SDMS # 2146408

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SFUND RECORDS CTR
2146408

Response of RJ Lee Group to EPA Region 9 (Meer) Letter dated March 9, 2006

Regarding Evaluation of EPA's Analytical Data from the El Dorado Hills Asbestos Evaluation Project

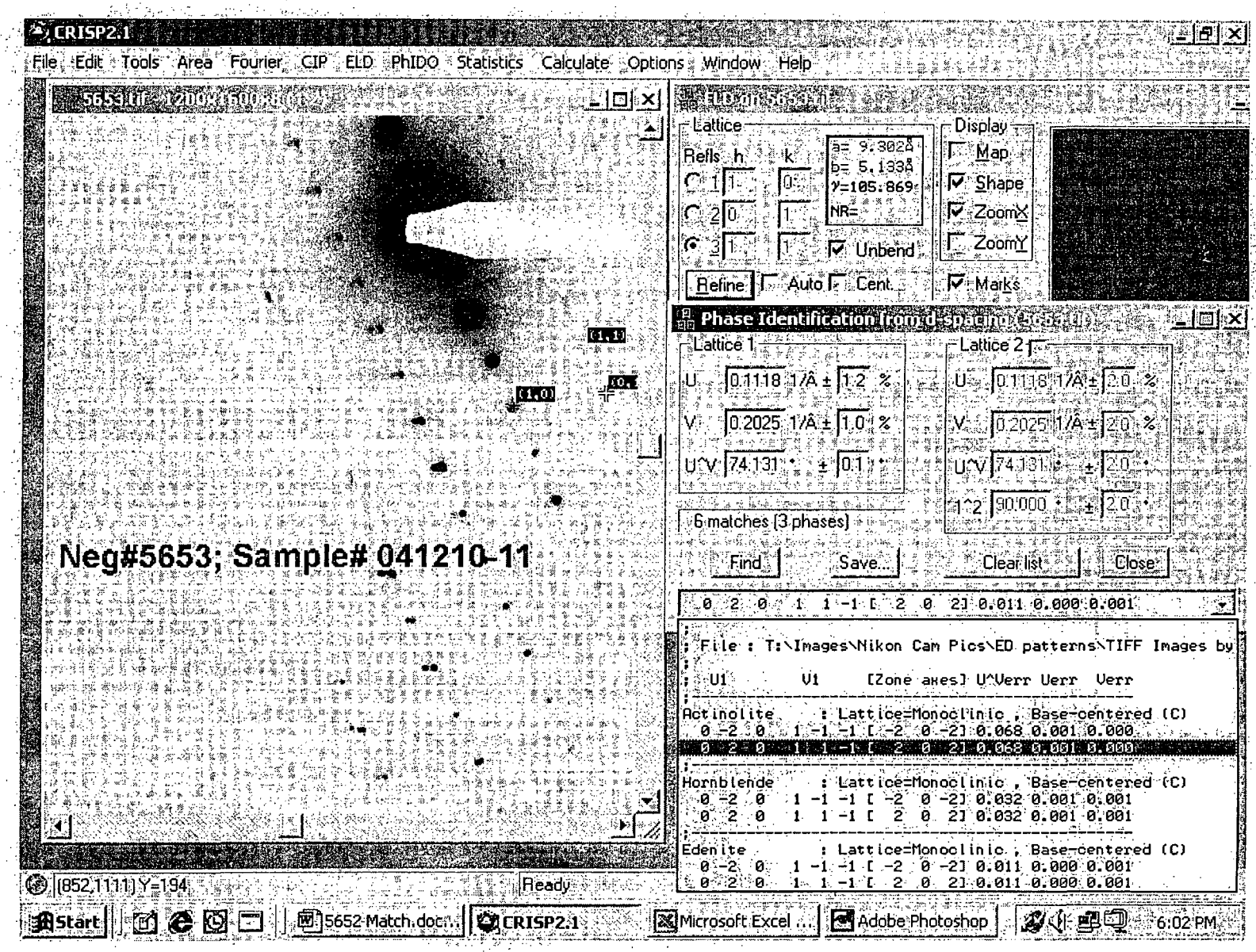
Exhibit C *1.2.4g*

Lab/Cor particles identified as actinolite when hornblende was the better SAED match

Date: July 2006

Prepared by:
RJ Lee*Group*, Inc.
350 Hochberg Rd.
Monroeville, PA 15146
www.rjlg.com

Neg#5653; Sample# 041210-11
ACTINOLITE
[1 0 1]



[illegible]

[illegible]

Element	Mass Fraction	
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

[illegible]

EXEC[illegible] 241210-11 SP795

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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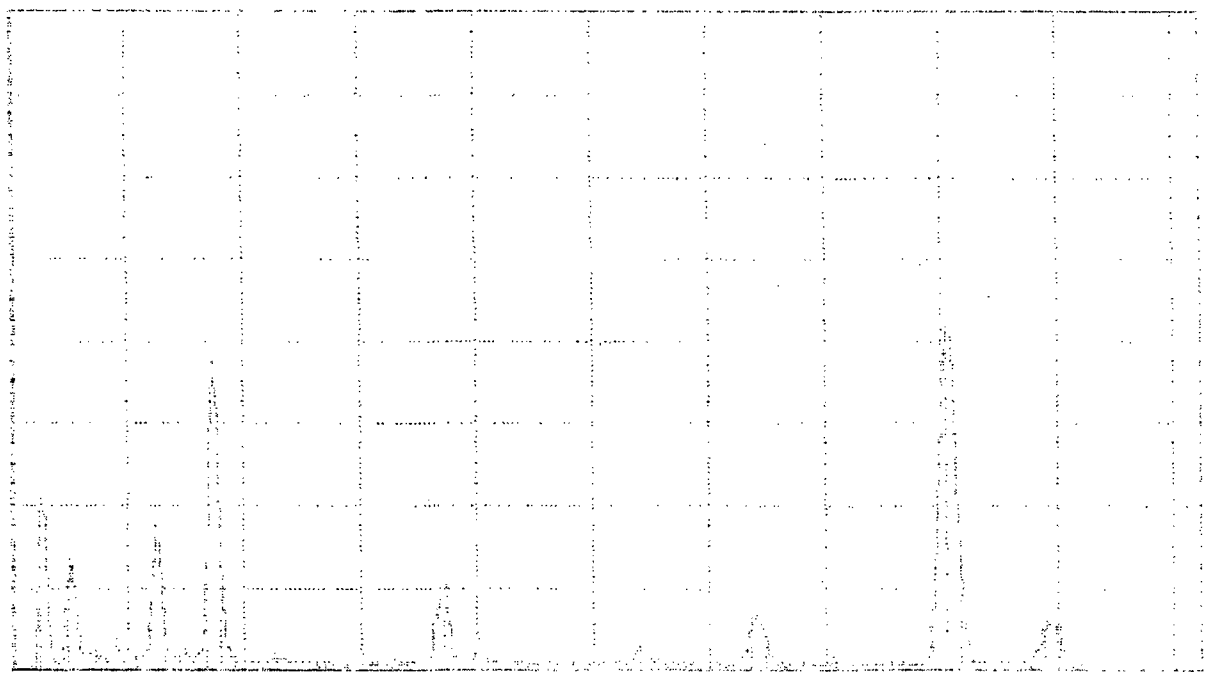
[illegible]



[illegible]

[illegible] 241210-11 SP795

[illegible]

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	55.84	Si+4	7.7710	7.7710							
Al2O3	0.91	Al+3	0.1492	0.1492	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	15.08	Fe+3	0.7738			0.7738	0.0000				
MgO	16.79	Mg+2	3.4834			3.4834	0.0000				
MnO	0	Fe+2	0.8950			0.7428	0.1521				
CaO	11.37	Mn+2	0.0000			0.0000	0.0000				
Na2O	0	Ca+2	1.6952					1.6952	0.0000		
K2O	0	Na+	0.0000					0.0000	0.0000	0.0000	0.0000
		K+	0.0000							0.0000	0.0000
Total	99.99		Excess	T site	0.0000	C site	0.1521	B site	0	A site	0
			Total	7.9202		5.0000		1.6952		0.0000	0.0000
			%Fill	99.003		100		84.7583			

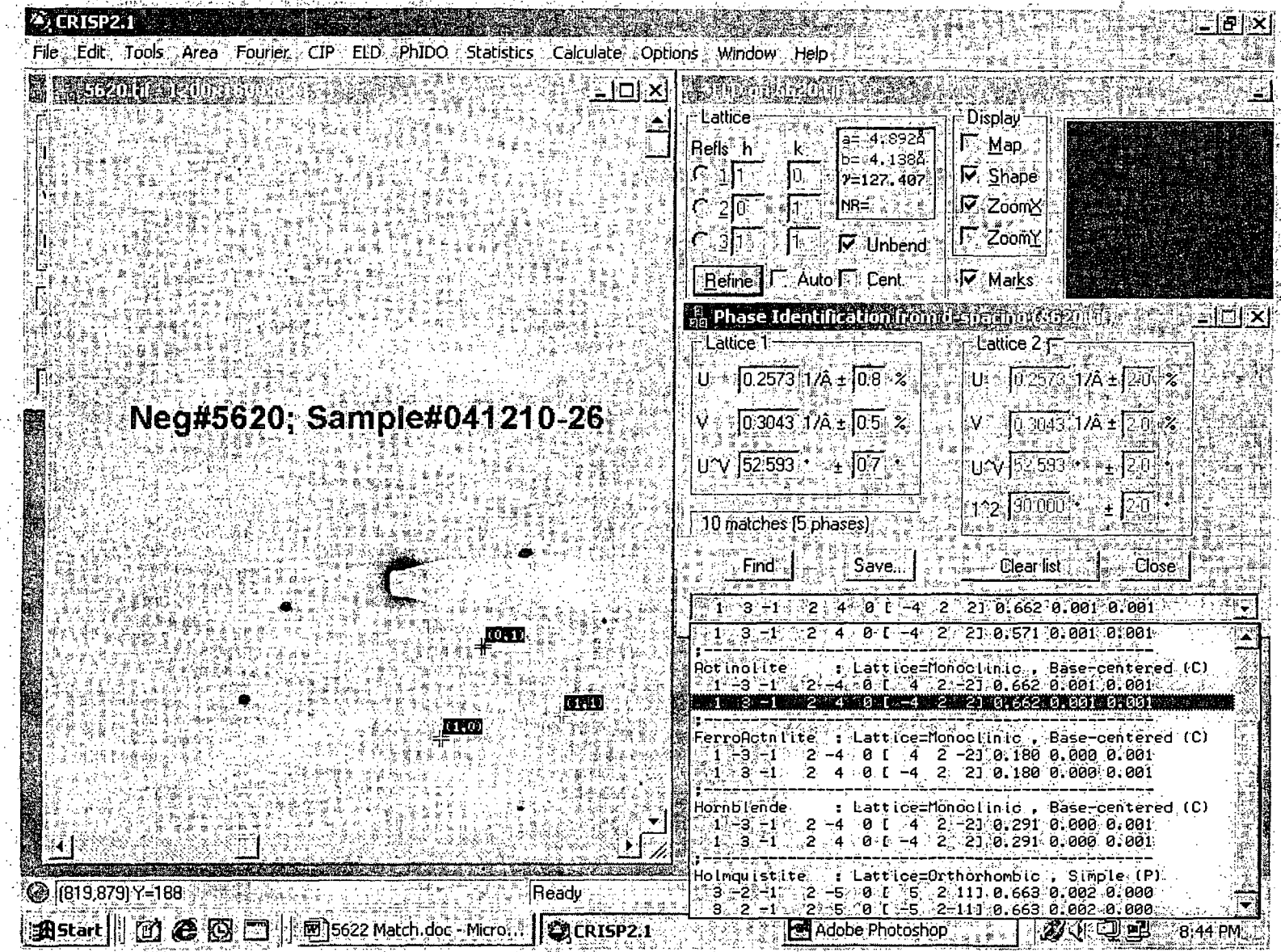
Prefix none
Name actinolite
Modifier Ferrian
Group Calcic Amphibole

Sample # 041210-11-795

Values		Satisfied Conditions
(Ca,Na)@B	1.70	(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	1.70	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.00	Si > 7.5
Mg/(Mg+Fe2)	0.80	(Mg/(Mg+Fe2))< 0.9
Si	7.77	

Mineral Analysis Program (Version 5.0)

Neg#5620; Sample# 041210-26
ACTINOLITE
[-2 1 1]

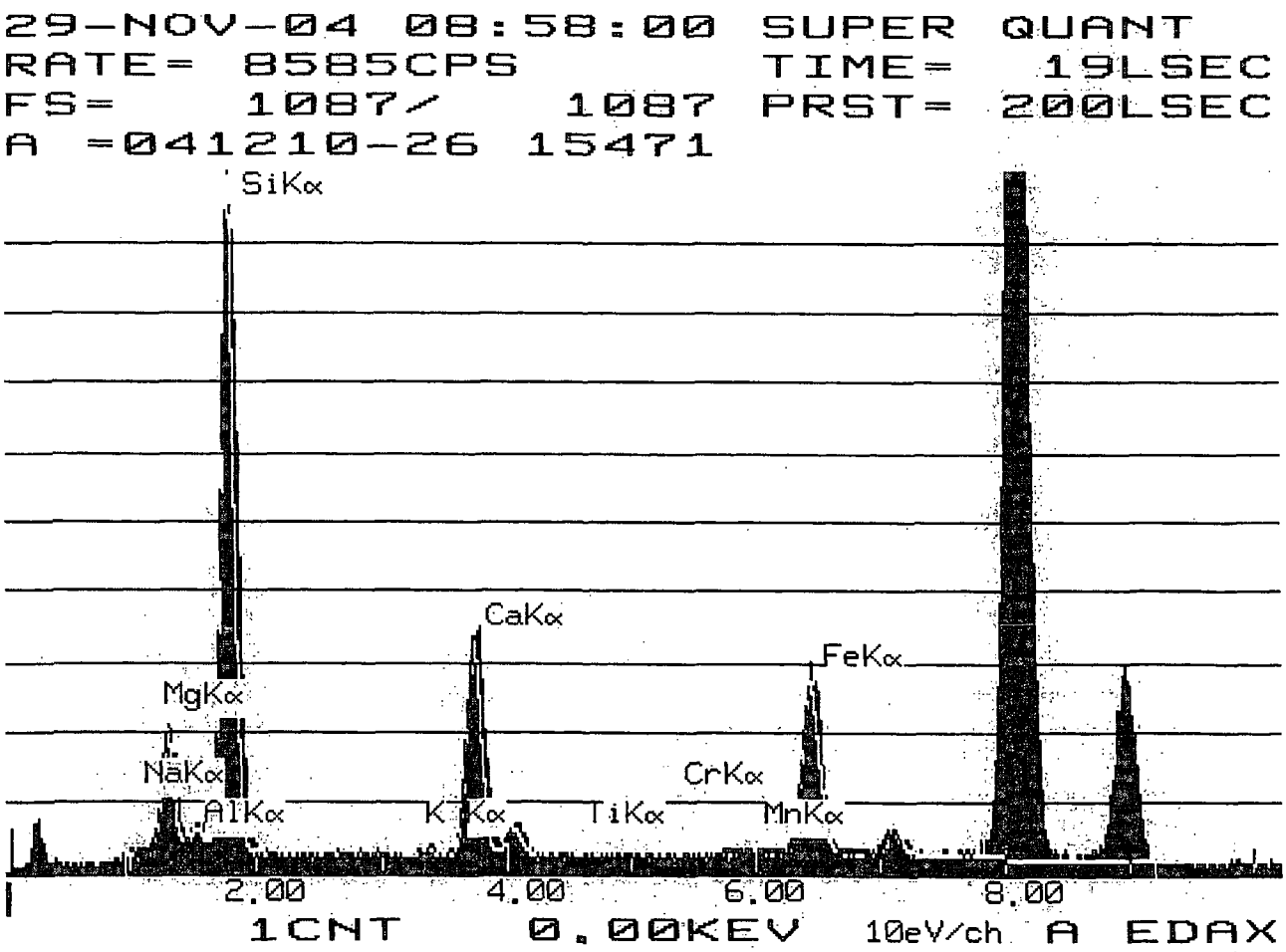


INTE-% :
LABEL = 041210-26 15471
30-NOV-72 08:57:29
19.065 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	95.200	7.824	12.974
ALK	16.680	0.823	1.556
SIK	571.621	26.424	56.529
K K	4.773	0.367	0.442
CAK	209.965	9.254	12.948
FEK	185.785	10.877	15.552

TOTAL			100.000

USED PEIF: USER



	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	56.529	Si+4	8.0000	8.0000							
Al2O3	1.556	Al+3	0.2606	0.0000	**0.2606**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	15.552	Fe+3	0.0171			0.0171	0.0000				
MgO	12.974	Mg+2	2.7421			2.7421	**0.0000**				
MnO	0	Fe+2	1.8250			1.8250	**0.0000**				
CaO	12.948	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	1.9666					1.9666	0.0000		
K2O	0.442	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0807							0.0807	0.0000
Total	**100.001**		**Excess**	T site	**0.2606**	C site	**0.0000**	B site	**0**	A site	**0**
			Total	**8**		**4.8448**		**1.9666**		**0.0807**	**0.0000**
			%Fill	**100**		**96.8963**		**98.3297**			

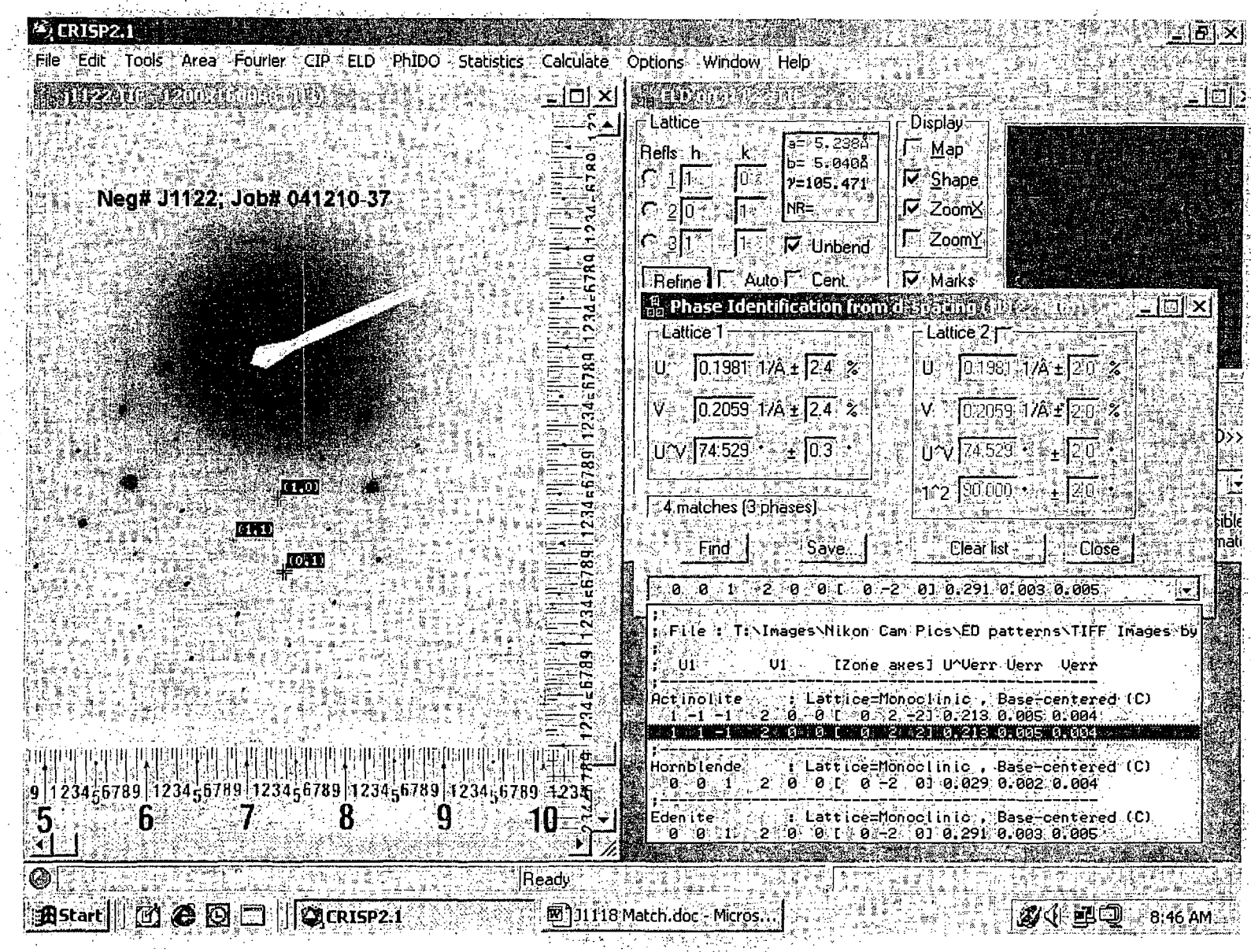
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041210-26-15471**

Values		Satisfied Conditions
(Ca,Na)@B	1.97	(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	1.97	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.08	Si > 7.5
Mg/(Mg+Fe2)	0.60	(Mg/(Mg+Fe2))< 0.9
Si	8.00	

Mineral Analysis Program (Version 5.0)

ACTINOLITE
[0 1 1]



[illegible]

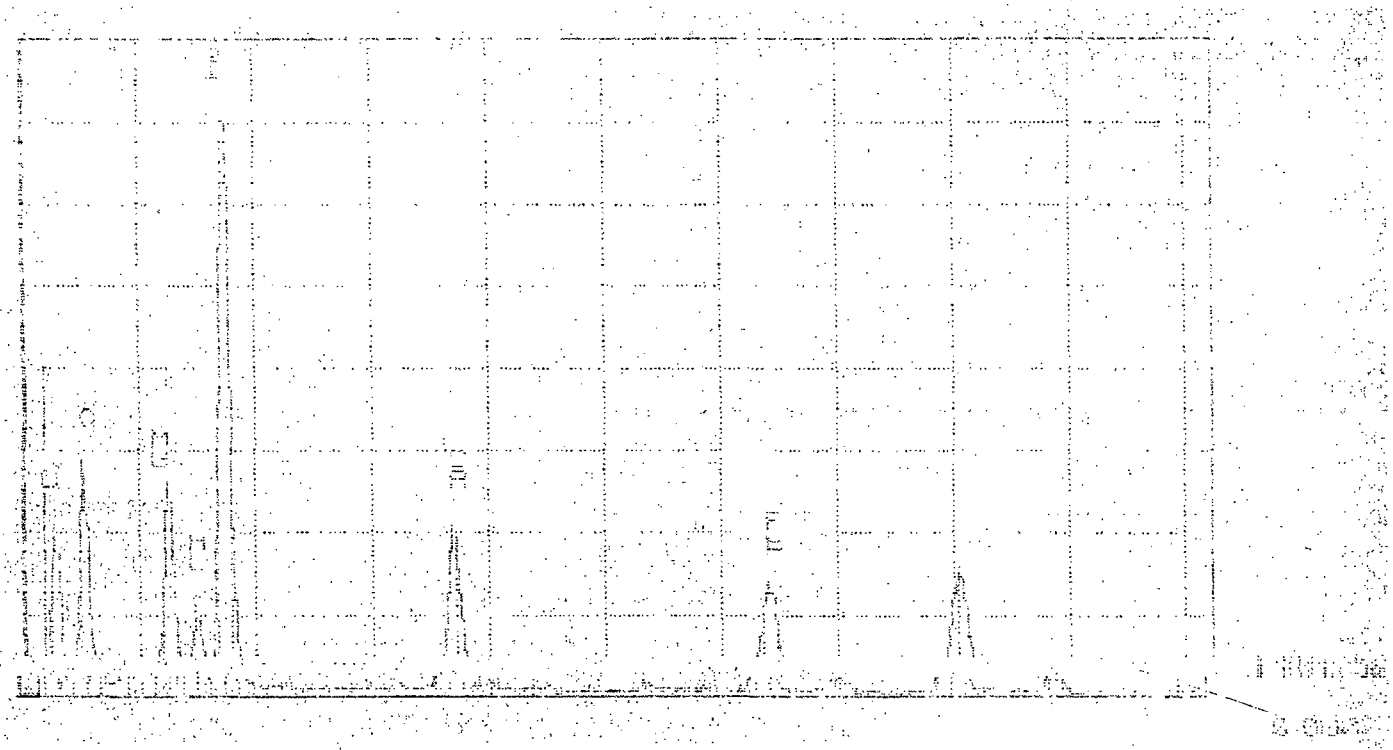
Element	Net Counts	
Si-K	4945.4/- [illegible]	147
Mg-K	1507.4/- [illegible]	100
Al-K	542 +/- [illegible]	54
Ca-K	1139.4/- [illegible]	60
Fe-K	1547.4/- [illegible]	77
Na-K	[illegible]	68
Cl-K	0 +/-	0

Net.3	Peak/Bkg	Elm+Bkg	Elm/Bkg	Elm/Bkg	Elm/Bkg	Elm+Bkg
Elm+Bkg						

[illegible] 07 [illegible]

El-Line	Peak	K-Factor	Cell/Coff	Atomic	El Wt%	Wt%	Formula
Si-K	4945	1.0000	1.000	[illegible]	[illegible]	[illegible]	[illegible]
Mg-K	1507	1.0000	[illegible]	[illegible]	[illegible]	[illegible]	MgO
Al-K	542	0.7500	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Ca-K	1139	0.949	[illegible]	[illegible]	[illegible]	[illegible]	CaO
Fe-K	1547	1.0000	0.947	[illegible]	[illegible]	[illegible]	[illegible]
Na-K	147	0.549	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Cl-K	0	1.0000	0.000	[illegible]	[illegible]	0.00	[illegible]
[illegible]			1.776	[illegible]	[illegible]		

[illegible]



15 041217 37 [illegible]

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	53.71	Si+4	7.6473	7.6473							
Al2O3	3.88	Al+3	0.6510	0.3527	0.2983						
TiO2	0	Ti+4	0.0000	0.0000	0.0000						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	16.02	Fe+3	0.0515			0.0515	0.0000				
MgO	13.2	Mg+2	2.8019			2.8019	0.0000				
MnO	0	Fe+2	1.8501			1.8483	0.0017				
CaO	12.35	Mn+2	0.0000			0.0000	0.0000				
Na2O	0.84	Ca+2	1.8838					1.8838	0.0000		
K2O	0	Na+	0.2319					0.1145	0.1174	0.1174	0.0000
		K+	0.0000							0.0000	0.0000
Total	100		Excess	T site	0.2983	C site	0.0017	B site	0.1174149	A site	0
			Total	8		5.0000		1.9983		0.1174	0.0000
			%Fill	100		100		99.9135			

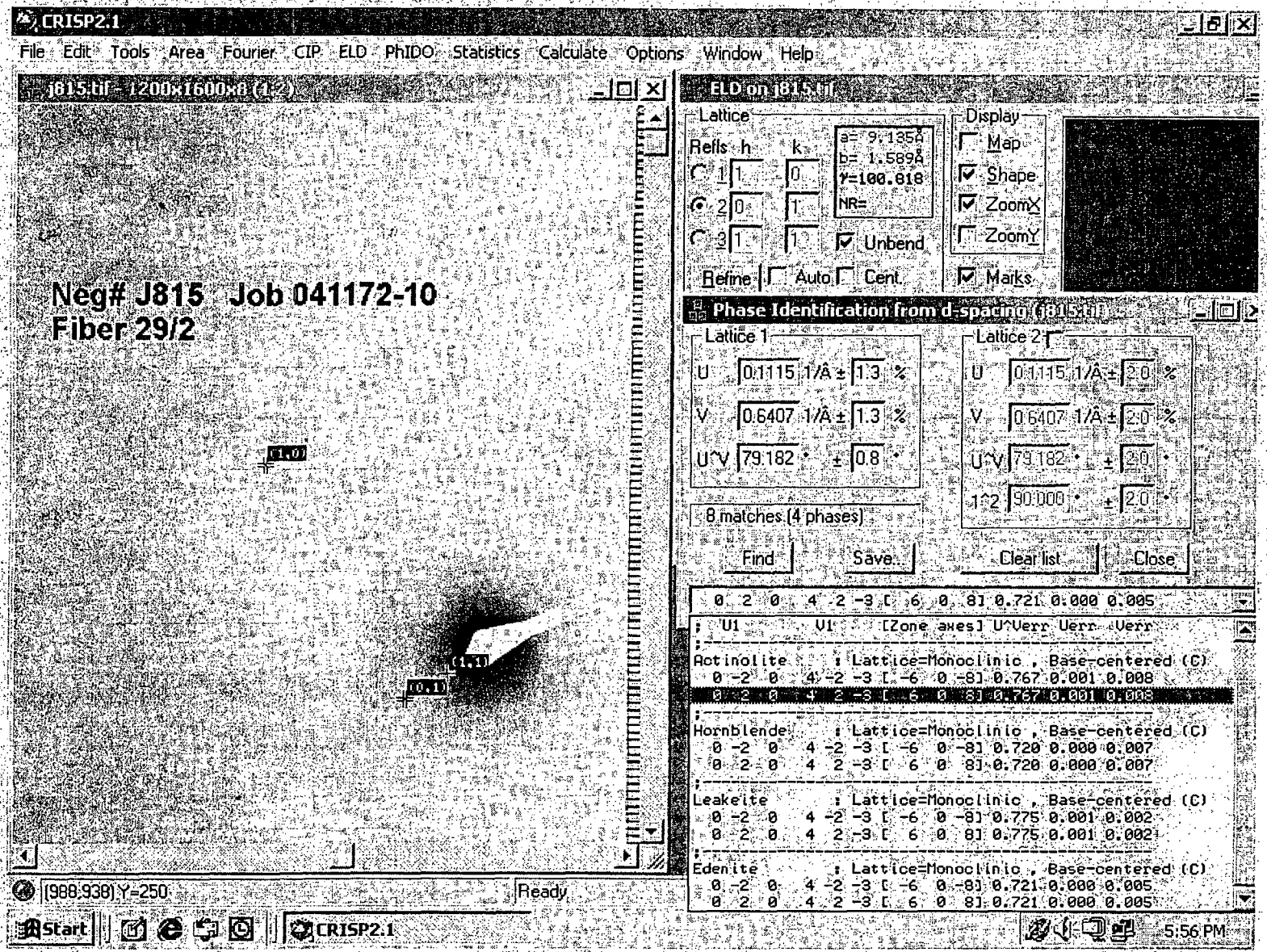
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

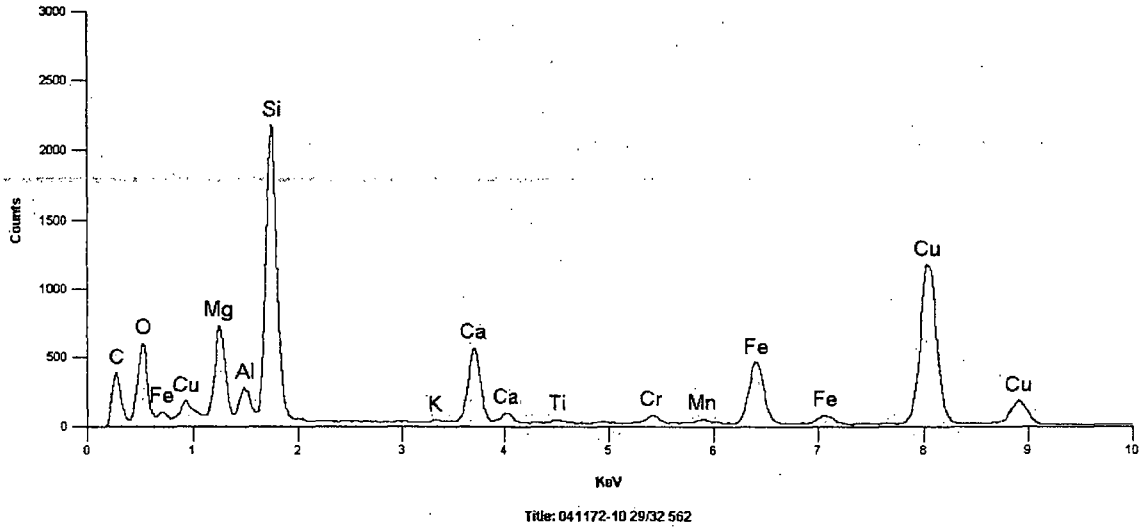
Sample # 041210-37-818

Values		Satisfied Conditions
(Ca,Na)@B	2.00	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.11	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.88	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.12	Si > 7.5
Mg/(Mg+Fe2)	0.60	(Mg/(Mg+Fe2))< 0.9
Si	7.65	

Mineral Analysis Program (Version 5.0)

ACTINOLITE
[304]





Quantitative Analysis Results - Standardless Analysis :
Spectrum2 041172-10 29/32 562 Jan 1, 1997
EDS Parameters - 18KV, Takeoff Angle: 28.2°, Fit Index: 171.25
Correction: CLIFF LORIMER, Cycles: 1

Element	Atoms%	Compound	Weight%	Error(±)	Norm%
Mg	25.67	MgO	33.16	0.12	18.34
Al	2.88	Al2O3	4.71	0.04	2.60
Si	51.01	SiO2	98.21	0.20	54.32
K	0.27	K2O	0.41	0.02	0.23
Ca	9.53	CaO	17.13	0.08	9.47
Fe	10.63	Fe2O3	27.20	0.15	15.04
<Total>	100.00		180.81		100.00

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	54.32	Si+4	7.5444	7.5444							
Al2O3	2.6	Al+3	0.4256	0.4256	**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	15.04	Fe+3	0.7702			0.7702	0.0000				
MgO	18.34	Mg+2	3.7974			3.7974	**0.0000**				
MnO	0	Fe+2	0.8908			0.4324	**0.4584**				
CaO	9.47	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	1.4091					1.4091	0.0000		
K2O	0.23	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0407							0.0407	0.0000
Total	**100**		**Excess**	T site	**0.0000**	C site	**0.4584**	B site	**0**	A site	**0**
			Total	**7.9699**		**5.0000**		**1.4091**		**0.0407**	**0.0000**
			%Fill	**99.624**		**100**		**70.4538**			

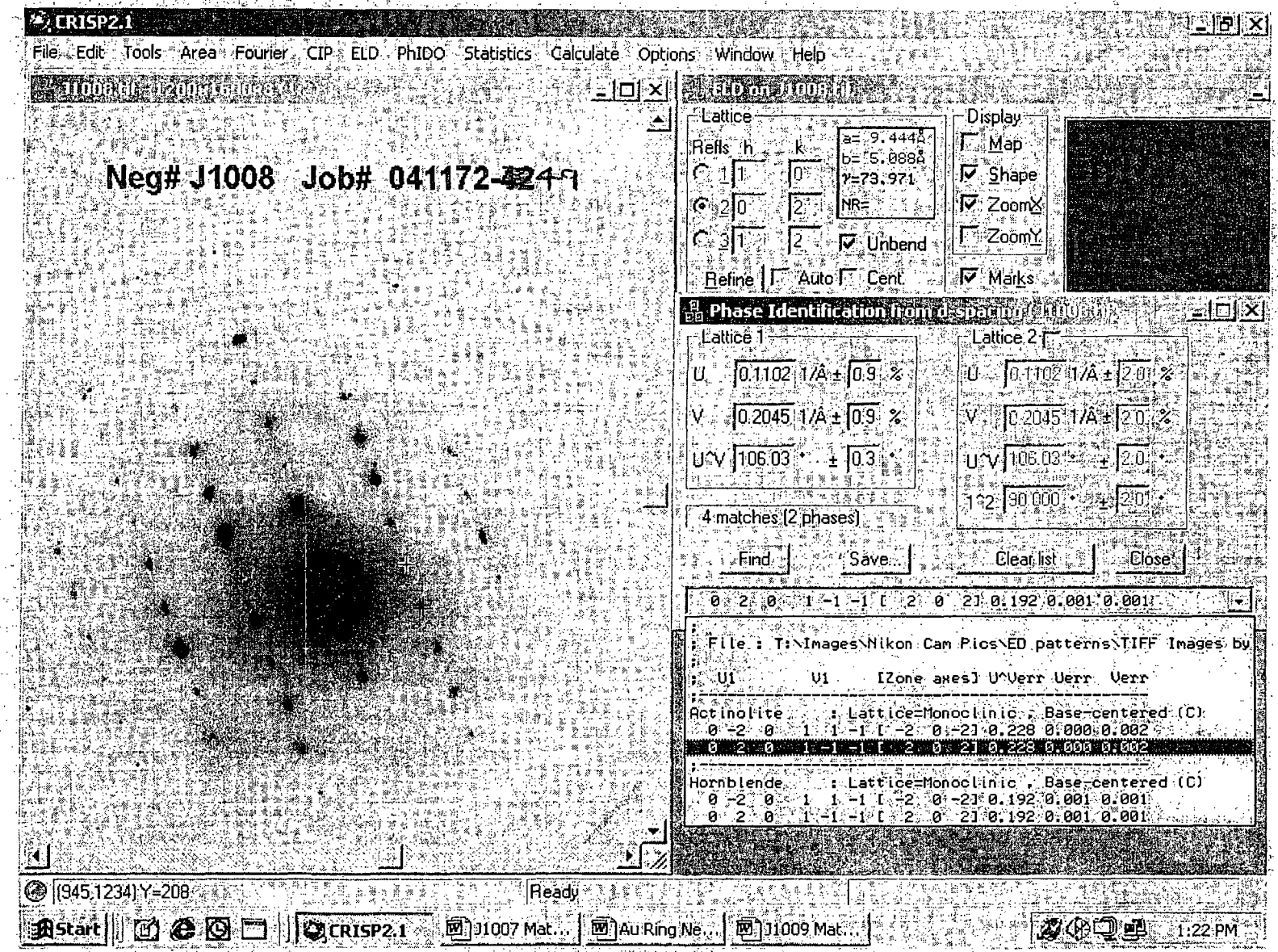
Prefix none
Name probable actinolite Ca values below optimal levels
Modifier Ferrian
Group Calcic Amphibole

Sample # **041172-10-29**

Values		Satisfied Conditions
(Ca,Na)@B	1.41	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.00	1 < Ca@B < 1.5 and (Na,K)@A < 0.5
Ca@B	1.41	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.04	Si > 7.5
Mg/(Mg+Fe2)	0.81	(Mg/(Mg+Fe2))< 0.9
Si	7.54	

Mineral Analysis Program (Version 5.0)

ACTINOLITE
[1 0 1]

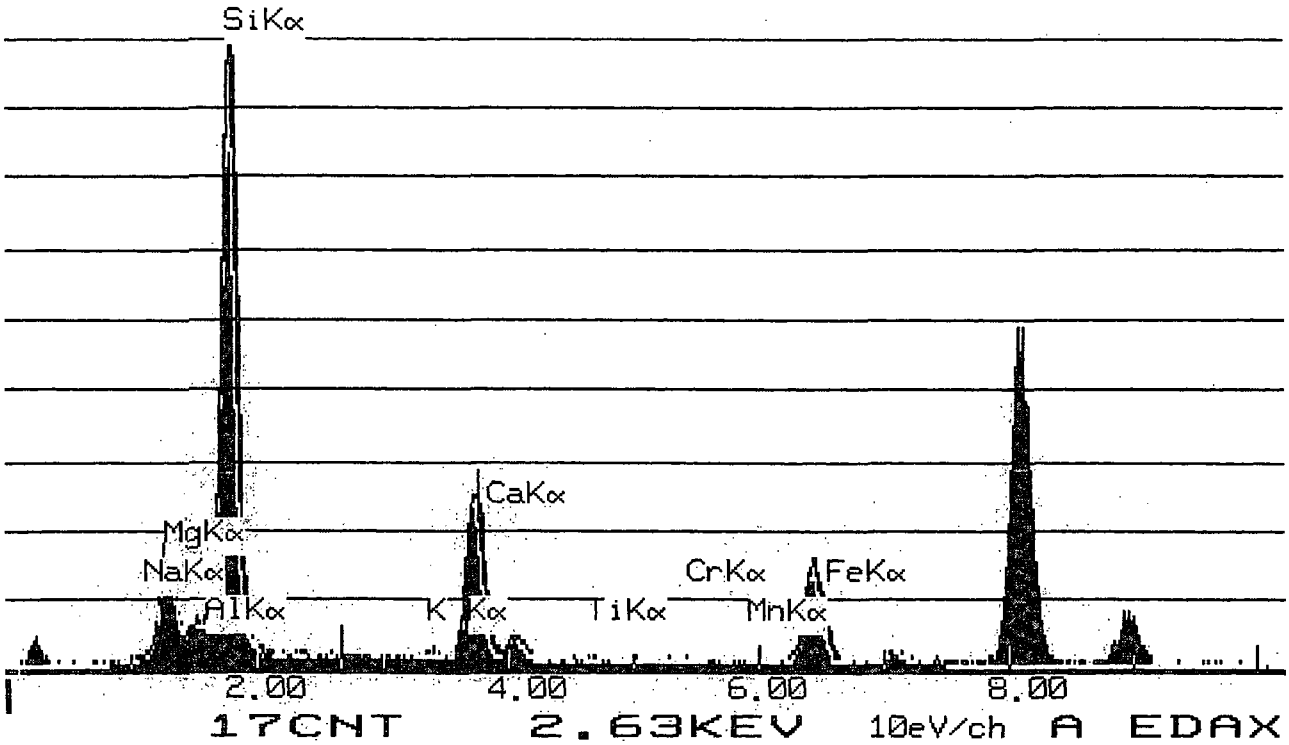


INTE-% :
LABEL = 041172-49 SP 15325
09-NOV-72 02:13:37
43.835 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	39.991	9.485	15.727
SIK	211.269	28.181	60.290
K K	0.411	0.091	0.110
CAK	69.237	8.805	12.320
MNK	0.388	0.071	0.092
FEK	47.451	8.017	11.462
TOTAL			100.000

USED PEIF: USER

08-NOV-04 02:13:59 SUPER QUANT
RATE= 90CPS TIME= 44LSEC
FS= 1087/ 1087 PRST= 200LSEC
A =041172-49 SP 15325



	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	60.29	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	11.462	Fe+3	0.0309			0.0309	0.0000				
MgO	15.727	Mg+2	3.3048			3.3048	**0.0000**				
MnO	0.092	Fe+2	1.3492			1.3492	**0.0000**				
CaO	12.32	Mn+2	0.0536			0.0536	**0.0000**				
Na2O	0	Ca+2	1.8721					1.8721	0.0000		
K2O	0.11	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0516							0.0516	0.0000
Total	**100.001**		**Excess**	T site	**0.0000**	C site	**0.0000**	B site	**0**	A site	**0**
			Total	**8**		**4.7386**		**1.8721**		**0.0516**	**0.0000**
			%Fill	**100**		**94.7713**		**93.6074**			

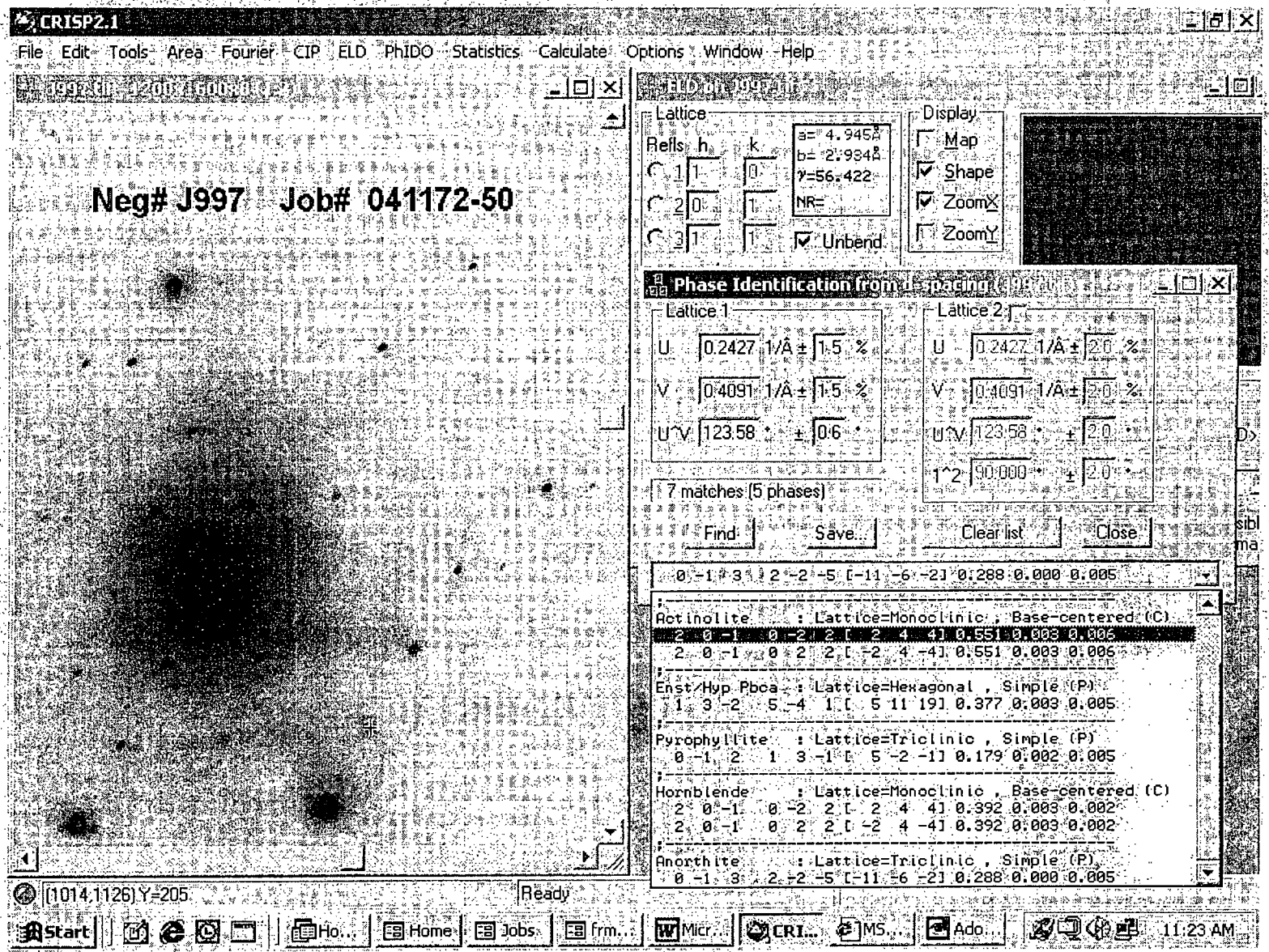
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041172-49-15325**

Values		Satisfied Conditions
(Ca,Na)@B	1.87	(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	1.87	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.05	Si > 7.5
Mg/(Mg+Fe2)	0.71	(Mg/(Mg+Fe2))< 0.9
Si	8.00	

Mineral Analysis Program (Version 5.0)

ACTINOLITE
[1 2 2]



Chi-sqd = 4.97

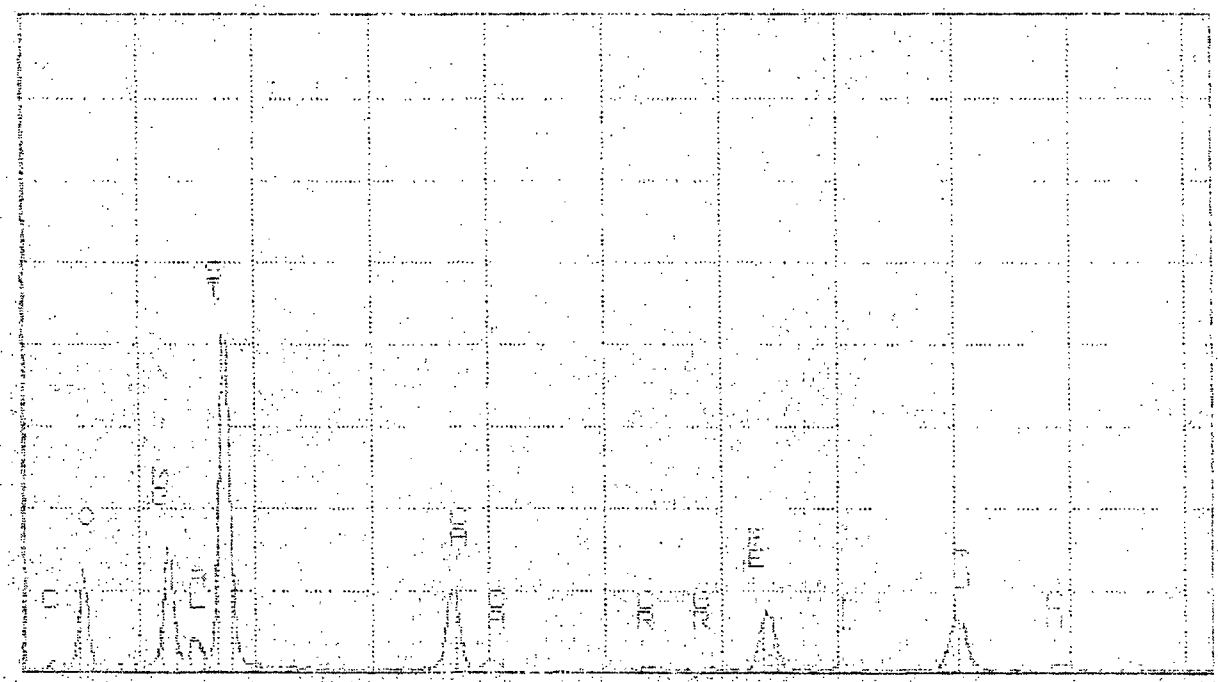
Element	Net Counts
Si-K	24031 +/- 294
Mg-K	7601 +/- 287
Al-K	1977 +/- 357
K-K	106 +/- 93
Ca-K	7505 +/- 279
Fe-K	4903 +/- 158
Na-K	501 +/- 142

RST.R	CTRl=SIK	EDG=MGK	EDG=ALK	EDG=K K	EDG=CAK	EDG=FEK	EDG=NAK

0411/2-50

EL-LINE	PEAK	K-FACTOR	CELL/UNIT	ATOM%	CL WT%	WT%	CUMULA
SI-K	24031	1.000	1.000	26.59	26.28	56.31	SIO2
MG-K	7601	1.000	0.316	7.60	8.31	13.79	MGO
AL-K	1977	0.750	0.062	1.82	1.62	3.06	AL2O3
K-K	106	1.060	0.005	0.07	0.12	0.15	K2O
CA-K	7505	0.949	0.287	4.28	7.60	10.72	CAO
FE-K	4903	1.399	0.402	6.14	10.57	15.30	FEO
NA-K	501	0.549	0.014	0.29	0.30	0.72	NA2O
O			1.711	41.72	45.00		

TN-5500 University of Washington / JEOL MON 04-NOV-84 12:06
Dwell: 0.004keV = 0



0 0MO
2 0411/2-50 50/2

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	56.31	Si+4	7.8819	7.8819							
Al2O3	3.06	Al+3	0.5048	0.1181	**0.3866**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	15.1	Fe+3	0.2227			0.2227	0.0000				
MgO	13.85	Mg+2	2.8901			2.8901	**0.0000**				
MnO	0	Fe+2	1.5199			1.5006	**0.0194**				
CaO	10.92	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0.62	Ca+2	1.6375					1.6375	0.0000		
K2O	0.15	Na+	0.1682					0.1682	**0.0000**	0.0000	0.0000
		K+	0.0268							0.0268	0.0000
Total	**100.01**		**Excess**	T site	**0.3866**	C site	**0.0194**	B site	**0**	A site	**0**
			Total	**8**		**5.0000**		**1.8058**		**0.0268**	**0.0000**
			%Fill	**100**		**100**		**90.2887**			

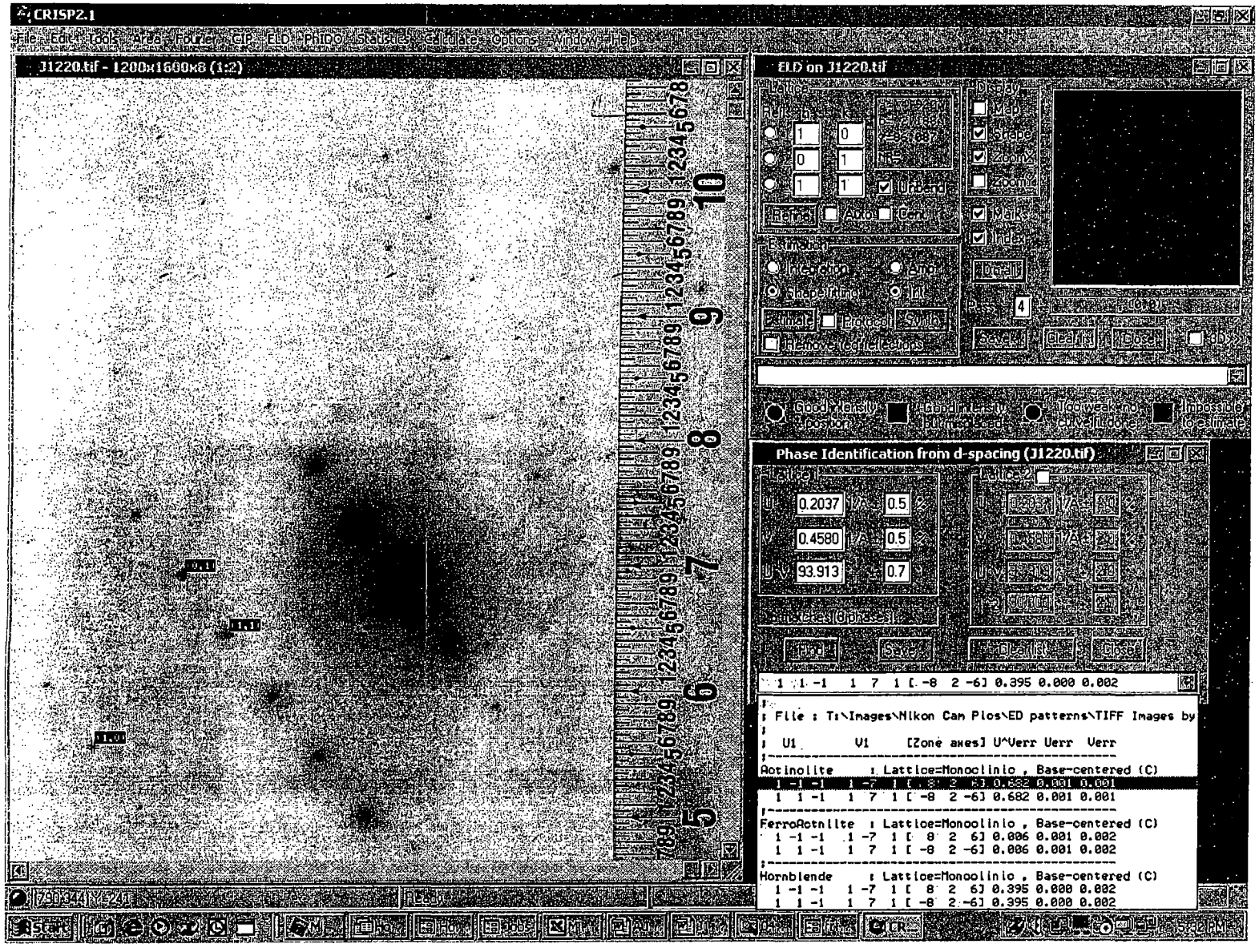
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041172-50-732**

Values		Satisfied Conditions
(Ca,Na)@B	1.81	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.17	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.64	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.03	Si > 7.5
Mg/(Mg+Fe2)	0.66	(Mg/(Mg+Fe2))< 0.9
Si	7.88	

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

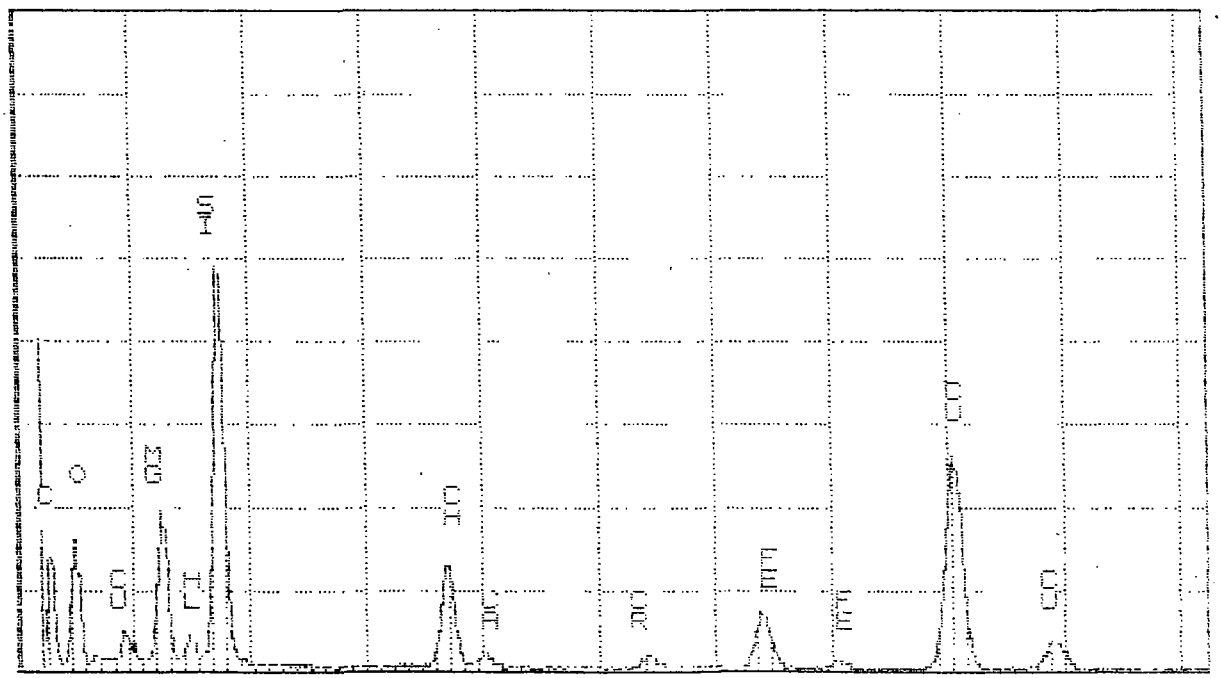
Element	Net Counts	
Si-K	13763 +/-	202
Mg-K	5341 +/-	155
Al-K	862 +/-	77
Ca-K	4665 +/-	140
Fe-K	3131 +/-	114
Na-K	0 +/-	0
K -K	99 +/-	35

REF.S EDS:SIK FWH:MGK EWH:ALK EWS:CAK EWH:FEK FWH: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	24.46	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	99	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



0.0KV 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**			

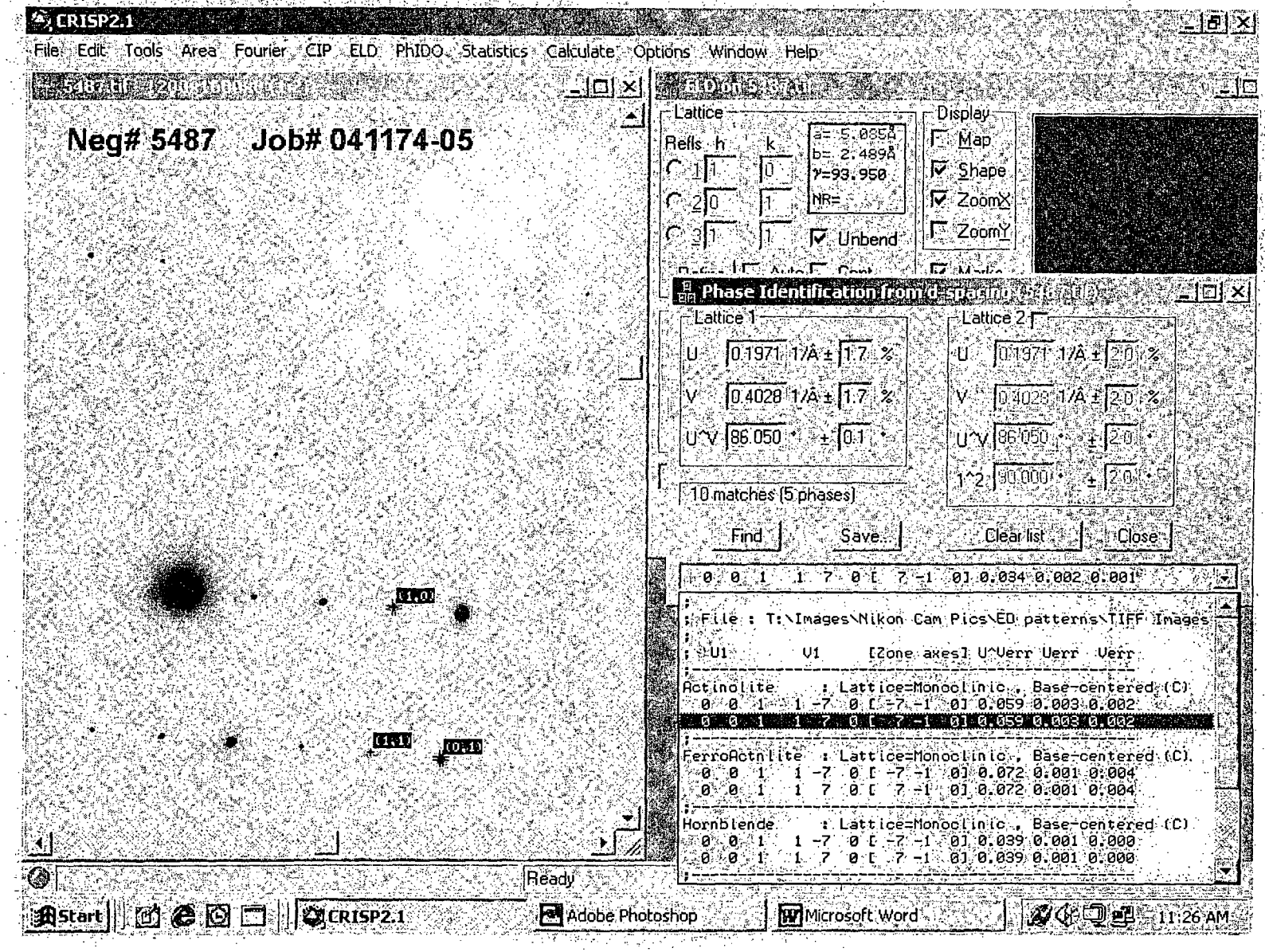
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

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)

ACTINOLITE
[7 -1 0]

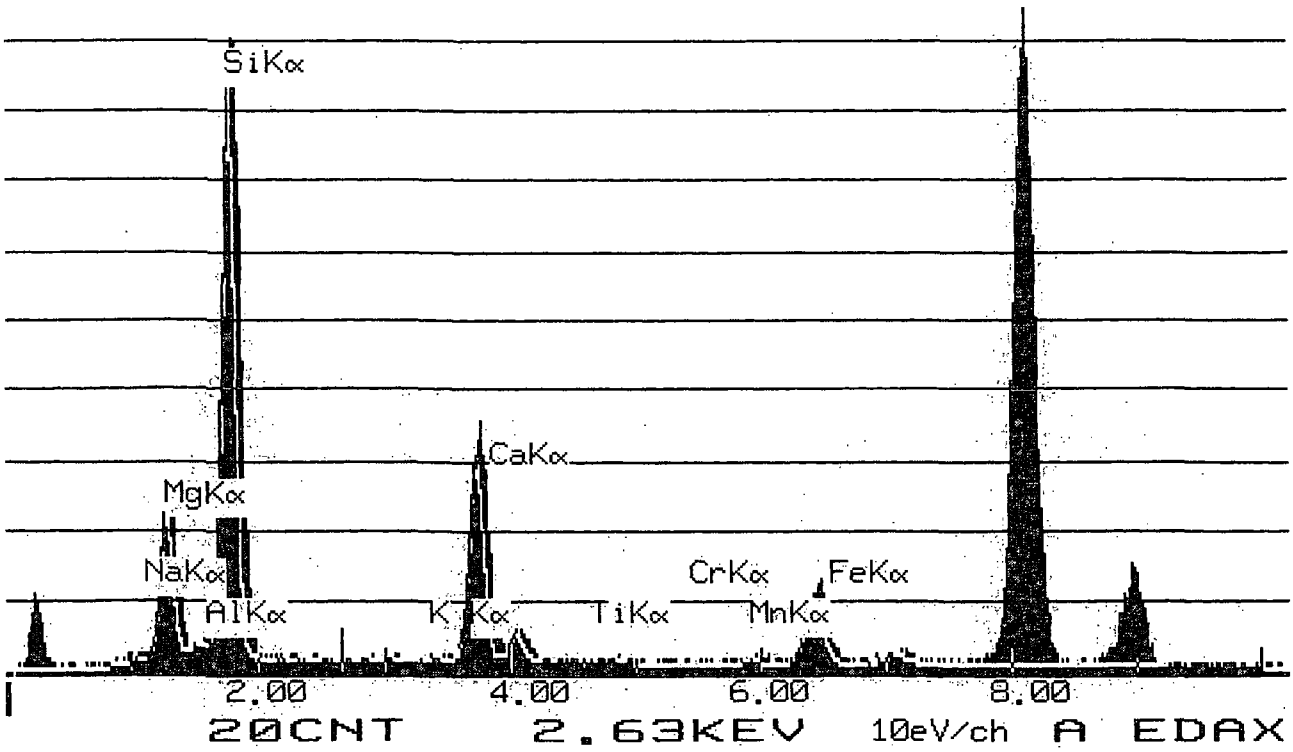


INTE-% :
LABEL = 041174-05 15364
15-NOV-72 00:16:46
25.234 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
NAK	0.832	0.215	0.290
MGK	97.882	11.956	19.824
ALK	1.863	0.137	0.258
SIK	389.113	26.731	57.188
CAK	156.018	10.219	14.298
CRK	0.793	0.072	0.106
MNK	2.180	0.206	0.266
FEK	62.455	5.434	7.769
TOTAL			100.000

USED PEIF: USER

14-NOV-04 00:17:21 SUPER QUANT
RATE= 69CPS TIME= 25LSEC
FS= 1138/ 1138 PRST= 200LSEC
A =041174-05 15364



20CNT 2.63KEV 10eV/ch A EDAX

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	57.188	Si+4	7.8830	7.8830							
Al2O3	0.258	Al+3	0.0419	0.0419	**0.0000**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0.106	Cr+3	0.0116			0.0116	0.0000				
Fe(total)O	7.769	Fe+3	0.0081			0.0081	0.0000				
MgO	19.824	Mg+2	4.0738			4.0738	**0.0000**				
MnO	0.266	Fe+2	0.8865			0.8865	**0.0000**				
CaO	14.298	Mn+2	0.0311			0.0200	**0.0110**				
Na2O	0.29	Ca+2	2.1115					1.9890	0.1225		
K2O	0	Na+	0.0775					0.0000	**0.0775**	0.0775	0.0000
		K+	0.0000							0.0000	0.0000
Total	**99.999**		**Excess**	T site	**0.0000**	C site	**0.0110**	B site	**0.2000089**	A site	**0**
			Total	**7.9249**		**5.0000**		**1.9890**		**0.0775**	**0.0000**
			%Fill	**99.062**		**100**		**99.4482**			

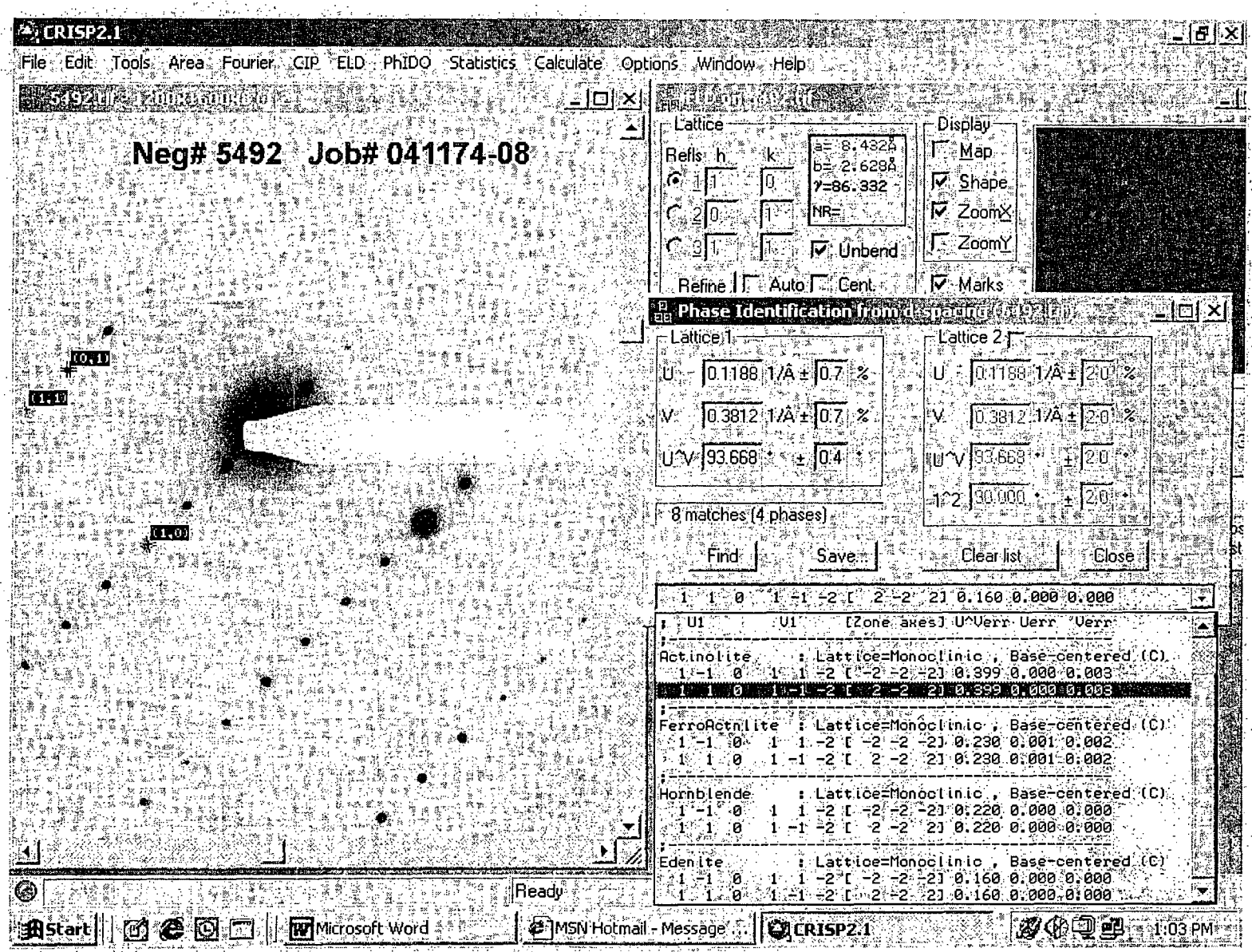
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041174-05-15364**

Values		Satisfied Conditions
(Ca,Na)@B	1.99	(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	1.99	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.08	Si > 7.5
Mg/(Mg+Fe2)	0.82	(Mg/(Mg+Fe2))< 0.9
Si	7.88	

Mineral Analysis Program (Version 5.0)

ACTINOLITE
[1 -1 1]



22-NOV-04 22:53:22 SUPER QUANT
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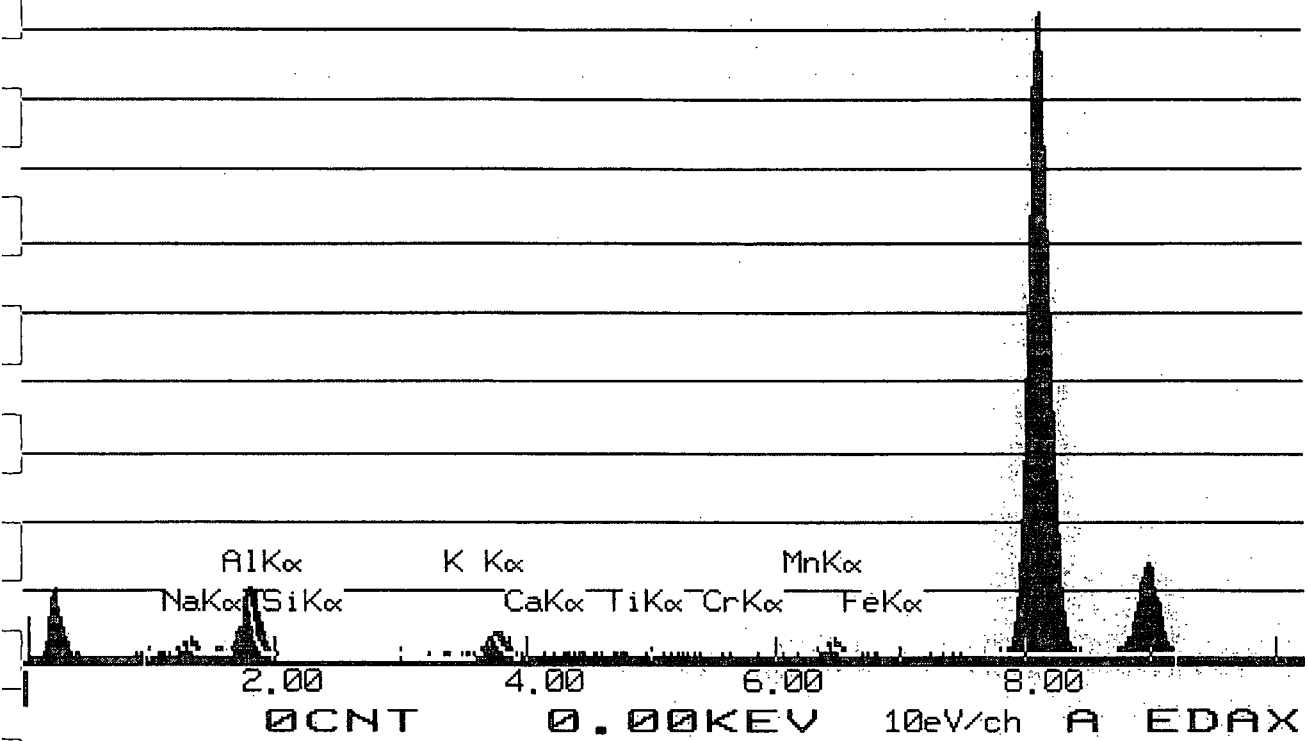
FS= 2627/ 2627 PRST= 200LSEC
A =041174-08 SP 15369



INTE-% :
LABEL = 041174-08 SP 15369
23-NOV-72 22:55:48
25.605 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	14.763	8.023	13.303
ALK	3.866	1.262	2.385
SIK	91.349	27.921	59.733
CAK	34.641	10.095	14.125
MNK	0.781	0.328	0.424
FEK	18.121	7.015	10.030

TOTAL			100.000

USED PEIF: USER

	Wt Percent		Ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	59.733	Si+4	8.0000	8.0000							
Al2O3	2.385	Al+3	0.4064	0.0000	**0.4064**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	10.03	Fe+3	0.0233			0.0233	0.0000				
MgO	13.303	Mg+2	2.7757			2.7757	**0.0000**				
MnO	0.424	Fe+2	1.1694			1.1694	**0.0000**				
CaO	14.125	Mn+2	0.0784			0.0784	**0.0000**				
Na2O	0	Ca+2	2.1156					2.0000	0.1156		
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	**0.4064**	C site	**0.0000**	B site	**0.1156312**	A site	**0**
			Total	**8**		**4.4531**		**2.0000**		**0.0000**	**0.0000**
			%Fill	**100**		**89.0616**		**100**			

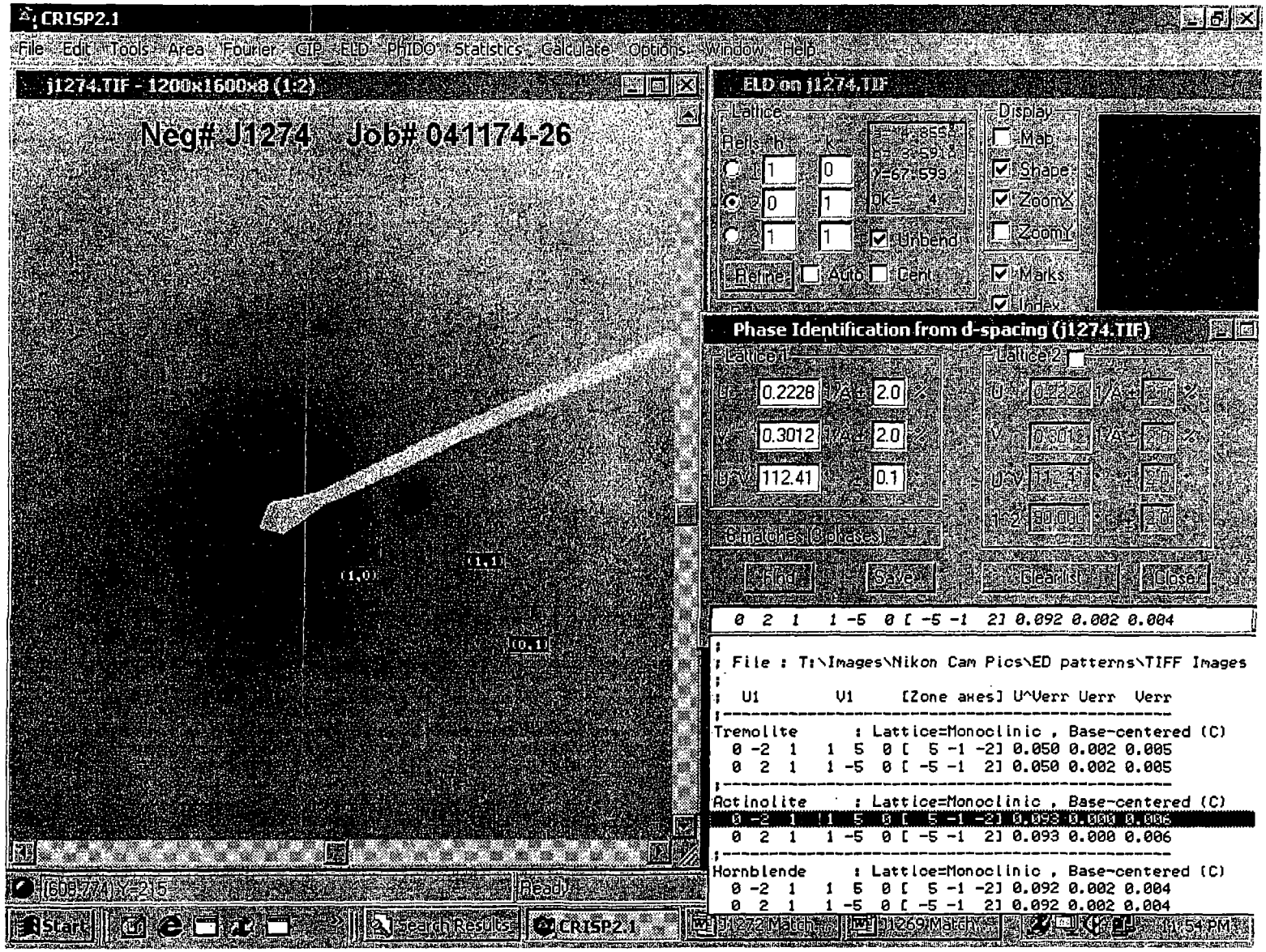
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # 041174-08-15369

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)	0.70	(Mg/(Mg+Fe2))< 0.9
Si	8.00	

Mineral Analysis Program (Version 5.0)

ACTINOLITE
[5 -1 -2]



TN-FLEXTRON 113-N3
SOMTP-SOMTA0

SOMTE: QUANTITY
%, SOMTE
Standardless Analysis

Refit _NAK' _NAK" _K K' _K K"
Refit _ALK' _NAK
Refit _MGK"
Chi-sqd = 4.16

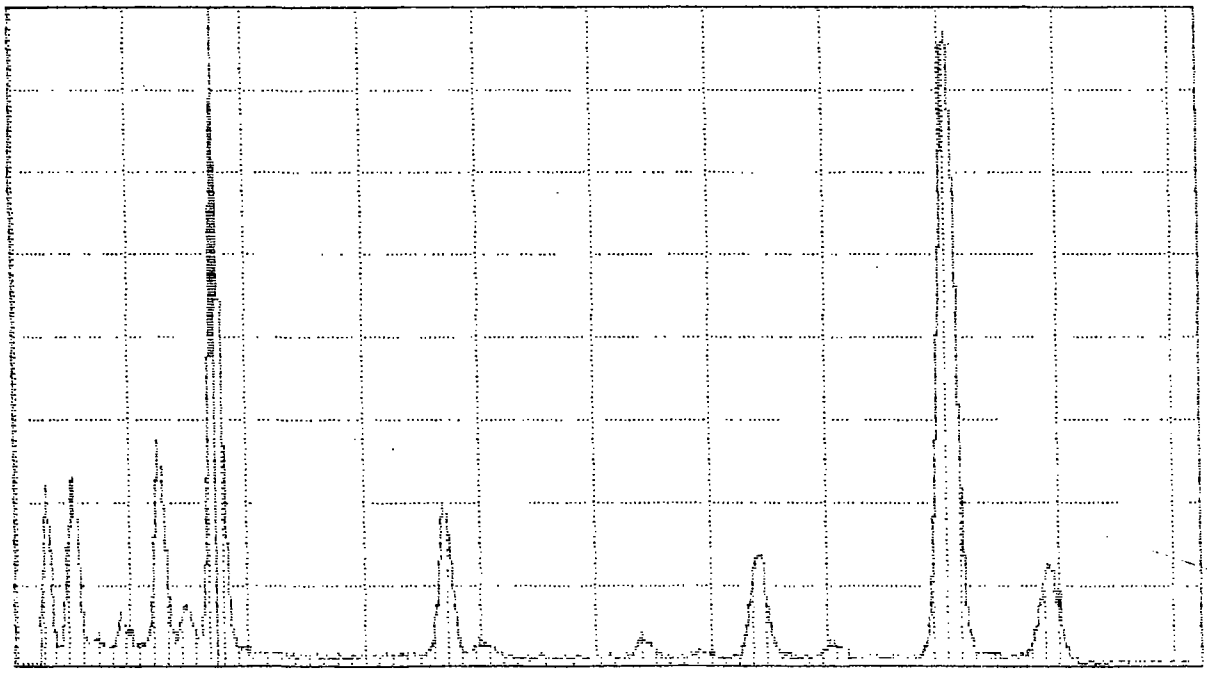
Element	Net Counts	
Si-K	11256 +/-	179
Mg-K	3854 +/-	87
Al-K	1132 +/-	249
Ca-K	3569 +/-	126
Fe-K	3160 +/-	126
Na-K	0 +/-	0
K -K	60 +/-	103

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

041174-26 SP 933

EL-LINE	PEAK	K-FACTOR	CEL/CREF	ATOM%	EL. WT%	WT%	FORMULA
SI-K	11256	1.000	1.000	20.35	26.00	55.71	SIO2
MG-K	3854	1.000	0.342	8.13	8.90	14.84	MGO
AL-K	1132	0.750	0.075	1.59	1.96	3.71	AL2O3
CA-K	3569	0.949	0.301	4.74	7.83	10.96	CAO
FE-K	3160	1.049	0.394	4.00	10.72	14.60	FEO(T)
NA-K	0	0.549	0.000	0.00	0.00	0.00	NA2O
K-K	60	1.059	0.006	0.08	0.15	0.18	K2O
O			1.728	61.55	44.94		

TN-F500 University of Washington / JEOL MON 03-JUN-05 00:37
Cursor: 1.740keV = SHA



0.000 VPS = 1024 10.240
158 041174-26 SP 933

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	55.71	Si+4	7.7227	7.7227							
Al2O3	3.71	Al+3	0.6061	0.2773	**0.3288**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	14.6	Fe+3	0.6244			0.6244	0.0000				
MgO	14.84	Mg+2	3.0669			3.0669	**0.0000**				
MnO	0	Fe+2	0.9985			0.9800	**0.0185**				
CaO	10.96	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	1.6277					1.6277	0.0000		
K2O	0.18	Na+	0.0000					0.0000	**0.0000**	0.0000	0.0000
		K+	0.0318							0.0318	0.0000
Total	**100**		**Excess**	T site	**0.3288**	C site	**0.0185**	B site	**0**	A site	**0**
			Total	**8**		**5.0000**		**1.6277**		**0.0318**	**0.0000**
			%Fill	**100**		**100**		**81.3836**			

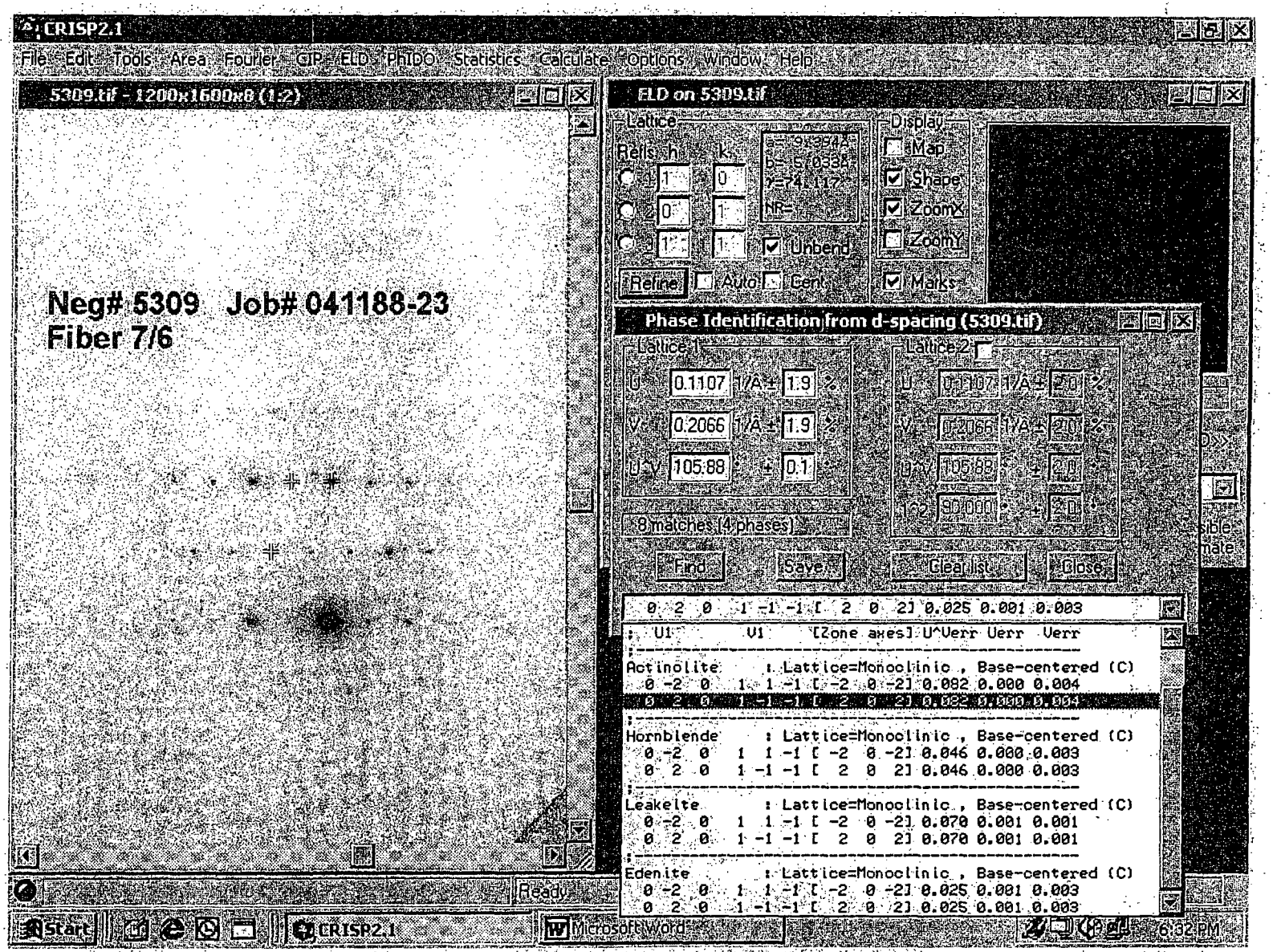
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041174-26-933**

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	0.03	Si > 7.5
Mg/(Mg+Fe2)	0.75	(Mg/(Mg+Fe2))< 0.9
Si	7.72	

Mineral Analysis Program (Version 5.0)

ACTINOLITE
[101]



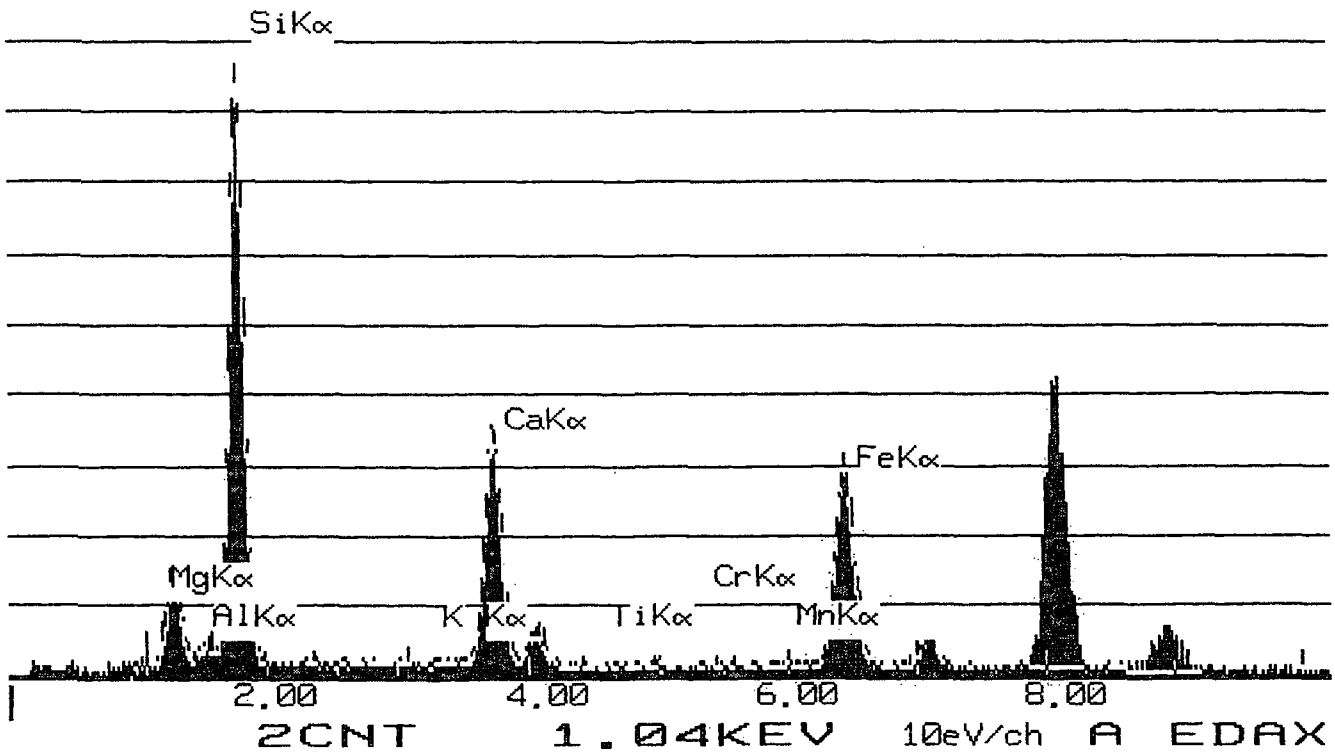
INTE-% :
LABEL = 0411888-23 7/6 15222
16-OCT-72 20:46:35
20.757 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	23.703	6.708	11.122
ALK	4.336	0.737	1.393
SIK	155.418	24.737	52.922
CAK	69.615	10.564	14.781
MNK	1.060	0.232	0.300
FEK	67.592	13.626	19.482

TOTAL			100.000

USED PEIF: USER

15-OCT-04 20:47:19 SUPER QUANT
RATE= 123CPS TIME= 21LSEC
FS= 345/ 345 PRST= 200LSEC
A =0411888-23 7/6 15222



	Wt Percent		Ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	52.922	Si+4	7.7369	7.7369							
Al2O3	1.393	Al+3	0.2400	0.2400	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	19.482	Fe+3	0.0214			0.0214	0.0000				
MgO	11.122	Mg+2	2.4240			2.4240	0.0000				
MnO	0.3	Fe+2	2.3578			2.3578	0.0000				
CaO	14.781	Mn+2	0.0371			0.0371	0.0000				
Na2O	0	Ca+2	2.3150					2.0000	0.3150		
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	0.3150362	A site	0
			Total	7.9769		4.8404		2.0000		0.0000	0.0000
			%Fill	99.712		96.808		100			

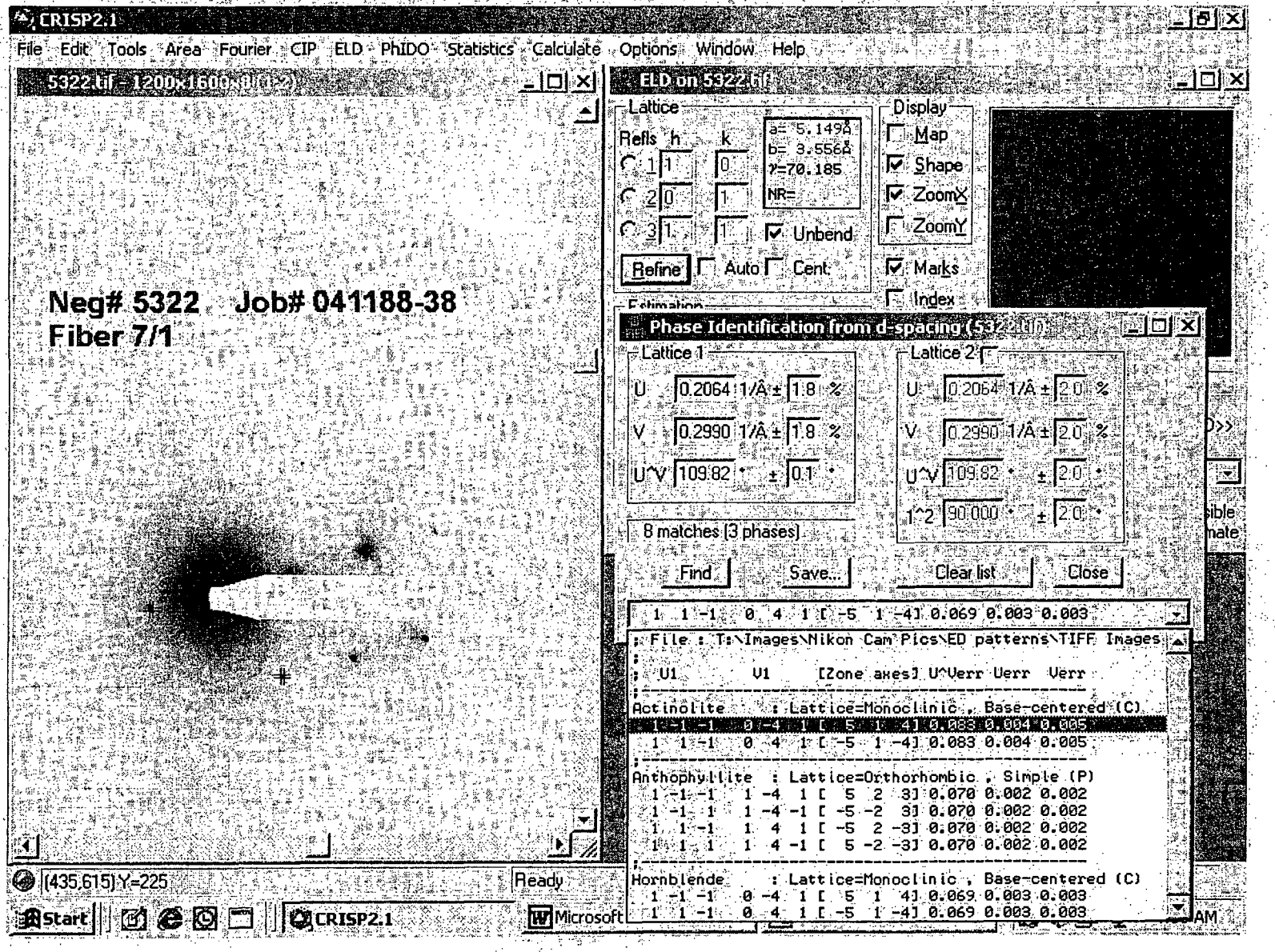
Prefix	none
Name	actinolite
Modifier	none
Group	Calcic Amphibole

Sample # 041188-23-7-6

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	7.74	

Mineral Analysis Program (Version 5.0)

ACTINOLITE
[514]



STOMTF: QUANTITY
Standardless Analysis

Refit _ALK' _ALK" _NAK' _NAK"
Refit _ALK' _K K' _K K" _LAK" _NAK
Refit _K K
Chi-sqd = 0.99

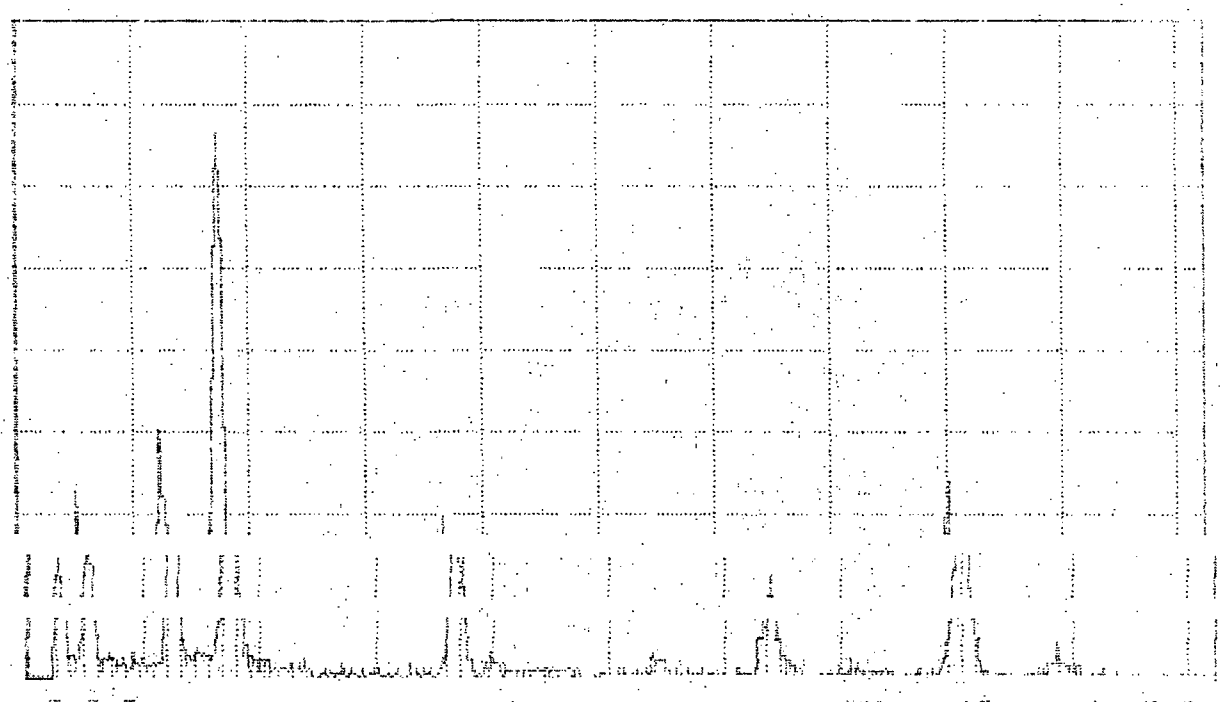
Element	Net Counts	
Si-K	1136 +/-	47
Mg-K	443 +/-	33
Al-K	0 +/-	0
K -K	0 +/-	0
Ca-K	462 +/-	24
Fe-K	218 +/-	32
Na-K	0 +/-	0

REF:G EDS:SIK EDS:MGK EDS:ALK EDS:K K EDS:CAK EDS:FEK EDS:NAK

041108-38 7/28 SHA.01

EL-LINE	PEAK	K-FACTOR	CEL/CREF	ATOM%	EL WT%	WT%	FORMULA
SI-K	1136	1.000	1.000	20.37	26.24	56.27	SIO2
MG-K	443	1.199	0.431	10.25	11.02	18.27	MGO
AL-K	0	1.040	0.001	0.07	0.02	0.04	AL2O3
K -K	0	1.068	0.000	0.01	0.01	0.01	K2O
CA-K	462	1.045	0.431	7.00	11.05	15.47	CAO
FE-K	218	1.287	0.247	2.52	6.50	9.28	FE2O3
NA-K	0	2.479	0.001	0.03	0.03	0.06	NA2O
O			1.707	60.62	44.81		

TN-5500 University of Washington / JEOL WED 20 OCT-04 07:13
Cursor: 0.000keV = 0



0 041108-38 7/28 SPA.03

1.30

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	56.27	Si+4	7.8357	7.8357							
Al2O3	0.04	Al+3	0.0066	0.0066	**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	9.28	Fe+3	0.0097			0.0097	0.0000				
MgO	18.87	Mg+2	3.9174			3.9174	**0.0000**				
MnO	0	Fe+2	1.0698			1.0698	**0.0000**				
CaO	15.47	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0.06	Ca+2	2.3079					2.0000	0.3079		
K2O	0.01	Na+	0.0162					0.0000	**0.0162**	0.0162	0.0000
		K+	0.0018							0.0018	0.0000
Total	**100**		**Excess**	T site	**0.0000**	C site	**0.0000**	B site	**0.3240917**	A site	**0**
			Total	**7.8423**		**4.9969**		**2.0000**		**0.0180**	**0.0000**
			%Fill	**98.029**		**99.9383**		**100**			

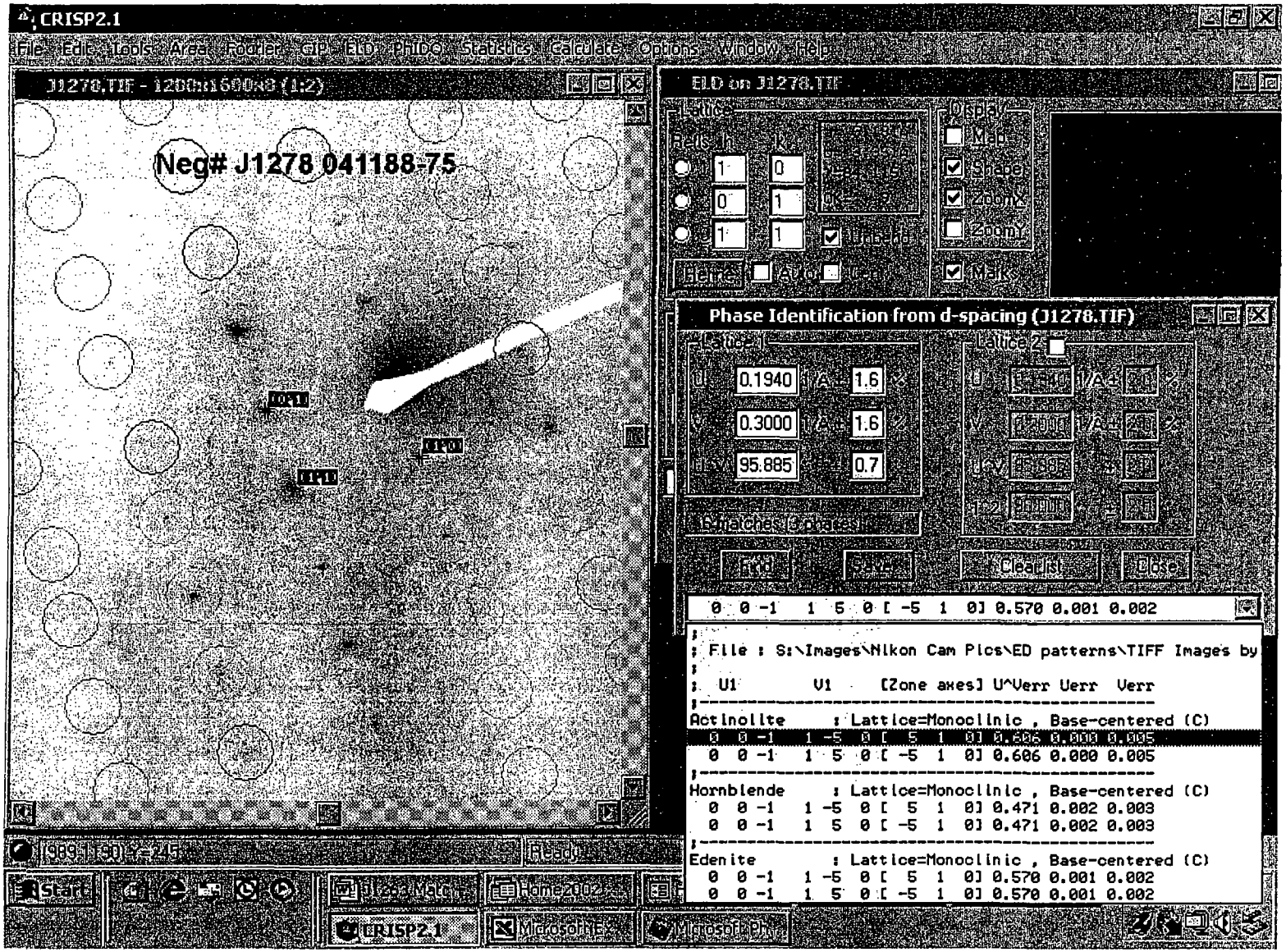
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041188-38-4-28**

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	0.02	Si > 7.5
Mg/(Mg+Fe2)	0.79	(Mg/(Mg+Fe2))< 0.9
Si	7.84	

Mineral Analysis Program (Version 5.0)

ACTINOLITE
041188-75, Neg #J1278
[5 1 0]



SUMIT: WHANLEY
Standardless Analysis

Chi-sqd = 4.47

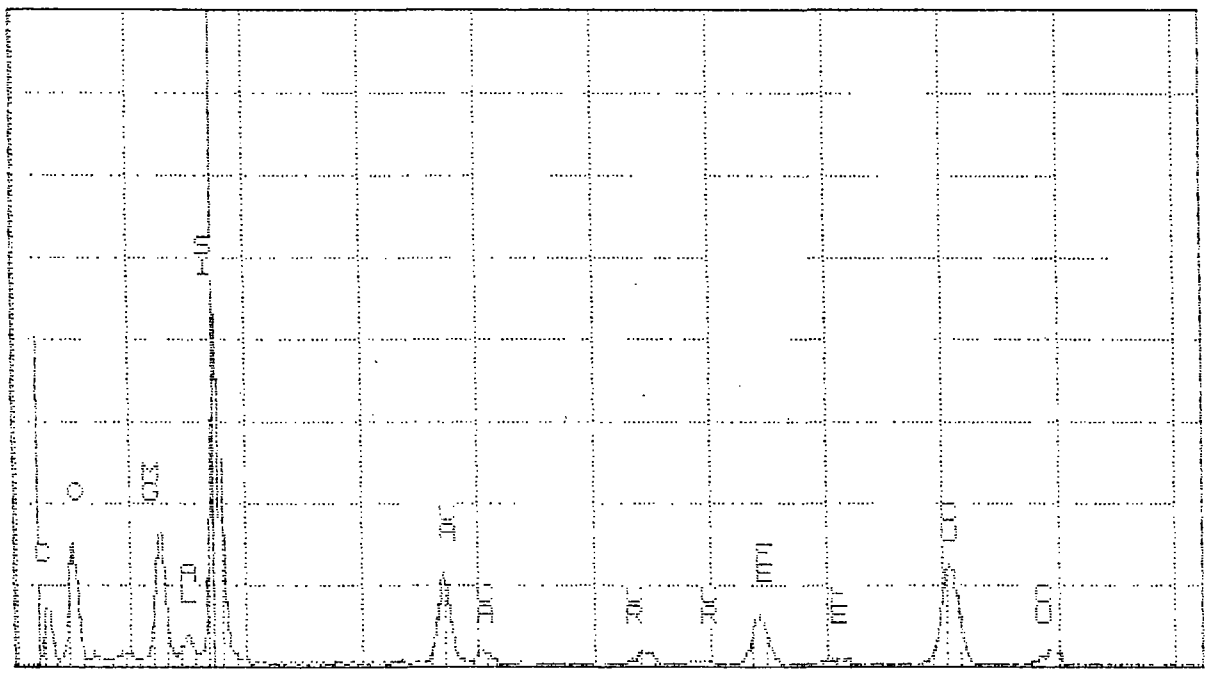
Element	Net Counts
Si-K	12055 +/- 115
Mg-K	4058 +/- 120
Al-K	745 +/- 246
Ca-K	3896 +/- 174
Fe-K	2675 +/- 109
Na-K	187 +/- 106
K -K	109 +/- 69

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

041188-75 SP947

EL-LINE	PEAK	K-FACTOR	CPS/CREF	ATOM%	EL WT%	WT%	FORMULA
SI-K	12055	1.000	1.000	21.00	27.08	58.03	SIO2
MG-K	4058	1.000	0.337	8.28	9.12	15.20	MGO
AL-K	745	0.750	0.046	1.01	1.26	2.37	AL2O3
CA-K	3896	0.949	0.307	4.52	8.32	11.64	CAO
FE-K	2675	1.394	0.311	3.27	8.41	12.02	FE2O3
NA-K	187	0.549	0.008	0.20	0.21	0.42	NA2O3
K-K	109	1.059	0.010	0.15	0.26	0.31	K2O
O			1.674	61.54	45.35		

TN-5500 University of Washington / JEOL (WED) 04-JAN-05 01:26
Cursor: 1.730keV = 1094 ROI (0) 0.000: 0.000



96 041188-75 SP947

1,30
*
0,0
*
0,0

	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	58.03	Si+4	8.0000	8.0000							
Al2O3	2.37	Al+3	0.3899	0.0000	**0.3899**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	12.02	Fe+3	0.0145			0.0145	0.0000				
MgO	15.2	Mg+2	3.1462			3.1462	**0.0000**				
MnO	0	Fe+2	1.3825			1.3825	**0.0000**				
CaO	11.64	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0.42	Ca+2	1.7327					1.7327	0.0000		
K2O	0.31	Na+	0.1204					0.1204	**0.0000**	0.0000	0.0000
		K+	0.0581							0.0581	0.0000
Total	**99.99**		**Excess**	T site	**0.3899**	C site	**0.0000**	B site	**0**	A site	**0**
			Total	**8**		**4.9331**		**1.8531**		**0.0581**	**0.0000**
			%Fill	**100**		**98.6625**		**92.6564**			

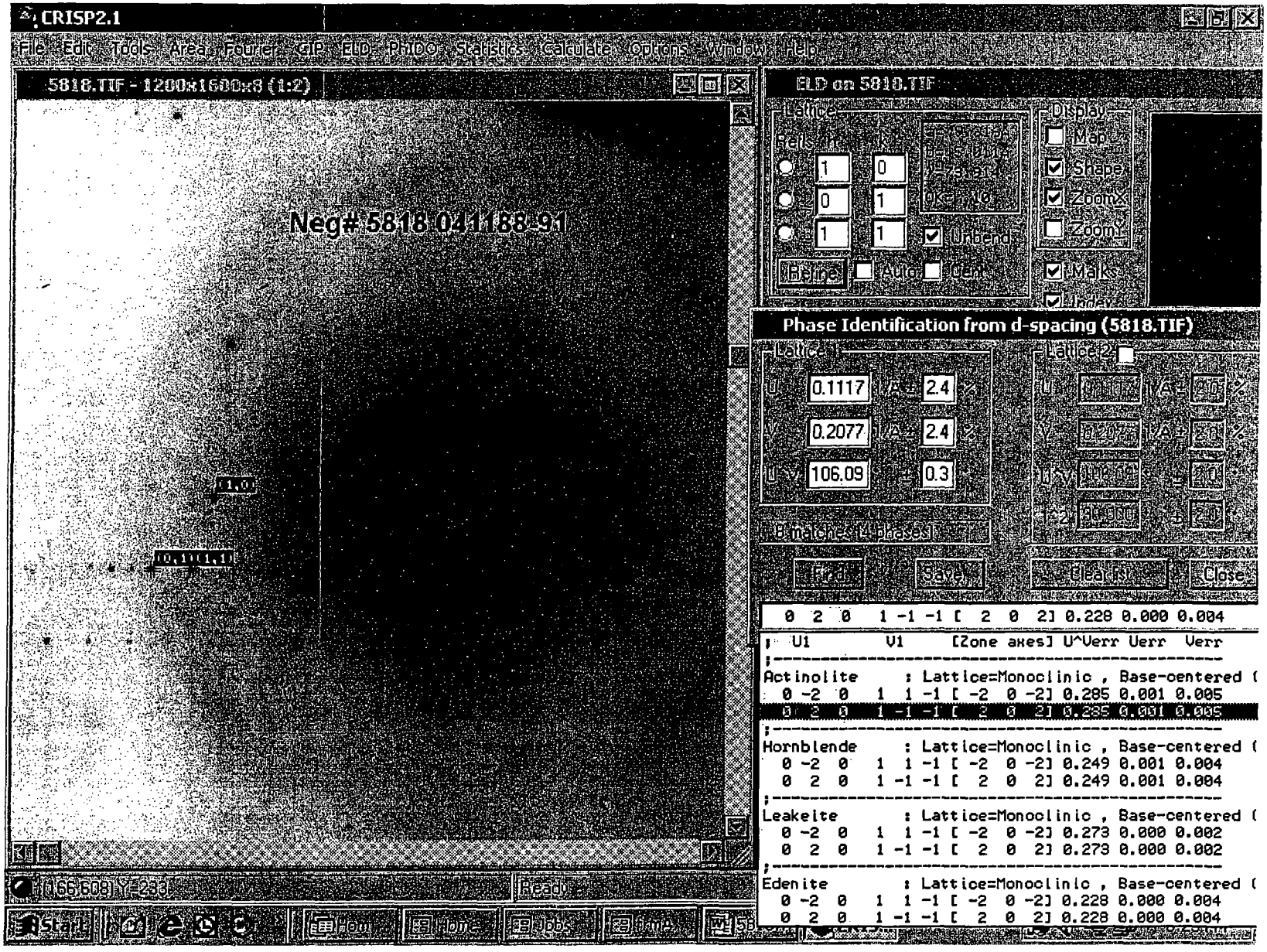
Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041188-75-947**

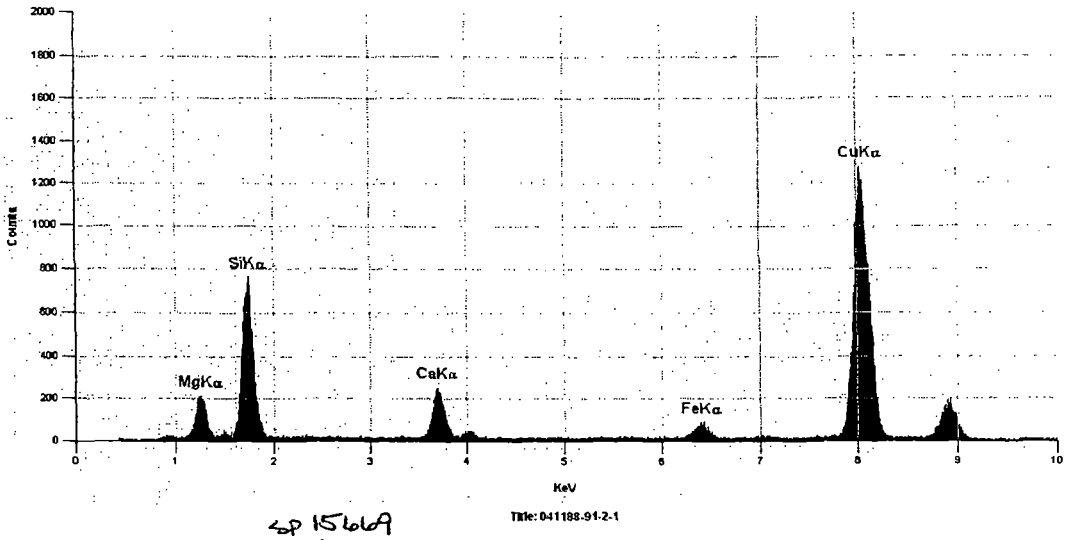
Values		Satisfied Conditions
(Ca,Na)@B	1.85	(Ca,Na)@B >= 1 and Na@B < 0.5
Na@B	0.12	Ca@B >= 1.5 and (Na,K)@A < 0.5
Ca@B	1.73	(Mg/(Mg+Fe2))>= 0.5
(Na,K)@A	0.06	Si > 7.5
Mg/(Mg+Fe2)	0.69	(Mg/(Mg+Fe2))< 0.9
Si	8.00	

Mineral Analysis Program (Version 5.0)

ACTINOLITE
Zone Axis [1 0 1]
Philips Negative
041188-91 Neg#5818



WINEDS



SP 15669

Quantitative Analysis Results - Standardless Analysis :
Spectrum8 041188-91-[redacted] Thu, Jan 13 2005
EDS Parameters - 100KV, Takeoff Angle: 38.0°, Fit Index: 7.10
Correction: CLIFF LORIMER, Cycles: 1

Element	Line	Kratio	Error	ZAF	Weight	Counts	+/-
Mg	Ka:EDS	0.2218	0.0061	1.0000	0.1194	2435	66
Si	Ka:EDS	0.5380	0.0078	1.0000	0.2898	9984	143
Ca	Ka:EDS	0.1780	0.0051	1.0000	0.0958	3175	91
Fe	Ka:EDS	0.0622	0.0047	1.0000	0.0335	916	69
Cu	Ka:EDS	0.0000	0.0000*	1.0000	<0.0000	21007	0
O	(Diff.)				0.4614		

* =< 2 Sigma

Element	Atoms%	Compound	Weight%	Error(±)	Norm%
Mg	10.44	MgO	19.81	1.01	19.81
Si	21.92	SiO2	61.99	1.66	61.99
Ca	5.08	CaO	13.41	0.72	13.41
Fe	1.28	Fe2O3	4.79	0.67	4.79
<Total>	100.00		100.00		100.00

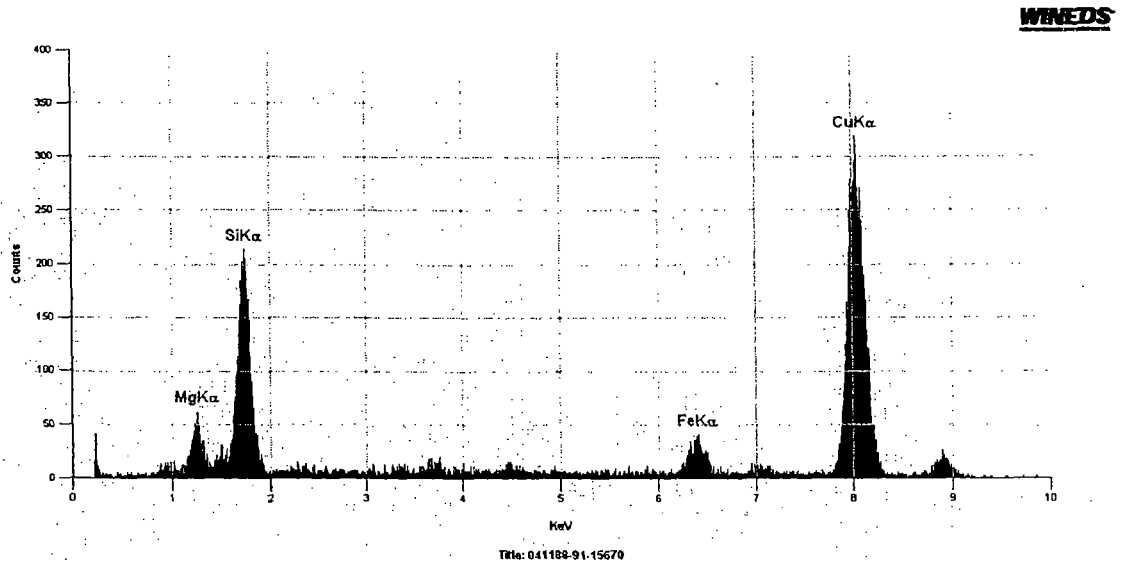
	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	61.99	Si+4	8.0000	8.0000							
Al2O3	0	Al+3	0.0000	0.0000	**0.0000**						
TiO2	0	Ti+4	0.0000	0.0000	**0.0000**						
Cr2O3	0	Cr+3	0.0000			0.0000	0.0000				
Fe(total)O	4.79	Fe+3	0.0325			0.0325	0.0000				
MgO	19.81	Mg+2	4.0612			4.0612	**0.0000**				
MnO	0	Fe+2	0.5921			0.5921	**0.0000**				
CaO	13.41	Mn+2	0.0000			0.0000	**0.0000**				
Na2O	0	Ca+2	2.0010					2.0000	0.0010		
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	**0.0010347**	A site	**0**
			Total	8		4.6857		2.0000		0.0000	0.0000
			%Fill	100		93.7148		100			

Prefix none
Name actinolite
Modifier *none*
Group Calcic Amphibole

Sample # 041188-91-15669

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)	0.87	(Mg/(Mg+Fe2))< 0.9
Si	8.00	

Mineral Analysis Program (Version 5.0)



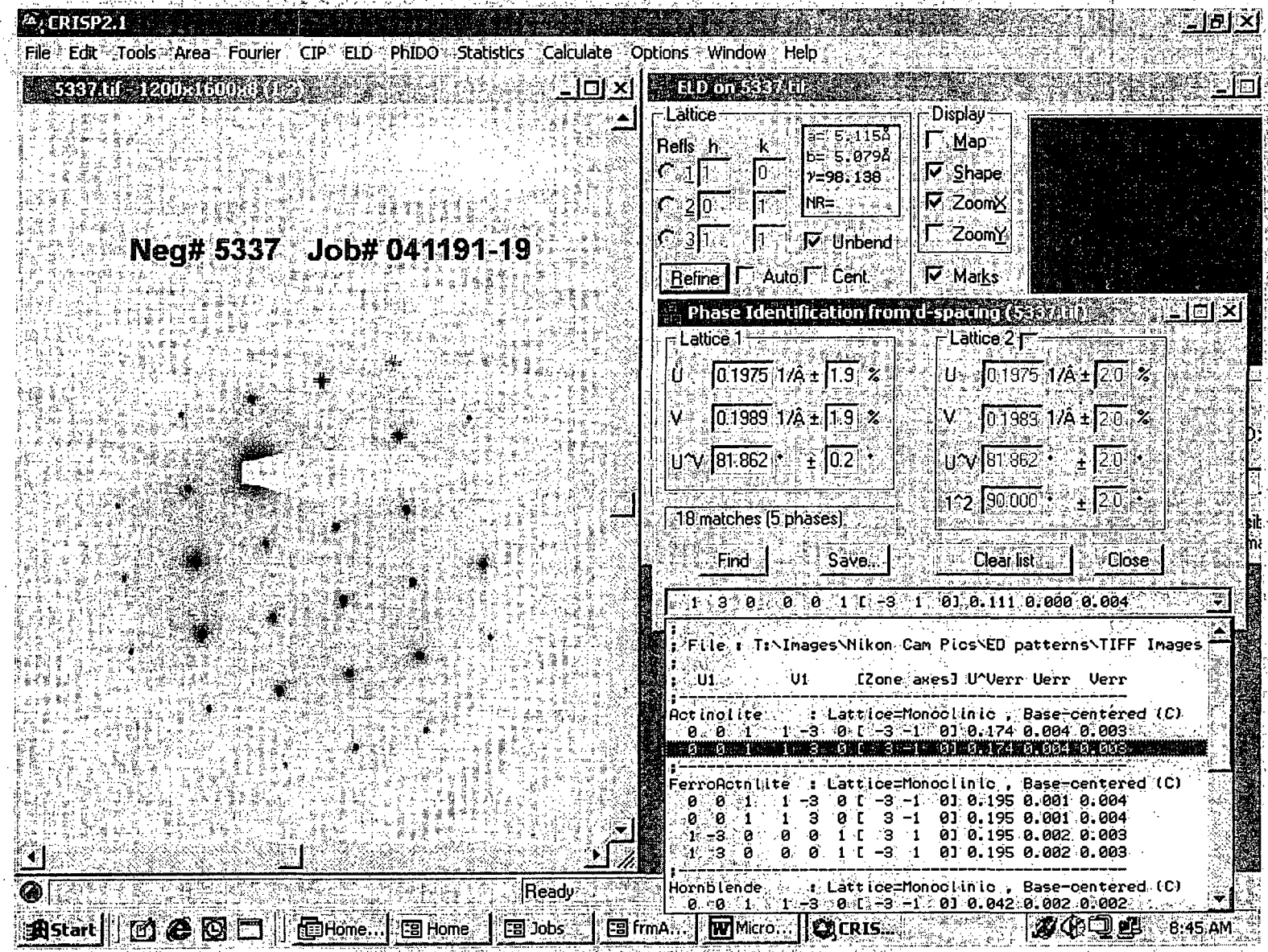
Quantitative Analysis Results - Standardless Analysis :
Spectrum8 041188-91-15670 Thu, Jan 13 2005
EDS Parameters - 100KV, Takeoff Angle: 38.0°, Fit Index: 37.95
Correction: CLIFF LORIMER, Cycles: 1

Element	Line	Kratio	Error	ZAF	Weight	Counts	+/-
Mg	Ka:EDS	0.2210	0.0143	1.0000	0.1153	491	31
Al	Ka:EDS	0.0096	0.0051*	1.0000	<0.0102	51	27
Si	Ka:EDS	0.6366	0.0197	1.0000	0.3320	2393	73
Ca	Ka:EDS	0.0255	0.0070	1.0000	0.0133	92	25
Ti	Ka:EDS	0.0000	0.0000*	1.0000	<0.0000	57	0
Cr	Ka:EDS	0.0000	0.0000*	1.0000	<0.0000	18	0
Fe	Ka:EDS	0.1072	0.0157	1.0000	0.0559	319	46
Cu	Ka:EDS	0.0000	0.0000*	1.0000	<0.0000	4597	0
O	(Diff.)				0.4835		

* =< 2 Sigma

Element	Atoms%	Compound	Weight%	Error(±)	Norm%
Mg	9.86	MgO	19.12	2.37	19.12
Si	24.57	SiO2	71.03	4.21	71.03
Ca	0.69	CaO	1.86	0.97	1.86
Fe	2.08	Fe2O3	8.00	2.24	8.00
<Total>	100.00		100.00		100.00

ACTINOLITE
[3 -1 0]



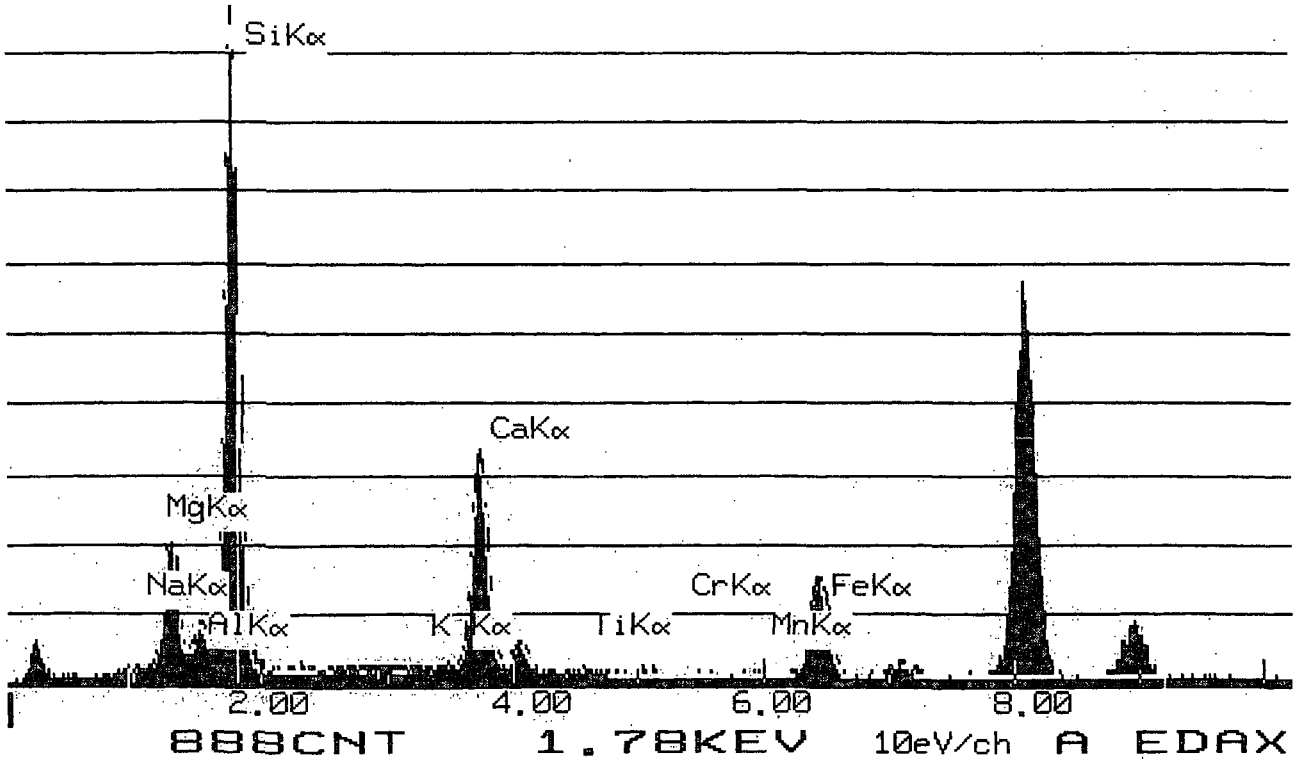
INTE-% :
LABEL = 041191-19 15246
02-JAN-73 14:40:16
53.848 LIVE SECONDS

86 - Normal
Detected

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	43.177	10.062	16.684
ALK	13.427	1.880	3.551
SIK	200.025	26.217	56.088
CAK	79.223	9.900	13.852
CRK	0.371	0.065	0.094
MNK	0.353	0.064	0.082
FEK	40.651	6.748	9.648
TOTAL			100.000

USED PEIF: USER

01-JAN-05 14:40:31 SUPER QUANT
RATE= 213CPS TIME= 54LSEC
FS= 1094/ 1094 PRST= 200LSEC
A =041191-19 15246



	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	56.088	Si+4	7.7506	7.7506							
Al2O3	3.551	Al+3	0.5783	0.2494	0.3288						
TiO2	0	Ti+4	0.0000	0.0000	0.0000						
Cr2O3	0.094	Cr+3	0.0103			0.0103	0.0000				
Fe(total)O	9.648	Fe+3	0.0100			0.0100	0.0000				
MgO	16.684	Mg+2	3.4371			3.4371	0.0000				
MnO	0.082	Fe+2	1.1037			1.1037	0.0000				
CaO	13.852	Mn+2	0.0096			0.0096	0.0000				
Na2O	0	Ca+2	2.0507					2.0000	0.0507		
K2O	0	Na+	0.0000					0.0000	0.0000	0.0000	0.0000
		K+	0.0000							0.0000	0.0000
Total	99.999		Excess	T site	0.3288	C site	0.0000	B site	0.0506769	A site	0
			Total	8		4.8995		2.0000		0.0000	0.0000
			%Fill	100		97.9895		100			

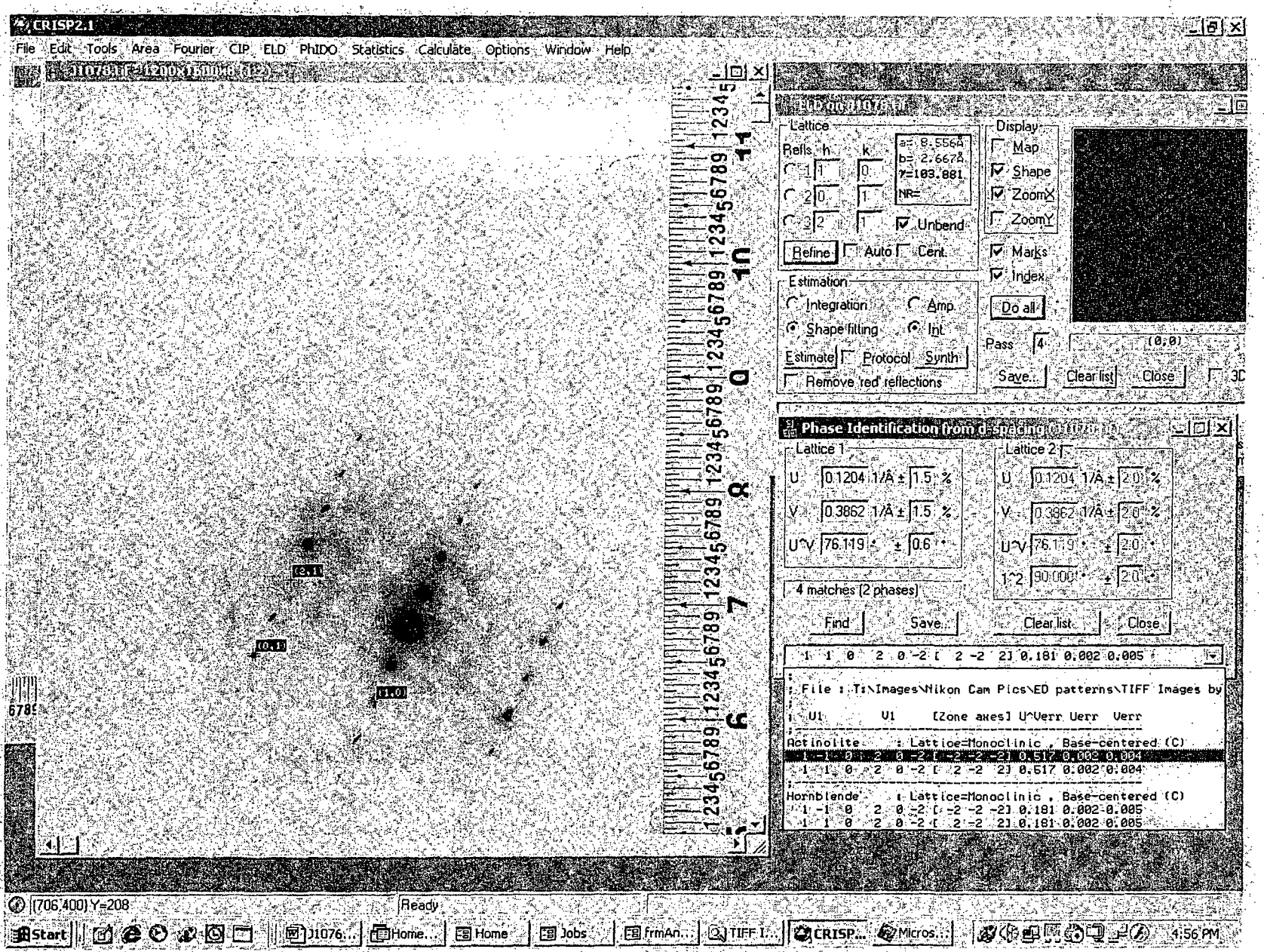
Prefix	none
Name	actinolite
Modifier	none
Group	Calcic Amphibole

Sample # 041191-19-15246

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)	0.76	(Mg/(Mg+Fe2))< 0.9
Si	7.75	

Mineral Analysis Program (Version 5.0)

Neg # J1078, Sample #041191-103
ACTINOLITE
[1 1 1]

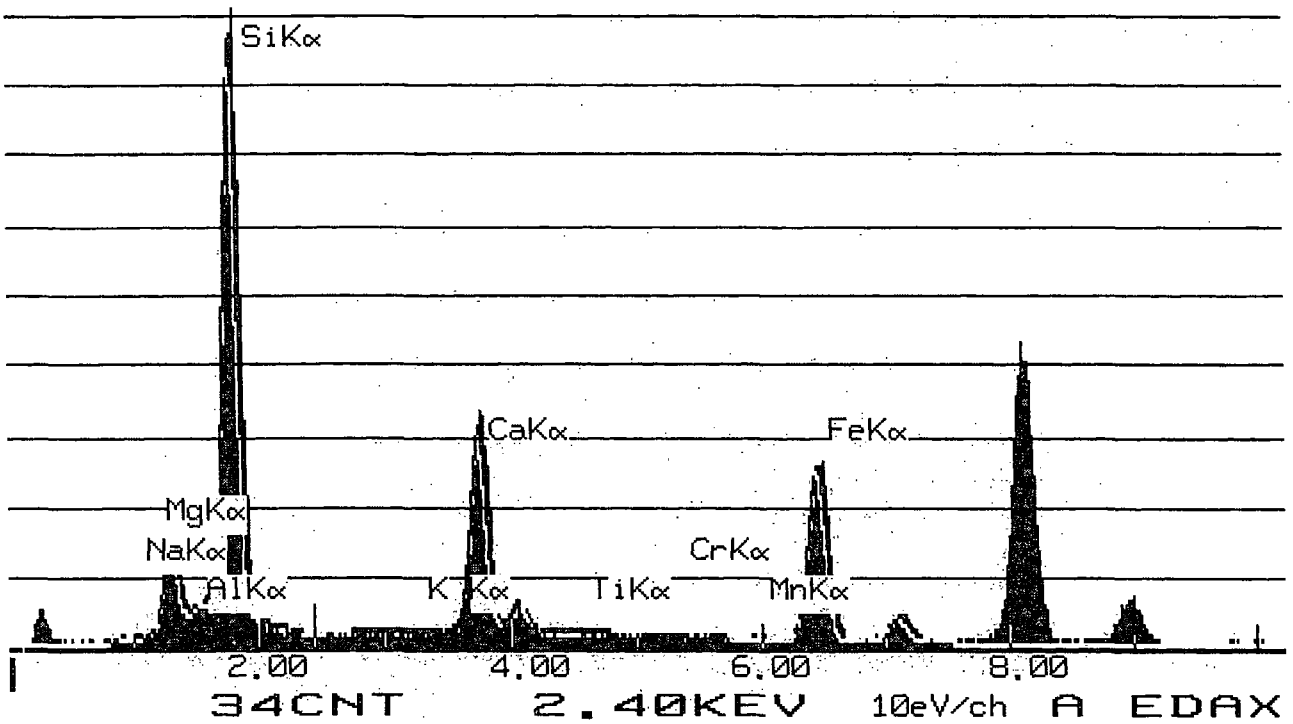


INTE-% :
LABEL = 041191-103 15400
22-NOV-72 03:47:15
20.061 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	124.022	7.675	12.725
ALK	6.779	0.252	0.476
SIK	735.960	25.614	54.797
CAK	288.671	9.579	13.402
MNK	1.745	0.084	0.108
FEK	293.407	12.933	18.491
TOTAL			100.000

USED PEIF: USER

21-NOV-04 03:47:32 SUPER QUANT
RATE= 190CPS TIME= 20LSEC
FS= 1779/ 1779 PRST= 200LSEC
A =041191-103 15400



	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	54.797	Si+4	7.9081	7.9081							
Al2O3	0.476	Al+3	0.0810	0.0810	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	18.491	Fe+3	0.0201			0.0201	0.0000				
MgO	12.725	Mg+2	2.7378			2.7378	0.0000				
MnO	0.108	Fe+2	2.2091			2.2091	0.0000				
CaO	13.402	Mn+2	0.0132			0.0132	0.0000				
Na2O	0	Ca+2	2.0721					2.0000	0.0721		
K2O	0	Na+	0.0000					0.0000	0.0000	0.0000	0.0000
		K+	0.0000							0.0000	0.0000
Total	99.999		Excess	T site	0.0000	C site	0.0000	B site	0.0720902	A site	0
			Total	7.9891		4.9802		2.0000		0.0000	0.0000
			%Fill	99.864		99.6034		100			

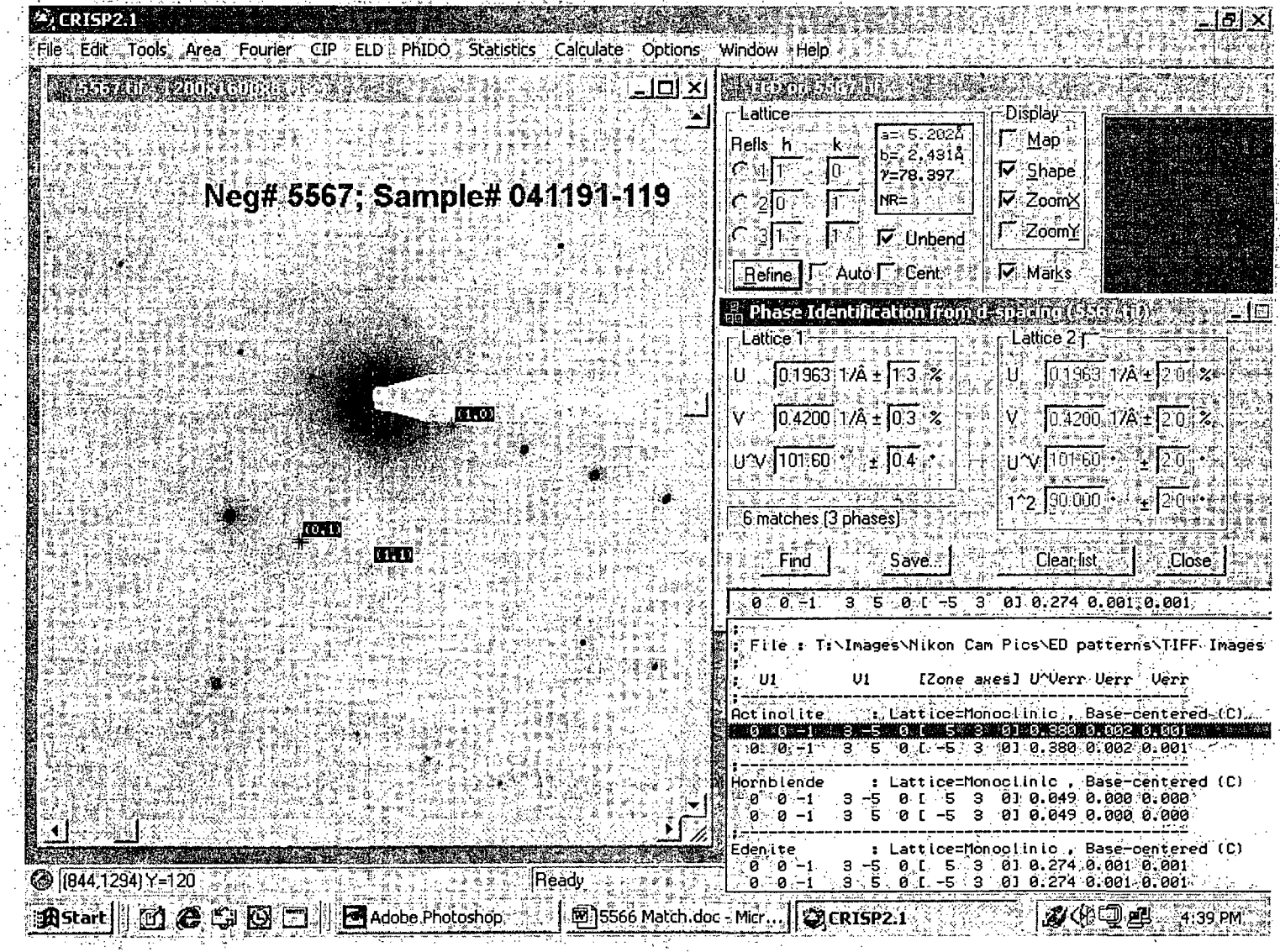
Prefix	none
Name	*actinolite*
Modifier	none
Group	Calcic Amphibole

Sample # 041191-103-15400

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)	0.55	(Mg/(Mg+Fe2))< 0.9
Si	7.91	

Mineral Analysis Program (Version 5.0)

ACTINOLITE
[5 3 0]



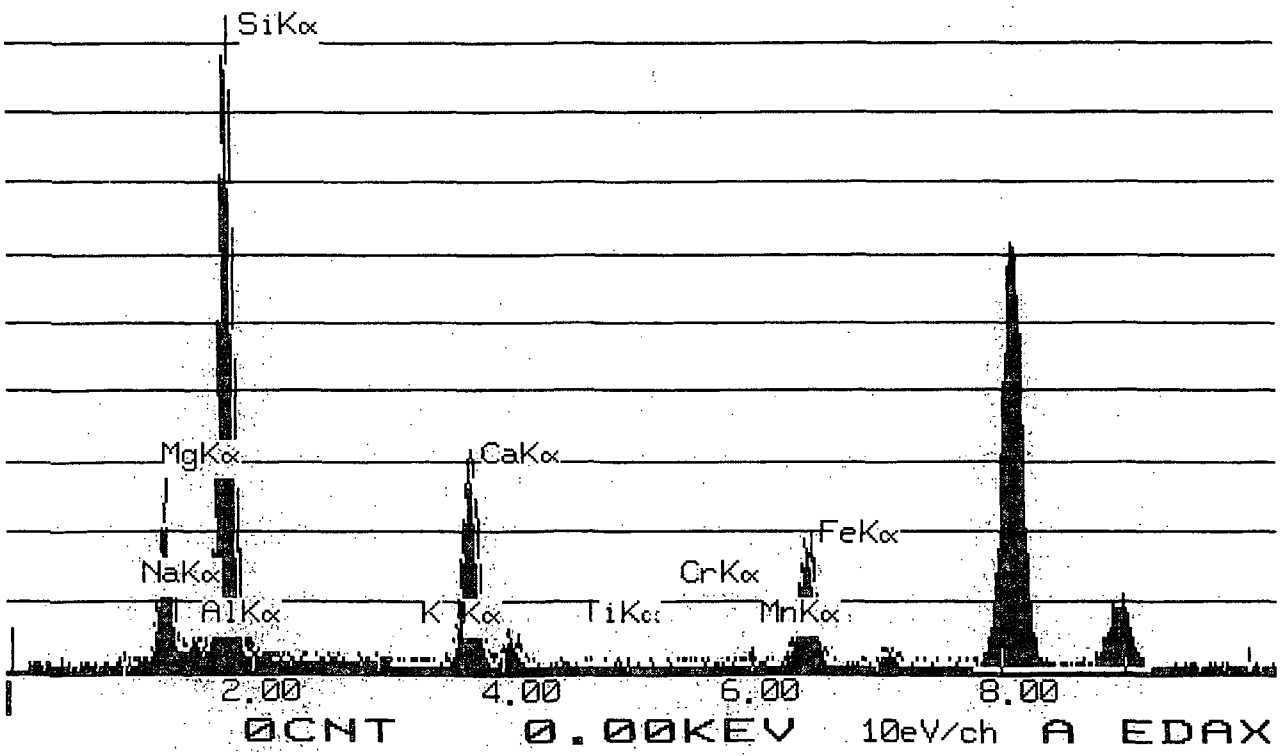
INTE-% :
LABEL = 041191-119 15423
24-NOV-72 10:20:06
38.267 LIVE SECONDS

ELEM	CPS	WT % ELEM	WT % OXIDE
MGK	29.869	10.867	18.018
ALK	3.606	0.788	1.489
SIK	127.316	26.051	55.732
CAK	46.411	9.054	12.668
TIK	0.261	0.072	0.120
CRK	0.862	0.234	0.342
MNK	1.071	0.302	0.389
FEK	30.340	7.863	11.242
TOTAL			100.000

USED PEIF: USER

86- diamond
Actinolite

23-NOV-04 10:20:28 SUPER QUANT
RATE= 570CPS TIME= 38LSEC
FS= 517/ 517 PRST= 200LSEC
A =041191-119 15423



	Wt Percent		ions	T site	Leftover	C site	Leftover	B site	Leftover	A site	Leftover
SiO2	55.732	Si+4	7.7129	7.7129							
Al2O3	1.489	Al+3	0.2429	0.2429	**0.0000**						
TiO2	0.12	Ti+4	0.0125	0.0125	**0.0000**						
Cr2O3	0.342	Cr+3	0.0374			0.0374	0.0000				
Fe(total)O	11.242	Fe+3	0.4800			0.4800	0.0000				
MgO	18.018	Mg+2	3.7175			3.7175	**0.0000**				
MnO	0.389	Fe+2	0.7676			0.7651	**0.0024**				
CaO	12.668	Mn+2	0.0456			0.0000	**0.0456**				
Na2O	0	Ca+2	1.8782					1.8782	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	**0.0480**	B site	**0**	A site	**0**
			Total	**7.9683**		**5.0000**		**1.8782**		**0.0000**	**0.0000**
			%Fill	**99.603**		**100**		**93.9104**			

Prefix none
Name actinolite
Modifier none
Group Calcic Amphibole

Sample # **041191-119-15423**

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)	0.83	(Mg/(Mg+Fe2))< 0.9
Si	7.71	

Mineral Analysis Program (Version 5.0)