[redacted]

PROJECT 10073 RECORD CARD

1. DATE	2. LOCATION	12. CONCLUSIONS
4 Sep 60	Hartford, Connecticut	☐ Was Balloon ☐ Probably Balloon ☐ Possibly Balloon
3. DATE-TIME GROUP Local 2015 GMT 05/0015Z	**4. TYPE OF OBSERVATION** ☒ Ground-Visual ☐ Ground-Radar ☐ Air-Visual ☐ Air-Intercept Radar	☐ Was Aircraft ☐ Probably Aircraft ☐ Possibly Aircraft
5. PHOTOS ☒ Yes Physical ☐ No Specimen	**6. SOURCE** Civilian	☐ Was Astronomical ☐ Probably Astronomical ☐ Possibly Astronomical
7. LENGTH OF OBSERVATION seconds	**8. NUMBER OF OBJECTS** one	**9. COURSE** falling
		☒ Other Furnace slag ☐ Insufficient Data for Evaluation ☐ Unknown

10. BRIEF SUMMARY OF SIGHTING

Observer heard loud swish in air. Looked and saw object falling like green flame. Object landed and appeared to be cone about 1 ft high. This started a fire in a shed in the back yard. Janitor put out the fire and had police called. The material was subsequently turned over to the police and obtained for analysis.

11. COMMENTS

Material analysis showed substance to be furnace slag.

ATIC FORM 329 (REV 26 SEP 52)

AERONAUTICAL SYSTEMS DIVISION
~~WRIGHT AIR DEVELOPMENT CENTER~~
WRIGHT-PATTERSON AIR FORCE BASE, OHIO

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~~DIRECTORATE OF LABORATORIES~~ Physics LABORATORY
Materials Central

EVALUATION REPORT

Analysis of Foreign Material

REPORT NR: ASRC P 61-11
DATE: 8 May 1961
PROJECT NR: 57101
TYPE EVALUATION:
MANUFACTURER:
SPEC NR:
SUBMITTED BY: AFCIN-4E2X (Sgt. Bolien)
ITEM SERIAL NR:

I. PURPOSE:

To determine the composition of foreign material.

II. FACTUAL DATA:

1. The foreign material was received and assigned Physics Laboratory Numbers 6177 and 6178.

2. The material was analyzed by emission spectroscopy.

3. Emission spectrographic analysis provided these data:

Principal - Calcium
Majors - Silicon, magnesium, iron, manganese, aluminum, titanium, and chromium.
Minor - Barium.
Traces - Nickel, copper, sodium, and silver

III. CONCLUSIONS:

None.

IV. RECOMMENDATIONS:

None, data merely submitted.

PREPARED BY:

Wade H. Jones

WADE H. JONES ASRCPA-2 (WWRCPA-7

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PUBLICATION REVIEW

This report has been reviewed and is approved.

Solomon F. Brokeshoulder
SOLOMON F. BROKESHOULDER, Capt, USAF
Chief, Organic Analysis Section
Physics Laboratory
Materials Central

DISTRIBUTION:

ASRCP (WWRCP) (1 cy)
ASRCPA (WWRCPA) (3 cys)
Sgt Bolien

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Description and Analysis of Hartford, Connecticut Samples

DRAFT

The samples of the object which fell at Hartford on 4 September 1960 were designed and described as follows upon their arrival at the Geophysics Research Directorate:

1. Single separate piece - coal?
2. Metal pieces - aluminum?
3. Stony material
4. Powder of the surface of the coal of No. 5
5. Fragments of large pieces of coal
6. Pieces of material looking like coke
7. Magnetic material (slag)
8. Coke?

The designations have been retained, although certain samples have been further divided into letter groups, e.g., 2 became 2A, 2B, 2C. Pictures were taken of the samples in order to help identify them, and for descriptive use in case it became necessary to destroy any of them. These pictures are included in this report.

The background samples brought back from Hartford on 17 September have been designated:

9. Slag
10. Anthracite
11. Black, light ball

and "Wasson's collection"

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NOTICES

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R&C

The numerical sequence was retained to avoid possible confusion with the sample materials.

As can be seen, the 11 segments can be put into 4 groups.

1. carbonaceous
2. light-metallic (aluminum)
3. stony
4. slag

Of these, the slag seems certain to be of Hartford origin, the stones were not analyzed, the carbonaceous material is in the background but is inconclusive as to origin. Only the aluminum samples seem clearly due to the observed fall, and, therefore, the most time was spent in their analysis.

Analysis of carbonaceous samples

The carbonaceous samples are 1, 4, 5, 6, and 8 and the background samples 10 and 11. Samples 10 "anthracite" and 11 "black light ball" are very similar in composition. They look like coal, and the Compton spread of the exciting W lines indicates a very low average atomic number. The x-ray fluorescent analysis showed more Sr in 11, otherwise the spectra are almost identical. They contain essentially no Ba.

Sample 5 (coalish, mounted with white-coated side toward exciting beam) when compared with the background samples 10 and 11 shows large differences, namely it contains large amounts of Ba (up by a factor of 10 or larger), and less Zn. The heights of the first order peaks are as follows, using a LiF crystal and W source at 30 Kv., 20 ma.

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R2C

Sr K_α	4
Sn K_α	(not observed in 1st order)
Fe K_α	65
Cu K_α	24
Zn K_α	3
Ti K_α	5
Ba $L\alpha_1$	12
Pb L_{α_1}	4 (assignment uncertain)

Sample 1, designated "coal", seems intermediate between the background samples 10 and 11, and sample 5. It has large amounts of Ba and Ti, with the Ti : Ba ratio increased by a factor 4. It shows a Zn content similar to the background samples. There is evidence for Pb being present.

Sample 8A is similar to Sample 1. EDDT spectra of 1, 8A, and 11 showed the following (taken at arbitrary scale factors for each sample):

Sample	1	8A	11
Ti K_α	(uncertain)	93	36
Ca K_α	59	135	24
K K_α	24	33	9
Cl K_α	2	2.2	--
S K_α	2	2.0	2
Si K_α	3	5.5	--

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R7C

Analysis of light metallic samples

Sample No. 2 X-ray fluorescence analysis:

A piece of Al of 48 mm^2 area was compared to all three 2a, b and c. The spectrometer was aligned for the Al K_{α} line, and the third order Ba L_{α_1}, suppressed by pulse height selection. The ratio of Al K_{α} intensity from the sample to that from Aluminum was 0.28, indicating a large proportion of Aluminum in the samples.

A standard was prepared having Magnesium, Aluminum and Barium in the following ratios:

$$\frac{Mg}{Al} = .48; \qquad \frac{Ba}{Al} = .61$$

From the relative intensities of the Mg K_{α}, Al K_{α} and Ba L_{α_1}, lines, it was determined that the indicated proportions were:

0.01 Mg and 0.96 Ba

However, the $\frac{Ba\ K}{Ba\ L}$ ratio from the standard was 10 times that from the sample, indicating a strong surface segregation of Ba in the sample. Therefore, the Ba L data contains a possible bias of 10. in concentration. If we apply this only to the Barium, and assume that the Mg and Al are uniformly distributed, we obtain the estimate of

30% Aluminum
1% Magnesium
10% Barium

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However, this entire analysis probes only the very thin layer near the surface, and in this layer the proportion of Barium is very high.

A comparison was made between Sample #2 and standard containing the following:

20% Ba
0.2% Sr
2.0% Cu
2. % Fe
2. % Mn
11.6% Cl
1.1% S

The results indicated that the sample contained all of these elements, in approximately these proportions, with perhaps 1% Fe and 30% Barium instead of the amount listed above. However, this figure for Barium is high because of surface segregation, and therefore this should be considered an analysis of the surface layer. As indicated in the previous section, Aluminum and Magnesium also make up part of the specimen.

Without destroying the sample by homogenizing it, we cannot make any quantitative estimates of analysis by weight. However, the following guess might be put forward on the basis of the surface layers exposed to the X-ray beam.

Element	Percent Composition
Ba	15. %
Sr	0.2
Zn	2.0
Cu	4.0
Fe	2.
Mn	4.
Cl	15.
S	2.
Al	50.
Mg	2.

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P1C

The three pieces of Sample #2 were analyzed separately, and a comparison of the relative intensities of the various lines from these pieces is given below.

Element	Line	2a c	2b	2a a
Ba	K_α	11.	73.	9.
Ba	L_α	6.3	5.	8.
Sr	K_α	1.	3.4	1.
Sn	K_α	0.	0.	0.
Cu	K_α	10.	10.	10.
Ni	K_α	1.	0.	0.
Fe	K_α	9.4	3.0	9.
Mn	K_α	8.8	0.	7.
Ti	K_α	0	0	0
Ca	K_α	0	0	0

This table is normalized to Cu K_α = 10, and indicates that Sample 2b contains a more uniform concentration of Barium than the others, and further contains no Manganese.

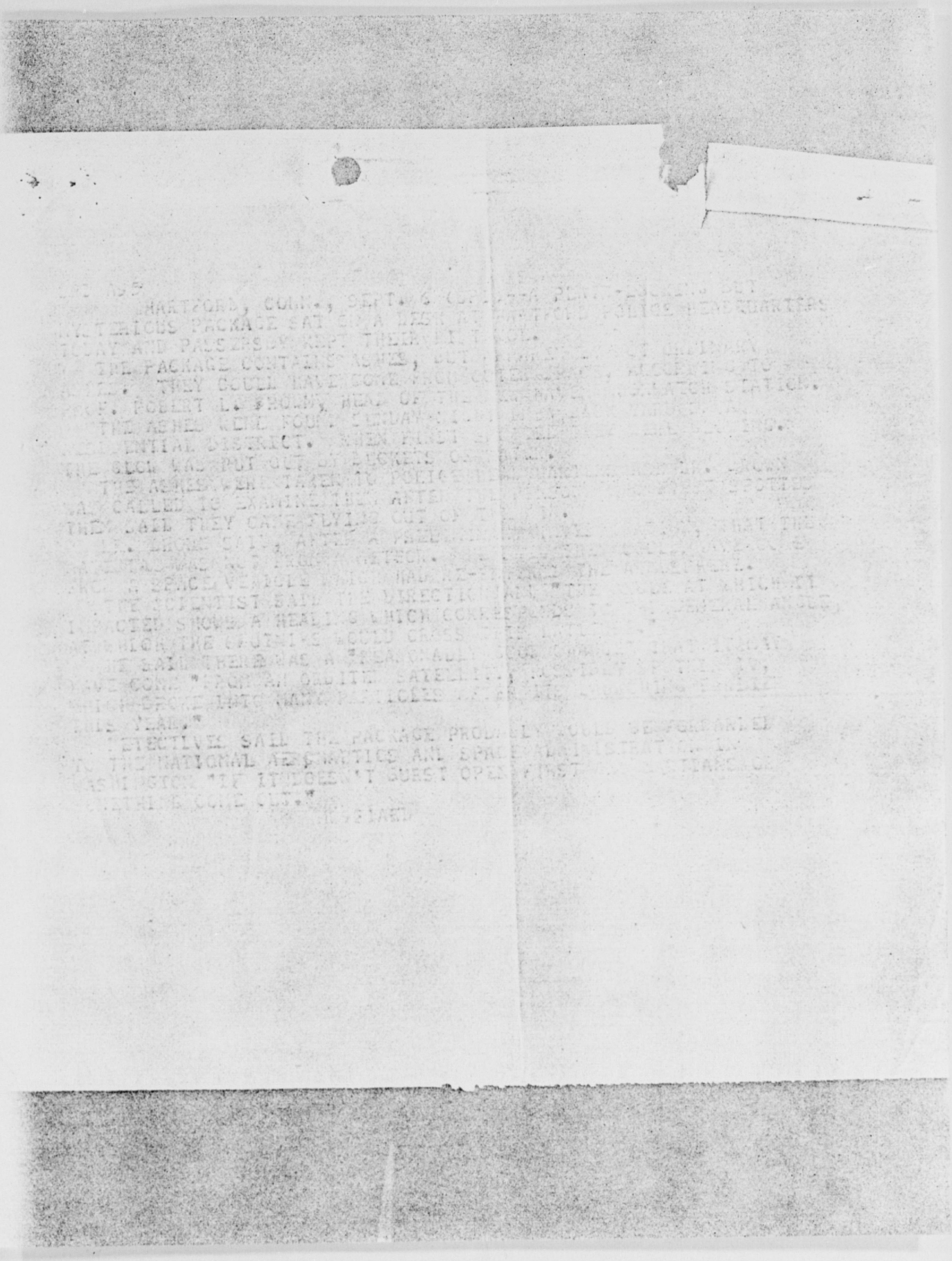
Radioactivity

No gamma activity whatsoever has been found in the samples. Overnight counts on large NaI crystals in low-background lead shields show no peak distinguishable from background.

A beta sample weighing 199 mg and consisting chiefly of sample 8 gave 1.76 ± .05 cpm above a background of 0.12 ± 0.01 cpm, i.e. 1.6 counts/minute. The activity seems to be long-lived and has a hard beta (>1 Mev); it could be K^{40}.

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Beta



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1980 SEP 15 03

AIR FORCE WRIGHT AERONAUTICAL LABORATORIES/AFSC
AERONAUTICAL SYSTEMS DIVISION (AFSC)
WRIGHT-PATTERSON AIR FORCE BASE, OHIO 45433

ATTN

[illegible]VCZCSQAS[illegible]ZCJVD[illegible]

[illegible]VD3R

[illegible]54

[illegible]Z

[illegible]DR 337TH TCS BRADLEY FIELD WINDSOR LOCKS CONN

[illegible]MDR ATIC WRIGHT PATTERSON AFB OHIO

Friend

[illegible]AS FROM 337TH ADW. S-2 ATTN AFCIN-4E2M. REF UR UNCLAS MSG

[illegible]-4E2M S-2656-E. CONTACT WAS INITIATED WITH CAPTAIN HANKARD,

[illegible]FORD POLICE DEPT HARTFORD CONN AND THE FOLLOWING INFORMATION

[illegible]LOPED THROUGH CO-ORDINATION OF PROFESSOR ROBERT BROWN, DIRECTOR

[illegible]ON WATCH, STATION 87, NEW HAVEN, CONN THE SMITHSONIAN

[illegible]-PHYSICAL OBSERVATORY, CAMBRIDGE MASSACHUSETTS, AN AGENCY WITHIN

[illegible]ATIONAL AERO AND SPACE AGENCY COLLECTED SUBJECT MATERIAL AND

[illegible]ATION CONCERNING THE INCIDENT AND THE FOREIGN MATERIAL.

[illegible]PTEMBER 5 1980 MR [redacted] AND MR. [redacted]

[illegible]E SMITHSONIAN ASTROPHYSICAL OBSERVATORY AFTER PRESENTING

JOINT MESSAGEFORM

SECURITY CLASSIFICATION

UNCLASSIFIED

SPACE BELOW RESERVED FOR COMMUNICATION CENTER

1960 SEP 8 20 48

PRECEDENCE	TYPE MSG (Check)			ACCOUNTING SYMBOL	ORIG. OR REFERS TO	CLASSIFICATION OF REFERENCE
	BOOK	MULTI	SINGLE			
ACTION ROUTINE				AF	ORIG	
INFO						

FROM:

ATIC, W-P AFB

SPECIAL INSTRUCTIONS

TO: BRADLEY FLD, CONN

AFGRNC

/UNCLASSIFIED/FROM: AFCIN-4E2x

IT HAS BEEN BROUGHT TO THE ATTN OF ATIC THAT A FOREIGN MATERIAL WAS FOUND IN THE YARD OF A RESIDENT OF HARTFORD, AND THAT THE MATERIAL WAS TURNED OVER TO THE HARTFORD POLICE. REQ AN ATTEMPT BE MADE TO ACQUIRE THE MATERIAL AND ALL INFO CONCERNING THE INCIDENT IN ACCORDANCE WITH AFR 200-2, DTD 14 SEPT 59. THE MATERIAL IS TO BE FWD TO ATTN OF AFCIN-4E2x.

DATE	TIME
7	1050
MONTH	YEAR
SEPT	1960

WRITER

SYMBOL AFCIN-4E2x

TYPED NAME AND OFFICE SYMBOL (Signature at left or right) Maj Robert J. Friend

PHONE 69216 | PAGE NR. 1 | NR. OF PAGES 1

SECURITY CLASSIFICATION UNCLASSIFIED

RELEASER

SIGNATURE

TYPED (or stamped) NAME AND TITLE

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

FORM 55 173 REPLACES DD FORM 173, 1 OCT 49, WHICH WILL BE USED UNTIL EXHAUSTED

FROM TWO RJEZSJ 54

CONFIDENTIALE TRANSPORTED SUBJECT MATERIEL AND REPORTS TO THE
OBSERVATORY. ON 5 SEPT 54 CAPT HANKARD, HARTFORD POLICE DEPT
RECEIVED A CALL FROM DOCTOR TOWNSEND BROWN REPRESENTING WHITEHALL
RAND, 1819 DUPONT CIRCLE BUILDING WASHINGTON 6, D.C. AND DOCTOR
BROWN NOTIFIED THE HARTFORD POLICE DEPT THAT HIS ORGANIZATION WAS
SOON IS RECEIPT OF THE FOREIGN MATERIAL AND INFORMATION REPORTS
CONCERNING THE INCIDENT. ALL REPORTS SHOULD BE DIRECTED TO
DOCTOR TOWNSEND BROWN, WHITEHALL RAND WASHINGTON 6, D.C.

END OF MESSAGE RJEZSJ

MEMO ROUTING SLIP

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

	INITIALS		
1 NAME OR TITLE Col Lundquist			CIRCULATE
ORGANIZATION AND LOCATION DA2	DATE 13 Oct		COORDINATION
2 Col Shade			FILE
4A	13 Oct		INFORMATION
3 Maj. Friend			NECESSARY ACTION
~~4A~~ DE29			NOTE AND RETURN
4			SEE ME
			SIGNATURE

REMARKS

For retention in Maj Friends Hartford VRO file.

FROM NAME OR TITLE Lundquist	DATE
ORGANIZATION AND LOCATION	TELEPHONE 74116

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.

48—16—74067-2 GPO

4170

MEMO ROUTING SLIP

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1 NAME OR TITLE AFCIN 4A2C	INITIALS		CIRCULATE
ORGANIZATION AND LOCATION ATIC, Wright-Patterson AFB, Ohio	DATE 30Sep60		COORDINATION
2			FILE
			INFORMATION
3			NECESSARY ACTION
			NOTE AND RETURN
4			SEE ME
			SIGNATURE

REMARKS

Reference AFCIN 1E-OD Message C-1290. Attached is one copy of the preliminary Hartford police report.

FROM NAME OR TITLE Maurice S Lowe	DATE 30 Sep 60
ORGANIZATION AND LOCATION AFCIN 1E-OD	TELEPHONE ED9-5500X35415

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.

648—16—74067-1 GPO

C 8848
Sept 5th 1960

C
O
P
Y

At 9:30 PM of date Courant Reporter Jim O'Hara appeared at the Detective Division in company of Professor Robert Brown tel Milford TRinity 81036. Prof Brown is associate Professor at Southern State College and formerly with Conn State Teacher's College. He is the Director of MOONWATCH Station 87 in New Haven. He made a visual observation of the substance recovered and stated that "It was unreasonable to assume that the object was launched locally or thrown. It bears no resemblance to and meteorite. Conjecture that it may be part of some orbited satillite and that the observed color of green may be attributed to copper less likely Cobalt. The fused material indicated that some copper salt may be present. The material itself is basically metallic can has been oxidized by what appears to be the rapid passage thru atmosphere.

It was suggested that the material be preserved and forwarded upon request to the National Aeronautics and Space Agency Washington DC Director T. Keith Glennon.

Lt. Henry Thomas of the Nfd Fire Dept checked material with Geiger Counter and found "Normal background".

Lieut. Darman

Case # C-8848
9-6-60

To Trinity College, where a canvass of the campus was begun, in an effort to seek a professor of geology. With the assistance of two football students, proceeded to the home of Dean O. W. Lacy, dean of students, 71 Vernon St., phone CH 6-5721. The circumstances re this case were made known to the dean, who secured the assistance of a professor of geology. These writers were advised to take the substance in question to the said college, where same would be analized.

Returned to Hdqs. to carry out this mission, but said substance had already been analized. Said Dean was contacted, and thanked for his cooperation in this matter.

Hippe - Schiavone

Case # C-8848
Sept. 5, 1960

Subject: Mrs. [redacted]
re: object in the sky

The subject is employed at the White Cedar Restaurant, 817 Albany Ave. as a [redacted]; and that on the night of Sept. 4, 1960, she was working, and the subject stated the following: the dish washing room is in the west side of the building and that prior to seeing the object in the sky, from the dishwashing room, she was in the kitchen, which is in another room of the restaurant, she was at the doorway separating the kitchen and the dishwashing room; at that moment she looked at the clock in the kitchen, and it showed the time as 8:12 P.M., then she went immediately to the dishwashing room. There are two windows in that room on the west wall, one window, right has no shades and the other has a shade pulled half way down. The subject was looking at the window on the right (no shade) then she saw this object discribed by the subject as follow:

Shape: like a common (,) used in punctuation; or a summer squash, about 15 inches long, the front part was round the size of a good grapefruit, this was a brilliant green, and the tail was orange
Direction: from the south-west, the zenith point, looking out the window would be Edgewood St.
Time: aporox 8:12 P.M.

Mrs. [redacted] Continued (2)

Mrs. [redacted] stated that she did not she the object fall, and that she saw it for about a few seconds; because the roof of the house blocked her view as passed by.

Mrs. [redacted] also stated that she had seen, falling stars, and meteors before and this object was nothing like that

Subject: [redacted], co-owner of the, White Cedar Rest. 817 Albany Ave. [redacted]

The subject stated the following that he was in the dishwashing room with, Mrs. [redacted] when, Mrs. [redacted] said to him "look at the green light", the subject looked out the window and all he saw was, a flash of green light.

Another person was in that room, [redacted], this subject could not be reached, but a message was left at her home to call the P. D.

Stawecki

HPL CD 499 CASE CARD

Uniform Class Miscell. Public - 4500 Case No. Q 8843

Mrs. [redacted] Address [redacted] - TPH [redacted]

Full name of complainant (or firm name)

Reported by Above Address

Where committed Rear of [redacted] St. - 0970 Beat District 15 Housing Proj. No.

Property attached-or

Property used for Residence - 500 PROPERTY STOLEN: (value and description)

How attached-How committed

How entrance was gained

Weapons-means of attack

Trademark-Modus

Officer receiving complaint Lt. Julian Darman Squad 3

Investigating officer(s) Off. Leonard Miller -Dept. Hippe

Brief Details of Offense

Compl. reports while standing in rear hall of home, heard loud "swish" in air. To rear porch, & observed grn. flare like cone, foot high, on ground. Object started shed afire. Janitor put fire out, & picked up particles of object from ground. See S.R.S.

Persons suspected Connect with Case No.

Value of property recov'd Division Date recovered

Person(s) arrested Arrest No. Sex Race Age

Arrested by Date of Arrest Indexed by Date Indexed

Case closed by: Arrest Unfounded Other Date closed Division

Sept. 4, 1960 "B" Squad Dist # 15

On Disp. # 273 at 8:33 pm. The undersigned Officer went to [redacted] Where a Mrs. [redacted] stated------She was standing in the rear hallway of her apt. and heard a loud swish in the air - it sounded as if it came from the north--she then steped onto the rear porch and head something hit the ground, immediately she seen a green flare about a foot high cone shaped, she started to go closer but the object was smoking densely she returned into the house where she got a flashlight and returned to the porch. She observed a spark on the bottom of the shead and it got larger. [redacted] the janitor of the building lives at same add. apt. [redacted] was then in the rear yard. He observed a small flame comming from the bottom of the shead and asked Mrs. [redacted] for water and threw it on the flame putting out the fire. About 15 min. later Mrs. [redacted] and Mr. [redacted] searched the area with there hands Mrs. [redacted] found a warm spot on the ground. Mr. [redacted] picked up the material with his hands and gave it to Mrs. [redacted] who brought it into her apr. then called Police Dept. The Officer took the material she had and also a sample of the ground where the complainants stated the object was burning. Mrs. [redacted] same add. [redacted] stated she was inside her apt. when she heared an object hit the ground, then she observed the rear area light up brightly. She went to her rear porch and seen the area full of smoke and two small red spots on the ground. The material was brought to D.D. and left with Det. Nippe.

Officer Leonard Miller Dist # 15 squad "B"

Case "Q-
Sept. 4, 1960

At 10:00-pm. of date, after Off. Leonard Miller, D-15, had appeared at the D.D., detailed by Lt. Darman, to record the following info. from said Officer.

On disp. #278, at 8:33 p.m. of date, he was dispatched to [redacted], Mrs. [redacted], [redacted], who reported that while standing in the rear hallway of her home at 8:15-pm. of date, she heard a loud swish in the air. The said described noise sounded as if it was coming from the North. She went to the rear porch and heard something hit the ground, and observed a green flare like cone of fire, a foot high from the ground near the ash shed. She then went closer to the porch, where she met the janitor, [redacted], of apt. [redacted]. He observed small flame coming from the bottom of the ash shed. He estinguished fire with water. Fifteen minutes later, the witness and the janitor searched the area in question, and found warm spot on ground at the forementioned location. The janitor picked up the material from the spot in question, gave same to the named witness, who preserved same by putting it in a container. Witness then called PD. Said officer obtained a separate sample of the burning area in question. Both said samples are in separate containers, marked, and placed in property room to be further probed. [redacted], of apt. [redacted] reported, "I heard something hit the ground from inside my third floor apartment, and saw the area light up brightly. I saw the area full of smoke, and also saw two small bright red flames on ground near the ash shed".

-Nippe-

Case "Q-89-3
9-4-60

To the area in question at 11:00-pm, & made a search of same. Remaining identical particles of florscent substance still on ground near ash shed. Appears like rock like substance. Spoke with tenants, who reported that unknown object, when striking shed made small fire, but filled the rear yard with very dense smoke. Deputy Fire Chief Gaudettee informed of circumstances. Samples of material to be analized.

Nippe - Angeloni

HEADQUARTERS
AIR ~~FORCE CAMBRIDGE RESEARCH LABORATORIES~~
XXXXXXXXXXXXXXXXXXXXX

R7C

SEP 30 1960

Preliminary Analysis and Certain Historical Details Relating to Objects which Fell at Hartford, Connecticut

Chief, Nuclear Studies Branch

The following historical summary is by Dr. John T. Wasson who journeyed to Hartford, Connecticut on 17 September 1960, and talked at length with the principal witnesses.

At 2015 E.D.T. on the night of 4 September 1960, a lady standing near the back door of her first floor apartment at [redacted] Hartford, Connecticut, was startled by a "swishing noise" followed by a thud. Upon looking through the door, she observed a "cone of green fire" which immediately subsided. The cone of fire was of the order of one foot in height. She attempted to go out the door to investigate, but was driven back by clouds of smoke. The witness' name is Mrs. [redacted].

Another lady, living on the second floor of the apartment house, is reported to have heard the sound of the fall above the noise of her television set. She thereupon ran out onto the back balcony and saw "glowing embers" on the ground at the site of the fall.

At the same time, Mrs. [redacted], an employee of a cafe four houses east of there at [redacted] ("The White Cedars"), was standing in the kitchen and observing through a window the proceedings of a dance taking place in the residence immediately to the west. She had just noticed the time at 2012 and mentioned it to someone in the kitchen. Her attention was caught by a green, pendant-shaped object in the western sky in which orange and red colors were also visible. Her duties were needed again soon in the kitchen, and she apparently did not follow the object with her eyes until it struck the earth.

Back at [redacted] the superintendent of the apartment house, Mr. [redacted], was called from his apartment on the second floor. The smoke having cleared, he and Mrs. [redacted] proceeded first to throw a little water on the coal-garbage shed which was smoldering, and then to search for the objects. A flashlight was the light source.

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They first searched at a point about a yard from the building, there being no crater caused by the object and no other immediate evidence as to where it landed. After a little while, however, the spot was discovered by Mrs. [redacted] by virtue of the fact that it was warm when touched with the palm of the hand. This spot was just beneath the spot where the garbage shed was smoldering. After thus discovering the location, Mrs. [redacted] and Mr. [redacted] started gathering small objects. At first they apparently used warmth as a requisite to distinguish between the true "stones" and the very large "background" of stones and objects in the immediate vicinity, i.e., all along the edge of the shed. Later they noticed a white crust on the objects and used this as a basis for their search.

The object landed in an ideal place as far as offering the possibility of determining the trajectory. The only two paths open to it if its azimuthal angle was 60°-70° or smaller were a 15° segment coming from about 20° E of North, and another 15° segment coming from almost due west. The nearness of the shed completely eliminated the segment from the east, roughly from 25° to 205°. The apartment building shielded the location from the northwest, and a utility pole, a wooden fence and a 2-1/2-story house shielded it from the southwest. Mrs. [redacted] and the lady watching television both reported that the object sounded like it came from the north. If so, it navigated through clotheslines mounted on all three stories without breaking one. The other direction, the west, is roughly that where the object was seen in the air by Mrs. [redacted] (parallax should not have affected her view appreciably) and seems to be the more likely direction of approach.

After Mrs. [redacted] and Mr. [redacted] had picked up the objects, the police were called and eventually the word reached Prof. Robert Brown of Southern Connecticut State College, who is in charge of the New Haven Moonwatch Station. Prof. Brown and Capt. Hankard of the Hartford Police got in contact with the Smithsonian Observatory in Cambridge, Massachusetts, and a share of the stones were turned over to that organization. Mrs. [redacted] and the [redacted] family retained shares also. The story was in various newspapers and came thus to the attention of Dr. Townsend Brown of Whitehall-Rand in Washington, D.C. He contacted ARPA and obtained the release of the Smithsonian stones to him. Officials at the Smithsonian gave the collection to Dr. Brown, and indicated that the stones were clearly not meteoritic in origin. He thereupon brought them to the Geophysics Research Directorate for analysis, leaving about half the sample

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there. A week later, he obtained the shares of Mrs. [redacted] and Mr. [redacted]

Dr. Wasson of GRD went to Hartford, Connecticut on 17 September 1960 to obtain more information on the fall. His information, other than reported above, concerns chiefly the problem of separating "true" stones from those in the immediate area. Photographs which he made at the time show this graphically, and a collection of background stones which he obtained appear very similar to many in the sample.

JOHN T. WASSON
Nuclear Studies Branch
Atmospheric Circulations Laboratory

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CONSULTANTS

1019 Dupont Circle Bldg.
Washington 6, D. C.
NOrth 7-2331
Cable Address: WHITEHALL

October 12, 1960

Major R. J. Friend
Aerospace Technical Intelligence Center
AFCIN 4E2X
Wright-Patterson Air Force Base, Ohio

Dear Major Friend:

It was a pleasure to be with you last Wednesday. I was glad to have the opportunity to give you some information on the Hartford fall. It has been an engaging subject to me for the reasons I explained to you.

Professor Robert Brown telephoned me upon my return to Washington and mentioned that your office had requested additional samples. I told him of our visit and that no samples are available because of work in progress. I assured him, however, that you would be furnished complete reports of our investigation, and that our efforts would be closely coordinated with the Air Force.

Sincerely yours,

T. Townsend Brown

T. Townsend Brown
President

TTB:m

Information copies:
Commander R. P. Luker, ARPA-OSD
Lt. Col. Gene DeGiacomo, USAF
Dr. F. L. Whipple, Smithsonian Astrophys. Lab.
Professor Robert Brown, Southern State College

WHITEHALL-RAND
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SPACE TECHNOLOGY
Propulsion
Guidance
Communication

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Cable Address: WHITEHALL

October 13, 1960

FOR: MAJOR R. J. FRIEND

Dr. Fred L. Whipple
Smithsonian Astrophysical Laboratory
Harvard Observatory
60 Garden Street
Cambridge 38, Massachusetts

Dear Dr. Whipple:

It was a pleasure to be with you on September 3 and to have the opportunity to examine the material which fell at Hartford, Connecticut, on September 4. After careful consideration, you expressed the opinion, I believe, that this material was not meteoritic, and therefore of no further interest to your group at the Astrophysical Laboratory.

You will recall that, during my visit, I was in touch with the Air Force and personally delivered samples of the material to the Air Force Research Center at Bedford, Massachusetts, for analysis.

I promised to send Dr. McCrosky of your laboratory, copies of the Hartford police reports and other papers for your permanent file, and these are enclosed.

Thank you very much for your cooperation in this matter.

Very truly yours,

T. Townsend Brown
President

Enclosures (3)

TTB:m

Information copies:
Commander R. P. Luker, ARPA-OSD
Major R. J. Friend, ATIC

STATE OF CONNECTICUT
SOUTHERN CONNECTICUT STATE COLLEGE
501 CRESCENT STREET • NEW HAVEN, CONNECTICUT

FU 7-6661

EARTH SCIENCES

AR Major Friend

October 22, 1960

Dr. T. Townsend Brown,
Whitehall-Rand, Inc.,
1019 DuPont Circle Bldg.,
Washington 6, D. C.

Dear Dr. Brown,

I should like to clarify some aspects of the particle sent you from New Haven.

It is not part of the Hartford fall but a distinct fall both spatially and with reference to time. It is my opinion, however, that both falls are related to the same orbitting object. The relatively larger particle sent you through the mails fell in Woodbridge, a suburb of New Haven. The airline distance between the two falls (Hartford and Woodbridge) is roughly 47 miles along a line whose heading is approximately 30 degrees (N 30° E). Certain aspects of the fall are the same as those of the Hartford fall. However, the Woodbridge particle fell essentially intact with only a slight general scattering of the metallic dust noted in the earlier fall. Since it landed in an area (asphalt driveway) that had been carefully swept thenight before, the impact area was clearly defined. It created a 'burned' circle 5½ inches in diameter with a slight elongation to the North. Contained within this circle were several 'splotches of the metallic material' with the larger particle slightly off center toward the North. The time of fall could easily be established as between 8:30 A.M. and 12:30 P.M. local time since the discoverer, Mrs. [redacted] had walked by the area at 8;30 and noted nothing unusual, whereas upon returning from a drive into New Haven was astounded at noting when whe returned at 12:30 the object within the burned circle. She had first kicked it aside, then picked it up. Surmising that this anamalous material might be of interest to others, she phoned a friend, Prof. [redacted], Curator of the Peabody Museum at Yale University who in turn suggested she notify me. I recovered the particle after noting the conditions, returned to the college and notified you by phone. I might add that the time of fall can be relegated to the earlier portion of the interval inasmuch as it was not warm when picked up.

Now, sir, the large particle was encrusted with some peculiar metallic coating noted previously. Obviously some of this was lost when the particle was kicked, and some when I packed it in soft material prior to bringing it to the college. When Dr. Louis Kuslan of the CHemistry Department weighed the object it still showed some flaking of the loosened material. Obviously more material could have flaked off during transportation by mail

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FU 7-6661

to yourself in Washington. It is difficult to asses the amount lost by flaking after weighing at the college. Incidently, Dr. Kuslan assures me that the weighing was fairly accurate and could not have varied as much as plus or minus ~~1/10th~~ of a milligram. The packaging for transmissal may have resulted in some further lossx of mass by flaking with the flakes caught in the tape that surrounded the two watch glasses which encased the sample. It was not feasible to place it in any other type of container and we were anxious not to pad it with any material which could add to the flaking. The handling it received by postal employees could very well have resulted in further loss of particles or flakes from the main mass onto the dish or the enclosing tape.

I had assumed that the particle would be weighed immediately upon receipt and that any flaking could have been accounted for in a more stable situation. In addition it occurred to me that a section could be cut from the mass to avoid any errors that may be associated with the dislodging of fragments or encrustation.

The analysis intrigues me as does the apparent change in mass. Assuming that some of the change in mass could be accounted for by the flaking we still have a discrepancy. Is it possible that another principle might be operating? Assuming the particle had been in a 'neutralized' gravity state for some time could it not have acquired an 'excess' of gravity upon impact and like a pendulum swing back and forth in mass until it finally comes to rest at a given position. I am certain that the effect of adsorption and the like will be taken care of in the sealed container weighings.

I trust that some answers to this intriguing puzzle may soon be brought to light.

Sincerely yours,

Robert L. Brown,
Associate Professor, Earth Sciences,
Southern Conn. St. College,
New Haven, 15, Conn

cc Major Friend

P.S. Mrs. [redacted] has made representations to me to recover the particle when analysis and measurement are completed. We also have a request for the particle from the National Museum.

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1019 Dupont Circle Bldg.
Washington 6, D. C.
NOrth 7-2331
Cable Address: WHITEHALL

October 26, 1960

FOR: MAJOR FRIEND

Mr. Robert L. Brown
Associate Professor, Earth Sciences
Southern Connecticut State College
New Haven 15, Connecticut

SUBJECT: "Woodbridge" fall of suspected gravitationally anomalous material

Dear Professor Brown:

Thank you for your letter of October 22 and the additional information concerning the Woodbridge fall. I am inclined to agree with you, and this seems to be borne out by tests currently underway, that this fall is indeed of great scientific importance.

This subject has not been officially classified (to the best of my knowledge), but I expect that it may soon be, and I will ask you to retain (except to authorized persons) any information I may give you in strictest confidence until this matter can be finally decided.

We are continuing the chemical and physical tests of the chunk of material which you sent to us. Even though encapsulated in glass, so as to eliminate the possible effects of moisture or occluded gases, the weight of the sample is still changing. Observers also agree that the amount of white surface incrustation is increasing, and, as I mentioned over the telephone (for your information only), the incrustation appears to contain certain nuclides of barium and strontium in amazingly high percentages. What all this means, of course, remains to be determined.

The continuing change in weight is startling and indisputable. Since Dr. Kuslan weighed the sample at Hartford, it has lost over 3% and is still decreasing. A most surprising recent finding is that the material appears to have the power, (perhaps by virtue of its β^- radiation) to induce a weight change in certain receptor materials with which it is associated. We now have an example of ten-fold leverage in the gross weight-change of a large volume of material, induced merely by contact or close proximity with the sample. Many other intriguing facts are coming out of this investigation. Perhaps soon you may have the opportunity to come to Washington to see these things for yourself. We are deeply grateful to you for sending this sample.

In reading your letter, there are certain questions or comments which occur to me:

1. What was the date of the Woodbridge fall? Perhaps you covered this in a telephone conversation, but I have no record of it. I note that you believe that the material probably fell between 8:30 and 10:00 a.m., and that it did not seem to be directly related to the Hartford fall of September 4, 1960.

2. You mention "splotches of the metallic material" at the area of impact -- what has become of the metal and are samples available to us?

3. Would Dr. Kuslan give me an affidavit covering the weighing operation, so as to have a formal record of its accuracy and authenticity?

4. When I received the material from you (between the two watch glasses), I looked closely for any flaking or evidence of detached particles. Nothing was found.

5. I am greatly interested in your thoughts of an oscillating trend in the weight-change following impact. While the observed curves show some irregularity, the steady trend is definitely downward, and there is no evidence so far of any regular oscillation.

While we are deeply grateful to Mrs. [redacted] for her alertness, for turning the material over to you and for her interest in what may come of it, I expect, in the interests of science, that it will be some time before this piece of material can be released from its busy schedule. Time is all the more important because, from theoretical considerations, the material would appear to have a definite (half-life) rate of decay, and every effort is being made to utilize it while it is "hot".

Major Friend tells me that he makes frequent trips to Washington, so by copy of this letter, I wish to invite him to stop in upon his next visit to learn more in detail what is happening. I would be very glad to see him.

Again, thank you for your kind collaboration, and I shall look forward to your visit in the near future.

Sincerely yours,

WHITEHALL-RAND, INC.

T. Townsend Brown
Chairman,
Scientific Advisory Committee

Information copies:
Colonel Victor A. Cherbak, Jr., USAF
Commander R. P. Luker, USN
Lt. Colonel Gene DeGiacomo, USAF
Major R. J. Friend, USAF

TTB:m

Enclosure to copy addressees:
Copy of Prof. Brown's October 22 letter

1. PPT Nr. 577102

TASK ACTIVITY REPORT

2. Title: Project Blue Book

3. Monitor: Maj R Friend
4. Symbol: AFCIN-4E2x
5. Phone: 6-9216
6. Card Nr. 60- 3
7. Date: 9 Dec 60

8. NATURE OF REQUEST OR ACTION: ☐ Engineering Analysis (4D1); ☐ Graphics (4D2); ☐ Product Coordination (4E); ☐ Schedule Change (4X7); ☐ Program Change (4X6); ☐ Collect Support (4A); ☒ Staff Digest (4X2a); ☐ Contract Status (4X5)

___ ACTION X INFORMATION X REPORTED ___ REQUESTED

9. Narrative:

~~REPORT~~

1. On 6, 7, and 8 December 1960, Maj Robert J. Friend visited the Dept of Defense (SAFOI-3d, AFCIN-P1A, ARPA) and Whitehall Rand, to assist with preparation of a draft of the semi-annual fact sheet on unidentified aerial phenomena, to meet with SAFOI and SAFLL personnel concerning Congressional interest in the UFO sightings which occurred in the area of Red Bluff, California during the period 12-20 August 1960, and to contact Commander Luker, ARPA, concerning his interest in material recovered by Dr T. Townsend Brown, Whitehall Rand. Dr Brown recovered the material while investi-

4X
4X2
4E

10. ADDITIONAL RESOURCES REQUIRED: Originator ; Support

11. NEXT COURSE OF ACTION OR REFERENCES:

12. COORDINATION & APPROVAL:

Robt Friend — H E Martin for Col R. R. Shoop

Maj R. Friend

PPT Nr. 577102 Card Nr. 60- 3

Item 9 (Cont)

gating an UFO sighting which occurred in Hartford, Connecticut, 4 Sept 1960. Major Friend also contacted Dr T. Townsend Brown, Whitehall Rand, concerning analysis of material which was recovered by him while investigating an UFO sighting.

2. Tuesday, 6 December 1960:

a. Major Friend, AFCIN-4E2x, visited L/Col Tacker, SAFOI-3d, and assisted with the drafting of the SAFOI semi-annual fact sheet on unidentified flying objects.

b. L/Col Tacker informed Maj Friend that his appearance on the Garroway show, Monday, 5 Dec 60, had been extended for the entire program as a result of telephone calls from the viewing public. Maj Friend listened to a tape recording of the show. A copy of the recording has been requested for the ATIC files. For those who heard the first portion of the show, the second half was generally the same. L/Col Tacker was possibly a little more aggressive during the second portion. The Department of Defense was flooded with calls concerning this program, some favorable and others in a different vein. On Wednesday the first letters with comments on the show began to pour into SAFOI.

c. Maj Friend read L/Col Tacker's book entitled "Flying Saucers and the United States Air Force." (Atch #1) The book is essentially the same as the material reviewed by ATIC. Several corrections were made to the technical material, and are to be included in the second edition which is presently in print. The first edition of this book was sold out within two days of going on the stands.

PPT Nr. 577102 Card Nr. 60- 3

Item 9 (Cont)

d. Maj Friend met with B/Gen Le Bailly, SAFOI, Dr J. A. Hynek (in Washington on other business) and L/Col Tacker concerning recent inquiries to SAFLL from Mr Robert Smart, House Armed Services Sub-Committee (Rep Carl Vinson). Mr [redacted]s inquiries were concerned with what action the Air Force had taken toward implementing the suggestions made by him and other sub-committeemen during the briefing held on 15 July 1960 (Atch #2). The cases which renewed Mr Smart's interest in this matter were the Red Bluff, California sightings which occurred during 12-20 August 1960. Mr [redacted] requested a complete summary of these cases (Atch #3). B/Gen Le Bailly concluded that the proper thing to do would be for him to set up a meeting with M/Gen Walsh or Col Hall to determine the best course of action to implement the requirements spelled out by Mr [redacted].

e. Maj Friend briefed L/Col Sullivan, AFCIN-PlA, of the developments and informed him of the planned meeting between M/Gen Walsh and B/Gen Le Bailly.

3. Thursday, 8 December 1960:

a. A meeting was held in the office of B/Gen Le Bailly. Present at the meeting were the following:

B/Gen Le Bailly, SAFOI
Col Hall, AFCIN
L/Col Tacker, SAFOI
Maj Friend, ATIC
Dr J. A. Hynek, ATIC Consultant

PPT Nr. 577102 Card Nr. 60- 3

Item 9 (Cont)

b. At this meeting the problem concerning the requirements of the sub-committee were outlined for Col Hall. Col Hall instructed Maj Friend to prepare for him an outline of what is necessary to implement the UFO project at ATIC with the requirements spelled out by Mr Smart.

4. Wednesday, 7 December 1960:

a. Maj Friend monitored a radio program (Patty Cavin Show, WRC, radio) which featured an interview of L/Col Tacker concerning UFO's and his book. Essentially, L/Col Tacker stated that the Air Force had no evidence to date which indicated that UFO were visitors from space.

b. Contacted Commander Robert Luker, ARPA, concerning his interest in material recovered in Hartford, Connecticut 4 Sept 1960. This case was investigated by Dr T. Townsend Brown, Whitehall Rand, before it was brought to the attention of the Air Force, and all of the samples of material which related to the sighting were collected by Dr Brown. Commander Luker was instrumental in having a portion of the sample released to Cambridge Research Division for analysis. Dr Wasson of Cambridge briefed ATIC on the results of the Cambridge analysis, and also turned over a few samples. The samples are presently being analyzed by the Materials Central of WADD. Commander Luker indicated that his interest was stimulated from the fact that the material was speculated to be residue from the re-entry of Sputnik IV, and from the fact that analysis of the samples of T. Townsend Brown indicated that they were losing weight for no apparent reason. Dr Brown promised Maj Friend a copy of his report as

PPT Nr. 577102 Card Nr. 60- 3

Item 9 (Cont)

soon as it was completed. The completed analysis by Cambridge shows unusual combinations and quantities of elements, but there is no conclusive evidence that the material is from Sputnik IV, or any other satellite. Possibly correlation between the Cambridge, WADD, and Whitehall Rand reports will reveal further information on the source of this material.

5. Next course of action:

a. Prepare draft of a letter from M/Gen Dougher to Col Hall outlining what is needed to implement the requirements requested by Mr Smart.

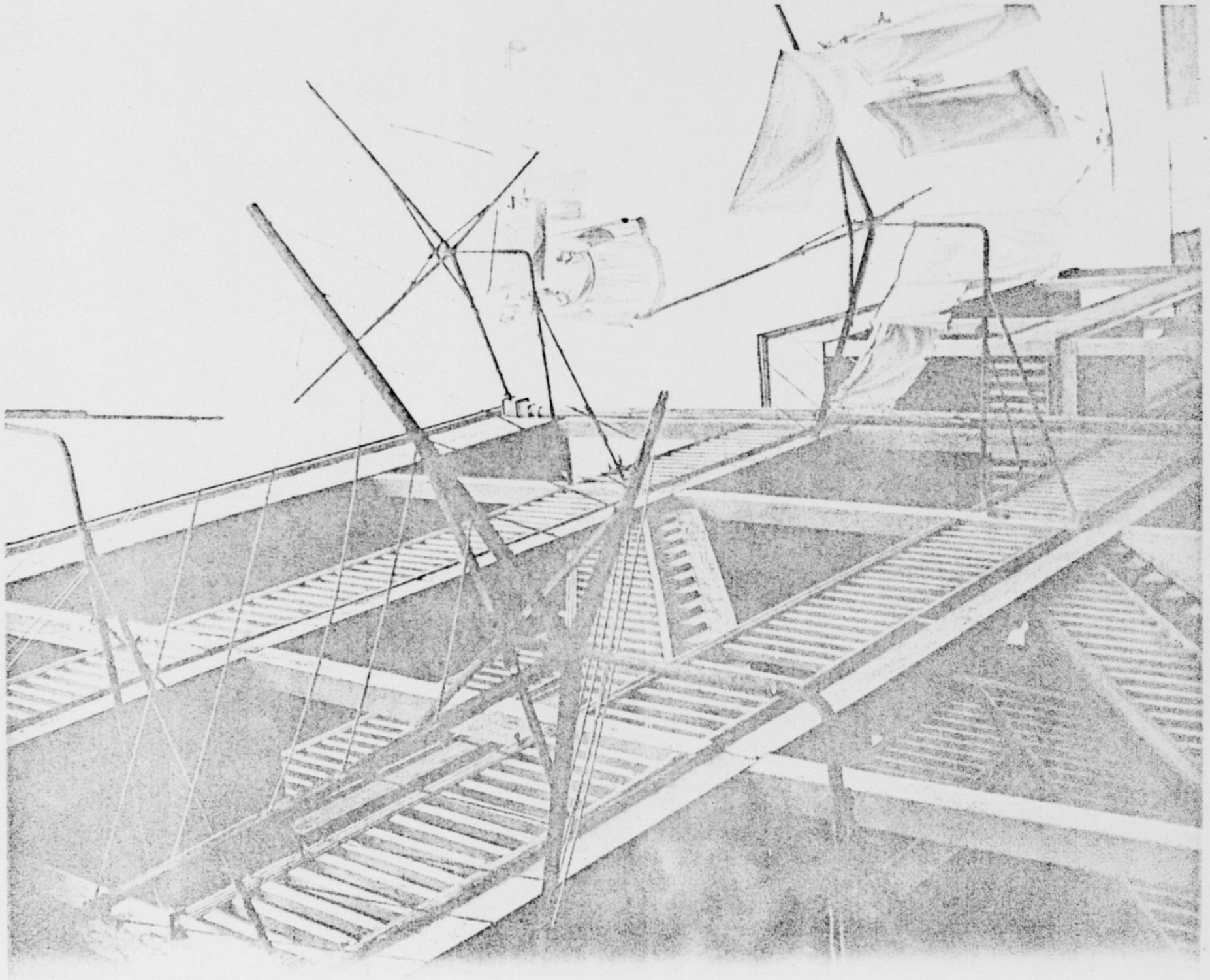
b. Upon receiving a copy of the report from Whitehall Rand, make a comparison between the Cambridge, WADD, and Whitehall Rand reports. Inform all interested agencies of this final analysis.

c. Follow-up on the taped copy of the Garroway show.

PPT Nr. _____ Card Nr. _____

Item 9 (Cont)

This case contains 16, 7"x5" photos and 20, 8"x10" photos.



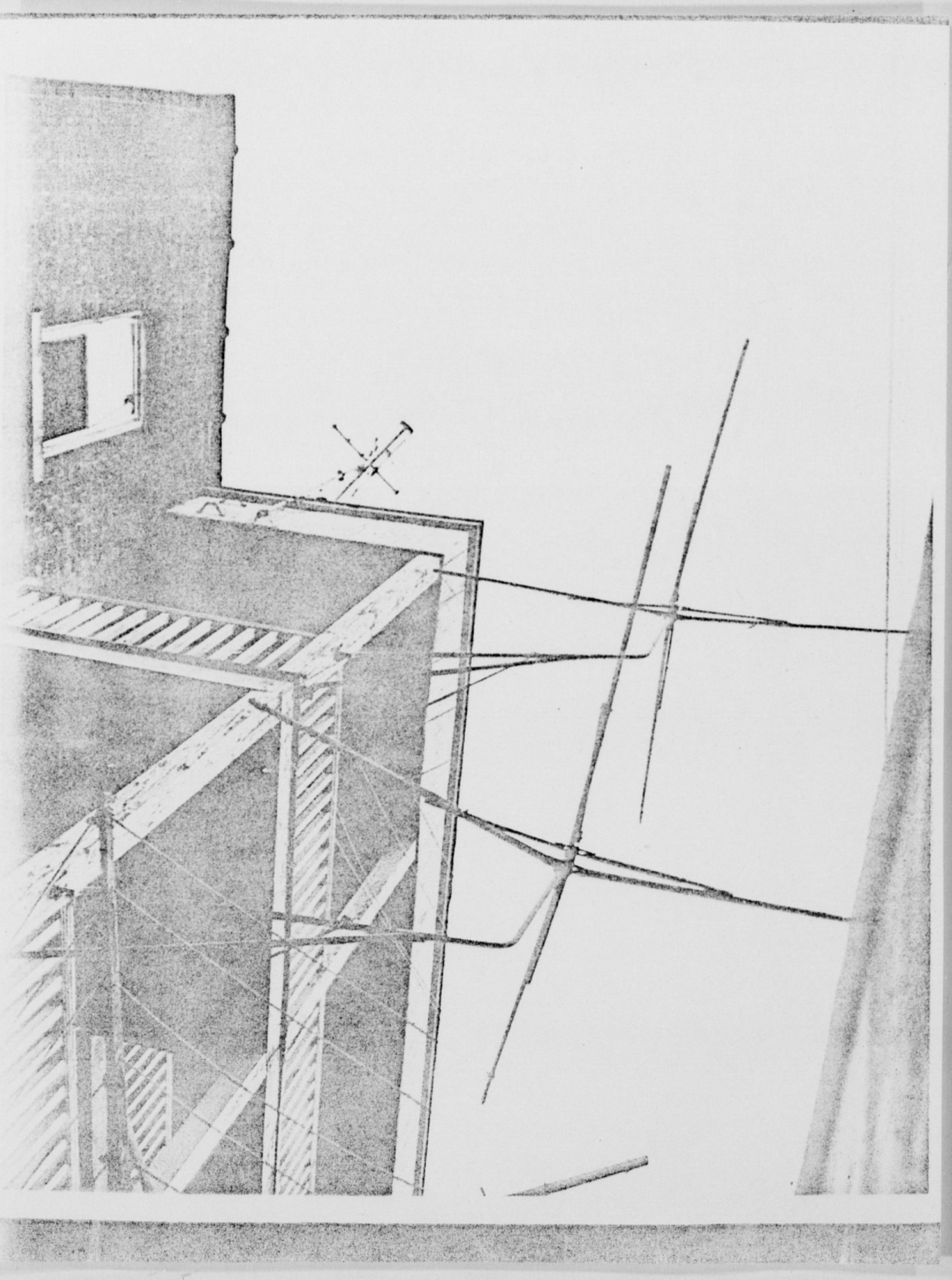
HARTFORD FALL

ARROW MARK POINT WHERE BLDG SMOLDERED

OBJECT APPARENTLY DID NOT HIT BLDG,

BUT AT BASE ~10 INCHES AWAY





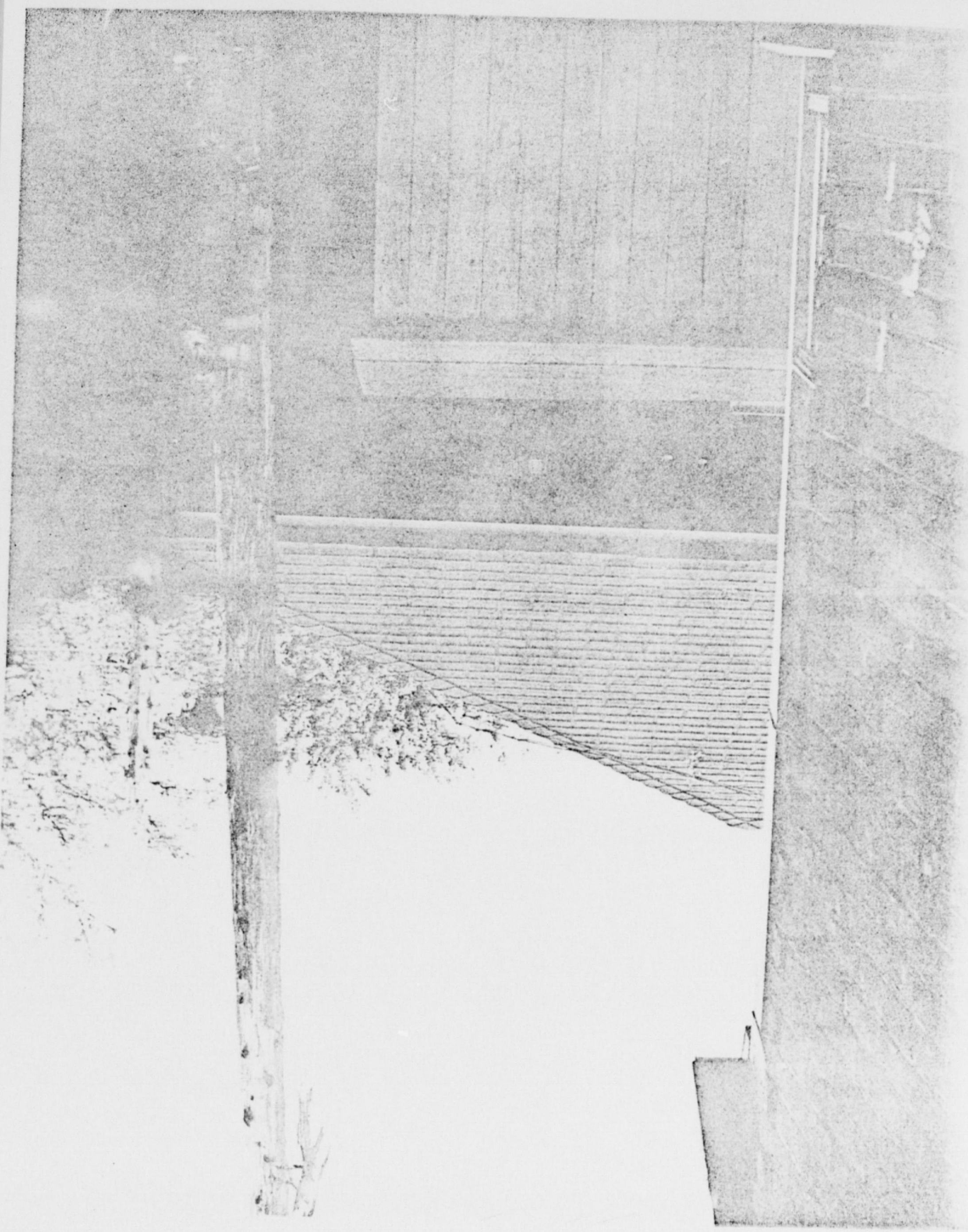


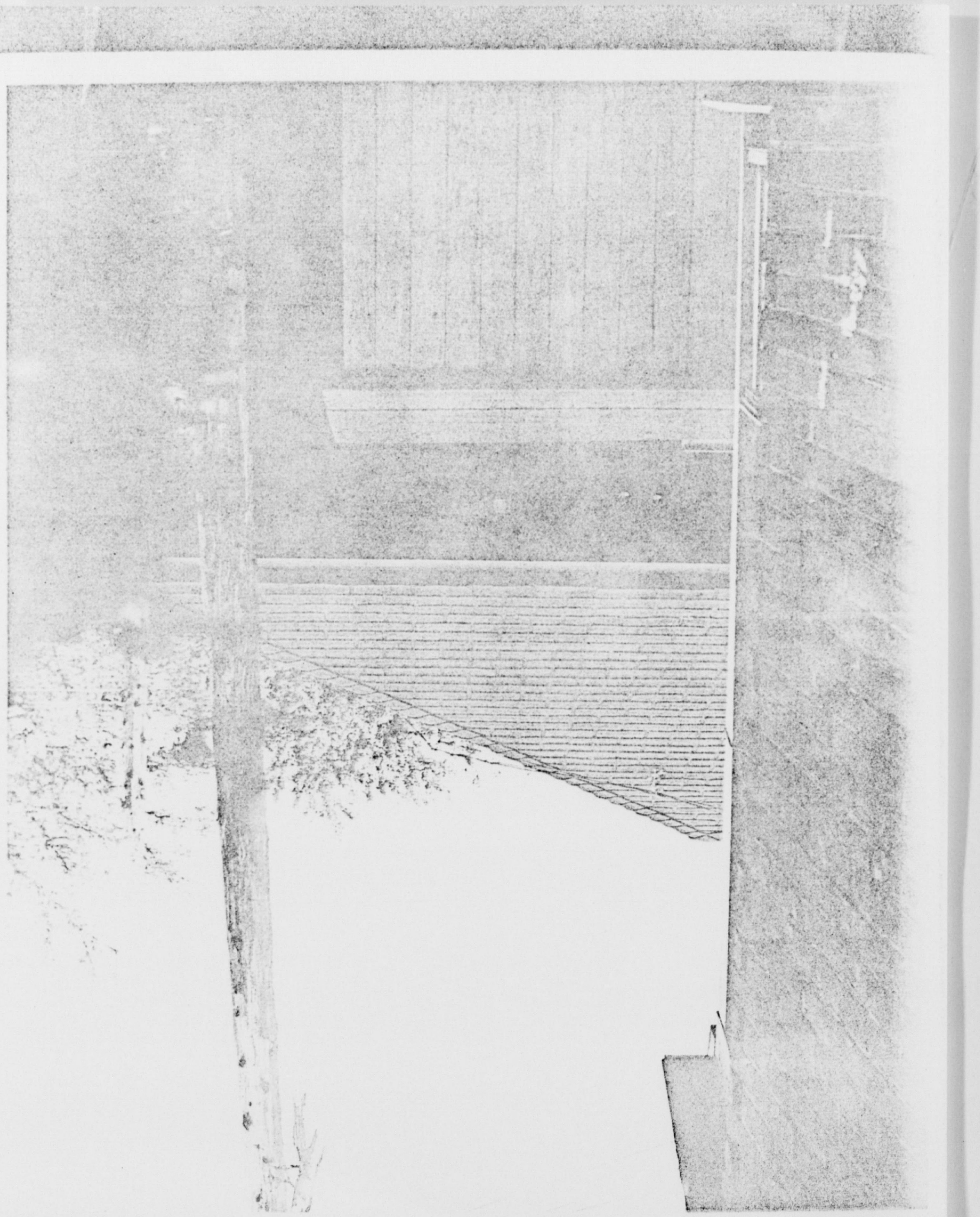




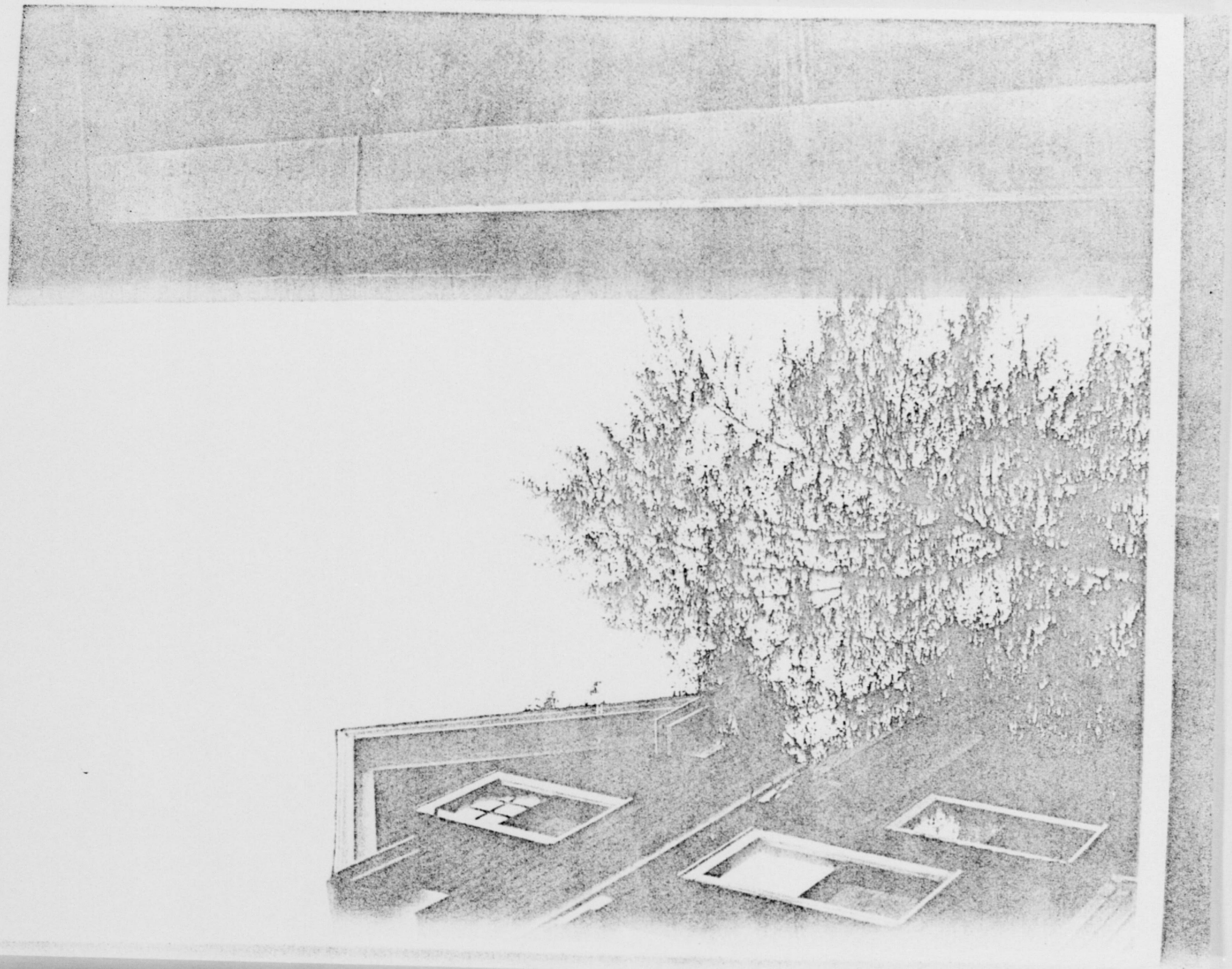






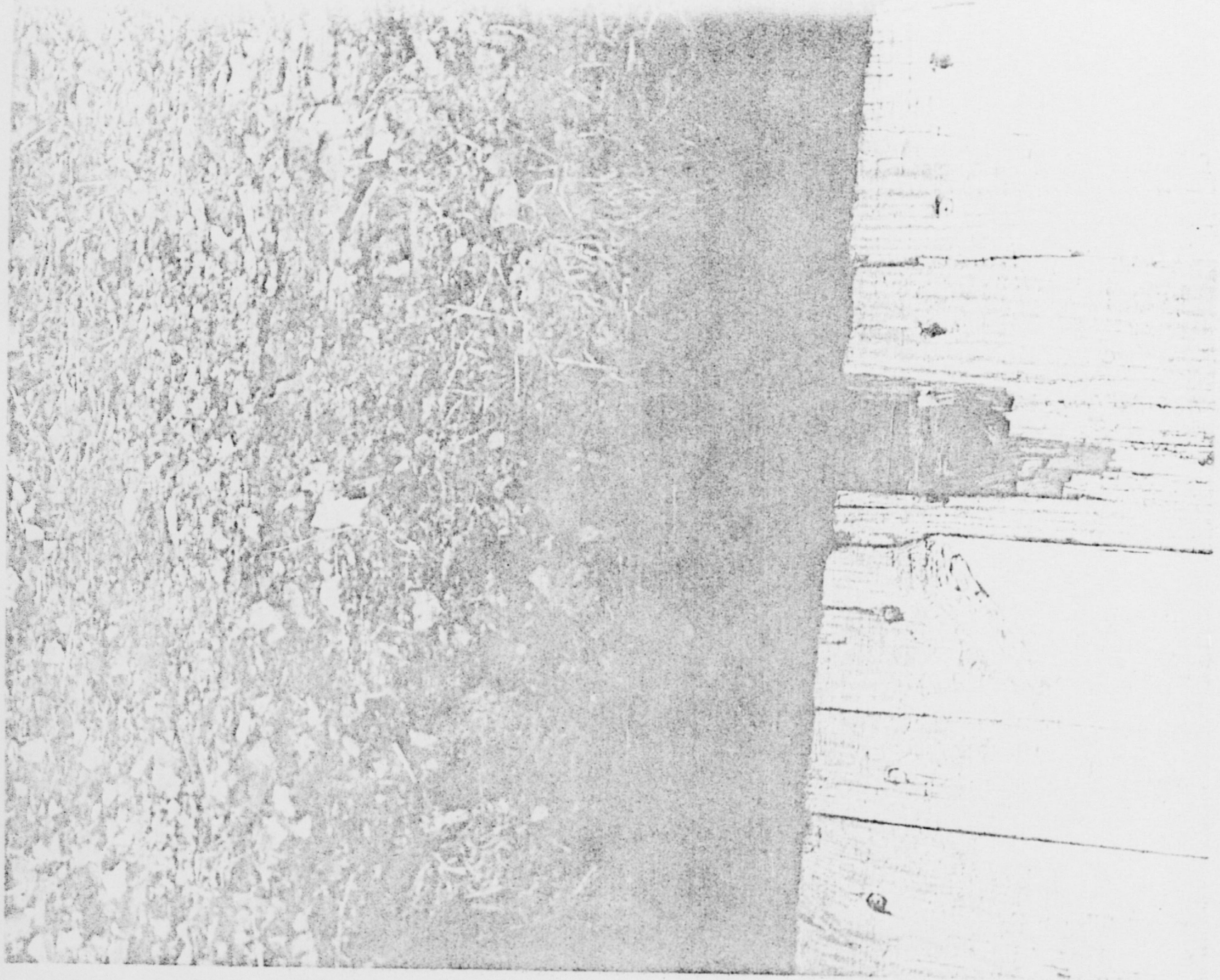














#3

STONE-LIKE



#2
ALUMINUM GRANULES



#1

ANGULAR "COAL" WITH BROWN SURFACE

B A

#8

"COKE" AND DUST

#7

MAGNETIC "SLAG"

#6

LIGHT, STRIATED



#5
"COAL" WITH WHITE, POWDERY SURFACE



#3

STONE-LIKE



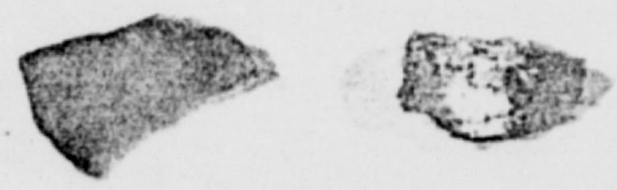
#1

ANGULAR "COAL"
WITH BROWN SURFACE



#2

ALUMINUM GRANULES



#5
"COAL" WITH WHITE, POWDERY SURFACE



#5

"COAL" WITH WHITE, POWDERY SURFACE



#5
"CORAL" WITH WHITE, POWDERY SURFACE



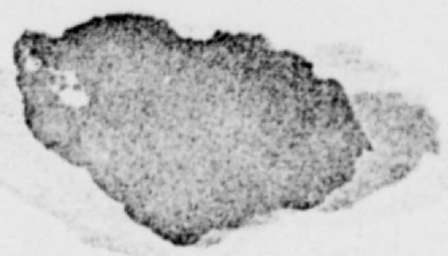
#5

"CORAL" WITH WHITE, POWDERY SURFACE

#6
LIGHT, STRIATED

#7

MAGNETIC "SLAG"





#8

"COKE" AND DUST

16 - 23 SEPTEMBER 1960 SIGHTINGS

DATE	LOCATION	OBSERVER	EVALUATION
16	Shreveport, La/Mephis, Tenn	Military	Other (MISSILE)
16	E of Cincinnati, Ohio	Civil Airlines	Insufficient Data
16	Saratoga Springs, New York	[redacted]	Satellites
16	El Campo, Texas	Trans Tex Airlines	Astro (METEOR)
16	Salina, Kansas	Military	Satellite (D/K DISC
16	Eastern Washington	Military	Astro (METEOR)
17	W of Azores Islands	Military	Astro (METEOR)
17	New London, Ohio	[redacted]	Astro (METEOR)
17	Kirksville AFS, Missouri	Military (RADAR)	Other (WEATHER)
17	N of Midway Island	Military	Other (MISSILE)
18	Mexico (missing)	[redacted] (PHYSICAL S)	Other (HOAX)
18	San Antonio, Texas	[redacted]	Aircraft
18	Tyndall AFB, Florida	[redacted]	Satellite (ECHO I)
18	E of Mt. Whitney, California	Military	Astro (METEOR)
19	N of Susanville, California	[redacted]	Other (INVERSION)
19	Fort Knox, Kentucky	Military	Astro (METEOR)
19	NW of Lioga, Louisiana	[redacted]	Aircraft
19	Lincoln AFB, Nebraska	Military	Astro (METEOR)
20	Grand Junction, Colorado	Military	Astro (METEOR)
20	Kirksville AFS, Missouri	Military (RADAR)	Other (WEATHER)
20	Morocco	Military	Astro (METEOR)
20	Farmington, New Mexico	[redacted]	Astro (METEOR)
20	Louisville, Kentucky	[redacted]	Aircraft
20	Spokane, Washington	Multi	Astro (METEOR)
20	Seattle, Portland, Oregon	Multi	Astro (METEOR)
20	Denver, Colorado	[redacted]	Insufficient Data
21	San Angelo, Texas	[redacted]	Astro (METEOR)
21,22,23	Bermuda	Multiple	Insufficient Data
22	Fort Mill, South Carolina	[redacted]	Other (FLARE)
22	Champaign, Illinois	[redacted]	Aircraft
22	Dedham, Massachusetts	[redacted]	Insufficient Data
22-23	Pensacola, Florida	[redacted]	Balloon
23	Bitburg AB, Germany	Military	Satellite (D/K 1960 2/Rocket
23	Cook Islands, South Pacific	Multi	Astro (METEOR)
23	North Coast Labrador	Canadian Ships	Astro (METEOR)
23	Wendover, Sald Lake City, Utah	[redacted]	Astro (VENUS)
23	Winchester Bay, Oregon	[redacted]	Astro (JUPITER)

ADDITIONAL REPORTED SIGHTINGS (NOT CASES)

DATE	LOCATION	SOURCE	EVALUATION
17	Mansfield Center, Connecticut	Sky & Telescope	
17	New Berlin, Wisconsin	Summary - Fire Ball Reports	
20	Bend, Oregon	Newsclipping	
21	Kingston, Massachusetts	Newsclipping	
21	Edmonton, Alberta, Canada	Newsclipping	