PROJECT 10073 RECORD

327

1. DATE - TIME GROUP 12 May 49 13/0100Z	LOCATION Roanoke, Virginia
3. SOURCE Civilian	10. CONCLUSION AIRCRAFT
4. NUMBER OF OBJECTS one	
5. LENGTH OF OBSERVATION Not Reported	11. BRIEF SUMMARY AND ANALYSIS Observer sighted what appeared to be an amber light. It was moving slowly and it appeared as an airplane with landing lights. The light was turned off and a sound, like the drone of B-29 motors, was heard. Sparks were seen trailing the object.
6. TYPE OF OBSERVATION Ground-Visual	
7. COURSE West	
8. PHOTOS ☐ Yes ☒ No	
9. PHYSICAL EVIDENCE ☐ Yes ☒ No	

FORM
FTD SEP 63 0-329 (TDE) **Previous editions of this form may be used.**

[redacted]

UNCLASSIFIED

UNITED STATES AIR FORCE
THE INSPECTOR GENERAL
OFFICE OF SPECIAL INVESTIGATIONS

REPORT OF INVESTIGATION

FILE NO.	DATE
24-14	23 August 1949

REPORT MADE BY: LEON C. MINNICH gef

REPORT MADE AT: DO #21, Langley AFB

PERIOD: 1, 2, 3, 4 & 5 August 1949

OFFICE OF ORIGIN: DO #5, Wright-Patterson AFB

STATUS: INC

TITLE

Project "GRUDGE"
Incident, Roanoke, Virginia
13 May 1949

CHARACTER

SPECIAL INQUIRY

REFERENCE

Rpt of Inv, S/A CHARLES F. CRUTCHFIELD, file 24-21R, DO #5, dtd 7 Jun 49

SYNOPSIS

Investigation revealed an unknown OBJECT was sighted by numerous individuals during period 1920 hours to 1930 hours, 12 May 1949, in vicinity of Christiansburg and Roanoke, Virginia. OBJECT was seen at sunset in form of a red-yellow glow in shape of a long, narrow, oblong streak moving upward from a position 40 to 50 degrees above a horizontal line in the west to overhead, disappearing in the east. At first sighting, observers stated that OBJECT could have been covered from sight with the thumb at arms length but the speed and height could not be accurately determined. Official weather stations reported no unusual data, with winds aloft light and variable, ceiling scattered and visibility twenty-five (25) miles. Air activity at time of sighting requested from official sources reported two (2) aircraft flying in area, a weather balloon released for winds aloft reports and scheduled Airline flights at Woodrum Field, Roanoke, Virginia. OBJECT was not known to have had contact with the earth and no known photographs are in existence. Interviews conducted and official reports noted.

DISTRIBUTION

DO #5	4
Hq OSI	2
File	2

ACTION COPY FORWARDED TO

COMMANDING GENERAL
AIR MATERIEL COMMAND
WRIGHT-PATTERSON AFB
DAYTON, OHIO
ATTN: MCIAxs

FILE STAMP

APPROVED

LEO H. JOHNSON
Lt. Col., USAF
District Commander.

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7-3112-14

FORM AN 49 0-208 Replaces AFCSI Form 4, 23 [illegible], which may [redacted]

16—57744-1 U. S. GOVERNMENT PRINTING OFFICE

[redacted]

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DETAILS:

1. Investigation revealed an unknown OBJECT was sighted at sunset, 12 May 1949, in vicinity of Christiansburg and Roanoke, Va. OBJECT appeared as a long, narrow, oblong streak moving upward from a point on the horizon in the west to overhead and disappeared in the east. OBJECT's size, height and speed could not be accurately determined and no unusual weather or flight conditions existed. Air traffic reported as two (2) Naval Aircraft and scheduled Airlines flights over the area. Only other known object released over area was a weather balloon used for winds aloft readings.

AT CHRISTIANSBURG, VIRGINIA

2. On 2 August 1949, Mr. [redacted] was interviewed and stated in substance: That at approximately 1930 hours on 12 May 1949, he was standing in the front yard of his home when his small daughter called attention to an OBJECT in the sky. At first sighting, a single OBJECT appeared at approximately 250 degrees from North and traveled in straight flight in the direction of South-West to North-East on air-ways from Tri-City Airport to Washington, D. C., disappearing overhead due to height in a direction approximately 45 degrees from North. The OBJECT was described as "A long streak of glowing light" leaving a short, reddish-yellow dull glowing trail at first which grew longer as it moved to the overhead position. [redacted] stated that he would estimate the OBJECT was in view for ten minutes and the speed was over 400 miles per hour. He could not estimate the size for the light was not bright and the height was unknown. When the OBJECT was overhead, [redacted] stated a deep far away roar was heard but he could not say whether or not the sound came from or had any connection to the OBJECT. [redacted] furnished opinions to the effect that OBJECT is believed to have had some connection with the sun-sunlight-and the atmosphere. No smoke or vapor trail was seen and it is believed OBJECT was so high that no vapor trail was left or could be seen. A powerful set of field glasses were used in an effort to bring the OBJECT into view but no results were obtained.

NOTE: [redacted]'s occupation is manager of a Furniture Factory and his hobbies are Golf and Baseball. Neighborhood and Police checks reveal [redacted] has no record of drinking or of a criminal nature. He is a man of far above average intelligence and has had a very good education. He and his family are highly thought of in the community for honesty and truthfullness. [redacted] appears to be in excellent physical condition, does not wear eye-glasses, is 32 years of age, and is of average height and husky build. He was an Air Force pilot with the Ferry Command and ATC during the war and has flown over the area in vicinity of Christiansburg and Roanoke, Virginia.

3. On 2 August 1949, Mr. and Mrs. [redacted], were interviewed and stated substantially the same in substance: On 12 May 1949, at approximately fifteen (15) to twenty (20) minutes after sunset, they were in the front yard of their home located one mile west of Christiansburg, Virginia, on [redacted] (Hiway 11) when Mrs. [redacted] called attention to an OBJECT in the sky. At first sighting, a single OBJECT appeared at approximately 260 degrees from north and traveled in straight flight from west to east, fading from sight due to height or behind a hill in the southeast approximately 120 degrees from North. The OBJECT was described as resembling a flourescent light the color of

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[redacted]

[redacted]

fire or the rising sun but not as bright. The shape was described like that of an eel, long narrow and oblong. The OBJECT was in sight for a period of from five to ten (5 to 10) minutes and at first sighting, appeared to be stationary, then began to rise and increase speed until it disappeared. Neither informant could estimate the speed of the OBJECT but Mr. [redacted] estimated the size as "could be covered from sight with a thumb at arms length when first seen and increasing in size and length as it raised and passed overhead". No sound, odor or material matter was noticed and the brightness of the light was compared to the glow of a forty (40) watt bulb. Informants point of observation was on the side of a small hill, the angle to top of the hill being approximately 15 degrees from level. Additional information was given by informants to the effect that as OBJECT moved overhead a small bright light like a star was seen ahead of the body of the OBJECT followed by a long narrow reddish-yellow glow. No smoke or vapor trail was seen and when the OBJECT was due south of point of observation, Mrs. [redacted] stated a shower of sparks like "Fourth of July Sparklers" appeared to come from the leading end. Mr. [redacted] stated the OBJECT was unlike anything he had ever read about or seen pictured.

NOTE: Neighborhood & Police checks revealed negative information concerning any criminal activities or bad character habits of informants. Both Mr. & Mrs. [redacted] of average intelligence and have a good reputation in the community. They seem in fair physical condition and to have an average layman's knowledge of flight conditions. Mr. [redacted] a man of about fifty to fifty-two (50 to 52) years of age, is shorter than average and is thin in build. Mrs. [redacted] is approximately forty-nine years of age, is of average height and slightly heavy in build. She wears eye-glasses not of heavy lens type, indicating a small degree of correction in sight. Mr. [redacted] is a painter by trade and neither informant stated any preferred hobbies.

AT ROANOKE, VIRGINIA

4. On 2 August 1949, Mr [redacted], Insurance Salesman, [redacted] was interviewed and stated in substance: That at approximately 1020 hours, 12 May 1949, he and [redacted] were driving north on Hiway 220 between Boones Mill and Roanoke, Virginia, when [redacted] called his attention to an OBJECT in the sky. He and [redacted] parked the vehicle and dismounted. At first sighting a single OBJECT appeared at approximately 265 degrees from North and at an angle 40 to 50 degrees above a level horizontal line. The point of observation was in a valley and the OBJECT appeared just above a mountain top in a westerly direction. At first sighting the OBJECT could have been covered from sight with the thumb at arms length, appeared to be 12 to 13,000 feet high and from eight to ten (8 to 10) miles away, rising straight up a little north of vertical in the west and passing overhead to disappear into the east at a point approximately 95 degrees from North. The OBJECT remained in view for from five to ten (5 to 10) minutes and compared to planes was travelling at a speed of over 400 miles per hour [redacted] described the OBJECT as being long, thin and of a reddish-yellow glow. The tip was a ball of brighter and whiter glowing light followed by a space where nothing was seen, and then a long tail, narrow at the front and getting wider toward the rear. Additional information was given by [redacted] to the effect that the OBJECT glowed like a light seen through the fog, looked like a long thin carrot, appeared to move somewhat like a snake, and gained speed and length as it raised and passed overhead. No smoke or vapor

[redacted]

[redacted]

trail was noticed.

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NOTE: Neighborhood & Police Checks reveal [redacted] has no record of excessive drinking or a criminal nature, is believed to be of average intelligence and has a good character standing in the community. [redacted] is approximately 28 years of age, is of average height and slender build, seems to be in good physical condition and does not wear eye-glasses. [redacted] seems to have an average layman's knowledge of flight conditions and pursues the hobbies of baseball and hunting.

5. On 2 August 1949, Mr. [redacted], Insurance Salesman, [redacted], SW, was interviewed and stated in substance: That at approximately 1830 hours, 12 May 1949, he was driving on hiway 220 between Boones Mill and Roanoke, Virginia, when his attention was drawn to an OBJECT in the sky. He parked the vehicle and dismounted. At first sighting, a single OBJECT appeared at approximately 295 degrees fromNorth and at an angle 40 to 50 degrees above a level horizontal line. The point of observation was in a valley and the OBJECT appeared on the horizon even with a mountain top in a westerly direction. At first sighting the OBJECT could have been covered from sight with the thumb at arms length (length for length), appeared to be eight to ten (8 to 10) miles away, rising straight up a bit north of vertical in the west and passing overhead, fading out in the east at a point approximately 100 degrees from North. The OBJECT remained in view for ten (10) minutes and compared to planes was travelling at a speed of approximately six-hundred (600) miles per hour. MAY described the OBJECT as being a red glowing light of oblong shape, similar to that of the smoke trail left by planes using rocket assist units on take off. The red glow had the effect of lights seen through smoke, was longer than it was wide and increased in length and width as it raised and moved overhead. No smoke or vapor trail was seen and the glow faded out as the OBJECT moved across the sky. The OBJECT traveled in straight flight from WSW to ESE and no material matter was noticed.

NOTE: Neighborhood & Police checks reveal [redacted] to have no record of excessive drinking and no record of a criminal nature. He is a man of average intelligence and is respected for good character in the community. He appears to be in good physical condition, does not wear eye-glasses and, as all layman, his knowledge of conditions regarding flight are limited. [redacted] is approximately 45 years of age, is on the short side of average height and is of husky build. Informant's hobbies are baseball, hunting and fishing.

6. The following was received from U. S. Weather Bureau, Department of Commerce, Woodrum Field, Roanoke, Virginia:

Official Sunset for 12 May 1949: Recorded as 1919 hours (7:19 PM).

Official weather report for 12 May 1949, 1830 hours (6:30 PM): Recorded as 7000 scattered; 25 miles visibility; Surface wind from the Southeast at 14 Miles per hour.

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[redacted]

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Official weather report for 12 May 1949, 1930 hours (7:30 PM): Recorded as 8000 scattered; 20 miles visibility; Surface wind from East Southeast at 12 miles per hour.

7. Official winds aloft report released by Weather Bureau at Woodrum Field, Roanoke, Virginia, on 12 May 1949, is recorded as:

1600 Winds Aloft Report (4:00 PM)

Surface	wind	from	150	degrees	at	2	knots
2000'	"	"	190	"	"	2	"
3000'	"	"	220	"	"	3	"
4000'	"	"	260	"	"	3	"
5000'	"	"	300	"	"	6	"
6000'	"	"	330	"	"	11	"
7000'	"	"	320	"	"	14	"
8000'	"	"	330	"	"	14	"
9000'	"	"	340	"	"	15	"
10,000'	"	"	340	"	"	17	"
12,000'	"	"	340	"	"	17	"

2200 Winds Aloft Report (10:00 PM)

Surface	wind	from	20	degrees	at	5	knots
2000'	"	"	50	"	"	4	"
3000'	"	"	10	"	"	6	"
4000'	"	"	360	"	"	13	"
5000'	"	"	10	"	"	16	"
6000'	"	"	20	"	"	16	"
7000'	"	"	20	"	"	16	"
8000'	"	"	20	"	"	16	"
9000'	"	"	10	"	"	13	"
10,000'	"	"	360	"	"	34	"
12,000'	"	"	10	"	"	22	"
14,000'	"	"	340	"	"	15	"
16,000'	"	"	340	"	"	12	"
18,000'	"	"	350	"	"	12	"
20,000'	"	"	340	"	"	14	"
25,000'	"	"	320	"	"	12	"

NOTE: All time is Standard Time for Roanoke, Virginia, area converted from Z-time. Weather Bureau at Roanoke, Virginia, is run by civilians and is not connected with the Military.

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[redacted]

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8. Local flight schedules of commercial aircraft at Woodrum Field, Roanoke, Virginia, over period of 12 May 1949.

American Airlines

Flight No.	Due In	Due Out
405	9:24 AM	9:36 AM
404	10:28 AM	10:40 AM
393	12:36 PM	--------
410	--------	1:56 PM

Eastern Airlines

Flight No.	Due In	Due Out
752	7:40 AM	7:50 AM
190	9:29 AM	9:37 AM
753	10:21 AM	10:30 AM
758	2:59 PM	3:10 PM
755	6:34 PM	6:44 PM
754	8:46 PM	8:56 PM
189	10:55 PM	11:05 PM

Piedmont Airlines

Flight No.	Due In	Due Out
32	9:01 AM	9:04 AM
43	8:53 AM	--------
31	9:10 AM	9:13 AM
40	--------	9:40 AM
33	2:40 PM	2:43 PM
30	3:21 PM	3:24 PM
37	7:35 PM	--------
41	7:48 PM	7:51 PM
36	8:16 PM	8:19 PM
42	--------	8:25 PM

9. Information on air activity in vicinity of Roanoke, Virginia, on 12 May 1949 covering period around sunset, received from Control Tower Operators of Woodrum Field, Virginia, is as follows:

a. The Air Reserve Unit had no flight in the air at that time.

b. Two Navons from Woodrum Field were flying local.

c. No air traffic except the scheduled Airlines were known to be in the area during the period of sun down and for some time thereafter.

d. No known objects are released in this area except weather bureau balloons used for winds aloft readings.

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[redacted]

[redacted]

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10. Review of log maintained by Operators of the Communication Station (CAA), Roanoke, Virginia, (known to pilots as Roanoke Radio & Roanoke Range Stations.) reveal an entry in log in answer to a request for maintenance to telephone and teletype lines to correct interference. The entry is as follows:

> "1112 ATT calls and reports that trouble on teletype lines are caused by earth currents (Aroro Borealis) and we may expect this condition to last for some time."

Time of entry was 1112 AM 12 May 1949.
ATT is American Telephone and Telegraph Company.

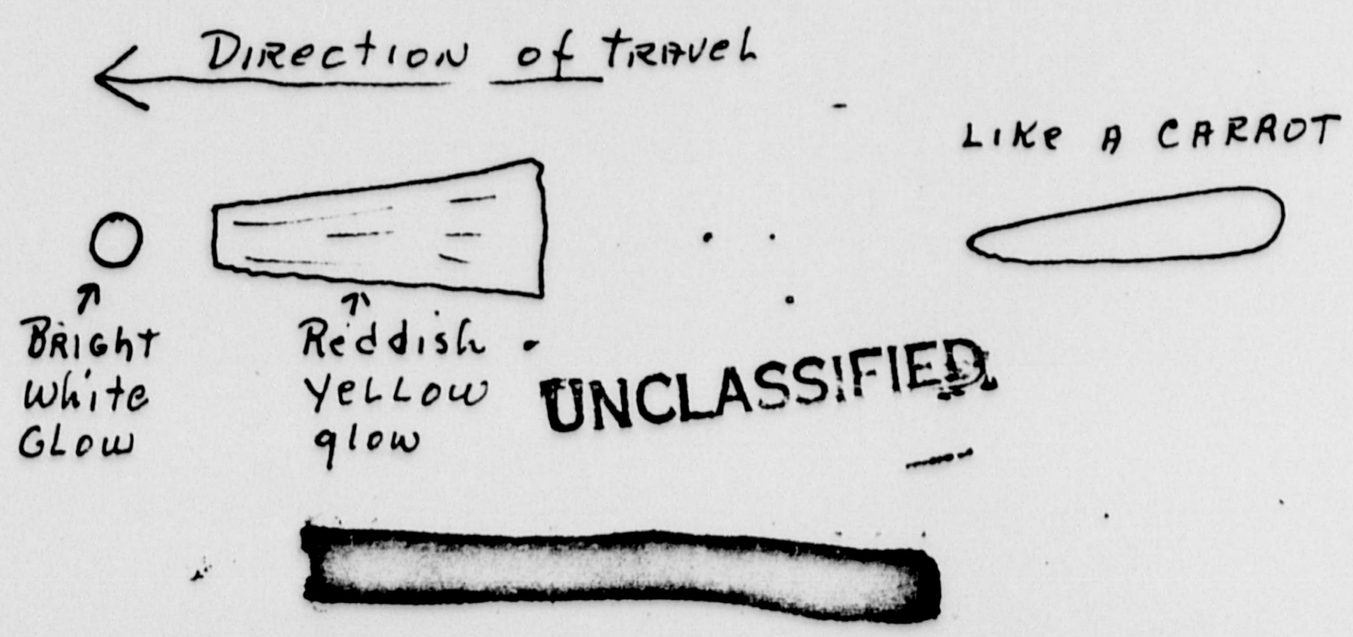
A second entry in log was noted. Entry was a report made by the pilot of aircraft number NG [redacted], enroute from Nashville, Tenn., to Washington, D. C., flying at 8000 feet VFR. Report was made at 0906 PM over Roanoke, Virginia. The report was that the pilot had sighted a comet or shooting star when he was about five minutes out of Pulaski. Comet was at approximately 10,000 feet. Time of entry was 0906 PM, 12 May 1949

11. Miscellaneous information, rumors and reports are as follows:

Control Tower at Woodrum Field, Roanoke, Virginia received a call from Pulaski Radio, Pulaski, Virginia, the night of 12 May 1949, in regard to two (2) calls Pulaski Radio had received to the effect that a plane was on fire and was flying in a northeasterly direction at approximately 10,000 feet. Pulaski Radio advised Woodrum Tower of a call from the pilot of aircraft number NG 5716, over Pulaski, Virginia, inquiring if Pulaski Radio Operators had sighted a comet at 10,000 feet. Woodrum Field Control Tower also received telephone calls in regard to unknown lights in the sky. One call reported an orange colored ball of fire, first sighted overhead, fall in a northeasterly direction, disappearing behind the mountains. No names were listed for any of these calls. The only known object released in the area was a weather balloon for winds aloft reports. No trajectory record for this balloon was requested. The OBJECT had no known contact with the earth and no photographs are known to exist. No maneuvers of, or projections on, the OBJECT were reported.

12. The following sketches are the writers duplication of those drawn of OBJECT by Informants:

MR. [redacted]

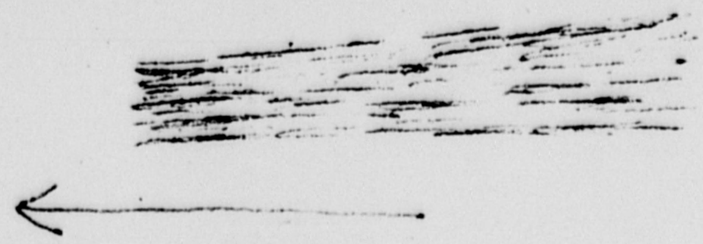


MR. [redacted]

BRIGHTER white LIGHT LIKE A STAR
SMALL LIKE A PIN-HEAD.

MR. [redacted]

[redacted]



REFERRED UPON COMPLETION

[redacted] [redacted]

HEADQUARTERS UNITED STATES AIR FORCE
THE INSPECTOR GENERAL
OFFICE OF SPECIAL INVESTIGATIONS

REPORT OF INVESTIGATION

FILE NO. 5D 24-21R	DATE 7 June 1949
REPORT MADE BY CHARLES F. CRUTCHFIELD blk	
REPORT MADE AT DO #5, W/PAFB, Dayton, Ohio	
PERIOD 3 June 1949	
OFFICE OF ORIGIN DO #5, W/PAFB, Dayton, Ohio	
STATUS PENDING	

TITLE

UNCLASSIFIED

PROJECT "GRUDGE"
Incident, Roanoke, Virginia
13 May 1949

CHARACTER

SPECIAL INQUIRY

REFERENCE

None, this is an initial report.

SYNOPSIS

Investigation requested by Lt. Colonel A. J. HEMSTREET, JR., Acting Chief, Analysis Division, Intelligence Department, Wright-Patterson Air Force Base, Dayton, Ohio to determine characteristics of mysterious cigar-shaped object reported seen by several persons over Roanoke, Virginia and other parts of West Virginia and Eastern Tennessee. Report of observers was taken from the Roanoke World-News, Roanoke, Virginia, Friday afternoon, 13 May 1949.

DOWNGRADED AT 3 YEAR INTERVALS;
DECLASSIFIED AFTER 12 YEARS
DOD DIR 5200.10

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DISTRIBUTION		ACTION COPY FORWARDED TO	FILE STAMP
CG, AMC	2	Commanding General	
Hq. OSI (Incl)	2	Air Materiel Command	
DO #21 (Incls)	2	Wright-Patterson AFB	
File	2	Dayton, Ohio	
		ATTN: MCIAXS	

APPROVED

for Orood C. Greenwell

THOMAS F. DOYLE, JR.
Captain, USAF
Acting DISTRICT COMMANDER

AFCSI FORM 23 JULY 48 4

[redacted]

16—56438-1 U. S. GOVERNMENT PRINTING OFFICE

6-8

[redacted]

5D 24-21R
PROJECT "GRUDGE"

UNCLASSIFIED

DETAILS:

1. Investigation was requested by Lt. Colonel A. J. HEMSTREET, JR., Acting Chief, Analysis Division, Intelligence Department, Wright-Patterson Air Force Base, Dayton, Ohio.

2. An item in the Roanoke World-News, Roanoke, Virginia on Friday afternoon, 13 May 1949, transmitted by Mr. P. [redacted], Roanoke, Virginia, described the cigar-shaped object reportedly seen over Roanoke and other parts of West Virginia and Eastern Tennessee. An extract copy of subject newspaper item is attached as an inclosure to this report.

INCLOSURES

FOR HEADQUARTERS OSI

1. Extract copy of Roanoke World-News clipping. (in dup)

FOR DISTRICT OFFICE NO. 21, LANGLEY AFB

1. Extract copy of Roanoke World-News Clipping. (in dup)
2. Guide to Investigation (in dup)

P E N D I N G

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[redacted]

[redacted]

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5D 24-21R
PROJECT "GRUDGE"

UNDEVELOPED LEADS

DISTRICT OFFICE NO. 21, LANGLEY AIR FORCE BASE, VIRGINIA

AT ROANOKE, VIRGINIA

1. Will interview the following persons concerning cigar-shaped object mentioned in report, using information contained in Guide to Investigation:

Mr. [redacted] S.W., Roanoke, Virginia
Mr. [redacted] Roanoke, Virginia

2. Will submit results of investigation to this office on AFHQ Form 0-208 (Form 4).

AT CHRISTIANSBURG, VIRGINIA

1. Will interview the following persons concerning cigar-shaped object mentioned in report, using information contained in Guide to Investigation:

Mr. [redacted] Christiansburg, Virginia
Mr. [redacted] Road, Christiansburg, Virginia

2. Will submit results of investigation to this office on AFHQ Form 0-208 (Form 4).

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[redacted]

INCIDENT NO. 327

1. Date of Observation 12 May 1949 Date of Interview _____
2. Exact Time (local) 2000
3. Place of Observation Roanoke, Virginia
4. Position of observer Ground
5. What attracted attention to object Light
6. Number of objects 1
7. Apparent size
8. Color of object Amber
9. Shape
10. Altitude 4000 ft.
11. Direction from observer East
12. Distance from observer
13. Direction of flight of object(s)
14. Time in sight
15. Speed Slowly
16. Sound and odor Like drone of B-29 motors
17. Trail
18. Luminosity
19. Projections
20. Maneuvers
21. Manner of disappearance
22. Effect on Clouds
23. Additional information concerning object
24. Weather Conditions

(over)

Aircraft

Incident 327

Name and address of observer: [redacted] Roanoke, Va.

Occupation and hobbies:

Comments of Interrogator relative to intelligence and character of observer(s):

NARRATIVE SUMMARY:

In complying with your request for reports on the mysterious object observed in the skies over Roanoke, Va. and other sections of this State., about eight o'clock P.M. on May 12th 1949.

I was sitting on the porch at my home and saw the light of this object appear from the east at about 4000 ft high, I first thought it a star but looked too large for that for a while it seemed to be standing still., In two or three minutes I could tell it was slowly moving., I watched it closely and the nearer it came to me it appeared and looked liko an air plane with the landing lights on a rather amber color., and about time it was well entering the Roanoke City limits the lights were out off and I did not see any other lights about it.

After the lights were out off it camo nearer and I could tell the motor or motors which sounded very much like the drone of the B 29 motors when just cruiseing along with the motors out way back and I could hear plain enough that one motor was not running proper it sounded like it was about half way missing, and as far as being able to see the object it was too dark., There are reports from other sections that it was seen after passing over Roanoke., My idea about this object is it must have been a air Ship of some size having some motor trouble and the sparks that were seen trailing it were coming from the exhaust port.

In order to identify my self I am a Postal Employee at the Roanoke, Va., Post Office and have been employed there for nearly Twenty Eight Years.

/s/ [redacted]

MCIAXS

MCIAXS/GWT/amc

[redacted]
Roanoke, Va.

Dear Mr [redacted]

Receipt of your letter, dated 14 May 1949, which has been forwarded to this Headquarters is respectfully acknowledged.

Your reported sighting has been made a matter of record and is being incorporated into our present study of unidentified aerial phenomena.

Your action in writing this Headquarters regarding this matter is appreciated.

Sincerely yours,

A. J. HEMSTREET, JR.
Lt Colonel, USAF
Acting Chief, Analysis Division
Intelligence Department

2 JUN 1949

File Ufoid 327

DEPARTMENT OF THE AIR FORCE
DIRECTORATE OF PUBLIC RELATIONS
WASHINGTON

MAY 2 0 1949

SUBJECT: Flying Discs

RO: Commanding General
Air Materiel Command
Wright-Patterson Air Force Base
Dayton, Ohio

1. Attached letter is forwarded for appropriate action.

2. No acknowledgment has been made by this headquarters.

BY COMMAND OF THE CHIEF OF STAFF:

D. M. Robinson

Incl
Ltr dtd 14 May 1949
[redacted]

W. O. ROBINSON
Captain, USAF
Executive Officer
Directorate of Public Relations

No Reply sent to Hdqtr. Pub. Relations

File Incident No. 7

Incident 327.

5-31

DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION
WASHINGTON 25

May 20, 1949

[redacted]
Roanoke, Virginia

Dear Mr. [redacted]

Your letter of May 14 addressed to the Civil Aeronautics Administration, Atlanta, Georgia, has been referred to this office for reply.

Inasmuch as the information contained in your letter was not requested by the Civil Aeronautics Administration, we are forwarding your letter to the Department of the Air Force, Washington 25, D. C.

Sincerely yours,

Ben Stern, Director
Office of Aviation Information

BK
CC: A-240
A-192

CIVIL AERONAUTICS ADMINISTRATION
ATLANTA, GA.

MAY 16 11 51 AM '49

Final.

Roanoke, Va.
May 14, 1949.

Civil Aeronautics Administration,.
Atlanta, Ga.

Gentlemen;

In complying with your request for reports on the mysterious object observed in the skies over Roanoke, Va and other sections of this State., about 8ight C.Clock P. M. on May 12th 1949.

I was sitting on the poarch at my home and saw the light of this object appear from the east at about 4000 ft high; I first thought it a star but looked too large for that for a while it seemed to be standing still., In two or three minutes I could tell it was slowly moving., I watched it closely and the nearer it came to me it appeared and looked like an air plane witk the landing lights on a rather amber color., and about time it was well entering the Roanoke City limits the lights were cut off and I did not see any other lights about it.

After the lights were cut off it came nnarer and I could the motor or motors which sounded very much like the drone of the B 29 Motors when just cruiseing along with the motors cut way back and I could hear plain enough that the motor was not running proper it sounded like it was about half way missing, and as far as being able to see the object it was too dark., There are reports from other sections that it was seen after passing over Roanoke., My idea about this object is it must have been a Air Ship of some size having some motor trouble and the Sparks that were seen trailing it were comming from the exhaust port.

In order to identify my self I am a Postal Employee at the Roanoke Va., Post Office and have been employed there for nearly Twenty Eight Years.

Resyactfully yours.

[redacted] d Rd.

Roanoke, Va.

MAY 18 9 20 AM '49
DEPT OF COMMERCE AIR
WASHINGTON D.C.

[redacted]

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON

5D-OSI/CFC/blk

THE INSPECTOR GENERAL, USAF
5TH DISTRICT OFFICE OF SPECIAL INVESTIGATIONS
WRIGHT-PATTERSON AIR FORCE BASE, DAYTON, OHIO

IN REPLY REFER TO: 5D 24-21R

22 September 1949

SUBJECT: PROJECT "GRUDGE"
Incident, Roanoke, Virginia
13 May 1949
SPECIAL INQUIRY

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

1. Reference is made to Report of Investigation by Special Agent CHARLES F. CRUTCHFIELD, dated 7 June 1949, SUBJECT as above.

2. Forwarded herewith are two (2) copies of final report of Special Agent LEON C. MINNICH, District Office No. 21, dated 23 August 1949.

3. Your attention is invited to Paragraph 11, AF Regulation 205-6, dated 18 May 1949, which prohibits the disclosure of the nature, sources or existence of investigative information to unauthorized persons.

4. With the submission of this report, all logical investigative leads have been developed and reported.

1 Incl (in dup)
R/I, DO #21, dtd 23 Aug 49

JAMES F. X. O'CONNELL
Lt Colonel, USAF
District Commander

Copy to:
Hqs. OSI

DOWNGRADED AT 8 YEAR INTERVALS;
DECLASSIFIED AFTER 12 YEARS
DOD DIR 5200.10

Enc. 327

UNCLASSIFIED

WF-O-5 OCT 48 15M

[redacted]

UNCLASSIFIED

[redacted]

Project "Grudge" 327

5D OSI MCIAXS 25 May 49 1
ATTN: Mr. J. E. Morrill

1. It is requested that your office initiate an investigation of the sighting of a mysterious cigar-shaped object as reported by inclosed copy of newspaper clipping from the Roanoke World-News, Roanoke, Va.

2. As an aid to the investigating officer in recording desired data, two copies of our Guide to Investigation are also inclosed.

2 Incls:
1. Cy News Clipping, 5/13/49
2. Guide to Inves. (2 Cys)

A. J. HEMSTREET, JR.
Lt Colonel, USAF
Acting Chief, Analysis Division
Intelligence Department

GMT/amc
6-6398
Bldg 288
Post 218-B

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DOD DIR 5200.10

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[redacted]

VILLAGE OF **Llanfairpwllgwyngyllgog..ychv..rndrobwllllantysiliogogogoch**

FARAWAY PLACES WITH Strange Sounding Names

The lyricist in a current Hit Parade favorite confesses there are certain faraway places with strange soundin' names that he simply is burnin' to see. He goes on to mention such familiar dissyllables as Siam and China. But the strangest sounding names of all he completely ignores and with good reason: they are the longest (*above*) and second longest (*below*) names of localities in the world and (*next page*) the longest reported in the U.S.

The pretty, gently curved hill (top center in the picture below) of Taumatawhakatangihangakoauauotamateapokaiwhenuakitanatahu, which contains 57 letters, is i he heart of N v Zealand's sheep-raising count. an area whe man has to get his day's work done, so it is simply referred to as "that hill." In the original Maori it means, "The place where Tamatea known as Land Eater played on his flute to his loved one." The little village of Llanfairpwllgwyngyllgogerychwyrndrobwllllantysiliogogogoch is on the island of Anglesey, North Wales. In a splendid demonstration of democracy in action no one of its syllables is accented over the other. The natives usually shorten it to only 10 letters—Llanfair P.G. For those to whom plowing through such names even once proves tiring, there are wonderfully relaxing places like the village of Å in Sweden and Holland's admirably simple river Y.

HILL OF **Taumatawhakatangihangakc..uauc.amateapokaiwhenuakitanatahu**

CONTINUED ON NEXT PAGE

MCIAXS/GWT/amc

MCIAXS

[redacted]
Roanoke, Va.

Dear Mr[redacted]

25 MAY 1949

Receipt of your communication, postmarked 18 May 1949, is acknowledged by this Headquarters.

Your contribution has been made a matter of record and will be incorporated into our present study of unidentified aerial phenomena.

Your action in reporting this matter to the proper authorities is appreciated.

Sincerely yours,

A. J. HEMSTREET, JR.
Lt Colonel, USAF
Acting Chief, Analysis Division
Intelligence Department

327

DATED 22 Sep 49
NO. INCLS. 1

DATE RECORDED 23 Sep 49 HOUR 1330

ROUTED TO	SUSPENSE DATE	ESTABLISHED BY (INITIALS)	DATE
1 MCIAXS	NR	[illegible]	[illegible]
2			
3			

TRANSMITTAL AMC FORM NO. 10-2 (20 NOV. 47) — SEE OTHER SIDE FOR REMARKS

DATE OF REPLY | OTHER DISPOSITION:

FROM: 5D-OSI
TO: MCIAXS
RECORDING DESK AXT-1

DATED 6/7/49
NO. INCLS. 2

DATE RECORDED 6/8/49 HOUR 1130

ROUTED TO	SUSPENSE DATE	ESTABLISHED BY (INITIALS)	DATE
1 IAXS	NR	[illegible]	10 [illegible]
2			
3			

TRANSMITTAL AMC FORM NO. 10-2 (20 NOV. 47) — SEE OTHER SIDE FOR REMARKS

DATE OF REPLY | OTHER DISPOSITION:

FROM: 5D-OSI
TO: IAXS
RECORDING DESK AXT-1

The Roanoke World-News
May 19th 1949

Mysterious Cigar-Shaped Object Observed in Skies

A cigar-shaped object with a glowing red tip in front and trail of fire or sparks from the rear was reported over Roanoke and other parts of Western Virginia and Eastern Tennessee last night.

No official source would venture a comment on the object except that police in Kingsport, Tenn., were reported to have said the "phenomenon" was a group of jet fighters at 35,000 feet.

The first Roanoke report came from J. S. Mays, 1504 Chapman Ave., S. W., who said he saw the object about 8 last night while he was driving a few miles north of Boones Mill. He and a companion, W. F. Mullins, 1101 Williamson Rd., saw the object pop over the horizon.

"It was going straight up when we saw it," Mays said, and was stepping on it." He said the glow in the nose of the object was "redder than an ordinary light bulb" and it was trailing a streak of sparks. "We could see nothing of the body," he added.

Mays said he and his companion watched the object for about ten minutes as it appeared over the west horizon, traveled upward and then headed east. They heard no sound.

Other similar reports came in from Kingsport, Bristol, Pulaski, Christiansburg and points east of Roanoke.

L. B. Graybeal of Christiansburg, a former Air Force pilot, reported the object came in at about 6,000 feet and that he heard a "roaring sound." There was a light in the object and a streak of sparks, he said.

Mrs. C. L. Phillips who lives on the Radford road about a mile west of Christiansburg, said she was standing in her yard with some friends when "the thing sprung up over the horizon."

"It was neither lightning, meteor or airplane," she was quoted as saying, but was "straight along the sides, big at the head and narrowed down." There was a shower of sparks from the front end, she added.

The Civil Aeronautics Administration communication center at Woodrum Field reported "a couple of calls" about the object last night but said nothing regarding it had been entered on the official log.

In Atlanta, the CAA was asking for reports on the object but said it was "just routine." "Wherever we hear of anything like that," a spokesman explained, "we ask for reports, no matter how strange or queer it may seem."

327

P. H. TROUT
[redacted] KING GEORGE AVE.
ROANOKE, VA.

AFTER FIVE DAYS RETURN TO

[redacted]
ROANOKE, VA.

ROANOKE MAY 18 9 PM 1949 VA.

UNITED

Intelligence Division, Air Material
and Headquarters, Wright Patterson
Force Base
Dayton
Ohio

ATIC NO. - - -

AF NO. - - -

W/ ATIC NO. - - -

TYPE OF REPORT - - -

TYPE OF MATERIAL - - -

TYPE - - -

SIZE - - -

WT. IN OUNCES - - -

SPEED - - -

FRAMES - - - SHRINKAGE - - -

Temporary ATIC Form 329
(2 Jan 52)

DATE OF INFO 15 Mar 1949

LOCATION Outside, Iowa

SOURCE Retired Lawyer

DATE TO ATIC - - -

COLOR - - -

SIZE - - -

NO. OF OBJECTS Many

ALTITUDE - - - Hundreds

LENGTH OF TIME OBSERVED - - -

TYPE OF OBSERVATION - - -

MANEUVERS - - -

REMARKS: Source stated that objects were auto headlights reflected by sun into the atmosphere.

other (Reflections)

[redacted]

UNCLASSIFIED

UNITED STATES AIR FORCE
THE INSPECTOR GENERAL
OFFICE OF SPECIAL INVESTIGATIONS

REPORT OF INVESTIGATION

FILE NO. 24-28	DATE 12 July 1949
REPORT MADE BY: FRANK A. GALLAGHER	
REPORT MADE AT: DO #13, Offutt AFB	
PERIOD: 22 May 1949	
OFFICE OF ORIGIN: Hq OSI	
STATUS: RUC	

TITLE

[redacted] Iowa

CHARACTER
SPECIAL INQUIRY

REFERENCE
Ltr frm Hq OSI, File No. 24-185, dated 19 May 1949

SYNOPSIS

Mr. [redacted] ceola, Iowa, was interviewed and stated that the reported flying discs were nothing more than reflections from automobile headlamps from cars coming from the east going into the sun in the west, the sun sending these reflections into the atmosphere.

DOWNGRADED AT 3 YEAR INTERVALS
DECLASSIFIED AFTER 12 YEARS
DOD Dir [illegible]

DISTRIBUTION
CG, AMC, Wright-Patterson AFB, ATTN: Dir of Tech Intel (THRU: DO #5) (2 Incls) 2
DO #5 (info) (2 Incls) 1
Dir Intel, Hq OSI (THRU: Hq OSI) (2 Incls) 1
Hq OSI (2 Incls) 1
File (2 Incls) 2

B.O.I'

ACTION COPY FORWARDED TO

APPROVED

Matthew Thompson

MATTHEW THOMPSON
Lt Colonel, USAF
District Commander.

FILE STAMP

UNCLASSIFIED

7-3112-19

AFHQ FORM 15 JAN 49 **O-208** Replaces AFCSI [redacted] which may be used.

16—57744-1 U. S. GOVERNMENT PRINTING OFFICE

[redacted]

24-28

DETAILS:

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AT OSCEOLA, IOWA

1. Mr. [redacted], Postal Clerk; Mr. [redacted], Assistant Postmaster; and Mr. [redacted], Assistant Cashier, all of Osceola, Iowa, were interviewed on 22 June 1949 regarding Mr. [redacted] Informants stated that they have known [redacted] from ten to twenty years as a member of the community and that he has never been involved in any serious trouble. [redacted] is not known to drink to excess. Informants stated, however, that [redacted] a "peculiar" fellow and odd in many of his ways. Informants do not believe that [redacted] uld intentionally tell a falsehood, but because of his age and eyesight, he might see things that do not exist, or his judgment of things he does see may be faulty. [redacted] ordered by a Water Committee to have a leak in his plumbing fixed. [redacted] anted and raved and threatened to sue as he said he could not get a plumber to fix the leak, and finally had the water at his place shut off. This matter was checked into, informants stated, and it was found th[redacted]ad not contacted a plumber to do the work for him. [redacted] eccentric and because he has a lawyer's certificate is of the opinion that his opinions are correct and are not to be questioned. [redacted]s never practiced law to informants' knowledge. [redacted] eyesight is bad and it is difficult for him to read. Informants stated tha[redacted]ad told a "wild" story about flying discs and claimed he knew what they were. [redacted]ppeared to be sincere in his statements about the discs. Informants stated that BURNS possesses fine character, is a respected citizen of the community, and they know nothing derogatory concerning him.

2. Mr. [redacted], retired lawyer, Osceola, Iowa, was interviewed on 22 June 1949. Mr[redacted]stated that he saw the objects on 12-15 May 1949 at 2:00 P.M. Central Standard Time. [redacted]stated that he was in a car about one mile east of Osceola, Iowa, and was approaching Highway #34, which runs east and west, from the north. [redacted]as about forty yards north of Highway #34, facing south, was looking up at the sky, and saw six to ten objects. These objects were the size of an automobile headlamp, and BURNS stated that he recognized the creases and metal bands encircling the headlamps. [redacted]stopped his car a short distance from the highway and watched the objects, trying to determine what they were. The objects looked like glass, had a metal color to them, were round and were not lighted. Mr.[redacted]as facing south and the objects came from his left and sailed into the clouds in the east or left. The first object was going due east and was high in the air; the others skimmed along the ground and rose into the sky. The first one was in sight for fifteen seconds and the others were in sight up to thirty seconds. [redacted] estimated their speed at 15 seconds, 60 degrees. They had no sound or odor, there were no projections, and they climbed upward and disappeared into clouds, upon which they had no effect. The first object was about four hundred yards from [redacted]nd the others were about forty yards. At the time Mr. [redacted]ighted the objects, there was a cloud bank in the east, altitude indeterminable, and the sun was bright in the west with a few scattered clouds very high. Mr[redacted]stated that after watching the objects for

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[redacted]

[redacted]

UNCLASSIFIED

about one hour, he came to the conclusion that they were nothing more than reflections of the headlamps of automobiles coming from the east and going into the sun in the west. Mr. [redacted] believes that the sun in the west was sending these reflections from automobile headlamps into the atmosphere. [redacted] stated that as the sun moved further into the west, the reflections decreased in the angle of their rise and at times were barely above the ground. Mr. [redacted] stated that he is a loyal American who wants to help the Government clear up the mystery of these flying discs, and believes that the objects which people are reporting seeing are nothing more than reflections. Mr [redacted] stated that he was of the opinion that one should investigate things of which one is not sure. To illustrate his point, he told a story of an incident which occurred when he was a young boy. [redacted] stated that he was coming home one misty night and in passing the cemetery thought he saw a ghost. Had he gone on hime without investigating, he stated, he would have been sure he saw a ghost. [redacted] investigated, however, and found that what he thought was a ghost was nothing more than a cow with a large white spot on her back.

3. There are no radar sightings in the vicinity of Osceola, Iowa. The teletype sequences of local weather conditions were as follows: 12 May 1949, at 1400 hours, 5000 feet; scattered broken clouds; visibility, 12 miles; pressure, 186; temperature, 78 degrees; dew point, 56; winds, sw 04 knots; altimeter, 008. The winds aloft report was as follows:

2,000	300'	at 05 knots	5,000	270'	at 06	8,000	250'	at 05
3,000	296	at 06	6,000	260	at 05	9,000	310	at 03
4,000	280	at 06	7,000	250	at 06	10,000	340	at 07

Local flight schedules of commercial aircraft flying in the vicinity were as follows: United Air Lines: Westbound, 1435 hours; Eastbound, 1505 and 1320 hours. Mid-Continent Air Lines: Northbound, 1511 and 1533 hours; Southbound, 1554 and 1610 hours.

4. The name files of the Police Department, Osceola, Iowa, and the Sheriff's Office, Clarke County, Osceola, Iowa, were examined and no record of subject was revealed.

AGENT's NOTE: Mr [redacted] appears to be a fairly intelligent man. He is inquisitive about things and is sincere in his desire to clear up the matter of "these discs" for the Air Force. [redacted] is approximately seventy years of age and is well kept. [redacted] owns his home and property elsewhere. [redacted] wears exceptionally thick glasses. His hobbies are hunting and fishing. This does not appear to be a publicity stunt.

Inclosures:

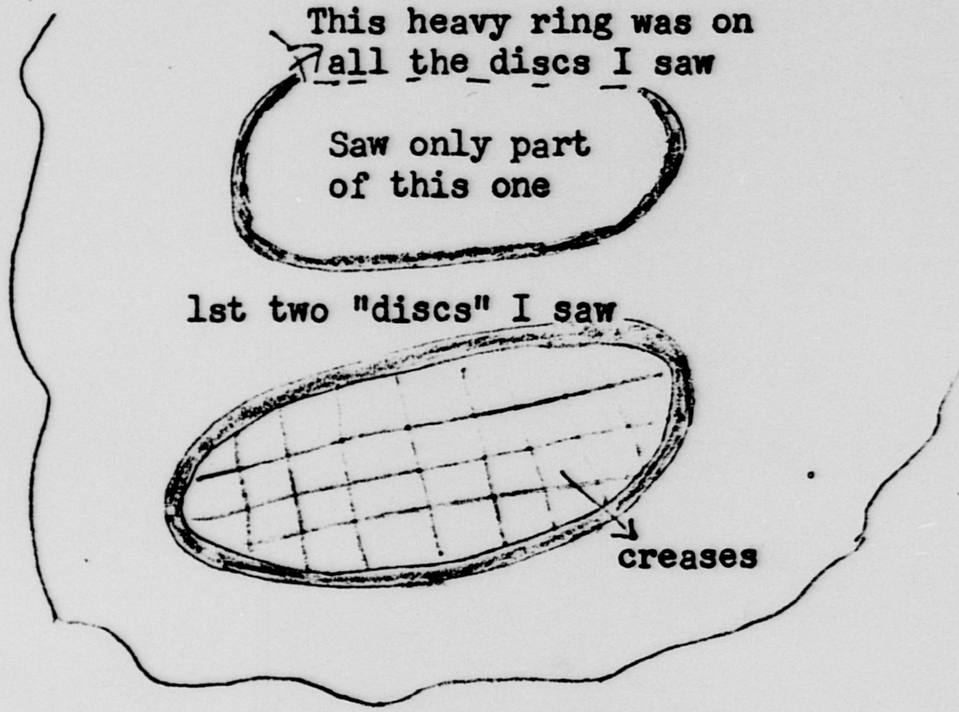
1. Sketch made by Mr. [redacted] showing details of discs.
2. Sketch made by Mr. [redacted] showing point of observation.

- REFERRED UPON COMPLETION TO THE OFFICE OF ORIGIN -

UNCLASSIFIED

[redacted]

COPY



"These discs are not true to scale and I am not a good artist." - Mr. [redacted]

Incl 1 - Sketch made by Mr. [redacted] showing details of discs.

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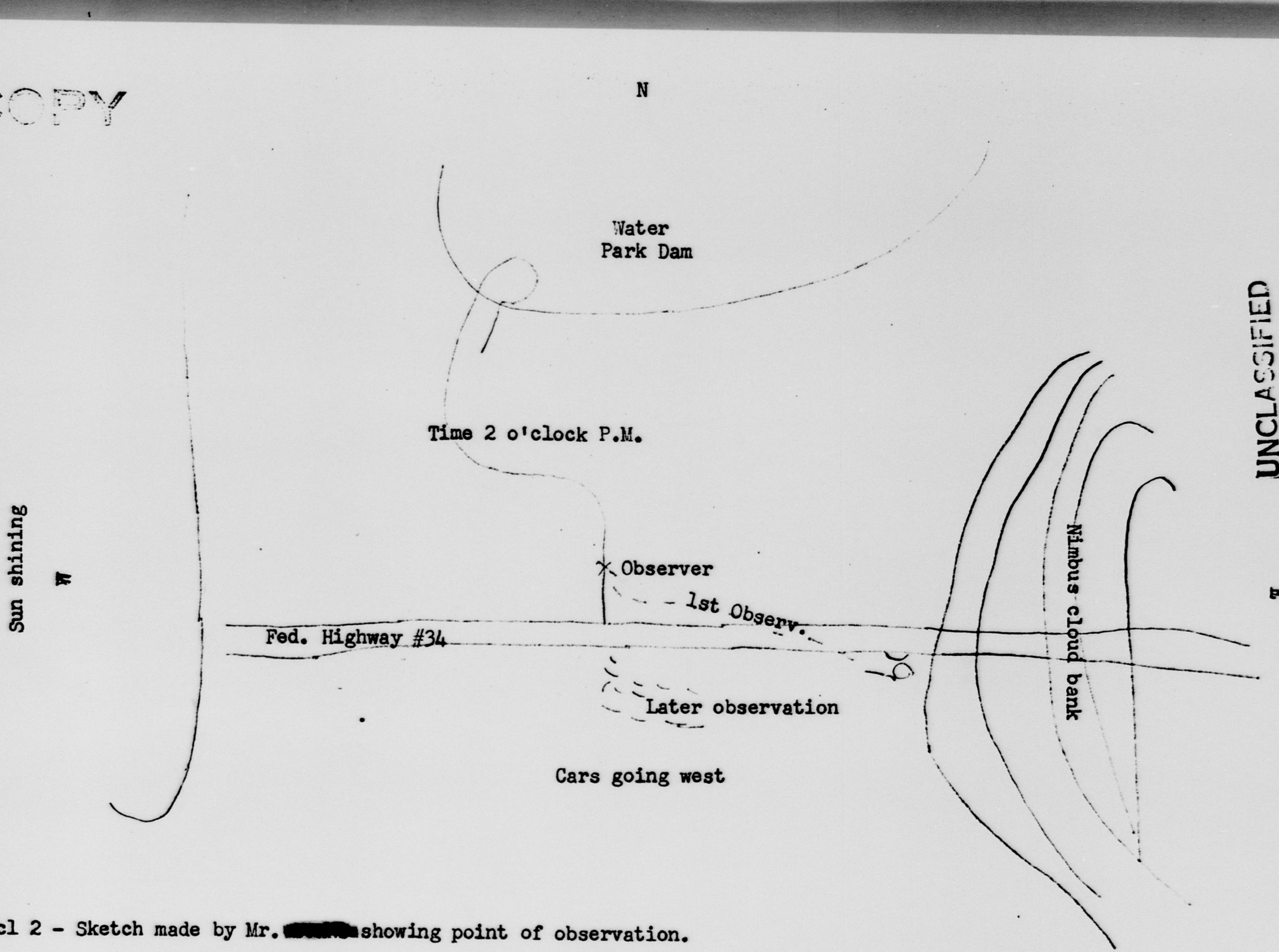
COPY



Incl 2 - Sketch made by Mr. [redacted] showing point of observation.

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[redacted]

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON

5D-OSI/JEM/fmn

THE INSPECTOR GENERAL, USAF
5TH DISTRICT OFFICE OF SPECIAL INVESTIGATIONS
WRIGHT-PATTERSON AIR FORCE BASE, DAYTON, OHIO

UNCLASSIFIED

IN REPLY REFER TO: 5D 24-21

18 July 1949

SUBJECT: PROJECT GRUDGE
SPECIAL INQUIRY

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

1. Inclosed for your information is report of investigation by Special Agent FRANK A. GALLAGHER, DO #13, dated 12 July 1949, subject: [redacted], Osceola, Iowa."

2. Subject investigation was not requested by or through this District Office.

1 Incl
R/I dtd 12 Jul 49
(in dup)

JEROME M. BRAUN
Acting District Commander

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DECLASSIFIED AFTER 12 YEARS
DOD DIR 5200.10

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WF-O-5 OCT 48 15M

[redacted]

201-19

TENTATIVE
OBSERVERS DATA SHEET

Where Choice is Given, Circle Proper Answers, or Insert Answer

1. Date of your observation: 2 15 (Day) ____ (Month) ____ (Year)

2. Date you reported the observation: 22 (Day) ____ (Month) ____ (Year)

3. What time was it when you sighted the object: 2 (Hours) 22 (Minutes)

A.M. (P.M.) Daylight (Standard)

Zone: Eastern, (Central,) Mountain, Pacific, ____ (Other)

4. Length of time object was observed. Estimate: ____ (Hours) ____ (Minutes) ____ (Seconds).

5. Where observed:

ONE MILE EAST (Postal Address) OSCEOLA (City or Town) WISC (State) USA (Country).

6. Where were you at time of observation:

Inside building, (In Car,) Outdoors, ____ (Other).

7. Were you moving at any time during this sighting: YES (Yes or No).

8. Did you stop at any time during this sighting: YES (Yes or No).

9. If you were moving - give S (Direction) and ____ (Speed) miles per hour.

10. How was object observed:
Naked eye
(Eye glasses)
Other glass (Window or (Windshield))
Binoculars, Telescope, Theodolite
Other ____

11. How did you happen to notice the object: ____

LOOKED UP AT SKY.

12. Describe what you saw as briefly as possible in the following spaces:

a. Sound NONE b. Shape [illegible]

c. Color METALLIC d. Size [illegible]

e. Number [illegible] f. Light brightness [illegible]

g. Light color W/S h. Motion [illegible]

i. Speed 15 SECONDS 10° j. Other [illegible]

13. How did object disappear from view: Suddenly or Gradually
Circle One

14. At any time did the object:

a. Change direction. b. Change speed. c. Move behind something; Cloud, House, Tree, _____ d. Blend with background. e. Decrease
Other

in size. f. Decrease in brightness. g. Move in front of something.

h. _____
Other

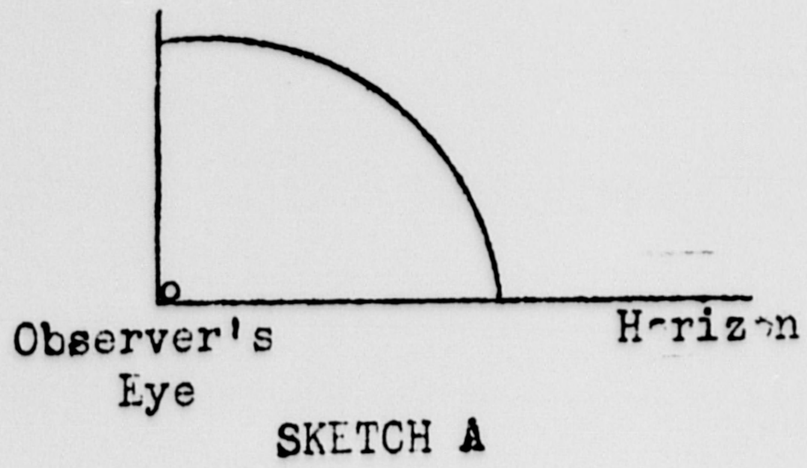
15. When you first looked at the object, what direction were you facing? _____

16. When you last saw the object, what direction were you facing? _____

17. In the following Sketch A, draw lines from the observer's eye to the circular arc to show the apparent elevation of the object in the sky.

A. When first seen, label a.

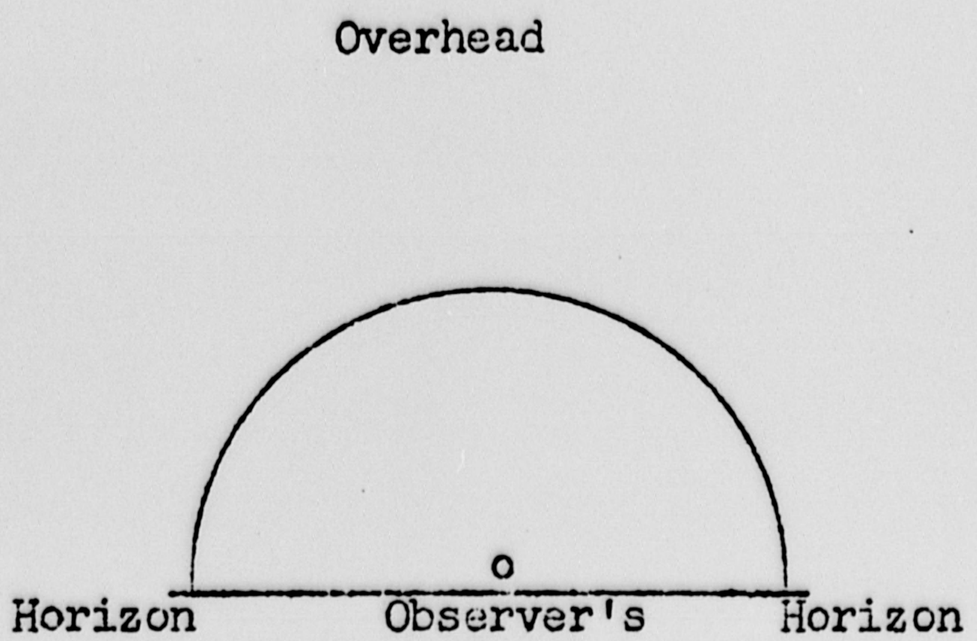
B. When last seen, label b.



SKETCH A

18. On the following Sketch B, label a at the apparent position of the object when first seen and b at point last seen. Trace the apparent path of the object between points a and b.

If possible label 1, 2, 3, etc., along the traced path to show the successive positions of the object after equal intervals of time during the sighting.



SKETCH B

19. In Sketch C please show the observed features of the object such as;

A. Apparent shape, (were edges pointed or rounded),

B. Apparent direction of motion (show by arrow), and

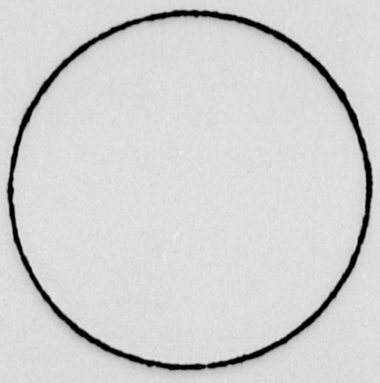
C. Other details, exhaust, trails, tails, surfaces, etc.

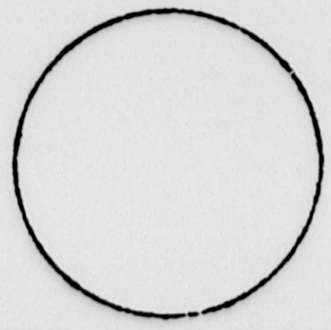
C. No projections seen.

SKETCH C

20. The sun and the moon are shown below as they appear in their correct relative size. In this sketch D, show the apparent size of what you saw.

SUN OBJECT MOON





SKETCH D

21. In your own words please describe the sighting you observed. Use sketches if desired. All observations from the time of first sighting to the time of dissappearance are important. Include a description of the weather, wind, and cloud conditions at the time of this sighting.

AT THE TIME H[redacted] SIGHTED THE OBJECTS, THERE WAS A CLOUD BANK IN THE EAST, ALTITUDE INDETERMINABLE, AND THE SUN WAS BRIGHT IN THE WEST WITH A FEW SCATTERED CLOUDS VERY HIGH.

22. Your full name: MR. [redacted]

23. Your address: OSCEOLA, IOWA

24. Your occupation: RETIRED LAWYER

25. Last school you attended:

26. Year of last attendance at this school:

27. Please list the names and addresses of persons who discussed this sighting with you. It is not necessary to list the names of officials or investigators.

28. Further comments which you believe are important should be entered here. Use additional sheets of the same size if necessary.

MR. [redacted] STATED THAT AFTER WATCHING THE OBJECTS FOR ABOUT ONE HOUR, HE CAME TO THE CONCLUSION THAT THEY WERE NOTHING MORE THAN REFLECTIONS OF THE HEADLAMPS OF AUTOMOBILES COMING FROM THE EAST AND GOING INTO THE SUN IN THE WEST, THE SUN SENDING THESE REFLECTIONS FROM THE AUTO HEADLAMPS INTO THE ATMOSPHERE.

WORK SHEET

Observer's Data Sheet Question	Punched Card Column	Code	Description	
	1*			
	2			
	3		Serial No.	Incident serial number
	4			
	5			
	6		Serial No.	Insertion
	7	1		
	8	1	Day	
	9	0		
1.	10	5	Month	
	11	4		
	12	7	Year	Observed
	13	2		
	14	3	Day	
	15	0		
2.	16	6	Month	Reported
	17	1		
	18	1	Day	
	19	1		
	20	1	Month	Rec'd ATIC
	21	2		
	22	0	Hrs.	Time of observation Greenwich C.T.
	23	0		
3.	24	0	Min.	
	25*	1	Time units	Duration of observation
	26	0		
4.	27	1	Duration	
	28*	4		
	29	1		
	30	2		
	31	0	Latitude	
	32*	0		
	33	9		
	34	3		Location
5.	35	1		
	36	0	Longitude	
	37	1		
	38	5		
	39	2		
	40	4	Cosine latitude	

* Denotes separate code key is needed.

Observer's Data Sheet Question	Punched Card Column	Code	Description	
6.	41*		Where observer was	
7. 8.	42*		Moving - Stopped	
10.	43*		How observed	
	12a. 44*		Sound	
	12c. 45*		Color	
	12e. 46*		Number	
12.	12g. 47*		Light-color	Appearance
12i. 14b.	48*		Speed	Description
12b. 19	49*		Shape	
12b. 19	50*		a/b	
12d. 14e. 20	51*		Size	
12f. 14f.	52*		Light brightness	
	53*		Angular velocity	
4. 12h. 14. 18. 19	54*		Angular acceleration	Motion
15.	55*		Describe appearance	
13. 14. 16.	56*		Describe disappearance	
	57*		Initial elevation	
17.	58*		Final elevation	Elevation
	59			
12i. 21.	60		Altitude, 1000 ft.	Altitude
18. 19.	61*		Object orientation	
	62*			
	63			
24.	64		Civilian occupation	
	65*			Observer
	66*			
24.	67*		Service occupation	
	68			
	69			
	70			
	71			
	72			
	73			
	74			
	75			
	76*	2	Observer	
	77*	2	Report	Evaluation
	78*	3	Preliminary	
	79*			Identification
	80*		Final	

* Denotes separate code key is needed