PROJECT 10073 RECORD CARD

1. DATE	2. LOCATION	12. CONCLUSIONS
20 March 1955	Tokyo, Japan	☐ Was Balloon ☐ Probably Balloon ☐ Possibly Balloon
3. DATE-TIME GROUP Local 1613 GMT 20/0513Z	4. TYPE OF OBSERVATION ☐ Ground-Visual ☒ Ground-Radar ☐ Air-Visual ☒ Air-Intercept Radar	☐ Was Aircraft ☐ Probably Aircraft ☐ Possibly Aircraft
5. PHOTOS ☐ Yes ☒ No	6. SOURCE Military	☐ Was Astronomical ☐ Probably Astronomical ☐ Possibly Astronomical ☐ Other [redacted]
7. LENGTH OF OBSERVATION	8. NUMBER OF OBJECTS 1 to 16	9. COURSE
		☐ Insufficient Data for Evaluation ☒ Unknown

10. BRIEF SUMMARY OF SIGHTING

Tokyo radar picked up. 16 UFO's on PPI scope. A/C scrambled, had 2 then 1 UFO on GCI scope. However, interception results were negative.

11. COMMENTS

See case file. ~~UNIDENTIFIED~~ Stations Returns Due To Inversion.

ATIC FORM 329 (REV 26 SEP 52)

AF FORM 112—PAF
APPROVED 1 JUNE 1948

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20. The capabilities of an aircraft which would be capable of the performance and range at the altitude of this encounter is, of course, unknown in the Communist aircraft inventory.

DOUGLAS J. DAVIS
Captain, USAF
Air Technical Liaison Officer

COMMENTS of the Approving Officer:

This report was prepared in its entirety by the Preparing Officer.

GDH

(CLASSIFICATION)

16-55570-1 ☆ U. S. GOVERNMENT PRINTING OFFICE

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INFORMATION

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HQA 5CRA003
PY30219
PP JEDWP JEPHQ
DE JAPAD 83
ZEX
FM COMFEAF TOKYO JAPAN
TO JEPHQ/COFS USAF WASH D C
JEDWP/COMDR ATIC WRIGHT PATTERSON AFB OHIO
BT
[redacted]-DI-RC 3572. PASS TO DI. AT APRX 1643Z, 20MAR, 5AF REPORTED ACTUAL YELLOW ALERT DUE TO RADAR SIGHTING. AIRBORNE F-86 ACFT DIRTED TO INTERCEPT UNIDENTIFIED ACFT OR FLYING OBJECTS IN TOKYO AREA. PILOT OF F-86 HAD RADAR CONTACT AND CLOSED TO WITHIN 3 MILES OF BOGIE BUT LOST CONTACT WHEN RATE OF CLOSURE WENT FROM APRX PLUS 75 KNOTS TO NEGATIVE 200 KNOTS. WEATHER POOR AT TIME. NO VISUAL CONTACT MADE. MORE INFO TO FOLLOW UPON COMPLETION OF INVESTIGATION PRESENTLY BEING CONDUCTED BY THIS HEADQUARTERS.
BT
21/2323Z MAR JAPAD

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REPORT NO.

IR-21-55

DATE OF DOC.

4/2/55

LANGUAGE

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F. NO.

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ACCES. NO.

218714

SECURITY CLASS: U | R | C | S | X | TS.

AUTHOR

DAVIS D.J.

DATE PROCESSED

5/11/55

F. T. S. NO.

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REEL NO.

-

A/C TYPE

-

TITLE OR DESCRIPTION

GROUND AND AIRBORNE RADAR OBSERVATIONS OF UNIDENTIFIED TARGETS

COPIES REC'D

1

INCLOSURES

W/O INCL

COPIES REC'D

-

ORIGINATING AGENCY

FEAF

TYPED BY: BAB 5/12

ROUTING	1.	2.	3.	4.	5.	6.
	IAE-5	~~[illegible]~~	IAA-2B			
SUBJ. CODE	(35) ~~[illegible]~~	~~[illegible]~~	(0)-62-13			
SUBJ. CODE	~~[illegible]~~		(35)-61-1-5			
SUBJ. CODE	(35)-62-13					

TECH. EVAL.

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SGT. A. DREPPERD

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ATIC FORM NO. 475 (1 MAY 52)

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DOCUMENT DATA UNCLASSIFIED

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AIR INTELLIGENCE EVALUATION RECORD

ATIC 218714

TO:	AIR INTELLIGENCE INFORMATION REPORT NUMBER	DATED
Director of Intelligence Headquarters USAF ATTN: Collection Operations Div. Washington 25, D. C.	IR-21-55 (BAIR 4E2)	2 Apr 55
	SOURCE OF REPORT (Air Attache, Command, etc.) DI FEAF, ATLO	
	INTELLIGENCE REPORT PREPARED BY (Name of officer) Captain D.J. Davis	

USABILITY OF REPORT		VALIDITY OF INFORMATION		FULFILLMENT OF REQUIREMENT	
X	EXCELLENT	XX	CONFIRMED		COMPLETE
	SPECIFIC		PROBABLY TRUE	X	PARTIAL
	USABLE		POSSIBLY TRUE		SLIGHT
	TOO GENERAL		DOUBTFUL		
			CANNOT JUDGE		

COMMENTS (Keep the intelligence collectors informed. Your comments, guidance and criticism are greatly appreciated. Definite and detailed evaluation will lead to improvement in the quality of intelligence reporting).

1. The targets which moved and then became stationary are believed to have resulted from a possible temperature inversion that would justify false echoes from ground targets. However, this report is the first to detail so long an airborne pursuit of UFO's, and it is surprising to find the radar operating normally on a target of this type.

2. The fact that 16 targets originally appeared on the PPI scope, but only 2 were observed on the AI radar tends to substantiate the spurious response theory. Also, it cannot be positively established that the 2 AI targets were part of the original 16 targets. It would be possible for the radar to malfunction during the flight and still check out after the flight but it would be unlikely.

3. There is not sufficient data upon which to make a firm evaluation, and any additional information would be welcomed. This is a very interesting report, well prepared, and the incidents which happened cannot be satisfactorily explained.

LARKIN

[redacted]

DATE	AGENCY AND OFFICE	ANALYST (Signature)
6 June 55	ATIAE5, Air Technical Intelligence Center Wright Patterson Air Force Base, Ohio	Capt. C.A. Hardin

AF FORM 112
APPROVED 1 JUNE 1948

(CLASSIFICATION)

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DUPLICATE

COUNTRY	REPORT NO.	(LEAVE BLANK)
Japan	IR-21-55	

AIR INTELLIGENCE INFORMATION REPORT

SUBJECT: Ground and Airborne Radar Observations of Unidentified Targets

AREA REPORTED ON	FROM (Agency)
Japan	DI FEAF, ATLO

DATE OF REPORT	DATE OF INFORMATION	EVALUATION
2 April 1955	20 Mar 55	B-2

PREPARED BY (Officer)	SOURCE
Captain Douglas J. Davis, ATLO	USAF F-86D Pilot & Ground Radar

REFERENCES (Control number, directive, previous report, etc., as applicable)
FEAF MSG DI-RC 3572, DTG 22/0221Z Mar 55

SUMMARY: (Enter concise summary of report. Give significance in final one-sentence paragraph. List inclosures at lower left. Begin text of report on AF Form 112—Part II.)

This report forwards information obtained from the interrogation of a USAF Ground Radar Crew and the pilot of an F-86D who made observations by radar means of possible targets over central Honshu.

APPROVED:

GEORGE D. HASTINGS
Colonel, USAF
Director of Requirements

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

6 INCLS. (USAF Only)

1. Grid Overlay of Japan
2. Surface Chart, 20 Mar 55
3. 850 MB Chart, 20 Mar 55
4. 700 MB Chart, 20 Mar 55
5. 500 MB Chart, 20 Mar 55
6. USAF SKEW T, Log P Diagram

w/d and ATIC/DIA 10 Mar 55

DISTRIBUTION BY ORIGINATOR

ATIC	41st Air Div	314th Air Div
5AF	43rd Air Div	FEC, J-2
39th Air Div	313th Air Div	AFTE, Tech Intel

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AF FORM 112—PART II
APPROVED 1 JUNE 1948

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1. To redevelop the incident, as it evolved in chronological order, each of the organizations having knowledge of pertinent factors were visited and appropriate personnel interrogated.

2. The site initiating the alert was the CPS-1 radar operating under the control of the 1954 AACS Squadron. This site operates with a mission of controlling airway traffic in the Tokyo area. Radar surveillance and positive control is generally utilized only in the sector south of the location. A general recapitulation of events as they were evidenced is as follows:

At approximately 1613I (local time) the Tokyo Radar Traffic Control Center located at Johnson Air Base, Japan, in its usual capacity of controlling airway traffic in the Tokyo area, had under control four aircraft. Two aircraft were inbound from the South and under control of one of the radar controllers. The other controller had a C-47 inbound from Diago into Tachikawa via Kumagaya homer with an estimate of over Kumagaya at 1620I, at 6,000 ft. He also had a B-50 which had taken off from Yokota at 1613I, on a tactical round robin, which estimated Kumagaya north bound at 1620I. Since the controller wished to expedite the climb of the B-50, which was now restricted to 5,000 ft due to the C-47 traffic, he switched to short range on his PPI and moved his off-centered PPI position, which had been at the 360° position looking to the South, to the 160° position. At this setting he was surveilling the sector to the north-northwest for a range of approximately 32 miles. At about this time the C-47 had been cleared to contact Tachikawa CCA having arrived over Kumagaya at 1618I. At 160° position the controller observed what he took to be initially four aircraft due North of Johnson near the periphery of the scope. To get a be tter look at these targets he moved the off-centered position to the 180° position so that he was looking at the targets. He now observed what he believed to be a total of sixteen targets in six formations. Their position was approximately due North of Johnson and at ranges from 20 to 28 miles. These targets appeared to him to be moving in a southeasterly direction. As the controller observed the targets moving apparently in a southeasterly direction, he off-centered to the 220° position. He then called Butterfly, the EW/GCI Site located on the Chiba Peninsula, as shown on Inclosure 1, to ascertain their knowledge of these targets in this area. The controller estimated that the targets moved from 360° to 020° in the ten minute period of from 1621I to 1631I on an approximate heading of 145°. As a result of the call to Butterfly, through ADCC at Johnson, an F-86D was scrambled from Yokota Air Base. At approximately this same time the Tokyo RATCC controller observed the targets moving across the scope in an erratic motion leaving a trace similar to that he had observed from jet type aircraft. Butterfly was again notified of this observation. By 1635I the motion of what the controller believed to be these same targets had nearly ceased motion. The motion was now so small that movement could only be detected by covering the targets with grease pencil and observing them as they became visible again. Upon arrival of the duty officer on duty at the site, from an adjacent room, the targets had assumed a static position. The other controller on duty did not have a chance to set up his scope to observe these targets to the North, since he was radar controlling other traffic to the South using off-centered PPI at the 360° position and looking only to the South. No one else at Tokyo RAICC made observation of these targets while in motion. Communications with Butterfly during this period of time indicated that they had no targets in this area.

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3. At Yokota Air Base the pilot of the scrambled F-86D was interrogated to gain knowledge of his observations. The pilot, 1st Lt. C. D. Merrick, AO 3021967, 39F15 was on five minute alert when the scramble order arrived at approximately 1632I. He was airborne at approximately 1636I and immediately went under control of Butterfly, this GCI control. He was given a vector of 350° at "angels" 10, and, was told that Tokyo Radar had 16 Bogies in the area.

Since Butterfly was not painting these targets they merely controlled him through a search of the area. He was further vectored 270°, then 180° and then turned again on a northerly heading. Shortly after turning to this northerly heading he picked up 2 radar blips at approximately one thirty o'clock his position. He turned into these targets and lost them in the turn. After making about a 45° turn he rolled out again and had one Bogie at approximately 22 miles at the 1130 o'clock position. He maneuvered into this target and got the target in the 12 o'clock position. He reported to GCI, and they asked him for identification run. At this time he had an overtake indication of from 100 to 175 knots. He was in afterburner at full bore indicating about .85 - .86 Mach. At 15 miles he got an indication of "lock-on" and closed down to 6 miles where he switched scopes and kept closing. At 2 1/2 to 3 miles range his 20 seconds to go circle began to collapse around the target. Since his rate of overtake was relatively high he came back out of afterburner. The target came back through 20 seconds to go to fire and his rate of closure went from a positive overtake to a -25, then to a -50. As he saw a -25 he went back into afterburner operation and managed to hold about a -50 as the target went out to about 7 miles and made a port turn. He followed the target through this turn, still in trail, then shortly after that through a 90° turn to the starboard, back to a heading of approximately 020° - all of this time he had been flying at 10,000 ft. He then got an indication that the target was climbing on his presentation and closed range to about 5 miles. By this time he was notified by GCI that he was cleared to fire. He maintained this 5 mile range in a climb to about 16,000 ft. He then realized that he had overshot a little and that the Bogie was at about 15,000 ft so he began a letdown again still in afterburner. At the 15,000 ft level, he feels that the Bogie leveled off and began to expand range - he went back to his 30 mile scope as the range of the Bogie expanded through 7 - 8 then 9 miles. Since he was at 16,000 ft he began a shallow dive. In this dive his speed naturally increased - he went through wing roll at about .94, then saw .97 and .98. During this time the rate of closure continued to decrease and gradually went over to the 1030 position with a negative rate of closure indication of negative 200 knots. At 15 miles he broke lock and shortly thereafter GCI gave him a vector back to home station at Yokota.

The two targets which he picked up initially were in his opinion normal radar targets. These targets were right together at the one thirty position and were similar in appearance to two aircraft in formation. The returns of these two blips were as large as, or larger than, the return from another 86D. They were sharply defined and appeared to be normal radar return. His impression was that his radar equipment was very good with a clear (milky) scope at short ranges and normal ground return showing up at near maximum range. At the time he was within minimum range he feels that he was within approximately 2 1/2 miles and had about 15 seconds to go to fire. (This was the time he came out of afterburner and immediately his targets began to expand range.) Since he was trying to establish identification on this target he didn't want his rate of closure to be greater than 50 knots. He was in solid weather from 1100 ft until he went through 1100 ft on landing. The pilot believes that the target which he finally picked out and gave chase was definitely one of the targets that he had picked up while searching. The

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target had changed azimuth as he turned into it, changed range and his presentation reacted normally to that he has observed on occasions when he has worked practice intercepts with other "Dogs". During the entire intercept he was in contact with Butterfly to ascertain that they watched terrain clearance for him since he knew he was flying in an area with mountains which reached close to his altitude. He was continually transmitting to Butterfly information about actions of the Bogie - the fact that he had lock-on - was within 20 seconds to go to fire, etc. All communications with Butterfly were on UHF channel 5 frequency. He had taken off on channel 2 - switched to channel 10 - then all control was executed utilizing channel 5. His IFF transponder was on Mode 2 throughout the encounter. Although he could not concentrate on navigation, since he was preoccupied with other duties, he felt that his position was generally north and northeast of Yokota area and in the vicinity of Nikko. THe estimate of time throughout the encounter was not more than 15 minutes probably from 10 to 15 minutes. The elapsed time from takeoff until the pickup of the two targets was approximately 15 minutes. The pilot feels that the only thing that was exceptional about the encounter was the rate of negative closure. The rate of negative closure he described as similar to that experienced when flying in trail with another 860 and have him go into afterburner operation while you are sitting flatfooted at low Mach not expecting it. He was, of course, indicating .97 on this occasion. At the time of breakoff he was still holding the target at 1200 o'clock position under the "jizzle band".

COMMENTS of the Preparing Officer:

4. The radar which made the observations, as mentioned before, is a CPS-1, and is used primarily for airway traffic control in the Tokyo area. In their present operation they have two "PPI" scopes in the operations room both of which are normally utilized in the off-centered position at 360° scanning to the South. An "A" scope is utilized for test and calibration and is located in an adjacent room.

5. The controllers working these scopes in normal operations are controlling traffic South of the radar location and are not familiar with the normal ground return in the areas other than those normally viewed to the South.

6. The controller on duty is a 5-level airman who is OJT for 7-level. He has twenty months experience in traffic control work and is familiar with the radar control of aircraft at this location. He is familiar with normal radar returns (aircraft targets) and with the normal ground returns South of the Johnson area, however, he as well as the other controllers, was unfamiliar with the normal ground return patterns throughout 360° from the site.

7. The ground return to the Northeast from Johnson is exceeding sharp and more highly defined than the ground return normally associated with this type radar return.

8. The scope which the controller was using at the time of the incident was operating normally and used for control immediately prior to and after the incident. At the time of the incident another controller had known aircraft under positive control to the South.

9. The maintenance NCOIC conducted the preparing officer through the site on a check of the facility. He, the NCOIC, is very familiar with the CPS-1 system and this particular installation. He is familiar with the permanent echo pattern throughout 360° and with the permanent echo which he uses for antenna alignment and functional check of this installation. A setup of the conditions under which the observations were made by the controller was made. The permanent echoes to the northeast of the site are completely off the scope at the 160° and 180° off-centered

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positions. At the 220° position the permanent echoes to the Northeast are sharply defined. The only maintenance problem realized in the near past has been a breakdown caused by the dropping down and consequent mangling of the antenna selsyn drive gears. Since this breakdown the system has been operating on the 1 to 1 selsyn without 36-1 ratio tie in between the antenna and the PPI indicators. Jerky presentation has been evidenced during some conditions, however, low winds at the time of the visit caused no noticable oscillation.

10. No logical explanation for the possible misorientation of the presented information on the PPI in use can be found.

11. The controller does not now recall whether or not he ever did see either the C-47 or the B-50 since his attention was distracted by the presence of the multiple targets.

12. The pilot of the F-86D has approximately 565 hours total time with 100 hours in the F-86D and approximately 120 hours in the F86 E & F. He has a total of 15 hours of actual weather time.

13. The pilots rough estimate of his position and the time of the actual engagement were excellent in view of the fact that he was very busy. For instance, his estimate of time was approximately 15 minutes for the engagement, GCI records show a time of 14 minutes.

14. As soon as the aircraft was on the ground the NCOIC of radar maintenance and the Hughes technical representative made a check of the complete fire control system. The system was found to be operating normally in all respects with the exception of the closing rate indication which was not zeroed. This condition would induce an error which would give a plus 30 knot error in closing speed, otherwise no other system error would be induced.

15. The technical representative and the Operations Officer of the 39th Squadron were impressed that the pilot was familiar with the F-86D fire control system, and, that the indications which he described were, as well as can now be determined, normal radar functioning.

16. The switch in range mentioned in paragraph #3 of this report is a modification made in this theater to the basic fire control system. This modification was made to facilitate identification runs from astern. Effectively, this modification merely blows up the last six miles of range over the entire scope so that short ranges below six miles, can be read more accurately for this identification type pass.

17. Inclosures #1, 2, 3, 4 and 5 were prepared by Tokyo Weather Central, 1st Weather Wing and cover the weather situation effecting the area. Inclosure #5, showing the synoptic situation indicates a pronounced temperature inversion from the 8,000 to the 10,000 ft levels.

18. At the time the F-86D was in the air there were no known friendly aircraft in the area from which he received a return, and an operational check eliminated the possibility that the identified target was a friendly aircraft.

19. No conclusion can be reached from this individual incident as to what the radar target or targets could have been. It is exceedingly difficult to establish a tie in between the ground radar observations and the observations of the pilot of the airborne aircraft.