PROJECT 10073 RECORD CARD

1. DATE

26 October 1962

2. LOCATION

Chorpus Christi, Texas

3. DATE-TIME GROUP

Local 2 pm

GMT 26/2000Z

4. TYPE OF OBSERVATION

☒ Ground-Visual ☐ Ground-Radar

☐ Air-Visual ☐ Air-Intercept Radar

5. PHOTOS

☐ Yes Physical

☒ No Specimen

6. SOURCE

Civilian

7. LENGTH OF OBSERVATION

not reported

8. NUMBER OF OBJECTS

one

9. COURSE

falling

12. CONCLUSIONS

☐ Was Balloon
☐ Probably Balloon
☐ Possibly Balloon

☐ Was Aircraft
☐ Probably Aircraft
☐ Possibly Aircraft

☐ Was Astronomical
☐ Probably Astronomical
☐ Possibly Astronomical

xx ☒ Other glass

☐ Insufficient Data for Evaluation
☐ Unknown

10. BRIEF SUMMARY OF SIGHTING

Piece of translucent material reported to have fallen from sky striking plow of farmer. Material forwarded to ASD for analysis.

(PORTION OF OBJECT IN SPECIMEN FILE)

11. COMMENTS

Analysis showed material to be bottle glass from large bottle. Pattern on glass indicated manufactured by Illinois Owens glass company.

ATIC FORM 329 (REV 26 SEP 52)

[redacted]

January 10, 1963

Maj. S. F. Brokeshoulder
Asst. Chief, Analytical Branch
Physics Laboratory
Aeronautical Systems Division
Wright-Patterson Air Force Base, Ohio

Dear Maj. Brokeshoulder:

For your information, I am sending to you herewith a copy of a letter which we have received from our Technical Center concerning the glass sample which you forwarded to me. The glass sample is also being returned to you herewith.

It appears that your judgment as to the probable source of this fragment was correct. I sincerely trust that this information is helpful to you.

Yours very truly,

[redacted], Attorney
Legal Department

va
enclosure

[redacted]L

OWENS-ILLINOIS

INTRA-COMPANY (I) CORRESPONDENCE

January 9, 1963

Attention of Mr. L. H. Farmer, Jr. - O-I Bldg.
cc: Dr. C. L. Babcock - T.C.
Dr. J. M. Teague - T.C.

Subject

GENERAL RESEARCH DIVISION
TECHNICAL CENTER
TOLEDO, OHIO

Glass Sample Received from the Air Force

Examination of the subject sample indicated that the largest fragment possessed both a blown surface and a molded surface which was crackled. Since these two surfaces were opposite each other, the wedge-shaped area between these surfaces represented the thickness of the original sample. This thickness varied from 1/2'' to 3/4''.

Generally speaking, the molded surface of these fragments was practically identical to the crackled surface of the bottom of large carboys, acid bottles or the 5 gallon wide-mouthed jobs currently sold for ''Gardens in Glass.'' In addition to the raised crackle lines, definite depressed lines or crevices were also present. Microscopic examination indicated that these lines or crevices were shear marks. Therefore, the ware was made from a sheared gob.

Considering the foregoing characteristics, it appears that the glass fragments may have originated from one of the larger carboys or wide mouth jars having capacities of 5 or 6-1/2 gallons. Also, evidence of a sheared gob would indicate that the ware was machine made. I believe that our Alton Plant is the only plant having the necessary machinery to do these large jobs. Therefore, it is quite possible that the glass sample represents Alton flint composition.

Emersion in monochlorobenzene indicated that the glass fragments have a refractive index similar to ordinary soda-lime-silica glasses. On the basis of the foregoing information, it appears that a chemical analysis is not necessary. Therefore, the sample is being returned with this correspondence.

E. C. Hagedorn

E. C. Hagedorn
Glass Technology

ji

AERONAUTICAL SYSTEMS DIVISION

WRIGHT-PATTERSON AIR FORCE BASE, OHIO

PHYSICS LABORATORY

EVALUATION REPORT

Analysis of Glass-like sample.

REPORT NR: 62-24 DATE: 3 December 1962

PROJECT NR: 5140(116) TYPE EVALUATION:

MANUFACTURER: SPEC NR:

SUBMITTED BY: Lt. Col. R. J. Friend ITEM SERIAL NR:

I. PURPOSE

To chemically analyze a Glass-like sample.

II. FACTUAL DATA

a. The sample was assigned ASRCPA control number 10,360.

b. It was tested for radioactivity using a scintillation counter. No radioactivity above normal background was detected.

c. The sample was tested for the transmission of light in the region from the far ultraviolet to the far infrared. It has good transmission only in the near infrared region, 0.75 to 1.75 microns. It has about 10% transmission in the visible region, 0.4 to .75 microns, and about the same transmission as plate glass elsewhere. It is not a useful window material outside the near infrared.

d. It breaks along a plane of cleavage when it has been sharply struck with a 4-ounce hammer. The slivers and sharp edges crumble when tested by finger. The sample has undergone some form of mild heat treatment such as fire polishing.

e. Chemical analysis for carbon and hydrogen using microchemical techniques detected no carbon and only 0.16% by weight of hydrogen. This concentration of hydrogen is less than the allowable error of ± 0.3%; consequently the significance is negligible.

f. Analysis by light emission spectrography provided these data:

Element	Concentration (% by weight)
Silicon	greater than 10
Sodium	greater than 10
Calcium	10
Potassium	less than 1
Aluminum	0.5
Boron	less than 0.1
Lead	less than 0.1
Iron	0.05
Magnesium	0.05
Titanium	0.01
Manganese	less than 0.01
Tin	less than 0.01
Copper	less than 0.01

g. Wet chemical analysis provided these data:

Oxides	Weight Percent
Silicon dioxide	70.53%
Calcium oxide	13.62%
Sodium oxide	10.35%
Magnesium oxide	1.15%
Potassium oxide	0.94%

h. The density of the sample is 2.231 g/cc.

i. The index of refraction is 1.4863.

j. Despite the lens like configuration, the sample does not focus direct sunlight. The smooth ridges on the plane surface cause a scattered light pattern.

k. An X-ray diffraction pattern of the glass-like sample showed a principal component of non-crystalline silica. This identification was confirmed by infrared analysis in the 2 - to - 16 micron region.

l. Exposure to an X-ray beam for fifteen minutes caused a brown discoloration to form.

III. CONCLUSIONS:

A. The absence of crystalline silica and high concentration of sodium oxide show that this glass is a low quality type of glass.

b. The chemical composition and low melting temperature confirm that the sample is a "bottle-glass" formulation.

IV. RECOMMENDATIONS

None, data merely submitted.

PREPARED BY:

Solomon F. Brokeshoulder

Solomon F. Brokeshoulder
Major, U. S. A. F.

PUBLICATION REVIEW

This report has been reviewed and is approved.

FREEMAN F. KENTLEY
Chief, Analytical Branch
Physics Laboratory
Div of Materials & Processes

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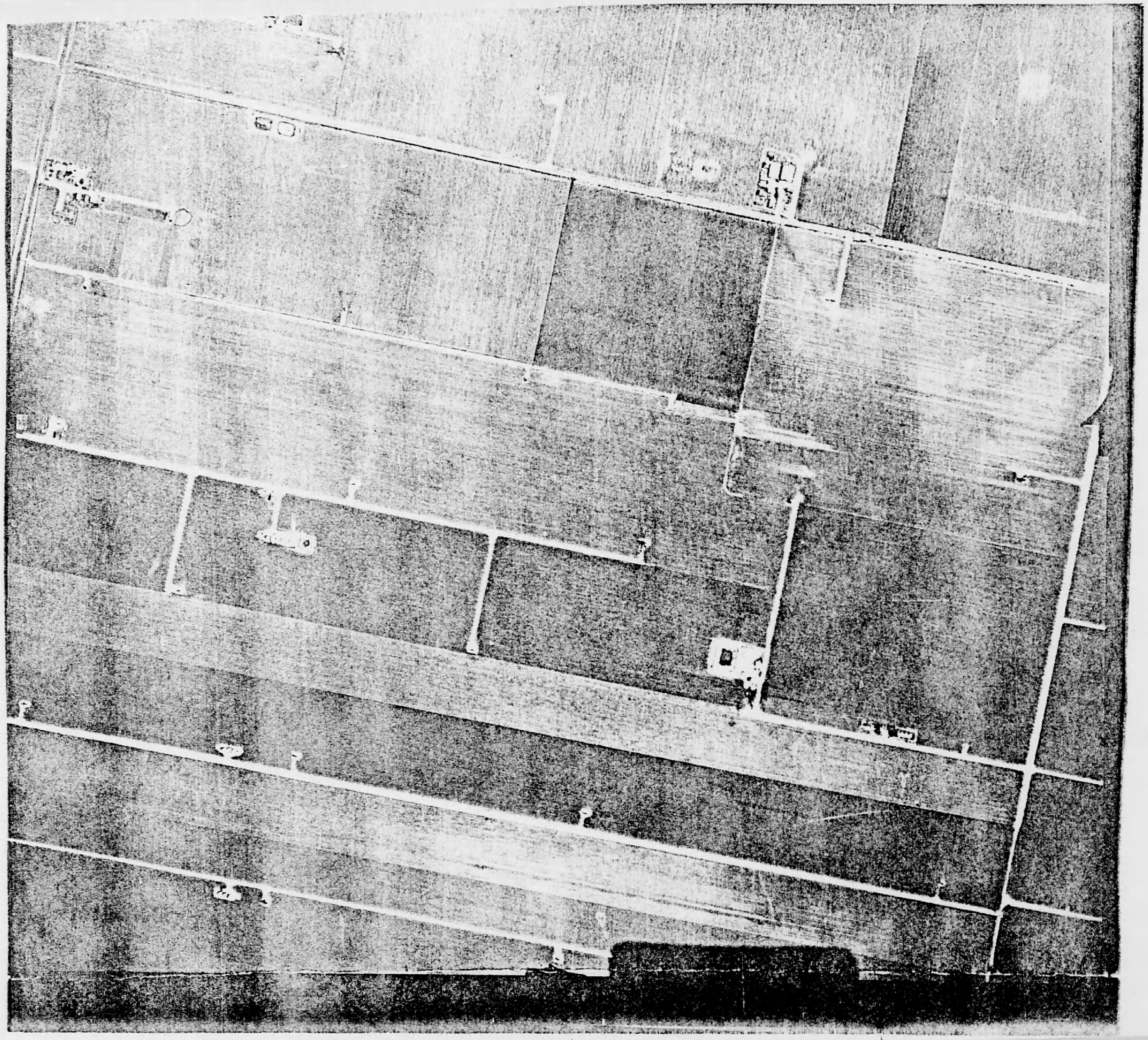

Farm outlined in ink. More aerial views will follow
The impact point was covered with a strip of canvas
eight feet long + one foot wide. Believe it is in
the circle — but not sure.