FREER GALLERY OF ART

RECORD OF LABORATORY EXAMINATION

Number: 39.54
Location: E-GG-32
~~Date in:~~

Category: Jade Object: ornament

Attribution: Chinese; date: Early W. Chou; late 11th-10th cent B.C.

Owner: FGA

Reason for Examination: Prior to exhibition

Examiner: EWF
Date begun: 8/1/80

Color(s):
veining:) see F S

*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 ☑ 9-25-80
SUMMARY ☒ 8/6/80
VAULT CARD or FOLDER SHEET ☒ 8/6/80

Jade Material - Observations and analysis

LRN:

Accession No. F39.54

Period Neollthic
Culture Longshan

Checklist name ornament

Object term

Mineral(jade) nephrite
Color greenish-yellow
Hardness
Texture fine, homogeneous, with "long time touch"
Mineral Inclusions none
Veining features none
Burned surface none

Translucency
Color
Luster
Class of Alteration

Munsell-Unaltered
Munsell-Altered
Munsell-discoloration

XRD

FTIR sample taken 4/30/97-JD
FTIR done
Fe to Fe+Mg ratio

SEM sample taken 4/30/97-JD
SEM done
SI sample possible

Sample location Sampled along upper edge on back side of jade.

XRF Data

SiO2	56.15	**MnO**	0.047
CaO	13.089	**FeO**	1.413
K2O	0.044	**Cr2O3**	0.054
TiO2	0.097	**NiO**	0
		MgO.Al2O3	29.106

Comments (Object has is shaped somewhat like an hour glass, curved.)

Date in 5/5/97
Date mod 8/27/97

F39.54

EDXRF ANALYSIS
SPECTRACE INSTRUMENTS

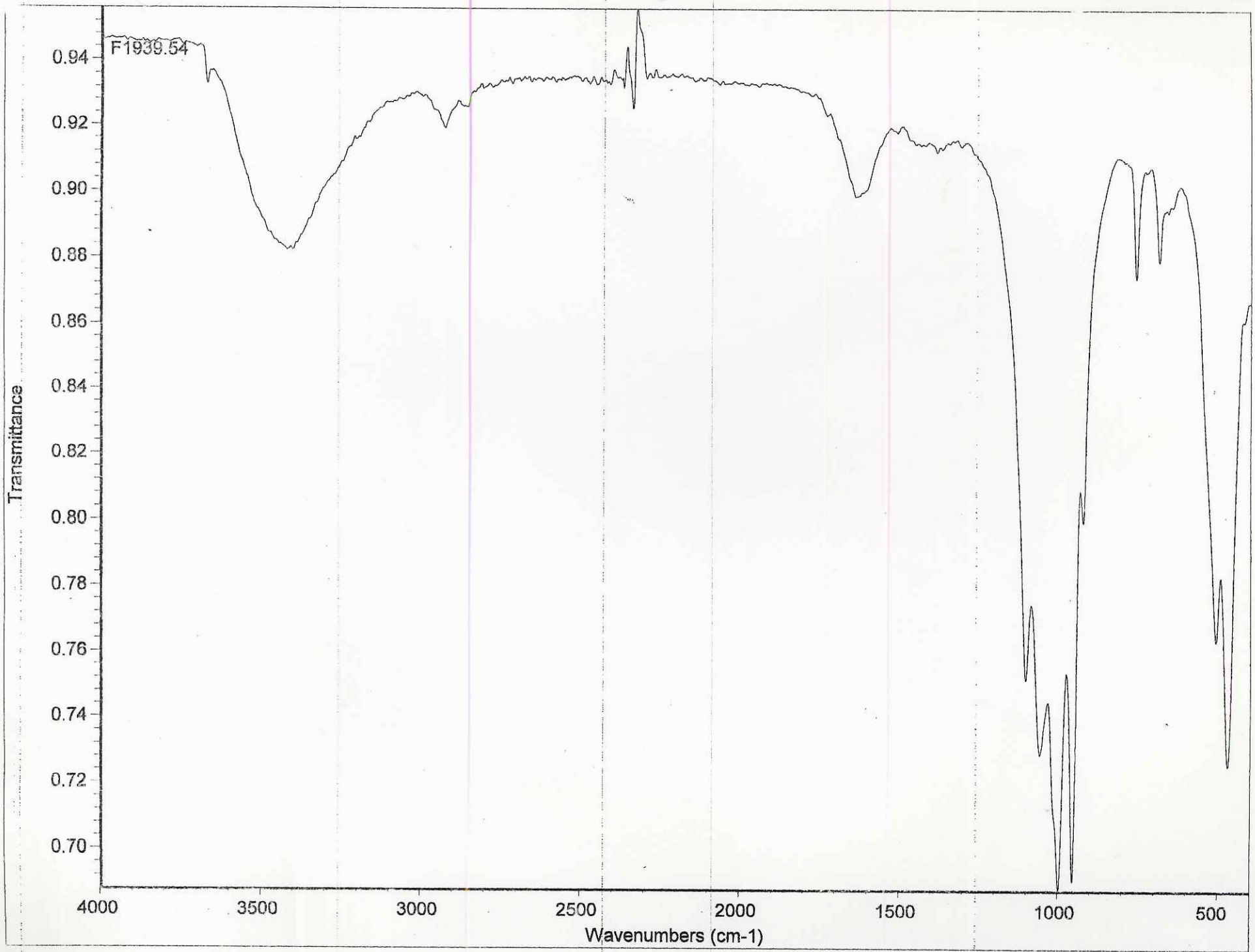
PROCEDURE : NEPHRITE - HE
FILTER USED : NO FILTER
ATMOSPHERE : AIR
COUNT RATE RANGE : MED
ANALYSIS METHOD : FUN. PARAMS.

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

TIME : 11:41 am

DATE : 4/30/97

SAMPLE	ELEMENT	CONCENTRATION		ERROR
F39.54.1				
	SIO2	56.150 %	+/-	0.1640
	K2O	0.044 %	+/-	0.0106
	CAO	13.089 %	+/-	0.0306
	TIO2	0.097 %	+/-	0.0049
	CR2O3	0.054 %	+/-	0.0036
	MNO	0.047 %	+/-	0.0025
	FEO	1.413 %	+/-	0.0062
	NIO	N D		
	C	0.000 ADDED		
	MGO	29.106 DIFF		



IR Analysis Wen, G. 1997