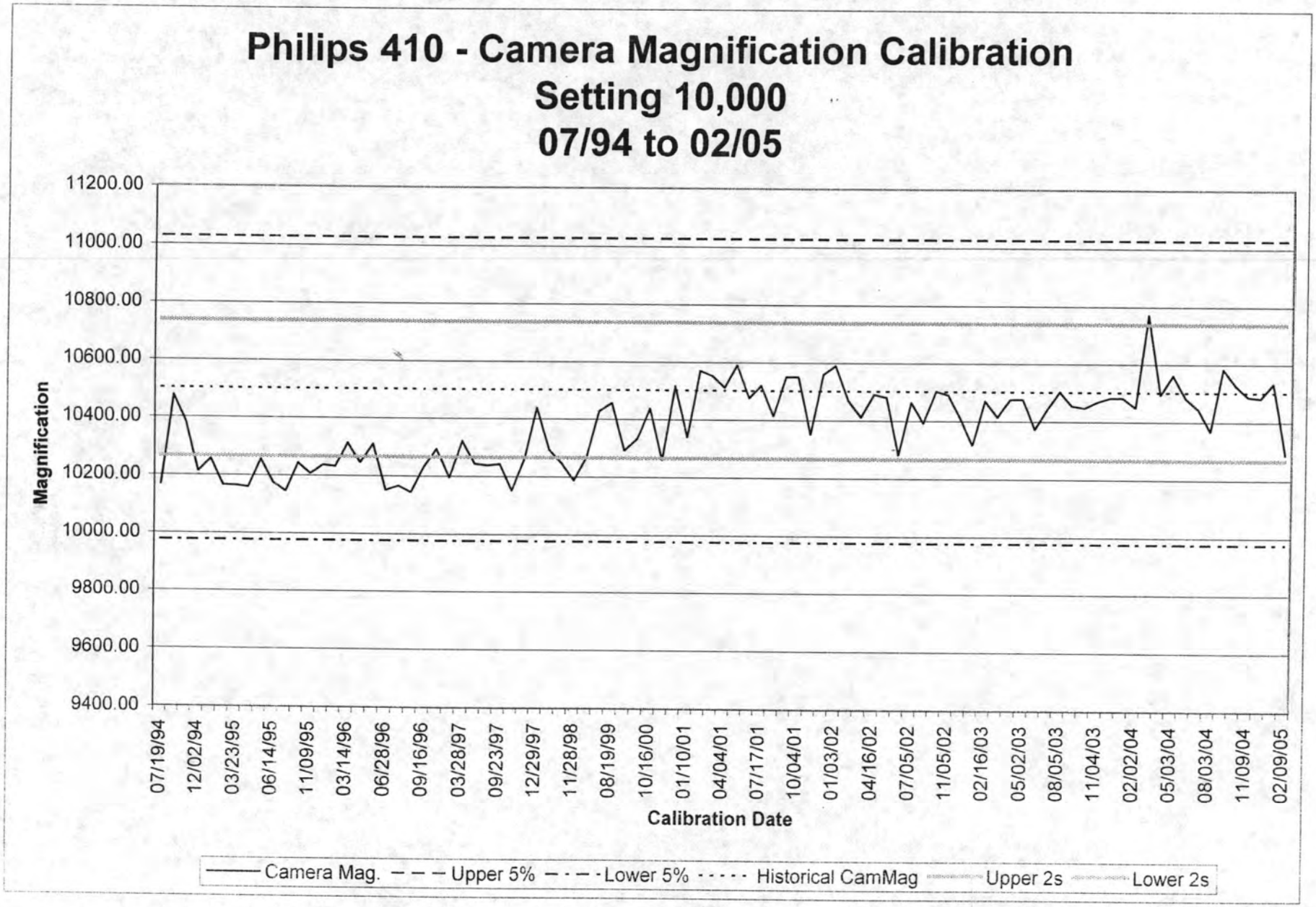
12/15/04
Calibration Date
Screen Mag.
Upper 5%
Lower 5%
Historical ScreenMag
Upper 2s
Lower 2s


Philips 410 - Camera Magnification Calibration
Setting 10,000
07/94 to 02/05
Magnification
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11000.00
10800.00
10600.00
10400.00
10200.00
10000.00
9800.00
9600.00
9400.00
07/19/94
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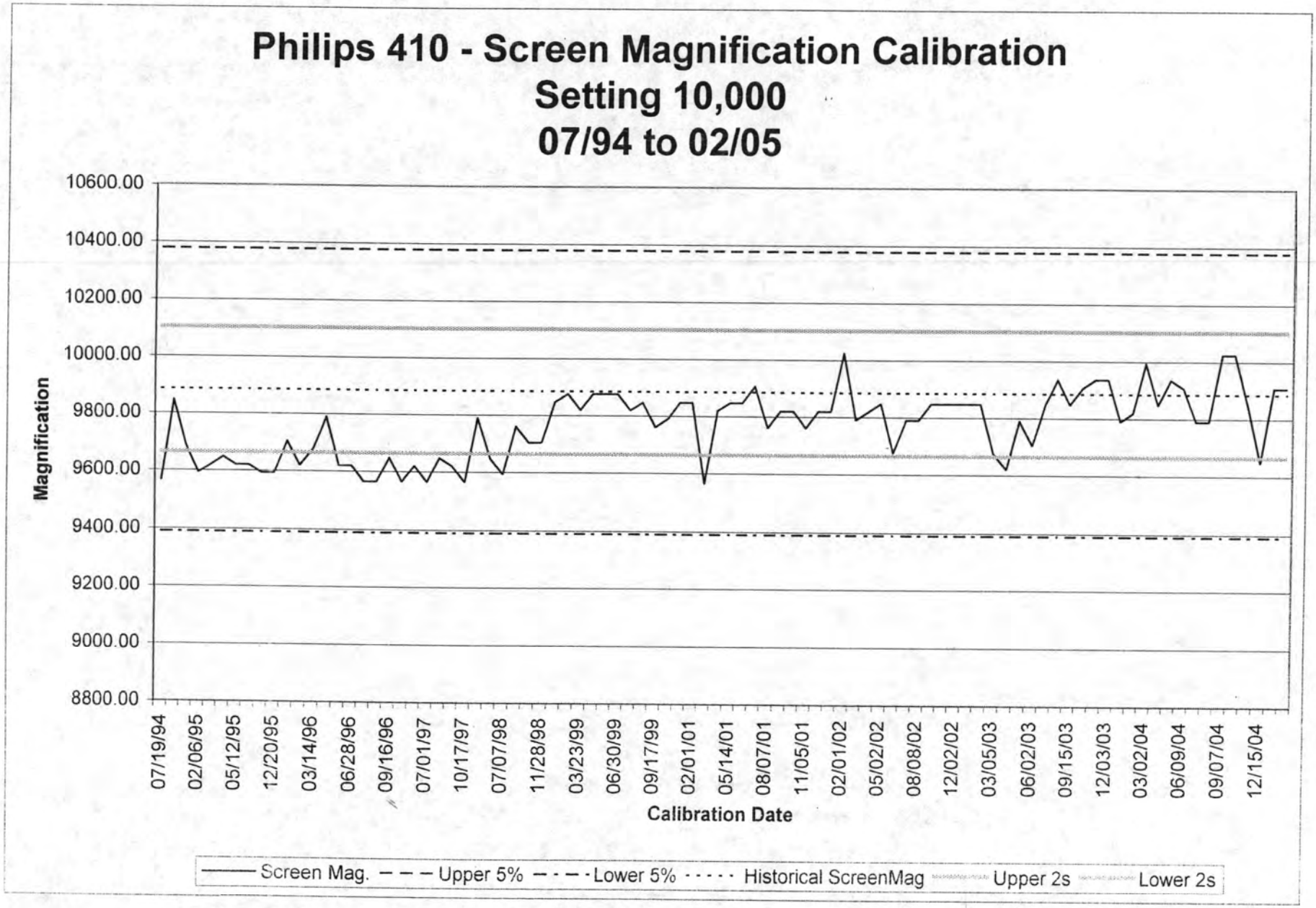
05/03/04
08/03/04
11/09/04
02/09/05
Calibration Date
Camera Mag.
Upper 5%
Lower 5%
Historical CamMag
Upper 2s
Lower 2s


Philips 410 - Screen Magnification Calibration
Setting 10,000
07/94 to 02/05
Magnification
10600.00
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9000.00
8800.00
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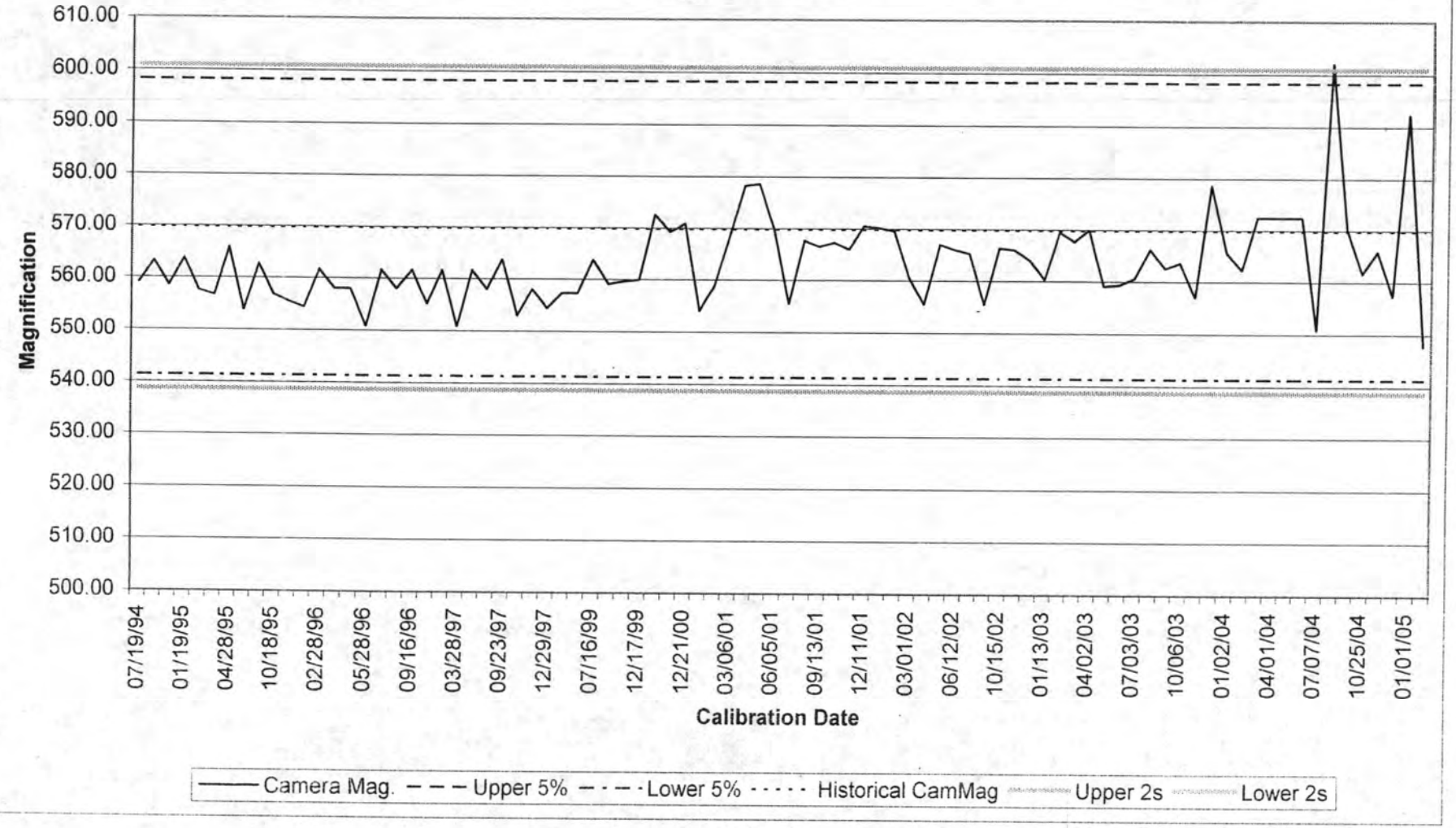
08/07/01
11/05/01
02/01/02
05/02/02
08/08/02
12/02/02
03/05/03
06/02/03
09/15/03
12/03/03
03/02/04
06/09/04
09/07/04
12/15/04
Calibration Date
Screen Mag.
Upper 5%
Lower 5%
Historical ScreenMag
Upper 2s
Lower 2s

Philips 410 - Camera Magnification Calibration
Setting 550
07/94 to 02/05



Screen Magnification Calibration (Philips 410)

(Version#1)

Date of Measurement: 2/9/05

Analyst: DW

Average:

Screen Magnification at 18,000:	17392
Screen Magnification at 10,000:	9905

Setting 18,000

Screen

Date	# Spaces	Magnification
2/9/2005	19.25	17392

Large Circle Diameter

Date	Actual Diameter (um)	Theoretical Dia. (um)
2/9/2005	5.25	5.07

Small Circle Diameter

Date	Actual Diameter (um)	Theoretical Dia. (um)
2/9/2005	0.52	0.51

Rule

Date	Actual Length (um)	Theoretical Length (um)	Single Unit (um)	Ten Units (um)
2/9/2005	4.60	4.44	0.057	0.575

Setting 10,000

Screen

Date	# Spaces	Magnification
2/9/2005	33.8	9905

Large Circle Diameter

Date	Actual Diameter (um)	Theoretical Dia. (um)
2/9/2005	9.22	9.13

Small Circle Diameter

Date	Actual Diameter (um)	Theoretical Dia. (um)
2/9/2005	0.92	0.913

Rule

Date	Actual Length (um)	Theoretical Length (um)	Single Unit (um)	Ten Units (um)
2/9/2005	8.08	8.00	0.101	1.010

Spaces = The number of spaces spanned by the measurement or reported on calibration sheet. For the 18,000x screen mag., take the avg. of the five measurements recorded on the monthly calibration log. For the 10,000x screen mag., only one measurement is recorded on the monthly calibration log.

Screen Magnification = (155/# spaces) * 2160

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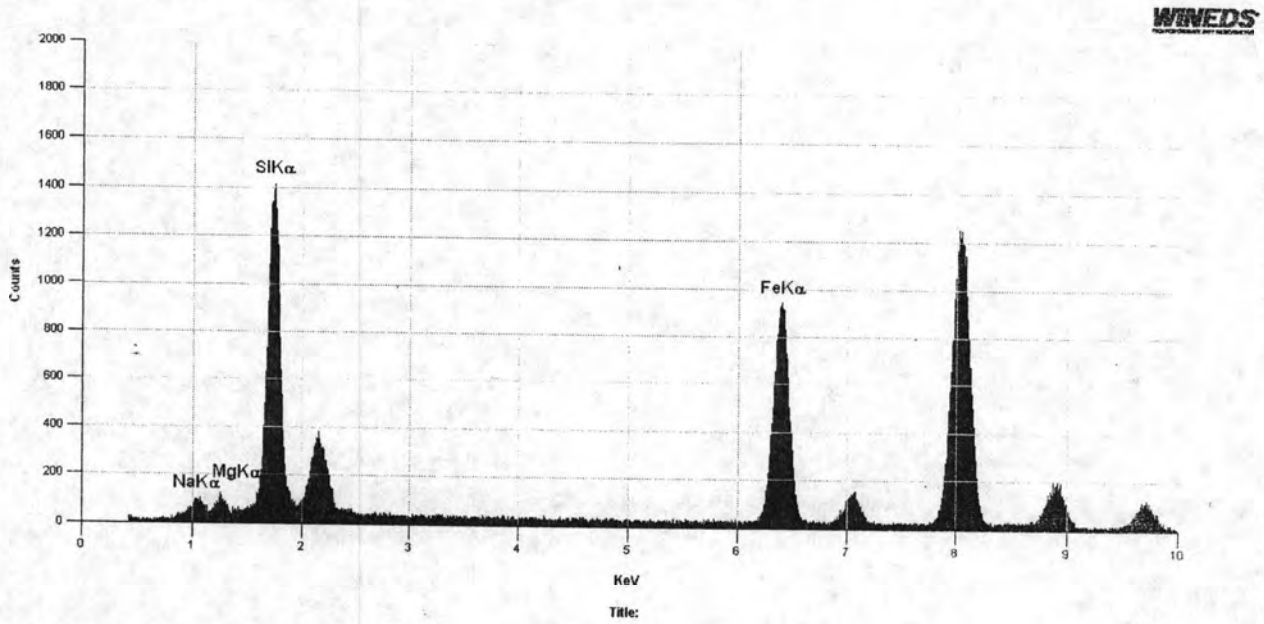
Crocidolite Standard
2/9/05
EDS# 15915



Quantitative Analysis Results - Standardless Analysis :
Spectrum8 Wed, Feb 09 2005
EDS Parameters - 100KV, Takeoff Angle: 38.0°, Fit Index: 4.46
Correction: CLIFF LORIMER, Cycles: 1

Element	Atoms%	Compound	Weight%	Error(±)	Norm%
Na	3.27	Na2O	4.29	0.69	4.29
Mg	1.93	MgO	3.30	0.44	3.30
Si	20.55	SiO2	52.34	1.26	52.34
Fe	11.84	Fe2O3	40.06	1.29	40.06
<Total>	100.00		100.00		100.00

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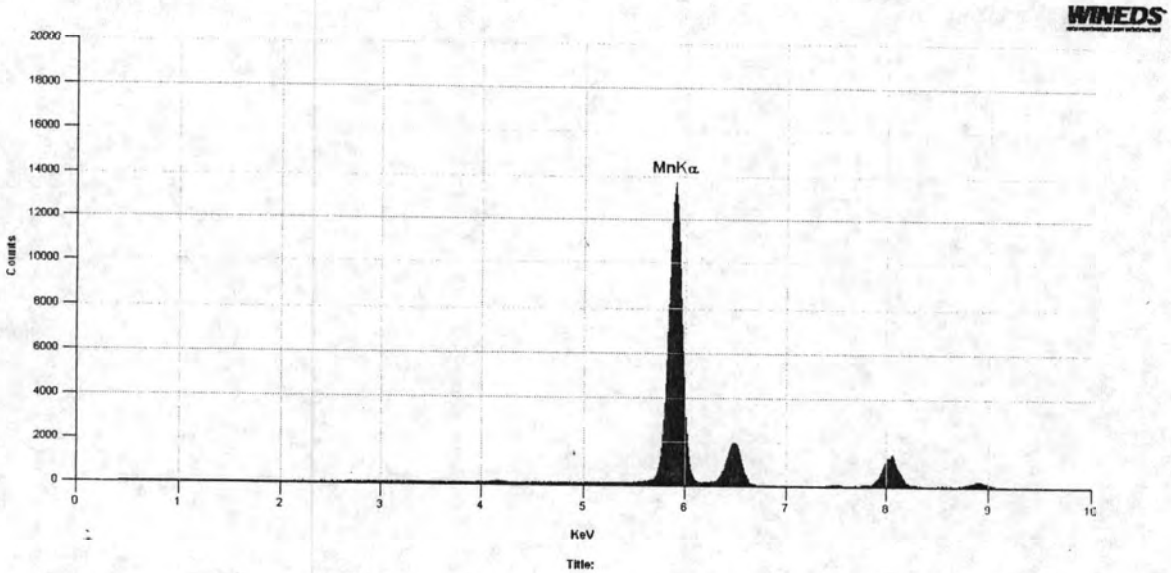
PHILIPS

Mn Std Calibration; 2-9-05



Peak Statistics : Mn Std Calibration

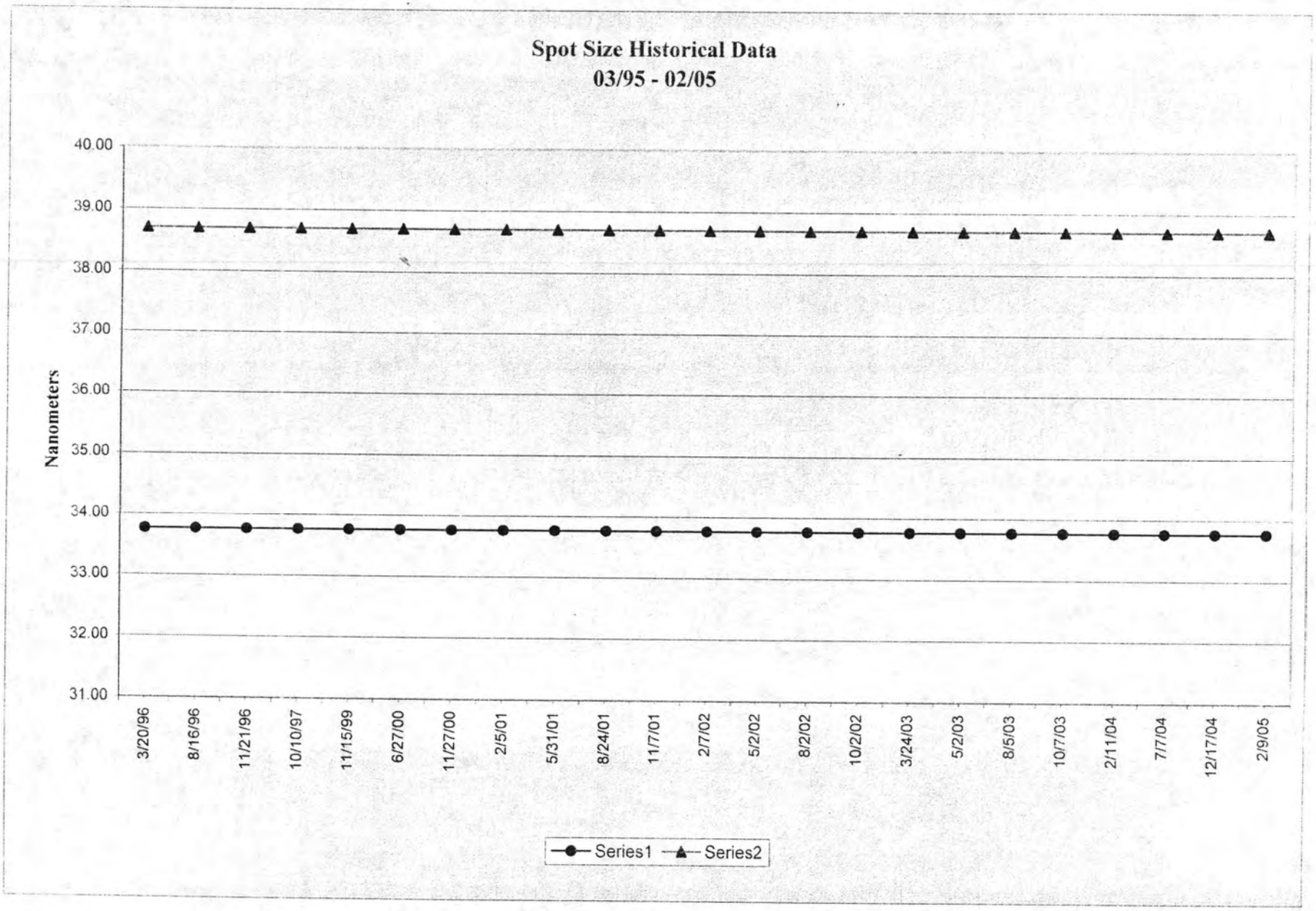
Peak	Energy	Height	FWHM	Area
Mn	5.896	13358	153	218153
MnLα	6.486	1924	160	32776
Cu	8.039	1303	173	24027

Spot Size Calibration

Spot Size Calculation

Run #	Spot Size (mm)	Avg.SpotSize mm	CamMag	SpotSize nm	Historical Avg
1	3	3.0	18036	166.3	154.8
2	3				
3	3				

Date	Spot size (nm)	UpperLimit (nm)	Analyst	Negative #	STD Spot Size	2S	25% Mean	Pass/Fail
9/8/95	117	250	JH		154.78	33.76	38.70	Pass
3/20/95	150	250	JH		154.78	33.76	38.70	Pass
9/8/95	117	250	JH		154.78	33.76	38.70	Pass
3/20/96	150.36	250	JH		154.78	33.76	38.70	Pass
8/16/96	122.3	250	JH		154.78	33.76	38.70	Pass
11/21/96	122.37	250	JH		154.78	33.76	38.70	Pass
10/10/97	122.58	250	JH		154.78	33.76	38.70	Pass
11/15/99	102.2	250	GG		154.78	33.76	38.70	Pass
6/27/00	124.1	250	DW		154.78	33.76	38.70	Pass
11/27/00	153.3	250	DW		154.78	33.76	38.70	Pass
2/5/01	166.1	250	DW		154.78	33.76	38.70	Pass
5/31/01	129	250	DW	1149	154.78	33.76	38.70	Pass
8/24/01	173.9	250	DW	1481	154.78	33.76	38.70	Pass
11/7/01	167.4	250	DW	1725	154.78	33.76	38.70	Pass
2/7/02	138	250	DW	1991	154.78	33.76	38.70	Pass
5/2/02	168.8	250	DW	2213	154.78	33.76	38.70	Pass
8/2/02	155.6	250	DW	2247	154.78	33.76	38.70	Pass
10/2/02	155.6	250	DW	2561	154.78	33.76	38.70	Pass
3/24/03	139.7	250	DW	3009	154.78	33.76	38.70	Pass
5/2/03	122.4	250	DW	3160	154.78	33.76	38.70	Pass
8/5/03	135.9	250	KM	3590	154.78	33.76	38.70	Pass
10/7/03	165.7	250	DW	3881	154.78	33.76	38.70	Pass
2/11/04	171.7	250	KM	4241	154.78	33.76	38.70	Pass
7/7/04	161.4	250	KM	4965	154.78	33.76	38.70	Pass
12/17/04	176.3	250	MQ	5723	154.78	33.76	38.70	Pass
2/9/05	166.3	250	DW	5871	154.78	33.76	38.70	Pass


Spot Size Historical Data
03/95 - 02/05
Nanometers
40.00
39.00
38.00
37.00
36.00
35.00
34.00
33.00
32.00
31.00
3/20/96
8/16/96
11/21/96
10/10/97
11/15/99
6/27/00
11/27/00
2/5/01
5/31/01
8/24/01
11/7/01
2/7/02
5/2/02
8/2/02
10/2/02
3/24/03
5/2/03
8/5/03
10/7/03
2/11/04
7/7/04
12/17/04
2/9/05
Series1
Series2

BEAM DOSE CALIBRATION

(Version#1)

Date:	2/9/05								
Analyst:	DW								
Fiber Length used in analysis:			10 MICRONS						
Time (sec)	**Visual**	**Neg #**	**Recordable Diffraction**	**EDS**	**Digital Image**				
0	Y	ND*	ND*						
30	Y	ND*	ND*						
60	Y	P68	Y						
90	Y	P69	Y						
120	Y	P70	Y	15772	P71				
PASS/FAIL	**PASS**		**PASS**						

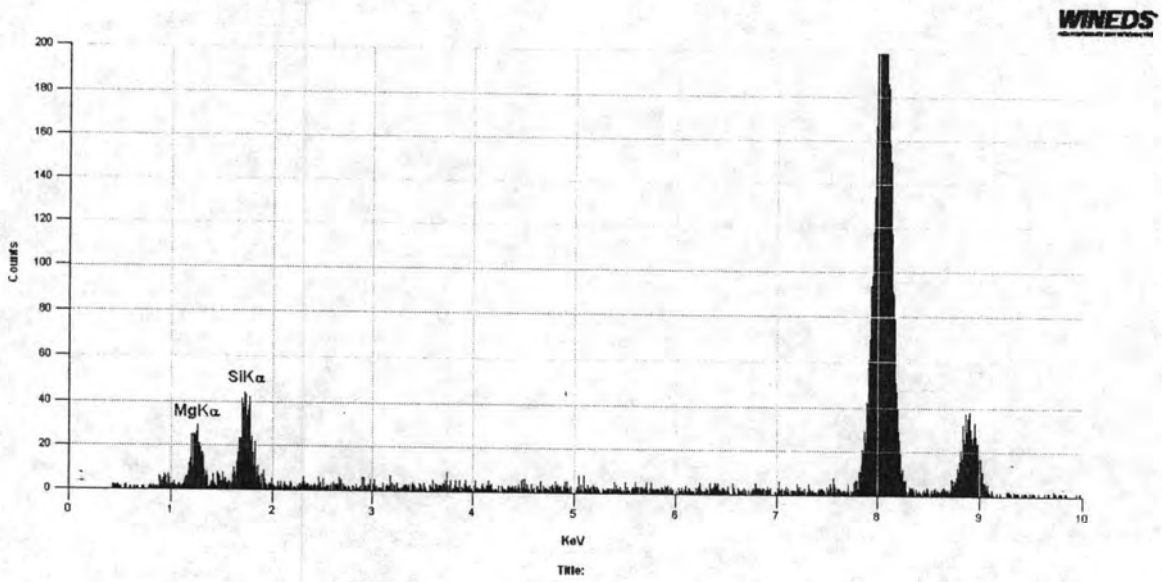
*ND - Not Done

Visual - Mark "Y" if diffraction pattern is seen on screen, mark "N" if pattern is not seen on screen

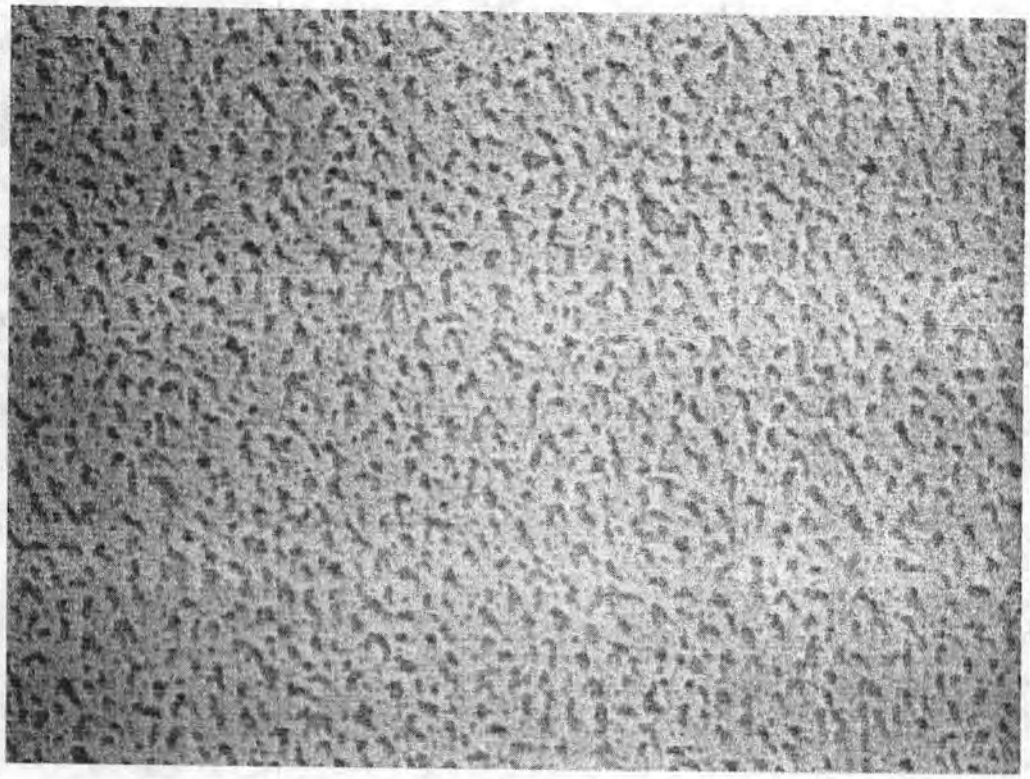
Recordable Diffraction - Mark "Y" if diffraction pattern is seen on negative, mark "N" if pattern is not seen on negative

Chrysotile Fiber Specs.: Single fibril, >= 1.0 micron in length

Philips 410LS; 2-9-05
Quarterly QC Beam Dose
EDS # 15772



Plasma Etch Rate; Sample 050231-01
Neg# P72
2-9-05

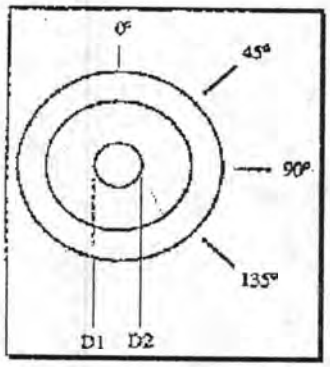


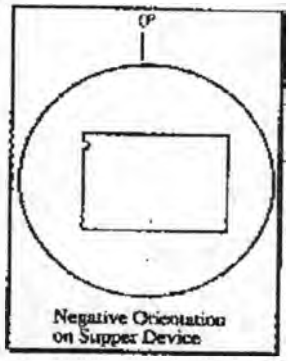
Camera Length and Camera Constant Calibration (Version#1)

Date of Measurement:	3/17/2005	**Average Camera Constant:**	26.541 **mmA**
Negative Number:	5883	(All 12 Measurements)	
Date Negative was Taken:	3/14/2005	**Average Camera Length:**	717.34 **mm**
Analyst:	drw	(All 12 Measurements)	

Ring #	0 degrees						45 degrees					
	D_1	D_2	D	R	CC	CL	D_1	D_2	D	R	CC	CL
1	64.70	87.50	22.80	11.40	26.85	725.59	52.80	75.35	22.55	11.28	26.55	717.64
2	62.90	89.20	26.30	13.15	26.81	724.67	51.25	77.25	26.00	13.00	26.51	716.41
3	57.40	94.90	37.50	18.75	27.04	730.74	45.75	82.60	36.85	18.43	26.57	718.08

Ring #	90 degrees						135 degrees					
	D_1	D_2	D	R	CC	CL	D_1	D_2	D	R	CC	CL
1	51.45	73.65	22.20	11.10	26.14	706.50	60.75	83.35	22.60	11.30	26.61	719.23
2	49.80	75.40	25.60	12.80	26.10	705.38	59.05	85.05	26.00	13.00	26.51	716.41
3	44.45	80.75	36.30	18.15	26.17	707.36	53.55	90.50	36.95	18.48	26.64	720.03





Measure the first three rings moving outward from the central spot of the diffraction pattern.

D_1 = The smaller measurement on the Supper device (mm).

D_2 = The larger measurement on the Supper device (mm).

$D = D_2 - D_1$

$R = D/2$

CC = Camera Constant

For Ring 1 [111], CC = R*2.355

For Ring 2 [200], CC = R*2.039

For Ring 3 [220], CC = R*1.442

CL = Camera Length = CC/0.037

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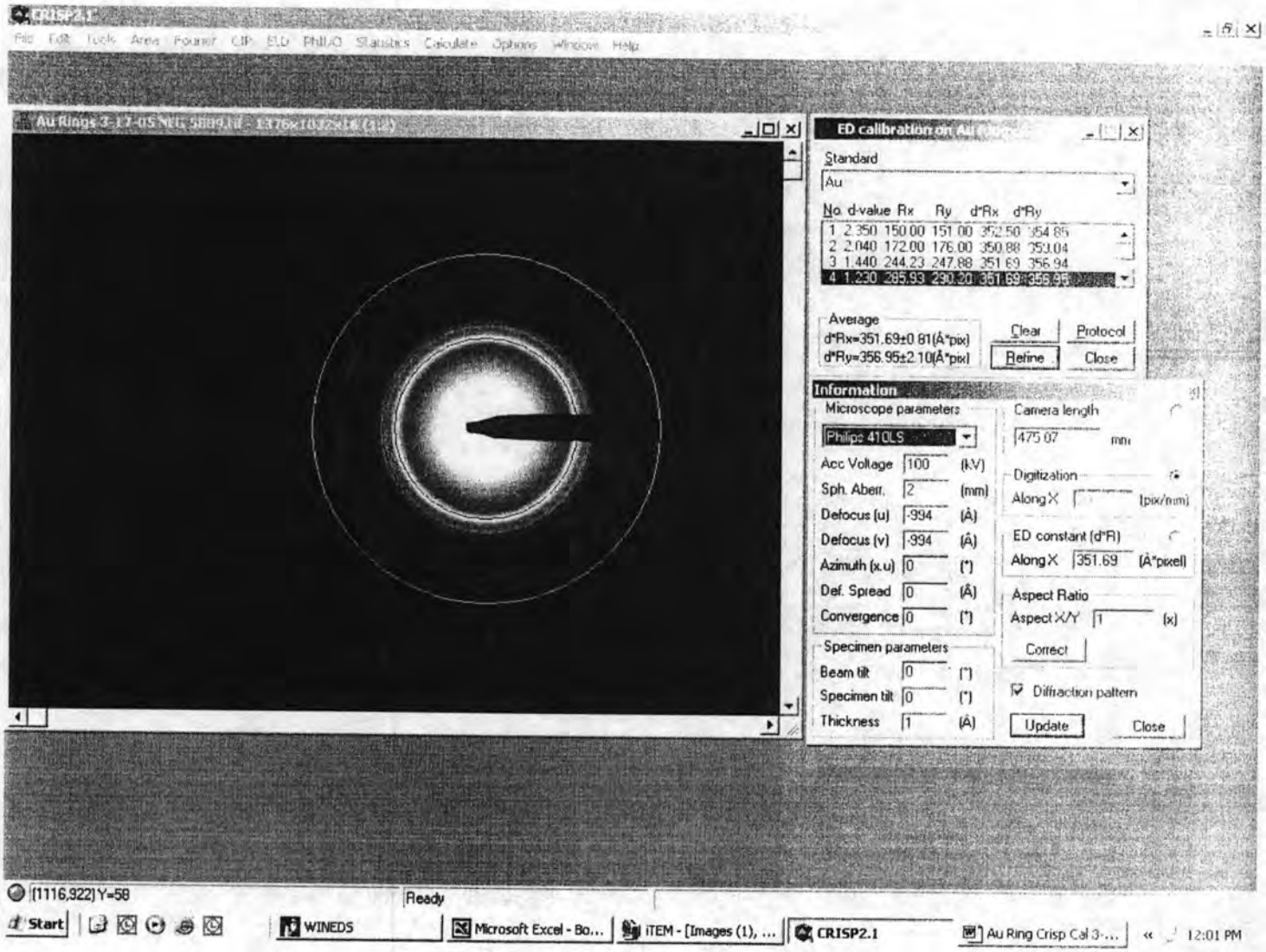
Au Ring Calibration
3/18/05



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Screen and Camera Magnification Calibration

Date of Measurement: 3/14/2005 **Analyst:** DW

Average:

Screen Magnification at 18,000:	17437.50
Screen Magnification at 10,000:	9760.93

Camera Magnification at 18,000:	18110.77
Camera Magnification at 10,000:	10424.35
Camera Magnification at 550:	558.72

Setting 18,000

Camera

Date	Negative #	D_1	D_2	D	# Spaces	Magnification
3/14/2005	5877	11.25	120.25	109.00	13.00	18110.77

Screen

Date	# Spaces	Magnification
3/14/2005	19.20	17437.50

Setting 10,000

Camera

Date	Negative #	D_1	D_2	D	# Spaces	Magnification
3/14/2005	5878	14.20	125.20	111.00	23.00	10424.35

Screen

Date	# Spaces	Magnification
3/14/2005	34.30	9760.93

Setting 550

Camera

Date	Negative #	D_1	D_2	D	# Spaces	Magnification
3/14/2005	5879	53.00	72.40	19.40	75.00	558.72

D1 = The smaller measurement of the Supper Device in mm.

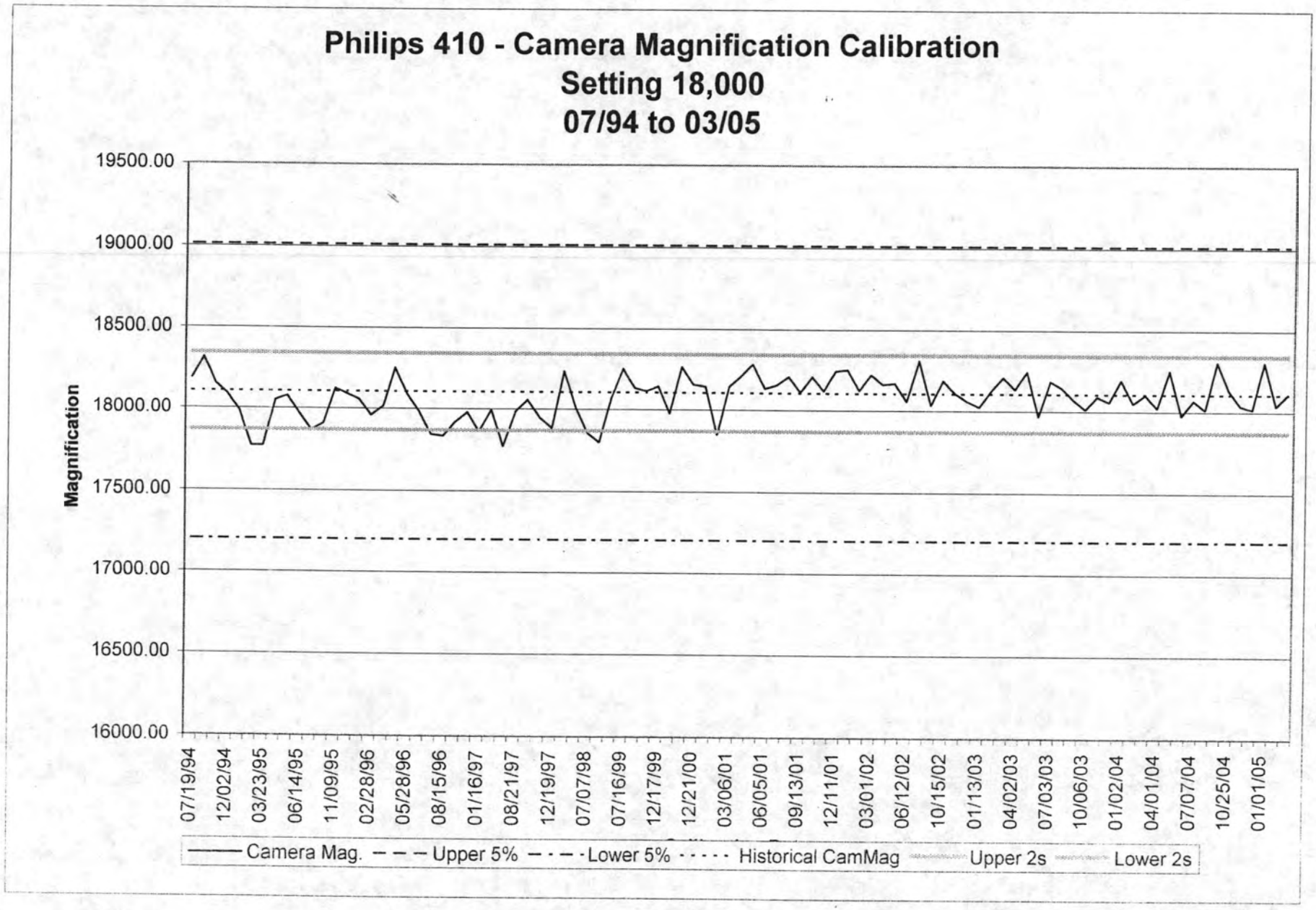
D2 = The larger measurement of the Supper Device in mm.

D = D2 - D1

Spaces = The number of spaces spanned by the measurement or reported on calibration sheet. For the 18,000x screen mag., take the avg. of the five measurements recorded on the monthly calibration log. For the 10,000x screen mag., only one measurement is recorded on the monthly calibration log.

Camera Magnification = (D/# spaces) * 2160

Screen Magnification = (155/# spaces) * 2160


Philips 410 - Camera Magnification Calibration
Setting 18,000
07/94 to 03/05
Magnification
19500.00
19000.00
18500.00
18000.00
17500.00
17000.00
16500.00
16000.00
07/19/94
12/02/94
03/23/95
06/14/95
11/09/95
02/28/96
05/28/96
08/15/96
01/16/97
08/21/97
12/19/97
07/07/98
07/16/99
12/17/99
12/21/00
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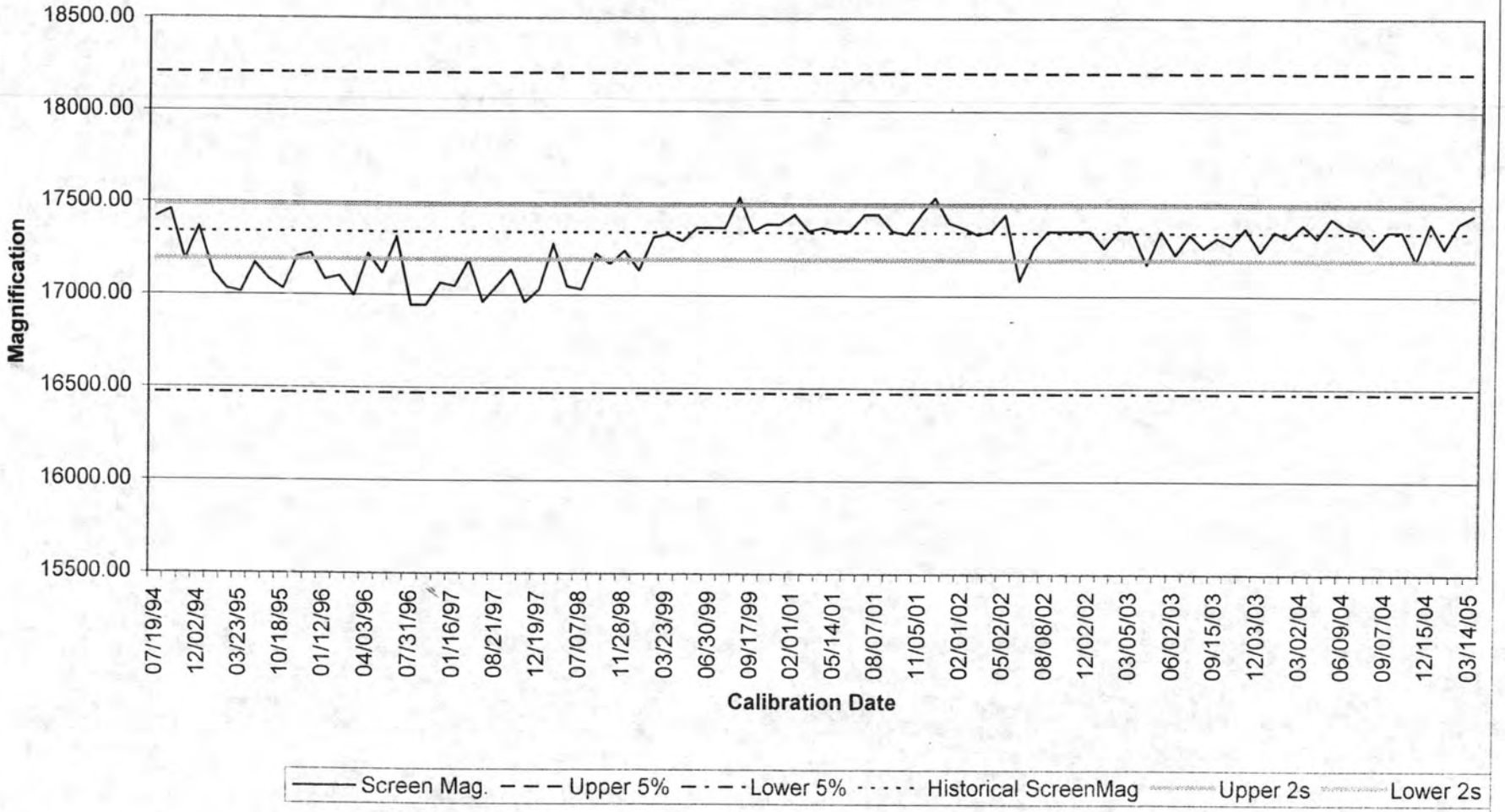
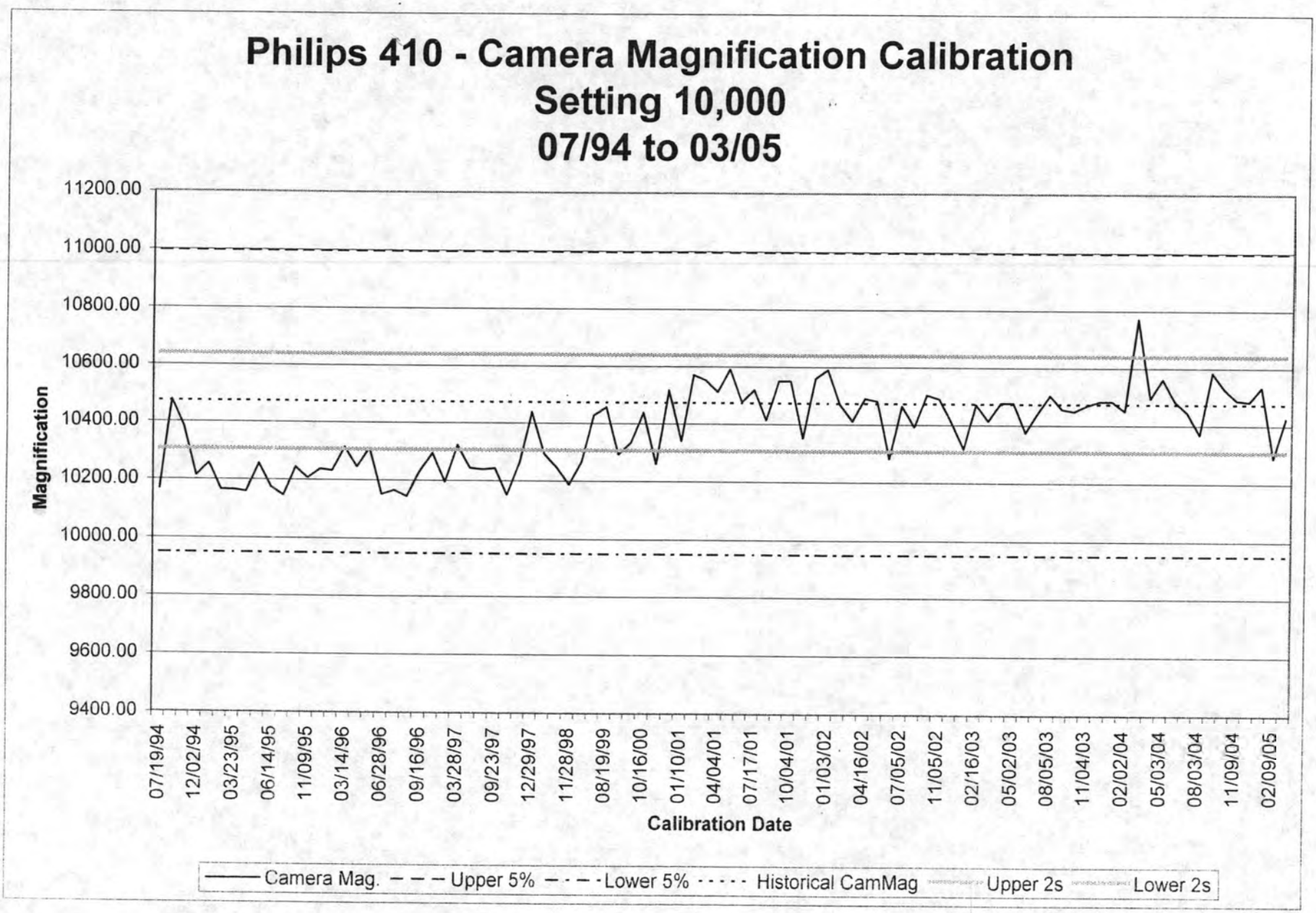
06/05/01
09/13/01
12/11/01
03/01/02
06/12/02
10/15/02
01/13/03
04/02/03
07/03/03
10/06/03
01/02/04
04/01/04
07/07/04
10/25/04
01/01/05
Camera Mag.
Upper 5%
Lower 5%
Historical CamMag
Upper 2s
Lower 2s

Philips 410 - Screen Magnification Calibration
Setting 18,000
07/94 to 03/05




Philips 410 - Camera Magnification Calibration
Setting 10,000
07/94 to 03/05
Magnification
11200.00
11000.00
10800.00
10600.00
10400.00
10200.00
10000.00
9800.00
9600.00
9400.00
07/19/94
12/02/94
03/23/95
06/14/95
11/09/95
03/14/96
06/28/96
09/16/96
03/28/97
09/23/97
12/29/97
11/28/98
08/19/99
10/16/00
01/10/01
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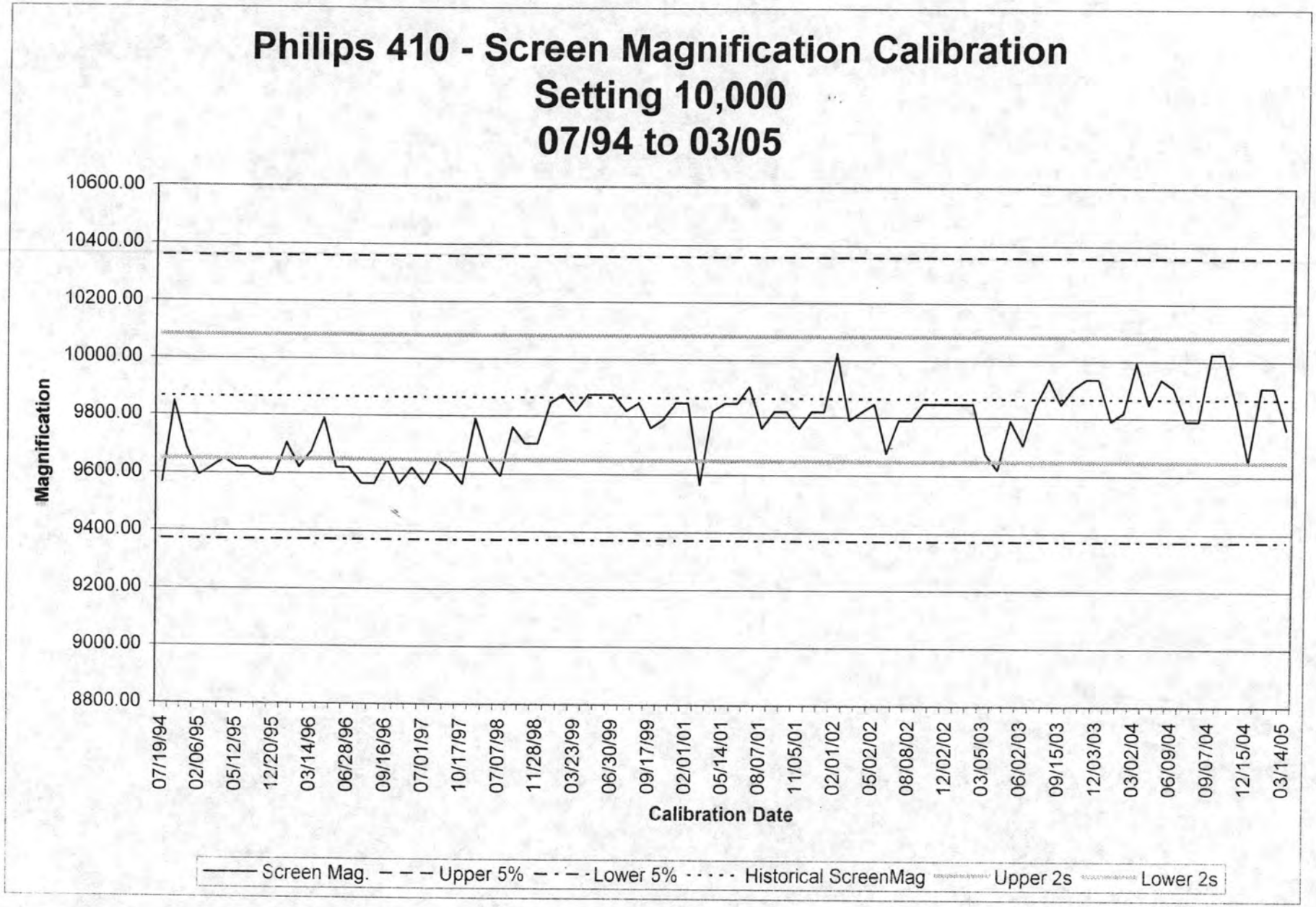
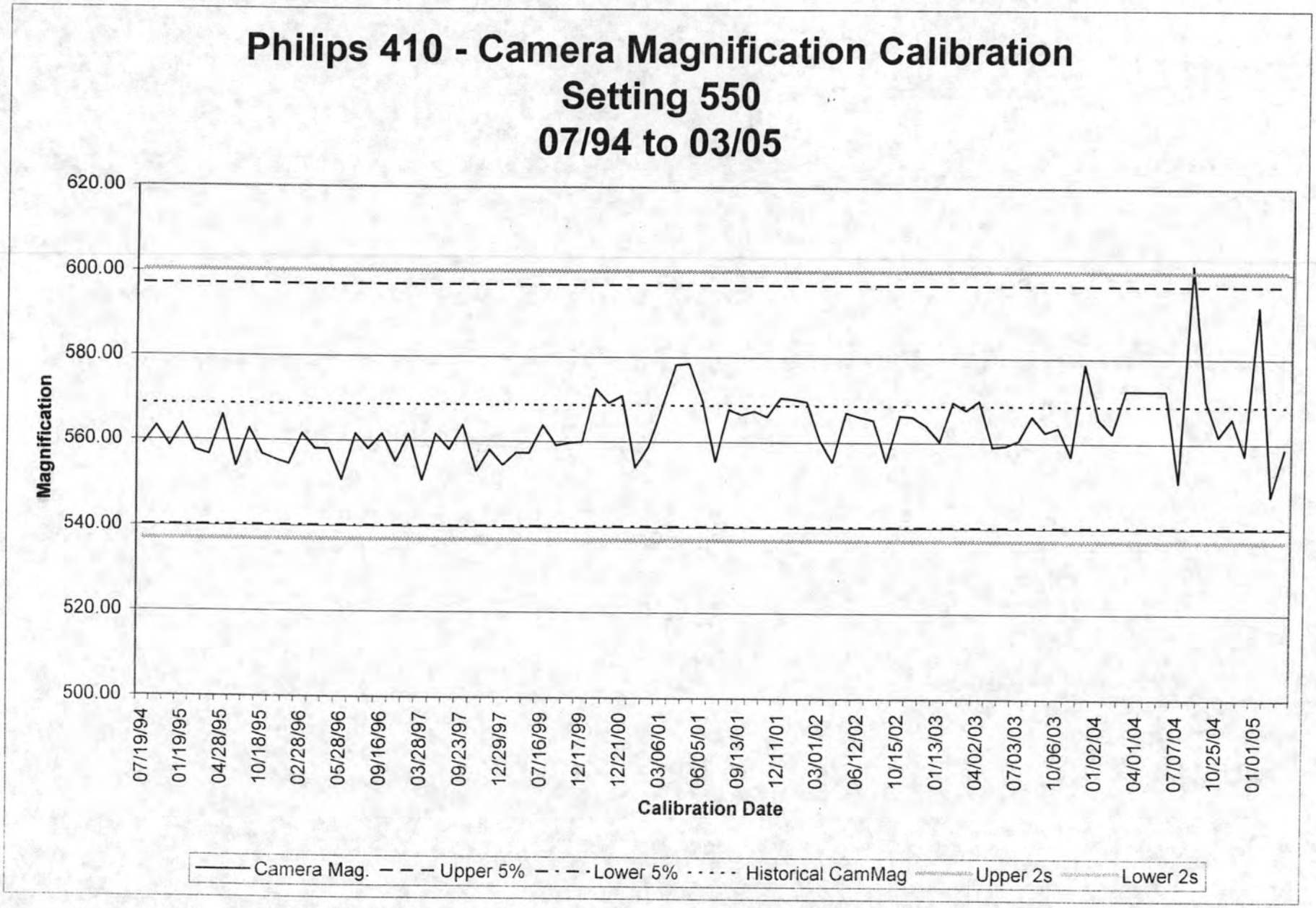
05/02/03
08/05/03
11/04/03
02/02/04
05/03/04
08/03/04
11/09/04
02/09/05
Calibration Date
Camera Mag.
Upper 5%
Lower 5%
Historical CamMag
Upper 2s
Lower 2s


Philips 410 - Screen Magnification Calibration
Setting 10,000
07/94 to 03/05
Magnification
10600.00
10400.00
10200.00
10000.00
9800.00
9600.00
9400.00
9200.00
9000.00
8800.00
07/19/94
02/06/95
05/12/95
12/20/95
03/14/96
06/28/96
09/16/96
07/01/97
10/17/97
07/07/98
11/28/98
03/23/99
06/30/99
09/17/99
02/01/01
05/14/01
08/07/01
11/05/01
02/01/02
05/02/02
08/08/02
12/02/02
03/05/03
06/02/03
09/15/03
12/03/03
03/02/04
06/09/04
09/07/04
12/15/04
03/14/05
Calibration Date
Screen Mag.
Upper 5%
Lower 5%
Historical ScreenMag
Upper 2s
Lower 2s


Philips 410 - Camera Magnification Calibration
Setting 550
07/94 to 03/05
620.00
600.00
580.00
560.00
540.00
520.00
500.00
Magnification
07/19/94
01/19/95
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10/18/95
02/28/96
05/28/96
09/16/96
03/28/97
09/23/97
12/29/97
07/16/99
12/17/99
12/21/00
03/06/01
06/05/01
09/13/01
12/11/01
03/01/02
06/12/02
10/15/02
01/13/03
04/02/03
07/03/03
10/06/03
01/02/04
04/01/04
07/07/04
10/25/04
01/01/05
Calibration Date
Camera Mag.
Upper 5%
Lower 5%
Historical CamMag
Upper 2s
Lower 2s

Screen Magnification Calibration (Philips 410)

(Version#1)

Date of Measurement: 3/14/05

Analyst: DW

Average:

Screen Magnification at 18,000:	17438
Screen Magnification at 10,000:	9761

Setting 18,000

Screen

Date	# Spaces	Magnification
3/14/2005	19.2	17438

Large Circle Diameter

Date	Actual Diameter (um)	Theoretical Dia. (um)
3/14/2005	5.24	5.07

Small Circle Diameter

Date	Actual Diameter (um)	Theoretical Dia. (um)
3/14/2005	0.52	0.51

Rule

Date	Actual Length (um)	Theoretical Length (um)	Single Unit (um)	Ten Units (um)
3/14/2005	4.59	4.44	0.057	0.573

Setting 10,000

Screen

Date	# Spaces	Magnification
3/14/2005	34.3	9761

Large Circle Diameter

Date	Actual Diameter (um)	Theoretical Dia. (um)
3/14/2005	9.35	9.13

Small Circle Diameter

Date	Actual Diameter (um)	Theoretical Dia. (um)
3/14/2005	0.94	0.913

Rule

Date	Actual Length (um)	Theoretical Length (um)	Single Unit (um)	Ten Units (um)
3/14/2005	8.20	8.00	0.102	1.024

Spaces = The number of spaces spanned by the measurement or reported on calibration sheet. For the 18,000x screen mag., take the avg. of the five measurements recorded on the monthly calibration log. For the 10,000x screen mag., only one measurement is recorded on the monthly calibration log.

Screen Magnification = (155/# spaces) * 2160

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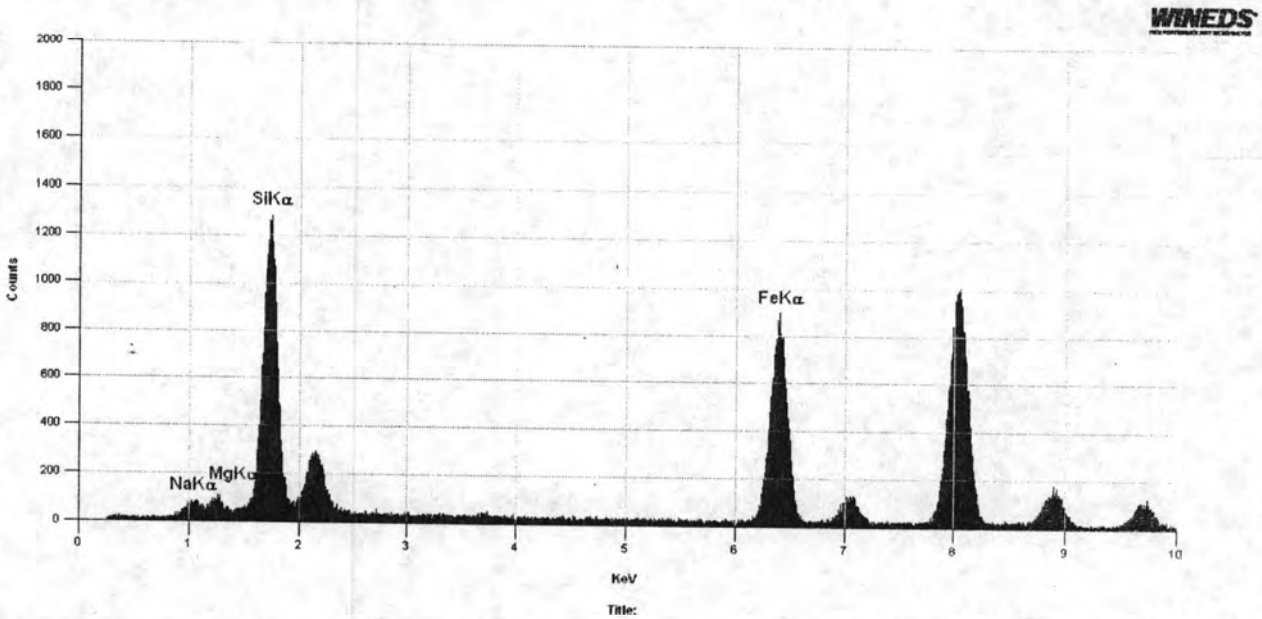
Crocidolite Standard
3/18/05
EDS# 15914



Quantitative Analysis Results - Standardless Analysis :
Spectrum1 EDS Spectrum Fri, Mar 18 2005
EDS Parameters - 100KV, Takeoff Angle: 38.0°, Fit Index: 20.82
Correction: CLIFF LORIMER, Cycles: 1

Element	Atoms%	Compound	Weight%	Error(±)	Norm%
Na	3.31	Na2O	4.41	0.61	4.41
Mg	1.98	MgO	3.42	0.40	3.42
Si	21.26	SiO2	54.80	0.99	54.80
Fe	10.91	Fe2O3	37.37	0.87	37.37
<Total>	100.00		100.00		100.00

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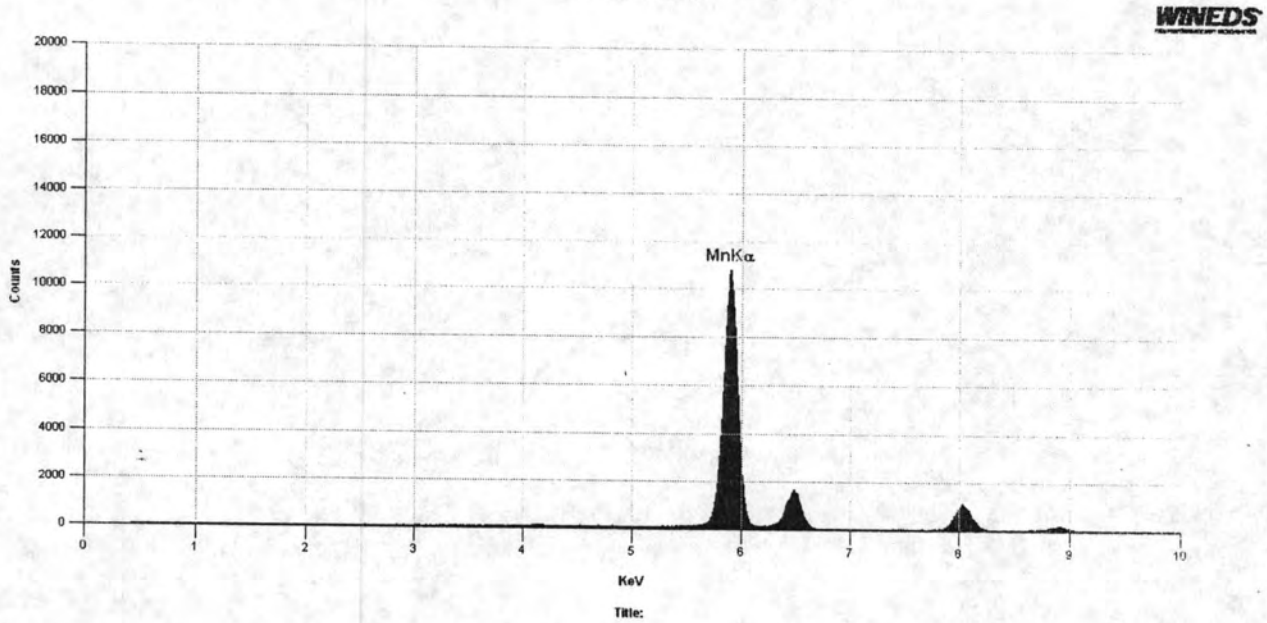
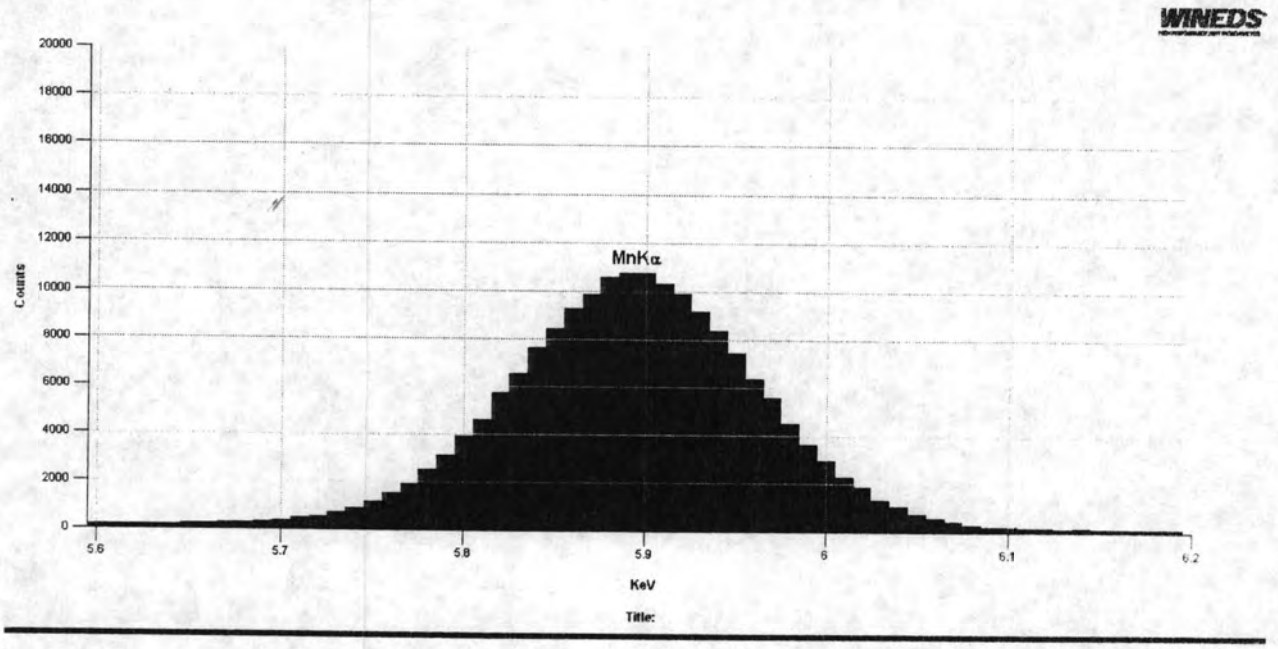
Mn Standard
3/18/05
EDS# 15916



Peak	Energy	Height	FWHM	Area
1	5.894	10495	152	170776
2	6.483	1529	156	25555
3	8.034	1024	170	18643



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PHILIPS MnKa Peak Resolution Calibration

Date	Analyst	EDS	Mn Peak (cnts)	FWHM High (cnts)	FWHM Low (cnts)	FWHM (cnts)	# Channels	Resolution (eV)	Std Dev	Std Dev (2s)	Pass/Fail
2/5/02	DW		14255	7466	6369	6918	17	170			Pass
2/13/02	DW		10830	5441	4460	4951	17	170			Pass
2/26/02	DW		10070	5734	4772	5253	16	160			Pass
3/1/02	DW		10243	5177	4378	4778	15	150			Pass
3/20/02	DW		7684	3964	3290	3627	16	160			Pass
4/16/02	DW		10042	5693	4729	5211	16	160			Pass
5/2/02	DW	11466	10022	5310	4438	4874	17	170			Pass
6/4/02	DW	11531	10252	5421	4480	4951	16	160			Pass
7/1/02	DW	11800	10300	5749	4799	5274	16	160			Pass
8/7/02	DW	12318	10640	5905	4825	5365	17	170			Pass
10/1/02	DW	12634	15662	8414	7183	7799	17	170			Pass
11/1/02	DW	12667	20000	10797	9338	10068	17	170			Pass
12/2/02	DW	12778	10303	5421	4410	4916	16	160			Pass
1/7/03	DW	13007	10303	5569	4559	5064	14	140			Pass
2/7/03	KM	13089	10427	5960	4156	5058	17	170			Pass
3/5/2003	KM	13165	2348	1046	1279	1163	17	170			Pass
4/3/2003	KM	13226	10313	5676	4731	5204	16	160			Pass
5/5/2003	KM	13341	11454	5815	4977	5396	17	170			Pass
6/1/2003	KM	13437	9806	5385	4577	4981	17	170			Pass
7/3/2003	KM	13580	10335	5440	4620	5030	17	170			Pass
8/5/2003	KM	13713	10233	5686	4710	5198	17	170			Pass
9/2/2003	KM	13828	12311	6552	5661	6107	17	170			Pass
10/1/2003	KM	13981	10934	6341	5440	5891	17	170			Pass
11/3/2003	KM	14047	12783	7599	6376	6988	17	170	3.162	6.325	Pass
12/3/2003	KM	14131	10314	5258	4476	4867	17	170	3.162	6.325	Pass
1/2/2004	KM	14175	9901	5102	4166	4634	17	170	3.162	6.325	Pass
2/2/2004	KM	14240	10370	4747	5732	5240	17	170	0.000	0.000	Pass
3/3/2004	KM	14285	10232	5374	4428	4901	16	160	3.162	6.325	Pass
4/1/2004	KM	14371	9603	5532	4718	5125	17	170	3.162	6.325	Pass
5/4/2004	KM	14542	10344	4743	4017	4380	17	170	3.162	6.325	Pass
6/8/2004	KM	14819	10084	5420	4601	5011	17	170	3.162	6.325	Pass
7/7/2004	DW	14868	12292	5971	5843	5907	16	160	4.216	8.433	Pass
9/8/2004	KM	15032	6799	4180	3197	3689	16	160	4.830	9.661	Pass
11/1/2004	KM	15278	10251	6145	5244	5695	16	160	4.924	9.847	Pass
12/15/2004	DW	15566	10227	5288	4330	4809	17	170	4.924	9.847	Pass
1/6/2005	DW	15917	3665	1451	1768	1610	16	160	5.149	10.299	Pass
2/9/2005	KM						16	160	5.222	10.445	Pass
3/18/2005	DW	15916	10784	4630	5736	5183	16	160	5.189	10.377	Pass

Na Crocidolite Std. Calibration

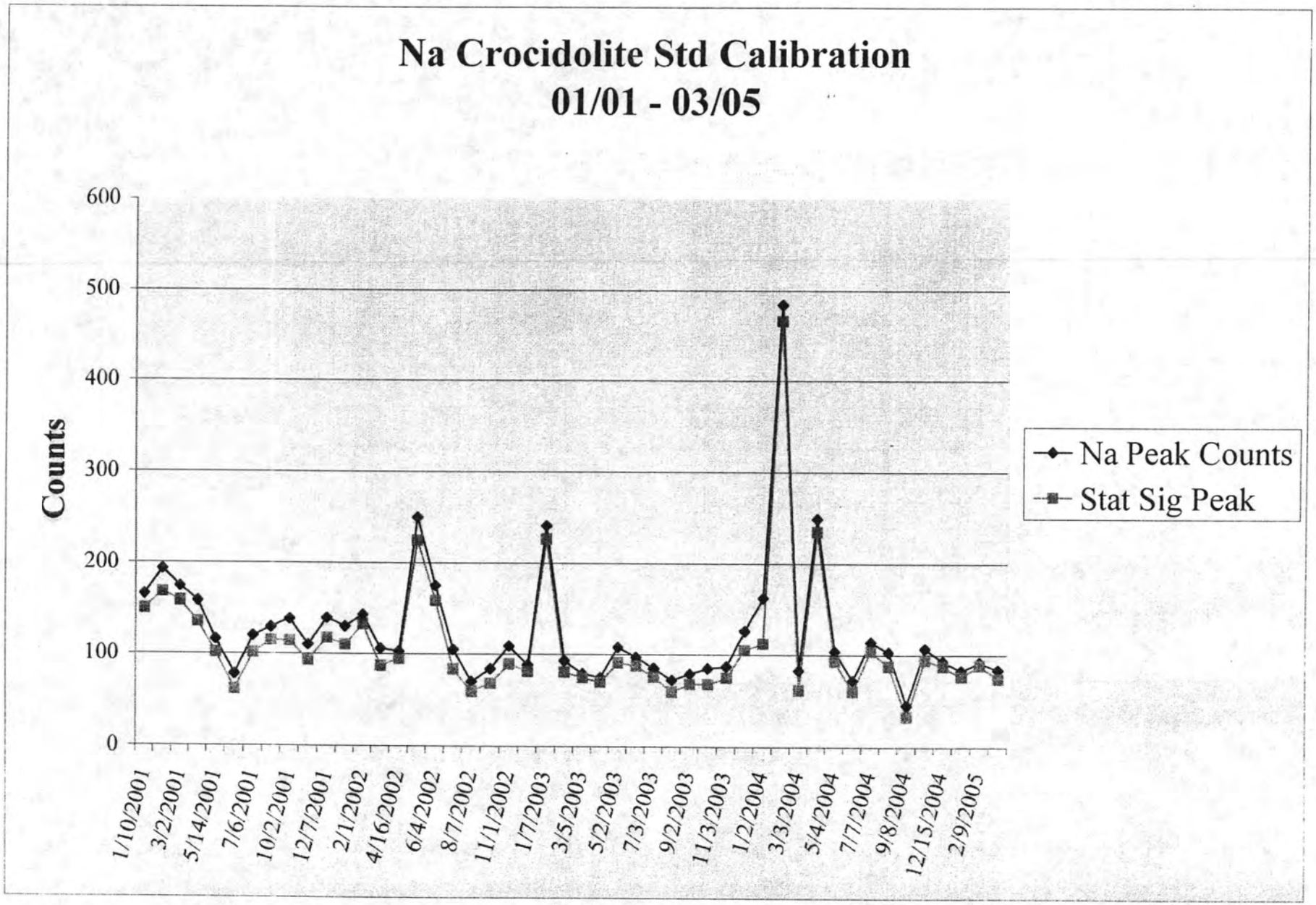
Date	Analyst	EDS #	Fiber Size >5.0um	Peak Counts**	Background Counts***	Stat. Significant Peak	Pass/Fail
1/10/2001	DW	9707	y	165	67	149.5	Pass
2/2/2001	DW	9753	y	193	71	167.5	Pass
3/2/2001	DW	9819	y	174	71	158	Pass
4/4/2001	DW	10012	y	158	56	135	Pass
5/14/2001	DW	10325	y	116	43	101	Pass
6/8/2001	DW	10405	y	78	22	61	Pass
7/6/2001	DW	10481	y	120	41	101	Pass
8/1/2001	DW	10631	y	129	50	114.5	Pass
10/2/2001	DW	10850	y	138	45	114	Pass
11/2/2001	DW	10966	y	110	38	93	Pass
12/7/2001	DW	11054	y	139	48	117.5	Pass
1/2/2002	DW	11121	y	130	45	110	Pass
2/1/2002	DW	11206	y	143	61	132.5	Pass
3/1/2002	DW	11272	y	106	34	87	Pass
4/16/2002	DW	11373	y	103	43	94.5	Pass
5/2/2002	DW	11465	y	250	100	225	Pass
6/4/2002	DW	11530	y	175	71	158.5	Pass
7/1/2002	DW	11799	y	105	31	83.5	Pass
8/7/2002	DW	12319	y	70	24	59	Pass
10/12/2002	DW	12633	y	84	26	68	Pass
11/1/2002	DW	12668	y	109	35	89.5	Pass
12/1/2002	DW	12779	y	88	37	81	Pass
1/7/2003	DW	13008	y	241	106	226.5	Pass
2/7/2003	KM	13078	y	93	34	80.5	Pass
3/5/2003	KM	13164	y	79	35	74.5	Pass
4/3/2003	KM	13225	y	75	32	69.5	Pass
5/2/2003	KM	13340	y	108	37	91	Pass
6/1/2003	KM	13436	y	97	39	87.5	Pass
7/3/2003	KM	13579	y	85	33	75.5	Pass
8/5/2003	KM	13712	y	72	23	59	Pass
9/2/2003	KM	13827	y	79	28	67.5	Pass
10/1/2003	KM	13979	y	85	25	67.5	Pass
11/3/2003	KM	14046	y	87	31	74.5	Pass
12/3/2003	KM	14130	y	126	42	105	Pass
1/2/2004	KM	14176	y	162	31	112	Pass
2/2/2004	KM	14239	y	484	224	466	Pass

3/3/2004	KM	14284	y	83	20	61.5	Pass
4/1/2004	KM	14370	y	249	110	234.5	Pass
5/4/2004	KM	14538	y	104	41	93	Pass
6/8/2004	KM	14818	y	72	24	60	Pass
7/7/2004	DW	14868	Y	114	47	104	Pass
8/3/2004	DW	14932	Y	103	36	87.5	Pass
9/8/2004	KM	15031	Y	45	10	32.5	Pass
11/1/2004	KM	15277	Y	107	41	94.5	Pass
12/15/2004	MQ	15568	Y	93	41	87.5	Pass
1/1/2005	KM	15628	Y	83	35	76.5	Pass
2/9/2005	DW	15915	Y	92	43	89	Pass
3/18/2005	DW	15914	Y	84	32	74	Pass

*ND - Not Done

** Peak count is the maximum Na peak count

***Background peak count is the base, right of the Na peak

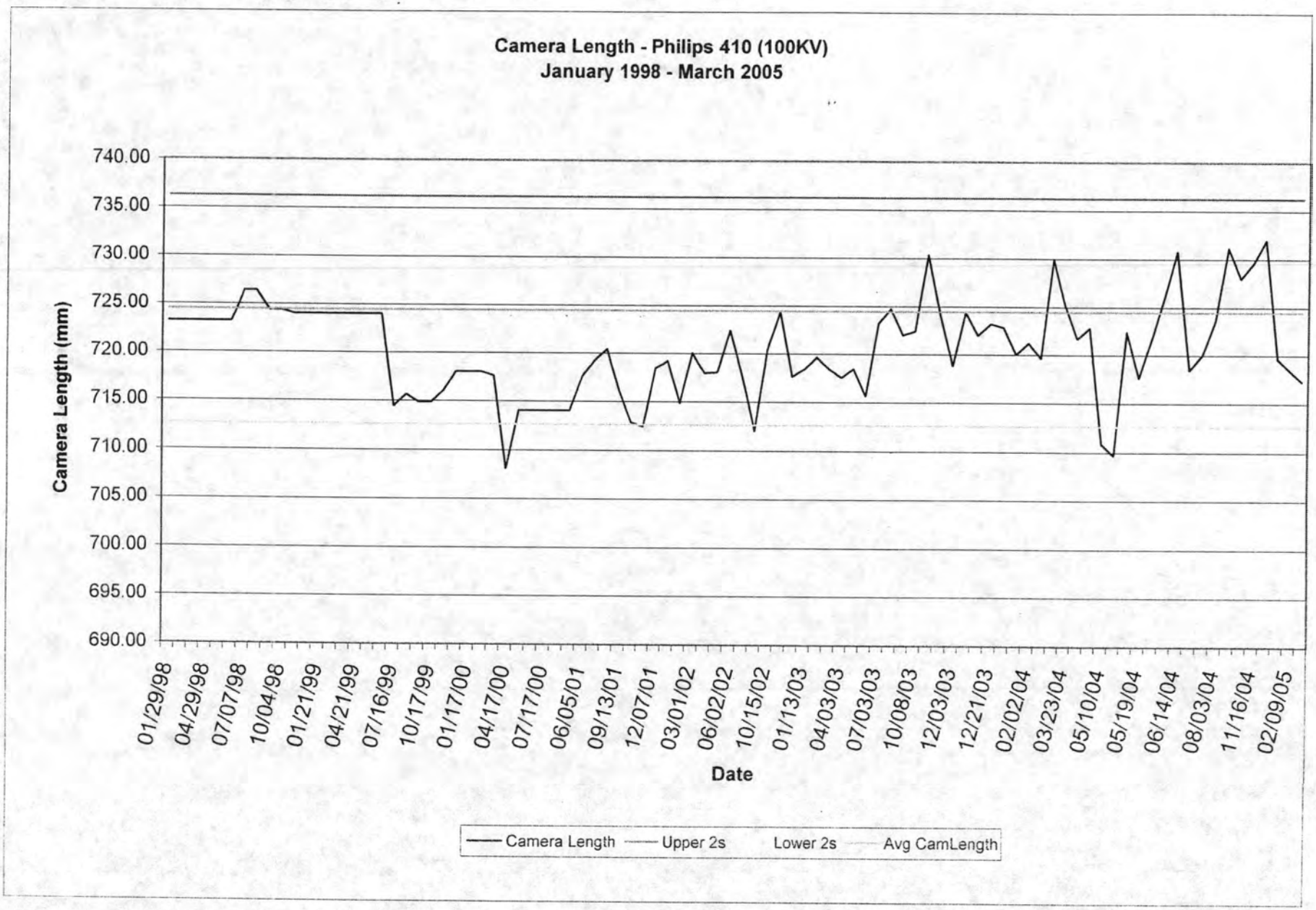

Na Crocidolite Std Calibration
01/01 - 03/05
Counts
600
500
400
300
200
100
0
1/10/2001
3/2/2001
5/14/2001
7/6/2001
10/2/2001
12/7/2001
2/1/2002
4/16/2002
6/4/2002
8/7/2002
11/1/2002
1/7/2003
3/5/2003
5/2/2003
7/3/2003
9/2/2003
11/3/2003
1/2/2004
3/3/2004
5/4/2004
7/7/2004
9/8/2004
12/15/2004
2/9/2005
Na Peak Counts
Stat Sig Peak

Calibration	Avg. Cam. Const.	Date	Camera Length	Upper 2.5%	Lower 2.5%	STD CL.	Upper 2s	Lower 2s	2s	Negative
1	26.89	04/01/91	726.79	742.55	706.33	724.44	736.24	712.64	11.80	459
2	27.64	08/01/90	747.08	742.55	706.33	724.44	736.24	712.64	11.80	725
3	27.47	05/01/91	742.30	742.55	706.33	724.44	736.24	712.64	11.80	771
4	26.86	06/01/91	725.99	742.55	706.33	724.44	736.24	712.64	11.80	920
5	26.16	06/01/91	706.90	742.55	706.33	724.44	736.24	712.64	11.80	937
6	26.74	06/01/91	722.81	742.55	706.33	724.44	736.24	712.64	11.80	966
7	26.82	07/01/91	724.80	742.55	706.33	724.44	736.24	712.64	11.80	1016
8	26.82	08/01/91	724.80	742.55	706.33	724.44	736.24	712.64	11.80	1231
9	26.79	09/01/91	724.00	742.55	706.33	724.44	736.24	712.64	11.80	1329
10	26.83	09/01/91	725.20	742.55	706.33	724.44	736.24	712.64	11.80	1337
11	26.82	10/01/91	724.80	742.55	706.33	724.44	736.24	712.64	11.80	1366
12	26.77	10/01/91	723.61	742.55	706.33	724.44	736.24	712.64	11.80	1382
13	26.83	10/01/91	725.20	742.55	706.33	724.44	736.24	712.64	11.80	1406
14	26.82	11/01/91	724.80	742.55	706.33	724.44	736.24	712.64	11.80	1450
15	26.77	11/01/91	723.61	742.55	706.33	724.44	736.24	712.64	11.80	1482
16	26.76	11/01/91	723.21	742.55	706.33	724.44	736.24	712.64	11.80	1529
17	26.92	11/01/91	727.58	742.55	706.33	724.44	736.24	712.64	11.80	1536
18	26.74	12/01/91	722.81	742.55	706.33	724.44	736.24	712.64	11.80	1570
19	26.94	12/01/91	727.98	742.55	706.33	724.44	736.24	712.64	11.80	1598
20	26.83	01/01/92	725.20	742.55	706.33	724.44	736.24	712.64	11.80	1606
21	26.80	01/01/92	724.40	742.55	706.33	724.44	736.24	712.64	11.80	1678
22	26.86	01/01/92	725.99	742.55	706.33	724.44	736.24	712.64	11.80	1694
23	26.79	02/01/92	724.00	742.55	706.33	724.44	736.24	712.64	11.80	1712
24	26.76	02/01/92	723.21	742.55	706.33	724.44	736.24	712.64	11.80	1753
25	26.85	02/01/92	725.59	742.55	706.33	724.44	736.24	712.64	11.80	1817
26	26.80	03/01/92	724.40	742.55	706.33	724.44	736.24	712.64	11.80	1820
27	26.86	03/01/92	725.99	742.55	706.33	724.44	736.24	712.64	11.80	1864
28	26.82	03/01/92	724.80	742.55	706.33	724.44	736.24	712.64	11.80	1874
29	26.79	03/01/92	724.00	742.55	706.33	724.44	736.24	712.64	11.80	2034
30	26.80	04/01/92	724.40	742.55	706.33	724.44	736.24	712.64	11.80	2065
31	26.82	04/01/92	724.80	742.55	706.33	724.44	736.24	712.64	11.80	2067
32	26.82	05/01/92	724.80	742.55	706.33	724.44	736.24	712.64	11.80	2186
33	26.83	06/01/92	725.20	742.55	706.33	724.44	736.24	712.64	11.80	2211
34	26.83	07/01/92	725.20	742.55	706.33	724.44	736.24	712.64	11.80	2274
35	26.96	07/01/92	728.78	742.55	706.33	724.44	736.24	712.64	11.80	2281
36	26.80	09/01/92	724.40	742.55	706.33	724.44	736.24	712.64	11.80	2433
37	26.79	10/01/92	724.00	742.55	706.33	724.44	736.24	712.64	11.80	2450
38	26.79	10/01/92	724.00	742.55	706.33	724.44	736.24	712.64	11.80	2474
39	26.74	11/01/92	722.81	742.55	706.33	724.44	736.24	712.64	11.80	2514
40	26.76	11/01/92	723.21	742.55	706.33	724.44	736.24	712.64	11.80	2530
41	26.51	12/24/92	716.45	742.55	706.33	724.44	736.24	712.64	11.80	2601
42	26.92	01/08/93	727.58	742.55	706.33	724.44	736.24	712.64	11.80	2630
43	26.88	02/08/93	726.39	742.55	706.33	724.44	736.24	712.64	11.80	2663
44	26.67	03/15/93	720.82	742.55	706.33	724.44	736.24	712.64	11.80	2750
45	26.70	04/07/93	721.62	742.55	706.33	724.44	736.24	712.64	11.80	2792

Calibration	Avg. Cam. Const.	Date	Camera Length	Upper 2.5%	Lower 2.5%	STD CL.	Upper 2s	Lower 2s	2s	Negative
46	26.80	01/26/94	724.40	742.55	706.33	724.44	736.24	712.64	11.80	3641
47	26.82	02/14/94	724.80	742.55	706.33	724.44	736.24	712.64	11.80	3687
48	26.73	04/27/94	722.41	742.55	706.33	724.44	736.24	712.64	11.80	4118
49	26.74	06/30/94	722.81	742.55	706.33	724.44	736.24	712.64	11.80	
50	26.73	07/18/94	722.41	742.55	706.33	724.44	736.24	712.64	11.80	4278
51	26.70	08/24/94	721.62	742.55	706.33	724.44	736.24	712.64	11.80	4439
52	26.80	09/22/94	724.40	742.55	706.33	724.44	736.24	712.64	11.80	4514
53	26.91	01/30/95	727.19	742.55	706.33	724.44	736.24	712.64	11.80	4767
54	26.98	02/06/95	729.17	742.55	706.33	724.44	736.24	712.64	11.80	4780
55	26.66	03/23/95	720.42	742.55	706.33	724.44	736.24	712.64	11.80	4896
56	26.71	04/28/95	722.01	742.55	706.33	724.44	736.24	712.64	11.80	4998
57	26.74	05/12/95	722.81	742.55	706.33	724.44	736.24	712.64	11.80	5006
58	26.84	06/14/95	725.28	742.55	706.33	724.44	736.24	712.64	11.80	5079
59	26.81	07/14/95	724.64	742.55	706.33	724.44	736.24	712.64	11.80	5307
60	26.81	08/16/95	724.64	742.55	706.33	724.44	736.24	712.64	11.80	5307
61	26.81	09/14/95	724.64	742.55	706.33	724.44	736.24	712.64	11.80	5307
62	26.82	10/18/95	724.96	742.55	706.33	724.44	736.24	712.64	11.80	5560
63	26.96	11/17/95	728.78	742.55	706.33	724.44	736.24	712.64	11.80	5627
64	26.85	12/20/95	725.59	742.55	706.33	724.44	736.24	712.64	11.80	5725
65	26.85	01/12/96	725.59	742.55	706.33	724.44	736.24	712.64	11.80	5768
66	26.83	22/28/96	725.20	742.55	706.33	724.44	736.24	712.64	11.80	5873
67	27.04	03/14/96	730.77	742.55	706.33	724.44	736.24	712.64	11.80	5897
68	26.85	04/03/96	725.59	742.55	706.33	724.44	736.24	712.64	11.80	5982
69	26.88	05/28/96	726.39	742.55	706.33	724.44	736.24	712.64	11.80	6073
70	26.85	06/28/96	725.59	742.55	706.33	724.44	736.24	712.64	11.80	6151
71	26.89	07/31/96	726.79	742.55	706.33	724.44	736.24	712.64	11.80	6239
72	26.92	08/15/96	727.58	742.55	706.33	724.44	736.24	712.64	11.80	6285
73	26.91	09/16/96	727.19	742.55	706.33	724.44	736.24	712.64	11.80	6330
74	26.91	10/16/96	727.34	742.55	706.33	724.44	736.24	712.64	11.80	6330
75	26.92	11/15/96	727.58	742.55	706.33	724.44	736.24	712.64	11.80	6395
76	26.92	12/15/96	727.58	742.55	706.33	724.44	736.24	712.64	11.80	6395
77	26.88	01/15/97	726.39	742.55	706.33	724.44	736.24	712.64	11.80	6422
78	26.88	02/15/97	726.39	742.55	706.33	724.44	736.24	712.64	11.80	6422
79	26.82	03/21/97	724.80	742.55	706.33	724.44	736.24	712.64	11.80	6488
80	26.82	04/21/97	724.80	742.55	706.33	724.44	736.24	712.64	11.80	6488
81	26.82	05/21/97	724.80	742.55	706.33	724.44	736.24	712.64	11.80	6488
82	27.05	06/21/97	731.16	742.55	706.33	724.44	736.24	712.64	11.80	6602
83	27.05	07/21/97	731.16	742.55	706.33	724.44	736.24	712.64	11.80	6602
84	26.77	08/21/97	723.61	742.55	706.33	724.44	736.24	712.64	11.80	6744
85	26.82	09/23/97	724.80	742.55	706.33	724.44	736.24	712.64	11.80	6827
86	26.82	10/10/97	724.80	742.55	706.33	724.44	736.24	712.64	11.80	6858
87	26.86	11/24/97	725.99	742.55	706.33	724.44	736.24	712.64	11.80	6937
88	26.76	12/29/97	723.21	742.55	706.33	724.44	736.24	712.64	11.80	6958
89	26.76	01/29/98	723.21	742.55	706.33	724.44	736.24	712.64	11.80	6958
90	26.76	02/29/98	723.21	742.55	706.33	724.44	736.24	712.64	11.80	6958

Calibration	Avg. Cam. Const.	Date	Camera Length	Upper 2.5%	Lower 2.5%	STD CL.	Upper 2s	Lower 2s	2s	Negative
91	26.76	03/29/98	723.21	742.55	706.33	724.44	736.24	712.64	11.80	6958
92	26.76	04/29/98	723.21	742.55	706.33	724.44	736.24	712.64	11.80	6958
93	26.76	05/29/98	723.21	742.55	706.33	724.44	736.24	712.64	11.80	6958
94	26.76	06/29/98	723.21	742.55	706.33	724.44	736.24	712.64	11.80	6958
95	26.88	07/07/98	726.39	742.55	706.33	724.44	736.24	712.64	11.80	7353
96	26.88	08/07/98	726.39	742.55	706.33	724.44	736.24	712.64	11.80	7353
97	26.80	09/04/98	724.40	742.55	706.33	724.44	736.24	712.64	11.80	7506
98	26.80	10/04/98	724.40	742.55	706.33	724.44	736.24	712.64	11.80	7506
99	26.79	11/21/98	724.00	742.55	706.33	724.44	736.24	712.64	11.80	7676
100	26.79	12/21/98	724.00	742.55	706.33	724.44	736.24	712.64	11.80	7676
101	26.79	01/21/99	724.00	742.55	706.33	724.44	736.24	712.64	11.80	7676
102	26.79	02/21/99	724.00	742.55	706.33	724.44	736.24	712.64	11.80	7676
103	26.79	03/21/99	724.00	742.55	706.33	724.44	736.24	712.64	11.80	7676
104	26.79	04/21/99	724.00	742.55	706.33	724.44	736.24	712.64	11.80	7676
105	26.79	05/21/99	724.00	742.55	706.33	724.44	736.24	712.64	11.80	7676
106	26.79	06/21/99	724.00	742.55	706.33	724.44	736.24	712.64	11.80	7676
107	26.43	07/16/99	714.46	742.55	706.33	724.44	736.24	712.64	11.80	8029
108	26.48	08/05/99	715.65	742.55	706.33	724.44	736.24	712.64	11.80	8284
109	26.45	09/17/99	714.85	742.55	706.33	724.44	736.24	712.64	11.80	8569
110	26.45	10/17/99	714.85	742.55	706.33	724.44	736.24	712.64	11.80	8569
111	26.49	11/17/99	716.05	742.55	706.33	724.44	736.24	712.64	11.80	8625
112	26.57	12/17/99	718.04	742.55	706.33	724.44	736.24	712.64	11.80	8678
113	26.57	01/17/00	718.04	742.55	706.33	724.44	736.24	712.64	11.80	8678
114	26.57	02/17/00	718.04	742.55	706.33	724.44	736.24	712.64	11.80	8678
115	26.55	03/17/00	717.64	742.55	706.33	724.44	736.24	712.64	11.80	8937
116	26.20	04/17/00	708.09	742.55	706.33	724.44	736.24	712.64	11.80	8960
117	26.42	05/17/00	714.06	742.55	706.33	724.44	736.24	712.64	11.80	9196
118	26.42	06/17/00	714.06	742.55	706.33	724.44	736.24	712.64	11.80	9196
119	26.42	07/17/00	714.06	742.55	706.33	724.44	736.24	712.64	11.80	9196
120	26.42	08/17/00	714.06	742.55	706.33	724.44	736.24	712.64	11.80	9912
121	26.42	09/17/00	714.06	742.55	706.33	724.44	736.24	712.64	11.80	9912
122	26.55	06/05/01	717.56	742.55	706.33	724.44	736.24	712.64	11.80	1125
123	26.61	07/06/01	719.23	742.55	706.33	724.44	736.24	712.64	11.80	1227
124	26.66	08/16/01	720.42	742.55	706.33	724.44	736.24	712.64	11.80	1368
125	26.49	09/13/01	716.05	742.55	706.33	724.44	736.24	712.64	11.80	1503
126	26.38	10/04/01	712.86	742.55	706.33	724.44	736.24	712.64	11.80	1599
127	26.36	11/01/01	712.47	742.55	706.33	724.44	736.24	712.64	11.80	1695
128	26.58	12/07/01	718.43	742.55	706.33	724.44	736.24	712.64	11.80	1787
129	26.61	01/02/02	719.23	742.55	706.33	724.44	736.24	712.64	11.80	1901
130	26.45	02/01/02	714.85	742.55	706.33	724.44	736.24	712.64	11.80	1978
131	26.64	03/01/02	720.03	742.55	706.33	724.44	736.24	712.64	11.80	2065
132	26.56	04/23/02	717.96	742.55	706.33	724.44	736.24	712.64	11.80	2065
133	26.57	05/02/02	718.04	742.55	706.33	724.44	736.24	712.64	11.80	2211
134	26.73	06/02/02	722.41	742.55	706.33	724.44	736.24	712.64	11.80	2275
135	26.55	07/05/02	717.64	742.55	706.33	724.44	736.24	712.64	11.80	2326

Calibration	Avg. Cam. Const.	Date	Camera Length	Upper 2.5%	Lower 2.5%	STD CL.	Upper 2s	Lower 2s	2s	Negative
136	26.35	08/08/02	712.07	742.55	706.33	724.44	736.24	712.64	11.80	2450
137	26.66	10/15/02	720.42	742.55	706.33	724.44	736.24	712.64	11.80	2556
138	26.80	11/05/02	724.40	742.55	706.33	724.44	736.24	712.64	11.80	2572
139	26.55	12/16/02	717.64	742.55	706.33	724.44	736.24	712.64	11.80	2677
140	26.58	01/13/03	718.43	742.55	706.33	724.44	736.24	712.64	11.80	2723
141	26.63	02/01/03	719.63	742.55	706.33	724.44	736.24	712.64	11.80	2790
142	26.58	03/05/03	718.43	742.55	706.33	724.44	736.24	712.64	11.80	2951
143	26.55	04/03/03	717.56	742.55	706.33	724.44	736.24	712.64	11.80	3027
144	26.58	05/02/03	718.43	742.55	706.33	724.44	736.24	712.64	11.80	3156
145	26.48	6/1/003	715.65	742.55	706.33	724.44	736.24	712.64	11.80	3156
146	26.76	07/03/03	723.21	742.55	706.33	724.44	736.24	712.64	11.80	3446
147	26.81	08/05/03	724.72	742.55	706.33	724.44	736.24	712.64	11.80	3580
148	26.71	09/16/03	722.01	742.55	706.33	724.44	736.24	712.64	11.80	3708
149	26.73	10/08/03	722.41	742.55	706.33	724.44	736.24	712.64	11.80	3875
150	27.02	11/06/03	730.37	742.55	706.33	724.44	736.24	712.64	11.80	3966
151	26.79	11/24/03	724.00	742.55	706.33	724.44	736.24	712.64	11.80	4076
152	26.60	12/03/03	718.83	742.55	706.33	724.44	736.24	712.64	11.80	4054
153	26.80	12/08/03	724.40	742.55	706.33	724.44	736.24	712.64	11.80	4077
154	26.71	12/15/03	722.01	742.55	706.33	724.44	736.24	712.64	11.80	4081


Camera Length - Philips 410 (100KV)
January 1998 - March 2005
Camera Length (mm)
740.00
735.00
730.00
725.00
720.00
715.00
710.00
705.00
700.00
695.00
690.00
01/29/98
04/29/98
07/07/98
10/04/98
01/21/99
04/21/99
07/16/99
10/17/99
01/17/00
04/17/00
07/17/00
06/05/01
09/13/01
12/07/01
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06/02/02
10/15/02
01/13/03
04/03/03
07/03/03
10/08/03
12/03/03
12/21/03
02/02/04
03/23/04
05/10/04
05/19/04
06/14/04
08/03/04
11/16/04
02/09/05
Date
Camera Length
Upper 2s
Lower 2s
Avg CamLength

k-factor Calibration

SRM 2063a (Revision# 4)

Date:	1/11/2005		**PHILIPS**	
Analyst:	KM			
Spectra Number	**Mg**	**Si**	**Ca**	**Fe**
1	1.73	1.00	1.08	1.28
2	1.68	1.00	1.00	1.27
3	1.67	1.00	1.04	1.23
4	1.80	1.00	1.09	1.27
5	1.68	1.00	1.06	1.25
Average	1.69	1.00	1.04	1.26
Standard Deviation	0.05	0.00	0.03	0.02
2s	0.11	0.00	0.07	0.04
STDEV Pass/Fail	Pass	Pass	Pass	Pass
Sensitivity (Mg:Fe)	1.35			
Pass/Fail	**PASS**			
Relative Limits	**Mg**		**Ca**	**Fe**
	Pass		Pass	Pass

Sensitivity (Mg:Fe) values greater than 1.5 are failed. Instrument must be taken out of operation, serviced and k-factor calibrations redone before instrument may be place back into service.

Albite Standard Calibration

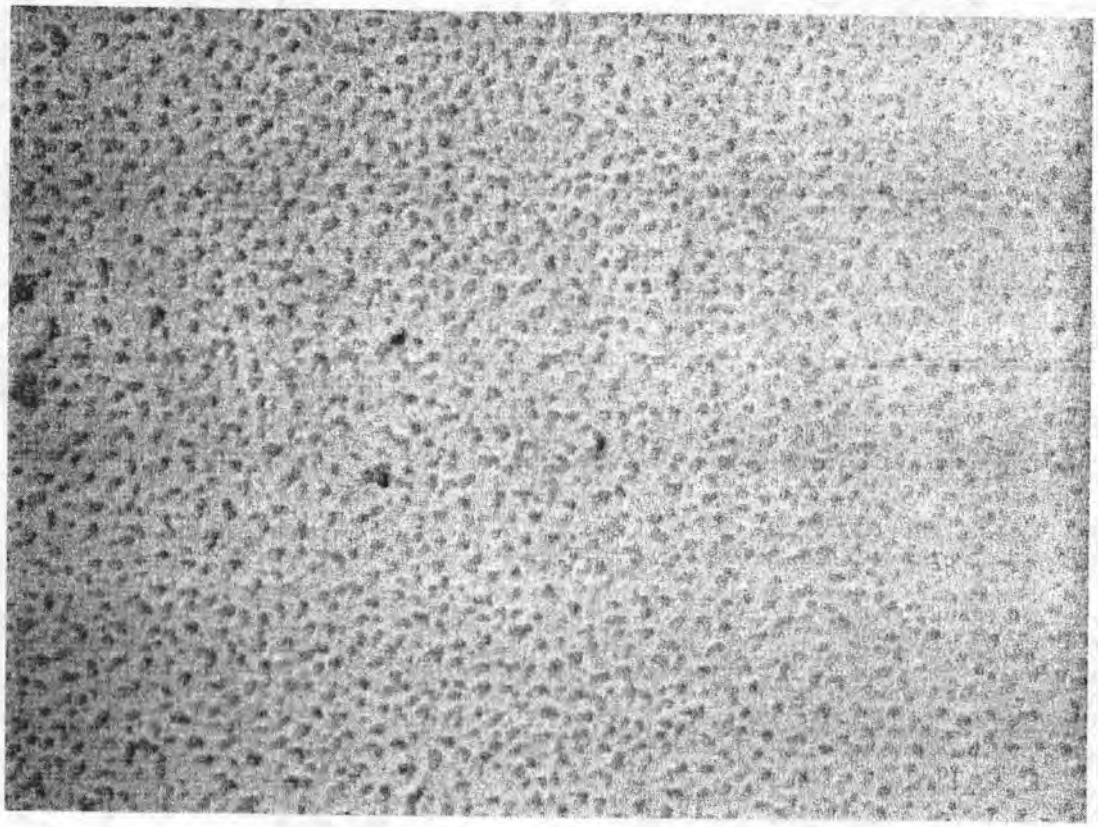
SRM 99a (Revision# 3)

Date:	1/7/2005	**High Mag Individual Particles**	
Analyst:	TM		
Spectra Number	**Na**	**Al**	**Si**
1	3.85	1.77	1.00
2	3.90	1.52	1.00
3	3.48	1.66	1.00
4	3.70	1.72	1.00
5			
Average	3.73	1.67	1.00
Standard Deviation	0.19	0.11	0.00
2s	0.38	0.22	0.00
STDEV Pass/Fail	Pass	Fail	Pass
Relative Limits	**Na**	**Al**	
	Pass	Pass	

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Plasma Etch Rate
L/C Batch# 050450
4 Minute Etch Rate
3/18/05



7619 6th Avenue NW, Seattle, WA 98117 **www.labcor.net**
Phone: (206) 781-0155 (Office) **Fax:** (206) 789-8424 (Fax) **E-mail:** mail@labcor.net

QC Summary Sheet

Project: El Dorado - Non Priority
LC Job No.: 041172, 041174, 041188, 041191, 041210
Total Samples: 123
Total QC Samples: 31
Average GO Area: 0.01449

QC Type	Tally
Replicate - Same GO's	7
Replicate - Reprep	6
Duplicate - Same GO's	7
Duplicate - Different Grids	5
Duplicate - Reprep	6
Total	31

Original Analyst	Original LC Number	Original Client Number	Reference LC Num	QC Analyst	QC Type	Primary Structures: Original Counts Total	Original Counts No. GO's	Test Counts Total	Test Counts No. GO's	95% Poisson Confidence Limits Lower Total	Upper Total	QC Result
KM	041172-55	CC2-H8-2CT-100304	050013-01	DW	Duplicate - Same GO's	11	25	6	25	5.49	19.68	PASS
JH	041172-77	SVBA-H2-4FD-100204	050013-02	JH	Replicate - Same GO's	2	23	2	23	0.24	7.23	PASS
JH	041172-77	SVBA-H2-4FD-100204	050013-03	KM	Duplicate - Same GO's	2	23	3	23	0.24	7.23	PASS
JH	041172-77	SVBA-H2-4FD-100204	050013-04	DW	Duplicate - Reprep	2	23	3	23	0.24	7.23	PASS
JH	041172-77	SVBA-H2-4FD-100204	050013-05	TM	Duplicate - Different Grids	2	23	6	23	0.24	7.23	PASS
KM	041172-78	SVBA-H2-5FD-100204	050013-06	KM	Replicate - Same GO's	3	23	2	23	0.62	8.77	PASS
KM	041172-78	SVBA-H2-5FD-100204	050013-07	KM	Replicate - Reprep	3	23	3	23	0.62	8.77	PASS
KM	041172-78	SVBA-H2-5FD-100204	050013-08	JH	Duplicate - Same GO's	3	23	3	23	0.62	8.77	PASS
KM	041172-78	SVBA-H2-5FD-100204	050013-09	DW	Duplicate - Reprep	3	23	5	22	0.62	8.77	PASS
KM	041174-23	AAMS-D04-093005	050013-10	KM	Replicate - Same GO's	12	15	8	15	6.20	20.96	PASS
KM	041174-23	AAMS-D04-093005	050013-11	KM	Replicate - Reprep	12	15	7	15	6.20	20.96	PASS
JH	041174-27	AAMS-D107-100304	050013-12	JH	Replicate - Same GO's	12	12	9	12	6.20	20.96	PASS
JH	041174-27	AAMS-D107-100304	050013-13	JH	Replicate - Reprep	12	12	7	12	6.20	20.96	PASS
KM	041188-54	BIK-H2-4TR-100504	050013-14	JH	Duplicate - Different Grids	11	23	10	23	5.49	19.68	PASS
DW	041188-65	JOGA-H2-1TR-100604	050013-15	DW	Replicate - Same GO's	15	22	14	22	8.40	24.74	PASS
DW	041188-65	JOGA-H2-1TR-100604	050013-16	DW	Replicate - Reprep	15	22	10	22	8.40	24.74	PASS
DW	041188-65	JOGA-H2-1TR-100604	050013-17	KM	Duplicate - Same GO's	15	22	14	22	8.40	24.74	PASS
DW	041188-65	JOGA-H2-1TR-100604	050013-18	JH	Duplicate - Reprep	15	22	11	22	8.40	24.74	PASS
DW	041188-65	JOGA-H2-1TR-100604	050013-19	JH	Duplicate - Different Grids	15	22	13	22	8.40	24.74	PASS
JH	041188-78	NFB-H2-3PG-100504	050013-20	KM	Duplicate - Same GO's	6	22	7	22	2.20	13.06	PASS
KM	041188-97	SFBB-H2-1PG-100604	050013-21	DW	Duplicate - Reprep	16	22	20	22	9.15	25.98	PASS
KM	041188-97	SFBB-H2-1PG-100604	050013-22	DW	Duplicate - Same GO's	16	22	20	22	9.15	25.98	PASS
KM	041188-97	SFBB-H2-1PG-100604	050013-23	JH	Duplicate - Different Grids	16	22	16	22	9.15	25.98	PASS
KM	041188-99	SFBB-H2-3PG-100604	050013-24	DW	Duplicate - Reprep	12	22	7	22	6.20	20.96	PASS
KM	041188-99	SFBB-H2-3PG-100604	050013-25	JH	Duplicate - Reprep	12	22	7	21	6.20	20.96	PASS
KM	041210-49	LC-AAMS-D12-100804	050013-26	DW	Duplicate - Different Grids	10	13	6	14	4.80	18.39	PASS
KM	041210-49	LC-AAMS-D12-100804	050013-27	KM	Replicate - Reprep	10	13	8	13	4.80	18.39	PASS
KM	041210-49	LC-AAMS-D12-100804	050013-28	KM	Replicate - Same GO's	10	13	8	13	4.80	18.39	PASS
KM	041210-58	LC-AAMS-D15-101104	050013-29	KM	Replicate - Same GO's	9	13	6	13	4.12	17.09	PASS
KM	041210-58	LC-AAMS-D15-101104	050013-30	DW	Duplicate - Same GO's	9	13	6	13	4.12	17.09	PASS
KM	041210-58	LC-AAMS-D15-101104	050013-31	KM	Replicate - Reprep	9	13	8	13	4.12	17.09	PASS

QC Parameters
Pass - Test value (s/mm2) between reference upper and lower 95% confidence limits, inclusive
Fail - Test value (s/mm2) outside reference upper and lower 95% confidence limits, exclusive

* should be all 8 according to the Form I's

** limits for 8 are 3.45 - 15.8

** should be 8 according to Form I for .49

BATTA

Date Report Prepared: November 21, 2004
Prepared By: R. Shumate

NISTIR 5351 - Analyst Summary

	Verifying Analyst rgs *	Analyst #1 bl	Analyst #2 drw	Analyst #3 mq	Analyst #4 km	Analyst #5 mp **	Analyst #5 yz **
Cumulative TP/TNS (should be >0.85)		0.980	0.980	1.000	0.980	0.918	0.926
Cumulative FP/TNS (should be <0.05)		0.020	0.000	0.041	0.000	0.000	0.000
Cumulative FN/TNS (should be <0.10)		0.020	0.020	0.000	0.020	0.082	0.074

** Since RGS was verifying analyst, values will not be calculated.*

*** MP and YZ each analyzed only 2 of the four grid openings.*

Summary of Grid Openings Analyzed

Grid Opening H-2: Seven structures were verified. This opening yielded good duplication. There were no FN recorded. Only two occurrences (causing FP) were in question. Nearly one-third of the way through the opening, a matrix with a fibril of Chrysotile attached was found. The fibril protruding from the matix was <5:1 aspect and was about 4μm in length. One analyst (MQ) counted it as a matrix structure. The second occurence was similar to the first. A martix having a Chrysotile "fibril" protuding was found halfway through the opening. In this case, the fibril was protruding less than 3μm from the matrix. The aspect ratio of the protrusion was less than 3:1. One analyst (MQ) counted this as a matrix structure.

Grid Opening E-2: Fifteen structures were verified. This opening also yielded good duplication. No FP were recorded. Only one occurrence (causing FN) was in question. Near the start of the opening, a bundle (avg L: 3.5μm, W: 1.2μm) consisting of Chrysotile fibers was found. At the onset of the round, I (RGS) had originally listed the occurence as a non-structure, feeling that the overall aspect of approximately 3:1 would disqualify it. Upon closer examination, I agree that the fibers within the matrix are discernable and the aspect ratios of the individual fibers within the bundle qualify it as a bundle structure. Only one other analyst (MP) did not list the occurence as a structure. Although I listed it as a FNA (feeling that MP saw the structure as I first did), it is uncertain whether his omission should be listed as a FNA or FNB. MP also did not list TPM9, and was listed as FNB.

Grid Opening D-9: Twenty-one structures were verified. This opening also yielded good duplication. A few structures were in question, yielding FN. Near the start of the opening, along the left grid bar, a Chrysotile fiber (approximately 1.5μm long, 0.1μm wide) was found. Only one analyst (BL) did not list the occurence as a structure. Structure TPM9 is a bundle of Chrysotile (approximately 4.5μm long and 0.6μm wide). This occurence was listed as ambiguous by DRW and was not listed by KM. Structures TPM12 and TPM20 were not listed by YZ. Both of these occurences are thin, single fibrils (about 1.0μm long and 0.07μm wide) of Chrysotile and it is assumed that the analyst simply missed the fiber.

Grid Opening E-20: Six structures were verified. This opening also yielded perfect duplication. All analysts listed six Chrysotile structures on their countsheet.

Overall Notes

As can be seen above, all analysts participating had "TP/FN/FP values" within the acceptable limits listed by NVLAP and in the NISTIR-5351. In addition to these values, I statistically tracked the reproducibility of fiber-sizing. I also wanted to track the accurate classification of structures (fiber, bundle, cluster and matrix) but not all analysts indicated structure class on the countsheets.

Problems noted during the verification process: Lack of fiber classification (see note above), fiber sizing not consistently precise (significant figures), lack of sketch detail causing the verification process to be more time-consuming. It helps to include any objects close in proximity to the structure and to include the grid bar in the sketch when it is nearby. The most significant problem noted was the counter-clockwise deviation of two grid openings by two analysts. Please be sure to follow grid orientation instructions to help cut-down the time taken in the verification process. It was also noted that two of the participating analysts only analyzed two grid openings apiece. To offer the best statistical value to the round, please have all TEM analysts read all the grid openings submitted for that round. Thanks to everyone for their timely submission of results. If anyone has any questions regarding these results, please feel free to contact me by phone or e-mail.

BATTA

Sample Type: 01-1-3
Sample Archive Location: E-5
Grid Opening ID: H-2

Verified Asbestos Analysis

Analytical Values	Verifying Analyst**	Analysis 1	Analysis 2	Analysis 3	Analysis 4	Analysis 5	Analysis 6	Analysis 7	Analysis 8	Analysis 9	Analysis 10	Analysis 11	Analysis 12	Analysis 13	Analysis 14	Analysis 15	Analysis 16	Analysis 17	Analysis 18	Analysis 19	Analysis 20
Date of Analysis	07/28/04	07/28/04	08/19/04	08/20/04	08/25/04	09/20/04															
TEM Operator	rgs	bl	drw	mq	km	mp															
Structures Reported (SR)	7	7	7	9	7	7															
True Positives (TP)	7	7	7	7	7	7															
TPM	7	7	7	7	7	7															
TPU	0	0	0	0	0	0															
*TPV (TP found by verifying analyst, but NOT found by any analyst)	0																				
*Total Number of Structures (TNS) (all analysts)	7																				
*Total Number of Structures (TNS) (one analyst)	7	7	7	7	7	7															
False Positives (FP)				2																	
False Negatives (FN)		0	0	0	0	0															
FNA																					
FNB																					
Not Located (NL)																					
Ambiguous (AMB)																					
TP/TNS		1.000	1.000	1.000	1.000	1.000															
FP/TNS		0.000	0.000	0.286	0.000	0.000															
FN/TNS		0.000	0.000	0.000	0.000	0.000															
[(TP/TNS) + (FN/TNS)] (must equal 1.00)		1.000	1.000	1.000	1.000	1.000															

*Value for these items will be the same for all analysts.

**Verifying analyst should not be one of the TEM Operators.

Refer to NISTIR 5351 for guidance.

BATTA

Statistical Review of Structure Assignment From Verified Asbestos Analysis

Only structures verified as "TPM" are recorded.

	Structure Length							Str Width							Structure Type							Stats for Structure Length					Stats for Structure Width					Str Type / Classification ID	
	H-2							H-2							f=1, b=2, m=3, c=4																		
Str #	rgs	bl	drw	mq	km	mp		rgs	bl	drw	mq	km	mp		rgs	bl	drw	mq	km	mp		Average	Std Dev	CV or %RSD	LCL	UCL	Average	Std Dev	CV or %RSD	LCL	UCL	Type Pass or Fail	Correct Ruling on Structure (if close to 0.5µm) Pass or Fail
1	7.50	7.55	7.50	8.00	6.50	7.00		0.250	0.250	0.500	0.500	0.400	0.400		2	2						7.3	0.52	7.08	6.320	8.363	0.38	0.11	29.36	0.1622	0.6045	Pass	Pass
2	4.00	4.00	4.00	3.00	3.80	4.20		0.250	0.200	0.350	0.250	0.250	0.380		1	1						3.8	0.43	11.15	2.994	4.673	0.28	0.07	24.74	0.1439	0.4161	Pass	Pass
3	2.70	2.75	2.50	2.50	2.50	2.50		0.050	0.050	0.100	0.050	0.050	0.030		1	1						2.6	0.12	4.55	2.345	2.805	0.06	0.02	42.64	0.0089	0.1011	Pass	Pass
4	1.50	1.75	1.30	2.00	1.50	1.60		0.080	0.090	0.100	0.100	0.100	0.100		1	1						1.6	0.24	15.03	1.133	2.083	0.10	0.01	8.81	0.0786	0.1114	Pass	Pass
5	1.80	1.90	1.50	2.00	1.50	1.70		0.060	0.060	0.100	0.100	0.100	0.050		2	2						1.7	0.21	11.92	1.327	2.139	0.08	0.02	30.66	0.0311	0.1255	Pass	Pass
6	3.20	3.25	2.75	2.50	3.00	3.00		0.070	0.080	0.100	0.100	0.080	0.100		1	1						3.0	0.28	9.59	2.394	3.506	0.09	0.01	15.05	0.0622	0.1145	Pass	Pass
7	2.80	2.90	3.00	2.50	3.20	2.60		0.060	0.050	0.050	0.050	0.050	0.050		2	1						2.8	0.26	9.11	2.326	3.341	0.05	0.00	7.90	0.0436	0.0597	Fail	Pass
8																																	
9																																	
10																																	
11																																	
12																																	
13																																	
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BATTA

Sample Type: 01-1-3
Sample Archive Location: E-5
Grid Opening ID: E-2

Verified Asbestos Analysis

Analytical Values	Verifying Analyst**	Analysis 1	Analysis 2	Analysis 3	Analysis 4	Analysis 5	Analysis 6	Analysis 7	Analysis 8	Analysis 9	Analysis 10	Analysis 11	Analysis 12	Analysis 13	Analysis 14	Analysis 15	Analysis 16	Analysis 17	Analysis 18	Analysis 19	Analysis 20
Date of Analysis	07/28/04	07/28/04	08/19/04	08/26/04	08/25/04	09/20/04															
TEM Operator	rgs	bl	drw	mq	km	mp															
Structures Reported (SR)	15	15	15	15	15	15															
True Positives (TP)	15	15	15	15	15	15															
*TPM	15	15	15	15	15	13															
TPU	0	0	0	0	0	2															
*TPV (TP found by verifying analyst, but NOT found by any analyst)	0																				
*Total Number of Structures (TNS) (all analysts)	15																				
*Total Number of Structures (TNS) (one analyst)	15	15	15	15	15	15															
False Positives (FP)																					
False Negatives (FN)		0	0	0	0	2															
FNA						1															
FNB						1															
Not Located (NL)																					
Ambiguous (AMB)																					
TP/TNS		1.000	1.000	1.000	1.000	0.867															
FP/TNS		0.000	0.000	0.000	0.000	0.000															
FN/TNS		0.000	0.000	0.000	0.000	0.133															
[(TP/TNS) + (FN/TNS)] (must equal 1.00)		1.000	1.000	1.000	1.000	1.000															

*Value for these items will be the same for all analysts.

**Verifying analyst should not be one of the TEM Operators.

Refer to NISTIR 5351 for guidance.

BATTA

Statistical Review of Structure Assignment From Verified Asbestos Analysis

Only structures verified as "TPM" are recorded.

	Structure Length						Str Width						Structure Type						Stats for Structure Length					Stats for Structure Width					Str Type / Classification ID	
	E-2						E-2						f=1, b=2, m=3, c=4																	
Str #	rgs	bl	drw	mq	km	mp	rgs	bl	drw	mq	km	mp	rgs	bl	drw	mq	km	mp	Average	Std Dev	CV or %RSD	LCL	UCL	Average	Std Dev	CV or %RSD	LCL	UCL	Type Pass or Fail	Correct Ruling on Structure (if close to 0.5µm) Pass or Fail
1	5.50	5.50	5.00	5.00	5.00	5.20	0.250	0.250	0.400	0.500	0.400	0.600	2	2					5.2	0.24	4.71	4.719	5.681	0.40	0.14	34.46	0.1291	0.6709	Pass	Pass
2	1.70	2.00	1.50	2.00	1.50	1.80	0.080	0.050	0.100	0.100	0.100	0.100	1	1					1.8	0.23	12.90	1.306	2.194	0.09	0.02	23.11	0.0482	0.1284	Pass	Pass
3	3.20	3.60	4.00	3.00	3.50	3.20	0.080	0.100	0.100	0.100	0.100	0.150	1	1					3.4	0.36	10.54	2.709	4.124	0.11	0.02	22.34	0.0589	0.1511	Pass	Pass
4	5.50	5.60	5.00	5.00	4.80	5.20	0.100	0.100	0.200	0.200	0.120	0.180	1	1					5.2	0.31	6.03	4.569	5.797	0.15	0.05	32.39	0.0545	0.2455	Pass	Pass
5	2.90	3.10	2.75	2.50	2.70	2.60	0.250	0.300	0.350	0.400	0.350	0.300	2	2					2.8	0.22	7.81	2.335	3.182	0.33	0.05	16.14	0.2220	0.4280	Pass	Pass
6	1.10	1.10	1.00	1.00	1.20	1.10	0.070	0.050	0.100	0.100	0.080	0.040	1	1					1.1	0.08	6.95	0.935	1.231	0.07	0.03	34.14	0.0241	0.1225	Pass	Pass
7	5.70	6.00	5.00	6.00	5.20	5.70	0.100	0.110	0.150	0.200	0.120	0.200	2	1					5.6	0.41	7.41	4.785	6.415	0.15	0.04	30.39	0.0591	0.2343	Fail	Pass
8	7.50	7.65	6.00	7.00	7.50	7.00	0.250	0.250	0.400	0.400	0.350	0.400	2	2					7.1	0.61	8.56	5.912	8.304	0.34	0.07	21.54	0.1970	0.4863	Pass	Pass
9	3.70	3.75	4.00	3.00	3.60		0.300	0.350	0.500	0.400	0.350		2	2					3.6	0.37	10.29	2.880	4.340	0.38	0.08	19.95	0.2310	0.5290	Pass	Pass
10	3.50	3.75	3.00	3.00	3.40	3.50	0.200	0.180	0.300	0.250	0.250	0.300	2	2					3.4	0.30	8.95	2.767	3.949	0.25	0.05	20.13	0.1491	0.3443	Pass	Pass
11	5.90	6.10	5.50	6.00	5.30	6.00	0.350	0.380	0.750	0.500	0.450	0.600	2	2					5.8	0.32	5.56	5.166	6.434	0.51	0.15	29.60	0.2112	0.7988	Pass	Pass
12	1.80	2.00	1.50	2.00	1.50	1.80	0.050	0.090	0.010	0.050	0.080	0.030	1	1					1.8	0.23	12.74	1.324	2.209	0.05	0.03	57.96	-0.0072	0.1105	Pass	Pass
13	2.30	2.25	2.50	3.00	1.80	2.00	0.080	0.080	0.100	0.100	0.100	0.100	1	1					2.3	0.42	18.09	1.488	3.129	0.09	0.01	11.07	0.0730	0.1136	Pass	Pass
14	5.20	5.25	5.00	4.50	4.60	5.10	0.100	0.100	0.150	0.200	0.110	0.150	1	1					4.9	0.32	6.41	4.319	5.564	0.14	0.04	29.18	0.0576	0.2124	Pass	Pass
15	3.60	3.50	4.00	3.00	3.50		1.200	1.000	1.500	1.000	1.200								3.5	0.36	10.12	2.820	4.220	1.18	0.20	17.37	0.7773	1.5827		Pass
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BATTA

Sample Type: 01-1-3
Sample Archive Location: N-5
Grid Opening ID: D-9

Verified Asbestos Analysis

Analytical Values	Verifying Analyst**	Analysis 1	Analysis 2	Analysis 3	Analysis 4	Analysis 5	Analysis 6	Analysis 7	Analysis 8	Analysis 9	Analysis 10	Analysis 11	Analysis 12	Analysis 13	Analysis 14	Analysis 15	Analysis 16	Analysis 17	Analysis 18	Analysis 19	Analysis 20
Date of Analysis	07/28/04	07/28/04	08/25/04	08/30/04	08/11/04	09/20/04															
TEM Operator	rgs	bl	drw	mq	km	yz															
Structures Reported (SR)	21	22	21	21	21	21															
True Positives (TP)	21	21	21	21	21	21															
*TPM	21	20	20	21	20	19															
TPU	0	1	1	0	1	2															
*TPV (TP found by verifying analyst, but NOT found by any analyst)	0																				
*Total Number of Structures (TNS) (all analysts)	21																				
*Total Number of Structures (TNS) (one analyst)	21	21	21	21	21	21															
False Positives (FP)		1																			
False Negatives (FN)		1	1	0	1	2															
FNA			1																		
FNB		1			1	2															
Not Located (NL)																					
Ambiguous (AMB)																					
TP/TNS		0.952	0.952	1.000	0.952	0.905															
FP/TNS		0.048	0.000	0.000	0.000	0.000															
FN/TNS		0.048	0.048	0.000	0.048	0.095															
[(TP/TNS) + (FN/TNS)] (must equal 1.00)		1.000	1.000	1.000	1.000	1.000															

*Value for these items will be the same for all analysts.

**Verifying analyst should not be one of the TEM Operators.

Refer to NISTIR 5351 for guidance.

BATTA

Statistical Review of Structure Assignment From Verified Asbestos Analysis

Only structures verified as "TPM" are recorded.

	Structure Length						Str Width						Structure Type						Stats for Structure Length					Stats for Structure Width					Str Type / Classification ID	
	D-9						D-9						f=1, b=2, m=3, c=4																	
Str #	rgs	bl	drw	mq	km	yz	rgs	bl	drw	mq	km	yz	rgs	bl	drw	mq	km	yz	Average	Std Dev	CV or %RSD	LCL	UCL	Average	Std Dev	CV or %RSD	LCL	UCL	Type Pass or Fail	Correct Ruling on Structure (if close to 0.5µm) Pass or Fail
1	1.50		1.00	1.50	1.50	1.20	0.060		0.100	0.100	0.100	0.060	1						1.3	0.23	17.18	0.888	1.792	0.08	0.02	26.08	0.0409	0.1271	Pass	
2	0.70	0.75	0.75	0.75	0.80	0.70	0.070	0.070	0.100	0.100	0.100	0.060	1	1					0.7	0.04	5.07	0.668	0.816	0.08	0.02	22.34	0.0467	0.1199	Pass	Pass
3	1.50	1.50	1.20	1.50	1.50	1.20	0.060	0.050	0.100	0.100	0.080	0.100	1	1					1.4	0.15	11.07	1.096	1.704	0.08	0.02	27.29	0.0379	0.1255	Pass	Pass
4	3.10	3.05	2.75	2.50	3.00	3.10	0.120	0.100	0.150	0.100	0.100	0.120	1	1					2.9	0.24	8.30	2.441	3.393	0.12	0.02	17.17	0.0782	0.1538	Pass	Pass
5	10.20	10.10	10.00	8.00	8.00	8.60	0.300	0.280	0.400	0.350	0.400	0.270	2	2					9.2	1.07	11.64	7.057	11.243	0.33	0.06	17.56	0.2183	0.4484	Pass	Pass
6	2.40	2.40	2.00	2.00	2.00	2.10	0.080	0.050	0.100	0.100	0.100	0.100	1	1					2.2	0.20	9.19	1.762	2.538	0.09	0.02	23.11	0.0482	0.1284	Pass	Pass
7	8.70	8.60	7.50	9.00	8.00	7.80	0.150	0.150	0.250	0.200	0.150	0.180	2	2					8.3	0.59	7.08	7.116	9.417	0.18	0.04	22.22	0.1014	0.2586	Pass	Pass
8	1.30	1.50	1.20	1.50	1.30	1.20	0.060	0.080	0.100	0.100	0.080	0.120	1	1					1.3	0.14	10.25	1.065	1.602	0.09	0.02	23.31	0.0488	0.1312	Pass	Pass
9	4.70	4.80		4.50		4.10	0.500	0.500		1.000		0.450	2	2					4.5	0.31	6.84	3.917	5.133	0.61	0.26	42.35	0.1028	1.1222	Pass	Pass
10	5.20	5.20	4.80	4.50	4.50	4.20	0.250	0.250	0.350	0.400	0.350	0.250	2	2					4.7	0.41	8.62	3.931	5.536	0.31	0.07	21.55	0.1777	0.4389	Pass	Pass
11	2.40	2.50	2.50	2.50	2.00	2.20	0.060	0.080	0.100	0.050	0.100	0.060	1	1					2.4	0.21	8.82	1.943	2.757	0.08	0.02	28.91	0.0324	0.1176	Pass	Pass
12	1.20	1.20	1.20	1.50	1.20		0.070	0.080	0.100	0.050	0.100		1	1					1.3	0.13	10.65	0.996	1.524	0.08	0.02	26.52	0.0383	0.1217	Pass	Pass
13	5.50	5.50	5.00	5.00	5.00	5.00	0.060	0.070	0.100	0.100	0.100	0.070	1	1					5.2	0.26	5.00	4.659	5.674	0.08	0.02	22.34	0.0467	0.1199	Pass	Pass
14	1.10	1.15	1.20	1.50	1.00	1.20	0.060	0.060	0.100	0.050	0.100	0.060	1	1					1.2	0.17	14.15	0.860	1.523	0.07	0.02	31.10	0.0279	0.1155	Pass	Pass
15	5.00	5.20	5.00	4.50	4.30	4.50	1.500	1.420	1.200	1.500	1.500	0.800	2	2					4.8	0.36	7.62	4.039	5.461	1.32	0.28	21.21	0.7698	1.8702	Pass	Pass
16	4.80	3.00	4.00	4.00	4.00	4.10	0.300	0.250	0.400	0.250	0.400	0.210	2	2					4.0	0.57	14.41	2.855	5.112	0.30	0.08	26.96	0.1418	0.4615	Pass	Pass
17	7.50	7.85	6.00	7.50	6.50	6.30	0.250	0.250	0.300	0.350	0.350	0.250	2	2					6.9	0.77	11.05	5.434	8.449	0.29	0.05	16.85	0.1951	0.3883	Pass	Pass
18	1.20	1.30	1.20	1.00	1.20	1.20	0.060	0.050	0.100	0.200	0.100	0.070	1	1					1.2	0.10	8.31	0.990	1.377	0.10	0.05	56.53	-0.0107	0.2041	Pass	Pass
19	7.80	8.05	7.50	8.00	7.00	6.80	0.700	0.700	1.200	1.500	1.000	0.720	2	2					7.5	0.53	6.98	6.493	8.557	0.97	0.33	33.97	0.3224	1.6176	Pass	Pass
20	1.00	1.25	1.00	1.00	1.00		0.050	0.050	0.100	0.050	0.100		1	1					1.1	0.11	10.65	0.830	1.270	0.07	0.03	39.12	0.0162	0.1238	Pass	Pass
21	3.50	3.50	2.75	3.50	3.00	3.70	0.200	0.200	0.300	0.250	0.220	0.180	2	2					3.3	0.37	11.00	2.606	4.044	0.23	0.04	19.42	0.1391	0.3109	Pass	Pass
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BATTA

Sample Type: 01-1-3
Sample Archive Location: N-5
Grid Opening ID: E-20

Verified Asbestos Analysis

Analytical Values	Verifying Analyst**	Analysis 1	Analysis 2	Analysis 3	Analysis 4	Analysis 5	Analysis 6	Analysis 7	Analysis 8	Analysis 9	Analysis 10	Analysis 11	Analysis 12	Analysis 13	Analysis 14	Analysis 15	Analysis 16	Analysis 17	Analysis 18	Analysis 19	Analysis 20
Date of Analysis	07/28/04	07/28/04	08/25/04	08/30/04	08/11/04	09/20/04															
TEM Operator	rgs	bl	drw	mq	km	yz															
Structures Reported (SR)	6	6	6	6	6	6															
True Positives (TP)	6	6	6	6	6	6															
*TPM	6	6	6	6	6	6															
TPU	0	0	0	0	0	0															
*TPV (TP found by verifying analyst, but NOT found by any analyst)	0																				
*Total Number of Structures (TNS) (all analysts)	6																				
*Total Number of Structures (TNS) (one analyst)	6	6	6	6	6	6															
False Positives (FP)																					
False Negatives (FN)		0	0	0	0	0															
FNA																					
FNB																					
Not Located (NL)																					
Ambiguous (AMB)																					
TP/TNS		1.000	1.000	1.000	1.000	1.000															
FP/TNS		0.000	0.000	0.000	0.000	0.000															
FN/TNS		0.000	0.000	0.000	0.000	0.000															
[(TP/TNS) + (FN/TNS)] (must equal 1.00)		1.000	1.000	1.000	1.000	1.000															

*Value for these items will be the same for all analysts.

**Verifying analyst should not be one of the TEM Operators.

Refer to NISTIR 5351 for guidance.

BATTA

Statistical Review of Structure Assignment From Verified Asbestos Analysis

Only structures verified as "TPM" are recorded.

	Structure Length							Str Width							Structure Type							Stats for Structure Length					Stats for Structure Width					Str Type / Classification ID	
	E-20							E-20							f=1, b=2, m=3, c=4																		
Str #	rgs	bl	drw	mq	km	yz		rgs	bl	drw	mq	km	yz		rgs	bl	drw	mq	km	yz		Average	Std Dev	CV or %RSD	LCL	UCL	Average	Std Dev	CV or %RSD	LCL	UCL	Type Pass or Fail	Correct Ruling on Structure (if close to 0.5µm) Pass or Fail
1	3.10	3.10	2.75	2.50	2.50	2.90		0.080	0.080	0.100	0.100	0.100	0.100		1	1						2.8	0.27	9.71	2.272	3.344	0.09	0.01	11.07	0.0730	0.1136	Pass	Pass
2	5.30	5.40	5.00	5.00	4.70	5.00		0.150	0.150	0.300	0.200	0.200	0.180		2	2						5.1	0.25	4.94	4.575	5.559	0.20	0.06	28.16	0.0878	0.3055	Pass	Pass
3	2.10	2.10	2.00	2.00	2.00	1.60		0.050	0.070	0.100	0.050	0.080	0.070		1	1						2.0	0.19	9.47	1.601	2.333	0.07	0.02	27.11	0.0327	0.1073	Pass	Pass
4	5.20	5.30	5.00	5.00	4.90	4.70		0.120	0.150	0.250	0.150	0.150	0.130		2	2						5.0	0.21	4.26	4.597	5.437	0.16	0.05	29.47	0.0667	0.2500	Pass	Pass
5	4.70	4.70	4.50	4.00	4.00	3.70		0.100	0.090	0.200	0.100	0.110	0.120		1	1						4.3	0.42	9.91	3.436	5.097	0.12	0.04	33.75	0.0404	0.1996	Pass	Pass
6	1.10	1.05	1.00	1.00	1.00	1.00		0.050	0.050	0.100	0.050	0.100	0.060		1	1						1.0	0.04	4.08	0.943	1.107	0.07	0.02	36.34	0.0195	0.1171	Pass	Pass
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Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

February 15, 2005

Lisa Johnson
350 Sansome Ste. 300
San Francisco, CA 94104

Dear Lisa –

Attached is the latest set of Interlab results assembled by Asbestos TEM Labs. This Interlab will replace the one submitted earlier that was compiled by Batta Labs.

The raw data and count sheets are supplied for this Interlab. Please let me know if anything else is required.

Sincerely,

Kate March
Lab/Cor, Inc.
Seattle WA, 98117

(206)781-0155
kmarch@labcor.net

Verified Asbestos analysis Report

Purpose:

The purpose of this interlaboratory round-robin program is to fulfill the NVLAP quality assurance requirements, to improve the performance of the analysts within the participating laboratories and so as to improve the quality of service of the whole laboratory.

Samples:

The samples were prepared by Asbestos TEM Laboratories from 3 NIST filter with a known fiber loading, chosen to meet the loading requirements of NIST Handbook 150-13 (Airborne Asbestos Analysis), section 285.33.d.10.

Sample ID	Grid Openings For Analysis	
	Grid Slot	Grid Square
2004-1	C3	B23
	C3	E4
	C3	F1
	C3	F5
	C3	B22
2004-2	C3	E14
	C3	E16
	C3	E17
	C3	E18
2004-3	C3	E3
	C3	E2
	C3	E4
	C3	E9

Methodology:

Counting rules for this study is standard AHEAR rules (43 CFR Part 763, Appendix A to Subpart E, July 1, 2003 Edition)

Assessment:

Data reduction and reporting was performed by following the guidelines of NISTIR 5351 (Airborne Asbestos Method: Standard Test Method for Verified Analysis of Asbestos by Transmission Electron Microscopy – Version 2.0, March 1994, by Turner and Steel)

Results:

All analysts attain an average accuracy of ≥ 95% true positives, ≤ 2% false negatives, and ≤ 5% false positives on verified analyses, which meet the NVLAP requirements (NIST Handbook 150-13, section 285.33.d.7).

Refer to Attached forms for statistics on the analytical data and explanations of the possible causes of the false positives and false negatives.

Participating Laboratories:

Lab Designation	Contact Information
Lab1	Asbestos TEM Laboratories, Inc. 1409 Fifth Street Berkeley, CA 94710

	510-528-0108 (voice) 510-528-0109 (fax) Contact: Yanxia Xie yanxia@asbestostemlabs.com
Lab2	Lab/Cor, Inc. 7619 6th Avenue NW Seattle, WA 98117 206-781-0155 (voice) 206-789-8424 (fax) Contact: Derk Wipprecht dwipprecht@labcor.net
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Verifying Analyst:
Analyst Initial: PB
Laboratory: Asbestos TEM Laboratories, Inc.

Report Generators:
Form 1, 2, 3: PB (Asbestos TEM Laboratories, Inc.)
Cover Page, Form 4 and 5: YX (Asbestos TEM Laboratories, Inc.)

Report Reviewer:
PB and YX from Asbestos TEM Laboratories, Inc.

Report Date: 2/7/2005

Each participating lab is greatly appreciated for the time spent and effort taken on this program. Asbestos TEM Laboratories, Inc. is looking forward to continuing our collaboration. Please contact Yanxia Xie at Asbestos TEM Laboratories if there are any questions or disagreements on any contents of this report. Any discrepancies will be resolved through a collaborative consultation with the participating laboratories.

Sincerely,

Yanxia Xie

Yanxia Xie
Laboratory Manager
Asbestos TEM Laboratories, Inc.

Feb. 7, 2005

FORM 1

Interlaboratory Sample Exchange
Round Robin Results
Sample ID # 2004-1

Grid Slot: C3 **Grid Square: B23** **Date: 01/24/2004** **Verifying Analyst: PB/Asbestos TEM Labs**

Lab	Analyst	Date	Struct. Reported (SR)	True Positives				Total Struct TNS	Fals Positive FP	False Negatives			Not Located NL	Ambig. AMB	TP/TNS	FP/TNS
				TP	TPM	TPU	TPV			FN	FNA	FNB				
ATEM	MH	9/15/2004	4	4	4	0	0	4	0	0	0	0	0	0	1.00	0.00
BATTA	RGS	12/8/2004	4	4	4	0	0	4	0	0	0	0	0	0	1.00	0.00
BATTA	BL	12/9/2004	4	4	4	0	0	4	0	0	0	0	0	0	1.00	0.00
Lab/Cor	DCW	11/23/2004	4	4	4	0	0	4	0	0	0	0	0	0	1.00	0.00

Grid Slot: C3 **Grid Square: E4** **Date: 01/24/2004** **Verifying Analyst: PB/Asbestos TEM Labs**

Lab	Analyst	Date	Struct. Reported (SR)	True Positives				Total Struct TNS	Fals Positive FP	False Negatives			Not Located NL	Ambig. AMB	TP/TNS	FP/TNS
				TP	TPM	TPU	TPV			FN	FNA	FNB				
ATEM	MH	9/15/2004	4	4	4	0	0	4	0	0	0	0	0	0	1.00	0.00
BATTA	RGS	12/8/2004	4	4	4	0	0	4	0	0	0	0	0	0	1.00	0.00
BATTA	BL	12/9/2004	4	4	4	0	0	4	0	0	0	0	0	0	1.00	0.00
Lab/Cor	DCW	11/23/2004	4	4	4	0	0	4	0	0	0	0	0	0	1.00	0.00

Grid Slot: C3 **Grid Square: F1** **Date: 01/24/2004** **Verifying Analyst: PB/Asbestos TEM Labs**

Lab	Analyst	Date	Struct. Reported (SR)	True Positives				Total Struct TNS	Fals Positive FP	False Negatives			Not Located NL	Ambig. AMB	TP/TNS	FP/TNS
				TP	TPM	TPU	TPV			FN	FNA	FNB				
ATEM	MH	9/15/2004	4	4	4	0	0	4	0	0	0	0	0	0	1.00	0.00
BATTA	RGS	12/8/2004	4	4	4	0	0	4	0	0	0	0	0	0	1.00	0.00
BATTA	BL	12/9/2004	4	4	4	0	0	4	0	0	0	0	0	0	1.00	0.00
Lab/Cor	DCW	11/23/2004	4	4	4	0	0	4	0	0	0	0	0	0	1.00	0.00

Grid Slot: C3 **Grid Square: F5** **Date: 01/24/2004** **Verifying Analyst: PB/Asbestos TEM Labs**

Lab	Analyst	Date	Struct. Reported (SR)	True Positives				Total Struct TNS	Fals Positive FP	False Negatives			Not Located NL	Ambig. AMB	TP/TNS	FP/TNS
				TP	TPM	TPU	TPV			FN	FNA	FNB				
ATEM	MH	9/15/2004	6	6	6	0	0	7	0	1	0	1	0	0	0.86	0.00
BATTA	RGS	12/8/2004	6	6	6	0	0	7	0	1	1	0	0	0	0.86	0.00
BATTA	BL	12/9/2004	6	6	6	0	0	7	0	1	1	0	0	0	0.86	0.00
Lab/Cor	DCW	11/23/2004	7	7	7		0	7	0	0	0	0	0	0	1.00	0.00

Grid Slot: C3 **Grid Square: B22** **Date: 01/24/2004** **Verifying Analyst: PB/Asbestos TEM Labs**

Lab	Analyst	Date	Struct. Reported (SR)	True Positives				Total Struct TNS	Fals Positive FP	False Negatives			Not Located NL	Ambig. AMB	TP/TNS	FP/TNS
				TP	TPM	TPU	TPV			FN	FNA	FNB				
ATEM	MH	9/15/2004	5	5	5	0	0	5	0	0	0	0	0	0	1.00	0.00
BATTA	RGS	12/8/2004	4	4	4	0	0	5	0	1	1	0	0	0	0.80	0.00
BATTA	BL	12/9/2004	5	4	4	0	0	5	1	1	1	0	0	0	0.80	0.20
Lab/Cor	DCW	11/23/2004	5	5	5	0	0	5	0	0	0	0	0	0	1.00	0.00

FORM 2

Interlaboratory Sample Exchange
Round Robin Results
Sample ID # 2004-2

Grid Slot: C3 **Grid Square: E14** **Date: 01/24/2004** **Verifying Analyst: PB/Asbestos TEM Labs**

Lab	Analyst	Date	Struct. Reported (SR)	True Positives				Total Struct	Fals Positive		False Negatives		Not Located	Ambig.	TP/TNS	FP/TNS
				TP	TPM	TPU	TPV	TNS	FP	FN	FNA	FNB	NL	AMB		
ATEM	MH	9/22/2004	12	12	12	0	0	13	0	1	0	1	0	0	0.92	0.00
BATTA	RGS	12/6/2004	13	13	13	0	0	13	0	0	0	0	0	0	1.00	0.00
BATTA	BL	12/7/2004	13	13	13	0	0	13	0	0	0	0	0	0	1.00	0.00
Lab/Cor	DCW	11/17/2004	13	13	13	0	0	13	0	0	0	0	0	0	1.00	0.00

Grid Slot: C3 **Grid Square: E16** **Date: 01/24/2004** **Verifying Analyst: PB/Asbestos TEM Labs**

Lab	Analyst	Date	Struct. Reported (SR)	True Positives				Total Struct	Fals Positive		False Negatives		Not Located	Ambig.	TP/TNS	FP/TNS
				TP	TPM	TPU	TPV	TNS	FP	FN	FNA	FNB	NL	AMB		
ATEM	MH	9/22/2004	6	6	6	0	0	7	0	1	1	0	0	0	0.86	0.00
BATTA	RGS	12/7/2004	5	5	5	0	0	7	0	2	2	0	0	0	0.71	0.00
BATTA	BL	12/7/2004	7	7	7	0	0	7	0	0	0	0	0	0	1.00	0.00
Lab/Cor	DCW	11/17/2004	7	7	7	0	0	7	0	0	0	0	0	0	1.00	0.00

Grid Slot: C3 **Grid Square: E17** **Date: 01/24/2004** **Verifying Analyst: PB/Asbestos TEM Labs**

Lab	Analyst	Date	Struct. Reported (SR)	True Positives				Total Struct	Fals Positive		False Negatives		Not Located	Ambig.	TP/TNS	FP/TNS
				TP	TPM	TPU	TPV	TNS	FP	FN	FNA	FNB	NL	AMB		
ATEM	MH	9/22/2004	7	7	7	0	0	7	0	0	0	0	0	0	1.00	0.00
BATTA	RGS	12/7/2004	7	7	7	0	0	7	0	0	0	0	0	0	1.00	0.00
BATTA	BL	12/7/2004	7	7	7	0	0	7	0	0	0	0	0	0	1.00	0.00
Lab/Cor	DCW	11/17/2004	7	7	7	0	0	7	0	0	0	0	0	0	1.00	0.00

Grid Slot: C3 **Grid Square: E18** **Date: 01/24/2004** **Verifying Analyst: PB/Asbestos TEM Labs**

Lab	Analyst	Date	Struct. Reported (SR)	True Positives				Total Struct	Fals Positive		False Negatives		Not Located	Ambig.	TP/TNS	FP/TNS
				TP	TPM	TPU	TPV	TNS	FP	FN	FNA	FNB	NL	AMB		
ATEM	MH	9/22/2004	8	8	8	0	0	8	0	0	0	0	0	0	1.00	0.00
BATTA	RGS	12/7/2004	8	8	8	0	0	8	0	0	0	0	0	0	1.00	0.00
BATTA	BL	12/7/2004	8	8	8	0	0	8	0	0	0	0	0	0	1.00	0.00
Lab/Cor	DCW	11/17/2004	9	8	8	0	0	8	0	0	0	0	0	1	1.00	0.00

FORM 3

Interlaboratory Sample Exchange
Round Robin Results
Sample ID # 2004-3

Grid Slot: C3 **Grid Square: E3** **Date: 01/24/2004** **Verifying Analyst: PB/Asbestos TEM Labs**

Lab	Analyst	Date	Struct. Reported (SR)	True Positives				Total Struct	Fals Positive	False Negatives			Not Located	Ambig.	TP/TNS	FP/TNS
				TP	TPM	TPU	TPV	TNS	FP	FN	FNA	FNB	NL	AMB		
ATEM	MH	9/22/2004	8	8	8	0	0	8	0	0	0	0	0	0	1.00	0.00
BATTA	RGS	12/2/2004	8	8	8	0	0	8	0	0	0	0	0	0	1.00	0.00
BATTA	BL	12/6/2004	8	8	8	0	0	8	0	0	0	0	0	0	1.00	0.00
Lab/Cor	DCW	12/15/2004	7	7	7	0	0	8	0	1	0	1	0	0	0.88	0.00

Grid Slot: C3 **Grid Square: E2** **Date: 01/24/2004** **Verifying Analyst: PB/Asbestos TEM Labs**

Lab	Analyst	Date	Struct. Reported (SR)	True Positives				Total Struct	Fals Positive		False Negatives		Not Located	Ambig.	TP/TNS	FP/TNS
				TP	TPM	TPU	TPV	TNS	FP	FN	FNA	FNB	NL	AMB		
ATEM	MH	9/22/2004	6	6	6	0	0	6	0	0	0	0	0	0	1.00	0.00
BATTA	RGS	12/2/2004	6	6	6	0	0	6	0	0	0	0	0	0	1.00	0.00
BATTA	BL	12/6/2004	6	6	6	0	0	6	0	0	0	0	0	0	1.00	0.00
Lab/Cor	DCW	12/15/2004	5	5	5	0	0	6	0	1	0	1	0	0	0.83	0.00

Grid Slot: C3 **Grid Square: E4** **Date: 01/24/2004** **Verifying Analyst: PB/Asbestos TEM Labs**

Lab	Analyst	Date	Struct. Reported (SR)		True Positives			Total Struct	Fals Positive		False Negatives		Not Located	Ambig.	TP/TNS	FP/TNS
				TP	TPM	TPU	TPV	TNS	FP	FN	FNA	FNB	NL	AMB		
ATEM	MH	9/22/2004	10	8	8	0	0	8	0	0	0	0	0	2	1.00	0.00
BATTA	RGS	12/3/2004	9	8	8	0	0	8	0	0	0	0	1	0	1.00	0.00
BATTA	BL	12/6/2004	9	8	8	0	0	8	0	0	0	0	1	1	1.00	0.00
Lab/Cor	DCW	12/15/2004	8	6	6	0	0	8	0	2	0	2	0	2	0.75	0.00

Grid Slot: C3 **Grid Square: E9** **Date: 01/24/2004** **Verifying Analyst: PB/Asbestos TEM Labs**

Lab	Analyst	Date	Struct. Reported (SR)	True Positives				Total Struct	Fals Positive		False Negatives		Not Located	Ambig.	TP/TNS	FP/TNS
				TP	TPM	TPU	TPV	TNS	FP	FN	FNA	FNB	NL	AMB		
ATEM	MH	9/22/2004	10	9	9	0	0	10	0	1	1	0	0	1	0.90	0.00
BATTA	RGS	12/3/2004	10	10	10	0	0	10	0	0	0	0	0	0	1.00	0.00
BATTA	BL	12/6/2004	10	10	10	0	0	10	0	0	0	0	0	0	1.00	0.00
Lab/Cor	DCW	12/15/2004	10	10	10	0	0	10	0	0	0	0	0	0	1.00	0.00

FORM 4

Analyst Average accuracy

Lab	Analyst	Sample	Grid Opening	TP/TNS	FP/TNS	FN/TNS
ATEM	MH	2004-1	C3-B23	1.00	0.00	0.00
			C3-E4	1.00	0.00	0.00
			C3-F1	1.00	0.00	0.00
			C3-F5	0.86	0.00	0.14
			C3-B22	1.00	0.00	0.00
		2004-2	C3-E14	0.92	0.00	0.08
			C3-E16	0.86	0.00	0.14
			C3-E17	1.00	0.00	0.00
			C3-E18	1.00	0.00	0.00
		2004-3	C3-E3	1.00	0.00	0.00
			C3-E2	1.00	0.00	0.00
			C3-E4	1.00	0.00	0.00
			C3-E9	0.90	0.00	0.10
Average				**0.96**	**0.00**	**0.04**

Lab	Analyst	Sample	Grid Opening	TP/TNS	FP/TNS	FN/TNS
BATTA	RGS	2004-1	C3-B23	1.00	0.00	0.00
			C3-E4	1.00	0.00	0.00
			C3-F1	1.00	0.00	0.00
			C3-F5	0.86	0.00	0.14
			C3-B22	0.80	0.00	0.20
		2004-2	C3-E14	1.00	0.00	0.00
			C3-E16	0.71	0.00	0.29
			C3-E17	1.00	0.00	0.00
			C3-E18	1.00	0.00	0.00
		2004-3	C3-E3	1.00	0.00	0.00
			C3-E2	1.00	0.00	0.00
			C3-E4	1.00	0.00	0.00
			C3-E9	1.00	0.00	0.00
Average				**0.95**	**0.00**	**0.05**

Lab	Analyst	Sample	Grid Opening	TP/TNS	FP/TNS	FN/TNS
Lab/Cor	DCW	2004-1	C3-B23	1.00	0.00	0.00
			C3-E4	1.00	0.00	0.00
			C3-F1	1.00	0.00	0.00
			C3-F5	1.00	0.00	0.00
			C3-B22	1.00	0.00	0.00
		2004-2	C3-E14	1.00	0.00	0.00
			C3-E16	1.00	0.00	0.00
			C3-E17	1.00	0.00	0.00
			C3-E18	1.00	0.00	0.00
		2004-3	C3-E3	0.88	0.00	0.13
			C3-E2	0.83	0.00	0.17
			C3-E4	0.75	0.00	0.25
			C3-E9	1.00	0.00	0.00
Average				**0.96**	**0.00**	**0.04**

Lab	Analyst	Sample	Grid Opening	TP/TNS	FP/TNS	FN/TNS
BATTA	BL	2004-1	C3-B23	1.00	0.00	0.00
			C3-E4	1.00	0.00	0.00
			C3-F1	1.00	0.00	0.00
			C3-F5	0.86	0.00	0.14
			C3-B22	0.80	0.20	0.20
		2004-2	C3-E14	1.00	0.00	0.00
			C3-E16	1.00	0.00	0.00
			C3-E17	1.00	0.00	0.00
			C3-E18	1.00	0.00	0.00
		2004-3	C3-E3	1.00	0.00	0.00
			C3-E2	1.00	0.00	0.00
			C3-E4	1.00	0.00	0.00
			C3-E9	1.00	0.00	0.00
Average				**0.97**	**0.02**	**0.03**

FORM 5

Explanation of False Positives and False Negatives

Sample ID	Grid Opening	Lab	Analyst	False Pos.	False Neg.	Explanations/Discussion
2004-1	C3 - B22	BATTA	BL	1		Misidentification of a structure
		ATEM	MH		1	Loss of a structure
	C3 - F5	BATTA	RGS		1	Misidentification of a structure; Incorrect Length Measurement (Fiber >0.5 um)
		BATTA	BL		1	Misidentification of a structure; Incorrect Length Measurement (Fiber >0.5 um)
	C3 - B22	BATTA	RGS		1	Improper interpretation of the counting rules*
		BATTA	BL		1	Improper interpretation of the counting rules*
2004-2	C3 - E14	ATEM	MH		1	Loss of a structure
	C3 - E16	BATTA	RGS		2	1) Improper interpretation of the counting rules**; 2) Individual fibers in bundle are 5:1.
2004-3	C3 - E3	DCW	Lab/Cor		1	Loss of a structure
	C3 - E2	DCW	Lab/Cor		1	Loss of a structure
	C3 - E4	DCW	Lab/Cor		1	Loss of two structures
	C3 - E9	MH	ATEM		1	Improper interpretation of the counting rules**

*: Matrix was recorded, but was not counted as a structure. Individual fibers in bundle are 5:1

**: Reported as one structure instead of two

Recording sheet

Filter Iden.: 2004-3
Grid box: 2004-3
Grid slot: C3
Grid square: E3

Page 1 of 1
Grand totals:
Countable Struct.: 8
Occurrences: 8

Date: 9-22-04
Lab Code: _____
Single Verified
Analyst(s): MH

Length (um)	Width (um)	Sketch	Verification	# Countable Structures	# Occurrences	ID	Length (um)	Width (um)	Sketch	Verification	# Countable Structures	# Occurrences	ID
1.6	0.17		TPM1	1	1	ch							
1.7	0.18		TPM2	1	1	ch							
3.4	0.19		TPM4	1	1	ch							
4	0.3		TPM5	1	1	ch							
0.7	0.07		TPM5	1	1	ch							
3.3	0.12		TPM7	1	1	ch							
4.1	0.5		TPM6	1	1	ch							
2.5	0.25		TPM3	1	1	ch							

Totals: 8 8

Totals: ___ ___

Verified Counting Recording Sheet

Page 1 of 1

Filter ID: Q4

Grid Box: 2004-3

Grid Slot: C3

Grid Sq: E-3

Date: 12/2/04

Lab Code: 101032

No. Countable Struct: 8

Analyst: KGS

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
1.30	0.08	F1	TPM1	1	ch
1.60	0.09	F1	TPM2	1	ch
2.50	0.20	B1	TPM3	1	ch
3.30	0.10	only 2 parallel structures F1	TPM4	1	ch
0.50	0.07	this section not ch. F1 close to 0.5µm	TPM5	1	ch
3.80	0.30	B1	TPM8	1	ch
3.90	0.25	C1	TPM6	1	ch

Total: 7

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
3.40	0.09	F1	TPM7	1	ch

Total: 1

Verified Counting Recording Sheet

Page 1 of 1

Date: 12/06/04

Lab Code: 101-32

No. Countable Struct: 8

Analyst: BL.

Filter ID: Q4

Grid Box: 2004-3

Grid Slot: C3

Grid Sq: E-3

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
1.25	0.10	B	TPM1	1	ch
1.75	0.09	F	TPM2	1	ch
2.50	0.20	B	TPM3	1	ch
3.50	0.12	F	TPM4	1	ch
0.52	0.06	F	TPM5	1	ch
4.25	0.25	B1	TPM7	1	ch
3.50	0.08	F	TPM8	1	ch

Total: 7

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
3.90	0.10	C	TPM6	1	ch

Total: 1

Verified Counting Recording Sheet

Page 1 of 1

Filter ID: _____

Grid Box: 2004-03

Grid Slot: C3

Grid Sq: E3

Date: 12/15/04

Lab Code: 101920

No. Countable Struct: 7

Analyst: DCW

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
1.2	0.1		TPM1 1	1	CH
1.5	0.1		TPM2 1	1	CH
1.7	0.2	B-3	TPM3 1	1	CH
3.5	0.1		TPM4 1	1	CH
2.75	0.3	B-5	TPM8 1	1	CH
2.75	0.1		TPM7 1	1	CH
3.0	0.4		TPM6 1	1	CH

Total: 7

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
			FNB1		*

Total: _____

* 1 structure missed.

Recording sheet

Filter Iden.: 2004-3
Grid box: 2004-3
Grid slot: C3
Grid square: E2

Page 1 of 1
Grand totals:
Countable Struct.: 6
Occurrences: 6

Date: 9-22-04
Lab Code:
Single Verified
Analyst(s): MH

Length (um)	Width (um)	Sketch	Verification	# Countable Structures	# Occurrences	ID	Length (um)	Width (um)	Sketch	Verification	# Countable Structures	# Occurrences	ID
1	0.1		TPM1	1	1	ch							
5.5	0.7		TPM2	1	1	ch							
0.5	0.05		TPM4	1	1	ch							
8.3	0.8		TPM3	1	1	ch							
4.5	0.15		TPM5	1	1	ch							
1.5	0.07		TPM6	1	1	ch							

Totals: 6 6

Totals: ___ ___

Verified Counting Recording Sheet

Page 1 of 1

Filter ID: _____

Date: 12/15/01

Grid Box: 2004-03

Lab Code: 101920

Grid Slot: C3

No. Countable Struct: 5

Grid Sq: E2

Analyst: DLW

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
0.75	0.1		TPM1 1	1	CH
6.0	0.75	B-25	TPM2 1	1	CH
4.5	0.75	B-10	TPM3 1	1	CH
4.0	0.05		TPM5 1	1	CH
1.0	0.05		TPM6 1	1	CH
*			FNB		

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID

Total: 5

Total: _____

* 1 structure missed

Verified Counting Recording Sheet

Page 1 of 1

Date: 12/2/04

Lab Code: 101032

No. Countable Struct: 6

Analyst: RGS

Filter ID: Q4

Grid Box: 2004-3

Grid Slot: C3

Grid Sq: E-2

this structure is located just below the previous structure.

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
0.90	0.08	F1	TPM1	1	ch
5.50	0.65	B1	TPM2	1	ch
8.10	0.75	B1	TPM3	1	ch
0.50	0.04	F1 close to 0.5µm	TPM4	1	ch
4.20	0.08	B1	TPM5	1	ch
1.25	0.06	F1	TPM6	1	ch

Total: 6

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID

Total: ____

Verified Counting Recording Sheet

Page 1 of 1

Date: 12/06/02

Lab Code: 101032

No. Countable Struct: 6

Analyst: BL

Filter ID: 04

Grid Box: 2004-3

Grid Slot: C3

Grid Sq: E2

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
1.00	0.08	F	TPM1	1	ch
3.50	0.75	B	TPM2	1	ch
0.54	0.05	F	TPM4	1	ch
8.25	0.80	B	TPM3	1	ch
4.35	0.08	B	TPM5	1	ch
1.25	0.06	F	TPM6	1	ch

Total: 6

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID

Total: ____

Recording sheet

Filter Iden.: 2004-3
Grid box: 2004-3
Grid slot: C3
Grid square: E4

Page 1 of 1
Grand totals:
Countable Struct.: 10
Occurrences: 10

Date: 9-22-04
Lab Code:
Single Verified
Analyst(s): MH

Length (um)	Width (um)	Sketch	Verification	# Countable Structures	# Occurrences	ID	Length (um)	Width (um)	Sketch	Verification	# Countable Structures	# Occurrences	ID
3	0.1		TPM1	1	1	ch	1	0.1		TPM8	1	1	ch
4.4	0.4		TPM2	1	1	ch							
3.6	0.25		TPM3	1	1	ch							
1.6	0.1		Amb1	1	1	ch							
2	0.12		TPM4	1	1	ch							
2	0.05		AMB2	1	1	ch							
1.9	0.1		TPM5	1	1	ch							
3	0.5		TPM6	1	1	ch							
4.1	0.6		TPM7	1	1	ch							

Sample much digradated
It was pretty difficult to confirm 2 structures, so they are Amb.

Totals: 9 9

Totals: 1 1

Verified Counting Recording Sheet

Page 1 of 1

Date: 12/06/04

Lab Code: 101032

No. Countable Struct: 9

Analyst: BL

Filter ID: Q4

Grid Box: 2004-3

Grid Slot: C3

Grid Sq: E4

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
3.10	0.06	F	TPM1	1	ch
4.50	0.30	B	TPM2	1	ch
0.52	0.06	Does not have Asb. EDS.		NAM	
1.60	0.06	No Asb. EDS		NAM	
3.80	0.20	B	TPM3	1	ch
2.00	0.10	F	TPM4	1	ch
2.10	0.05			NAM	

Total: 4

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
1.10	0.06	F	TPM5	1	ch
3.00	2.10 ~~0.20~~	M	TPM6	1	ch
~~BL.~~ 0.400	0.50	B	TPM7	1	ch
1.10	0.08	F	TPM8	1	ch
0.55	0.05	F	NM1	1	ch

Total: 5

Verified Counting Recording Sheet

Page 1 of 1

Date: 12/3/04

Lab Code: 101032

No. Countable Struct: 9

Analyst: RGS

Filter ID: Q-4

Grid Box: 2004-3

Grid Slot: C3

Grid Sq: E-4

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
3.10	0.07	F1	TPM1	1	ch
4.30	0.30	B1	TPM2	1	ch
1.60	0.07	No SAED, No EDX No internal structure			NAM*
3.70	0.18	B1	TPM3	1	ch
1.80	0.10	F1	TPM4	1	ch
1.70	0.05	No SAED, No EDX No internal structure			NAM
1.70	0.06	F1	TPM5	1	ch

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
2.70	0.10	C1	TPM6	1	ch
3.60	0.50	B1	TPM7	1	ch
1.10	0.07	F1	TPM8	1	ch
0.50	0.07	close to 0.5µm F1	NA1	1	ch

*NAM: non-asbestos material

Total: 5

Total: 4

Verified Counting Recording Sheet

Page 1 of 1

Filter ID:

Grid Box: 2004-03

Grid Slot: C3

Grid Sq: E4

Date: 12/15/04

Lab Code: 101920

No. Countable Struct: 8

Analyst: MW

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
2.5	0.1		TPM1 1	1	CH
3.5	0.3	B-6	TPM2 1	1	CH
2.75	0.2		TPM3 1	1	CH
1.0	0.1		Amb1 1	1	CH
1.2	0.1		TPM4 1	1	CH
1.5	0.1		TPM5 1	1	CH
1.5	0.1		Amb2 1	1	CH

Total: 7

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
4.0	0.75		TPM7 1	1	CH
1.5	0.1	AMB	NH		AMB
			FNB1		*
			FNB2		*

Total: 1

* FIBER APPEARS TO BE

* 2 structure missed

Recording sheet

Filter Iden.: 2004-3
Grid box: 2004-3
Grid slot: C3
Grid square: E9

Page 1 of 1
Grand totals:
Countable Struct.: 10
Occurrences: 10

Date: 9-22-04
Lab Code:
Single Verified
Analyst(s): MH

Length (um)	Width (um)	Sketch	Verification	# Countable Structures	# Occurrences	ID	Length (um)	Width (um)	Sketch	Verification	# Countable Structures	# Occurrences	ID
0.8	0.06		TPM1	1	1	ch	0.6	0.05		Amb.	1	1	ch
0.5	0.05		TPM2	1	1	ch							
1.2	1.2		TPM3	1	1	ch							
1.0	0.7		TPM4	1	1	ch							
1.4	0.07		TPM5	1	1	ch							
0.8	0.08		TPM6	1	1	ch							
0.5	0.35		TPM7	1	1	ch							
2.5	0.1		TPM8	1	1	ch							
* 2	0.3		TPM9 FNA1	1	1	ch							

Totals: 9 9 Totals: 1 1

* there are 2 structures B. "B" has not been counted.

Verified Counting Recording Sheet

Page 1 of 1

Date: 12/06/04

Lab Code: 101032

No. Countable Struct: 10

Analyst: BL.

Filter ID: Q4

Grid Box: 2004-3

Grid Slot: C3

Grid Sq: E9

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
0.70	0.15	F	TPM2	1	ch
1.25	0.07	F	TPM1	1	ch
1.00	0.06	Not an asb. EDS. No SAED.		NAM	
4.25	0.75	B	TPM3	1	ch
1.00	0.08	F	TPM6	1	ch
1.09	0.06	F	TPM4	1	ch
1.50	0.07	F	TPM5	1	ch

Total: 6

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
6.50	0.30	B	TPM7	1	ch
3.80	0.06	F	TPM8	1	ch
2.60	0.07	Unable to obtain reliable SAED & EDS		NAM	
—	—	B1 F1		—	—
1.20	0.20	B1	TPM9	1	ch
0.75 ~~1.40~~	B.L. 0.07 ~~0.05~~	F1	TPM10	1	ch

Total: 4

Verified Counting Recording Sheet

Page 1 of 1

Date: 12/3/04

Lab Code: 101032

No. Countable Struct: 10

Analyst: RGS

Filter ID: Q4

Grid Box: 2004-3

Grid Slot: C3

Grid Sq: E-9

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
0.65	0.08	F1	TPM2	1	ch
1.20	0.07	F1	TPM1	1	ch
4.20	0.75	B1	TPM3	1	ch
1.30	0.06	F1	TPM5	1	ch
1.10	0.07	F1	TPM4	1	ch
0.80	0.09	F	TPM6	1	ch
6.20	0.35	B1	TPM7	1	ch

Total: 7

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
3.50	0.06	F1	TPM8	1	ch
–	–	can see fiber end to end. F1 B1		–	–
1.40	0.06	F1	TPM10	1	ch
1.20	0.20	B1 close to 5:1	TPM9	1	ch

Total: 3

Verified Counting Recording Sheet

Page 1 of 1

Filter ID: _____

Grid Box: 2004-03

Grid Slot: C3

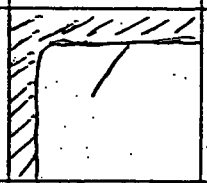
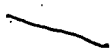
Grid Sq: E9

Date: 12/15/04

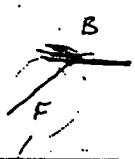
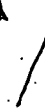
Lab Code: 161920

No. Countable Struct: 10

Analyst: DCM

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
1.5	0.1		1 TPM1	1	CH
1.0	0.1		TPM2 1	1	CH
4.5	1.2		1 TPM3	1	CH
1.2	0.1		TPM6 1	1	CH
1.2	0.1		TPM4 1	1	CH
1.5	0.1		TPM5 1	1	CH
6.0	0.5		TPM7 1	1	CH

Total: 7

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
4.5	0.1		TPM8 1	1	CH
1.0	0.2		TPM9 1	1	CH
1.2	0.1		TPM10	1	CH

Total: 3

Recording sheet

Filter Iden.: 2004-1
Grid box: 2004-1
Grid slot: C3
Grid square: B23

Page 1 of 1
Grand totals:
Countable Struct.: 4
Occurrences: 4

Date: 9-15-04
Lab Code: ____
Single Verified
Analyst(s): MH

Length (um)	Width (um)	Sketch	Verification	# Countable Structures	# Occurrences	ID	Length (um)	Width (um)	Sketch	Verification	# Countable Structures	# Occurrences	ID
5.2	0.08		TPM1	1	1	CH							
1.4	0.1		TPM2	1	1	CH							
2.1	0.08		TPM3	1	1	CH							
1.1	0.1		TPM4	1	1	CH							

Totals: 4 4

Totals: ____ ____

Verified Counting Recording Sheet

Page 1 of 1

Filter ID:

Grid Box: 2004-1

Grid Slot: C3

Grid Sq: B23

Date: 11/23/04

Lab Code: 101920

No. Countable Struct: 4

Analyst: DCW

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
1.8	0.1		TPM 2 1	1	CH
5.0	0.1		TPM 1 1	1	CH
2.0	0.1		TPM 3 1	1	CH
1.2	0.1		TPM 4 1	1	CH

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID

Total: 4

Total:

Verified Counting Recording Sheet

Page 1 of 1

Filter ID: Q4

Grid Box: 2004-1

Grid Slot: C3

Grid Sq: B23

Date: 12/09/04

Lab Code: 10132

No. Countable Struct: 4

Analyst: BI

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
1.30	0.10	F	TPM2	1	ch
		F	TPM1	1	ch
2.25	0.08	F	TPM3	1	ch
1.10	0.10	F	TPM4	1	ch

Total: 4

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID

Total: ____

Verified Counting Recording Sheet

Page 1 of 1

Date: 12/8/04

Filter ID: Q4

Grid Box: 2004-1

Grid Slot: C-3

Grid Sq: B-23

Lab Code: 101032

No. Countable Struct: 4

Analyst: RGS

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
1.10	0.08	F1	TPM2	1	ch
5.30	0.07	F1	TPM1	1	ch
2.30	0.08	F1	TPM3	1	ch
1.10	0.09	F1	TPM4	1	ch

Total: 1

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID

Total: ____

Recording sheet

Filter Iden.: 2004-1
Grid box: 2004-1
Grid slot: C3
Grid square: E4

Page 1 of 1
Grand totals:
Countable Struct.: 4
Occurrences: 4

Date: 9-15-04
Lab Code: _____
Single Verified
Analyst(s): MH

Length (um)	Width (um)	Sketch	Verification	# Countable Structures	# Occurrences	ID	Length (um)	Width (um)	Sketch	Verification	# Countable Structures	# Occurrences	ID
4.5	0.1		TPM1	1	1	ch							
1.3	.07		TPM2	1	1	ch							
1.6	.09		TPM3	1	1	ch							
1.7	.1		TPM4	1	1	ch							

Totals: 4 4

Totals: ___ ___

Verified Counting Recording Sheet

Page 1 of 1

Filter ID: _____

Date: 11/23/04

Grid Box: 2004-1

Lab Code: 101920

Grid Slot: C3

No. Countable Struct: 4

Grid Sq: E4

Analyst: DLW

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
4.5	0.1		TPM1 1	1	CH
1.2	0.1		TPM2 1	1	CH
1.5	0.1		TPM3 1	1	CH
1.5	0.1		TPM4 1	1	CH

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID

Total: 4

Total: _____

Verified Counting Recording Sheet

Page 1 of 1

Filter ID: Q4

Grid Box: 2004-1

Grid Slot: C-3

Grid Sq: E-4

Date: 12/8/04

Lab Code: 101032

No. Countable Struct: 4

Analyst: RGS

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
4.80	0.08	F_1	TPM1	1	ch
1.10	0.05	F_1	TPM2	1	ch
1.30	0.06	F_1	TPM3	1	ch
1.20	0.07	F_1	TPM4	1	ch

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID

Total: 4

Total: ____

Verified Counting Recording Sheet

Page 1 of 1

Filter ID: Q4

Grid Box: 2054-1

Grid Slot: C3

Grid Sq: E4

Date: 12/09/04

Lab Code: 121-32

No. Countable Struct: 4

Analyst: BR

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
4.75	0.09	F	TPM1	1	ch
1.10	0.05	F	TPM2	1	ch
1.50	0.05	F	TPM3	1	ch
1.30	0.06	F	TPM4	1	ch

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID

Total: 4

Total: ____

Recording sheet

Filter Iden.: 2004-1
Grid box: 2004-1
Grid slot: C3
Grid square: F1

Page 1 of 1
Grand totals:
Countable Struct.: 4
Occurrences: 4

Date: 9-15-04
Lab Code:
Single Verified
Analyst(s): MH

Length (um)	Width (um)	Sketch	Verification	# Countable Structures	# Occurrences	ID	Length (um)	Width (um)	Sketch	Verification	# Countable Structures	# Occurrences	ID
0.7	0.06	—	TPM1	1	1	ch							
0.6	0.06	\	TPM2	1	1	ch							
1.4	0.12	/	TPM3	1	1	ch							
1.0	.08	/	TPM4	1	1	ch							

Totals: 4 4

Totals: ___ ___

Verified Counting Recording Sheet

Page 1 of 1

Filter ID:

Grid Box: 2004-1

Grid Slot: C3

Grid Sq: F1

Date: 11/23/04

Lab Code: 101920

No. Countable Struct: 4

Analyst: DW

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
1.0	0.1		TPM1 1	1	CH
2.0	0.2	D-3	TPM3 1	1	CH
0.75	0.1		TPM2 1	1	CH
1.3	0.1		TPM4 1	1	CH

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID

Total: 4

Total:

Verified Counting Recording Sheet

Page 1 of 1

Filter ID: Q4
Grid Box: 2004-1
Grid Slot: C-3
Grid Sq: F-1

Date: 12/8/04
Lab Code: 101032
No. Countable Struct: 4
Analyst: RGS

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
0.80	0.06	— F_1	TPM1	1	ch
0.55	0.06	| F_1	TPM2	1	ch
1.40	0.12	/ F_1	TPM3	1	ch
1.10	0.07	/ F_1	TPM4	1	ch

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID

Total: 4

Total: ____

Verified Counting Recording Sheet

Page 1 of 1

Filter ID: Q4

Grid Box: 2004-1

Grid Slot: C3

Grid Sq: F1

Date: 12/09/04

Lab Code: 10032

No. Countable Struct: 4

Analyst: BL

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
0.90	0.06	F	TPM1	1	ch
0.65	0.08	F	TPM2	1	ch
1.50	0.15	B	TPM3	1	ch
1.05	0.08	F	TPM4	1	ch

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID

Total: 4

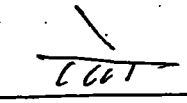
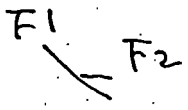
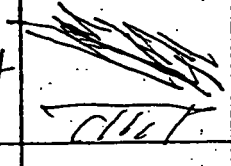
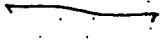
Total: ____

Recording sheet

Filter Iden.: 2004-1
Grid box: 2004-1
Grid slot: C3
Grid square: E5

Page 1 of 1
Grand totals:
Countable Struct.: 6
Occurrences: 5

Date: 9-15-04
Lab Code: ____
Single Verified
Analyst(s): MH

Length (um)	Width (um)	Sketch	Verification	# Countable Structures	# Occurrences	ID	Length (um)	Width (um)	Sketch	Verification	# Countable Structures	# Occurrences	ID
1.2	0.12		TPM1	1	1	ch							
					1								
0.5	0.07	F2	TPM3	1		ch							
1.4	0.08	F1	TPM2	1		ch							
1.3	.05		TPM4	1	1	ch							
3.4	0.4		TPM5	1	1	ch							
3	0.1		TPM6	1	1	ch							
*			FNB										

Totals: 6 5

Totals: ____ ____

* 1 structure missed. all other Analysts Reported.

Verified Counting Recording Sheet

Page 1 of 1

Filter ID: Φ-4
Grid Box: 2004-1
Grid Slot: C-3
Grid Sq: F-5

Date: 12/8/04
Lab Code: 101032
No. Countable Struct: 6
Analyst: RGS

	Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
	1.0	0.15	F_1	TPM1	1	ch
*	1.30	0.10	<0.5µm F_1	TNA1 TPM2	1	ch
	1.30	0.06	F_1	TPM3	1	ch
	3.30	0.40	B_1	TPM5	1	ch
	2.80	0.05	F_1	TPM6	1	ch
	0.65	0.08	F_1	TPM7	1	ch

Total: 6

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
4	must be counted				

Total: ____

* fiber > 0.5µm

Verified Counting Recording Sheet

Page 1 of 1

Filter ID: Q4

Grid Box: 2004-1

Grid Slot: C3

Grid Sq: F5

Date: 12/09/04

Lab Code: 10132

No. Countable Struct: 6

Analyst: M

	Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
	1.05	0.13	B	TPM1	1	ch
*	1.25	0.09	<5:1 F	TPM2 TPM1	1	ch
	1.50	0.05	F	TPM3	1	ch
	4.00	0.25	B O	TPM5	1	ch
	2.85			TPM6	1	ch
	0.60	0.09	F	TPM7	1	ch

Total: 6

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
←	must	be	counted		

Total: ____

* fiber > 0.5 µm

Verified Counting Recording Sheet

Page 1 of 1

Filter ID: _____

Date: 11/23/04

Grid Box: 2004-1

Lab Code: 101920

Grid Slot: C3

No. Countable Struct: 7

Grid Sq: F5

Analyst: DW

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
1.5	0.15		TPM1 1	1	CH
4.5	0.1				
1.5	0.1		TPM2 1	1	CH
0.6	0.1		TPM3	1	CH
3.0	0.5		TPM4 1	1	CH
1.5	0.1		TPM5 1	1	CH
2.75	0.1		T #4 1 TPM6	1	CH

SLIVER OF FIBER IN REPLICATE

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
0.8	0.1		TPM7 1	1	CH

?

Total: 6

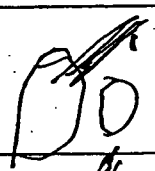
Total: 1

Recording sheet

Filter Iden.: 2004-1
Grid box: 2004-1
Grid slot: C3
Grid square: B22

Page 1 of 1
Grand totals:
Countable Struct.: 5
Occurrences: 5

Date: 9-15-04
Lab Code: ____
Single Verified
Analyst(s): MH

Length (um)	Width (um)	Sketch	Verification	# Countable Structures	# Occurrences	ID	Length (um)	Width (um)	Sketch	Verification	# Countable Structures	# Occurrences	ID
0.6	0.1		TPM5	1	1	ch							
2.5	0.1		TPM1	1	1	ch							
2.7	0.45		TPM2	1	1	ch							
6.4	0.5		TPM3	1	1	ch							
2.7	0.12		TPM4	1	1	ch							

Totals: 5 5

Totals: ____ ____

Verified Counting Recording Sheet

Page 1 of 1

Filter ID: Q4
Grid Box: 2004-1
Grid Slot: C3
Grid Sq: B22

Date: 12/09/04
Lab Code: 101032
No. Countable Struct: 5
Analyst: BL.

	Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
	2.25	0.20	No parallelism	NL ~~NAM~~	NAM	
*	0.50	0.04		FP_1	1	ch
**	0.65	0.15	M <5:1	FNA_1	NAM	ch
	2.50	0.13	F	TPM_1	1	ch
	2.55	0.35	Over Matrix B	TPM_2	1	ch
	6.00	0.50	B	TPM_3	1	ch
	2.75	0.10	F	TPM_4	1	ch

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID

Total: 5

Total: ____

* Fiber located. Demention: length < 0.5 µm. No EDS or DP corresponding to ch.

** Bundle > 0.5 µm. Individual

→ NAM

Verified Counting Recording Sheet

Page 1 of 1

Filter ID: Q4
Grid Box: 2004-1
Grid Slot: C-3
Grid Sq: B-2

Date: 12/8/04
Lab Code: 101032
No. Countable Struct: 4
Analyst: RGS

	Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
	2.50	0.09	F1	TPM4	1	ch
**	0.60	0.15	<5:1 matrix; <0.5µm; compact chrys matrix	FMA		ch
	2.30	0.40	M1	TPM2	1	ch
	6.0	0.50	B1	TPM3	1	ch
	2.80	0.09	F1	TPM4	1	ch

Total: 4

Total: ____

Total: ____

Total: ____

** Bundle > 0.5µm
Individual fiber 5:1

Verified Counting Recording Sheet

Page 1 of 1

Filter ID:

Grid Box: 2004-01

Grid Slot: C3

Grid Sq: B22

Date: 11/23/04

Lab Code: 101920

No. Countable Struct: 5

Analyst: MN

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
<0.5 0.5	0.1		TN		AMB
2.5	0.2		TPM1 1	1	CH
2.75	2.75	M-4	TPM5 1	1	CH
5.0	5.0	M-10	TPM2 1	1	CH
5.5	0.7	B Y10	TPM3 1	1	CH
2.75	0.15		TPM4 1	1	CH

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID

Total: 5

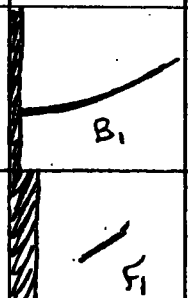
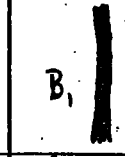
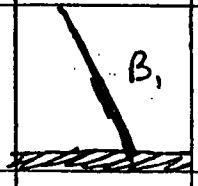
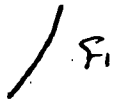
Total:

Verified Counting Recording Sheet

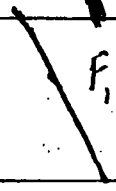
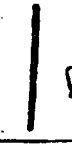
Page 1 of 1

Filter ID: Q4
Grid Box: 2004-2
Grid Slot: C-3
Grid Sq: E-14

Date: 12/6/04
Lab Code: 101032
No. Countable Struct: 13
Analyst: RGS

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
15.0	0.20		TPM2	1	ch
0.60	0.08		TPM3	1	ch
3.60	0.08		TPM1	1	ch
2.70	0.25		TPM4	1	ch
3.30	0.35		TPM5	1	ch
3.80	0.20		TPM6	1	ch
2.30	0.08		TPM8	1	ch

Total: 7

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
6.50	0.60		TPM7	1	ch
4.70	0.07		TPM9	1	ch
1.70	0.06		TPM11	1	ch
1.60	0.20		TPM10	1	ch
located to the right of above structure.					
0.50	0.04	close to 0.5µm	TPM12	1	ch
2.50	0.10		TPM13	1	ch

Total: 6

Verified Counting Recording Sheet

Page 1 of 1

Filter ID: Q4

Grid Box: 2004-2

Grid Slot: C-3

Grid Sq: 814

Date: 12/07/04

Lab Code: 10032

No. Countable Struct: 13

Analyst: RL

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
15.10	0.13	B	TPM2	1	ch
0.260	0.08	F	TPM3	1	ch
2.60	0.20	B	TPM4	1	ch
3.75	0.07	F	TPM1	1	ch
3.50	0.25	B	TPM5	1	ch
4.10	0.13	B	TPM6	1	ch
7.15	0.60	B	TPM7	1	ch

Total: 7

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
2.50	0.08	F	TPM8	1	ch
4.40	0.07	F	TPM9	1	ch
2.00	0.06	F	TPM11	1	ch
1.90	0.20	B	TPM10	1	ch
0.60	0.04		TPM12	1	ch
2.55	0.10	F	TPM13	1	ch

Total: 6

Verified Counting Recording Sheet

Page 1 of 1

Filter ID:

Grid Box: 2004-2

Grid Slot: C3

Grid Sq: E14

Date: 11/17/04

Lab Code: 101920

No. Countable Struct: 13

Analyst: KW

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
3.75	0.1		TPM1 1	1	CH
14	0.2	B-5	TPM2 1	1	CH
0.75	0.15		TPM3 1	1	CH
2.5	0.35	B-6	TPM4 1	1	CH
3.75	0.2	B-3	TPM6 1	1	CH
2.75	0.45	B-15	TPM5 1	1	CH
6.0	1.0	B-20	TPM7 1	1	CH

Total: 7

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
2.0	0.1		TPM8 1	1	CH
4.25	0.1		TPM9 1	1	CH
2.0	0.1		TPM11 1	1	CH
1.5	0.3	B-4	TPM10 1	1	CH
1.0	0.05		TPM12 1	1	CH
2.5	0.15		TPM13 1	1	CH

Total: 6

correct

Recording sheet

Filter Iden.: 2004-2 Page 1 of 1 Date: 9-22-04
Grid box: 2004-2 Grand totals: Lab Code: _____
Grid slot: C3 # Countable Struct.: 12 Single Verified
Grid square: E14 # Occurrences: 12 Analyst(s): MH

Length (um)	Width (um)	Sketch	Verification	# Countable Structures	# Occurrences	ID	Length (um)	Width (um)	Sketch	Verification	# Countable Structures	# Occurrences	ID
14.5	0.27		TPM2	1	1	ch	1.9	0.25		TPM10	1	1	ch
3.5	0.12		TPM1	1	1	ch	0.8	0.06		TPM12	1	1	ch
2.7	0.25		TPM4	1	1	ch	2.6	0.15		TPM13	1	1	ch
3.3	0.4		TPM5	1	1	ch				FNB1			*
4.1	0.2		TPM6	1	1	ch							
7	0.7		TPM7	1	1	ch							
2.1	0.12		TPM8	1	1	ch							
4.3	0.1		TPM9	1	1	ch							
1.7	0.1		TPM11	1	1	ch							

Totals: 9 9 Totals: 3 3

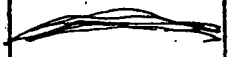
* 1 structure missed

Recording sheet

Filter iden.: 2004-2
Grid box: 2004-2
Grid slot: C3
Grid square: E16

Page 1 of 1
Grand totals:
Countable Struct.: 6
Occurrences: 6

Date: 9-22-04
Lab Code: ____
Single Verified
Analyst(s): MH

Length (um)	Width (um)	Sketch	Verification	# Countable Structures	# Occurrences	ID	Length (um)	Width (um)	Sketch	Verification	# Countable Structures	# Occurrences	ID
1.6	0.5		TPM1	1	1	ch							
* 6	2.0		TPM3 TNA2	1	1	ch							
3.3	0.17		TPM4	1	1	ch							
2	0.5		TPM5	1	1	ch							
9.5	0.25		TPM5	1	1	ch							
6	0.18		TPM6	1	1	ch							

Totals: 6 6

Totals: ____ ____

* Must be counted as 2 structures

Verified Counting Recording Sheet

Page 1 of 1

Date: 12/7/04

Lab Code: 101032

No. Countable Struct: 5

Analyst: RGS

Filter ID: Q4

Grid Box: 2004-2

Grid Slot: C-3

Grid Sq: E-16

Small amount of undissolved filter in grid opening.

	Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
*	1.50	0.40	Not 5:1 ind. fibers not visible.	FNA1		ch
** individual fibers >5:1	5.50	2.10	B1	TPM2 FNA2		ch
individual fibers >5:1	2.30	0.50	B1	TPM3	1	ch
	3.20	0.10	F1	TPM4	1	ch
	9.0	0.20	B1	TPM5	1	ch
	5.80	0.12	F1	TPM6	1	ch

Total: 5

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID

Total: ____

Stephen,
Unless the first-sketched occurrence is counted as a structure, this opening does not meet the (6-40 str/g.o.) requirements for VAA.

Bob

* Fibers visible, must be counted as structure

** must be counted as 2 structure

Verified Counting Recording Sheet

Page 1 of 1

Filter ID: _____

Grid Box: 2004-2

Grid Slot: C3

Grid Sq: E16

Date: 11/17/04

Lab Code: 101920

No. Countable Struct: 7

Analyst: NW

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
1.3	0.4		TPM1 1	1	CH
5.5	2.5	B-750	TPM2 1	1	CH
1.0	0.3	B-4	TPM7	1	CH
2.75	0.15		TPM4 1	1	CH
2.5	0.7	B-15	TPM3 1	1	CH
8.0	0.35	B-6	TPM5 1	1	CH
5.5	0.1		1 TPM6	1	CH

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID

Total: 7

Total: _____

correct

Verified Counting Recording Sheet

Page 1 of 1

Filter ID: Q4
Grid Box: 2004-2
Grid Slot: C3
Grid Sq: E16

Date: 12/07/04
Lab Code: 101-32
No. Countable Struct: 7
Analyst: BL

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
1.75	0.48	B	TPM1	1	Ch
—	—	B1 B2		—	—
1.00	0.20	B1	TPM7	1	Ch
5.75	2.25	B2	TPM2	1	Ch
3.25	0.10	F	TPM4	1	Ch
2.50	0.50	B	TPM3	1	Ch
0.60	0.06	No internal structure. although has clear EDS. [illegible]		NAM	

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
—	—	F1 B1	—	—	—
6.00	0.09	F1	TPM5	1	Ch
9.50	0.15	B1	TPM6	1	Ch
6.00	0.09				

Total: 5

Total: 2

correct

Verified Counting Recording Sheet

Page 1 of 1

Filter ID: Q4

Grid Box: 2004-2

Grid Slot: C-3

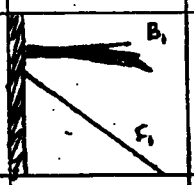
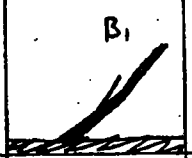
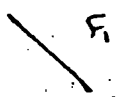
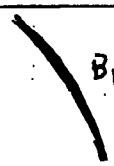
Grid Sq: E-17

Date: 12/7/04

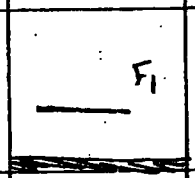
Lab Code: 101032

No. Countable Struct: 7

Analyst: RGS

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
–	–			–	–
2.20	0.20	B1	TPM1	1	ch
4.0	0.07	F1	TPM2	1	ch
3.70	0.20		TPM3	1	ch
1.50 ~~1.50~~	0.07		TPM4	1	ch
5.50	0.25		TPM5	1	ch
1.80	0.09	2 str in parallel arrangement	TPM6	1	ch

Total: 6

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
2.80	0.10		TPM7	1	ch

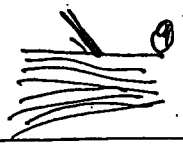
Total: 1

Recording sheet

Filter Iden.: 2004-2
Grid box: 2004-2
Grid slot: C3
Grid square: E16

Page 1 of 1
Grand totals:
Countable Struct.: 6
Occurrences: 6

Date: 9-22-04
Lab Code: ____
Single Verified
Analyst(s): MH

Length (um)	Width (um)	Sketch	Verification	# Countable Structures	# Occurrences	ID	Length (um)	Width (um)	Sketch	Verification	# Countable Structures	# Occurrences	ID
1.6	0.5		TPM1	1	1	ch							
* 6	2.0		TPM2 TNA2	1	1	ch							
3.3	0.17		TPM4	1	1	ch							
2	0.5		TPM3	1	1	ch							
9.5	0.25		TPM5	1	1	ch							
6	0.18		TPM6	1	1	ch							

Totals: 6 6

Totals: ____ ____

* Must be counted as 2 structures

Verified Counting Recording Sheet

Page 1 of 1

Filter ID: Q4

Grid Box: 2004-2

Grid Slot: C-3

Grid Sq: E-16

Date: 12/7/04

Lab Code: 101032

No. Countable Struct: 5

Analyst: RGS

Small amount of undissolved filter in grid opening.

	Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
*	1.50	0.40	Not 5:1 ind. fibers not visible.	FNA1		ch
** individual fibers >5:1	5.50	2.10	B1	TPM2 FNA2		ch
individual fibers >5:1	2.30	0.50	B1	TPM3	1	ch
	3.20	0.10	F1	TPM4	1	ch
	9.0	0.20	B1	TPM5	1	ch
	5.80	0.12	F1	TPM6	1	ch

Total: 5

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID

Total: ____

Stephen,
Unless the first-sketched occurrence is counted as a structure, this opening does not meet the (6-40 str/g.o.) requirements for VAA.

Bob

* Fibers visible, must be counted as structure

** must be counted as 2 structure

Verified Counting Recording Sheet

Page 1 of 1

Filter ID: _____

Grid Box: 2004-2

Grid Slot: C3

Grid Sq: E16

Date: 11/17/04

Lab Code: 101920

No. Countable Struct: 7

Analyst: NW

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID	Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
1.3	0.4		TPM1 1	1	CH						
5.5	2.5	B-750	TPM2 1	1	CH						
1.0	0.3	B-4	TPM7	1	CH						
2.75	0.15		TPM4 1	1	CH						
2.5	0.7	B-15	TPM3 1	1	CH						
8.0	0.35	B-6	TPM5 1	1	CH						
5.5	0.1		1 TPM6	1	CH						

Total: 7

Total: _____

correct

Verified Counting Recording Sheet

Page 1 of 1

Filter ID: Q4
Grid Box: 2004-2
Grid Slot: C3
Grid Sq: E16

Date: 12/07/04
Lab Code: 101-32
No. Countable Struct: 7
Analyst: BI

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
1.75	0.48	B	TPM1	1	Ch
—	—	B1 B2		—	—
1.00	0.20	B1	TPM7	1	Ch
5.75	2.25	B2	TPM2	1	Ch
3.25	0.10	F	TPM4	1	Ch
2.50	0.50	B	TPM3	1	Ch
0.60	0.06	no internal structure. although has clear EDS. spectrum		NAM	

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
—	—	F1 B1	—	—	—
6.00	0.09	F1	TPM5	1	Ch
9.50	0.15	B1	TPM6	1	Ch
6.00	0.09				

Total: 5

Total: 2

correct

Recording sheet

Filter Iden.: 2004-2
Grid box: 2004-2
Grid slot: C3
Grid square: E18

Page 1 of 1
Grand totals:
Countable Struct.: 8
Occurrences: 8

Date: 9-22-04
Lab Code: ____
Single Verified
Analyst(s): MH

Length (um)	Width (um)	Sketch	Verification	# Countable Structures	# Occurrences	ID	Length (um)	Width (um)	Sketch	Verification	# Countable Structures	# Occurrences	ID
9.5	0.25		TPM1	1	1	ch							
2.4	0.13		TPM2	1	1	ch							
1.7	0.1		TPM3	1	1	ch							
4.9	0.5		TPM4	1	1	ch							
3.3	0.25		TPM5	1	1	ch							
2.2	0.3		TPM6	1	1	ch							
3.7	0.4		TPM7	1	1	ch							
2.5	0.15		TPM8	1	1	ch							

Totals: 8 8

Totals: ____ ____

Verified Counting Recording Sheet

Page 1 of 1

Filter ID: _____

Date: 11/17/04

Grid Box: 2004-2

Lab Code: 101920

Grid Slot: C3

No. Countable Struct: 9

Grid Sq: E1B

Analyst: DCW

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
9.0	0.75	B-20	TPM1 1	1	CH
2.5	0.1		TPM2 1	1	CH
1.5	0.1		TPM3 1	1	CH
4.5	0.6	B-15	TPM4 1	1	CH
2.75	0.25	B->5	TPM5 1	1	CH
* 0.6	0.15	B-3	Amb1 1	1	CH
2.0	0.3	B-5	TPM6 1	1	CH

Total: 7

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
2.5	0.1		TPM8 1	1	CH
3.5	0.15	B->10	TPM7 1	1	CH

Total: 2

* Ambig.

potential AMBIGUOUS. NO DISTINCT FIBERS BUT HAS MG: SI CHEMISTRY

Verified Counting Recording Sheet

Page 1 of 1

Filter ID: Q4

Grid Box: 2004-2

Grid Slot: C-3

Grid Sq: E-18

Date: 12/7/04

Lab Code: 101032

No. Countable Struct: 8

Analyst: RGS

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
8.90	0.65	B1	TPM1	1	ch
2.50	0.07	F1	TPM2	1	ch
1.40	0.08	F1	TPM3	1	ch
4.80	0.45	B1	TPM4	1	ch
3.30	0.20	B1	TPM5	1	ch
2.40	0.25	B1	TPM6	1	ch
3.80	0.30	B1	TPM8	1	ch

Total: 7

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
2.30	0.08	F1	TPM7	1	ch

Total: 1

correct

Verified Counting Recording Sheet

Page 1 of 1

Filter ID: Q4
Grid Box: 2004-~~3~~ 2 [illegible]
Grid Slot: C3
Grid Sq: E18

Date: 12/07/04
Lab Code: 101032
No. Countable Struct: 8
Analyst: BL

Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
		F	TPM2	1	ch
9.00	0.50	B	TPM1	1	ch
1.40	0.07	F	TPM3	1	ch
4.90	0.25	B	TPM4	1	ch
3.50	0.20	B	TPM5	1	ch
0.60	0.20	ratio <5:1		NAM	
2.50	0.25		TPM6	1	ch

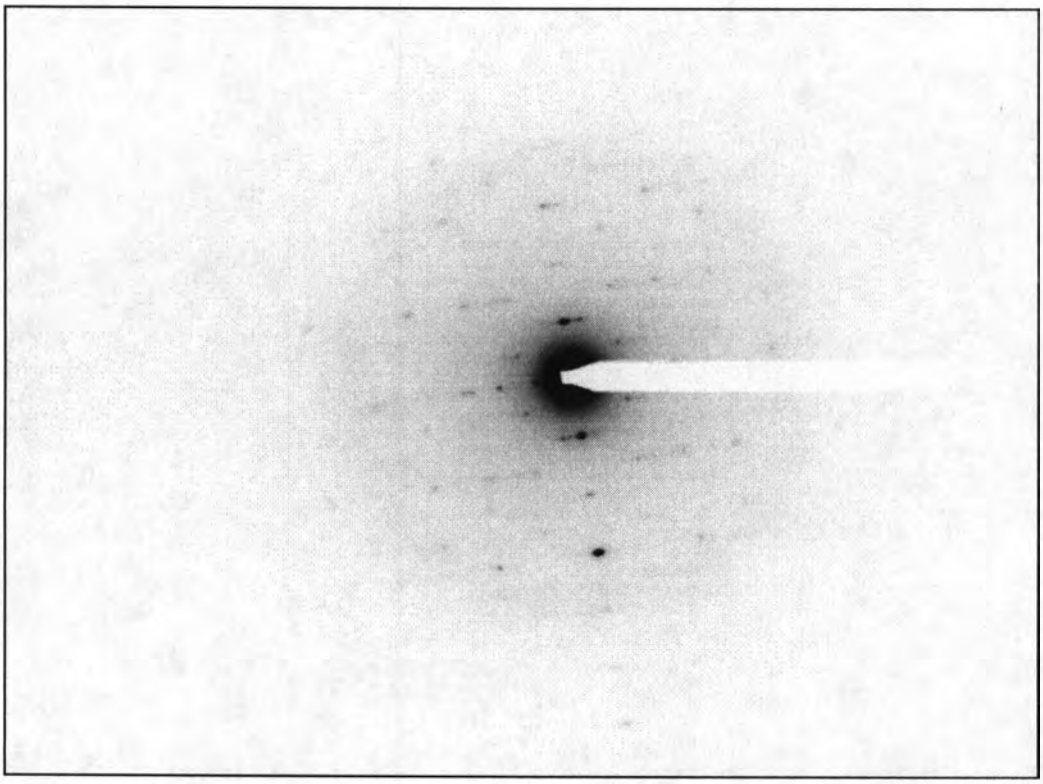
Total: 6

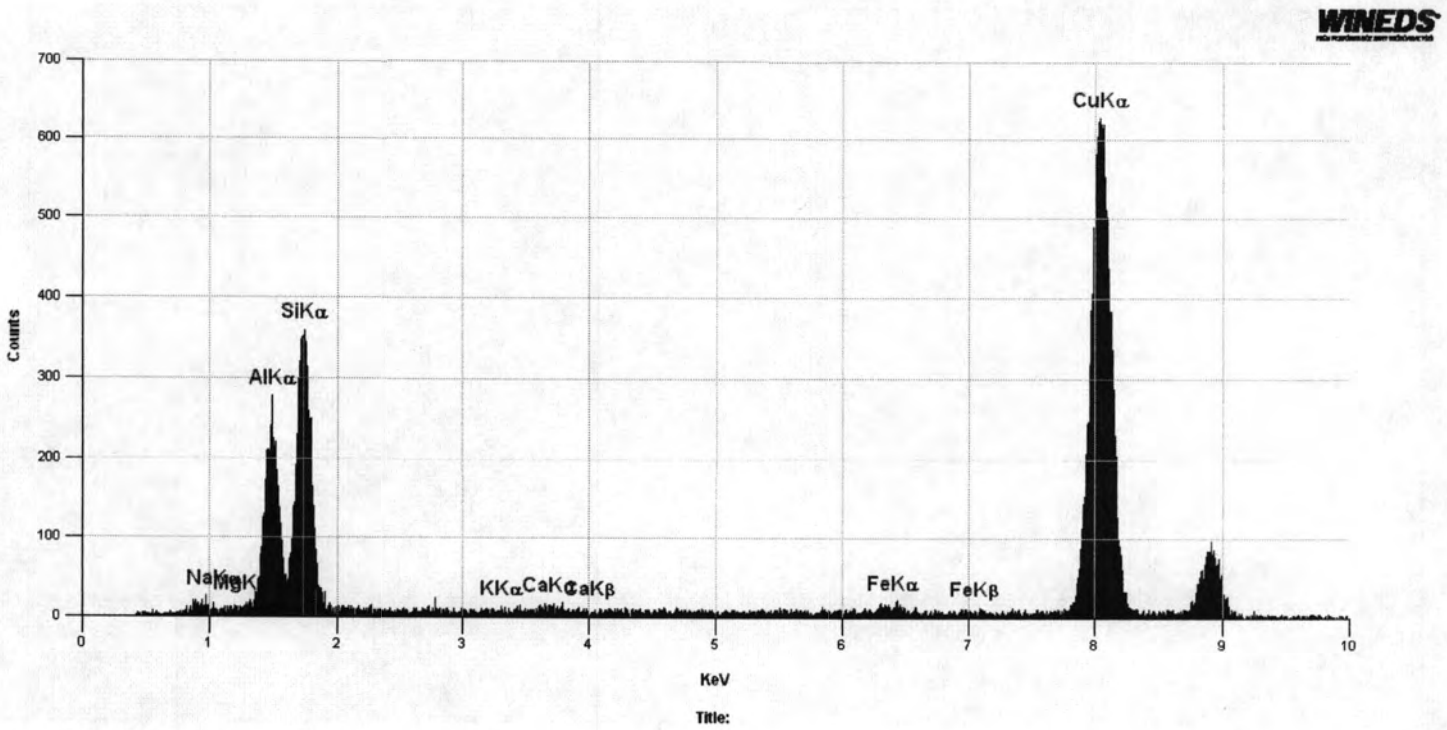
Length (µm)	Width (µm)	Sketch	Verification	# Countable Structures	ID
4.00	0.30	B	TPM7	1	ch
2.50	0.08		TPM8	1	ch

Total: 2

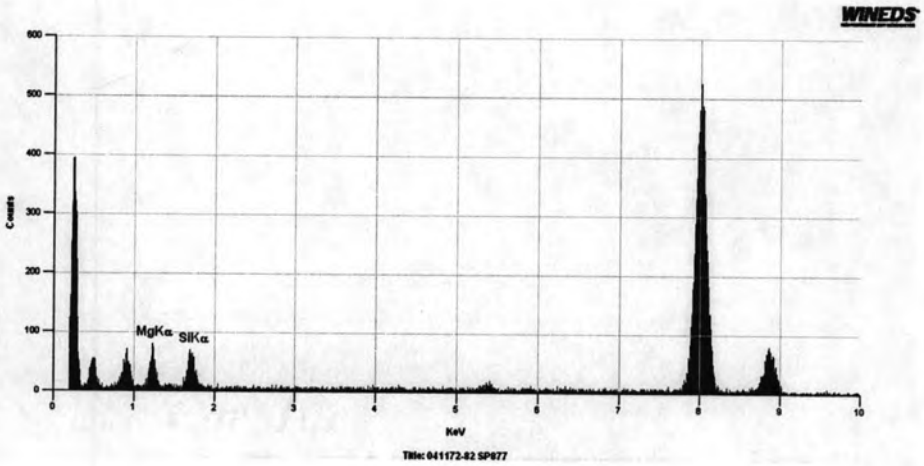
correct

CHRYSOTILE LOOKALIKE
Al:Si
Philips iTEM Image #P6





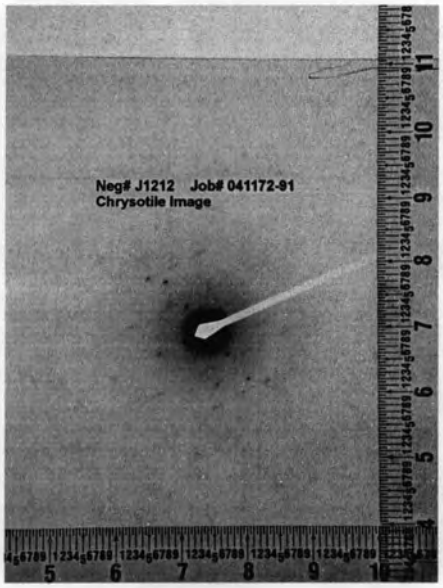
041172-82 Chrysotile Images

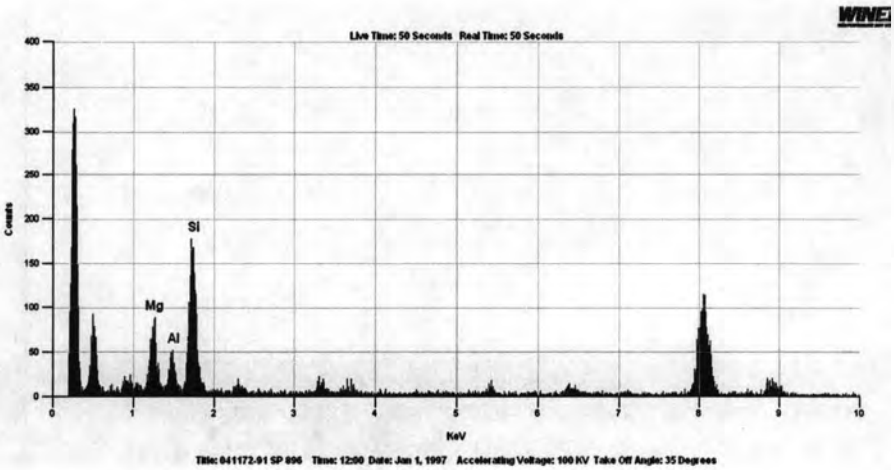


Quantitative Analysis Results - Standardless Analysis :
041172-82 SP877 Jan 1, 1997
EDS Parameters - 100KV, Takeoff Angle: 35.0°, Fit Index: 441.54
Correction: CLIFF LORIMER, Cycles: 1

Element	Atoms%	Compound	Weight%	Error(±)	Norm%
Mg	23.15	MgO	46.45	4.95	46.45
Si	17.90	SiO2	53.55	7.35	53.55
<Total>	100.00		100.00		100.00

041172-91 Chrysotile Images

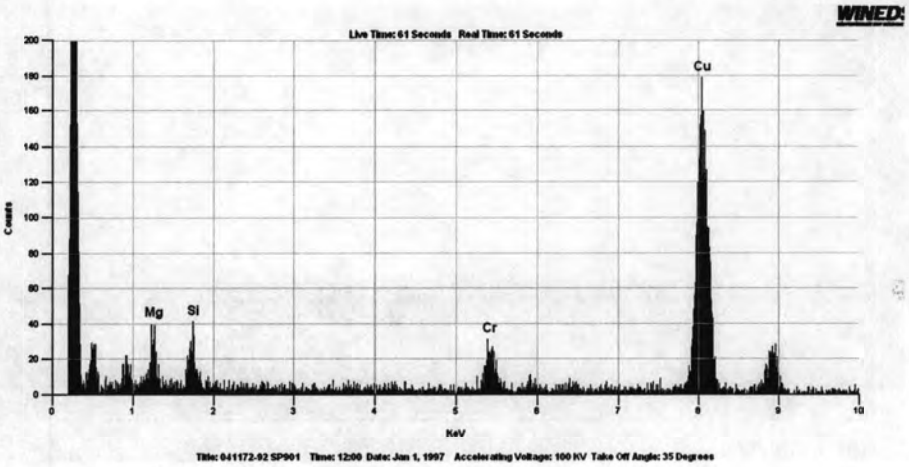




Quantitative Analysis Results - Standardless Analysis :
041172-91 SP 896 Jan 1, 1997
EDS Parameters - 100KV, Takeoff Angle: 35.0°, Fit Index: 247.03
Correction: CLIFF LORIMER, Cycles: 1

Element	Atoms%	Compound	Weight%	Error(±)	Norm%
Mg	10.85	MgO	21.78	1.76	21.78
Al	3.14	Al2O3	7.98	0.88	7.98
Si	23.48	SiO2	70.24	3.42	70.24
<Total>	100.00		100.00		100.00

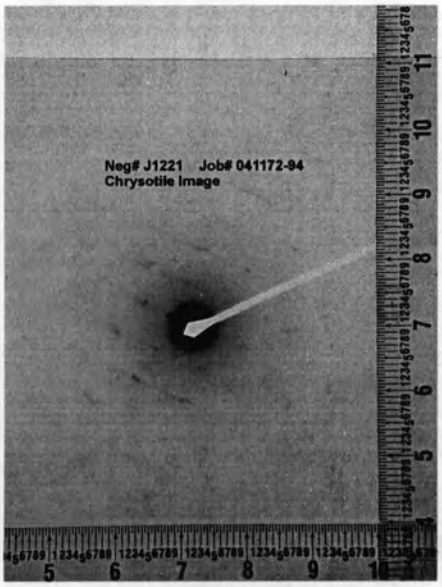
041172-92 Chrysotile Images

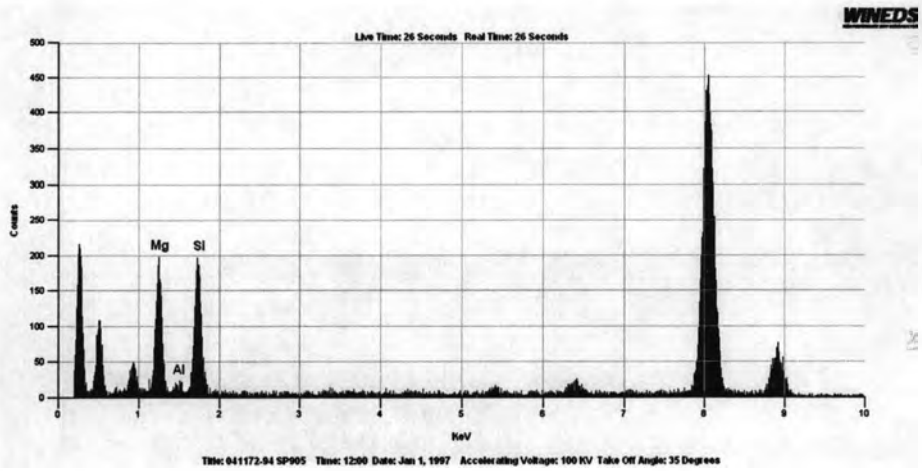


Quantitative Analysis Results - Standardless Analysis :
041172-92 SP901 Jan 1, 1997
EDS Parameters - 100KV, Takeoff Angle: 35.0°, Fit Index: 121.76
Correction: CLIFF LORIMER, Cycles: 1

Element	Atoms%	Compound	Weight%	Error(±)	Norm%
Mg	21.60	MgO	43.36	6.55	43.36
Si	18.93	SiO2	56.64	8.97	56.64
<Total>	100.00		100.00		100.00

041172-94 Chrysotile Images

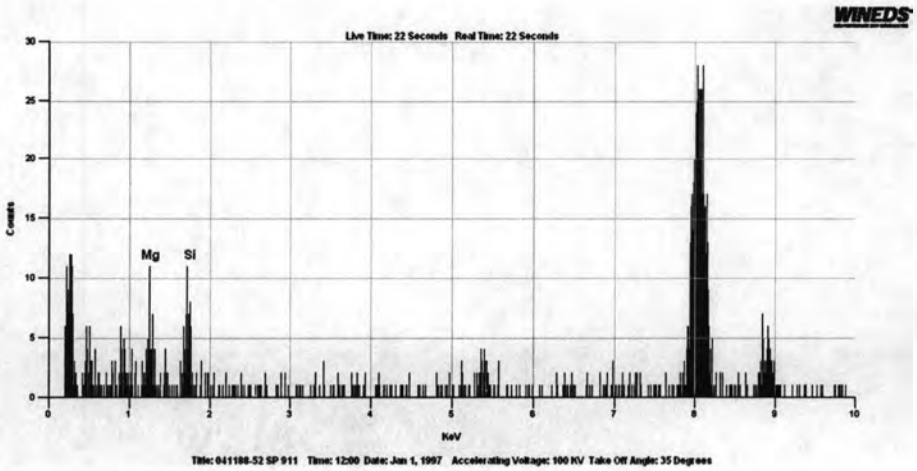




Quantitative Analysis Results - Standardless Analysis :
041172-94 SP905 Jan 1, 1997
EDS Parameters - 100KV, Takeoff Angle: 35.0°, Fit Index: 303.56
Correction: CLIFF LORIMER, Cycles: 1

Element	Atoms%	Compound	Weight%	Error(±)	Norm%
Mg	18.86	MgO	37.85	1.70	37.85
Al	1.13	Al2O3	2.87	0.49	2.87
Si	19.82	SiO2	59.28	2.58	59.28
<Total>	100.00		100.00		100.00

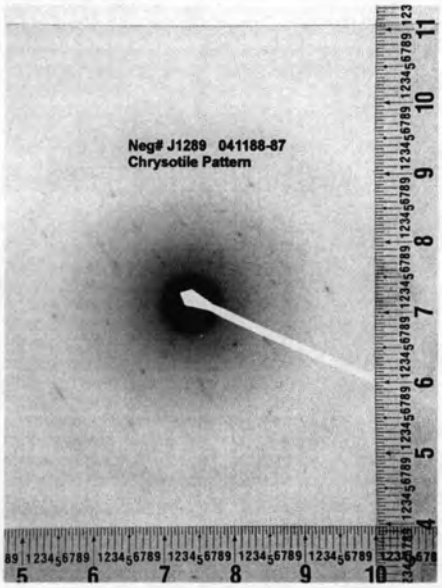
041188-52 Chrysotile Images

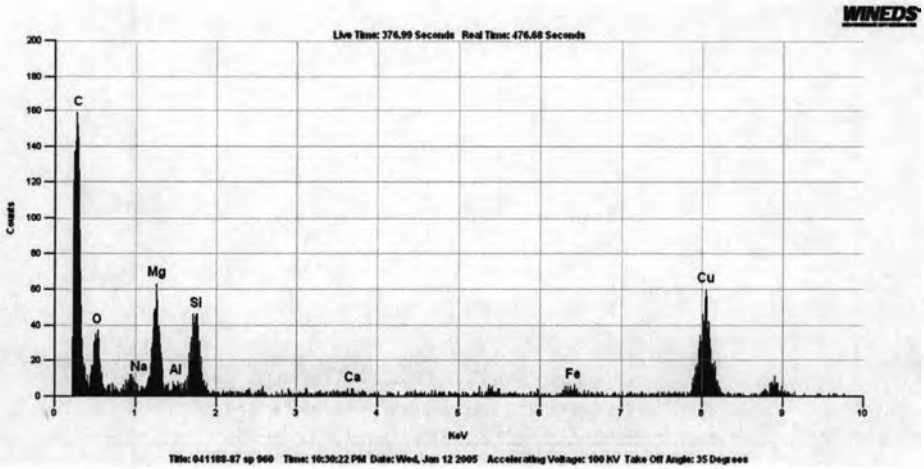


Quantitative Analysis Results - Standardless Analysis :
041188-52 SP 911 Jan 1, 1997
EDS Parameters - 100KV, Takeoff Angle: 35.0°, Fit Index: 309.83
Correction: CLIFF LORIMER, Cycles: 1

Element	Atoms%	Compound	Weight%	Error(±)	Norm%
Mg	21.70	MgO	43.56	12.13	43.56
Si	18.87	SiO2	56.44	17.07	56.44
<Total>	100.00		100.00		100.00

041188-87 Chrysotile Images

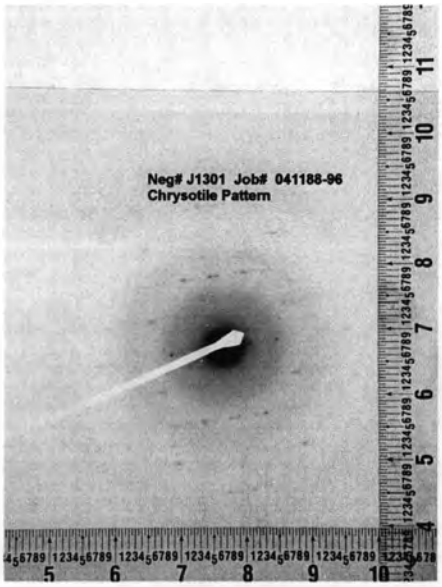


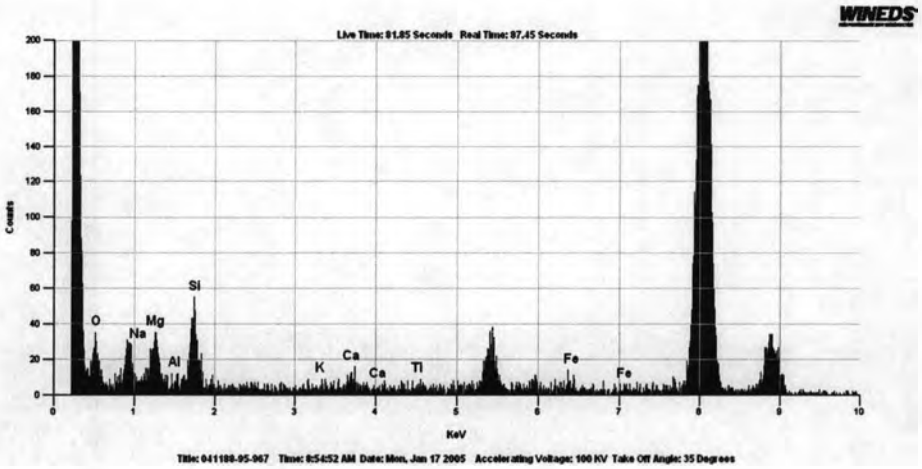


Quantitative Analysis Results - Standardless Analysis :
041188-87 sp 960 Wed, Jan 12 2005
EDS Parameters - 100KV, Takeoff Angle: 35.0°, Fit Index: 872.14
Correction: CLIFF LORIMER, Cycles: 1

Element	Atoms%	Compound	Weight%	Error(±)	Norm%
Mg	23.42	MgO	46.97	3.63	46.97
Al	0.73	Al2O3	1.86	1.15	1.86
Si	17.11	SiO2	51.17	5.31	51.17
<Total>	100.00		100.00		100.00

041188-96 Chrysotile Images

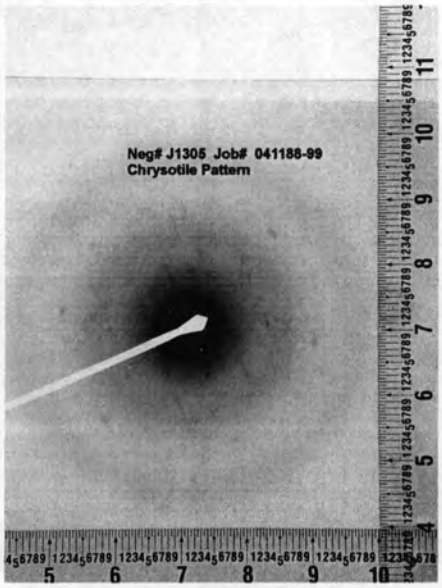


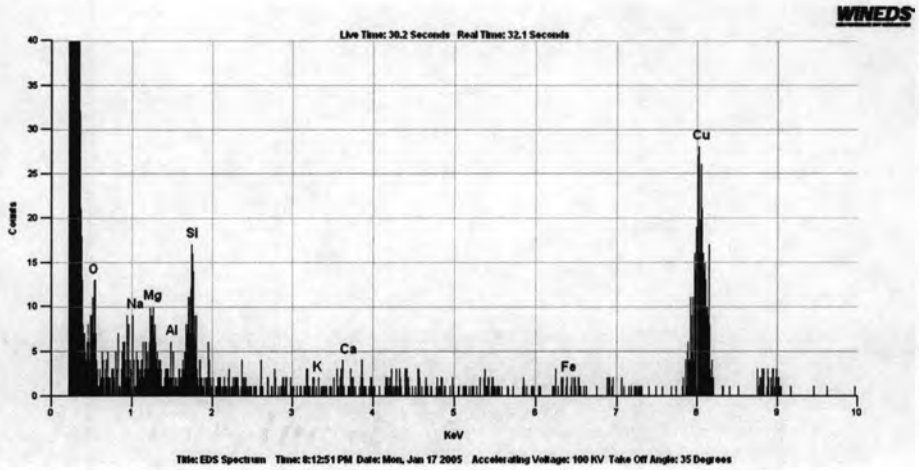


Quantitative Analysis Results - Standardless Analysis :
041188-95-967 Mon, Jan 17 2005
EDS Parameters - 100KV, Takeoff Angle: 35.0°, Fit Index: 575.15
Correction: CLIFF LORIMER, Cycles: 1

Element	Atoms%	Compound	Weight%	Error(±)	Norm%
Mg	13.14	MgO	24.91	4.18	24.91
Si	20.53	SiO2	58.00	6.83	58.00
Ca	3.01	CaO	7.94	3.23	7.94
Fe	2.44	Fe2O3	9.15	5.12	9.15
<Total>	100.00		100.00		100.00

041188-99 Chrysotile Images

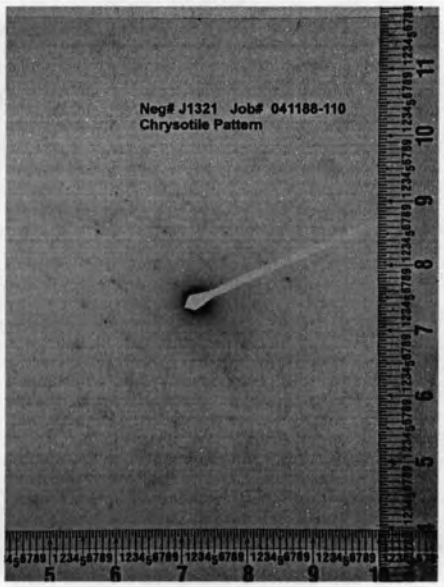


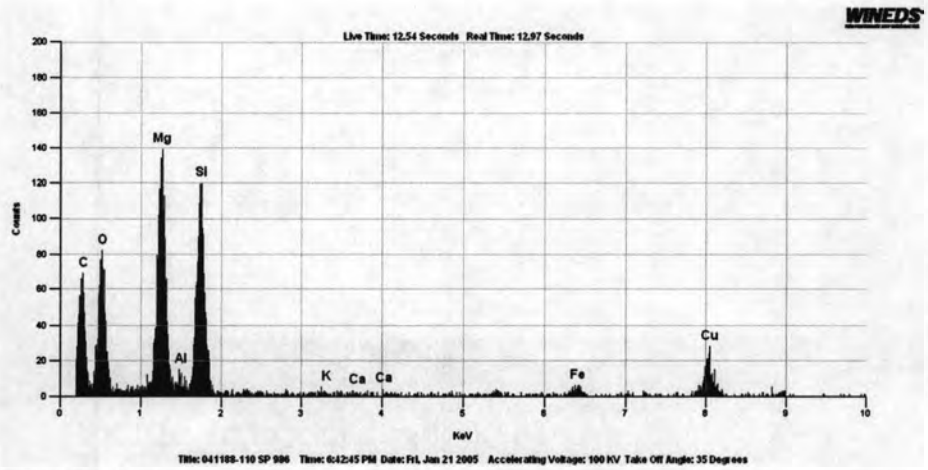


Quantitative Analysis Results - Standardless Analysis :
041188-99 SP 971 Mon, Jan 17 2005
EDS Parameters - 100KV, Takeoff Angle: 35.0°, Fit Index: 891.15
Correction: CLIFF LORIMER, Cycles: 1

Element	Atoms%	Compound	Weight%	Error(±)	Norm%
Mg	12.06	MgO	24.23	10.86	24.23
Si	25.29	SiO2	75.77	17.76	75.77
<Total>	100.00		100.00		100.00

041188-110 Chrysotile Images

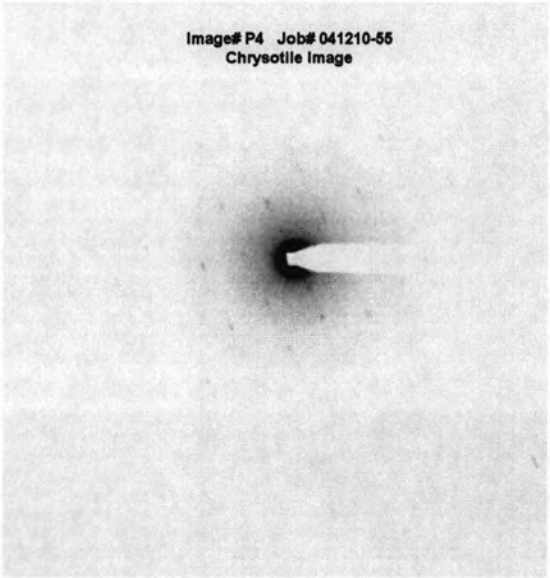


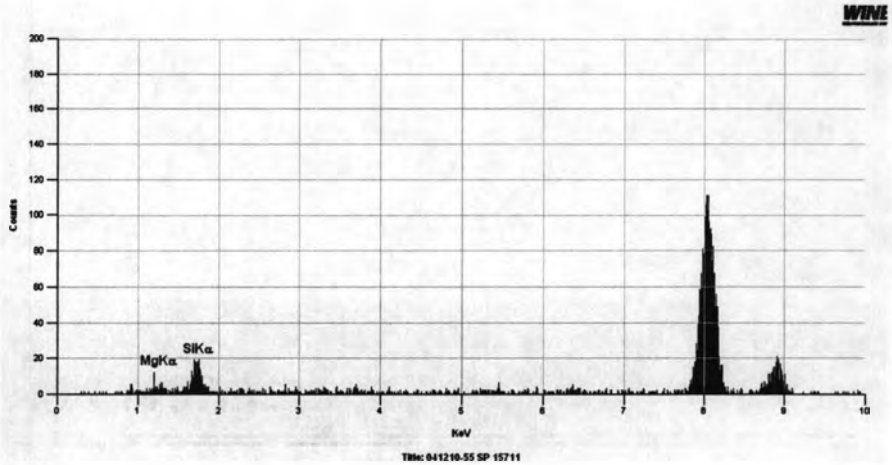


Quantitative Analysis Results - Standardless Analysis :
041188-110 SP 986 Fri, Jan 21 2005
EDS Parameters - 100KV, Takeoff Angle: 35.0°, Fit Index: 443.73
Correction: CLIFF LORIMER, Cycles: 1

Element	Atoms%	Compound	Weight%	Error(±)	Norm%
Mg	23.61	MgO	47.16	2.54	47.16
Al	0.26	Al2O3	0.67	0.62	0.67
Si	17.13	SiO2	51.01	3.19	51.01
Fe	0.29	Fe2O3	1.16	0.96	1.16
<Total>	100.00		100.00		100.00

041210-55 Chrysotile Images

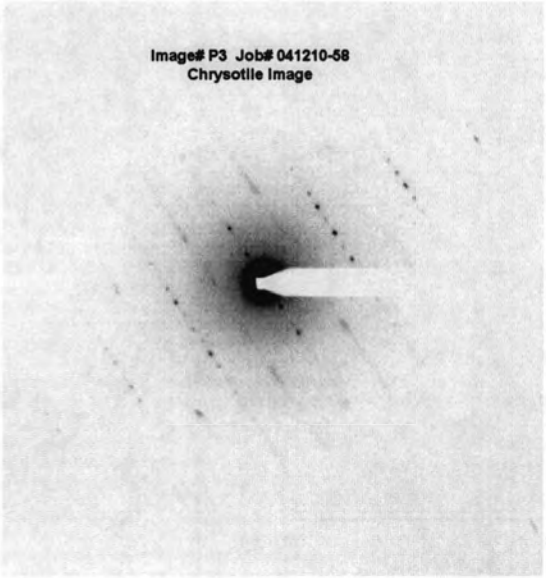


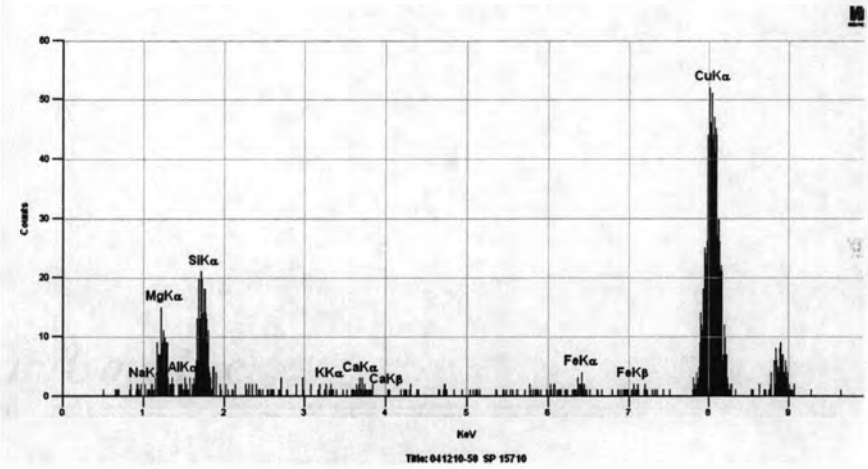


Quantitative Analysis Results - Standardless Analysis :
041210-55 SP 15711 Sat, Jan 29 2005
EDS Parameters - 100KV, Takeoff Angle: 38.0°, Fit Index: 51.26
Correction: CLIFF LORIMER, Cycles: 1

Element	Atoms%	Compound	Weight%	Error(±)	Norm%
Si	33.33	SiO2	100.00	21.46	100.00
<Total>	100.00		100.00		100.00

041210-58 Chrysotile Images





Quantitative Analysis Results - Standardless Analysis :
041210-58 SP 15710 Sat, Jan 29 2005
EDS Parameters - 100KV, Takeoff Angle: 38.0°, Fit Index: 51.27
Correction: CLIFF LORIMER, Cycles: 1

Element	Atoms%	Compound	Weight%	Error(±)	Norm%
Mg	17.67	MgO	35.49	8.74	35.49
Si	21.55	SiO2	64.51	11.27	64.51
<Total>	100.00		100.00		100.00

UNITED STATES DEPARTMENT OF COMMERCE
National Institute of Standards and Technology
Gaithersburg, Maryland 20899-

May 10, 2004

Mr. John Harris
Lab/Cor, Inc.
7619 Sixth Avenue, NW
Seattle, WA 98117

NVLAP Lab Code: 101920-0

Dear Mr. Harris:

On November 7, 2003, your laboratory was visited by an assessor representing the National Voluntary Laboratory Accreditation Program (NVLAP). The purpose of the visit was to assess your laboratory's compliance with NVLAP criteria for accreditation in the Airborne Asbestos Fiber Analysis (TEM) program.

I am pleased to inform you that the On-Site Assessment Review, which was completed on May 7, 2004, has found that your laboratory meets the on-site assessment requirements. No further action is required on your part, at this time, with regard to the on-site assessment phase of the evaluation of your laboratory.

If you have any questions, please call Thomas R. Davis at (301) 975-6499, or Hazel M. Richmond at (301) 975-3024.

Sincerely,

Warren R. Merkel, NVLAP Chief
Laboratory Accreditation Program

NIST

WADSWORTH CENTER
NEW YORK STATE DEPARTMENT OF HEALTH
ENVIRONMENTAL LABORATORY APPROVAL PROGRAM

Proficiency Test Report

Lab Id: 11747

EPA Lab Code:
Not on File

LABCOR INC
7619 SIXTH AVENUE NW
SEATTLE, WA-98117-4037
(206) 781-0155
Director: MR. JOHN HARRIS

Shipment Date : 07-Sep-2004
Closing Date : 22-Oct-2004
Score Date : 09-Nov-2004

This report may contain data that are not covered by the NVLAP accreditation.
** Indicates NVLAP accredited analyte evaluated using the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document.
NVLAP Lab Code 200387-0. ELAP is an A2LA accredited Proficiency Testing Provider. Certificate Number 1785.01

Shipment: 276 Asbestos in Air, Water, and NonFriable Samples by Electron Microscopy

Analyte Name	Units	Sample ID	Method	Result	Mean/ Target *	Warning Limits	Acceptance Limits	Score
Sample: Air and Emissions Asbestos in Air by TEM								
Asbestos in Air by TEM EPA Code: N/A	Struct/	1728	40 CFR APX A No. III	41.4	88.4		D.L. - 196 *28 passed out of 29 reported results.*	Satisfactory
Dominant Asbestos Type EPA Code: N/A		1728	40 CFR APX A No. III	Act	Act		*16 passed out of 29 reported results.*	Satisfactory
Dominant Asbestos Type EPA Code: N/A		1987	40 CFR APX A No. III	Amosite	Amosite		*27 passed out of 29 reported results.*	Satisfactory
Asbestos in Air by TEM EPA Code: N/A	Struct/	1987	40 CFR APX A No. III	10741	8040		660 - 15400 *29 passed out of 29 reported results.*	Satisfactory
Sample: Solid and Hazardous Waste Asbestos in Non-Friable Material								
Percent Asbestos in Residue EPA Code: N/A	%	1785	ITEM 198.4 OF MANUAL	60	47.7		D.L. - 98.7 *29 passed out of 29 reported results.*	Satisfactory
Percent Residue EPA Code: N/A	%	1785	ITEM 198.4 OF MANUAL	54.51	63.3		28.8 - 97.8 *28 passed out of 29 reported results.*	Satisfactory
Percent Residue EPA Code: N/A	%	5706	ITEM 198.4 OF MANUAL	17.71	18.0		13.2 - 22.8 *28 passed out of 29 reported results.*	Satisfactory
Percent Asbestos in Residue EPA Code: N/A	%	5706	ITEM 198.4 OF MANUAL	55	38.7		D.L. - 93.9 *29 passed out of 29 reported results.*	Satisfactory
Sample: Potable Water Asbestos in Water by TEM								
Asbestos in Water by TEM ** EPA Code: 0253	MF/L	4233	EPA 100.2	8.179	3.00 *		D.L. - 19.8 *22 passed out of 23 reported results.*	Satisfactory