

RECORD OF LABORATORY EXAMINATION

Number: 15.87
Location: I.F.F.6
Date in:

Category: Jade Object: Kuei blade
Attribution: Chinese; date: W. Chou
Owner: FGA

Reason for Examination: Prior to exhibition
Color(s):
veining: see FS

Examiner: EWF
Date begun: 8/13/80

*Hardness: 6.5 (hardest area)

Mineral identification

Provisional (from appearance & hardness): nephrite
Certain (from X-ray diffraction)

~~XXXXXXXXXX~~ Film # Date:

Working; any evidence:
if hole, drilled from 1 side:
2 sides:

Condition

Breaks: no
Repairs: no
Alteration: no

Incrustation: no

Special handling needed: no

Weight:

Accessories received:

Inscriptions, seals etc:

Distinguishing marks:

*Hardness: Nephrite: 6-6.5
Jadeite: 6.5-7

CARDS 9-24-80
SUMMARY 8/13/80
~~VACAT CARD~~
OF 8/19/80
FOLDER SHEET

Jade Material - Observations and analysis

LRN:

Accession No. F15.87

Period Shang
Culture Longshan

Checklist name ritual blade

Object term

Mineral(jade) nephrite
Color dark green and brown
Hardness Sampling showed the nephrite to be very hard - JD
Texture very translucent and fine

Mineral Inclusions none

Veining features none

Burned surface

Translucency

Color

Luster

Class of Alteration

Munsell-Unaltered

Munsell-Altered

Munsell-discoloration

XRD

FTIR sample taken 4/30/97 -JD; no resample
12/1/98 JD

FTIR done

Fe to Fe+Mg ratio

SEM sample taken 4/30/97 -JD

SEM done

SI sample possible

Sample location Sample is approx. 1 mg for FTIR, and SEM sample is very small. Sample taken along small break on corner of shaped end of chisel. Jade is very hard and both samples taken are very small. Snowball like alteration present in patches.

XRF Data

<u>SiO2</u>	55.256	<u>MnO</u>	0.274
<u>CaO</u>	12.873	<u>FeO</u>	3.867
<u>K2O</u>	0.061	<u>Cr2O3</u>	0.041
<u>TiO2</u>	0.078	<u>NiO</u>	0
		<u>MgO.Al2O3</u>	27.55

Comments

Date in 5/5/97
Date mod 12/1/98

F15.87

EDXRF ANALYSIS
SPECTRACE INSTRUMENTS

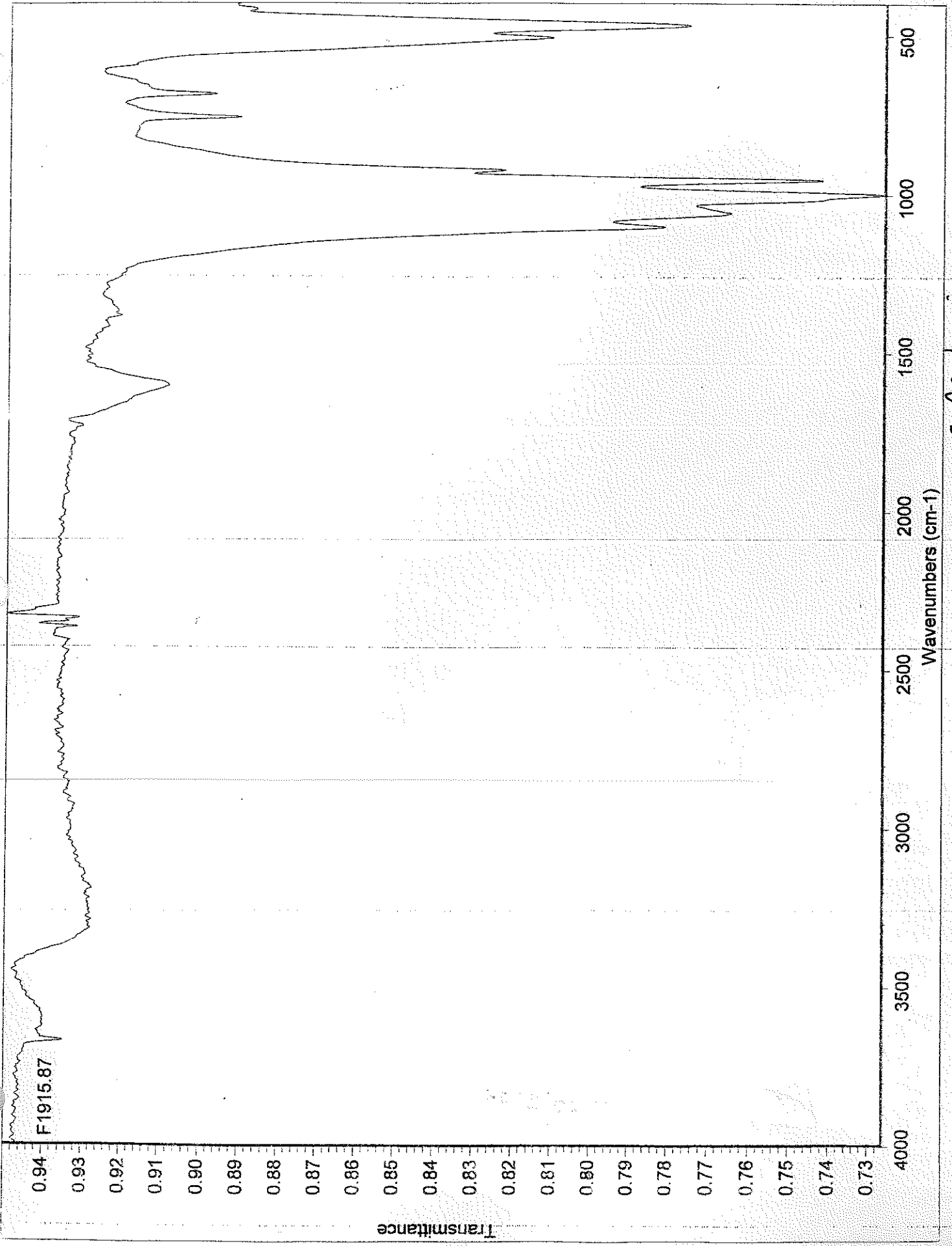
PROCEDURE : NEPHRITE - HE
 FILTER USED : NO FILTER
 ATMOSPHERE : AIR
 COUNT RATE RANGE : MED
 ANALYSIS METHOD : FUN. PARAMS.

TUBE VOLTAGE : 15 KV
 TUBE CURRENT : 0.99 MA
 LIVETIME : 200 SEC
 PRESET COUNT : 0 K

TIME : 11:50 am

DATE : 4/30/97

SAMPLE	ELEMENT	CONCENTRATION	ERROR
F15.87.1	SiO2	55.256 %	+/- 0.1639
	K2O	0.061 %	+/- 0.0107
	CaO	12.873 %	+/- 0.0303
	TiO2	0.078 %	+/- 0.0050
	CR2O3	0.041 %	+/- 0.0035
	MNO	0.274 %	+/- 0.0037
	FeO	3.867 %	+/- 0.0100
	NiO	N D	
	C	0.000 ADDED	
	MGD	27.550 DIFF	



IR Analysis
Wen, G. 1997