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~~GAMBIT~~

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note: ~~file~~ file till next quarter report

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UNITED STATES INTELLIGENCE BOARD

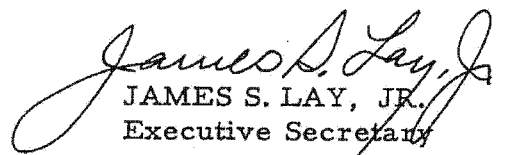
MEMORANDUM FOR THE UNITED STATES INTELLIGENCE BOARD

SUBJECT : Quarterly Report on Overhead Reconnaissance

REFERENCES : a. USIB-D-46. 9/18 (COMIREX-D-72/60),
6 January 1969, Limited Distribution
b. USIB-D-41. 19/1 (COMOR-D-72/1),
22 June 1965

1. Attached is the quarterly report on the subject by the Chairman of the Committee on Imagery Requirements and Exploitation (COMIREX) which is circulated for the information of the United States Intelligence Board (USIB).

2. Unless a Board Member requests that this item be placed on the agenda of a USIB meeting prior to the close of business 15 May 1970 it will be recorded as having been "noted" by the USIB.


JAMES S. LAY, JR.
Executive Secretary

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QUARTERLY REPORT ON OVERHEAD IMAGERY RECONNAISSANCE

1. This report summarizes the status of manned, satellite, and drone imagery reconnaissance collection for the three-month period January - March 1970.
2. The report is limited primarily to overhead reconnaissance under the cognizance of COMIREX. Overflight activities of other agencies or countries are included, however, when COMIREX targets have been covered and this office has been advised of the results.
3. The cut-off date for information contained in this report is 31 March 1970 unless otherwise stated.

Frank J. Denny
for Roland S. Inlow
Chairman

Committee on Imagery Requirements and Exploitation

Attachment
Subject Paper
Tab A

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QUARTERLY REPORT
 ON
 OVERHEAD IMAGERY RECONNAISSANCE

January - March 1970

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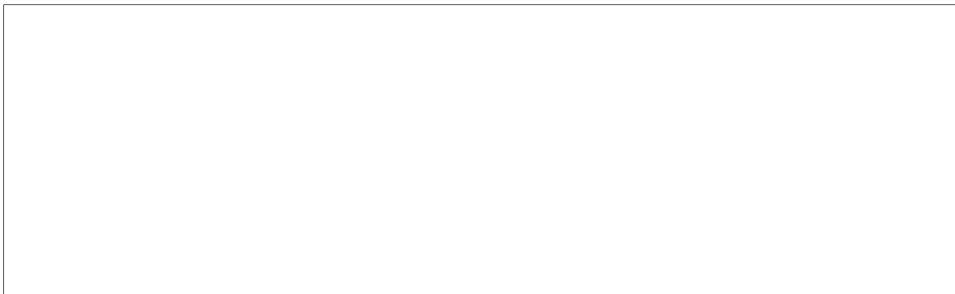
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CORONA - Background for Mission Management

1. The United States Intelligence Board has directed use of the medium-resolution, wide-swath KH-4 satellite photo-reconnaissance system primarily for intelligence area-search purposes^a. The function of area search is to acquire photographic coverage on broad areas of territory of intelligence interest for early detection or continuing negation of the existence of activity, installations, deployments and other developments of concern to the national security.

2. As outlined below, KH-4 missions are tasked world-wide against areas designated for each mission under three general collection categories: standing periodic area search requirement; priority current intelligence requirements; and mapping, charting and geodesy (MC&G).^b

3. Standing Search Requirement (General Search). In order to achieve, on a regularly planned and programmed basis, a minimum acceptable assurance for detection or negation of significant new Communist activity, the USIB standing requirement for area search calls for imagery coverage at specified minimum periodicity of designated areas of the Communist land mass. For purposes of the requirement, areas of the Soviet bloc and Communist China are delineated as either built-up or undeveloped. The requirement stipulates that usable photography should be acquired as follows:



(b)(1)

Accomplishment for the quarterly period January - March 1970 against the standing search requirement is given in paragraphs 4 and 5, pages 5 and 6.

^aMemorandum for Holders of USIB-D-41.15/79 (COMOR-D-48/115), 8 November 1966 and USIB-D-46.4/27 (COMIREX-D-13.16/3), 4 February 1969

^bAcquisition of stereoscopic cloud-free (about 90 percent) photography is stipulated for satisfaction of the requirements. In meeting the search requirement, however, monoscopic photography is included when judged adequate for search purposes.

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CORONA - Background for Mission Management cont.

4. Priority Current Intelligence Requirements (Directed Search).

In addition to the standing area search requirement, areas and targets of current intelligence interest are specifically designated on a mission-to-mission basis. These targets may require a priority of "Extraordinary" requiring the camera to be turned on each time over the target regardless of weather or altitude, or they may be selected in lower priorities but designated for CORONA coverage because they may be effectively covered by medium resolution photography. The status of current intelligence targeting and results of CORONA missions during the quarter are summarized in paragraphs 7, 8, and 9 on pages 6 and 7.

5. MC&G. The USIB guidance stipulates that mapping, charting, and geodesy area coverage support by the KH-4 system will be provided by allocation of a portion of the mission film on the basis of non-interference with priority intelligence requirements when weather opportunities permit. The status of requirements and coverage is given in the separate MC&G section of this report, pages 13 through 16.

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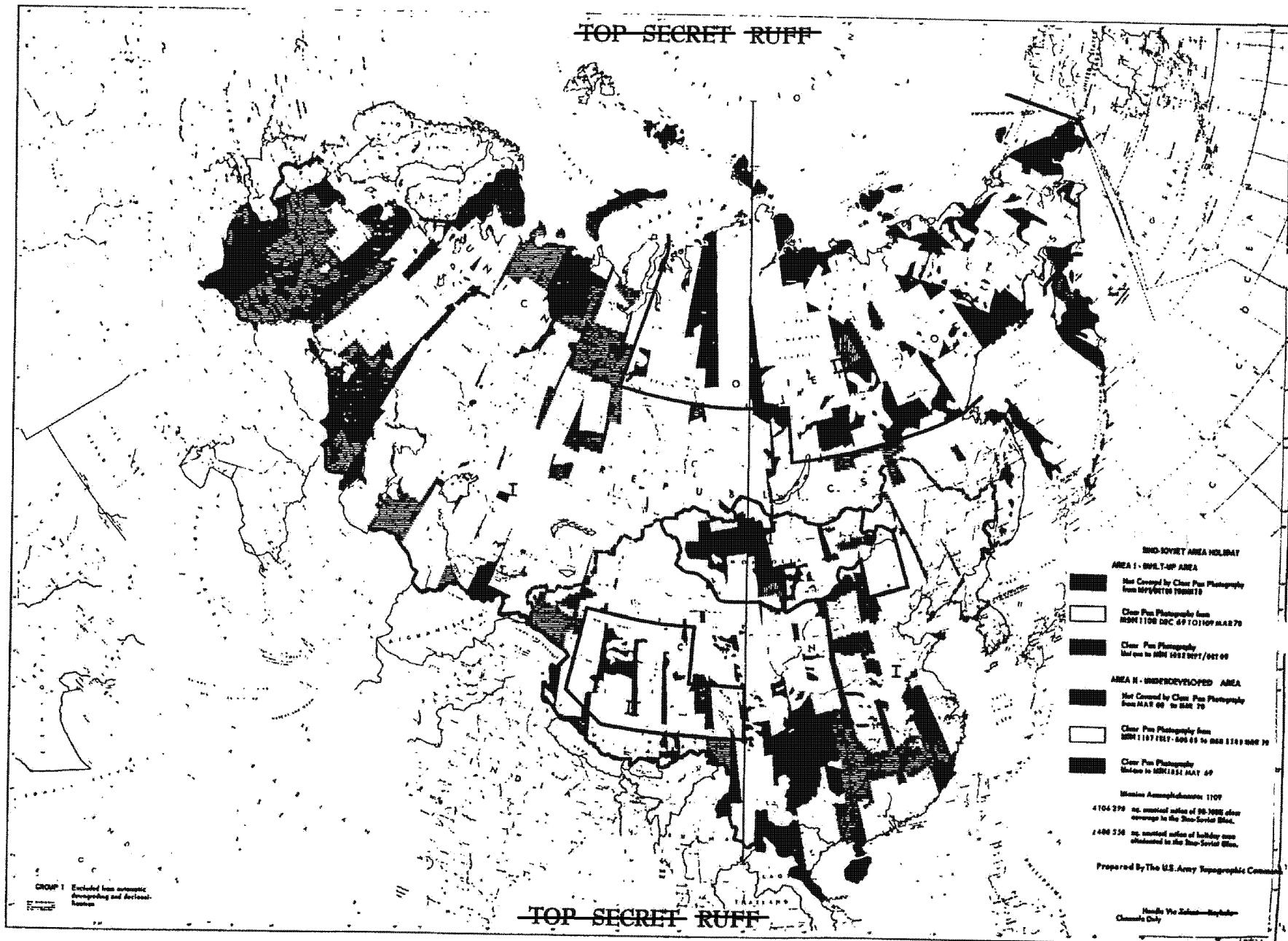
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CORONA - Activity and Coverage

Activity During Period

1. Mission 1109, 5 - 23 March 1970, was the only KH-4B mission flown during this quarter. It was considered quite successful, both in terms of area search and target coverage. Specific highlights are noted below and in the appropriate regional sections of this report. Readout of the mission continues.

2. 1109, the first of four KH-4B missions scheduled during CY 1970, was originally due for launch on 19 February. Because of difficulty with the UTB film load, the launch date was postponed and the mission flown with STB film. The three missions remaining for 1970 are scheduled for 20 May, 19 August, and 18 November.

Status of Search Coverage

3. The following is the current status of the intelligence search requirements reported in terms of clear, usable panoramic photography of the USSR, East European Satellites, Communist China and North Korea. Coverage is expressed in millions of square nautical miles and as a percentage of the total areas designated for search as shown below and on the map facing this page.

4. Semiannual Search - Accumulated coverage of the built-up areas against the six-month requirement period 1 October 1969 - 31 March 1970 was 5.45 million square nautical miles, representing 80.1 percent of the area designated to be photographed at least once every six months. Mission accomplishment data for the period is given below.

	<u>Mission</u>	<u>Gross* (%)</u>	<u>Net (%)</u>	<u>Accum (%)</u>
Built-up Areas (1 Oct 69 - 31 Mar 70)	1109	2.88 (42.4)	.86 (12.6)	5.45 (80.1)
	1108	2.86 (42.0)	1.78 (26.2)	4.59 (67.5)
	1052	2.81 (41.3)	2.81 (41.3)	2.81 (41.3)

*See next page (Definition of Terms).

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CORONA - Activity and Coverage cont.

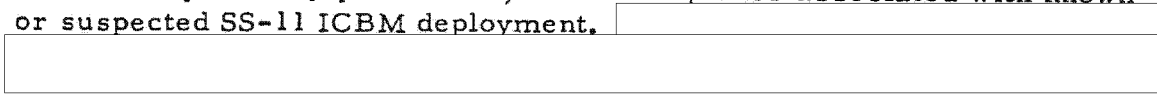
5. Annual Search - Coverage of the undeveloped areas achieved during the 12-month search period 1 April 1969 - 31 March 1970 was 1.95 million square nautical miles or 62.5 percent of the total designated annual search area. Mission achievement was as follows:

	<u>Mission</u>	<u>Gross* (%)</u>	<u>Net (%)</u>	<u>Accum (%)</u>
Undeveloped Areas	1109	1.22 (43.6)	.87 (31.1)	1.75 (62.5)
(1 Apr 69 - 31 Mar 70)	1108	.43 (15.4)	.24 (8.6)	.88 (31.4)
	1052	.19 (6.8)	.17 (6.1)	.64 (22.8)
	1107	.36 (12.8)	.34 (12.1)	.47 (16.7)
	1051	.13 (4.6)	.13 (4.6)	.13 (4.6)

6. Accomplishment against the six-month area search requirement is the highest that has been achieved for a number of months. The twelve-month requirement, however, remains below the USIB-required level for this reporting period.

Priority Current Coverage

7. Approximately 77 targets and areas of current intelligence interest were designated for priority attention on Mission 1109. No extraordinary priorities were designated for the mission; however, the NRO was requested to take special note of the high degree of interest attached to the MR/IRBM problem, particularly those complexes associated with known or suspected SS-11 ICBM deployment.



(b)(1)

*Definition of Terms:

Gross - Total amount of 90-100 percent cloud-free pan photography collected by each mission.

Net - That portion of gross coverage which represents non-redundant coverage, i. e., the newly observed area not covered by a previous mission during the reporting period.

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CORONA - Activity and Coverage cont.

stressed. ICBM deployment has been confirmed at these [redacted] (b)(1)
but the extent is still undetermined due to incomplete coverage. Emphasis
was also placed on the acquisition of coverage in the Middle East, particularly
Egypt, to determine deployment of the SA-3 SAM system and the introduction
of additional military equipment.

8. Mission 1109 provided fair-to-excellent (75-80 percent cloud-
free) photography on numerous areas of high intelligence interest. The
mission was quite successful against the Soviet strategic missile threat,
acquiring coverage on nearly all ICBM complexes. Much of the central
USSR and Sino-Soviet border was covered on clear photography. The first
good KH-4 coverage of the entire Moscow area since May 1967 was obtained
and all ABM facilities in the vicinity were seen. 1109 was one of the best
missions for coverage [redacted]

[redacted] In Egypt a variety of (b)(1)
activity in widely dispersed areas was seen, including [redacted]
[redacted]

Nearly all of North Korea was covered on the first bucket and parts of North
Vietnam and Laos on the second.

9. Despite 1109's generally excellent accomplishment, several
priority areas were not seen because of unfavorable weather. [redacted]

[redacted] (b)(1)

The chronic bad-weather belt again prevented significant
coverage of the South China area. These areas, along with intensified
China search for surface-to-surface missile deployments, continue to be
of primary COMIREX concern for priority targeting on future missions.

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GAMBIT - Background for Mission Management

1. The GAMBIT high-resolution, narrow-swath satellite photo-reconnaissance system is employed primarily against specific target sites to obtain detailed imagery for intelligence surveillance purposes. The surveillance function provides for regular periodic monitoring of the status and pace of developments at known target installations of continuing or immediate intelligence concern and for timely identification of the character and purpose of significant new activity discovered in CORONA search. The GAMBIT deck presently consists of some 8,611 COMIREX targets designated as requiring some degree of high-resolution coverage. There are some 6,617 COMIREX targets designated as having a CCRP (COMIREX Collection Requirements for Planning) requirement.
2. The basic CCRP document^a was approved by USIB on 4 April 1968 as guidance to the NRO for planning high-resolution surveillance, primarily by GAMBIT, of targets in the Communist land mass. While this paper provided the community estimate of the minimum frequency of coverage for certain categories of targets over certain time periods, the listing of individual targets included in it is regularly reviewed and kept current by COMIREX and is drawn upon in developing specific requirements for each GAMBIT mission.
3. KH-8 missions are tasked world-wide on a mission-by-mission basis against targets from the GAMBIT deck specifically designated for each mission by COMIREX as of current high intelligence interest and/or as CCRP targets identified for priority repetitive or standing periodic coverage.

^aUSIB-D-46.4/13 (COMIREX-D-14.4/1), 27 March 1968 and Memorandum for Holders, 4 April and 6 June 1968.

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GAMBIT - Activity and Coverage

Activity During Period

1. The first bucket of Mission 4325 (14 - 21 January) provided the only KH-8 coverage acquired during the quarter. The second bucket was not recovered due to recovery parachute failure, resulting in loss of estimated coverage (including that from 425 feet of SO-242 color film) on at least some 900 targets.

2. System modifications required by the loss of 4325-2 caused postponement of Mission 4326 launch from 7 March to 15 April and a consequent stretch-out of KH-8 missions during the remainder of CY 1970 as follows: 4327 (17 June), 4328 (29 July), and 4329 (21 October).

Current Priority Coverage

3. Interpretable high-resolution imagery was acquired by Mission 4325-1 on some 1,300 of the approximately 2,600 specific targets against which camera action was directed during this mission segment. Included in this coverage were some 231 strategic missile sites, 235 air bases, 89 naval facilities and 440 ground force installations. A total of 767 CCRP targets were seen.

CCRP Coverage Status

4. The CCRP status as of 31 March 1970 is reported in the table on page 11. Each major category has been summarized and an overall satisfaction level expressed in unique looks required and unique looks delinquent for the quarterly and annual requirements as of 31 March 1970. The annual requirement for overall satisfaction of gross looks is also shown.

a. The first two columns list the major target categories and the total number of individual targets in each.

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GAMBIT - Activity and Coverage cont.

b. The next three columns report collection obtained in the last three months showing the minimum number of unique looks required* and the number of unique looks short and percentage of satisfaction obtained.

c. The remaining columns similarly report on collection during the past twelve months to include gross looks.**

5. As shown in the table the minimum CCRP requirements for quarterly target coverage were not met for the three-month collection period ending 31 March 1970. The low quarterly accomplishment is due to the loss of 4325-2 in January which resulted in only one-half of one KH-8 mission plus some coverage from GIANT SCALE in North Korea and contributing to this quarter's report.

(b)(1)
(b)(3)

*"Unique Looks Required" reflects the number of individual targets in each category to be photographed at least once during the period specified.

**"Gross Looks Required" represents the combined sum of the individual targets to be photographed at least once in the 12-month period plus the minimum repetitive coverage required for certain of these.

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GAMBIT - Activity and Coverage cont.

Category	Total Number of Targets	Report on Collection Quarter Ending 31 March 1970			Report on Collection 12 Months Ending 31 March 1970			Gross Looks Required
		Unique Looks Required	Unique Looks Short		Unique Looks Required	Unique Looks Short		
		(Total)	No.	Percent Satisfied	(Total)	No.	Percent Satisfied	
Missiles**	3,401	310	101	67	745	11	99	1,260
Air	668	168	87	48	333	8	98	700
Nuclear	108	14	7	50	65	1	98	90
Naval	190	62	14	77	121	-	100	240
BW/CW	22	No Fixed Requirement			11	2	82	100
Electronic	35	6	2	67	19	2	90	200
Ground Forces	2,118	374	111	70	1,216	88	95	1,460
Urban Industrial	73	No Fixed Requirement			No Fixed Requirement			
Unidentified	2	1	1	-	2	1	50	
TOTAL	6,617	935	323	65	2,512	113	96	3,820

*The 12-month minimum number of gross looks established in the CCRP was 99 percent satisfied.

**Total number of Missile targets (3,401) is distributed among major sub-categories as follows: ICBM Sites - 1,308; IR/MRBM Sites - 161; ABM/AMM Complexes - 5; SAM Sites - 1,256; Others - 671.

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GAMBIT - Activity and Coverage cont.

Target Deck Status

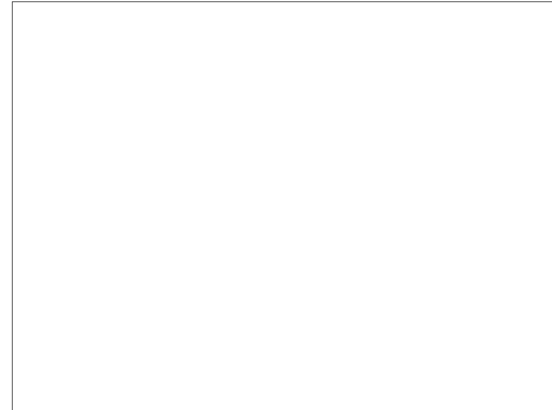
6. Shown below is a recapitulation of changes to the GAMBIT target file in the three months from 31 December 1969 to the end of March 1970.

Target Deck for GAMBIT

31 December 1969

31 March 1970

USSR & European Satellites
China (less South China)
South China
North Vietnam
North Korea
Middle East
Sino-Indian Border
Indonesia
Other Areas

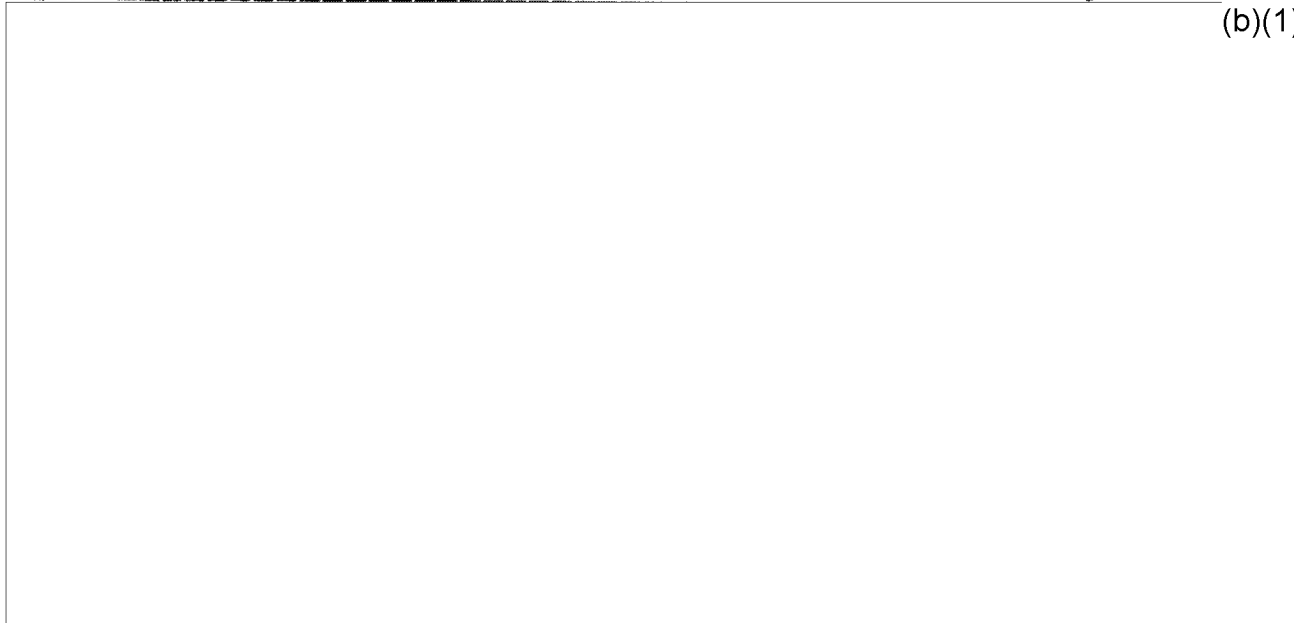


(b)(1)

TOTAL

(Note: Cuba is not included in this tabulation since it is programmed for GAMBIT only on an ad hoc basis when U-2 coverage is in arrears.

(b)(1)



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MAPPING, CHARTING, AND GEODESY

Background

1. The KH-4 is presently the primary satellite imagery collection vehicle tasked for MC&G collection. This role will be assumed by the KH-9 system when operational. KH-8 missions provide regularly some "town plan" coverage on limited numbers of MC&G targets.

2. The present requirements for mapping, charting, and geodesy coverage are based on a 1965 estimate of needs^a, some re-evaluation of needs in 1966^b, and a refinement aimed specifically at the role of the KH-9 system, submitted to the Board 22 July 1968, and noted, with some further clarification by DIA, on 1 August 1968^c. An amplifying statement on KH-9 requirements was submitted to the Board 10 November 1969^d. In sum, the general USIB guidance to the NRO^e is to allocate a modest percentage of film on KH-4 missions to mapping and charting requirements when weather opportunities permit and without interfering with the specific intelligence collection requirements for the mission. The current MC&G requirement calls for cumulative acquisition of stereo, cloud-free photography on approximately 6.1 million square n.m. (as of March 1970) of territory outside the Communist land mass.

^aUSIB-D-41.14/231 (COMOR-D-13/44), 18 March 1965

USIB-D-41.14/229 (COMOR-D-13/43), as amended by Memo for Holders dated 15 April 1965, TCS-5416-65/2

^bUSIB-D-41.14/295 (COMOR-D-13/65), 11 July 1966 and Memo for Holders, 25 July 1966

^cUSIB-D-46.4/18 (COMIREX-D-15.2/11), 22 July 1968 and Memo for Holders, 1 August 1968

^dUSIB-D-46.4/32 (COMIREX-D-15.2/14), 10 November 1969 and Memo for Holders, 1 December 1969

^eUSIB-D-46.4/27 (COMIREX-D-13.16/3) and Memo to Director, NRO, 28 February 1969 (BYE-026-69)

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MAPPING, CHARTING, AND GEODESY cont.

3. In further support of MC&G needs, a 20 November 1968 Board Memorandum for Holders^a agreed that NRO might use intelligence collection vehicles to meet DoD world-wide positioning requirements through addition of a Doppler beacon to five KH-4B vehicles, and the beacon and accelerometer to the KH-9 system; the latter action to be timed to readiness of the 12-inch Stellar Index (SI) camera but without interference with this system. Subsequently, on 30 December 1969, the NRO was advised that the Board had no objection to adding Doppler beacons on the additional remaining KH-4B missions equipped with the DISIC camera^b.

Activity During Period

4. During the quarter, KH-8 Mission 4325-1 (14 - 21 January) and KH-4B Mission 1109 (5 - 23 March) provided limited photographic coverage for mapping and charting. Additionally, Mission 1109 carried the first of the Doppler beacons authorized in paragraph 3 above. This initial Doppler operation proved highly successful.

Status of Coverage

5. For Mission 1109, COMIREX-approved MC&G collection guidance again was aimed at filling critical gaps within target areas already partially covered by usable photography, but where successful collection would facilitate completion of a large number of priority maps and charts. The gap areas generally consist of scattered "sliver" areas in Africa, South America, Saudi Arabia, and Mexico. About two percent of the mission film, amounting to some 138,000 square nautical miles in gross coverage, was expended against MC&G requirements, with a net usable return as shown below of some 9,000 square n.m. coverage of

^aMemorandum for Holders of USIB-D-46. 4/24 (COMIREX-D-15.2/12), 20 November 1968

^bUSIB-D-46. 4/33 (COMIREX-D-15.2/17), 12 December 1969 and Memorandum for Holders, 30 December 1969

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MAPPING, CHARTING, AND GEODESY cont.

Communist territory and 17,000 square n.m. coverage of territory outside the bloc. Satisfaction of the MC&G requirements remains difficult due to a reduced KH-4 launch rate and the continuing press of high priority intelligence requirements.

6. The status of cumulative MC&G area coverage as of 31 March 1970 stands as follows (all figures in square nautical miles):

Region	Total Coverage Required	Mission 1109 Collection	Estimated Net Usable Photography Held	Remaining for Collection
USSR/EuSats/Chi	8,513,000	9,000	8,070,000	443,000
Equatorial Belt*	5,903,000	-	1,367,000	4,535,000
Remaining Territory	11,168,000	17,000	9,134,000	2,031,000

Note: Due to the continuing reassessment of usable photography held by TOPOCOM it will not be possible to correlate the above totals with the previous reports' totals.

7. The MC&G requirement for Doppler coverage over the USSR and China on KH-4 missions is directed to satisfaction of the DoD targeting objectives for U.S. long-range missile systems. The objectives require that by 1970 positioning data on Sino-Soviet targets be accurate to within 450 feet horizontal and 300 feet vertical, with 90 percent assurance relative to the World Geodetic System. The requirement presently comprises a total of 5,877 targets, of which 1,124 are designated as Category I and 4,753 as

*The Equatorial Bad-Weather Belt (Equatorial Belt) is shown in shading on the opposite page (Chart 2). It has been isolated because of perennial bad weather which makes photographic coverage extremely difficult.

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(COMIREX-D-16.2/5)

27 April 1970

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MAPPING, CHARTING, AND GEODESY cont.

as Category II. Mission 1109 attempted coverage on 5,219 of the total positioning targets. Initial mission assessment indicated cloud-free coverage acquired on 3,281 of the targets programmed. Analysis thus far rates the coverage obtained as acceptable and certifies achievement of the required coordinate accuracies for 3,100 of these. Data on the net achievement for Mission 1109, representing successful coverage on 79 percent of the mission's Category I targets, and 46 percent of those in Category II, are given in the table below.

	<u>Required</u>	<u>Attempted</u>	<u>Cloud Free Coverage</u>	<u>Acceptable</u>
Category I	1,124	1,077	901	893
Category II	4,753	4,142	2,380	2,207

8. The basic MC&G requirement for GAMBIT calls for high-resolution coverage eventually on some 1,500 point targets. Of these, 50 are high priority targets involved in geodetic control solutions for the USSR and China. The remainder represent primarily "town plan" coverage requirements for various cities, airfields, ports, and harbors. Mission 4325-1 covered 30 MC&G targets. The table below reports the status of KH-8 coverage by areas.

<u>Geographic Area</u>	<u>Total Requirement</u>	<u>Collected This Period</u>	<u>Total* Collected</u>
North America	34	0	10
South America	185	7	65
Africa	465	8	180
Eurasia, including China/USSR	733	13	261
Australia and Oceania	<u>92</u>	<u>2</u>	<u>21</u>
TOTAL	1,509	30	537

*Since Mission 4313 (April 1968)

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CUBA

Background

1. High-resolution photography of Cuba is presently required for purposes of both area search and target surveillance coverage of the island. This coverage is acquired primarily by regularly programmed SAC U-2 (OLD HEAD) overflight missions equipped with the IRIS-II camera system. Some surveillance coverage on the COMIREX target installations (b)(1) in Cuba is also provided by KH-8 satellite missions.

USIB Requirement

2. On 2 April 1970 the United States Intelligence Board approved the revised statement of requirements for overhead photographic reconnaissance of Cuba.^a The new requirement is stated as follows:

- a. Approximately 90 percent of the island of Cuba is to be covered by interpretable high-resolution stereo photography during any three-month period;
- b. Manned aircraft missions responsive to the above requirements be scheduled so as to provide at least one successful overflight during any four-week period; and
- c. A capability be maintained to overfly Cuba within 24-hour notice against specific critical objectives, regardless of the status of achievement against the above standing requirement.

Coverage of specific point targets will be satisfied by successful achievement of the above requirement.

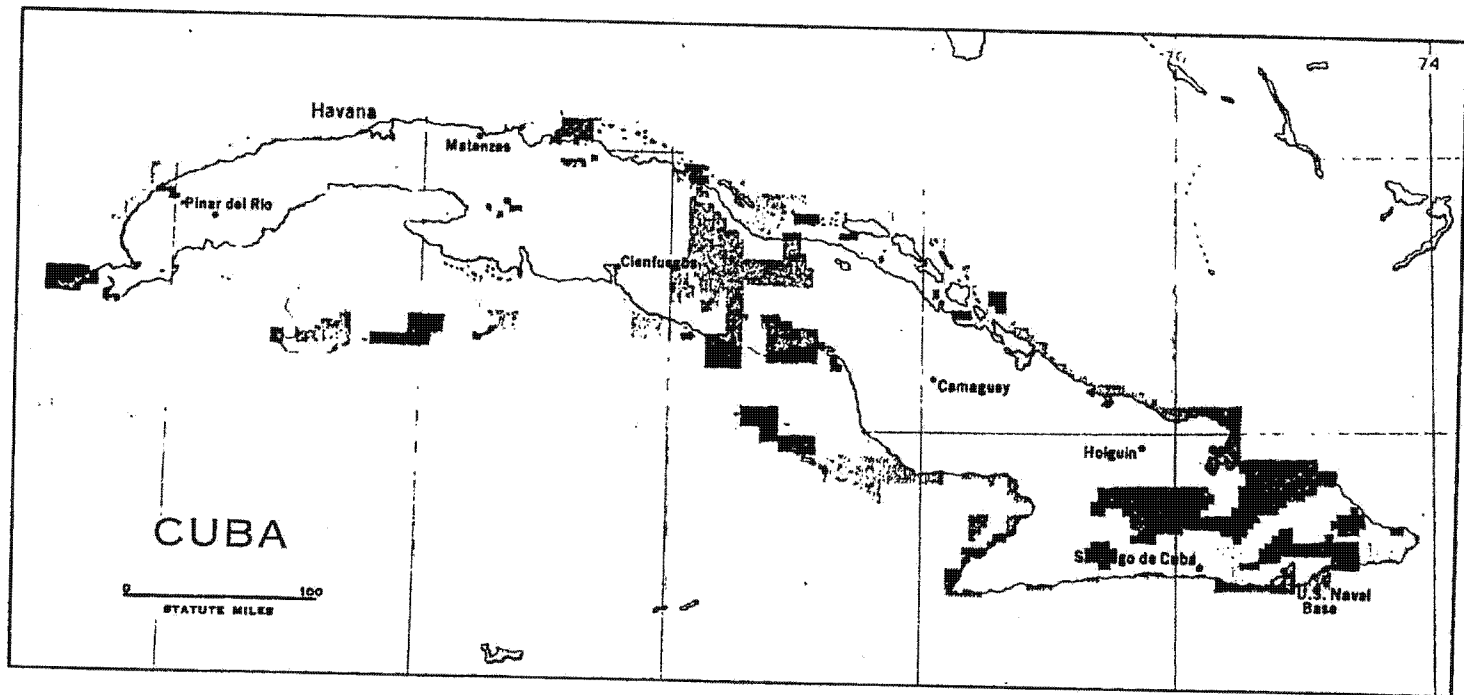
Authority for Reconnaissance

3. The 40 Committee approved three to six U-2 (OLD HEAD) missions each month during this quarter. Based on the new USIB requirement, however, it is anticipated that only one to two missions per month will be required in the future.

^aUSIB-D-46. 4/35 (COMIREX-D-24. 3/1), 20 March 1970

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OLD HEAD Area Coverage

- January 4, 12, 19
- February 10, 24
- March 12, 31

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GROUP 1
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27 April 1970

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CUBA cont.

Activity and Coverage During Period

4. Seven successful OLD HEAD missions were flown during the quarter ending 31 March 1970 on the following dates:

- 4, 12 and 19 January
- 10 and 24 February
- 12 and 31 March

5. 95.2 percent area coverage was achieved for the period 1 January - 31 March 1970 as shown on the map facing this page (Chart 3A) and unique COMIREX targets were successfully photographed*. The total number of COMIREX targets successfully photographed (including repetitive coverage) during the period was

(b)(1)

(b)(1)

6. KH-8 Mission 4325-1 (14-21 January) provided high-resolution imagery on COMIREX and other targets during the period.

(b)(1)

7. During the period no significant new developments were noted and no activity was observed which might indicate an attempt to reintroduce or deploy offensive weapons systems in Cuba.

*In accordance with the new USIB requirement, COMIREX will maintain the three-month periodic status-of-coverage account for Cuba on a current daily sliding-scale basis, available on call. COMIREX will routinely report out only the status of coverage for the three-month periods ending the last day of each month in the Quarterly Report to USIB or the COMIREX monthly report as appropriate.

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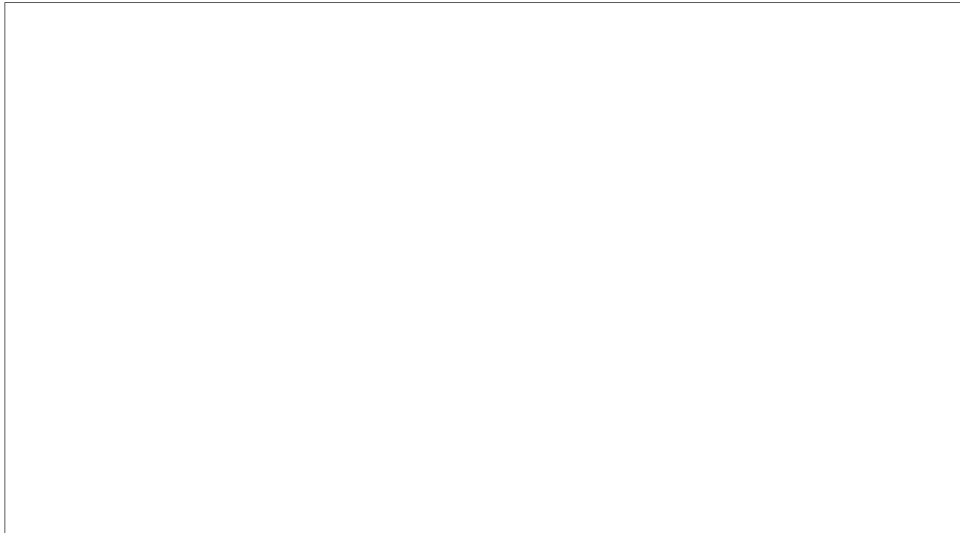
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CUBA cont.

Target List Status

8. The COMIREX targets in Cuba are distributed as shown on the map on the opposite page (Chart 3) and by category as shown below.



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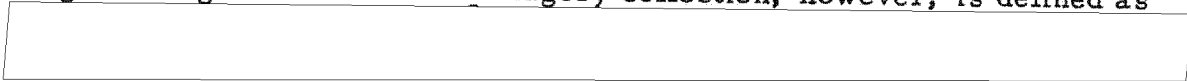
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MIDDLE EAST AND ALGERIA

Background

1. The KH-4 and KH-8 satellite imagery systems are the only National Reconnaissance Program assets presently providing overhead photography on Middle East targets. Generally the Middle East is taken to include the area extending from Iraq to Morocco. The primary area of high intelligence interest for imagery collection, however, is defined as



USIB Requirement

(b)(1)

2. On 1 April 1964^a the Board approved the principle that intelligence needs for imagery on the Middle East were to be met by the CORONA and GAMBIT programs. At present there is no USIB statement of unique standing requirements for Middle East coverage. Starting with Mission 1042 (16 June - 1 July 1967), however, the primary intelligence interest area of the Middle East as defined above has continually been a high priority area for all CORONA search missions and currently is Priority 1. On 2 June 1969 the Director of Central Intelligence directed that GAMBIT coverage be obtained



(b)(1)

3. Targets and priorities for KH-4 and KH-8 collection are also regularly established for each mission in response to current priority intelligence needs. There are currently COMIREX targets in the Middle East and Algeria requiring some periodic high-resolution coverage by overhead photographic reconnaissance.

(b)(1)

^a Memo to Holders of USIB-D-41.14/119 (COMOR-D-10/17), 1 April 1964, SC-01868/1-64-T/K/B

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MIDDLE EAST AND ALGERIA cont.

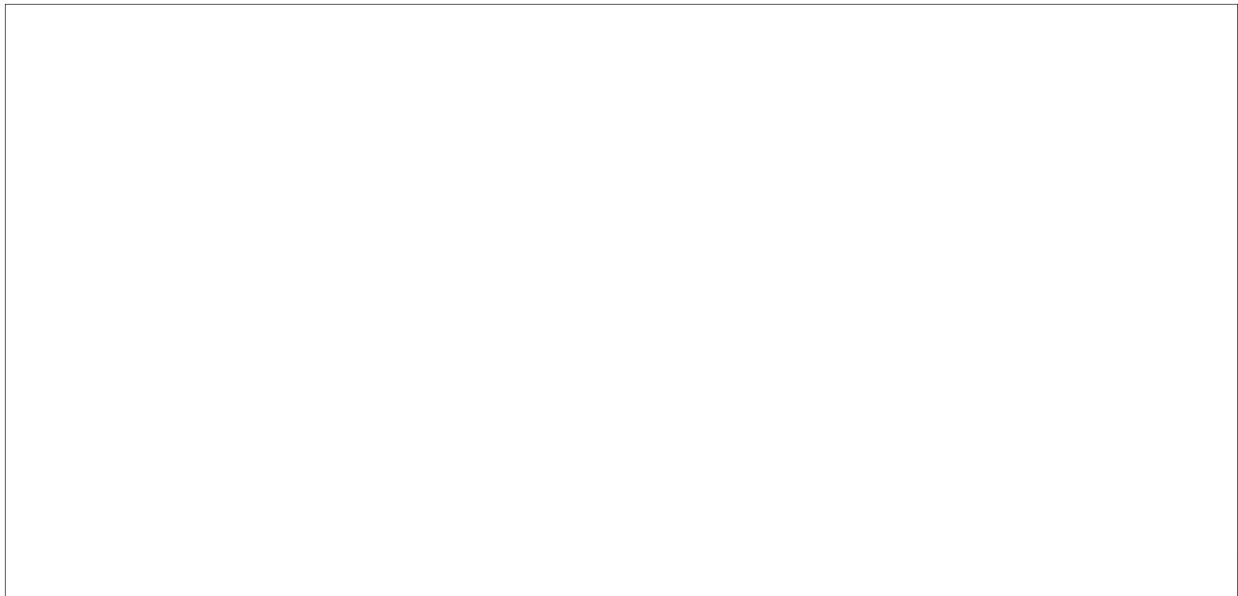
Current Requirements

4. In view of increased Arab-Israeli clashes and the anticipated arrival in Egypt of new types of Soviet weapons, Middle East requirements received high-priority emphasis throughout this quarter. CORONA search in the area was specifically directed to detection of SA-3 SAM or other missile deployments in Egypt and introduction of any additional new military equipment.

Authority for Reconnaissance

5. No approval has been sought for coverage by manned aircraft.

Activity and Coverage During Period



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27 April 1970

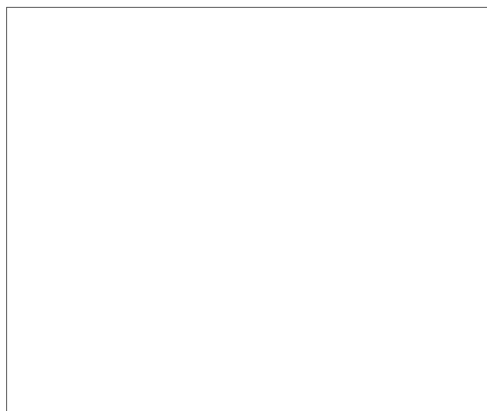
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MIDDLE EAST AND ALGERIA cont.

7. The significant activities observed on 1109, along with the key areas not seen by that mission, were to be targeted for priority coverage on the next satellite mission, 4326 scheduled 15 - 29 April. Since the high intelligence interest area of the Middle East is relatively small and usually only two to three accesses are available per mission, a special effort was made by COMIREX to carefully weigh relative priorities and target conflicts in order to optimize target coverage by Mission 4326.

Target Deck Status

8. There are currently COMIREX targets in the Middle East and Algeria as shown on the two maps (Charts 4 and 5) following this page. By category the targets are:



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27 April 1970

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COMMUNIST CHINA

Background

1. Over the past two years CORONA and GAMBIT have served as the primary collection systems for overhead photography of mainland Communist China. Drone coverage of targets in the South China area bordering North Vietnam, Laos, and Burma has been attempted sporadically, but the net contribution of imagery on the area by drone overflights has been small. CHURCHDOOR U-2 missions, although regularly flown along the maritime periphery of Communist China, are restricted to areas beyond 20 nautical miles from the mainland and provide only minimal returns to the national imagery base.

USIB Requirements

2. The Board's standing requirement for CORONA periodic general area search of Communist territory (page 3) applies to Communist China and defines the "developed" and "undeveloped" areas of China requiring semiannual and annual coverage respectively.

3. The COMIREX Collection Requirements for Planning (CCRP) provisions on high-resolution imagery collection for intelligence surveillance purposes (page 8), approved by USIB on 4 April 1968, also apply to Communist China. Some 1,067 specific targets in China designated of continuing intelligence interest are contained in the current CCRP target base.

4. In addition to the above, the USIB has from time to time approved standing imagery collection requirements directed to intelligence problems specifically concerning Communist China.^a Only the two most

^aUSIB-D-41. 15/71 (COMOR-D-25/169), 2 June 1965

USIB-D-41. 14/269 (COMOR-D-25/192), 18 October 1965

USIB-D-41. 14/276 (COMOR-D-25/201), 19 January 1966

USIB-D-41. 14/283 (COMOR-D-25/207), 4 March 1966

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COMMUNIST CHINA cont.

important and currently active of these are summarized below. All, however, are still outstanding on the record as Board requirements and all are now under review by COMIREX for revision and consolidation into a new and current restatement for USIB consideration.

a. The "Long Range Program for Overhead Image Forming Sensor Reconnaissance in the Far East"^a, approved by the Board 28 January 1966, was intended primarily for planning purposes in the context of the then existing mix of imagery reconnaissance vehicles overflying China. It stipulates a required frequency of repetitive high-resolution coverage for some [] specified primary targets in China and for a range of regional priority targets in the country.

(b)(1)

b. On 3 March 1966 the Board approved an overhead photographic reconnaissance program^b designed to acquire, on an urgent basis, high-resolution baseline photography of military installations and lines of communication in South China and North Vietnam and to maintain surveillance as needed. This represented an enlargement of coverage requirements in the January 1966 long-range program. The targets, of which currently [] are in South China, were selected because of their pertinence to possible Communist Chinese involvement in North Vietnam and achievement of baseline/surveillance coverage is reported to COMIREX each week. The acquisition of baseline^c coverage of priority objectives has been successfully achieved and current needs for surveillance^c are, as noted above, under COMIREX review.

(b)(1)

^aUSIB-D-41.14/276 (COMOR-D-25/201), 19 January 1966

^bUSIB-D-41.14/283 (COMOR-D-25/207), 4 March 1966

^cThe requirement states that acceptable baseline photography must provide complete coverage of the objectives adequate to determine order-of-battle status, while subsequent surveillance coverage must be adequate to detect changes.

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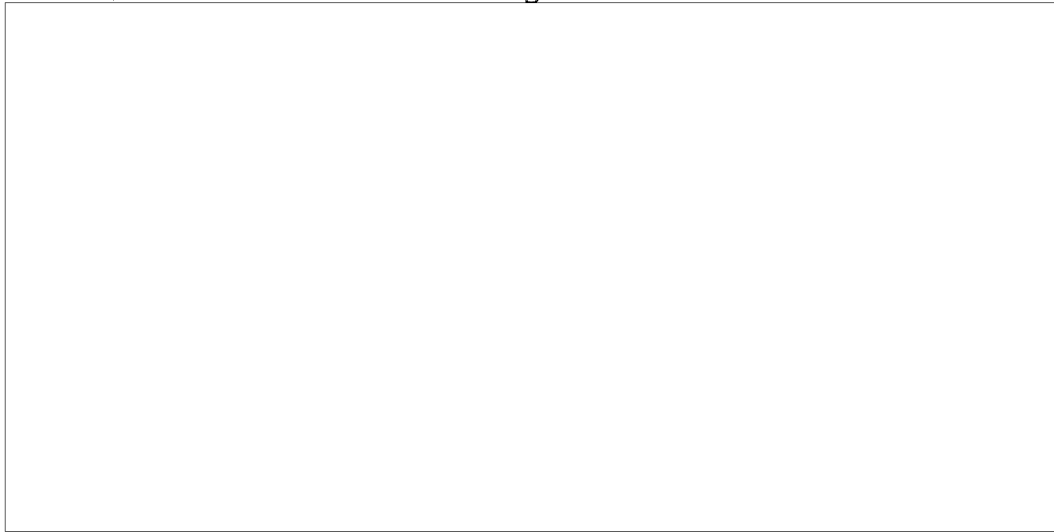
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COMMUNIST CHINA cont.

8. Interpretable high-resolution imagery on approximately COMIREX targets in Communist China was obtained by 4325-1, including surveillance coverage on of the special targets designated under the 3 March 1966 USIB requirement as pertinent to the introduction of ChiCom forces into North Vietnam. Significant intelligence highlights from the mission segment included the following:

(b)(1)

(b)(1)



(b)(1)

9. Mission 1109's coverage of China was generally better than the average for a CORONA mission. Approximately 1.3 million sq. n.m. of coverage, on 31 passes, was attempted, of which approximately 700,000 sq. n.m. was unique 90 percent or better cloud-free photography. Coverage of the South China area, however, was again limited due to unfavorable weather. Significant highlights from the mission included:

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COMMUNIST CHINA cont.



(b)(1)

10. Three peripheral CHURCHDOOR missions were flown during the first quarter of 1970 on 14 February, 17 March, and 26 March. The 14 February mission flew from [redacted]

[redacted] The 17 and 26 March missions, scheduled for coverage of the East China and Yellow Sea coastal areas, encountered heavy cloud cover over most of their route. No new activity of intelligence significance was noted on any of these missions.

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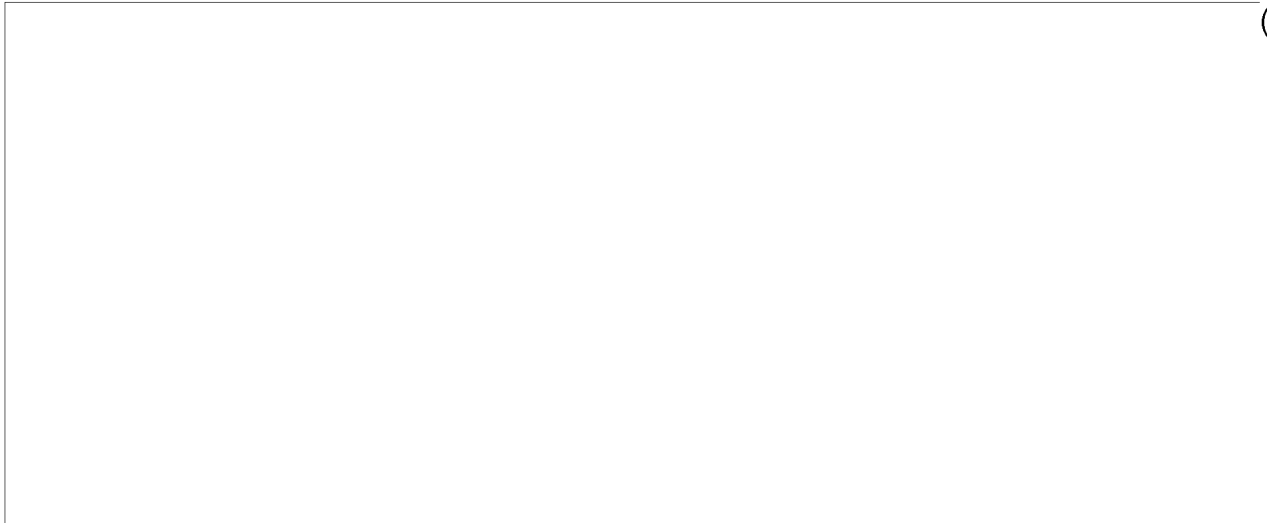
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COMMUNIST CHINA cont.

Target Deck Status

11. There are now targets in China, a reduction of since the last quarterly period ending 31 December 1969.



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NORTH VIETNAM

Background

1. In conjunction with the engagement of U. S. forces in South Vietnam, a variety of U. S. overhead reconnaissance assets have been employed for photographic coverage of intelligence targets in North Vietnam. At present, high-altitude manned aircraft of the GIANT SCALE (SR-71) program and 147T drones of the BUFFALO HUNTER program are the primary means for high-resolution imagery collection against the national requirements for both area search and target surveillance in North Vietnam. Some coverage against the national requirements is also provided by manned tactical photo-reconnaissance missions flown over southern North Vietnam by the BLUE TREE and YANKEE TEAM programs. These missions are operated, however, essentially against COMUSMACV requirements. GIANT NAIL (SAC U-2) missions, targeted primarily against enemy infiltration and logistic routes in eastern and southern Laos, have provided sporadic coverage on the western border area of North Vietnam.

2. The unfavorable weather frequently prevailing in the area makes North Vietnam a difficult target for satellite coverage. GAMBIT high-resolution satellite missions are regularly tasked for coverage as necessary to supplement that obtained by aircraft/drones. CORONA medium-resolution satellite missions provide routine general area coverage. The entire country continues to have a Priority I for KH-4 coverage.

USIB Requirements

3. The USIB standing requirements for area search coverage summarized earlier (page 3) includes North Vietnam. In practice, however, its application to this area is somewhat modified due to North Vietnam's unique status as an active combatant. This role has generated a wider range of supplemental standing requirements, both tactical and national, for a far broader scope and frequency of photographic coverage than exists for other Communist territory and, in the past, has made available a richer and more varied mix of collection vehicles to satisfy them. No KH-8 CCRP targets have been designated for North Vietnam.

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(COMIREX-D-16. 2/5)

27 April 1970

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NORTH VIETNAM cont.

4. The supplementary standing USIB requirements directed specifically to intelligence problems concerning North Vietnam are summarized below:

a. On 3 March 1966 the Board approved^a the overhead photographic reconnaissance program to acquire, on an urgent basis, high-resolution baseline photography of military installations and lines of communication in South China and North Vietnam and to maintain surveillance as needed. This represented an enlargement of coverage requirements set forth in the January 1966 long-range program for reconnaissance in the Far East.^b The targets (Chart 6), selected currently including [] in North Vietnam, were chosen because of their pertinence to possible Communist Chinese involvement in North Vietnam and achievement of baseline/surveillance coverage is reported to COMIREX each week.

(b)(1)

b. On 23 May 1967, the Board approved^c recommendations for a photo reconnaissance program designed to detect the introduction of offensive missiles and other new weapons systems into North Vietnam. On 28 November^d USIB accepted a revision to these requirements based on Project Lookout recommendations. The requirement provided primarily for weekly and tri-weekly high-resolution search coverage of specified areas of North Vietnam. It also included coverage on [] critical point targets.

(b)(1)

^aUSIB-D-41. 14/283 (COMOR-D-25/207), 4 March 1966

^bUSIB-D-41. 14/276 (COMOR-D-25/201), 19 January 1966

^cMemorandum for Holders of USIB-D-41. 14/308 (COMOR-D-25/220), 23 May 1967

^dUSIB-D-46. 4/7 (COMIREX-D-25. 3/4), 20 November 1967

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(COMIREX-D-16.2/5)

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NORTH VIETNAM cont.

c. At the direction of the Board the CCPC engaged in preparation of contingency collection plans for the Vietnam Theater to cover both "bombing halt" and "cease fire" conditions. Complementary COMIREX action, being in essence a contingency statement of national requirements, were concurred in by USIB on 20 November 1968.^a

5. COMIREX is now reviewing this cumulative series of North Vietnam requirements and will consolidate and forward for the Board's consideration a revised and current statement on present intelligence needs for overhead photographic coverage on this area.

Current Priority Requirements

6. The current priority focus for overhead high-resolution imagery collection continues to be on the following: timely monitoring of the scope and pace of military and logistic activity in key areas to detect significant changes or build-ups; regular surveillance of major lines of communication (LOCs), particularly those leading into the DMZ area and Laos; and frequent repetitive coverage of ports, airfields, and selected major military and logistic installations and facilities.

Authority for Reconnaissance

7. The 40 Committee approval for overflights in this area for the first quarter of 1970 were at the general rate of: GIANT SCALE (SR-71), ten missions quarterly; BUFFALO HUNTER (147T-Drone), 25 missions monthly; and GIANT NAIL (SAC U-2), near daily.

^a-----
Memorandum for Holders of USIB-D-46.4/23 (COMIREX-D-25.3/6),
21 November 1968

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27 April 1970

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NORTH VIETNAM cont.

Activity and Coverage During Period

8. During the quarter 1 January - 31 March 1970 high-resolution photography on North Vietnam targets was acquired or attempted by the following: 72 of the 83 BUFFALO HUNTER missions launched; seven GIANT SCALE missions (four in January, three in February); and KH-8 mission segment 4325-1 (14-21 January).

9. The BUFFALO HUNTER and GIANT SCALE missions provided high-resolution imagery on an average range of [] COMIREX(b)(1) targets per mission, respectively. KH-8 Mission 4325-1, although programmed against [] COMIREX targets in North Vietnam, acquired no coverage on its (b)(1) two passes over the area.

10. The chart on the opposite page (Chart 7) shows the areas to be searched at specified frequency to detect the introduction of offensive missiles and other new weapons systems into North Vietnam, as called for under the requirements in paragraph 4b above. Coverage reported during the first quarter of 1970, expressed in square nautical miles, was achieved against the area requiring weekly coverage and the area requiring coverage every three weeks, as follows:

a. Area requiring weekly coverage (23, 536 sq. n. m.)

<u>Weekly Period</u>	<u>Sq. NM Photographed</u>	<u>Percent Fulfilled</u>
16 Dec - 22 Dec 69	9	.1
23 Dec - 29 Dec 69	4,212	17.9
30 Dec - 5 Jan 70	873	3.7
6 Jan - 12 Jan 70	198	.8
13 Jan - 19 Jan 70	873	3.7
20 Jan - 26 Jan 70	351	1.5
27 Jan - 2 Feb 70	2,322	9.9
3 Feb - 9 Feb 70	2,142	9.1
10 Feb - 16 Feb 70	144	.6
17 Feb - 23 Feb 70	450	1.9
24 Feb - 2 Mar 70	6,300	26.8
3 Mar - 9 Mar 70	54	.2
10 Mar - 16 Mar 70	252	1.0
17 Mar - 23 Mar 70	90	.4
24 Mar - 30 Mar 70	306	1.3
31 Mar - 6 Apr 70	414	1.8

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NORTH VIETNAM cont.

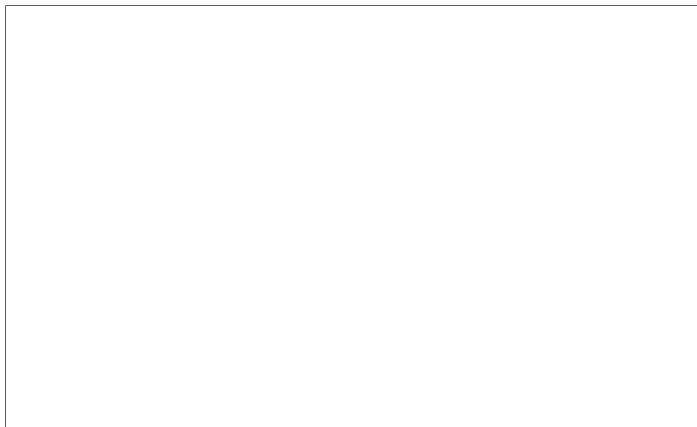
b. Area requiring coverage every three weeks (41,725 sq. n.)

<u>Tri-weekly Period</u>	<u>Sq. NM Photographed</u>	<u>Percent Fulfilled</u>
9 Dec - 29 Dec 69	3,528	16.2
30 Dec - 19 Jan 70	5,418	24.9
20 Jan - 9 Feb 70	15,291	70.4
10 Feb - 2 Mar 70	8,838	40.7
3 Mar - 23 Mar 70	0	0

Status of Target Deck

11. There are currently COMIREX targets in North Vietnam. On current GAMBIT missions, up to a third of these are regularly programmed for attempted coverage. The breakdown of North Vietnam targets is as follows:

(b)(1)



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27 April 1970
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NORTH KOREA

Background

1. The primary overhead reconnaissance vehicles for imagery collection on North Korea are the KH-4 (medium-resolution) and KH-8 (high-resolution) satellites and manned aircraft of the GIANT SCALE (SR-71) program (high-resolution).

USIB Requirement

2. The USIB standing requirements for CORONA^a area search and GAMBIT high-resolution CCRP target coverage^b (page 3 and page 8) apply to North Korea. There are North Korea targets in the current CCRP target listing. (b)(1)

3. The remaining USIB standing requirement on North Korea is contained in the "Long-Range Program for the Far East"^c, approved by the Board 28 January 1966. It calls for high-resolution photographic coverage on a sampling basis of 50 percent of the North Korea targets (then numbering quarterly and coverage on essentially all targets semi-annually. As shown in paragraph 8 below, the COMIREX targets in North Korea now number This requirement is due for early COMIREX review and updating. (b)(1)

Current Priority Requirements

4. In view of the standing threat posed to U.S. forces in the ROK, the military posture of North Korea is of continuing current intelligence concern, particularly with regard to targets and areas of potential indications and warning intelligence significance and those related to the possible introduction of advanced weapons systems. (b)(1)

^aUSIB-D-41.15/79 (COMOR-D-48/115), 16 September 1966 and Memo for Holders, 8 November 1966

^bUSIB-D-46.4/13 (COMIREX-D-14.4/1), 27 March 1968 and Memo for Holders, 4 April 1968

^cUSIB-D-41.14/276 (COMOR-D-25/201), 19 January 1966

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NORTH KOREA cont.

Authority for Reconnaissance

5. For the first quarter 1970, the 40 Committee authorized one GIANT SCALE mission over North Korea in February and one in March, both subject to the proviso that an intelligence need existed. No mission was authorized for January.

Activity and Coverage During Period

6. During the quarter ending 31 March 1970, two GIANT SCALE missions were flown over North Korea; Missions GS-226 on 16 February and GS-237 on 19 March. The first mission aborted due to failure of navigation equipment after completing one of three scheduled passes over the country. No defense reaction was noted against either mission. The two missions obtained satisfactory coverage of approximately [] COMIREX targets respectively. Although no significant new developments were noted, this coverage did provide considerable good current baseline and order-of-battle information.

(b)(1)

7. KH-8 Mission segment 4325-1 (14 - 21 January) and KH-4 Mission 1109 (5 - 23 March) also operated against North Korea targets during this period. Of the approximately [] targets programmed for 4325-1, [] were successfully photographed. CORONA Mission 1109 programmed the entire country approximately 95 percent of which was reported as cloud free. No significant new activity was detected from the satellite coverage in this quarter. As of 31 March satisfaction of the USIB requirement (paragraph 3 above) was as follows:

(b)(1)

(b)(1)

<u>Requirement</u>	<u>Accomplishment</u>
50 % of targets quarterly	67.7% seen
100 % of targets semiannually	72.9% seen

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(COMIREX-D-16.2/5)

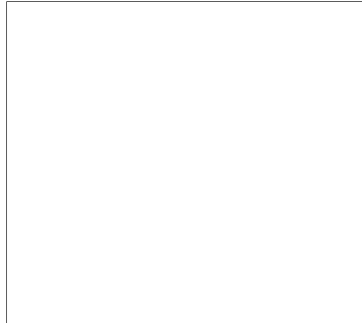
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NORTH KOREA cont.

Target Deck Status

8. The targets in North Korea are shown on the map (Chart 8) on the opposite page. This is a decrease of targets from the total held as of 31 December 1969 and results primarily from the deletions for collection of collocated targets. By category the targets are:



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SINO-INDIAN BORDER

USIB Requirement

1. The border area contains COMIREX targets over a 1,500-mile^{(b)(1)} area stretching from the NEFA to the southwest corner of Sinkiang Province. The map (Chart 9) on the facing page shows the target distribution.

2. The standing USIB requirement for the area is based on the provisions of the 'Long-Range Program for the Far East',^a approved by the Board 28 January 1966, calling for high-resolution photographic coverage of targets on a semiannual basis. This was subsequently modified to area coverage by CORONA approximately annually, with the proviso that special missions would be sought and attempts at satellite coverage would be intensified if there is a threat of hostilities. The distribution of targets enables GAMBIT missions to provide routinely an adequate sampling of the entire border area with the frequency required under present conditions.

Authority for Reconnaissance

3. None requested.

Activity and Coverage During Period

4. Both satellite reconnaissance missions flown during the quarter provided some coverage of the area, but no new activity of intelligence significance was noted. The Sino-Indian Border area receives routine coverage as part of the CORONA six and 12-month search requirement. KH-4 photography is useful for monitoring major changes to known installations and/or new military construction in this area. On Mission 1109 in March parts of three passes were programmed over the Sino-Indian Border area. During the past 12 months targets in the area have been seen by GAMBIT. (b)(1)
Mission 4325-1 photographed

5. In view of the static situation long prevailing in this area, the status of coverage will no longer be regularly included in this Quarterly Report. The data will be maintained current by COMIREX, however, and available on call.

^aUSIB-D-41.14/276, (COMOR-D-25/201), 19 January 1966

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USSR AND EAST EUROPEAN SATELLITES

Background

1. Overhead photography of the USSR/Communist East Europe^a land mass is provided exclusively^b by satellite imagery reconnaissance vehicles. The present operational systems, CORONA and GAMBIT, and the on-coming HEXAGON system have been developed for the primary purpose of providing for the National Reconnaissance Program a constant and reliable capability to maintain regular imagery search/surveillance of Soviet bloc territory to detect and monitor developments of national intelligence significance. As a standing rule, satellite missions are directed and operated so as to optimize coverage of Soviet bloc targets.

USIB Requirements

2. As summarized earlier in this report (pages 3 and 8) the Board's standing requirements and guidance for present operation of the CORONA^c and GAMBIT^d systems as well as for future HEXAGON operations^e focus extensively on imagery collection against the Soviet bloc and in large measure are specifically designed to assure consistent mission responsiveness to the community's paramount need for intelligence on this primary area of strategic threat against the U. S. and Western allies. Periodic review and amplification of these standing requirements are regularly conducted by COMIREX for the Board's interim current guidance to the NRO for planning.^f

^aFor purposes of territorial designation, the USSR/EE area is hereafter referred to as the Soviet bloc.



(b)(1)
(b)(3)

^cUSIB-D-41. 15/79 (COMOR-D-48/115), 16 September 1966, and Memo for Holders, 8 November 1966

^dUSIB-D-46. 4/13 (COMIREX-D-14. 4/1), 27 March 1968, and Memo for Holders, 4 April 1968

^eUSIB-D-46. 4/32 (COMIREX-D-15. 2/14), 10 November 1969, and Memo for Holders, 1 December 1969

^fUSIB-D-46. 4/27 (COMIREX-D-13. 16/3), 4 February 1969 (approved 17 February 1969)
USIB-D-46. 4/31 (COMIREX-D-13. 16/6), 7 August 1969, and Memo for Holders, 13 August 1969

USIB-D-46. 4/34 (COMIREX-D-13. 16/7), 2 February 1970 (approved 17 February 1970)

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USSR AND EAST EUROPEAN SATELLITES cont.

Current Priority Requirements

3. As previously noted, in addition to USIB standing requirements, current priority intelligence requirements dealing with problems of most pressing immediate community concern are regularly developed for each satellite mission.

Authority for Reconnaissance

4. The original satellite reconnaissance schedule for this quarter called for two GAMBIT missions -- one in January and one in March -- and one CORONA mission in February. Due to technical problems, however, the missions approved by the 40 Committee and actually flown during the period were one GAMBIT in January (4325) and one CORONA in March (1109).

Activity and Coverage During Period

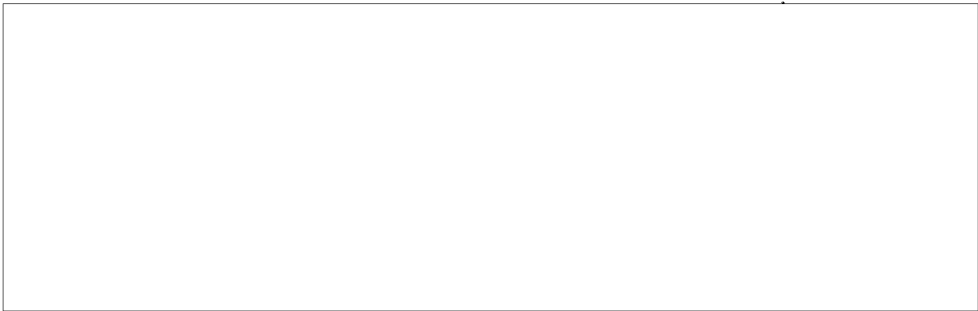
5. Of the approximately [redacted] individual Soviet targets programmed for KH-8 Mission segment 4325-1 (14 - 21 January), [redacted] COMIREX and [redacted] targets were successfully photographed. This included coverage on targets in the following categories:

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[redacted] targets were also covered. Highlights from the mission included:

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USSR AND EAST EUROPEAN SATELLITES cont.



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6. KH-4 Mission 1109 (5 - 23 March) provided good coverage of Soviet strategic missile deployments, the Moscow area, and the Sino-Soviet Border area. Mission highlights included:



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USSR AND EAST EUROPEAN SATELLITES cont.

Status of Target Deck

7. As shown below, [] of the current [] COMIREX targets fall within the USSR and European Satellites. This represents a decrease in the target totals of [] respectively since the last quarterly period ending 31 December 1969. Any significant number of targets outside of the USSR is noted in parentheses.



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Status FY 70 Basic Support Exploitation Program as of 31 March 1970

A summary of basic third-phase targets exploited and reports/briefs produced thus far in FY 70 is given below:

TARGETS EXPLOITED
 (1 Jul 69 - 31 Mar 70)

	Initial	Update	Total
<u>Facilities</u>			
Installations	517	151	668
Complexes/Areas	77	28	105
Topics	17	2	17
<u>Weapons</u>			
Objects	19	-	19
Systems	-	-	-
			809

BASIC REPORTS/BRIEFS
 (1 Jul 69 - 31 Mar 70)

Reporting Organization	Report	Brief	Total
CIA/IAS	5	-	5
DIAAP-9	276	49	325
USAIC	1	2	3
NRTSC	11	-	11
FTD	2	-	2
NPIC	187	79	266
			612

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Tab A

Satellite Reconnaissance Missions
 Launched or Recovered in
 Fiscal Year 1970

1000 Series are CORONA (KH-4A), 2 buckets, medium resolution
 1100 Series are CORONA (KH-4B), 2 buckets, medium resolution
 4300 Series are GAMBIT (KH-8), 2 buckets, high resolution

Mission Number	Date	Remarks
1109	5 Mar - 23 Mar 70	Second successful 19 day mission. Achieved good results for both area search and target coverage -- all cameras operated satisfactorily throughout the mission. Interpretability generally ranged from fair to good, however at magnifications above 25X most imagery appears out of focus. Mission was approximately 80-85 percent cloud free. Snow, however, hampered search for new ICBM starts. The first Doppler beacon in support of MC&G requirements was successfully operated on this mission.
4325-1	14 Jan - 21 Jan 70	Imagery quality of first bucket was generally rated better than previous double-bucket GAMBIT missions. <u>The second bucket was not recovered due to failure of recovery parachute to function and the probable coverage (including 425 feet of color) on some 900 targets was lost.</u> This was the first recovery failure since Mission 4311 in January 1968.

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(COMIREX-D-16.2/5)

27 April 1970

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Tab A

Satellite Reconnaissance Missions
Launched or Recovered in
Fiscal Year 1970 cont.

Mission Number	Date	Remarks
1108	5 Dec - 21 Dec 69	Highly successful mission in terms of satisfaction of requirements. Image quality generally ranged from good to fair. 800 feet of color film (SO-242) was exposed on one camera.
4324	24 Oct - 7 Nov 69	Some imagery on the first half of this mission was degraded due to double images and/or smear. A focus adjust on rev 134 resulted in a marked improvement in image quality for the remainder of the mission. The 600 feet of the new color film (SO-242), exposed on this mission, produced the best quality color taken by satellite photography to date.
1052	22 Sep - 7 Oct 69	Overall coverage was comparable to that of an average KH-4A mission--interpretability ranged from poor to good. This mission was highlighted by the discovery of additional SS-11 silos at Pervomaysk and Derazhnya.
4323	23 Aug - 5 Sep 69	First double-bucket KH-8 mission--14 days duration. Some commanding problems encountered resulting in loss of some planned camera operations. Last two days coverage were monoscopic due to a system malfunction. Largest number of targets programmed on a KH-8 mission to date--approximately 7,950.

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(COMIREX-D-16.2/5)
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Tab A

Satellite Reconnaissance Missions
Launched or Recovered in
Fiscal Year 1970 cont.

Mission Number	Date	Remarks
1107	24 Jul - 11 Aug 69	Longest KH-4 mission flown to date-(b)(1) 19 days. Mission was maintained on orbit for one extra day Lack of stereo, due to the failure of one of the primary camera systems, reduced mission effectiveness. Mission was flown at 100 nm perigee rather than the normal 85 nm perigee for the J-3 system to increase amount of area photographed.

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