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025 OLD ACCESSION NUMBER (ISSN)	018 MICROFILM REEL FRAME NUMBER	0004024135-0047X
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REPORT OF AN ANALYSIS OF EXERCISE SKY SHIELD DATA
(1 October 1964)

1. SYNOPSIS

During the planning phase of Exercise Sky Shield, three broad functions of the air defense system were selected for analysis. These were: (1) the detection and tracking of bomber aircraft at low altitude by the radar system, (2) the detection of bombers penetrating the warning lines (i.e., CW, Barrier Extension and AC), and (3) the conduct of safe passage for SAC aircraft carrying out SAC missions. Although Sky Shield was designed primarily to provide exercise and training for all elements of the defense system, it appeared to offer a basis for worthwhile analytical effort in at least these three areas.

Even in these selected areas, however, Exercise Sky Shield was not an ideal vehicle for quantitative analysis. For example, bombers penetrated the Atlantic barrier in balls of three and four aircraft over a relatively short period of time and at altitudes between 35,000 and 40,000 feet. Such penetrations are considered much easier to detect than would be individual, random penetration over as long a period as tactically possible and at very high or very low altitudes. One ball of four bombers penetrated the Pacific barrier outbound and turned to the inbound leg of the mission while still under surveillance by the barrier radar. Divergency tactics along the Mid Canada Line, while providing a difficult force assessment problem, made detection and raid recognition extremely simple. Finally, the low altitude flights within the areas of contiguous radar coverage were not as low as a determined

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SUMMARY OF AN ANALYSIS OF EXERCISE SKY SHIELD DATA
(1 October 1960)

1. INTRODUCTION

During the planning phase of Exercise Sky Shield, three broad functions of the air defense system were selected for analysis. These were: (1) the detection and tracking of bomber aircraft at low altitude by the SACB system, (2) the detection of bombers penetrating the warning lines (i.e., WBL, Barrier Extensions and MEL), and (3) the conduct of safe passage for SAC aircraft carrying out EWG missions. Although Sky Shield was designed primarily to provide exercise and training for all elements of the defense system, it appeared to offer a basis for worthwhile analytical effort in at least these three areas.

Even in these selected areas, however, Exercise Sky Shield was not an ideal vehicle for quantitative analysis. For example, bombers penetrated the Atlantic barrier in cells of three and four aircraft over a relatively short period of time and at altitudes between 35,000 and 40,000 feet. Such penetrations are considered much easier to detect than would be individual, random penetration over as long a period as tactically possible and at very high or very low altitudes. One cell of four bombers penetrated the Pacific barrier outbound and turned to the inbound leg of the mission while still under surveillance by the barrier radar. Diversionsary tactics along the Mid Canada Line, while providing a difficult force assessment problem, made detection and raid recognition extremely simple. Finally, the low altitude flights within the areas of contiguous radar coverage were not as low as a determined

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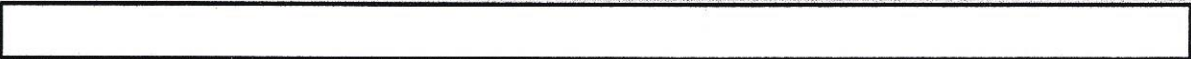
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Many forces might be expected to fly, and the fact that only portions of the radio were flown at low altitude may have increased the probability of detection by radar. The use of various levels of ECM introduced another major variable in the low altitude surveillance profiles. Therefore, the analytical results show not just the ability to detect and track at low altitude, but the ability to detect and track in the presence of whatever ECM happened to be employed at the time. Such limitations as these are to be expected in a large scale exercise where training and flying safety are of primary importance, and these comments are not to be taken as criticisms of the basic exercise objectives or the manner in which it was carried out. In fact, the thoroughness of unit command and the analytical team indicates that, as a training vehicle, the exercise was eminently successful. It must be made clear, however, that the analytical results from this exercise must be used with caution, for any statements about the performance of elements of the air defense system during Sky Shield will, of necessity, be subject to qualification.

The analysis work has not yet been completed in detail but a sufficient amount of work has been done to show a number of general characteristics of the air defense system performance. The following discussions will be concerned with results obtained from the analysis of detection and tracking of low altitude aircraft and the detection of aircraft by the early warning elements. Analytical procedures and methods will be mentioned only when necessary for the proper interpretation of these results. Results from the analysis of enroute passage procedures have been made available to the Directorate of Operations for presentation by representatives of that Directorate.

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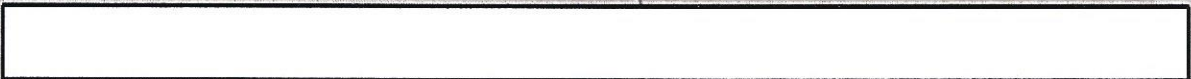
11. INVESTIGATION OF LOW ALTITUDE FLIGHTS

Low altitude strikes were flown by single aircraft at altitudes ranging down to 1,000 feet above the water for coastal penetrations and down to 1,500 feet over the terrain in the interior regions. Since flights often descended to low altitude and ascended again to high altitude while in radar coverage, it was necessary to define the range of altitudes to be considered in the analysis. Consequently, 5,000 feet above terrain (or water) was arbitrarily taken as the maximum altitude at which flights could be considered low altitude. In the discussions to follow, "low altitude" will include all altitudes equal to or less than 5,000 feet above the surface of the earth. Included in the analysis were data from the Seattle and Spokane sectors of the 15th WMD Region, the Bangor, Boston, New York and Syracuse sectors in the 24th WMD Region, all sectors of the 30th WMD Region and the Grand Forks sector in the 20th WMD Region. Data from the Grand Forks sector have been included with the data from the 30th Region in this presentation.

A total of 66 bombers flew low level missions in these 142 sectors. Of these 66 flights, 47 or 71% were tracked over some portion of the low altitude route. Seven of the 47 were initially detected at high altitude and track continuity was maintained through the descent to low altitude.

The 142 sectors generated a total of 42 tracks on the 47 aircraft tracked. Therefore, 4 tracks resulted from inadequate track continuity.

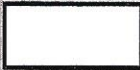
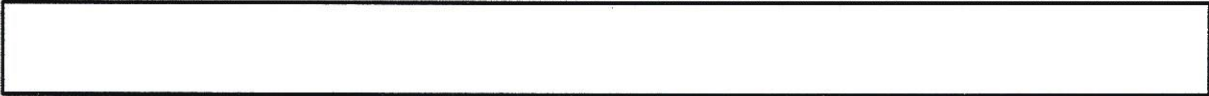
Approximately 43,000 total nautical miles were flown by SAC aircraft at low altitude within theoretical radar coverage. The SAC sectors tracked the bombers approximately 6,200 nautical miles, or roughly 14% of the distance flown within theoretical radar coverage.



The number of low altitude detections is related to the number of the total detections of the system. The number of detections within 10 miles is related to the number of detections within 10 miles. A summary of these data is shown in Figure 1. A more detailed summary of the low altitude detection data is shown in Figure 2. A note of caution should be included at this point. Because of the wide variation in detection coverage over the geographical area in question, a direct comparison of region performance on the basis of these figures is not considered valid.

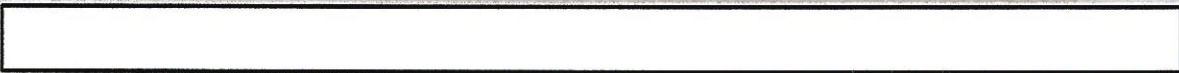
Number of detections flown at low altitude.	86
Number and percent of detections tracked at low altitude.	49 (57%)
Number and percent of detections in track at low altitude.	42 (49%)
Dist. detection flown at low altitude within theoretical radar coverage.	23,025 nautical miles
Dist. detection tracked at low altitude within theoretical radar coverage.	6,466 nautical miles

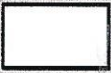
Figure 1 - Summary of Low Altitude Detection and Tracking Data



Parameter Measured	1st Region	2nd Region	3rd Region	Total
Number of low altitude detections	21	43	12	86
Number of low altitude tracks identified by AEW	11	19	17	47
Number of flights initially detected at low altitude	9	17	13	49
Total number of tracks established	12	20	14	46
Total distance flown at low altitude within theoretical radar coverage	2,857	10,773	10,490	24,120
Total distance low altitude flights were tracked within radar coverage	719	2,931	3,730	7,380
Percentage of distance low altitude flights were tracked within theoretical radar coverage	25%	27%	35%	30%

Figure 2 - Summary of Low Altitude Detection and Tracking by Region.





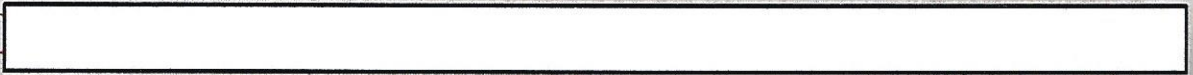
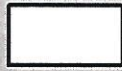
RESULTS OF INVESTIGATION

EXAMINATION

The cable containing a total of 34 cables, several penetrated the ice line over a period of approximately 5 1/2 hours. These cables were cut at 1000 aircraft altitudes at altitudes below 10,000 feet. The remaining 17 cables reached the line at altitudes ranging from 30,000 to 40,000 feet.

All ICAO line radars were reported fully operational throughout the mission. Teletype messages received at headquarters WFOA indicated that communications were out from ICAO radars for a period of several hours. Except for a line check at 1230, the ICAO radar tape received at WFOA was blank from 1240 to 1310.

All 9 of the cables penetrating the ice line were detected. None were received at headquarters WFOA or 7 of the 9 cables. The total altitude range was increased to 17 aircraft by the ICAO stations, and 11 of these were reported at headquarters WFOA. ICAO line data are summarized in Figure 4.



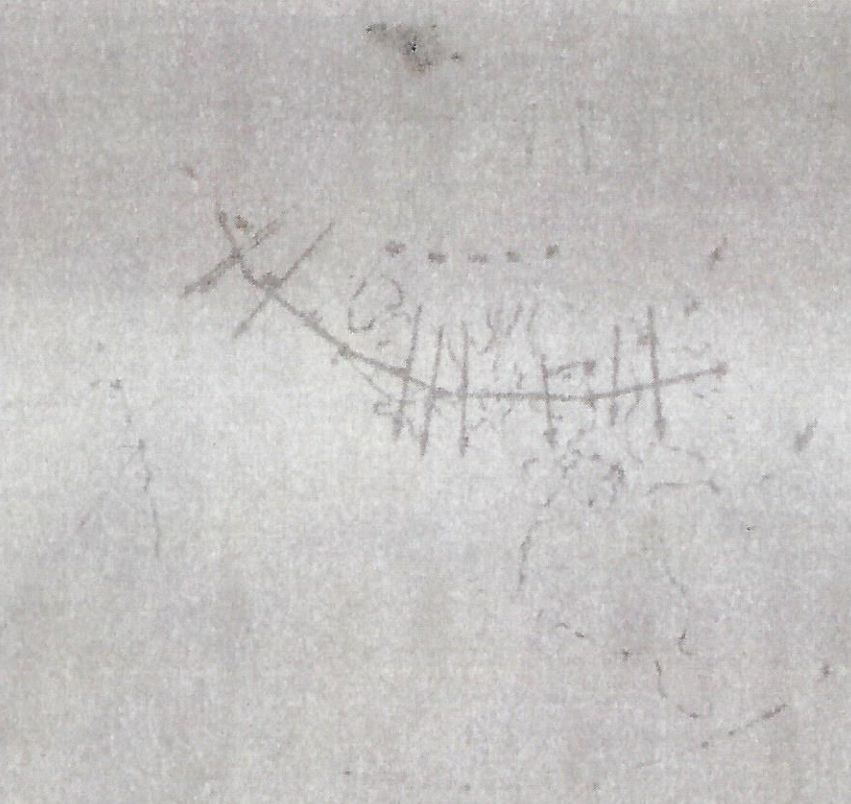
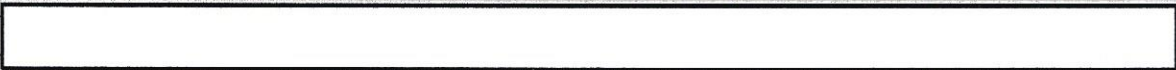
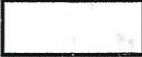
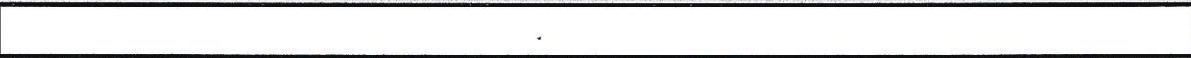


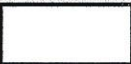
Figure 1 - 100 Year Recurrence (by Cal.)





Line	Color	Altitude	Number Aircraft	Detected	No. Tracks Generated	Percent Agreement	Number of Tracks
1	Red		3	Yes	2	67	2
2-3	Orange	35 K	4	Yes	1	25	1
4-5	Red	40 K	4	Yes	2	50	2
6	Green	40 K	4	Yes	1	25	1
7	White	35 K	4	Yes	1	25	1
8		10 K to 30 K	3	Yes	1	33	1
		30 K to 60 K	4	Yes	2	50	2
9	Yellow	30 K to 60 K	4	Yes	2	50	2
10	Blue	40 K	4	Yes	1	25	1
					11	52	11

Figure 1 - Summary of IBM Line Detection Data.



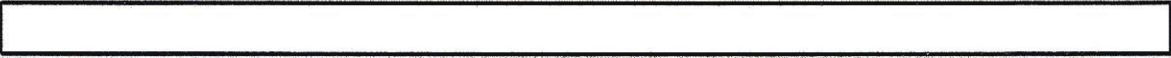


The Pacific Barrier

The cells, each containing 4 B-52 aircraft, were observed to penetrate the southern portion of the Pacific Barrier. As shown on Figure 3, one of these cells flying at altitudes between 11,000 and 12,000 feet approached the barrier from the east, but turned back toward the continent before crossing the barrier. Only 2 of the 4 aircraft in the cell flew close enough to the barrier radars to afford any possibility of detection. The other cell at an altitude of 40,000 feet actually did cross the barrier on both the outbound and the inbound legs of its mission.

The ABW aircraft and one picket ship were stationed in the northern part of the barrier during the time of penetration. All of these units were fully operational during the time the penetrations occurred.

Five of the 4 B-52's which flew within theoretical detection range of the barrier radars were detected and reported to Headquarters VRAD. The ABW radars and the picket ship detected the cell which crossed the barrier. One of the ABW radars detected the single aircraft in the other cell. The 4 aircraft that crossed the barrier were tracked and reported on both outbound and inbound headings. A summary of the Pacific Barrier data is shown in Figure 6.



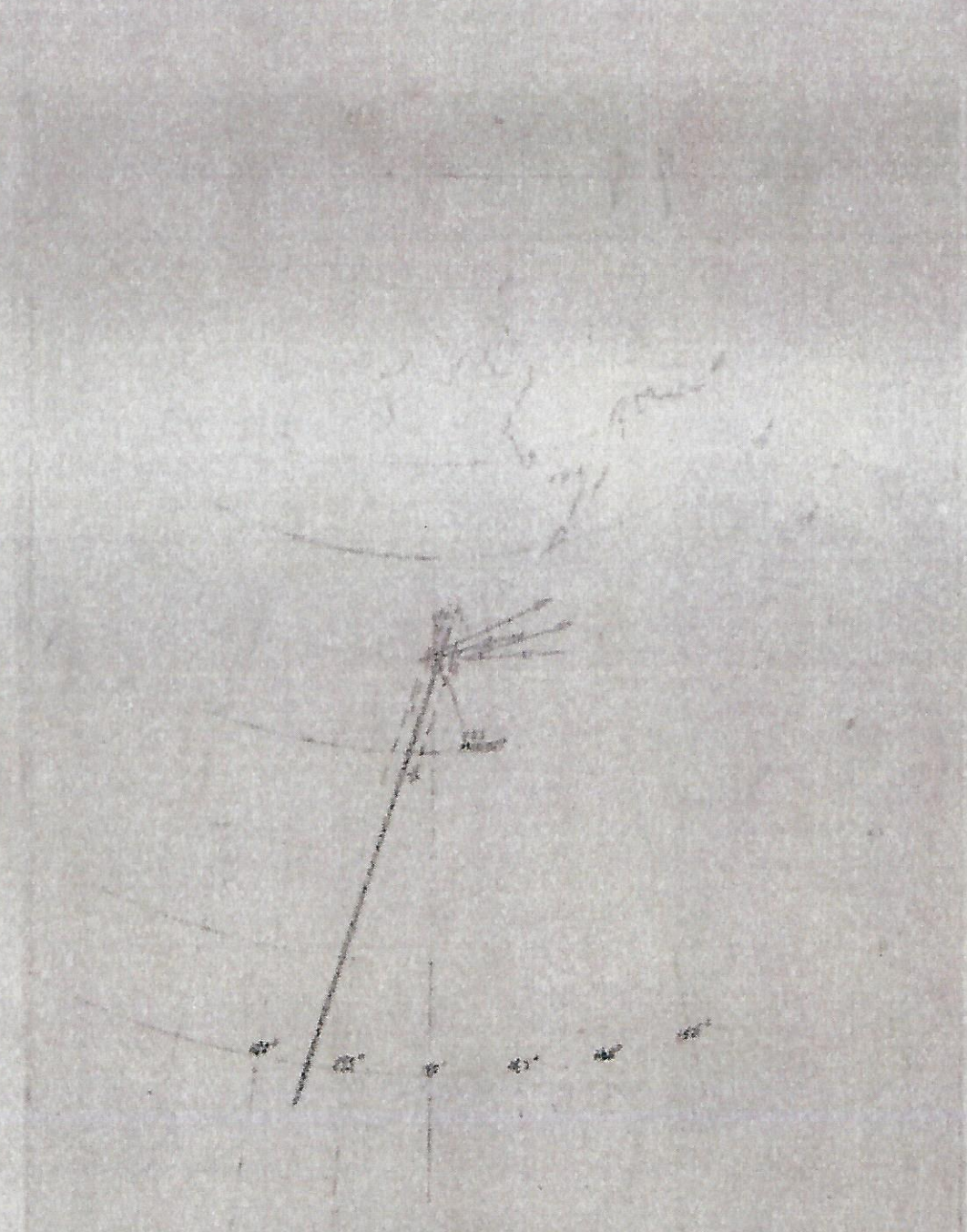
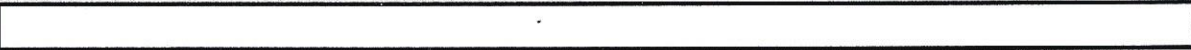
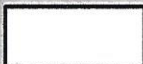
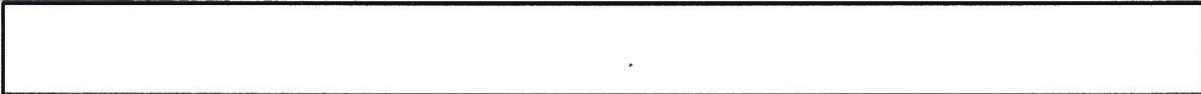


Figure 2 - Pacific Barrier Configuration and Connecting Isobars
0700L to 0700E.





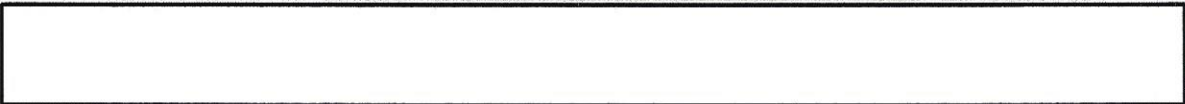
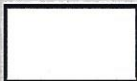
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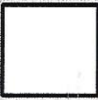
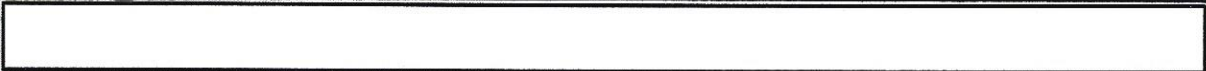
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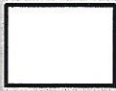


The Atlantic Barrier

The Atlantic Barrier was penetrated by 4 cells containing a total of 15 B-52 aircraft. Division overlays did not show all the altitudes for all penetrating cells, but statements by the barrier orders indicated that altitudes ranged from 37,000 to 47,000 feet. The 1st aircraft crossed the Atlantic Barrier at two separate points spaced approximately 20 nautical miles apart as shown on Figure 1. Approximately 55 minutes elapsed between the first and last penetration.

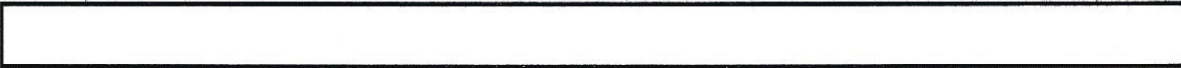
Three AEW radars and one picket ship, all fully operational, were operating within detection range of one or more of the bomber cells.

All 4 cells were detected by at least 3 barrier radars. The picket ship detected each of the 4 cells and each cell was detected by 2 of the 3 radars. Data from the Atlantic Barrier are summarized in Figure 2.





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J. E. DONALD MOORE
Asst Director
Operations Analysis

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- 3. [Redacted] Investigation (2)

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SUMMARY OF AN ANALYSIS OF EXERCISE SKY THREAT DATA
(1 October 1960)

1. INTRODUCTION

During the planning phase of Exercise Sky Threat, three broad functions of the air defense system were selected for analysis. These were: (1) the detection and tracking of bomber aircraft at low altitude by the SAGE system, (2) the detection of bombers penetrating the warning lines (i.e., OWS, Barrier Extensions and SCL), and (3) the conduct of safe passage for SAC aircraft carrying out SAC missions. Although Sky Threat was designed primarily to provide exercise and training for all air arms of the defense system, it appeared to offer a basis for worthwhile analytical effort in at least these three areas.

Even in these selected areas, however, Exercise Sky Threat was not an ideal vehicle for quantitative analysis. For example, bombers penetrated the Atlantic barrier in cells of three and four aircraft over a relatively short period of time and at altitudes between 35,000 and 40,000 feet. Such penetrations are considered much easier to detect than would be individual, random penetration over as long a period as tactically possible and at very high or very low altitudes. One cell of four bombers penetrated the Pacific barrier outbound and turned to the inbound leg of the mission while still under surveillance by the barrier radar. Diversionary tactics along the Mid Canada Line, while providing a difficult force assessment problem, made detection and raid recognition extremely simple. Finally, the low altitude flights within the areas of contiguous radar coverage were not as low as a determined

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SUMMARY OF AN ANALYSIS OF EXERCISE SKY SHIELD DATA
(1 October 1960)

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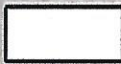
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II. INTEGRATED ANALYSIS OF LOW ALTITUDE DATA

Low altitude strikes were flown by single aircraft at altitudes ranging down to 1,000 feet above the water for coastal penetrations and down to 1,500 feet over the terrain in the interior regions. Since flights often descended to low altitude and ascended again to high altitude while in radar coverage, it was necessary to define the range of altitudes to be considered in the analysis. Consequently, 5,000 feet above terrain (or water) was arbitrarily taken as the maximum altitude at which flights could be considered low altitude. In the discussions to follow, low altitude will include all altitudes equal to or less than 5,000 feet above the surface of the earth. Included in the analysis were data from the Seattle and Spokane sectors of the 5th COMB Region, the Bangor, Boston, New York and Syracuse sectors in the 7th COMB Region, all sectors of the 30th COMB Region, and the Grand Forks sector in the 39th COMB Region. Data from the Grand Forks sector have been included with the data from the 30th Region in this presentation.

A total of 66 bombers flew low level missions in these COMB sectors. Of these 66 flights, 47 or 71% were tracked over some portion of the low altitude route. Seven of the 47 were initially detected at high altitude and track continuity was maintained through the descent to low altitude.

The 47 flights generated a total of 22 tracks on the 47 aircraft tracked. Therefore, 4 tracks resulted from inadequate track continuity.

Approximately 27,000 total nautical miles were flown by SAC aircraft at low altitude within theoretical radar coverage. The SAC sectors tracked the bombers approximately 6,200 nautical miles, or roughly 23% of the distance flown within theoretical radar coverage.

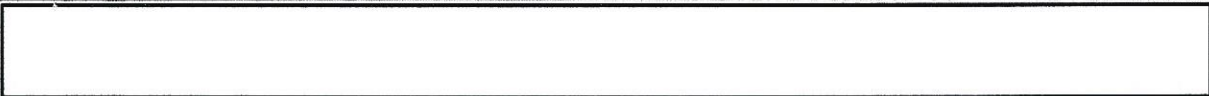


of coverage, low altitude, of 100% high, 100% low, and 100% total coverage. The total area of 100% coverage is related with the 100% coverage coverage within 10 miles and 100% coverage 100% coverage.

A summary of these factors is shown in Figure 1. A summary of the data shown above by 100% coverage is shown in Figure 1. A note of caution should be injected at this point. Because of low data variation in existing systems, it is not recommended that in general, a direct comparison of system performance on the basis of such a summary is not considered valid.

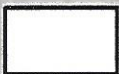
Number of airplanes flown at low altitude	86
Number and percent of airplanes tracked at low altitude	89 (102%)
Number and percent of airplanes fully detected at low altitude	82 (95%)
Area distance flown at low altitude within theoretical radar coverage	23,021 sq nautical miles
Area distance tracked at low altitude within theoretical radar coverage	6,606 nautical miles

Figure 1 - Summary of Low Altitude Detection and Tracking Data



Parameter	Q1	Q2	Q3	Q4
	10,000	100,000	10,000	100,000
Number of low altitude detections	11	40	25	88
Number of low altitude detections tracked by ADR	11	37	22	79
Number of flights initially detected at low altitude	9	17	12	41
Total number of tracks established	13	20	14	22
Total distance flown at low altitude within theoretical radar cover	2,057	10,713	10,394	23,240
Total distance low altitude flights were tracked within radar coverage	710	8,230	3,274	6,444
% coverage of distance low altitude flights were tracked within theoretical radar coverage	34%	77%	32%	28%

Figure 2 - Summary of Low Altitude Detection and Tracking by Region.



[Redacted]

[Redacted]

1. The following information was received from [Redacted]

2. The calls containing a total of 34 bomber aircraft penetrated the [Redacted] line over a period of approximately 5 1/2 hours. (The flight of the [Redacted] aircraft is detailed at [Redacted] below.) The [Redacted] of aircraft over the area of [Redacted] was from 23:00 to 00:00.

3. The [Redacted] line radar was reported fully operational throughout the exercise. Teletype messages received at Headquarters [Redacted] indicated that communications were not from [Redacted] for a period of [Redacted] hours. Except for a line check at [Redacted], the [Redacted] teletype [Redacted] received at [Redacted] was from [Redacted] to [Redacted].

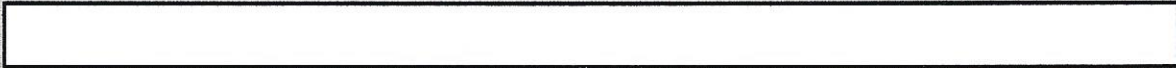
4. All 9 of the calls penetrating the [Redacted] line were detected. Reports were received at Headquarters [Redacted] on 7 of the 9 calls. The total [Redacted] force was [Redacted] aircraft by the [Redacted] stations, and 2 of these [Redacted] were reported at Headquarters [Redacted]. The line data are summarized in [Redacted] Figure 4.

[Redacted]

[Redacted]



Figure 1 - 200 Line Measurement (by Col.)

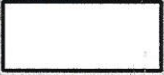
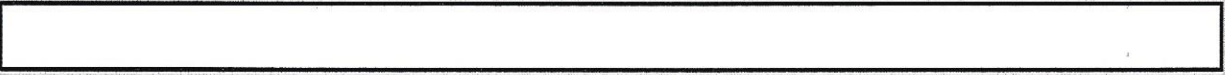




Line	Color	Altitude	Number Aircraft	Detected	No. Tracks Generated	Number of Missions	Overall
10	Red		3	Yes	2	1	1
10-1	Orange	35 K	4	Yes	1	1	1
10-2	Orange	40 K	4	Yes	1	1	1
10-3	Brown	45 K	4	Yes	1	1	1
10-4	Amber	35 K	4	Yes	1	1	1
10-5		1 K to 10 K	3	Yes	1	1	1
		10 K to 30 K	4	Yes	1	1	1
10-6	Yellow	30 K to 40 K	4	Yes	1	1	1
10-7	Light Red	40 K	4	Yes	1	1	1
					<u>11</u>	<u>11</u>	<u>11</u>

Figure 4 - Summary of MS Line Detection Data.





the Pacific Barrier

The rolls, each containing 9 B-52 aircraft, were intended to penetrate the northern portion of the Pacific Barrier. As shown in Figure 3, one of these rolls flying at altitudes between 1,000 and 5,000 feet approached the barrier from the east, but turned back toward the continent before crossing the barrier. Only 2 of the 9 aircraft in the roll flew close enough to the barrier radar to affect any possibility of penetration. The other roll at an altitude of 6,000 feet actually did cross the barrier on both the outward and the inbound legs of its mission.

The AEW aircraft and one picket ship were stationed in the northern part of the barrier during the time of penetration. All of their equipment was fully operational during the time the penetrations occurred.

Five of the B-52's which flew within theoretical detection range of the barrier radars were detected and reported to Headquarters VMAF. The AEW radars and the picket ship detected the roll which crossed the barrier. One of the AEW radars detected the single aircraft in the other roll. The 9 aircraft that crossed the barrier were tracked and reported on both outward and inbound readings. A summary of the radar and other data is shown in Figure 6.



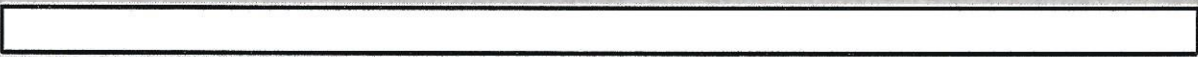
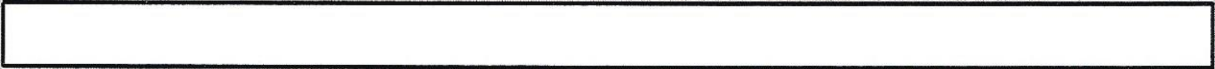
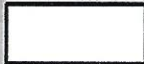


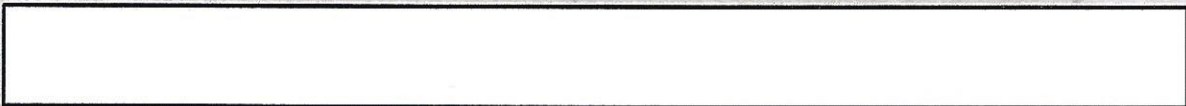
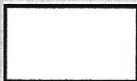
Figure 2 - Pacific Barrier Configuration and Corresponding Seabed
0500L to 0700L.

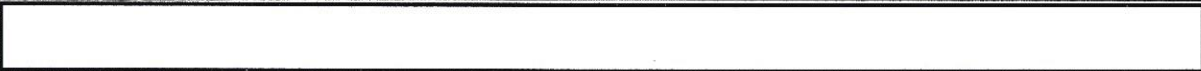




Case No.	Date	Location	Time	Remarks
101-1000	1/15/50	San Francisco	10:00 AM	...
101-1001	1/16/50	San Francisco	11:00 AM	...
101-1002	1/17/50	San Francisco	12:00 PM	...
101-1003	1/18/50	San Francisco	1:00 PM	...
101-1004	1/19/50	San Francisco	2:00 PM	...
101-1005	1/20/50	San Francisco	3:00 PM	...

... the ... were ... during this ... period ... and ...
 ... to ... via ...
 ... within ... and ...
 ... of the ...





The Atlantic Barrier

The Atlantic Barrier was penetrated by 4 cells containing a total of 16 B-29 aircraft. Information available did not show flight altitudes for all penetrating cells, but measurements by the barrier indicate that altitudes ranged from 27,000 to 42,000 feet. The B-29 aircraft crossed the Atlantic Barrier at three separate points spaced approximately 100 nautical miles apart as shown in Figure 2. Approximately 55 minutes elapsed between the first and last penetrations.

Three AEW radars and one picket ship, all fully operational, were operating within detection range of one or more of the barrier cells.

All 4 cells were detected by at least 2 barrier radars. The picket ship detected each of the 4 cells and each cell was detected by 2 of the AEW radars. Data from the Atlantic Barrier are summarized in Figure 3.

2

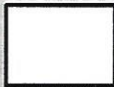
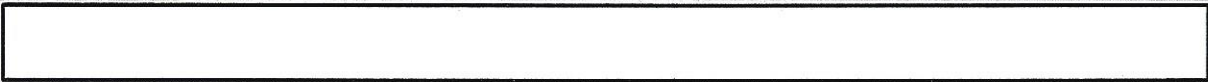




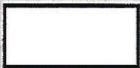
Figure 1 - Atlantic Barrier Configuration and Penetrating Subers
0300 to 0700.

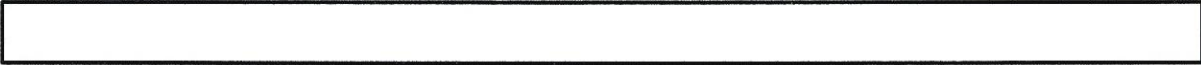




Year	Coil	Material (Aluminum)	Number Aircraft	Material	Per Sample (Approximate)	Total Sample	Percentage of Total
1944		Al	1	Al	1	1	100
1945	Copper	Al	4	Al	2	4	100
1946	Iron	Al	4	Al	3	3	100
1947			4	Al	1	1	25
TOTAL			13		11	11	85

Figure 1 - Summary of Detection Data From the Atlantic Barrier.

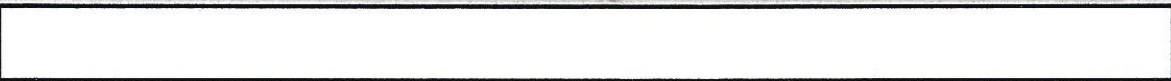
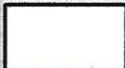


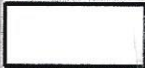


... would contain the ... of the ... with ... of ... aircraft. The ... of ... and ... were employed as "spoofers". One of these ... that the total penetrations of the ...

All penetrations of all calls were detected by the ICL. These recordings of one of the spoofed calls were not recorded at the Headquarters ... In addition, the ... did not record the penetrations of the ... which carried out various penetrations. The ... generated by these ... would not be correlated with ICL navigator coverage. One of these were recorded in the ...

One of the spoofed penetrations not recorded at Headquarters ... was recorded at the Headquarters ... The remaining two spoofed penetrations and the two real-time penetrations not recorded at Headquarters ... were recorded at the Headquarters ... The results indicated that all reports recorded at the Office Sector Headquarters were also recorded at the ... A summary of ICL activities done is shown in Figure 9.

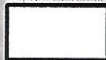




Total alerts generated	24
Total alerts detected	15
Total crossings *	21
Total crossings reported	5
Total reported crossings correlated with SAC performance overlays	40
Total correlated crossings recorded at Headquarters HQSAP	33

* Crossings refer to an individual aircraft crossing at least one
line of the IIR

Figure 2 - Summary of HQSAP Correlated Time Detection Data.



[Redacted]

[Redacted]

[Redacted]

Serial of safe passage in [Redacted] 30 Sep 1971

1. Thirty aircraft were scheduled in 6 cells of 5 aircraft each. Twenty-nine aircraft flew. All cells were tracked adequately. Problems arose in maintaining proper flight altitude. Flight time carried for tracks representing one cell of 5 aircraft varied from 4 to 11. We are studying the possible implications of this for identification in an actual EW.

2. There were no response actions against safe passage aircraft, neither by named interceptors or by FIDS. One safe passage aircraft reported an apparent beam attack against him by an F-102. Examination has shown that this was a crossing of tracks with an F-102 on CAP, not an attack. Altitude separation in the crossing was 1,700 feet.

3. There were three mandatory aborts, one from each wing involved. The air defense system had no trouble in either tracking or identifying these aircraft.

4. The 384th Bomb Wing started jamming at 45%, shortly after enteringault Ste Marie Air Defense Sector, while still in the safe passage corridor. This action has been traced to an error in preparing the unit frag order.

5. Identification of safe passage aircraft was performed in three ways, by flight plan correlation, by use of SIM, and by spotting handover of a track with a given identity and maintaining tracking continuity.

a. Flight plan correlation would have been a possible means of identification for all safe passage aircraft. They were generally within tolerance for lateral displacement from flight plans but otherwise varied from 8 minutes ahead to 6 minutes behind schedule. Two problems existed in the use of flight plan correlation. A hour was not received by all sectors, so that the EWG flight plans could not always be used. FAA flight plans, differing somewhat from the correct flight plans, were received by some sectors. These problems are being studied.

b. The use by safe passage aircraft of Mark X SIM Mode and Code combinations depending upon true track heading was another aid to identification used in the exercise. Washington Air Defense Sector was the only SAGE sector attempting this. In the manual system this identification means was tried at P-70, although it was not needed because of the close

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

correlation with flight plan routes. We have no information concerning its use elsewhere in the command system. SAC was successful in using this means of identifying safe passage aircraft from the 321st BS. The identification was performed by long range radar sites and relayed by telephone to the HQ at the DC. The identification by this means at P-70 due primarily to problems within the SAC zone, was less successful. SAC has not previously practiced this plan; NORAD cannot yet practice it due to the new edition of NORADW 55-1 corresponding to SACW 55-1 dated February 1960, not yet having reached the field. The 321st Bomb Wing was using the wrong codes due to a misreading of the SAC Ops Order. P-70 was unable to determine the codes being used by this unit because of the error. Identification of the 184th BW safe passage aircraft was reasonably successful, although there was some trouble with determining the Mode 1 codes. Also, confusion was introduced by some last minute changes in the instructions concerning the use of Mode 1 Code U-0. We are still studying problems of this means of identification.

3. Both St. Marie and Detroit Air Defense Factors depended primarily upon identification performed by sectors tracking over safe passage tracks to them and upon maintaining tracking continuity on these tracks. In the absence of 2 hour information, as was the case in SMDAS, this is the only possible system. However, where flight plans exist, this may not be an adequate means. We are studying the problem in 2 hour format.

A. H. BROWN, SR.
AFCM

J. J. KENNEDY
AFCM

[Redacted]

[Redacted]

[Redacted]