

MR 300, Sec. 1 -- UNITED STATES -- WARFARE

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1942 - 1945

REGRADED UNCLASSIFIED

MAY 21 1973

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1942 - 1945

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E. O. 12356, Sec. 3.3 or Sec. 3.4
NLR 101
By RT, NARA, Date 4/12/94

WAR DEPARTMENT
CLASSIFIED MESSAGE CENTER
INCOMING CLASSIFIED MESSAGE

From: US Military Attache, Ottawa, Canada

To: War Department

DTG: 042055Z

4 April 1945

From Thomas to WDGBI.

Frequency of recoveries of balloons in Canada increases. At Strathmore 35 miles east of Calgary Alberta a balloon was recovered on 28 March. On next day one was found 12 miles southeast of Medicine Hat Alberta. Also on 29 March balloon recovered at Fort Ware 125 degrees 38 minutes west 57 degrees 25 minutes north. On 2 April balloon recovered at Baril Lake at 111 degrees 42 minutes west 58 degrees 45 minutes north. On 1 April balloon recovered at Yorkton 110 miles northeast of Regina Sask. On same date one found at Iluna 70 miles northeast of Regina. This latter one covered by snow and apparently was there for some time.

End

ACTION: G-2

INFORMATION: CGAAR, CGGN, ASF, OPD, G-4, Adm. King;
Col. Park, NDD, OS/W (Dr Bowles)

CM-IN-3740

(4 Apr 45) DTG 042055Z

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OSD letter, May 4, 1972

By DBS Date MAY 21 1973

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SECRET

OFFICE OF
THE CHIEF OF STAFF
WASHINGTON D. C.

OPDIB

(OPD INFORMATION BULLETIN)
SPECIAL SUPPLEMENT NO. 1

PUBLISHED BY OPERATIONS DIVISION
WAR DEPARTMENT GENERAL STAFF
IN COLLABORATION WITH OTHER AGENCIES

3 APRIL 1945



← Recovered Japanese balloon
inflated for testing.



- JAPANESE BALLOONS -

- DETECTION
- DESTRUCTION

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OSD letter, May 1, 1972

By DBS Date MAY 21 1973

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NLR 101
By RT, NARA, Date 4/13/94

JAPANESE BALLOON COUNTERMEASURES

The possibility that the increasingly frequent Japanese free-balloon landings may develop into a large-scale strategic attack has led the War Department to initiate a study of all possible methods and equipment for combating this potential threat. Bulletins such as this will be issued from time to time to disseminate information on the development of defensive measures.

Based upon an analysis of normal weather maps for 20,000 ft. and 30,000 ft. above sea level, a recent report (No. 917) by the Weather Division of AAF Headquarters states that the normal trajectories of balloons released in the free air flow over Tokyo and set for the 20,000 ft. level will intersect the western coastline of the United States roughly between Roseburg, Oregon, and Seattle, Washington, in all months except August, September, and October. Still excepting the same three months, trajectories of balloons set for 30,000 feet will intersect the coastline roughly between San Francisco, California, and Seattle, Washington. The report points out, however, that the trajectory for any one day is likely to vary greatly from the normal. The 20,000 ft. and 30,000 ft. trajectory maps for each month of the year show that in all months except July and August, the winds are favorable at those altitudes for directing the balloons to our western coast regardless of the location of the launching in Japan.

A discussion of current studies of possible defensive measures is presented below for the information of interested commanders.

I - DETECTION**Radar Detection and Technique**

Based on experiments conducted to date, radar in the 200-mc frequency is dependable to a range of 24 miles in detecting the metal parts of the balloon.

In tests to determine radar detection ranges of the balloon less the metal parts, an SCR-584 (3,000 mc frequency) tracked a helium-filled repaired Japanese paper balloon having only a small metal valve attachment to a range of 33,000 yards. An SCR-545 (3,000-mc) tracked the same balloon to a range of 24,000 yards. Several other radar sets with various frequencies were tested, but the results were not so good. The Joint Army-Navy Testing Agencies concluded that the S band equipment will give the greatest range of detection of the paper balloon (less metal parts) and that the maximum expected range in this band is about 40% of the maximum range on a medium bomber.

Further tests to determine the most effective radar and radar detection technique including airborne radar are being continued and will be reported.

Visual Detection and Identification**From the Ground**

Experience has indicated that scanning in space with high-powered optical instruments is impracticable; scanning with the unaided eye is generally more effective in locating objects in space than scanning with binoculars and telescopes, which are useful only when something has been detected and magnification for identification is needed.

Based on the look-out experience of aircraft warning systems and of Naval and land-based AA batteries, the visual detection of a Japanese balloon at 30,000 feet is highly improbable - and yet the naked eye offers the best hope of visual detection of balloons in space. The limit of resolution of the eye is about one minute of arc. The balloon at 30,000 feet would intersect about three minutes of arc. It is questionable as to whether the balloons at 30,000 feet could be detected from the ground even if they remained stationary and their general position in the sky were known to

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the ground observer. However, as the balloons begin their descent the possibility of visual detection increases rapidly.

From the Air

It is also true that for visual searching from aircraft the naked eye offers the best hope of detection. The visibility of these balloons would vary greatly according to the background against which they were seen, and in searching for them one might expect to find them any place within two or three thousand feet of 30,000, which means scanning both up and down in a hemisphere forward of the plane. In view of the speed of the search aircraft and the neutral color of these balloons, which would offer little contrast with a sky background, adequate search would involve several observers scanning continuously various sections of the hemisphere forward of the plane. From the ground as well as from the air - except at very close ranges - direct vision would be needed, for these would not be big enough targets to be seen with peripheral vision. An illustration of the difficulty of detecting such small objects in space from an aircraft is the infrequency with which aircraft sight each other.

Infra-red Detection

Investigation has disclosed that infra-red devices would not be effective in detecting the balloons because of inherent technical limitations.

II - DESTRUCTION

Attack by Aircraft

Ammunition

A type of incendiary ammunition under procurement for one Air Force was found by actual test to be the most effective aircraft ammunition for destruction of hydrogen-filled balloons. One hit suffices to destroy the balloon. However, it is effective only up to its tracer limit, which is 500 to 600 yards. Development work is proceeding to achieve an effective tracer range of 1,000 yards. Procurement of this ammunition, known as Cartridge, Headlight, Caliber .50, T1E1, is being increased to provide a strategic reserve.

Caution

Briefing of attacking aircraft should include consideration of appropriate areas for the attack so that destruction of the balloon and consequent dropping of its possibly lethal load will not be accomplished over densely populated or critical areas.

Antiaircraft Weapons

90-mm AA Using VT Fuze

Based upon the quantity and arrangement of the metal in the present Jap balloons, it is estimated that the VT fuze is sensitive enough to function within 15 to 25 feet of the balloon and that 100 to 200 rounds of 90-mm AA with VT fuzes would be required to obtain one effective burst on a balloon at an altitude of 15,000 feet. It is not believed practicable to increase the sensitivity of the 90-mm AA VT fuze due to many factors including the loss of damage effectiveness at greater distances of burst and limitations imposed by the projectile length.

Navy 5"/38 Gun Using VT Fuze

The Navy 5"/38 gun would probably require fewer rounds per effective hit than the 90-mm

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AA because the former's projectile is larger and its VT fuze is more sensitive. However, this advantage is offset by its lower fire rate and less accurate fire control.

120-mm AA Gun

The 120-mm AA gun would be more effective than the 90-mm against high-altitude balloons. However, VT fuzes will not be available for this gun until late spring. It is estimated that time-fuzed projectiles would require four times the number of rounds that are needed for an effective hit when VT fuzes are used.

AA Gun Limitations

The wide dispersion of the balloons reported almost precludes the use of antiaircraft guns to cover the front effectively. In addition, falling antiaircraft flak and ground bursts might in some areas cause more damage than the balloon. However, if balloon paths tend to merge into a definite route or routes antiaircraft guns could be set up to cover these routes.

Probable Nature of Defense Against Balloons

Although studies on all possible defensive means are being continued, at the present time it appears that the most practicable interim defensive system would consist primarily of a spotting organization utilizing naval offshore patrols (including air patrols), coastal observation stations at high altitudes, Forest Service patrol planes and lookout stations, and local volunteer spotters in most-threatened inland areas. This system for visual spotting would be complemented by radar coverage of the sea approaches.

In view of the wide dispersion of free balloons, their great altitude throughout the major portion of their flight, and their haphazard landings, the most effective means of attack will probably be strafing aircraft. However, the capabilities of antiaircraft artillery for the attack of balloons within range are being studied.

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By RT, NARA, Date 4/13/94

NAVAL MESSAGE

NAVY DEPART NT

DRAFTER		EXTENSION NUMBER		ADDRESSEES		PRECEDENCE	
FROM CG WESTERN DEF COM				ASTERISK (*) MAILGRAM ADDRESSEE			
RELEASED BY				WAR DEPARTMENT		PRIORITY	
DATE 4 APRIL 45						ROUTINE	
TOR CODE ROOM 1715						DEFERRED	
DECODED BY						PRIORITY	
TYPED BY ROSS						ROUTINE	
ROUTED BY RASH						DEFERRED	
UNLESS OTHERWISE INDICATED THIS DISPATCH WILL BE TRANSMITTED WITH DEFERRED PRECEDENCE AND AS ADMINISTRATIVE.						IF OPERATIONAL CHECK BELOW	
B 043							
OM-IN-2939 (4 APR 45)						3 APRIL 45 NCR 3240	
ORIGINATOR FILL IN DATE AND TIME:						DATE TIME GCT	

ON OUTGOING DISPATCHES PLEASE LEAVE ABOUT ONE INCH CLEAR SPACE BEFORE BEGINNING TEXT

BY HAND FROM ARMY VIA OP-16

FROM HAMMOND INFO G-2 WD WASHN, DC.

SEPARATE RECOVERY BARIL LAKE NEAR FT CHIPEWYAN ALBERTA
DATE UNKNOWN. C-3.

1. A. DAILY REPORT 1700 GCT 3 APRIL.

B. BALLOON FOUND STRATHMORE (25 MILES EAST OF
CALGARY, ALBERTA) 28 MARCH. RECOVERY TEAM ENROUTE. C-3.

2. SIGHTINGS 240 MILES NW DUTCH HARBOR 2330 GCT 7 MARCH
OBSERVED 20 MINUTES CREW MEMBERS ALLIED MERCHANT VESSEL.
HEIGHT 10,000 FEET (C-3) SE DIRECTION TRAVEL.

16.....COG

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OSD letter, May 1972

By DBS

Date MAY 21 1973

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OPNA OM-IN-2939 (4 APR 45)

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By RT, NARA, Date 4/12/94

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OSD letter, May 4, 1972.

By DBS

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By RT, NARA, Date 4/13/94

WAR DEPARTMENT
CLASSIFIED MESSAGE CENTER
INCOMING CLASSIFIED MESSAGE

From: CG, Western Defense Command, Presidio of
San Francisco, California

To: War Department

Nr: B 0351

1 April 1945

From Hammond G-2. To G-2 WD Washington, DC.

An investigation being made reported balloon found
near Woodson, Texas 24 March. C-3 evaluation.

1. A. Daily report ending 1700GCT 31 March.
- B. Balloon reported recovered Lake Athaboska near
Ft Chipewyan, Alberta 20 March. B-2.
- C. Reported recovered 20 miles from Whitewater
(Ft Ware) Peace River District British Columbia 29 March
was balloon. E-2.
- D. Explosion heard 22 Feb chase BC (Squilax Indian
Reservation). Area search uncovered pieces balloon envelope.
B-2.
- E. Partially inflated balloon reported Duchesne,
Utah 30 March. C-3.
2. A. Additional info Glendo, Wyoming reference
report 5 March. Balloon first sighted between 0115 GCT and
0130 GCT 23 Feb descending earthward. Material recovered
valve nbr 4895 in white chalk, same nbr stenciled, flash
bag ignitor container, no powder charge, one candle type

CM-IN-447 (1 Apr 45)

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OSD letter, May 4, 1973
By DBS Date MAY 21 1973
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Page -2-

From: CG, Western Defense Command, Presidio of
San Francisco, California

Nr: B 0351

1 April 1945

incendiary bomb unexploded.

B. Nixon, Nevada reference 30 March report. Material recovered damaged envelope 38 gores, ballast dropping apparatus damaged, shroud lines, valve number 7948 in white paint, one arming wire, 4 sand bags, aneroids, flash bag ignitor container, no powder charge. Blowout plugs unfired: one position number 23, both positions 25 thru 35, and two center blowout plugs. Sand bag suspended position 32, large T hook attached center position.

C. Balloon first sighted 2125 GCT 22 Feb Kirby, Wyoming. Reports 26 Feb and 27 Mar references. Recovered aneroids battery demolition block shroud lines envelope ballast dropping apparatus valve number 3468 stenciled number 21 chalk.

D. Powell, Wyoming reference report 25 Feb. Between 0045 GCT and 0100 GCT 22 Feb explosion heard. Shortly thereafter flame and smoke with falling objects noted. Explosion height not known. Recovered envelope valve number 3468 stenciled number 14 chalk, 1 candle type incendiary bomb unexploded, one candle type incendiary bomb exploded, shroud lines.

3. Sightings.

A. Gowen Field, Idaho 2225 GCT 30 March 10,000 feet traveling eastward. Air search negative. C-3.

CM-IN-447 (1 Apr 45)

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From: CG, Western Defense Command, Presidio of
San Francisco, California

Hr: B 0351

1 April 1945

B. 0245GCT 31 March Mountain Home, Idaho, 5,000
feet, air search negative. C-3.

4. Bomb incidents.

A. Glen, Montana reports 21 and 23 March reference.
Investigation reveals only one explosion occurred night
18 March and preliminary identification candle type incendiary.

B. Custer, South Dakota reference summaries 13 and
15 March. Investigation negative evaluation F-0 incident
closed.

End

ACTION: G-2

INFO : CGAAP, CGGN, ASF, OPD, ADM. KING, COL. PARK,
HBF, OS/W (Dr Bowles)

CM-IN-447 (1 Apr 45)

DTG 01/0025Z

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From: CG, US Army Forces in the Pacific Ocean Areas,
Fort Shafter TH.

To: War Department
CG, Alaskan Department Rear Ft Richardson Alaska
CG, Western Defense Command Presidio of
San Francisco, California

Nr: RJ 58381

1 April 1945

For Ingles SPSIG info WDGBI, CG Western Defense
Command attn Signal Officer and CG Alaskan Departmentattn
Signal Officer RJ 58381.

Incident on Japanese balloons follows frequency 8460
Kcs, pulse rate 145 cycles per minute, bearing taken at
300739Z from Oahu 292 degrees type two bearing. Signal was
very very weak.

grd.

ACTION: G-2

INFO : CGAAF, ASF, OPD, COL. PARK, JEIA, NDD

CM-IN-528 (1 Apr 45)

DTG 01/0151Z

gjc
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By RT, NARA, Date 4/13/94

WAR DEPARTMENT
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From: CG, Western Defense Command, Presidio of
San Francisco, California

To: War Department

Nr: B 0347

28 March 1945

B 0347. Info G-2 War Dept, Wash, DC.

Forwarding information period ending 1700 CGT 28
March pertaining balloon incidents.

1. Sightings.

A. 2336 GCT 26 March balloon observed west Point
Grey, British Columbia (near Vancouver) air search negative.
C-3.

B. 1615 GCT 27 March balloon observed 6,000 feet
Goldendale, Washington. Air search negative. C-3.

C. Over San Miguel Islands (west Los Angeles)
1600 GCT balloon observed then 1000 feet. Air search being
conducted. C-3.

2. Balloons recovered.

A. Cloverdale, California balloon incidents
23 March Cloverdale and 22 March Guerneville, California
reference. Ground search area previously reported findings
made with negative results. Comparison indicates pieces
envelope from same balloon. Believe first landed 18 March.
Records will indicate Cloverdale place recovery. A-2.

B. Portion balloon envelope found 3 miles north
Jervis Inlet on Britain River British Columbia 24 March.

CM-IN-30300 (29 Mar 45)

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Page -2-

From: CG, Western Defense Command, Presidio of
San Francisco, California

Nr: B 0347

28 March 1945

Further information not available. C-3.

C. 23 miles south Fremont, Alberta (east of
Lothbridge) scene reported recovery. Further details not
available. C-3.

D. Reference balloon sighting Ellsworth, Nebraska
reported 18 March. Investigation reveals two farmers observed
balloon through binoculars for 25 minutes. Balloon des-
cribed as round silver colored with ropes suspended beneath.
No undercarriage observed. Balloon last reported burning
emitting black smoke. Future reports will indicate balloon
down not recovered. C-2.

3. Additional information pertaining recoveries.

A. Ree Heights, South Dakota 24 March report
only pieces shroud lines parts balloon envelope recovered.
A-1.

B. Blowout plugs number 10 A 11 A 20 A and B 22
A and B 24 A and B through 29 A and B 30A and 31 A and B through
35 A and B unexploded lower ring. Two center blowout plugs
unfired T hook inserted. See Reno, Nevada report dated 23
March.

C. Between Rising Star, Texas and Desdemona, Texas
approximately 1900 GCT 23 March 2 bomb explosions reported.
Tentative identification reveals both bombs 12 by 12
kilogram incendiary type. Each bomb penetrated earth approx
five feet upon exploding. Bombs were 50 feet apart and
approx 27 miles scene balloon recovery. G-2 note first

CM-IN-30300 (29 Mar 45)

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Page -3-

From: CG, Western Defense Command, Presidio of
San Francisco, California

Nr: B 0347

28 March 1945

indication that 2, 12 kilogram type bombs have been attached
balloon. B-2.

D. Material recovered included balloon envelope
shroud lines valve (13633 white paint) A-1 reference Osceola,
Neb 24 March.

E. 33 miles SW Gillette, Wyo, scene of recovery
previously reported incident near Gilbert, Wyo, 27 Mar.
Evidence indicates materiel in area considerable time due
weather beaten and grass stained condition. B-2. Recovered
1/3 balloon envelope.

End

ACTION: G-2

INFO : CGAAF, CGGN, ASF, OPD, Adm. King, Col. Park, WDD,
OS/W (Dr Bowles)

CM-IN-30300 (29 Mar 45)

DTG 28/2222Z g:jg

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TOP SECRET DISPATCH

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FROM	COMINCH & CNO		ASTERISK (*) MAILGRAM ADDRESSEE		1
RELEASED BY	ADMIRAL KING		FOR ACTION	CINCPAC (ADV & PEARL)	PRIORITY
DATE	17 MARCH 1945				ROUTINE
TOR CODEROM	1449				DEFERRED
DECODED BY					BASEGRAM
PARAPHRASED BY	WOODWARD	CHECKED BY	INFORMATION	COMESSEAFRON COMES DEFENSE COMMAND COM 4TH AIR FORCE	PRIORITY
ROUTED BY		DITTOED BY			ROUTINE
		WOODWARD			DEFERRED
UNLESS OTHERWISE INDICATED THIS DISPATCH WILL BE TRANSMITTED WITH DEFERRED PRECEDENCE AND AS ADMINISTRATIVE.					BASEGRAM
PAGE 1 OF 2					15
171343					16
NCR 41034					17
					18
Originator fill in DATE AND TIME GROUP					(Use G. C. T.)

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RELATIVE TO MATTER PRESENTED COMESSEAFRON AND COMEN WDC SECRET
090015 THE FOLLOWING IS DIRECTED:

- CINCPAC FORMULATE PLAN FOR DETECTION AND INTERCEPTION POSSIBLE JAP CARRIER FORCE.
- COMESSEAFRON IS TASK FORCE COMMANDER PACIFIC FLEET FOR THIS.
- PLAN SHOULD INCLUDE THE ESTABLISHMENT OF A MID PACIFIC PATROL BETWEEN THE HAWAIIAN ISLANDS AND THE ALEUTIAN ISLANDS USING SURFACE AND AIR FORCES AVAILABLE IN THE HAWAIIAN AND NOKPAC AREAS.
- PLAN NOT TO BECOME EFFECTIVE UNTIL DIRECTED BY COMINCH AND CNO. IT IS NOT EXPECTED SUCH INSTRUCTION WILL BE ISSUED UNLESS INTELLIGENCE INDICATES SUCH ACTION OR MAJOR UNITS OF JAP FLEET ARE UNLOCATED UNDER SUSPICIOUS CIRCUMSTANCES.

PARA. COMESSEAFRON FURNISH CINCPAC BY AIR COURIER COPIES JOINT
WESSEAFRON-WDC-4TH AIR FORCE PLAN PROMULGATED COMESSEAFRON SERIAL
00489 OF 10 MARCH. THIS PLAN HAS NOT BEEN APPROVED BY WAR OR NAVY
DEPARTMENTS BUT INDICATES PLANNING REGARDING THIS MATTER WHICH HAS
ALREADY BEEN DONE.

No. 1 ADMIRAL.

No. 2 FILE.

No. 3F-1 OR CHARTROOM.

No. 4 SPECIAL.

TOP SECRET

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1852, Sec. 8(B) and 5(D) or (E)

OSD letter, May 1978

By EIS Regulation Date MAY 21 1973

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See U.S.

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By RT, NARA, Date 4/12/94

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DRAFTER		EXT.	ADDRESSEES		PRECEDENCE
FROM			ASTERISK (*) MAILGRAM ADDRESSEE		1
RELEASED BY			FOR ACTION		PRIORITY 2
DATE					ROUTINE 3
TOR CODEROOM					DEFERRED 4
					BASEGRAM 5
DECODED BY			INFORMATION		6
PARAPHRASED		CHECKED			PRIORITY 9
BY		BY			ROUTINE 10
ROUTED BY		DITTOED			DEFERRED 11
		BY		BASEGRAM 12	13
UNLESS OTHERWISE INDICATED THIS DISPATCH WILL BE TRANSMITTED WITH DEFERRED PRECEDENCE AND AS ADMINISTRATIVE.					14
PAGE 2 OF 2		171343	NDR 41234		15
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COMINCH: COPIES #1 TO #8 INCL.

DELIVERED TO ARMY VIA SCR SCRAMBLER FOR GO'S U.S. ARMY, CONGEN. ARMY, WAR DEPT, OPD. TOD ARMY 171725. SCR #56.

No. 1 ADMIRAL. No. 2 FILE. No. 3F-1 OR CH ~~DECLASSIFIED~~ No. 4 SPECIAL.

TOP SECRET E.O. 11652, Sec. 3(E) and 5(D) or (E) MAY 21 1973
By DBS Date

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By RT, NARA, Date 4/13/94

NAVAL MESSAGE

NAVY DEPARTMENT

DRAFTER	EXTENSION NUMBER	ADDRESSEES	PRECEDENCE
03 WESTERN DEFENSE COM		ASTERISK (*) MAILGRAM ADDRESSEE	
FROM		WAR DEPARTMENT	PRIORITY
RELEASED BY			ROUTINE
DATE	15 MARCH 45		DEFERRED
TOR CODE ROOM	1510		
DECODED BY			PRIORITY
TYPED	HENKE/ FORBES		ROUTINE
ROUTED BY	TELSHOW		DEFERRED
UNLESS OTHERWISE INDICATED THIS DISPATCH WILL BE TRANSMITTED WITH DEFERRED PRECEDENCE AND AS ADMINISTRATIVE.			IF OPERATIONAL CHECK BELOW
CM-IN-15494	15 MAR 45	NCR 6370	☐
ORIGINATOR FILL IN DATE AND TIME	DATE	TIME	GCT

ON OUTGOING DISPATCHES FILL IN DATE AND TIME BY HAND FROM ARMY

FROM HAMMOND G-2 WESTERN DEFENSE COMMAND, PRESIDIO OF
SAN FRANCISCO CALIF TO G-2 WAR DEPT WASHN DC.

INCIDENTS REGARDING BALLOONS FOR PERIOD ENDING 1700 GCT
FOLLOWS FOR 14 MARCH 1945:

1. BALLOON SIGHTINGS:

A. AT 2030 GCT ON 12 MARCH A BALLOON WAS SIGHTED BY A
FOREST RANGER 5 MILES NORTH OF NEWCASTLE, WYOMING.

EVALUATION C-3. THIS BALLOON WAS TRAVELLING AT A EX-
TREMELY HIGH ALTITUDE IN A NORTHEASTERLY DIRECTION.

B. FROM 0456 GCT TO 0517 GCT, 13 MARCH, AN AIRPLANE
PILOT OBSERVED A FREE BALLOON APPROXIMATELY 50 MILES
SOUTH SOUTHWEST OF ATTU, ALASKA. THIS BALLOON WAS
TRAVELLING ABOUT 35 TO 40 KNOTS PER HOUR AT AN ALTITUDE
OF 17,000 FEET. EVALUATION OF THIS INCIDENT IS B-2.

CONFIDENTIAL

Make original only. Deliver to Code Room Watch Officer in person. (See Art. 76 (4) NAVREGS.)

OPNAV OF 5 PAGES
CM-IN-15494
Jao U.S.

☆ U. 1500012 PRINTING OFFICE: 1944 16-41649-1

E. O. 11652, Sec. 8(E) and 5(D) or (B)

OSD letter, May 1, 1972

By LBS

Date MAY 21 1973

DECLASSIFIED

E. O. 12356, Sec. 3.3 or Sec. 3.4

NLR 101

By RT, NARA, Date 4/12/94

THE PILOT COULD NOT OVERTAKE THIS BALLOON AND IT WAS LAST OBSERVED AT AN ALTITUDE OF 25,000 FEET ON A SOUTH SOUTHWEST COURSE.

C. AT 2213 GCT, 13 MARCH, FARMERS REPORTED THEY HEARD AN EXPLOSION AND SAW A FLASH IN THE AIR ABOUT 2 MILES SOUTH OF BLAINE, WASHINGTON. BLAINE IS 25 MILES NORTHWEST OF BELLINGHAM. INCIDENT EVALUATED C-3. THE STATE HIGHWAY PATROL AND IMMIGRATION OFFICIALS ARE SEARCHING THE IMMEDIATE AREA, BUT TO DATE HAVE ACHIEVED NEGATIVE RESULTS. OUR NUMBER B 0326.

D. AT 0107 GCT, A WEST BOUND TRANSPACIFIC AIRWAYS PILOT SIGHTED A BALLOON 270 MILES WEST OF MORRO BAY, CALIF. THE PILOT DESCRIBES THE BALLOON AS BEING ABOUT 75 FEET IN DIAMETER WITH A BLACK OBJECT ABOUT 10 FEET IN DIAMETER SUSPENDED BENEATH IT. 4

A FORWARD WEATHER TRACK HAS BEEN SECURED REGARDING THIS ALLEGED SIGHTING, AND IT IS BELIEVED THE BALLOON WILL REACH THIS COAST ABOUT 2100 GCT 14 MARCH. EVALUATION C-3. ALL AGENCIES HAVE BEEN NOTIFIED OF THE ABOVE FORWARD TRACK.

E. AT 2230 GCT, 13 MARCH, AN OBJECT RESEMBLING A BALLOON WAS ALLEGEDLY SIGHTED IN THE AREA NEAR PORT TOWNSEND, WASHINGTON, IT IS BELIEVED THAT THIS BALLOON PROBABLY LANDED NEAR CHIMACUM, WHICH IS 10 MILES SOUTH OF PORT TOWNSEND, OR IN THE BAY ADJACENT. B-3 IS EVALUATION. FORT WORDEN HAS DISPATCHED A PARTY TO SEARCH THIS AREA.

CG, WESTERN DEFENSE COMMAND 150001Z 6370 2 DECLASSIFIED Of 5 Pages.
Original: PRESIDIO, SANFRAN D/T Group NCR Page 2 (E) and 5(D) or (E)
OPRAY: [REDACTED] SD Letter, May 4, 1972
CM-IN-15494 ~~CONFIDENTIAL~~ By DLS Date MAY 21 1973

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By RT, NARA, Date 4/13/94

F. AT 1630 GCT, AN OBJECT RESEMBLING A BALLOON WAS SIGHTED ON 13 MARCH TRAVELLING NORTHEAST AT A 5,000 FEET ALTITUDE OVER WENATCHEE, WASHINGTON. LATER AT 1905 GCT, 13 MARCH, THIS BALLOON WAS SIGHTED ABOUT 20 MILES NORTH OF EPHRATA, WASHINGTON, AT AN ALTITUDE OF 10,000 FEET. CURRENT BELIEF IS THAT THIS IS THE SAME BALLOON THAT WAS SIGHTED OVER ELLENSBURG, WASHINGTON. (SEE THIS SUMMARY OF 13 MARCH 1945). INCIDENTS EVALUATED B-2. AN AIR SEARCH WAS CONDUCTED BY EPHRATA ARMY AIR BASE UNTIL 2200 GCT, 13 MARCH, WITHOUT FINDING ANY TRACE OF THE BALLOON.

2. BOMB INCIDENTS.

ON 13 MARCH A BOMB WAS RECOVERED APPROXIMATELY 100 MILES EAST OF HELENA, MONTANA, NEAR HARLOWTON. C-3 EVALUATION. 9TH SERVICE COMMAND HAS DISPATCHED A RECOVERY TEAM TO MAKE A COMPLETE INVESTIGATION. REPORTS TO DATE DO NOT STATE WHETHER THE BOMB EXPLODED OR REMAINED UNEXPLODED, BUT INDICATE THAT IT IS A 4.5 KILOGRAM TYPE BOMB.

3. BALLOONS RECOVERED ON A RANCH NEAR FARMINGTON, WASHINGTON, WHICH IS 35 MILES NORTH OF MOSCOW, IDAHO. EVALUATED B-2. AN ARMY GUARD AND A RECOVERY PARTY HAVE BEEN DISPATCHED BY NORTH-WESTERN SECTOR WDC TO TAKE CHARGE OF THE INVESTIGATION.

B. A FARMER NEAR VALE, OREGON, (NEAR IDAHO STATE BORDER, NORTH-WEST OF BOISE), FOUND A BALLOON 10 MARCH. PARTS RECOVERED INCLUDED PIECES OF BALLOON ENVELOPE AND SHROUD LINES. B-2 EVALUATION

CG, WESTERN DEFENSE COMMAND, 1500017 6370 Page 3 of 5 Pages.
Original PRESIDIO SANFRAN D/I Group NCR

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By RT, NARA, Date 4/12/94

INASMUCH AS THIS FARMER HEARD A LOUD EXPLOSION DURING THE MONTH OF JANUARY, IT IS THE BELIEF OF THIS HQS THAT THE BALLOON EXPLODED AT THAT TIME, BUT THAT THE PARTS WERE NOT LOCATED UNTIL THE LATER DATE, NORTHWESTERN SECTOR WDC HAS DISPATCHED A RECOVERY TEAM TO MAKE A COMPLETE INVESTIGATION.

C. DURING THE AFTERNOON OF 13 MARCH AN OBJECT RESEMBLING A BALLOON LANDED 20 MILES NORTHWEST OF PENDLETON, OREGON, AT ECHO OREGON. AN ARMY GUARD WAS SENT TO GUARD THE AREA AND A RECOVERY PARTY FROM NORTHWEST SECTOR WDC IS ENROUTE TO MAKE A COMPLETE INVESTIGATION. B-2 IS EVALUATION.

D. AN ARMED GUARD WAS DISPATCHED TO THE AREA NEAR PAINE FIELD TO GUARD THE BALLOON WHICH LANDED THERE SOMETIME IN THE AFTERNOON OF 13 MARCH. PAINE FIELD IS LOCATED NEAR EVERETT, WASHINGTON. EVALUATION B-2. A RECOVERY TEAM FROM NORTHWESTERN SECTOR WDC, IS ENROUTE FOR THE INVESTIGATION.

E. LOCAL POLICE OFFICIALS ARE GUARDING THE BALLOON WHICH LANDED 5 1/2 MILES SOUTH OF BENCHLAND, MONTANA, ON THE AFTERNOON OF 13 MARCH. EVALUATED B-2. GORE FIELD ARMY AIR BASE HAS DISPATCHED A RECOVERY TEAM TO MAKE COMPLETE INVESTIGATION OF INCIDENT. BENCHLAND, MONTANA, IS 30 MILES WEST OF LEWISTOWN, MONTANA.

F. 13 MARCH IS THE DATE THAN AN EXPLOSION WAS HEARD ABOUT 10 MILES NORTHWEST OF AMERICAN FALLS, IDAHO. COMPLETE INVESTI -

GATION WILL BE MADE BY RECOVERY TEAM FROM 9TH SERVICE COMMAND
CG WDC PRESIDIO, SANFRAN 150001Z 6370

Originator D/T Group NCR Page 4 Of 5 Pages.

OPRAY-19-53

CM-IN-15494

By DBS

Date MAY 21 1973

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By RT, NARA, Date 4/13/94

NOW ENROUTE TO THE SCENE OF THE EXPLOSION. INCIDENT EVALUATED
B-2. AFTER THE EXPLOSION PARTS OF THE BALLOON WERE SEEN DRIFT-
ING EARTHWARD HOWEVER, PARTS OF THE SHROUD LINES WERE THE ONLY
ITEMS RECOVERED TO DATE AND THE REST OF THE BALLOON IS PRESUMED
TO HAVE DESTROYED ITSELF BY THE EXPLOSION.

END

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OSD letter, May 3, 1972

By DBS

Date MAY 21 1973

Originator CG, WDC, PRESIDENT TO SAN FRAN D/T Group 1500012 NCR 6270 Page 5 Of 5 Pages.

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CM-IN-15494

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NLR 101

By RT, NARA, Date 4/13/94

NAVAL RESEARCH LABORATORY

S-EF37(455-WAT)

Anacostia Station
Washington, D C

Serial No. 4679
S-455-42/45
as

MAR 10, 1945

To: Officer in Charge
Technical Air Intelligence Center
U. S. Naval Air Station
Anacostia, D. C.

Subj: Balloon, Japanese Paper, from Sevastopol, California -
CEE No. 22208

Refs: (a) NRL ltr S-EF37(455-WAT)S-455-8/45 of 15 Jan 1945 to TAIC
(b) NRL ltr S-EF37(455-WAT)S-455-9/45 of 20 Jan 1945 to TAIC

1. The subject material was examined at the Naval Air Station, Anacostia on 24 February 1945 by representatives of this Laboratory and was found to consist of the valve and portions of the envelope and rubber shock absorber from a Japanese paper balloon of the type described in reference (a). Other remains from the same balloon were examined at this Laboratory at an earlier date and described in reference (b).

ENVELOPE

2. The envelope material was identical with that from other balloons of the same type. Blue tape was used on some of the seams. A number of figures, in ink and put on with a rubber stamp, were observed. Apparently the sections of the balloon had been numbered as an aid to assembly.

VALVE

3. The valve was of the type first found on the Estacado balloon and was stamped 4590 on the spring support. There were rope loops on the valve for suspension from the envelope.

SHOCK ABSORBER

4. The shock absorber was of the usual construction consisting of strands of rubber and covered at the two ends with braided cotton and lashed back to form loops.

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OSD letter, May 4, 1972

R. H. BULLARD By DBS
COMDR USNR
BY DIRECTION OF DIRECTOR
NAVAL RESEARCH LABORATORY

Date MAY 21 1973

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S-EF37(455-HAT)

NAVAL RESEARCH LABORATORY

Anacostia Station

Washington, D C

Serial No. 4678

S-455-39/45

as

MAR 10, 1945

To: Officer in Charge
Technical Air Intelligence Center
U. S. Naval Air Station
Anacostia, D. C.

Subj: Balloons, Japanese Paper, from Laurens, Iowa and Schuyler,
Nebraska, CEE No. 22201.

Refs: (a) Visit of Lt(jg) C.L. Miller of TAIC to NRL on 12 Feb 1945
(b) NRL ltr S-EF37(455-HAT)S-455-8/45 of 15 Jan 1945 to TAIC

1. At the request of the Technical Air Intelligence Center, NAS, Anacostia (reference (a)) the Laboratory has examined the subject balloon parts. The material from Schuyler, Nebraska consisted of a single fragment of paper identical with that used for the envelopes of Japanese paper balloons of the type described in reference (b). The material from Laurens, Iowa consisted of parts of the envelope, the shroud lines, the envelope ignition charge and the envelope ignition charge fuze from the same type of balloon.

DISCOVERY

2. The fragment of paper from Schuyler, Nebraska was discovered on 2 February 1945. The material from Laurens, Iowa was discovered on the same date.

ENVELOPE REMAINS

3. The fragment from Schuyler, Nebraska was a single triangular section about two yards across the base and one yard from base to apex. It appeared to be charred along one edge while the other edges were cut, presumably after discovery. The paper was no different from that used in previous balloons.

4. The material from Laurens, Iowa was in a number of irregular pieces of various sizes. Many appeared to have scorched edges. Possibly the destruction of the balloon by its demolition charge produced the fragmentation and charring. No colored tape was observed on the seams. The skirt was of the usual construction but contained a lighter rope (3/16 inch diameter) than the 1/4 inch rope used on previous balloons. The loops were knotted and bound with hard cord.

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By RT, NARA, Date 4/13/94

SHROUDS

5. The shrouds consisted of the usual 19 branched lines terminating in hooks for attaching to the skirt. The splices and end loops were bound with silk cord. The rope was in new condition.

SUPPORT ROPES

6. The support ropes were knotted through the usual two sister hooks used for attaching to the shrouds. There was no evidence that a rubber shock absorber was used but the condition of the ropes does not permit a definite conclusion on this point. The support ropes consisted of the customary 8 lengths of 3 strand 3/8 inch diameter rope. The lower end terminated in frayed ends. The rope was weathered in appearance.

ENVELOPE IGNITION CHARGE

7. The envelope ignition charge was the customary cylindrical paper container filled with magnesium flash powder.

ENVELOPE IGNITION CHARGE FUZE

8. There were three sections of fuze totaling approximately 48 feet. This was the same type of fuze found leading to the envelope ignition charge on previous balloons. About one-third of this fuze was burned.

R. H. BULLARD
COMDR USNR
BY DIRECTION OF DIRECTOR
NAVAL RESEARCH LABORATORY

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E. O. 11652, Sec. 3(E) and 5(D) or (E)

OSD letter, May 4, 1972

By DBS

Date MAY 21 1973

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NLR 101

By RT, NARA, Date 4/13/94

NAVAL RESEARCH LABORATORY

Anacostia Station

Washington, D.C.

S-EF37(455-HAT)

Serial No. 4677

S-455-38/45

as

MAR 10, 1945

To: Officer in Charge,
Technical Air Intelligence Center,
U. S. Naval Air Station,
Anacostia, D. C.

Subj: Balloon, Japanese Paper, from Hayfork, California -
CEE No. 22212.

Refs: (a) NRL ltr S-EF37(455-HAT), S-455-8/45 of 15 Jan 1945 to TAIC
(b) CG, G-2 Western Defense Command ltr BO211 to G-2, War
Department dated 6 Feb 1945

1. The subject material was examined at the Naval Air Station, Anacostia on 24 February 1945 by representatives of this Laboratory and certain portions were brought to the Laboratory for further study. The material consisted of the ballast release mechanism and six increments of ballast from a Japanese paper balloon of the type described in reference (a). Reference (b) describes four incendiary bombs which were recovered with this ballast release mechanism. The altitude settings on the barometric contactors (aneroids) as measured at this Laboratory do not agree with the settings reported in reference (b). The hook-up of the contactors was slightly different than that found on previous balloons. A radio type relay was found with this material.

DISCOVERY

2. The subject material is reported to have been recovered at Hayfork, California on 1 February 1945.

INVENTORY

3. The material examined at the Naval Air Station included the ballast release mechanism without battery, six sand filled ballast bags, a Japanese radio type relay, and nine molded rubber rings. According to reference (b) four incendiaries were recovered with or near the release mechanism.

BALLAST RELEASE MECHANISM

4. The ballast release gear was similar to those previously examined. It was suspended on the customary four doubled ropes and evidently no rubber shock absorber had been used.

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By DBS

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By RT, NARA, Date 4/13/94

5. The wood and plastic battery boxes were of the usual size and construction. The battery was not received. A part of the battery connector plug was received.
6. The barometric contactors were mounted in the usual manner but were wired differently. Enclosure (F) of reference (a) shows the customary connections. In this particular case the No. 2 contactor was connected in series with No. 3 and No. 4 which were in parallel. The No. 2 contactor was adjusted to make a contact above a set altitude and to break the contact below that altitude. All other contactors to date have been adjusted to make a contact below a set altitude. This series arrangement would keep the ballast release from functioning until the balloon reached the set altitude of No. 2 contactor and might conceivably take the place of the starting fuzes. However, there were starting fuzes with the mechanism. The contactor covers were marked as follows:
- #1 - Underlined V in chalk
 - #2 - Triangle in white paint
 - #3 - 3 in chalk
 - #4 - 7 in yellow chalk or crayon.
7. The pressure settings of the contactors were as follows:
- #1 - Makes contact at 2.2 miles descending and breaks contact at 2.2 miles ascending.
 - #2 - Breaks contact at 1.5 miles descending and makes contact at 1.6 miles ascending.
 - #3 - Makes contact at 4.1 miles descending and breaks contact at 4.2 miles ascending.
 - #4 - Makes contact on a pressure increase of 35 mm of mercury from a minimum. This corresponds to a drop of 0.5 miles starting at 4 miles or 0.7 miles starting at 6.0 miles altitude.
8. All of the blow out plugs above the #24 pair were still in place. In addition to the fuzes from the unfired plugs there were 7 other fuzes which did not burn. None of these were in pairs.
9. Three arming wires were attached to the bottom of the mechanism and a fourth was found in the packing case. Reference (b) describes four incendiary bombs found attached to or near the mechanism when discovered. They were attached in the number 31, 32, 33 and 34 positions.
10. Reference (b) also reports that seven sand bags weighing 4.75 pounds, 4.375 pounds, 2.5 pounds, 2.25 pounds, 2.375 pounds, 2.5 pounds and 6.75 pounds were attached in positions numbered 25, 26, 27, 28, 29, 30 and 35 respectively. The sand in the bags consisted of a mixture of orange-yellow, black, and white particles and therefore resembled a mixture of sand from the Marshall and sand from the Holy Cross balloons.

S E C R E T

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Serial No. 4677
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as

11. The cause of malfunction of the ballast release mechanism could not be ascertained.

12. In the packing case with the material was a Japanese relay which is in effect a four pole double throw solenoid operated switch. A relay identical in appearance but wired slightly differently was found in a Japanese radio transmitter type 99 Hi4 at TAIC. Reference (b) does not mention this item. If it was found with the release mechanism it would indicate that some electronic device had been attached. The electronic device could have been dashed to pieces at some time when the balloon first descended and the relay thrown free and lodged in the release mechanism.

13. Nine molded rubber rings about 5 inches in diameter and having a round 3/32 inch diameter cross section were also found in the packing case. These are not mentioned in reference (b).

R. H. BULLARD
COMDR USNR
BY DIRECTION OF DIRECTOR
NAVAL RESEARCH LABORATORY

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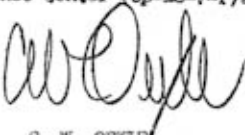
NAVY DEPARTMENT
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
WASHINGTON

Op-16-V-T

10 March 1945

From: Technical Air Intelligence Center.
To: Distribution List.
SUBJECT: Japanese Balloons and Attached Devices.
Reference: (a) NRL Secret Report Serial 4587, dated 2 March 1945.
(b) NRL Secret Report Serial 4629, dated 2 March 1945.
(c) Secret Memo from Lt. J.W. Hoffman, AAF, dated 1 March 1945, Subj: Incident Concerning Balloons Reported by an Officer from the Philippines.
(d) Air Intelligence Group Secret Report Serial 00517116, dated 7 March 1945.
Enclosure: (A) Copy of Reference (a).
(B) Copy of Reference (b).
(C) Copy of Reference (c).
(D) Copy of Reference (d).

1. The attached Reports are submitted for information to distribution list by Technical Air Intelligence Center (Op-16-V-T).


C. W. OCKLE

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OSD letter, May 1, 1972

By DBS

Date MAY 21 1973

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NAVAL RESEARCH LABORATORY
Anacostia Station
Washington, D. C.

SECRET

S-EF37(455-HAT)

S-455-29/45

Secret Ser. 4629

2 March 1945

To: Officer in Charge,
Technical Air Intelligence Center,
U.S. Naval Air Station,
Anacostia, D. C.

Subj: Balloon, Japanese Paper, from Alturas, California; CEE No.
22206.

Refs: (a) Visit of Lt.(jg) C.L. Miller of TAIC, NAS, Anacostia to
NRL on 6 Feb. 1945.
(b) NRL ltr. S-EF37 (455-HAT), S-455-8/45 of 15 Jan. 1945 to
TAIC.
(c) NRL ltr. S-EF37(455-HAT), S-455-30/45 of 16 Feb. 1945 to
TAIC.

1. At the request of the Technical Air Intelligence Center, NAS, Anacostia (Ref (a)) the Laboratory has examined the subject balloon material. It was found to consist of the envelope, valve, and shrouds from a Japanese Paper Balloon similar to the one described in Ref. (b).

Discovery

2. This balloon was discovered at Alturas, California. It was received at NRL on 6 February, 1945.

Inventory

3. The material received at NRL consisted of the balloon envelope, the relief valve, and part of the shrouds.

Envelope

4. The envelope was a paper sphere similar in size and construction to those previously examined (Ref.(b)). Some of the tape used on the seams has a faint blue-green color. The paper is apparently the same as in the other balloons. There was no evidence of the use of an incendiary however certain parts of the envelope had been removed.

Valve

5. The valve was similar to those on the Kalispell and Holy Cross, Alaska balloons. A photograph of this valve and a discussion of the two kinds of valves will be found in Ref.(c). The valve had a printed 3060

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By EDS

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By RT, NARA, Date 4/13/94

6-EF37(455-HAT)
S-455-29/45
Secret Ser. 4629

and 42 in chalk written on it. There were rope loops on this valve. These loops were not present on the Marshall, Alaska balloon valve but have been found on all the other valves. They were not used on this balloon. The purpose is to help support the weight of the valve by means of light lines running to rope loops around the base of the envelope.

Shrouds

6. The shrouds were badly frayed and tangled but apparently the same in arrangement as in previous balloons. With the shrouds was the rope assembly used to hook the ballast release mechanism to the shrouds, consisting of 8 strands of rope knotted to two sister hooks. Probably no rubber shock absorber was employed but the damaged condition of the ropes prevents a definite conclusion on this point.

R. H. BULLARD
Comdr., USNR
By direction of Director
Naval Research Laboratory

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S-EF37(455-HAT)

NAVAL RESEARCH LABORATORY
Anacostia Station
Washington, D. C.

S-455-28/45
Secret Ser. 4587

2 March 1945

To: Officer in Charge,
Technical Air Intelligence Center,
U.S. Naval Air Station,
Anacostia, D. C.

Subj: Balloon, Japanese Paper, from Holy Cross, Alaska. CEE No. 22196.

Ref: (a) Visit of Lt.(jg) C.L. Miller, TAIC, NAS, Anacostia to
NRL on 8 Feb. 1945.
(b) NRL ltr. S-EF37(455-HAT), S-455-8/45 of 15 Jan. 1945 to
TAIC, NAS, Anacostia.
(c) NRL ltr S-EF37(455-HAT), S-455-12/45 of 1 Feb. 1945 to
TAIC, NAS, Anacostia.
(d) Western Defense Command CG, G-2 Conf. ltr. No. B-0211 to
War Dept., G-2, dated 6 Feb. 1945 Forwarded by OPNAV to
NRL on 9 Feb. 1945. Ser. 026383.

1. At the request of the Technical Air Intelligence Center, NAS, Anacostia (Ref.(a)), the Laboratory has examined the subject balloon material. The material has been identified as parts of the envelope, valve, shrouds, and ballast release mechanism from a Japanese paper balloon of the type described in Ref.(b). The principle difference found between this and previous balloons was that the ballast units recovered were lighter in weight and filled with a different kind of sand. The only previous ballast bags examined at this laboratory were from the Marshall, Alaska, balloon (Ref.(c)), and weighed 5.5 pounds each. The ballast bag with the present balloon was smaller in size and weighed 1.5 pounds.

Discovery

2. The subject material was found at Holy Cross, Alaska. It was received at NRL on 8 February 1945.

Inventory

3. The material received at NRL consisted of several large sections of the envelope, the relief valve, the shrouds, a 60 ft. length of fuze, part of the ballast release mechanism, a bottle of liquid, and one unit of ballast. A rubber shock absorber was attached to the ballast release mechanism.

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OSD letter, May 1, 1972

By DCS

Date

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By RT, NARA, Date 4/13/94

S-EF37(455-HAT)
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Secret Ser. 4587

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Envelope

4. The envelope was apparently of the same size and construction as in the other balloons of this type. The material also appears to be the same. Some of the tape used on the seams was a light blue-green color. Because of the fragmentary condition it was not possible to determine whether an envelope ignition charge was used. Since a long fuze was received with the balloon it is presumable that such an ignition charge was used.

Valve

5. The valve was of the type found on the Kalispell and Alturas balloons. Painted on it was the number 1266.

Shrouds

6. The shrouds were in a very weathered condition but otherwise no different from those on previous balloons.

Long Fuze

7. The long fuze consisted of roughly 60 feet of cord type fuze identical with that used on previous balloons to set off the envelope ignition charge. It had burned about half way through and stopped at a point where the fuze was broken and held together only by some of the outer wrappings.

Ballast Release Mechanism

8. This mechanism closely resembled that described in Ref.(b). It was supported on a rubber and rope shock absorber assembly similar to those found with the Kalispell and Estacado balloons. The barometric contactors and the battery were not received. Two pairs of ballast release plugs, #25 and #26, were unfired. One pair carried the usual "T" bracket for attaching ballast. The ballast bag received had a "T" attached and it is presumed that this was removed from the other pair of plugs after discovery. The failure of these two pairs to function was caused by a mistake in fuze arrangement. One fuze from the #24 plugs lead to a #27 switch instead of a #25 switch. The fuze which should have lead from the #26 plugs to the #27 switch lead instead to a #25 switch. The second fuze leading from the #24 plugs to the #25 switches failed to light when the plug blew out. In addition to the failure of one #24 fuze to light similar failures occurred on one #12 fuze, one #20 fuze, and one #27 fuze. One of the #30 fuzes ignited but went out. Both center plugs apparently had fired and blown out. The fuze leading from one was about a foot long and burned. The fuze from the other center plug was about two feet long, unburned, and had a cut end. Possibly the burned fuze had lead to the envelope ignition charge and the unburned fuze had lead to a demolition charge. Wrapped about the battery box were the two usual 16 foot starting fuzes. There were no arming wires nor was there any evidence that any had been attached.

S-EF37(455-HAT)
S-455-28/45
Secret Scr. 4587

Ballast Bag

9. A single bag of sand ballast was received. This was smaller than those from the previous Alaska balloon and the weight, allowing for spillage, was about 1.5 pounds. The sand was quite different from that previously found (Ref.(c)) in that it consisted principally of orange-yellow particles with a few black and transparent particles whereas the Marshall, Alaska sand was a mixture of black and transparent particles resembling a mixture of salt and pepper.

10. The flight characteristics of these balloons and the maximum pay load were calculated in Ref.(c) assuming that all ballast units weighed 5-1/2 pounds each. If the ballast units are lighter the initial operating ceiling or the maximum pay load will be increased. Ref.(d) discloses that a ballast release mechanism from Hayfork, California, carried four bombs weighing respectively 10.5; 10.75; 10.5; and 11.1 pounds and seven sand bags weighing respectively 4.75; 4.375; 2.5; 2.25; 2.375; 2.5; and 6.75 pounds. Possibly undersized ballast bags are used in combination with the incendiary bombs in order to obtain a constant total load. The four bombs found are over a 5.5 pound average by a total of 20.8 pounds and the sand bags recovered are under a 5.5 pound average by 17.2 pounds disregarding the last bag which weighed 6.75 pounds. Based on a 6.75 average the four bombs are over by 15.9 pounds and the sand bags are under by 21.4 pounds. Ref. (c) reports one barometric contactor (aneroid) set at 35,000 feet. This would indicate that a higher initial ceiling was intended and that the average weight of the ballast bags, or the weight of the pay load, was decreased. It is unfortunate that the barometric contactors on the Holy Cross balloon were not recovered as this would have provided a further clue as to whether the lighter ballast bags were to obtain a higher ceiling or to compensate for an increased pay load or the use of incendiaries as part of the ballast.

Liquid

11. The liquid was water containing some calcium chloride and was probably from the battery box. The plastic box enclosing the battery which is the container for the calcium chloride solution was not received.

R. H. BULLARD
Comdr., USNR
By Direction of Director
Naval Research Laboratory

SECRET

SECRET

1 March 1945

MEMORANDUM FOR RECORD:

SUBJECT: Incident Concerning Balloons Reported by an Officer from the Philippines

1. The information contained in this report was obtained through an interview with 2nd Lt. Jack W. Hoffman, O-2007294, an officer who has been engaged in guerilla warfare in the Philippines from September 1941 until January 1945.

2. A Japanese General named Tanaka, while in the company of a German officer on 12 September 1944, commented to the effect that the Japanese would use gas transported to the United States by means of free balloons released from submarines. This gas was mentioned as being deadly to humans as well as to insects and snakes, and would even kill vegetation. The use of this gas, however, is to be made as a last resort when it is certain to the Japanese that they are being beaten by the American forces.

3. The information mentioned above was given to Lt. Hoffman by a Mr. Nicholas Paste, Filipino, who was employed as a foreman and interpreter by the Japanese on Mindanao, and who overheard directly the conversation mentioned. Mr. Paste was a trusted source of information for Lt. Hoffman during the greater part of his duty in the Philippines.

4. The information contained in paragraph 2 was given to a Mr. Holson, FBI, and Captain Ickes, G-2, on the Island of Morotai on 10 January 1945.

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E. O. 11652, Sec. 3(E) and 5(D) or (F)

OSD letter, May 4, 1972

By DBS

Date

MAY 21 1973

J. W. HOFFMAN

2nd Lieutenant, AAP

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E. O. 12356, Sec. 3.3 or Sec. 3.4

NLR 101

By RT, NARA, Date 4/13/94

Op-16-V #691
March 1945

SECRET

NAVY DEPARTMENT
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
WASHINGTON, D.C.

Op-16-MA-MVR
(SC)
SECRET
Serial 00517116

7 March 1945

From: Air Intelligence Group.
To: Addressees designated on distribution list.
SUBJECT: The Number of Japanese Balloons Arriving in North America.
1. The attached report, prepared by the Analysis section of Op-16-V is forwarded for information.

Wauslemer

Distribution List

TAIC	-	25
NIS	-	100

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OSD letter, May 1, 1972

By DBS

Date MAY 21 1973

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NLR 101
By RT, NARA, Date 4/12/94

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THE NUMBER OF JAPANESE BALLOONS
ARRIVING IN NORTH AMERICA

This report attempts to answer the question: If so many balloons have been found, how many arrived in all on land? Balloons which disintegrated completely are, of course, neglected.

The "Possible Region"

The 38 reliable incidents between 4 November, 1944 and 15 February, 1945 were plotted on a large scale map. The minimum area which encloses all the incidents was then drawn. It consists of a line along the 60rd parallel from 165° W to 120° W, thence southeast to 41° N - 141° W, thence along the 41st parallel to 120° W, thence to 36° N - 116° W, thence south to 32½° N - 116° W. The western boundary is the coast. This area is considered the "possible region" in which balloons may descend. (The Aleutians are omitted from this discussion.)

"Populated" and "Unpopulated" areas

In populated areas it is assumed that balloons will be found within a week or two. In unpopulated areas it is assumed that balloons will in general be found only by chance.

The definition of "populated" depends on the size of the area selected. This unit should be small. An area with one large town may have a high average population but actually most of the area may be unpopulated. Counties were therefore used as the unit. Counties with more than five persons per square mile are considered to be populated.

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OSD letter, May 4, 1972

By DBS

Date MAY 21 1973

- 1 -

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"Balloons in "Populated" Counties

The total area of the "possible region" in which the population (by counties) exceeds five persons per square mile is 375,000 square miles. The number of balloons reported (balloons or parts found, or bombs dropped) to 15 February is 19. The density is therefore 19/375 per 1000 square miles.

Balloons in "Unpopulated" Counties

The "unpopulated" counties total 1,628,000 square miles. Assuming balloon density here equal to that in the "populated" counties, i.e. 19/375 per 1000 square miles, a total of 82 balloons should have arrived in these "unpopulated" counties.

Hence an overall total of 101 have arrived. Of these 36 are on record. In other words, about three times as many have arrived as have been recorded. Insofar as other data indicate that such larger numbers than 100 may have been launched by 15 February, two deductions are possible; either most of the balloons launched go into the sea or else the self-destruction system works very completely in the large majority of cases.

TAIC SUMMARY WITH COMMENTS BY LTA AND NRL REPORT SERIAL 4590

Distribution list

1 Copy SecNav
1 Asst. SecNav(Air)
1 Op-16
1 Op-16-B
1 Op-16-FT, Rm. 4638
1 BuOrd
1 COMNAV, Rm. 0143
1 Op-34E
1 Op-31F
1 LTA Design
1 Naval Aide to The President
1 NRL, NAS Anacostia, D.C.
1 TAIC, NAS Anacostia, D.C.
3 ComWestSeaFron
3 Army Ground Forces
1 Airind Section, G-2
1 MIE, G-2

WAR DEPARTMENT
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OPD WDGS Theater Gp
American Theater WDOFD
OPD 000.7 (28 Feb 45)
Maj Riordan 6623
Subj: Plans for Com-
batting Japanese Balloons

28 February 1945

Commanding General
Eastern Defense Command
Governors Island, New York

Number: WAR 54597

From Marshall to Grunert.

The following in reverse order are the most dangerous capabilities of Japanese balloons as indicated by G-2:

6. AA devices.
5. Transportation of Agents.
4. Psychological efforts to inspire terror and diversion of forces.
3. Experiments for unknown purposes.
2. Transportation of incendiary and anti-personnel bombs.
1. Bacteriological and/or chemical warfare.

It is desired that for purposes of advance planning relative to possible increase in Japanese balloon arrivals plans be developed by you for combatting these balloons. Base your plans on present scale of arrival and also with a view to possible increased rate of arrival and with such personnel and equipment as is available to you. Measures for civilian defense should be included but it is not desired that you call in for planning discussions at this time Office of Civilian Defense authorities. Japanese balloons are under study in WD and new developments concerning these will be furnished you.

ORIGINATOR: OPD

End

INFORMATION: ASF, CG AAF, CGGW, G-2, Adm, Col Park, NDD,
OS/W, C of S.

E. O. 11652, Sec. 3(E) and 5(D) or (B)

CM-OUT-54597

(Mar 45)

OSD letter, May 1, 1972
By DBS 171205 MAY 21 1973
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NLR 101
By RT, NARA, Date 4/13/94

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[REDACTED]

OPD WDGS Theater Gp American
Theater WDOPD OPD 000.7
(28 Feb 45) Maj Riordan 6623

28 February 1945

Commanding General
Alaskan Department
Rear Echelon
Fort Richardson, Alaska

Commanding General
Alaskan Department
Advance Command Post
Adak, Alaska

Number: WARX 54598

From Marshall to Emmons book to Hqs and Advance CP.

Subject is possible increase in intensity of Japanese balloon arrivals. G-2 estimates the following capabilities of subject balloons in order of greatest danger:

5. Transportation of agents
6. AA devices.
3. Experiments for unknown purposes.
1. Bacteriological and/or chemical warfare.
4. Psychological efforts to inspire terror and diversion of forces.
2. Transportation of incendiary and anti-personnel bombs.

It is desired that the measures of advance planning that you consult with COMNORPAC for the purpose of developing joint plans for combatting these balloons. These should be based on possible increased scale of arrival as well as on present scale and should be made with equipment and personnel available to you. Measures for civilian defense should also be included but Office of Civilian Defense authorities should not be called in for planning discussions at this time. You

CM-OUT-54598 (Mar 45)

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By RT, NARA, Date 4/13/94

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WAR 54598

16 March 1945

Page 2

will be advised by the WD of new developments reference balloons
as this subject is now under study here.

End

ORIGINATOR: OPD
INFORMATION: ASF
CG AAF
CGGN
G-2
Adm King
Col Park
NDD
CS/W
C of S

CM-OUT-54598

(Mar 45) DTG 171205Z mec

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OSD letter, May 1, 1972

By DBS

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OUTGOING CLASSIFIED MESSAGE

OPD WDGS Theater Gp American
Theater WDOPD OPD 700.7
(28 Feb 45) Maj Riordan 6623
Subj: Plans for Combatting
Japanese Balloons

28 February 1945

Commanding General
Western Defense Command
Presidio of San Francisco
California

Number: WAR 54599

From Marshall to Pratt.

Subject is Japanese balloons.

G-2 estimates the most dangerous capabilities of Japanese balloons in order of greatest danger are:

1. Bacteriological and/or chemical warfare.
2. Transportation of incendiary and anti-personnel bombs.
3. Experiments for unknown purposes.
4. Psychological efforts to inspire terror and diversion of forces.
5. Transportation of agents.
6. AA devices. For purposes of advance planning and as a precautionary measure against the possible increase in intensity of balloon arrivals it is desired that you consult with the CG 4th Air Force and the Commander Western Sea Frontier with a view to developing joint plans for combatting these balloons and that your plans be coordinated with the proper Canadian Military authorities. Plans should be based on present scale of arrival and on possible increased

CM-OUT-54599 (Mar 45)

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WAR 54599

16 March 1945

Page 2

scale with equipment and personnel available to you. Plans should likewise include measures for civilian defense. However, it is desired that you not call in Office of Civilian Defense authorities for initial planning discussions at this time. The subject of Japanese balloons is under study in the WD and you will be kept advised of new developments of concern to you.

Fnd

ORIGINATOR: OPD
INFORMATION: ASF
CG,AAF
CGGN
G-2
Admiral King
Colonel Park
PDD
CS/W
C of S

CW-OUT-54599 (Mar 45)

DTG 170006Z

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NLR 101
By RT, NARA, Date 4/12/94

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By Authority of A. C. of S., G-2
Dated 23 February 1945 (*CRH*)
Initials

WAR DEPARTMENT
MILITARY INTELLIGENCE DIVISION
WASHINGTON, D. C.

Prepared by Military Intelligence Service

GENERAL REPORT NO. 2
ON FREE BALLOONS AND
RELATED INCIDENTS

Note: Any information on the course, speed, point of landing or effect of the free balloons would be of great value to the Japanese. It is therefore essential that the Japanese be prevented from obtaining such information. Neither this report nor its contents should be disseminated to any person who does not require it in the performance of his duty.

1. Introduction:

This report brings up to date General Report No. 1 on Free Balloons and Related Incidents (called GR #1), dated 29 Jan 45.

2. Chronology:

a. Since 4 Nov 44 there have been found in the United States, Canada, Alaska and Hawaii thirty balloons or balloon fragments of Japanese origin. Incendiary bombs were found with two of the balloons. Nine additional incidents of bomb recoveries or explosions have been reported. A number of other incidents and sightings, possibly related, have been reported.

b. A chronological list of incidents and sightings is attached as TAB A. A chart showing the number of

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OSD letter, May 21 1973

by LJS

Date

See O. C.

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NLR 101

By RT, NARA, Date 4/13/94

sightings and positive incidents in each two-week period between 1 Nov 44 and 15 Feb 45 is attached as TAB B.

3. Possible Purposes:

The Japanese may be sending out the balloons for one or more of the following purposes:

- a. Ranging Shots.
- b. Transportation of Incendiary and anti-personnel bombs.
- c. Bacteriological and Gas Warfare.
- d. Transportation of Agents.
- e. Anti-aircraft devices.
- f. Propaganda.

Each of the foregoing possibilities, with the exception of Propaganda, was considered in GR #1. The conclusions expressed in that report are still considered sound. They are reviewed below, together with additional evidence that has become available since GR #1 was prepared.

a. Ranging Shots: GR #1 stated (i) that the balloon episodes most probably are "ranging shots," in preparation for mass launchings of such balloons and (ii) that there is a possibility that the balloons are being used to determine meteorological conditions in preparation for launchings of some type of projectile. It was pointed out that the only rubberized silk balloon recovered was carrying a radio transmitter (range about 1,000 miles) which would have enabled the Japanese to plot the balloon's course by taking direction findings from submarines and other receiving stations along the route.

No radio equipment has been recovered with any of the paper balloons. During the past month, however, a number of unidentified radio signals have been picked up in the Pacific area. Details of these occurrences are given in paragraph 6, "Radio Signals", p. 4.

b. Transportation of Incendiary and Anti-Personnel Bombs: GR #1 stated that the balloons very probably will

be used to transport incendiary and anti-personnel bombs, which can be dropped during flight by means of the ballast-release device designed to operate whenever the balloon descends below certain altitudes. Additional bombs and balloons have been found since GR #1 was prepared, and the great majority of those so far discovered have landed on heavily forested areas. A map showing all bomb incidents and balloon recoveries, and the heavily forested areas of the western United States, Canada and Alaska, is attached as TAB C.

g. Bacteriological and Gas Warfare: Experiments still in progress have disclosed as yet no evidence that the balloons have been used to carry bacteria or disease germs, but as stated in GR #1 the balloons can be used for that purpose.

No evidence has been found to indicate that the balloons have been used to conduct gas warfare, and they are not considered practicable for that purpose.

d. Transportation of Agents: No evidence has been found that the balloons have been used to transport enemy agents, and such use is still considered only a remote possibility.

e. Anti-Aircraft Devices: No evidence has been found that the balloons have been used as anti-aircraft devices, and such use is still considered unlikely.

f. Propaganda: Since the publication of GR #1, Japanese propaganda broadcasts have mentioned the balloons. Such propaganda probably is intended to bolster home morale as a counter-measure to B-29 and task force attacks on the Empire, and to impress other countries with the ability of the Japanese to carry out long-range attacks on the United States. Details of the broadcasts are given in paragraph 7, "Propaganda", p. 5.

4. Launching:

GR #1 concluded that the balloons probably were launched from or near Japan. Since that report was published there have been additional reports of high altitude balloon sightings over Japan and Japanese-held territory. The XX and XXI Bomber Commands have reported a total of more than fifty free balloons of varying descriptions sighted on missions over Japan and Japanese-occupied China, over-

mening with the mission flown on 20 Aug 44. Most of the descriptions of the balloons so far received have not been detailed. The reported altitudes at which the balloons were seen range from 16,000 to 36,000 feet--heights considered impracticable for barrage balloons.

5. Description of Balloons and Apparatus:

a. No additional rubberized-silk balloons have been recovered since that found at San Pedro, California, on 4 Nov 44.

b. The paper balloons and automatic ballast-release devices recovered since GR #1 was written show no major changes in design and construction. Two types of paper balloons have been recovered. They are both built according to the same design, but the constructional details are slightly different--the gas release valves vary in design and one type of paper balloon envelope has colored seams while the other does not. It thus appears that the balloons may have been constructed by at least two manufacturers.

c. Although the ballast-release devices do not show any pattern of variation such as the envelopes and valves exhibit, wide variations in the setting of the aneroid-bellows switches have been found. They have been adjusted to operate at altitudes ranging from 15,000 to over 25,000 feet. Such variations possibly are caused by attempts to utilize the most favorable wind currents at different periods. Because of these variations, the self-destructive device of the balloons may operate at different altitudes. Consequently, it cannot be assumed that at any given altitude the balloons can be closely approached by aircraft with safety.

d. The manner in which the cargo was attached to the balloon found at Hayfork, California, on 2 Feb 45, differed significantly from previous recoveries. The Hayfork balloon had incendiary bombs attached to the periphery of the ring of the ballast-release apparatus instead of to the center of the device. Incendiaries attached to the periphery can be scattered along the route of the balloon, and thus the incendiary effect can be widely dispersed.

6. Radio Signals:

a. The San Pedro rubberized-silk balloon was recovered with a small radio transmitter, the signal character-

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By RT, NARA, Date 4/2/94

istics of which have been carefully analyzed. No radio equipment has been recovered with any of the paper balloons. The only indication that the paper balloons may carry radio transmitters is the fact that a large number of signals have been received from the general direction of the Pacific Ocean. Most of these signals have been received by stations on the West Coast and the fixes obtained have been inaccurate.

b. In one instance a transmitter was tracked by a D/F net during a period of nine hours and over a distance of 1,600 miles. Without allowing for inaccuracies in D/F fixes, the estimated speed was 174 miles per hour. In another instance, two accurate fixes, spaced approximately 1,800 miles apart, were obtained on what appeared to be the same transmitter at an interval of ten hours, indicating that the transmitter had moved at the rate of approximately 180 miles per hour in the meantime. A D/F net in Hawaii has tracked a radio transmitter over a distance of approximately 1,440 miles in ten hours.

7. Propaganda:

a. The first reference to balloons in Japanese propaganda was made on 17 Feb 45 in a Domei broadcast in English beamed to the United States. The Japanese claimed that 500 casualties had been inflicted in the United States and that numerous fires had been started. The broadcast also announced that the authorities in the United States had found it necessary to issue general warnings against attacks by the Japanese balloons and thus had aggravated unrest among the people. It was emphasized that these occurrences had shattered the American feeling of security against attacks by the Japanese. Domei said that the Japanese military authorities had refused to comment on the subject.

b. The broadcast may be the first of a series designed to conduct a war of nerves against the United States. Subsequent Japanese broadcasts beamed to Europe, SE Asia and China have repeated this theme and, in one instance, added that several million airborne troops could be landed in the United States in the near future.

R. A. Osmun

R. A. OSMUN G. W. K.
Brigadier General
Chief, Military Intelligence Service.

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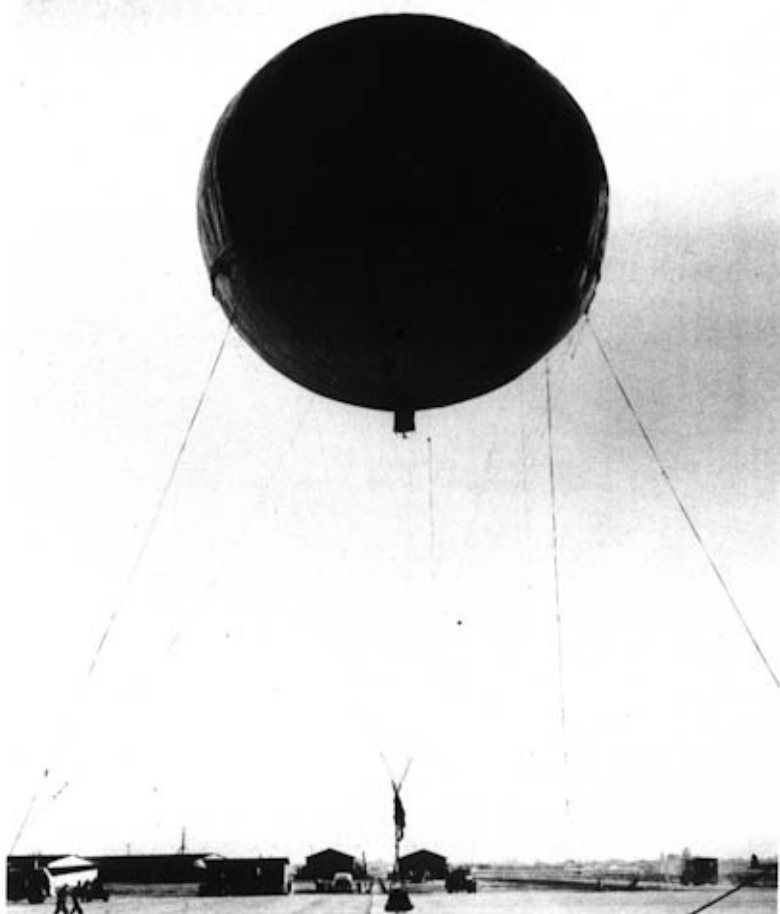


Figure 2

Alturas, California, balloon inflated for Laboratory tests

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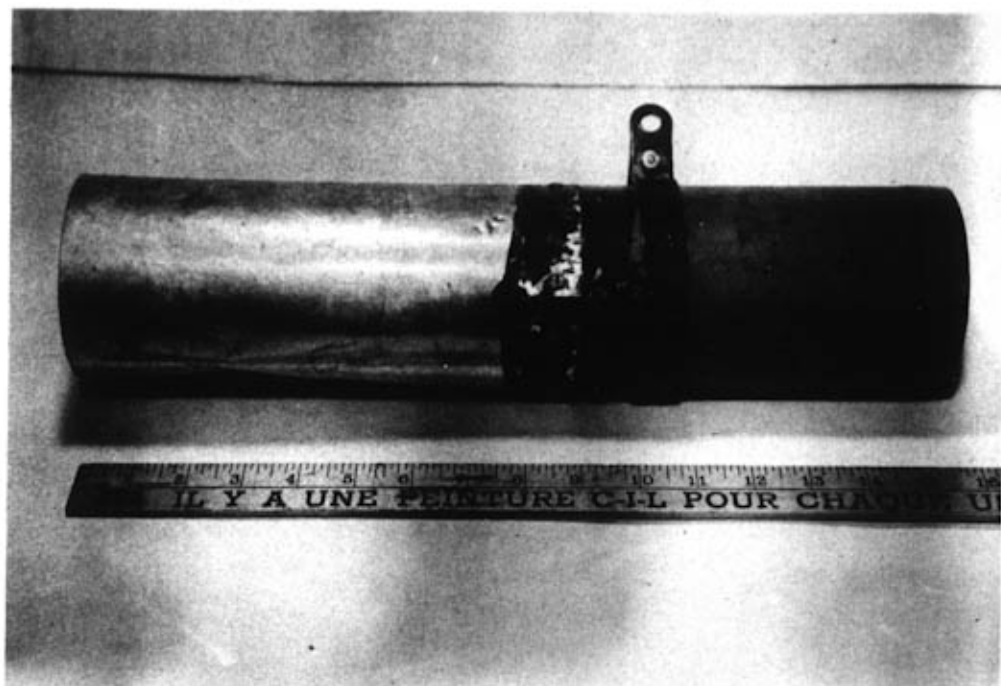


Figure 3
Incendiary bomb dropped by Minton, Saskatchewan, balloon.

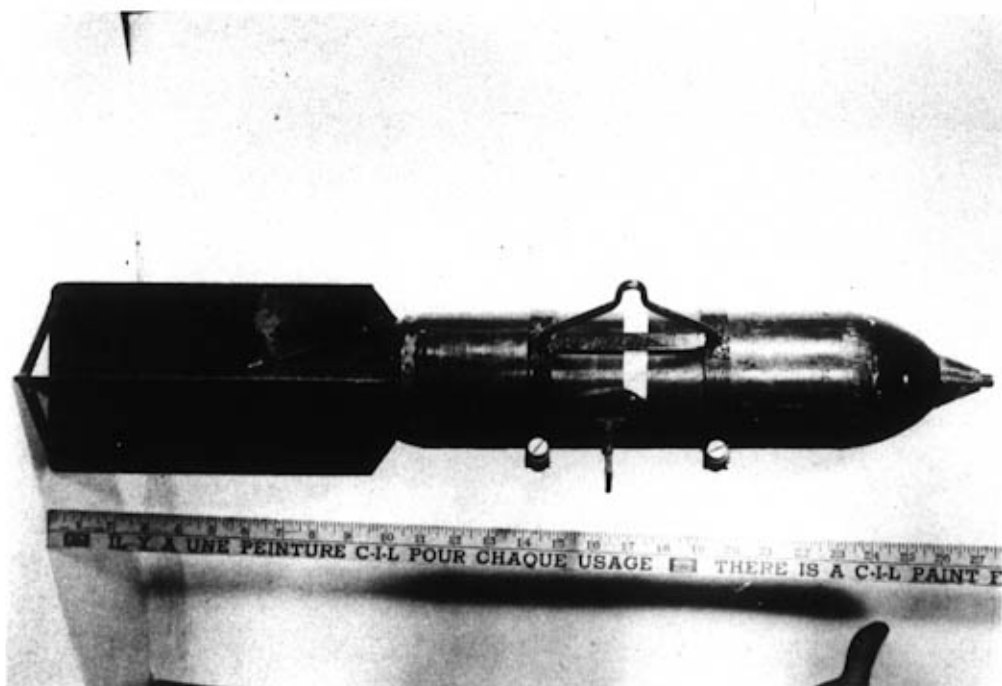


Figure 4
Bomb dropped by Minton, Saskatchewan, balloon.

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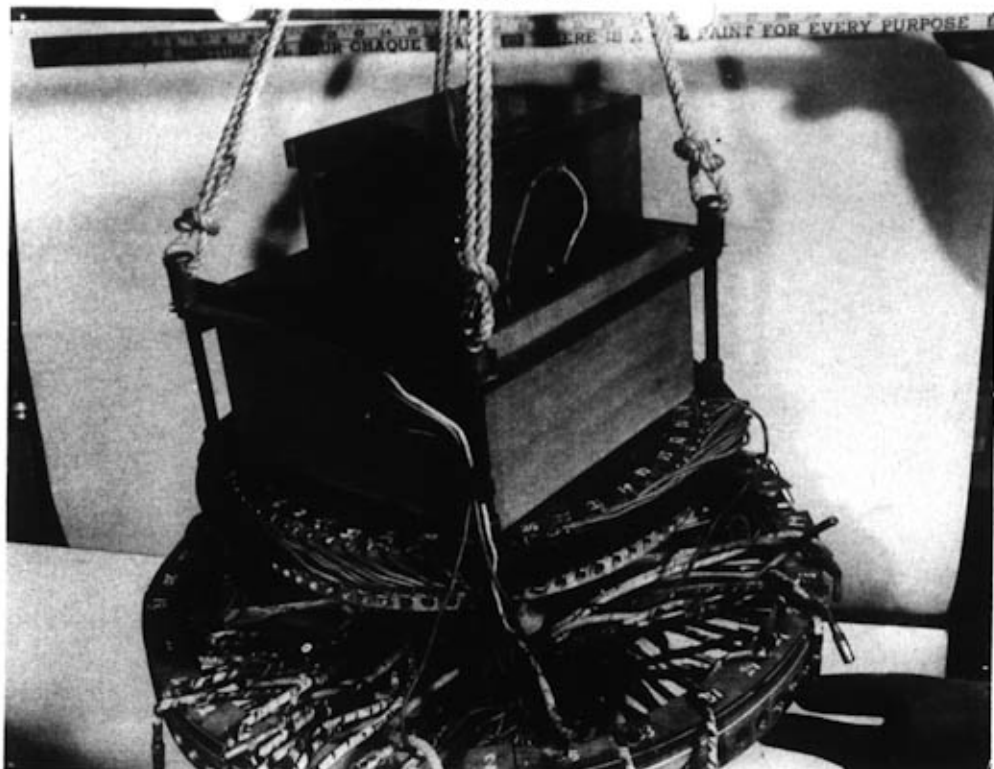


Figure 5

Automatic ballast-release apparatus, with battery container, found with Fort Simpson, Mackenzie, balloon.

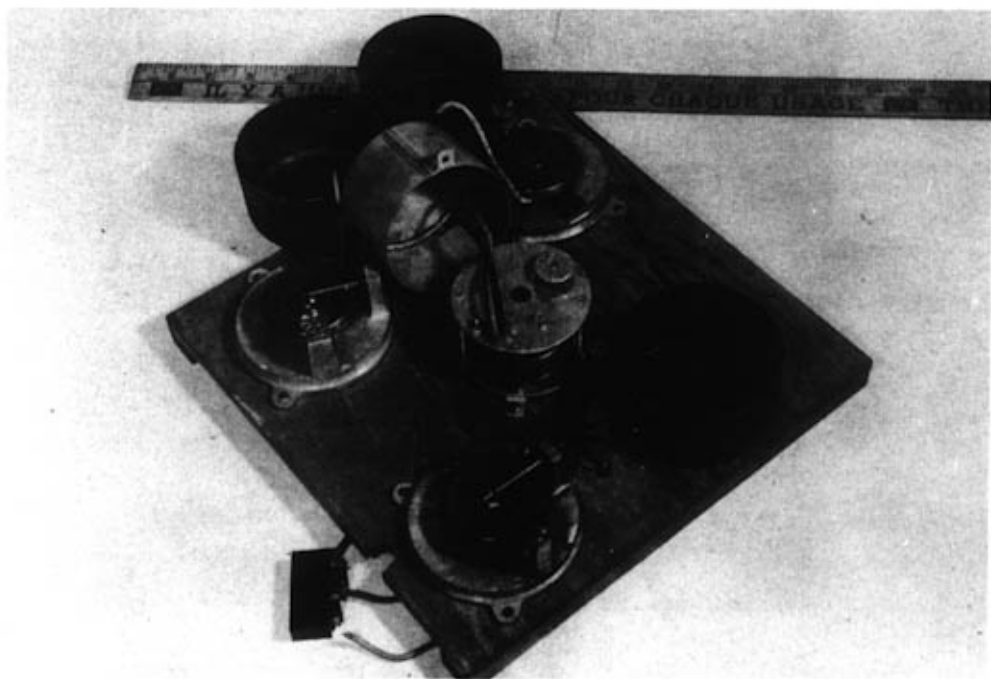


Figure 6

Aneroid-bellows switches found with Fort Simpson, Mackenzie balloon.

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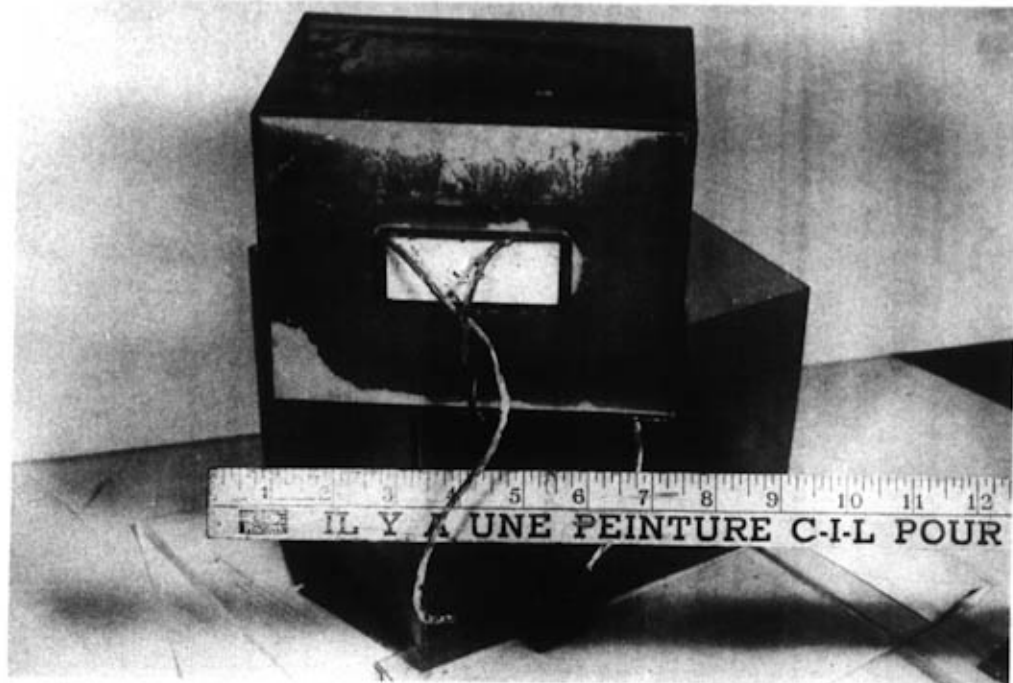


Figure 7

Battery in place in its container -- found with Fort Simpson, Mackenzie balloon.

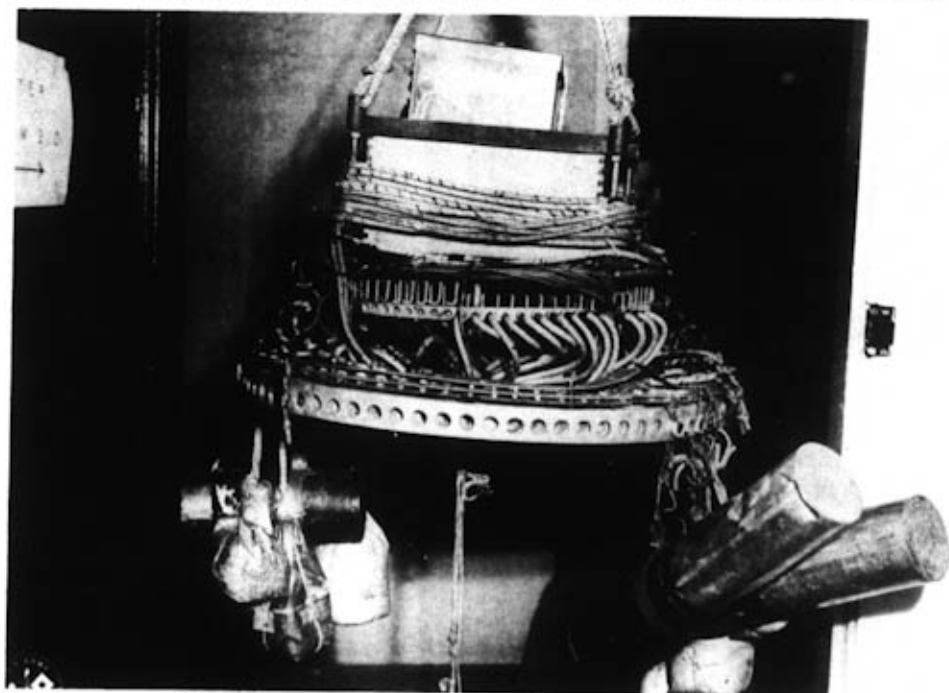


Figure 8

Weight release mechanism found near Hayfork, California. The incendiary bombs are in the same positions as originally found; the sand bags are suspended from the proper plugs but not in the same order as found. Three incendiaries and six sand bags are shown.

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Figure 9
Two of four incendiary bombs found near Hayfork, California. Shows general appearance and "T" shaped objects which suspended the bombs from the periphery of the weight release mechanism.

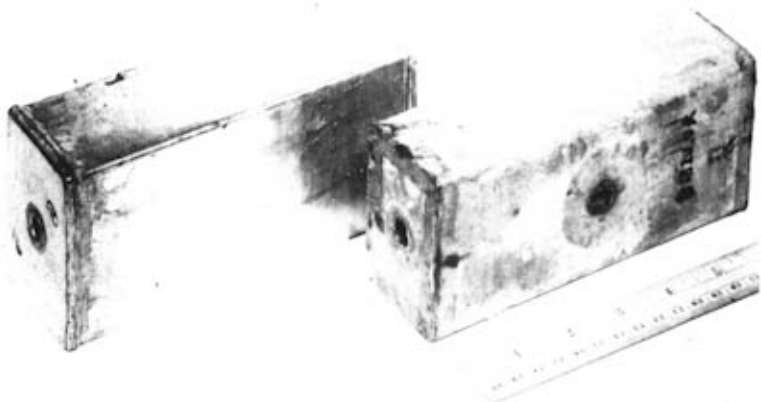


Figure 10
Demolition block found near Hayfork, California. Shows tin container and 1 pound Picric Acid charge. Holes on side and end are for blasting cap.

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CHRONOLOGY OF
FREE BALLOON INCIDENTS

23 February 1945

I. ALL POSITIVE INCIDENTS REPORTED
THROUGH 22 FEB 48.

- | | | | |
|-----|--------------------------------|-----------|--|
| 1. | San Pedro,
Calif. | 4 Nov 44 | Rubber balloon, supporting electronic devices, retrieved from water 66 miles SW of San Pedro, Calif. |
| 2. | Kailua,
Hawaii | 14 Nov 44 | Paper balloon retrieved from water near Kailua, Hawaii. |
| 3. | Kalispell,
Mont. | 15 Nov 44 | Paper balloon found 11 Dec. Probable date of landing 15 Nov. |
| 4. | Thermopolis,
Wyo. | 6 Dec 44 | Bomb exploded. Fragments recovered of Japanese 15 Kg Anti-personnel HE bomb. |
| 5. | Manderson,
Wyo. | 19 Dec 44 | Piece of Japanese balloon paper measuring 3 x 4 feet found. |
| 6. | Marshall,
Alaska. | 23 Dec 44 | Paper balloon found. (Previously reported as 8 Jan 45). |
| 7. | Holy Cross,
Alaska. | 24 Dec 44 | Paper balloon found with most of usual equipment. |
| 8. | Estacada,
Ore. | 31 Dec 44 | Paper balloon found; similar to that at Kalispell. |
| 9. | Medford,
Ore. | 4 Jan 45 | Bomb, later identified as a Japanese incendiary, fell and exploded in open field. |
| 10. | Sebastopol,
Calif. | 4 Jan 45 | Paper balloon found; similar to those at Kalispell and Estacada. |
| 11. | At sea,
52.5° N,
160° W. | 5 Jan 45 | Merchant vessel crew shot down white balloon of 30 ft. diameter. Nothing was recovered. |

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| 12. | Alturas,
Calif. | 10 Jan 45 | Paper balloon with usual equipment forced down by aircraft and recovered. |
| 13. | Minton,
Sask., Can. | 12 Jan 45 | Balloon descended 6 miles N of U.S.-Canada border, released 20-lb. bomb and two flares or incendiaries. One flare or incendiary exploded; the other and the bomb did not. Balloon then rose and disappeared. |
| 14. | Lame Deer,
Mont. | 12 Jan 45 | Japanese balloon found. |
| 15. | Ventura,
Calif. | 15 Jan 45 | Bomb exploded. Fragments recovered of Japanese 15 Kg Anti-personnel HE bomb. |
| 16. | Moorpark,
Calif. | 15 Jan 45 | Paper balloon found about 15 miles east of where Ventura bomb (Item 15) exploded. Balloon was similar to others. |
| 17. | Simpson,
Mackenzie,
Canada | 19 Jan 45 | Paper balloon found with usual equipment. |
| 18. | Buldir Island,
Alaska | 24 Jan 45 | Balloon was seen at 29,000 ft., and shot down. Pilot estimated diameter at 30 ft. Balloon fell in sea 25 miles SW from Buldir Island and nothing was recovered. |
| 19. | Julian,
Calif. | 31 Jan 45 | Paper balloon found with usual equipment. |
| 20. | Red Bluff,
Calif. | 1 Feb 45 | Envelope and shroud lines only of paper balloon found. |
| 21. | Hayfork,
Calif. | 2 Feb 45 | Paper balloon with usual equipment found, with four unexploded 10-lb. incendiary bombs. |
| 22. | Laurens,
Iowa | 2 Feb 45 | Envelope and shroud lines only of paper balloon found. |
| 23. | Schuyler,
Nebr. | 2 Feb 45 | Piece of balloon paper five by six feet in size found. |
| 24. | Provost,
Alberta,
Canada | 7 Feb 45 | Paper balloon and a few pieces of control equipment found. |

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25.	Newcastle, Wyo.	8 Feb 45	Paper balloon found, similar to others.
26.	Camp Beale, Calif.	8 Feb 45	Paper balloon and damaged weight-dropping device found.
27.	Moose Jaw, Sask., Canada	9 Feb 45	Envelope and shroud lines only of balloon found.
28.	Lodgegrass, Mont.	9 Feb 45	Top one-third of paper balloon found.
29.	Hardin, Mont.	12 Feb 45	Bomb explosion followed by a ground fire occurred.
30.	Riverdale, Mont.	12 Feb 45	Three bombs landed and exploded. Fragments indicated the bombs were incendiary.
31.	Barwell, Nebr.	12 Feb 45	Badly torn balloon envelope found with 2 incendiary bombs (indicated as envelope only on TAB B).
32.	Howlin, S. D.	12 Feb 45	Unexplained incendiary bomb explosion occurred.
33.	Cascade, Mont.	12 Feb 45	Bomb fragments smelling strongly of ammonia found.
34.	Spokane, Wash.	12 Feb 45	Two unexploded bombs found 7 miles north of Spokane. These were believed to have been dropped only a short distance as their paint was unmarred.
35.	Edin, Mont.	13 Feb 45	Paper balloon found, similar to others.
36.	American Falls, Ida.	13 Feb 45	Envelope only of a Japanese balloon found.
37.	Prosser, Wash.	15 Feb 45	Paper balloon found with some of the usual apparatus.
38.	Flathead Lake, Mont.	17 Feb 45	Long strip of paper, believed to be part of a balloon envelope, found.
39.	Takla Lake, B.C., Canada	19 Feb 45	Partially inflated balloon found.

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II. BALLOON SIGHTINGS AND POSSIBLY RELATED INCIDENTS

FROM 20 JAN THROUGH 22 FEB 44.

(See General Report No. 1, 29 Jan 45, for
previous sightings and incidents.)

- | | | | |
|-----|---|-----------|---|
| 1. | Camp Walters,
Texas | 26 Jan 45 | Balloon at unknown height was seen passing overhead at high velocity. No appendages were visible. |
| 2. | Long Beach,
Calif. | 26 Jan 45 | Gray balloon which had an object attached was seen descending rapidly by a sergeant and four officers. |
| 3. | At Sea,
15 m. N of
Attu Island,
Alaska | 26 Jan 45 | An object, about parachute size, was sighted at a height of about 1500 ft. An appendage was suspended below the object. |
| 4. | Marshall,
Alaska | 28 Jan 45 | Balloon was reported seen in flight by a civilian pilot. |
| 5. | Elmendorf
Field,
Alaska | 29 Jan 45 | White balloon seen at 5000 ft. It carried a small black unknown object and was lost to sight at an estimated height of 31,000 ft. |
| 6. | Hooper Bay,
Alaska | 30 Jan 45 | Natives reported seeing a partly filled balloon on the ice of the bay. It is believed that the balloon was blown into the bay, and nothing was recovered. |
| 7. | At Sea, -
Off Queen
Charlotte
Island, B. C.,
Canada | 30 Jan 45 | A naval vessel picked up a radar target which was later visually determined to be a balloon 450 miles west of Queen Charlotte Island. |
| 8. | At Sea, -
33.5° N,
128.6° W. | 31 Jan 45 | An aircraft pilot sighted a balloon with a rectangular object suspended below it at 53° N and 128° W, altitude 10,000 ft. |
| 9. | At Sea, -
Off Point San
Eugenio, Lower
California. | 31 Jan 45 | Two balloons sighted by the crew of a Navy ship. The balloons were at an estimated height of 20,000 ft. and exploded while being watched. |
| 10. | Pendleton,
Ore. | 31 Jan 45 | Four civilians reported the sighting of a balloon carrying a suspended object. |

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11. Weed, Calif. 1 Feb 45 Two balloons were reported sighted at 14,500 ft. Objects were seen hanging from the envelopes.
12. Fort Resolution, Dist. of Mack., Canada 1 Feb 45 A balloon carrying a bright red light was reported sighted.
13. Duncan, B.C., Canada 4 Feb 45 A balloon is reported as having exploded while airborne.
14. Between Broughton and Polkingborn Islands, B.C. 7 Feb 45 A floating balloon with ring and metal box attached was reported seen. Nothing was recovered.
15. At Sea, - Off Alexai Point, Attu Island, Alaska 8 Feb 45 The pilot of a P-38 reported sighting a large balloon at 40,000 ft.
16. Blackfoot, Idaho. 8 Feb 45 Three civilians reported the sighting of a balloon at a height of about 2,000 ft. The balloon was seen to hit the ground, drop the equipment it was carrying, and rise again, but nothing was recovered.
17. Inyokern, Calif. 9 Feb 45 Naval personnel reported the sighting of five balloons at 10,000 ft. Ten aircraft made an unsuccessful search.
18. Santa Rosa, Calif. 10 Feb 45 A balloon sighting was reported.
19. Port Hardy, Vancouver Island, B.C. Canada 11 Feb 45 A balloon was clearly seen by RCAF fighters at 12,000 ft, but the balloon was too high for closer approach before darkness.
20. Nanaimo, Vancouver Island, B.C. Canada 11 Feb 45 Militia Rangers reported the sighting of a balloon.
21. Big Fork, Mont. 12 Feb 45 A balloon sighting was reported.

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22. Linton, 12 Feb 45 Canadian Militia Rangers reported seeing a
B.C. Canada balloon at 8,000 - 10,000 ft. Search was
made by RCAF aircraft without results.
23. Hilo, 12 Feb 45 A balloon was sighted by a Swedish vessel at
Hawaii about 230 miles southeast of Hilo.
24. Red Lodge, 12 Feb 45 A free balloon was seen passing over Red
Mont. Lodge, and a balloon, thought to be the same
Cody, Wyo. one, was seen drifting over Cody 5 hours later.
25. Cascade, 12 Feb 45 The sighting of three balloons was reported.
Mont.
26. Truckee, 13 Feb 45 A ball of fire was seen falling to the ground
Calif. by a rancher.
27. Verge, 13 Feb 45 Observation of the landing of a balloon was
Wyo. reported by civilians. Nothing was found in
air and ground search of the area.
28. Weaverville, 14 Feb 45 A balloon at a height of 6,000 to 10,000 ft.
Calif. was reported sighted by the U.S. Forest
Service.
29. Tallier, 14 Feb 45 A State policeman reported seeing a balloon.
Ore. Searching aircraft were unable to find
anything.
30. Red Bluff, 15 Feb 45 Two civilians reported seeing a balloon at a
Calif. great height, but four searching P-53's were
unable to locate it.
31. Hanford, 16 Feb 45 Four policemen reported seeing an object
Wash. which resembled a balloon fall on a mountain
north of Hanford. The object arose 15 minutes
later, disappearing beyond the mountain.
32. Cordova, 16 Feb 45 A large white balloon was reported seen by
Alaska. school children as it drifted past above the
town.
33. Yentou, 17 Feb 45 A balloon was reported sighted drifting
Vancouver Island northeast.
B.C. Canada

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34. Red Bluff, 18 Feb 45 Two balloons were reported sighted by the
Calif. sheriff of Red Bluff.
35. Courtenay, 18 Feb 45 A balloon was reported seen travelling south-
Vancouver east.
Island, B.C.,
Canada.
36. Strait of 18 Feb 45 Three separate balloon sightings were reported,
Georgia, apparently all of the same balloon.
B.C., Canada
37. Ukiah, 18 Feb 45 A dairymen reported the sighting of a bal-
Calif. loon. Air search produced no results.
38. McCloud, 19 Feb 45 The Forest Service reported a balloon at an
Calif. estimated altitude of 20,000 ft., 10 miles
east of Mount Shasta.

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NUMBER
OF
BALLOONS

BALLOON INCIDENTS

22

20

18

16

14

12

10

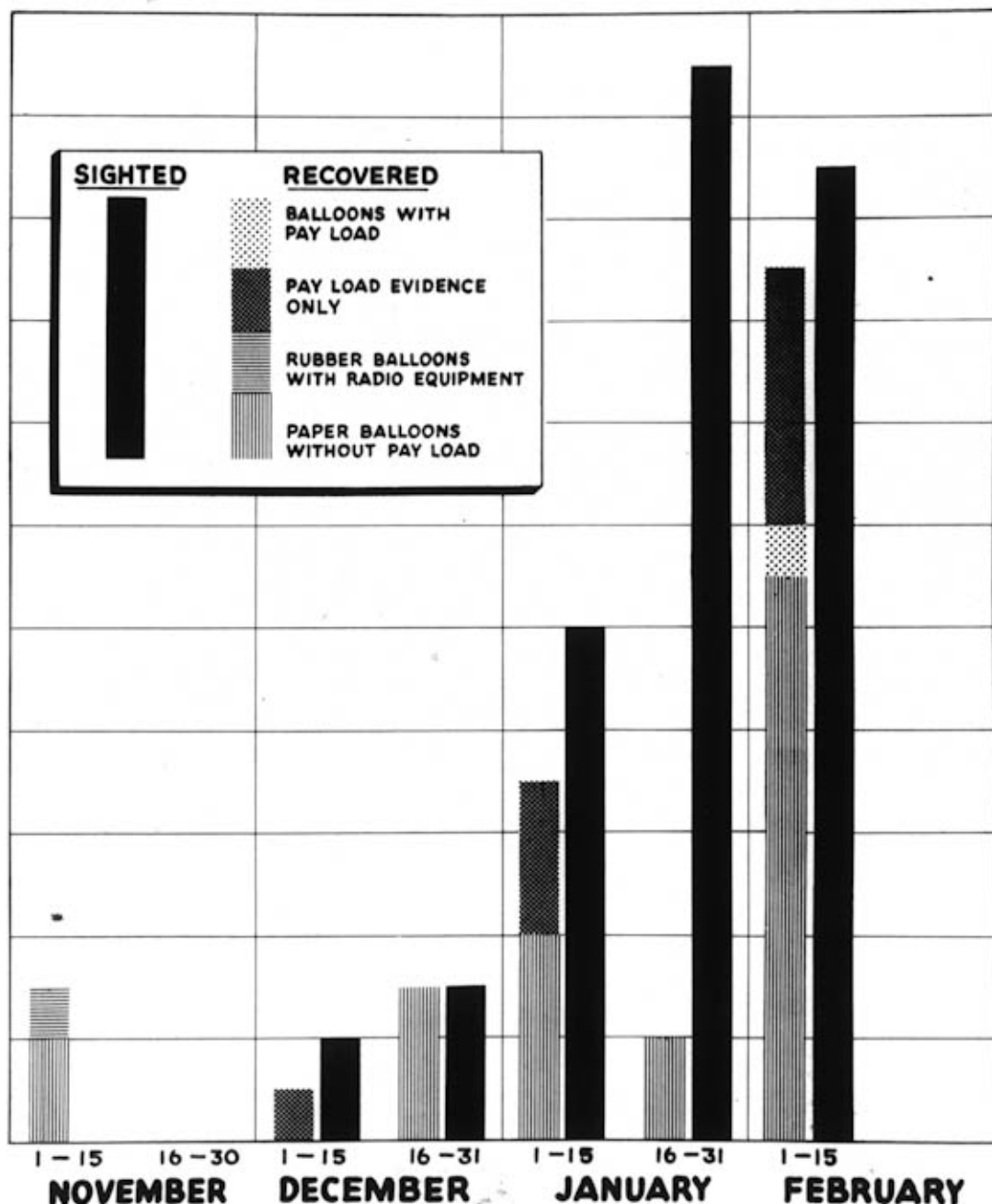
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60°N

ALASKA

CANADA

LIBERTIAN ISLANDS

VANCOUVER ISLAND

PACIFIC

OCEAN

WHERE BALLOONS RECOVERED AND SOME INCIDENTS
1 Nov 44 - 22 Feb 45

- Balloon
- Balloon with Bomb
- Missing Reported Area

LIBERTIAN ISLANDS

160°W

140°W

120°W

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