

PROJECT 10073 RECORD CARD

1. DATE 16 Jan 51		2. LOCATION Oak Ridge, Tenn		12. CONCLUSIONS ☐ Was Balloon ☐ Probably Balloon ☐ Possibly Balloon ☐ Was Aircraft ☐ Probably Aircraft ☐ Possibly Aircraft ☐ Was Astronomical ☐ Probably Astronomical ☐ Possibly Astronomical ☒ Other <u>Other Insuff Data</u> ☐ Insufficient Data for Evaluation ☐ Unknown	
3. DATE-TIME GROUP Local _____ GMT <u>16</u> 2145Z		4. TYPE OF OBSERVATION ☒ Ground-Visual ☐ Ground-Radar ☐ Air-Visual ☐ Air-Intercept Radar			
5. PHOTOS ☐ Yes ☒ No		6. SOURCE Hovered Civilian (5)			
7. LENGTH OF OBSERVATION 5 min		8. NUMBER OF OBJECTS one		9. COURSE Hovered	
10. BRIEF SUMMARY OF SIGHTING Shape- Light- Color - Unusually Bright - Speed- Stationary. First thought to be A/C but was not moving. Plant authorities checked but nothing was found to account for the sighting. See Case 21 Jan 51 - Same location)				11. COMMENTS Observers in car moving NE. Object viewed through right rear window. This is the only known positional data given. First magnitude star Rigel low on horizon at 110 deg azimuth. Planets Venus and Jupiter not visible in East. No mention of disappearance given with report. Insufficient Data for evaluation.	

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3. DATE-TIME GROUP Local <u>1620</u> GMT <u>21/2320Z</u>		4. TYPE OF OBSERVATION ☐ Ground-Visual ☐ Ground-Radar ☒ Air- Visual Radar ☐ Air-Intercept Radar			
5. PHOTOS ☐ Yes ☒ No		6. SOURCE			
7. LENGTH OF OBSERVATION Three radar runs		8. NUMBER OF OBJECTS one			
9. COURSE Not given					
10. BRIEF SUMMARY OF SIGHTING F-32 attempted to intercept an unknown target. Three passes were made at the object but since it was over Oak Ridge the pass could not be completed. Weather data indicates a double inversion existed in the air.				11. COMMENTS Explanation is "ducting". caused by the inversion. Probable source being a ground target.	

UNCLASSIFIED

~~SECRET~~
DETACHMENT "A"
52ND FIGHTER ALL WEATHER GROUP
McGhee-Tyson Airport
Box 97, Alcoa, Tennessee

CLASSIFIED SECRET
BY AUTHORITY OF:
AFR 205-1
25 Jan 51 HAS
DATE INT

25 January 1951

SUBJECT: Report on indicated airborne target over Oak Ridge Area.

TO : Knoxville OSI Detachment
P. O. Box 401
Knoxville, Tenn

On 21 January 1951 at 1620 o'clock while on a practice flight of two F-82 aircraft the radar operator of aircraft 46-472, [REDACTED] intercepted an indication of an airborne target at a range of 18n yards. He notified the pilot, [REDACTED], of same who notified GCI. GCI gave the go ahead to intercept same. The radar set was "locked on" to the target and the run began. The interpretation on the "C" scan (elevation) indicated the target was varying altitude between ten and twenty-five degrees above the intercepting aircrafts altitude which was 7n feet. At a range of approximately 8n yards the indication on elevation began to descend until the limit of depression of the antenna was reached. At this point the pilot dropped into a nose down altitude and the target was again picked up and indicated the K-10 area plant of Oak Ridge. The intercepting aircraft then broke off the intercept and returned to Lenoir City Area where it was to be "target" for the other aircraft. On the next run in the area the "target" was again indicated and a second run made on same. At the completion of the flying period the radar observer requested one more run over the area to again check for the same type indication. The pilot started the run from approximately 20 miles and again at 17.5n yards the indication was received and locked on to. This time the run was completed to the limit of the antenna depression and then broken off because the line of flight again was across the Oak Ridge Plant. This phenomena was duly reported to GCI and CSI.

s/ [REDACTED]

t/ [REDACTED]

CERTIFIED TRUE COPY:

WILLIAM B. GRAY, SAC
Knoxville, Tennessee

7-3712-24
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DOD DIR 5200.10

~~SECRET~~
UNCLASSIFIED

515 24315

~~CONFIDENTIAL~~

UNCLASSIFIED

SUMMARY OF INFORMATION

DATE

1 February 1951

PREPARING OFFICE

111th CIC Detachment, FAO #8, P. O. Box 379, Knoxville, Tennessee

SUBJECT

OBJECTS SIGHTED OVER OAK RIDGE,
TENNESSEE
(16 & 21 January 1951)

CODE FOR USE IN INDIVIDUAL PARAGRAPH EVALUATION

OF SOURCE:

COMPLETELY RELIABLE A
USUALLY RELIABLE B
FAIRLY RELIABLE C
NOT USUALLY RELIABLE D
UNRELIABLE E
RELIABILITY UNKNOWN F

OF INFORMATION:

CONFIRMED BY OTHER SOURCES . . . 1
PROBABLY TRUE 2
POSSIBLY TRUE 3
DOUBTFULLY TRUE 4
IMPROBABLE 5
TRUTH CANNOT BE JUDGED 6

SUMMARY OF INFORMATION

(Refer S/I Subject as above dated 20 January 1951 pertaining to the sighting at 2145 hours on 16 January 1951)

At approximately 1645 hours on 16 January 1951, an unusually brilliant object was sighted by five persons driving in the "Control Zone" of the Atomic Energy Project, Oak Ridge, Tennessee. Attached hereto is the statement concerning this phenomenon. The weather at the time of this sighting is substantially the same as reported in the previous report for 16 January 1951, as referred to above.

Records of the 663rd AC & W Squadron, (Radar), McGhee Tyson Airport, Knoxville, Tennessee reveal that no aircraft were in the vicinity at the time of the observation, and the radar site was receiving no interference.

At 1620 hours on 21 January 1951, a radar sighting of an unidentified object over Oak Ridge, Tennessee was made by the airborne radar equipment installed in an F-82 fighter aircraft of the 5th AW Fighter Squadron, 52nd AW Fighter Group, McGhee Tyson, Airport, Knoxville, Tennessee. This radar interference was received by the airborne radar as the aircraft approached the X-10 Plant Area in the "Controlled Zone" of the Atomic Energy Project, Oak Ridge, Tennessee. The fighter aircraft attempted interceptions of this target from various angles and found that the source of the interference originated from the area of the X-10 Plant. No visual reference to anything in the sky was reported by either the pilot or the radar operator of the F-82 aircraft.

The weather at the time of this incident is reportedly: "Partly cloudy, with East winds at seven (7) miles per hour. Temperature 53 degrees, and dewpoint 19 degrees. No balloons or other weather apparatus was in the sky at this time. Between the hours 1545 and 1615, the wind was variable from south to northeast at from calm to eleven (11) miles per hour.

Attached hereto is a copy of the letter submitted by [REDACTED], 1st Lieutenant, U.S.A.F., concerning this phenomenon. (NOTE: The letter "n" used in this letter denotes "thousand").

SOURCE: 663rd AW & C Radar Squadron, McGhee Tyson Airport, Knoxville, Tenn.
[REDACTED], 5th AW Fighter Squadron, Knoxville, Tenn.
Atomic Energy Commission Weather Bureau, Oak Ridge, Tennessee.
Five persons listed on inclosure, Oak Ridge, Tennessee
OSI Office, Knoxville, Tennessee

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DISTRIBUTION

3 cc - Hq, Third Army, Ft McPherson, Ga
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1 JUN 47U. S. GOVERNMENT PRINTING OFFICE: 1946-1
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HEADQUARTERS THIRD ARMY

FORT McPHERSON, GEORGIA

Office of the Assistant Chief of Staff G-2

9 FEB 1951

AJAGI-3 360.33

SUBJECT: Unconventional Aircraft

TO: Director of Intelligence
Fourteenth Air Force
Robins AFB, Macon, Georgia

Inclosed herewith is summary of information re objects sighted over Oak Ridge, Tennessee.

1 Incl:
S/I dtd 1 Feb 51

H. E. Brooks, Col
for HENRY M. ZELLER
Colonel, GSC
AC of S, G-2

Int 360

1st Ind

Hq Fourteenth Air Force, Robins Air Force Base, Georgia.

TO: Commanding General, Air Materiel Command, Wright-Patterson AFB,
Dayton, Ohio. ATTN: MGIS

Forwarded in accordance with letter, Headquarters USAF, 8 Sep 50,
subject: "Reporting of information on unconventional aircraft."

FOR THE COMMANDING GENERAL:

1 Incl
n/c

Earlier rpt on this answered (TCB) by endorsement
JPR

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51S-24615-A

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HEADQUARTERS
AIR MATERIEL COMMAND

WRIGHT-PATTERSON AIR FORCE BASE
DAYTON, OHIO

NOTED BY AMC: JLR
INITIALS JLR
DATE 20 Mar 67

IN REPLY ADDRESS BOTH
COMMUNICATION AND EN-
VELOPE TO COMMANDING
GENERAL, AIR MATERIEL
COMMAND, ATTENTION FOL-
LOWING OFFICE SYMBOL:

MCIAXA

MCIAXA-1a/JJR/ns

SUBJECT: Unconventional Aircraft, ATI Project No. 10073

TO: Director of Intelligence
Headquarters, USAF
ATTN: Evaluation Division
Technical Capabilities Branch
Washington 25, D.C.

1. It is considered highly probable that the radar target detected three times by the airborne radar set in the F-82 aircraft on 21 January was a ground target in the vicinity of the X-10 plant.

2. The peculiar phenomena of having the target first appear at an altitude above the interceptor and then below the aircraft is considered to be due to abnormal refraction of the radar electromagnetic emanations. The airborne radar transmitted energy was refracted to the ground by a "temperature and/or moisture duct" that was located at about the same altitude as the interceptor; more details are given in paragraph 3 below. When the interceptor closed on the target, the target first appeared to be above the interceptor until the apex of the bent radar "rays" was reached, and after that the target appeared below the interceptor.

3. A check with the local AMC base weather office indicates that the Nashville weather station reported the following temperature data for 2100 EST, 21 January 1951:

<u>Altitude</u>	<u>Temperature Conditions</u>
0 to 2000 ft	No Change
2000 to 5000 ft	Six degree increase
5000 to 8000 ft	Normal decrease in temp/increased altitude
8000 to 11000 ft	Three degree increase
Above 11000 ft	Normal decrease in temp/increased altitude

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51S-20281-C

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ROUTING AND R

ORD SHEET

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SEC

AIR MATERIEL COMMAND

Use this form for inter-office correspondence within headquarters.

Use authorized office symbols to designate addressor and addressee.

Number all comments consecutively.

Note warning signal at lower left of form. Remaining space is sufficient only for proper spacing of typewritten signature.

Use authorized office symbols to designate

AUTH: CG, ~~DDC~~ ~~Make initials of dictator and typist, telephone number and location to right of signature.~~

INITIALS: J.E. Libbert, Maj., USAF

DATE: 16 Feb 51 ~~Separate comments by horizontal lines across page.~~

SUBJECT Project 10073

TO MCIAXA-1a

FROM MCIAXE

DATE 16 FEB 1951 COMMENT NO. 1

1. It is suggested that substantially the following be used in replying to the attached letter, insofar as the report on the radar detected target is concerned:

1. It is considered highly probable that the radar target detected three times by the airborne radar set in the F-82 aircraft on 21 January was a ground target in the vicinity of the X-10 plant.

2. The peculiar phenomena of having the target first appear at an altitude above the interceptor and then below the aircraft is considered to be due to abnormal refraction of the radar electromagnetic emanations. The airborne radar transmitted energy was refracted to the ground by a "temperature and/or moisture duct" that was located at about the same altitude as the interceptor; more details are given in paragraph 3 below. When the interceptor closed on the target, the target first appeared to be above the interceptor until the apex of the bent radar "rays" was reached, and after that the target appeared below the interceptor.

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The normal atmospheric temperature condition is that temperature decreases nearly linearly with increase in altitude. The above data indicates that two inversion layers existed, one above the interceptor and one below, at about the time the airborne radar target over the Oak Ridge area was reported. While complete and accurate effects of temperature inversion are not thoroughly understood, it is considered that this effect caused the detection of a ground target to appear to be airborne, first above and then below the interceptor as the interceptor closed on the target.

1 Incl

Cy Ltr, 2/7/51 fr Dir Spec Invest
W/Cy Ltr 52nd FAWG, 1/25/51 and
Rpt of Sighting

JOHN E. LIBBERT

Major, USAF

Chief, Electronics Section

Technical Analysis Division

Intelligence Department

James/dw

55170

B 263A

P A-17

51S-20251
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(CONTINUE ON OTHER SIDE)

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SECRET

AUTOCOR, AMC SR
J. L. Ref
DATE 20 MAR 87

Ltr AMC
ATI Project No. 10073

to TCB, Hq., USAF, "Unconventional Aircraft,"

The normal atmospheric temperature condition is that temperature decreases nearly linearly with increase in altitude. The above data indicates that two inversion layers existed, one above the interceptor and one below, at about the time the airborne radar target over the Oak Ridge area was reported. While complete and accurate effects of temperature inversion are not thoroughly understood, it is considered that this effect caused the detection of a ground target to appear to be airborne, first above and then below the interceptor as the interceptor closed on the target.

4. In view of the lack of factual evidence relative to the visual sightings covered in the report, no positive explanation can be offered, however, there are several possible explanations for this sighting.

FOR THE COMMANDING GENERAL:

1 Incl
Cy Ltr 2-7-51 fr Dir
Spec Invest w/incls

BRUNOW W. FEILING
Colonel, USAF
Chief, Technical Analysis Division
Intelligence Department

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