

RESTRICTED

GUIDE TO INVESTIGATION

UNCLASSIFIED

UNIDENTIFIED AERIAL OBJECTS

UNCLASSIFIED

Incident No. 306

1. Date of Observation 24 April Date of Interview BETWEEN 1030 - 1035 MST
2. Exact time of observation (local) 1030 - 1035 MST
3. Place of Observation: 32° 53' N 107° 20' W
(Map Coordinates)
4. Position of observer (air, car, bldg, location of - give details):
GROUND, OPERATING A THEODOLITE FOR JPT TRAINING CENTER
5. What attracted attention to object:
TURNED TO LOOK AT Balloon WITH NAKED EYE
6. Number of objects and sketch of formation or grouping:
ONE
7. Apparent size (compare to known object, i.e., sun, moon, thumb or fist at arms length): N. 0.2° (size of balloon 350gms size at 15000 feet distance)
8. Color of object:
White
9. Shape (give graphic description - compare with known objects):
ELLIPTICAL, around 2 1/2 : 1 slenderness ratio
10. Altitude (Angle of elevation above horizon - 0 degrees at horizon, 90 degrees overhead): Came in from 210° at 45° elevation passed through the sun, was about 35° when due east then disappeared at 25° elevation at about 250 east of North
11. Direction from observer (Angle clockwise from North): 210°
12. Distance from observer (Distance to town, bldg, etc., over which object appeared to be): UNKNOWN EEI
13. Direction of flight of object (s): SEE BACK measured
14. Time in sight: around 60 seconds Winds Messy
15. Speed (time to cover given angular distance): measured to be 50 ft/min/sec
16. Sound and odor: NONE - Quiet - No tracks or Puffs
17. Trail (color, length, width, persistence, etc.): NONE
18. Luminosity (visible by reflection, incandescence, other - degree of brilliance): 3 Based on reflection

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[REDACTED]

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000.92 ERHT

1st Ind (contd)

Subject: Project "Grudge"

discussed with Dr. Peoples of this station the problems encountered in obtaining reliable information when observing unidentified objects. Mr. ██████ sent to Dr. Peoples an information copy of his observations near Arrey, New Mexico on April 24, 1949. It is felt that although the theodolite and stop-watch were of great assistance in making estimates, the principal factor responsible for the unusually specific information contained in this report, is that Mr. ██████ was made aware in advance of what factors should be observed in case such an object were sighted. Therefore, it is urged that your office issue detailed advance observation instructions to people who might be in a position to make observations and turn in reports.

3. It is felt that insufficient observing instructions are implied in the inclosed questionnaire. Item #12 is especially misleading, because an observer cannot possibly determine what town or building the object may be over, unless the object descends to a low enough altitude so that it can be determined to be on either the near or far side of a known object.

FOR THE COMMANDING OFFICER:

JOSEPH O. FLETCHER
Major, USAF
Director, Base Directorate
for Geophysical Research

Incl 1 w/d

*Added 1 sheet
2. Cy of "small" Rep*

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B/ltr, CG, AMC, to CG, CFS, Subject: Project "Grudge"

000.92

1st Ind

BRHT/JAP/ro

3160 Electronics Station, CFS, 230 Albany Street, Cambridge 39, Massachusetts, 13 May 1949.

TO: Commanding General, Air Materiel Command, Wright-Patterson Air Force Base, Dayton, Ohio, ATTN: MCIAXS

1. Additional information requested in basic letter is as follows:

a. Reference 3a. The balloons used by the Base Directorate for Geophysical Research do not carry lights or luminescent materials, nor is it anticipated that such equipment will be carried on future flights.

b. Reference 3b. An up-to-date list of balloon flights will be prepared and sent in the near future. Project plans call for launching of 20 ft. diameter plastic balloons at the following bases during the coming summer:

Clovis, New Mexico
Enid, Oklahoma
Phoenix, Arizona
Las Vegas, Nevada

The total number of launchings from all of these sites will not average more than three per week. It is also planned to launch eight 20 ft. diameter balloons from Omaha, Nebraska, between July 15 and August 15, 1949. The dates of other flights are indefinite at this time.

c. Reference 3c. Photographs and detailed descriptions of equipment would serve no useful purpose, because of the number of different projects being conducted. The most conspicuous gear included on the balloon flight train is a brightly colored flag of approximately 6' x 4', and one or two standard meteorological parachutes. At times, antenna wires as long as 150 ft. are flown. The scientific equipment is generally rather compact and is less than 1 cu. ft. in volume. As a general rule, a reward notice is attached to each balloon identifying the agency launching it.

d. Reference 3d. The 20 ft. plastic balloons fly at constant level between 40,000 to 60,000 ft. depending upon the load and other conditions. A few 70 ft. plastic balloons have been flown which reached altitudes of 80,000 to 100,000 feet. Occasionally, rubber meteorological balloons are flown using clusters of not more than three balloons.

2. Several months ago, Mr. [REDACTED], now of General Mills, Inc., but formerly associated with the balloon project at New York University,

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OBJECT REPORT

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On 24 April 1949, at 3 miles north of Arrey, New Mexico, (107° 19½'W 32° 52½'N) 4 Navy enlisted men from White Sands Proving Ground (Chief ██████████tz-simmons and ██████████) and I saw a rapidly moving object while making a pibal wind run. We had released a 350 gram balloon at about 1020 MST and were following it with a standard ML-47 (David White) Theodolite. After the 1030 reading, ██████████ took over the theodolite, and Akers and I looked up to find the balloon with naked eye. We thought we had the balloon when we saw a whitish spherical object right along the direction the theodolite (45° elevation and 210° azimuth) was pointing. The object was drifting east rapidly (5°/sec. as estimated by stopwatch and width of fingers) but we had thought to encounter similar winds on the balloon. When the difference in angle between the theodolite and supposed balloon became apparent, I took over the theodolite and found that true balloon was still there, whereupon I abandoned it and picked up the object after it came out of the sun. (The computed bearing of sun was 127° azimuth and elevation 60°) The object was moving too fast to crank the theodolite around, therefore one of the men pointed the theodolite and I looked.

The object was an ellipsoid about 2½ : 1 slenderness ratio, length about .D2 ° subtended angle, and white in color, except for a light yellow of one side as though it were in shadow. I could not get a hard focus on the object due to the speed at which the angles changed. Therefore I saw no good detail at all.

The azimuth angle continued to decrease as the object continued on a north heading, growing smaller in size. At around 20° - 25° azimuth, the azimuth held constant and the elevation angle began increasing from the 25° minimum to about 29°. The object then apparently disappeared due to distance after a total time of observation of about 60 seconds.

The object was not a balloon and was some distance away. Assuming escape velocity, a track was figured which put the elevation above the station of about 300,000 feet over the observed period. If this is true, the flight would have probably gone over the White Sands Proving Ground, Holloman Air Force Base and Los Alamos.

We made another pibal wind run 15 minutes later. This balloon burst after an 88 minute flight of 93,000 feet only 13 miles due south of us. Therefore this object could not have been a free balloon moving at such angular speed below 90,000 feet.

Information is desired if this was some new or experimental aircraft or for any explanation whatsoever.

██████████
██
██
██
Minneapolis 13, Minnesota
██

NOTE:

No clouds in sky, no haze.
No noise, very quiet in area
(no cars, planes or other engines running)
No trail, no exhaust visible.
Re: report

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s (distance object traveled) = 2 times the distance from point of observation
to the object times the sin of $\frac{1}{2}$ the angle
subtended.

which has
~~There are three values which are variable. Two of these~~ must
be known to solve for a third. In the case of this observation only one
known value was available, i. e. the angle subtended. The observers had no
possible way to determine either the speed of the object nor its distance from
them.

Arbitrarily
The observers ~~arbitrarily~~ selected 2500 ft per second (1700 mph) and
solved the equation. This is how the altitude of 300,000 ft was obtained.
We may just as easily ~~select~~ select 70 mph for the speed of the object and
find that it would have been at ^{a distance of} 800ft. The size in the first instance equals
105 ft in length, in the latter an object of less than one ^{half} foot length.

These values can be calculated using the following formulae:

$$\frac{2}{360^\circ} \times .02^\circ = .00035 \text{ radians}$$

.00035 radians times the distance of object from point of observation
equals the length of the object.

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- 19. Projections (fins, wings, rods, antennae, canopies, etc.):
NONE visible, focus not good
- 20. Maneuvers (turns, climbs, dives, etc. - sketch of flight path):
See BACK
- 21. Manner of disappearance:
Climbed GREW smaller rapidly then disappeared
- 22. Effect on clouds:
No clouds, No effect
- 23. Additional information concerning object:
See report
- 24. Weather conditions and light at time of sighting:
Clear except for 1/10 cumulus to west, NO DUST, Bright desert day
- 25. Did observer wear glasses, especially polaroid glasses, at time of sighting, or was object viewed through canopy, window, or other transparent material?
No

Name and address of observer:

[REDACTED]

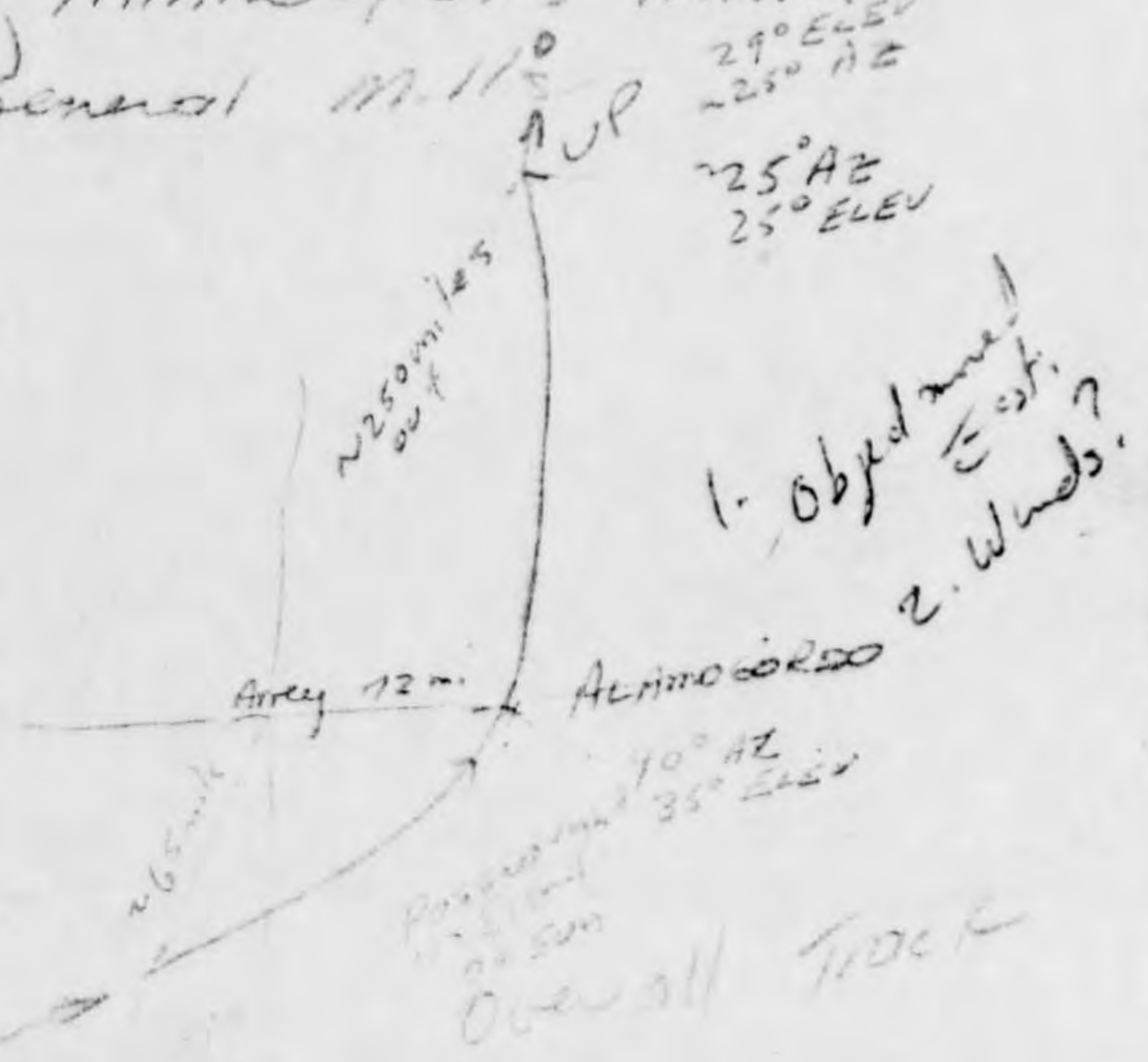
Occupation and hobbies:

Chemical Engineer
 Meteorological Training
 (Equipment balloons)
 Member BALLOON Crew

20 [REDACTED]
 Minneapolis Minn
 General Mills
 29° ELEV
 ~25° AZ
 25° AZ
 25° ELEV

Hobbies, Astronomy

↓
 OVER



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[REDACTED]

New Mexico

Overlay from Aero map 460 406
Estacado Plain

HEADED ~~RE~~ Direction
SANTA FE

N

Rio Grande

SAW ANDREWS MTS

SACRE MOUNTAINS

ALAMO GORDO

35° elevation ∴ Around
30000 feet

Highway

ESTIMATED
TRACK

CABILLO DAM

Army

HATCH

LAS CRUCES

5°/sec

∴ Around
70 miles
Distant if moving
at escape velocity

210° Az
4500 ft

DEMINI

RESERVED

RESERVED

Object: Ellipsoid

2 1/2 : 1 length to width ratio

.02° subtended length

white - light yellow on one side

velocity: 5°/sec

first seen at 45° elevation

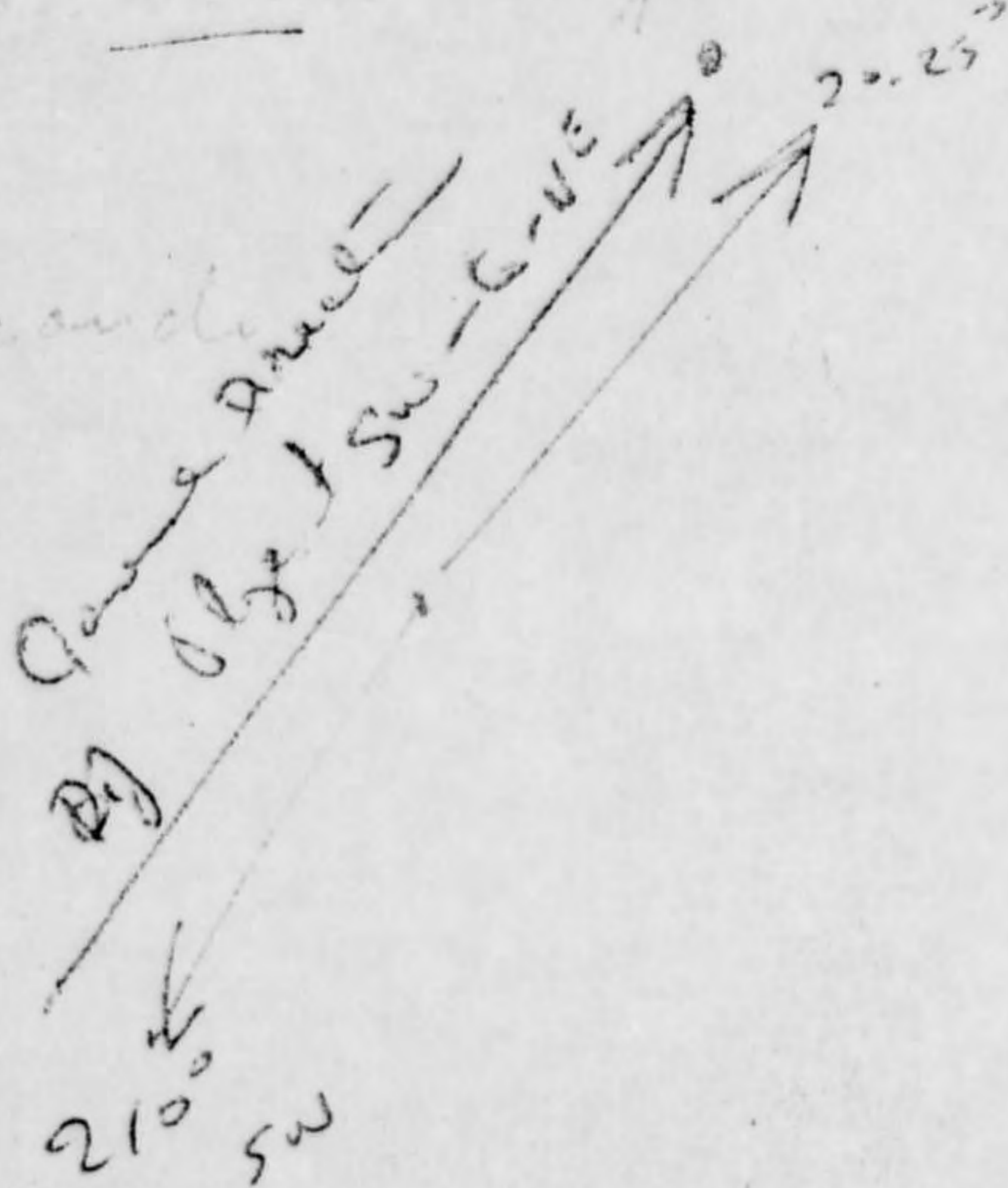
210° azimuth

elevation angle increased to 25° at

20°-25° azimuth

to 22°

time in sight: 60 seconds



2.5
2.5
1.0250
1.004
1.0200

1
270

2/5

SW



IN REPLY ADDRESS BOTH COMMUNICATION AND ENVELOPE TO COMMANDING GENERAL, AIR MATERIEL COMMAND, ATTENTION FOLLOWING OFFICE SYMBOL:

HEADQUARTERS
AIR MATERIEL COMMAND

MCIAXS/EWS/amc
WRIGHT FIELD, DAYTON, OHIO

MAY 5 1949

SUBJECT: Project "Grudge"

TO: Commanding Officer
3160 Electronics Station
Cambridge Field Station
250 Albany Street
Cambridge 39, Massachusetts
ATTN: BRH

1. Reference is made to your letter OOC.92, dated 18 April 1949, subject: "Analysis of Project 'Grudge' Reported Incidents".
2. Information provided in referenced letter has been very helpful in analysis of Project "Grudge" incidents.
3. The following additional information is requested:
 - a. Do atmospheric research balloons ever carry lights or luminescent materials that might be visible at night?
 - b. Lists of balloons released since No. 101 on 17 Nov. 1948 and lists of future releases.
 - c. Photographs and descriptions of equipment carried aloft by these balloons.
 - d. Further information as to the altitudes attained by the balloons and their size at various altitudes.
4. Your recommendations for improvement of our incident check list are appreciated. A copy of the revised collection guide form is inclosed for your information.
5. Project "Grudge" is classified "Restricted". Therefore, this correspondence may be downgraded and future correspondence classified consistent with material relative to research balloons but not lower than "Restricted".

BY COMMAND OF GENERAL McMARNEY:

W. J. Clinger
 W. J. CLINGERMAN
 Colonel, USAF
 Chief, Analysis Division
 Intelligence Department

1 Incl:
Questionnaire Form,
Guide to Investigation

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2-88B

3-39252

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~~RESTRICTED~~

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000.92 ERHT
Subject: Project "Grudge"

1st Ind (contd)

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FOR THE COMMANDING OFFICER:

gm
1 Incl
w/d Incl 1
2. Cy of Rep,
Mr. [redacted]

Joseph O Fletcher
JOSEPH O. FLETCHER
Major, USAF
Director, Base Directorate
for Geophysical Research

File

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~~RESTRICTED~~

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B/ltr, CG, AMC, to CO, CFS, Subject: Project "Grudge"

000.92

1st Ind

ERHT/JAP/rc

3160 Electronics Station, CFS, 230 Albany Street, Cambridge 39, Massachusetts, 18 May 1949.

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2. Several months ago, Mr. C. B. Moore, now of General Mills, Inc., but formerly associated with the balloon project at New York University,

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2
DOWNGRADED AT 2 YEAR INTERVALS
DECLASSIFIED AFTER 12 YEARS.
DOD DIR 220010

~~RESTRICTED~~

*File
Press Release
Hy Obj.*

Unclassified

In our Relations
24 April
1949

72135

?
X

1. The incident where theodolite measurements were made of an unidentified aerial object and to which the article by Commander McLaughlin apparently refers, was reported by several persons engaged in the measurement of wind velocities by balloon releases in ~~the State~~ New Mexico.

2. The report of the incident gave the following information:

On 24 April 1949, 3 miles north of Arrey, New Mexico, five persons saw a rapidly moving object ~~xxxxxxxxxxxx~~. These persons had released a balloon and were following it with a theodolite. After taking a reading at 1030 MST, one observer continued to follow the balloon while two others observed a whitish spherical object with the naked eye right along the direction that the theodolite was pointing. The object observed with the naked eye was drifting east rapidly (5°/sec. as estimated by stopwatch and width of fingers) but the observers had expected to encounter similar winds on the balloon.