Office of the Registrar
Freer Gallery of Art

V16.97.3 LRN: 3246
Vault Number

F1998.4
Accession Number

Acquisition Consideration Form - Gift, Transfer, or Bequest

China
Country/region/city

~~Jade~~ Ax blade
Title/subject

Jade ?
Medium/technique/format

~~Shang dynasty~~ Neolithic, ca. 3100-2600 BC.
Date of work

Artist/classification

Life dates

Mrs. Elizabeth Lorentz, 21 Whippoorwill Road, Armonk, NY 10504
Source

Assessments and comments (Initial and Date):

Registrar: In FGA collection storage. Proposed as gift to pernament collection in honor of the 75th anniversary of the FGA. B Talley 5/19/97

Conservator (please attach report): The axe is in excellent condition. Please see attached report. Janet G. Douglas JGD 6/10/97

Curator - Justification (attach additional pages as necessary): Recommended for acquisition — See attached JGD 7/8/97.

Curator - Provenance (attach additional pages as necessary): See attached JGD 7/8/97.

Assistant Director, Research and Collections — 7/11/97 Date — ☑ Approved ☐ Denied

Director — Date — ☑ Approved ☐ Denied

7/24/97 Chairman, Commission of Fine Arts

7/17/97 Secretary, Smithsonian Institution

Accession in 1998 per wishes of donor.

Please return this form to the Office of the Registrar.

FREER GALLERY OF ART
LABORATORY EXAMINATION REPORT

Object:	Jade blade, China, Neolithic to Shang dynasty	V16.97.3
Owner:	Mrs. Elizabeth Lorentz 21 Whippoorwill Road Armonk, NY 10504	LRN:3246

This stone axe has an evenly rounded cutting edge and a relatively large biconical drill hole. Its sides are smoothly polished. It has an exceptional fine glassy polish to the flat surfaces, although the surface is pitted. The stone has a slightly metallic blue-gray color, with areas and laminations of beige.

An area of loss is present along one side of the sharpened curved edge. No repairs were noted. Nothing unusual was seen under examination by long wave ultraviolet light. Generally the stone axe is in excellent condition.

The stone material has the general appearance of nephrite jade, but a closer examination reveals some differences. The polish is much glassier than those typical of Chinese jades, which may be the result of a different mineralogical composition. The color of the material in unaltered, translucent areas is a light blue. Beige areas and laminations are finely associated with this blue material, and spots of whitish, more opaque material are present.

Preliminary analysis of the axe was done by x-ray fluorescence spectrometry and x-ray diffraction. The axe is inhomogeneous in composition, but is composed (at least in part) of a mixture of the minerals corundum, Al_2O_3, and diaspore, $Al_2O_3.H_2O$. This is an unusual composition for a neolithic Chinese jade, but not totally unplausible as a material used by these cultures. Clearly more work needs to be done to fully understand the composition of this stone axe, especially in light of its inhomogeneous color and texture. However, this composition does help explain why it has such a glassy polish. At this time, it is difficult to say whether this polish was obtained in antiquity, or if it was done in recent times. However, no visual evidence was found to suggest that the polish was done in recent times. No unusual accretions or surface treatments were seen.

Please let me know if you would like more information on the examination and analysis of this stone axe. It is my opinion that the axe represents an unusual opportunity for research on stone materials used by neolithic Chinese cultures, particularly given its material which is not of a lesser quality and hardness than nephrite jade.

Janet G. Douglas
June 10, 1997