PROJECT 10073 RECORD CARD

1. DATE 18 August 1960	2. LOCATION Melbourne, Florida	12. CONCLUSIONS ☐ Was Balloon ☐ Probably Balloon ☐ Possibly Balloon ☐ Was Aircraft ☐ Probably Aircraft ☐ Possibly Aircraft ☐ Was Astronomical ☐ Probably Astronomical ☐ Possibly Astronomical ☐ Other _____ ☒ Insufficient Data for Evaluation ☐ Unknown
3. DATE-TIME GROUP Local 2015 GMT 19/0115Z	4. TYPE OF OBSERVATION ☒ Ground-Visual ☐ Ground-Radar ☐ Air-Visual ☐ Air-Intercept Radar	
5. PHOTOS ☐ Yes ☒ No	6. SOURCE Civilian	
7. LENGTH OF OBSERVATION 1 minute	8. NUMBER OF OBJECTS one	9. COURSE SW

10. BRIEF SUMMARY OF SIGHTING

Witness observing passage of ECHO I. Object moving opposite to Echo blacking out portions of milky way. Thought perhaps Echo was casting shadow, however sun was not in position to do this even if possible.

11. COMMENTS

Data limited. Evaluation not attempted on data presented and case considered as insufficient data.

ATIC FORM 329 (REV 26 SEP 52)

[redacted]

September 2, 1960

Headquarters U S A F
SAFDI - 3
Washington 25, D. C.

RE: UFO

Dear Sirs:

Upon making inquiry to the P. I . O. at Patrick Air Force Base it was suggested that I write your office.

On the night of August 18th, 8:15 PM, EST...I was observing the passage of the Echo Sattellite over the Melbourne, Florida area Echo was travelling from South-west to North-east in a cloudless sky with an extremely clear Milky Way for a background. When Echo had reached a position about 70 degrees above the Eastern horizin, I suddenly had my attention caught by a rather unusual shadow moving in exact opposition. This shadow.. semi-circular in shape, blotted out stars in the milky way ..thus catching my eye. It moved from roughly 90 degrees out of sight in the west in what I judged to be one minute.

At first....I thought that perhaps this could be a shadow cast by Echo, but changed my opinion when I realized that the sun would be to the west....thus causing any shadow from Echo to race ahead of it instead of in opposition. This raises several questions in my mind:

1....Were there any other reports of this incident made on the same night?????

2....Did Echo cast a shadow that night?????

3....Since we have nothing that flies this fast...what was it?

My interest in this matter is more than idle wondering. I cover launches from the Cape for Mutual Network and WCAU in Philadelphia

Your cooperation in making any information you may have available will be deeply appreciated.

Sincerely,

Oct 4 1

[redacted]

MEMO ROUTING SLIP

NEVER USE FOR APPROVALS, DISAPPROVALS, CONCURRENCES, OR SIMILAR ACTIONS

	INITIALS		
1 NAME OR TITLE Major Friend			CIRCULATE
ORGANIZATION AND LOCATION AFIC	DATE		COORDINATION
2			FILE
			INFORMATION
3			NECESSARY ACTION
			NOTE AND RETURN
4			SEE ME
			SIGNATURE

REMARKS

Please provide us with information upon which we can base a re[redacted]

FROM NAME OR TITLE	DATE
ORGANIZATION AND LOCATION	TELEPHONE 72[illegible]

DD FORM 1 FEB 50 95 Replaces DA AGO Form 895, 1 Apr 48, and AFHQ Form 12, 10 Nov 47, which may be used.

Atch #1

AIR TECHNICAL INTELLIGENCE CENTER
UNITED STATES AIR FORCE
WRIGHT-PATTERSON AIR FORCE BASE
OHIO

REPLY TO ATTN OF: AFCIN-4E2x

21 SEP 1960

SUBJECT: UFO Report (Mr [redacted])

TO: SAFOI-3d (L/Col Tacker)

1. Reference attached letter to USAF from Mr [redacted] dated 2 September 1960, and DD Form #95 from SAFOI-3d to ATIC requesting information to use as a basis for answering Mr [redacted]s letter, dated 6 September 1960.

2. The following answers correspond to the specific questions contained in the referenced letter:

a. No reports have reached ATIC for 18 August 1960, which parallel the circumstances as spelled out by Mr [redacted]

b. Yes, Echo did cast a shadow on the night of 18 August 1960; however, due to its size and distance the shadow of Echo is never evident on the surface of the earth. A complete explanation follows later in this correspondence.

c. Due to the limited data in this case it is impossible to reach a positive conclusion as to the cause of this sighting. There are several possibilities, but the most probable is that this was a physiological experience; the UFO being, in lay terms, the results of seeing spots. This is not unusual when someone has been straining to see some object, has their head in an unusual position for a long period, and is experiencing some degree of excitement.

3. The object in our skys with whose shadow we are familiar is the moon. The shadow of the moon is a long cone approximately 232,100 miles in length. The shape and length is due to the difference in size of the sun and moon and the distance between them. While this shadow of the moon is always present, it is not always directly evident to us here on earth because there is nothing on which it is portrayed (we are able to see evidence of it during phases other than full moon because portions of the dark side are visible). The shadow of the moon is most evident to us here on earth when at the time of the new moon, the moon is near enough to the plane of the ecliptic so that at least part of its shadow will fall upon the surface of the earth. When this occurs we experience a solar eclipse. It has already been pointed out that the average length of the moon's shadow is 232,100 miles. The average distance between the earth and moon is approximately 238,000 miles. There are actually times when the shadow of the moon is too short to

reach the earth; however, due to the eccentricities of the orbits, the distances between the moon and earth may vary between 217,750 and 245,500 miles and during some of the periods of the new moon we are close enough for the shadow to be cast upon the earth. The ratio between the diameter of the moon as compared to its average distance is 1/110 and this figures to a subtended angle of 31' 5" or approximately $\frac{1}{2}^{\circ}$. The ratio of the diameter of Echo to its distance is 1/52,800, an angular representation of 3.91 seconds. A shadow cast by Echo would have a length of approximately 2.02 miles which, in view of its 1000 mile distance from the earth, is far short of reaching the earth's surface.

4. Echo subtending an angle of 3.91 seconds is below the level of resolution. Observers (without optical aids) are actually seeing the light reflected from the surface of the satellite. This is comparable to seeing sunlight reflected from a mirror which, in itself, is too small to be seen at the same distance. (This is why the Air Force puts mirrors for signalling in survival kits.)

5. Mr [redacted] was correct concerning his thoughts about the relationship of himself to any shadow cast by Echo on the night of 18 August 1960. When an observer can see any of the surface from which light is reflected, as in the case of the moon, then there exists an angle between the observer, the object and the light source such that any prime shadow cast by the object could not fall upon the observer.

6. There have, on other occasions, been objects reported to the Air Force which were seen in conjunction with Echo, but as yet no data has been submitted which was extensive enough to allow a positive conclusion. The most probable cause of these sightings is misidentification of high flying jet aircraft due to misassociation with the satellite as to distance and velocity.

FOR THE COMMANDER:

for: Major USAF

PHILIP G. EVANS
Colonel, USAF
Deputy for Science and Components

2 Atch:
1. Cy DD Fm 95, 6 Sep
2. Cy ltr 2 Sep 60, fr
[redacted]

SAFOI-3d/LtCol T ker/mhb/72291

19 August 1960
Melbourne, Fla

23 September 1960

Dear M[redacted]

This is to acknowledge your letter of 2 September 1960 concerning the Echo satellite and the unidentified flying object you saw on 18 August 1960.

No reports have reached the Aerospace Technical Intelligence Center for 18 August 1960 which parallel the circumstances as spelled out by you.

Yes, Echo did cast a shadow on the night of 18 August 1960; however, due to its size and distance the shadow of Echo is never evident on the surface of the earth. A complete explanation follows later in this correspondence.

Due to the limited data submitted with your sighting, it is impossible to reach a positive conclusion, Therefore, I am inclosing an Air Force questionnaire for you to fill out. When the document is completed, please forward it to the Aerospace Technical Intelligence Center at Wright-Patterson Air Force Base, Ohio for their analysis and evaluation.

The object in our skys with whose shadow we are familiar is the moon. The shadow of the moon is a long cone approximately 232,100 miles in length. The shape and length is due to the difference in size of the sun and moon and the distance between them. While this shadow of the moon is always present, it is not always directly evident to us here on earth because there is nothing on which it is portrayed (we are able to see evidence of it during phases other than full moon because portions of the dark side are visible). The shadow of the moon is most evident to us here on earth when at the time of the new moon, the moon is near enough to the plane of the ecliptic so that at least part of its shadow will fall upon the surface of the earth. When this occurs we experience a solar eclipse. It has already been pointed out that the average length of the moon's shadow is 232,100 miles. The average distance between the earth and moon is approximately 238,000 miles. There are actually times when the shadow of the moon is too short to reach the earth, however, due to the excentricities of the orbits, the distances between the moon and earth may vary between 217,750 and 245,500 miles and during some of the periods of the new moon we are close enough for the shadow to be cast upon the earth. The ratio between the diameter of the moon as compared to its average distance is 1/110 and this figures to a subtended angle of 31'5" or approximately $\frac{1}{2}^{\circ}$. The ratio of the diameter of Echo to its distance is 1/52,800, an angular representation of 3.91 seconds. A shadow cast by Echo would have a length of approximately 2.02 miles which, in view of its 1000 mile distance from the earth, is far short of reaching the earth's surface.

Letter to Mr[redacted]k

Echo subtending an angle of 3.91 seconds is below the level of resolution. Observers (without optical aids) are actually seeing the light reflected from the surface of the satellite. This is comparable to seeing sunlight reflected from a mirror which, in itself, is too small to be seen at the same distance. (This is why the Air Force puts mirrors for signalling in survival kits.)

You were absolutely correct concerning your thoughts about the relationship of your person to any shadow cast by Echo on the night of 18 August 1960. When an observer can see any of the surface from which light is reflected, as in the case of the moon, then there exists an angle between the observer, the object and the light source such that any prime shadow cast by the object could not fall upon the observer.

There have, on other occasions, been objects reported to the Air Force which were seen in conjunction with Echo, but as yet no data has been submitted which was extensive enough to allow a positive conclusion. The most probable cause of these sightings is misidentification of high flying jet aircraft due to misassociation with the satellite as to distance and velocity.

Sincerely,

LAWRENCE J. TACKER
Lt. Colonel, USAF
Public Information Division
Office of Information

Inclosure

Mr. [redacted]
[redacted]elbourne, Florida

Comeback OI-3d
Reader OI-1

22 Aug 1960

S T A T E M E N T

Inspection of an unknown object at the Naval Air Station, Norfolk, Virginia on 17 August 1960 by 1/Lt Francis G Proctor and S/Sgt Malone of the Base EOD Section. Item inspected appeared to be an object used to carry electronic equipment for test purposes or other purposes as designed. No positive identifying features were found on the object except the initials (E J M) on one tage attached to the connection plug. Other marking appeared but no way of associating their meaning with the object. Item contained two (2) or more explosive squibs in series which was used to cut parachute lines (two (2) live squibs are still present). The tube like extension contained aluminum strips which assumed was used as an antenna for the other attached equipment. The center section of the tube is metal which assumed contains the main equipment of the object. The center section was protected from possible shock by very light material taped and bolted to the tube. Other than explosive squibs the object seemed to be safe to handle. Squibs are now separated from the main object. Item still should be handled very carefully until contents of the center section is known.

Francis G Proctor
FRANCIS G PROCTOR
1/LT., USAF
EOD Officer

4E2

[redacted]

AUG 1960

ARWOI

Unidentified Object

Air Technical Intelligence Center (ATIC)
Wright-Patterson AFB, Ohio

1. The attached Form 112 with inclosures is forwarded for your information and action.

2. Request immediate instructions for future handling of this object. At the present time the U. S. Naval Armory, Norfolk, Virginia, has custody but, it is anticipated they will soon request instructions for disposition of this object since they have turned the investigation over to the Air Force.

3. This information has not been disseminated to AFCIN or other agencies as stated in AFR 200-2, Paragraph 14a, as the criteria of an unidentified flying object has not been established.

FOR THE COMMANDER:

GEORGE A. COE
Captain, USAF
Administrative Officer

3 Atch
(see Form 112)

1st Ind (AFCIN-4E2x)

Aerospace Technical Intelligence Center, Wright-Patterson AFB, Ohio

TO: Hqs 4505th Air Refueling Wing (TAC), Attn: ARWOI,
Langley Air Force Base, Virginia

It is requested that unidentified object referred to in basic communication be forwarded to this Center, attention AFCIN-4E2x.

FOR THE COMMANDER:

PHILIP G. EVANS
Colonel, USAF
Deputy for Science and
Components

3 Atch
w/d

COORDINATION:

AFCIN-4E2x [illegible] Date 30 Aug 60

AFCIN-4E2 [illegible] Col Date 30 Aug 60

AF FORM 112—PART I
APPROVED 1 JUNE 1948

UNCLASSIFIED
(CLASSIFICATION)

COUNTRY	REPORT NO.	(LEAVE BLANK)
United States (Virginia)	ARWOI-60-001	

AIR INTELLIGENCE INFORMATION REPORT

SUBJECT: Unidentified Object found approximately 35 miles west of Langley AFB, Virginia

AREA REPORTED ON	FROM (Agency)
Vicinity of Elberon, Virginia	Hq, 4505th Air Refueling Wing, Langley AFB Va.

DATE OF REPORT	DATE OF INFORMATION	EVALUATION
22 August 1960	13 August 1960	A-1

PREPARED BY (Officer)	SOURCE
Major Albert F. Houghton, AO-694876	Various

REFERENCES (Control number, directive, previous report, etc., as applicable)

SUMMARY: (Enter concise summary of report. Give significance in final one-sentence paragraph. List inclosures at lower left. Begin text of report on AF Form 112—Part II.) *

*complete text follows:

On 15 August 1960, at approximately 1800 hours the preparing officer of this report, Major Albert F. Houghton, AO-694876, 4505th Air Refueling Wing, Langley Air Force Base, Virginia, was called by a Mr. William O. Warren, O.S.I., who requested that he contact a Lt Johnston from Naval Intelligence in regard to an unidentified object recovered by Navy personnel. A meeting was arranged at the residence of Major Houghton at 1845 hours. The following information was furnished by Lt Johnston upon his arrival: The State Police had called the Duty Officer of Oceana Naval Air Station Saturday night (13 Aug) and reported an unidentified object on the ground approximately 35 miles west of Langley AFB. At 2300 hours Commander Withrow, USN, made necessary arrangements to send out a party to check on this object. This party departed Norfolk Naval Base Sunday morning (14 Aug) at 0815 and returned Sunday evening (time unknown). The party consisted of F. L. Grubbs (Investigator with Norfolk Naval Police), Robert E. Damme, AO3/C and Seaman Stefanski. They proceeded by car and jeep to Wakefield Va. where they were met by State Trooper Seymore. Trooper Seymore guided the group to Elberon, Va. and then proceeded 10 miles west. They then turned off on a fire lane for another 8 or 10 miles to a swamp, and traveled another 2 miles to the right on foot. (Lt Johnston stated these directions and distances were quite vague, however, the location is near Highway 10 adjacent to Cypress Swamp but cannot be reached from Highway 10). This object was observed lying on the ground with a parachute caught on a limb about 40 feet high. A section of the "tube" approximately 10 feet long had broken off and was left at the site. The parachute and the object, which weighed approximately 70 lbs, were returned to Norfolk Air Station. Lt Johnston further stated that detonators were attached to the object and that pictures had been taken and would be furnished to the Air Force. At approximately 1000 hours, 16th of August, Lt Johnston arrived at the 4505th Wing Intelligence Office. He stated he had talked to [redacted] and his Staff at NASA and had shown them a sketch of this object but they were unable to identify the object as a NASA project. He then requested this object be transferred to this base and the Air Force take over the investigation. Tentative arrangements were made through Sgt Blair (EOD) to remove the object, however, he stated that Lt Proctor, EOD Officer, would have to approve. Lt Proctor called that afternoon and stated he would visit the Naval Armory the following day for a preliminary examination. On 17th August Lt Proctor visited the Naval Armory to inspect this object with a photographer. On the 22d Lt Proctor contacted Major Houghton and made a signed statement of his investigation (see Attachment 1). In addition, three pictures were furnished of this object (see Attachment 2). On the afternoon of the 22d Major Houghton visited Mr. House (NASA) and showed him these pictures and requested his assistance in identifying this object. Several sections were visited with negative results.

3 INCLS.

1. Lt Proctor's Statement
2. 3 Photographs of Object
3. Sketch of Object made at Scene of Discovery

ALBERT F. HOUGHTON
Major, USAF
Wing Intelligence Officer

DISTRIBUTION BY ORIGINATOR

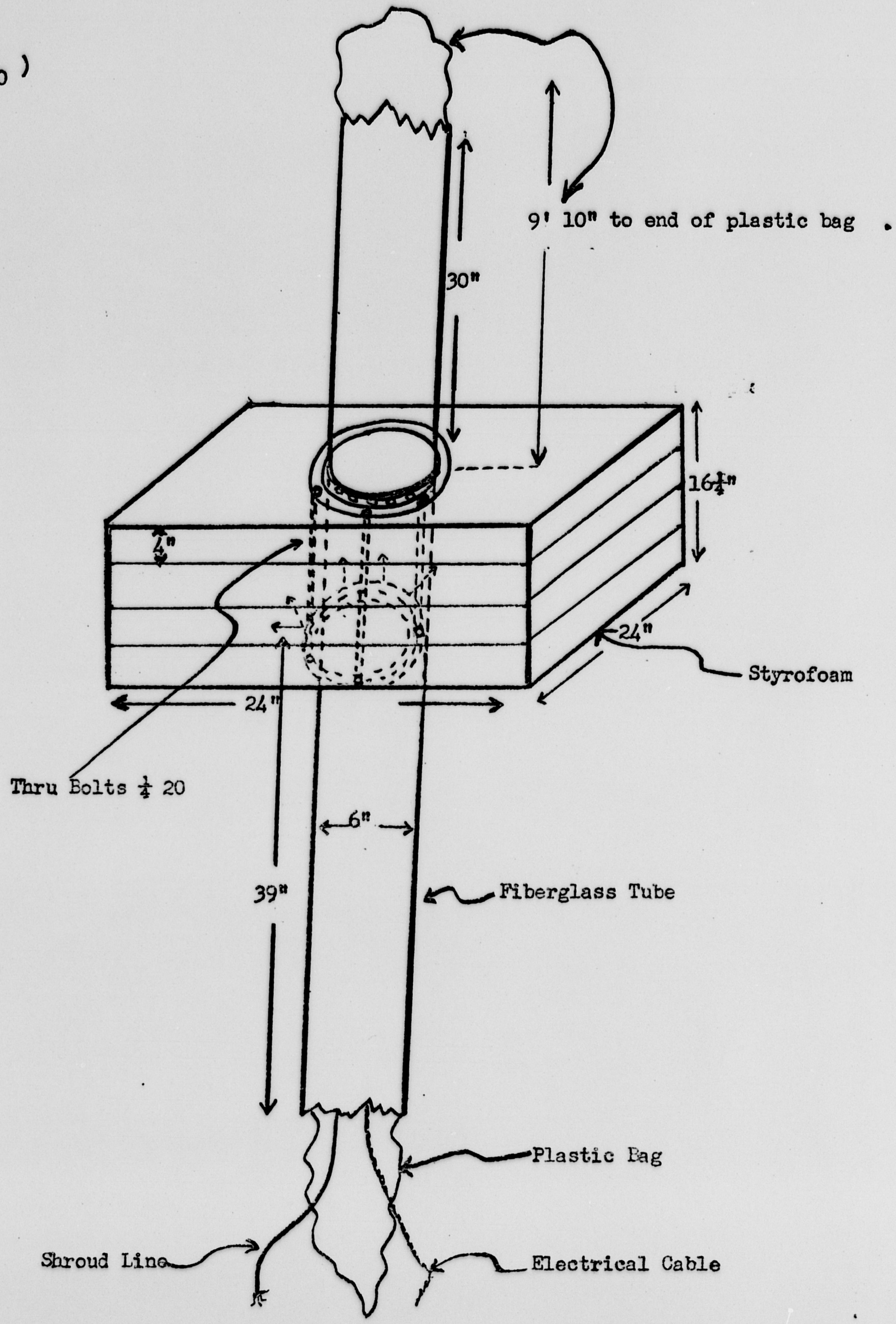
Request immediate instructions for disposition of this object which is presently being held by the US Naval Armory, Norfolk, Virginia.

NOTE: THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES WITHIN THE MEANING OF THE ESPIONAGE ACT, 50 U. S. C.—31 AND 32, AS AMENDED. ITS TRANSMISSION OR THE REVELATION OF ITS CONTENTS IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW. IT MAY NOT BE REPRODUCED IN WHOLE OR IN PART, BY OTHER THAN UNITED STATES AIR FORCE AGENCIES, EXCEPT BY PERMISSION OF THE DIRECTOR OF INTELLIGENCE, USAF.

UNCLASSIFIED
(CLASSIFICATION)

☆ U. S. GOVERNMENT PRINTING OFFICE : 1950—O-918331

(Device
12 Aug 60)



AFCIN-4E2x

Report of Investigation

[redacted]
Minneapolis 14, Minnesota
Attn: [redacted]

Per your telephone request, attached is a copy of the report of investigation and recovery of equipment which was submitted to ATIC. Copies of photographs of said equipment are also attached.

PHILIP G. EVANS
Colonel, USAF
Deputy for Science and Components

4 Atch:
1. AIR #ARWOI-60-001, dtd 22 Aug 60
2. Photograph
3. Photograph
4. Photograph

HEADQUARTERS
4505TH AIR REFUELING WING (TAC)
UNITED STATES AIR FORCE
Langley Air Force Base, Virginia

4505TH AIR REFUELING WING

5 OCT 1960

REPLY TO ATTN OF: ARWOI

SUBJECT: Unidentified Object

TO: Aerospace Technical Intelligence Center (AFCIN-4E2x)
Wright-Patterson AFB, Ohio

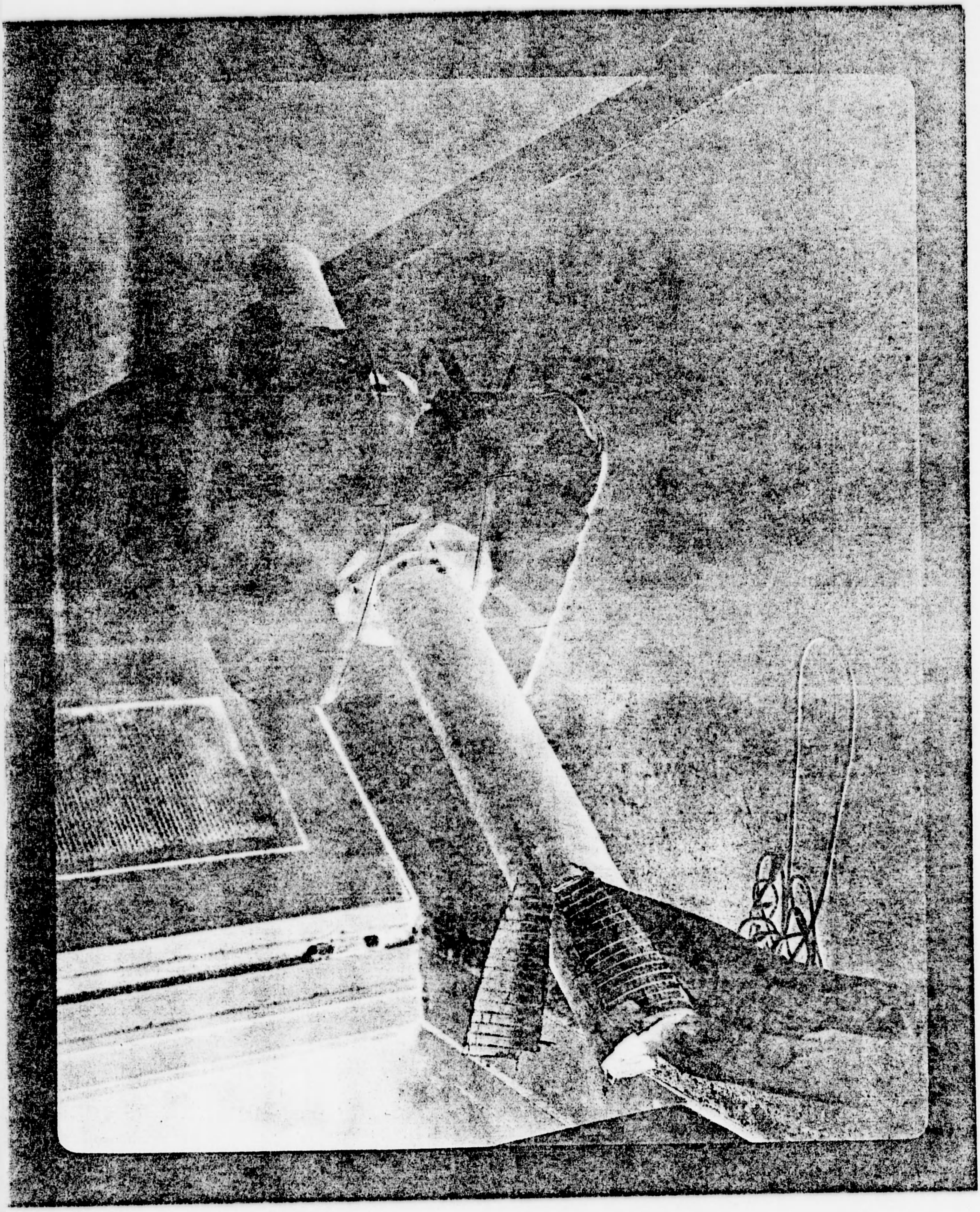
1. Reference letter, Hq 4505 Air Refueling Wing (ARWOI), subject as above, dated 25 Aug 60 and your 1st Ind to subject letter dated 31 Aug 60.

2. Unidentified object shipped on or about 5 October 1960 by "LOGAIR" with PRIORITY 5.

FOR THE COMMANDER:

George A. Coe

GEORGE A. COE
Captain, USAF
Administrative Officer



This case includes two (2) 8"x10" photographs and two (2) 8"x10" negatives.

Physical specimen missing.