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ATTACHMENT

Evaluation of BOB Statements Regarding
the Value of HEXAGON

The following attachment provides evaluations of statements on the value of the HEXAGON program made in the 22 March 1969 Bureau of the Budget letter (BYE 11663-69) to the Director of Central Intelligence.

In the attachment, the BOB statements are arranged in the general order in which they appear in the letter.

Because the attachment is keyed to the BOB letter it does not form a comprehensive or balanced review of HEXAGON. The 1 July 1968 COMIREX evaluation performed for the NIRB and the 13 November 1968 DoD (OSD) study are comprehensive reviews which remain valid.

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H-1

BOB Statement:

"The added marginal value of the HEXAGON, if it is used as a replacement for the CORONA and partial substitute for the GAMBIT-3, is now considerably less than it may reasonably have appeared in 1964." [March 22, 1969, pp. 1-2]

INTELLIGENCE EVALUATION:

A 1964 projection of the "added marginal value" of HEXAGON is not the basis for judgments made in 1969, which are, as they should be, based on rigorous current analyses of needs, benefits, and costs. All aspects of the value of HEXAGON photography have been under review and study since 1964 and were given comprehensive evaluations by the Intelligence Community in mid-1968 and by the OSD in November 1968. These study findings are still valid.

Our assessments of the value of HEXAGON today are more firmly based than in 1964. From experience gained since that time in the operation of the GAMBIT systems, we are now fully aware of the serious shortfalls of spotting systems in providing quality photography of large area targets or of all targets in areas of high target density. These shortfalls were not fully understood as early as 1964.

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The 1 July 1968 Intelligence Study (COMIREX-D-11.1/2) reached the following conclusion on the expected value of the HEXAGON product:

"It is evident that the HEXAGON in combination with the GAMBIT-3 will provide highly significant intelligence information in support of national needs that cannot be obtained by the combined use of CORONA and GAMBIT-3. Our judgment in this matter is based in large part on a consideration of anticipated needs for reconnaissance in the 1970-75 time frame."

The parallel OSD review described the value in terms of three major contributions to intelligence that are uniquely possible with a HEXAGON system: an improved ability to search for new activities or to provide confidence that suspicious activity is not underway; significantly improved intelligence on ground forces; and a unique ability to detect and assess mobile forces, such as ICBM's, IRBM's, and tactical offensive and defensive missiles.

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BOB Statement:

"The GAMBIT-3 performance against the surveillance requirement demonstrates there is no clear need for the more expensive HEXAGON system as a partial substitute in the surveillance role." [March 22, 1969, p. 2]

INTELLIGENCE EVALUATION:

The BOB statement reflects an imprecise understanding of the surveillance requirements and the fact that systems overlap in their abilities to meet such requirements.

The July 1968 COMIREX study, for example,

"considered the range of intelligence problems which can be satisfied with photography of varying ground resolution and the fact that the CORONA, GAMBIT-3, and HEXAGON systems represent overlapping capabilities against some problems."

With respect to the criterion of ground resolution and the question of the relative value of the three systems, it concluded

"that perhaps a third of our minimum needs could be met by the CORONA alone and that 70-80 percent could be met by the HEXAGON alone. In addition, 20-30 percent require the unique high resolution capability of the GAMBIT-3."

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It noted further that

"the HEXAGON is unaffected by the problems of target conflict in areas of high target density, which is one of the drawbacks of the GAMBIT-3 system."

Both the COMIREX and the OSD studies concluded that the HEXAGON not only would replace the CORONA in the latter's area coverage role, but also would be able to meet a large number of requirements now specified for the GAMBIT-3. The OSD study said,

"HEXAGON is a more cost-effective search vehicle than CORONA, and its high resolution provides adequate intelligence on one-half to two-thirds of the high resolution targets covered by GAMBIT today... As long as surveillance is one of its objectives, GAMBIT missions cannot be optimized by high resolution technical intelligence objectives."

Surveillance, in general, is the process of obtaining repeated photography of known targets with the aim of maintaining cognizance as to their operational status and to detect changes, trends, etc.

The quantity and the quality (resolution) of the photography required will vary depending on the nature of the target and the intelligence problem it presents. Surveillance of the various facilities at a missile test range, for example, must be conducted frequently,

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and the photography must have relatively high resolution. Against such a target complex GAMBIT-3 photography provides excellent quality, but because of its pointing restrictions and limited field of view, only limited quantity. HEXAGON will provide good quality and excellent quantity. CORONA coverage is of marginal quality, but satisfactory quantity.

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H-3

BOB Statement:

"The OSD study of November, 1968, concluded that the present and improving sampling capability of the GAMBIT-3/CORONA combination is adequate to meet our intelligence needs in the area of Soviet bloc and Chinese Communist capabilities in air and missile defense, aircraft systems, missile systems, and naval forces (page 5, par. 8, BYE-78614/68)." [March 22, 1969, p. 2]

INTELLIGENCE EVALUATION:

The BOB statement seriously misrepresents the paragraph from the OSD study and gives it out of context.

The cited OSD paragraph referred to fixed air and missile defenses, to long-range air (i.e., heavy and medium Soviet bombers, not all aircraft systems), to fixed ballistic missiles (not all missile systems), and to submarines (not all naval forces). In addition, the paragraph did not refer to the present "combination" as being "adequate to meet intelligence needs," on "capabilities," but referred to areas in which it had not "identified major intelligence problems for which HEXAGON would contribute significantly."

The referenced paragraph in the OSD study was preceded by two others which, inter alia, pointed out

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in one paragraph that the study had "identified three major contributions to intelligence that are uniquely possible with a HEXAGON system," namely: improved ability to search thoroughly and provide confidence that suspicious activity is not underway; significantly improved intelligence on ground forces; and a unique ability to detect and assess mobile forces, such as ICBM's, IRBM's, and tactical offensive and defensive missiles.

The other paragraph pointed out that more than 20 cases had been identified "where less significant improvements in intelligence will be possible" and that it expected these would number in the hundreds. It indicated doubt "that these many improvements would, in themselves, justify deployment of HEXAGON" but they would represent a significant bonus if HEXAGON were deployed.

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H-4

BOB Statement:

"The GAMBIT-3's performance for spotting now meets 99% of the annual target looks required against all 6,000 COMIREX targets (USIB-D-46.9/16)." [March 22, 1969, p. 2]

INTELLIGENCE EVALUATION:

The 1 July COMIREX Study pointed out that

"it is particularly important to emphasize that our current requirements have been developed on the basis of current capabilities and those problems within the range of these capabilities."

It is therefore not surprising that close to 100% fulfillment has been attained. Aggregate statistics such as these, however, can be misleading because they obscure important details.

For example, a review of the effectiveness of GAMBIT-3 against the principal ground force targets in two sample areas, East Germany and Belorussia, indicates the following: only 53 of the 272 East German targets not accessible to Berlin corridor photography were covered in 1968; only 59 of the 97 targets in Belorussia were covered in 1968. The average number of separate targets for which high resolution photography of good or fair quality was obtained per mission

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in 1968 was 7.6 in East Germany and 8.4 in Belorussia. For 1967 the average acquisition per mission was five for each area. It is clear from these statistics that development and maintenance of a reasonably current data base (i.e., less than two years old) in areas of high target density, such as East Germany, is not possible with the present systems.

The table cited by the BOB--it is in the COMIREX Monthly Report for October 1968--indicates that only three of the required 16 targets at the Tyuratam test range were covered in the preceding quarter, and coverage of the Soviet MRBM deployment force was only 50% of that called for in the requirements. The Kapustin Yar range was not covered at all because of bad weather.

The duration of a HEXAGON mission will be about twice that of a GAMBIT-3 flight, so the system is better able to wait out spells of bad weather. In addition, since it can see about 140 nautical miles to either side, the HEXAGON has more target accesses during a given period of time than the GAMBIT-3, which can look only 90 miles to each side. And, of course, the area coverage capability of HEXAGON removes the target conflict problem that limits GAMBIT-3 in high density target areas.

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BOB Statement:

"The CORONA is adequate to meet the requirement of broad area search of the Soviet bloc and China. (In 1968, CORONA provided cloud-free search photography of 94% of mainland China.) When CORONA detects new targets or significant changes in previously identified targets, the GAMBIT-3 can be directed to provide high resolution spotting coverage." (March 22, 1969, p. 2)

INTELLIGENCE EVALUATION:

The current procedure for establishing whether coverage of an area satisfies the CORONA search requirements uses only a single criterion, the presence or absence of clouds. Its primary purpose is to identify "holiday" areas, that is, regions overdue for coverage by search photography. The accounting procedure does not consider image quality, i.e., what can actually be seen on the ground. Experience has shown that the quality of CORONA imagery on the far oblique frequently is not good enough to confirm the presence or absence of significant activity even when the area is cloud-free.

The 94% coverage statistic is misleading. Nearly all of the terrain missed is either along the coast or

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in South China, areas that contain many important targets. Both regions are included in the "built-up area" of the Bloc. The CORONA requirement calls for clear photography of 80% of the built-up area every six months.

The CORONA can detect major changes in known facilities, such as construction of buildings, the clearing of land, the extension of roads, etc. Changes in activity levels, if identifiable at all on CORONA, are generally only detectable over an extended period of time. There usually is a lengthy interval between the identification of change and the successful coverage by GAMBIT-3. At least six months are generally required, the time interval being dependent upon the season of year and the target density in the area.

Some "known" facilities have escaped detection by CORONA altogether. The impact area of the Chinese missile test range, for example, has not been identified, even though its general location is obvious.

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BOB Statement:

"For [ground] force composition and readiness, the GAMBIT-3 resolution, clearly superior to the HEXAGON's, does and would provide important details on the quality and quantity of Soviet and Chinese units that would not be discernible by the HEXAGON." [March 22, 1969, TAB A, p. 1]

INTELLIGENCE EVALUATION:

HEXAGON-quality photography provides most of the details needed for the analyses of ground force units. To the degree that resolution affects the solution of ground force problems, the most important gains are provided by the increase in resolution that HEXAGON offers over CORONA; the additional increment provided by GAMBIT-3 is less important.

In areas where there are few targets and the weather generally is good, such as the Sino-Soviet border, it is possible to use GAMBIT-3 to establish the number of troops involved in garrison and the amount and character of the equipment they possess, but not the strength and disposition of forces deployed in the field. In other key areas, however, the target density is much greater and the fraction of the facilities that GAMBIT-3 can cover in six months or a year very limited.

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In the latest Sino-Soviet border incident GAMBIT-3 coverage showed the effects of pointing limitations. Photography of the Chen-pao/Damansky Island area on 12 March showed a small part of the terrain immediately around the island. No troops were seen, and only eight pieces of equipment could be found. Yet, a regimental-sized engagement there on the 15th apparently included several exchanges of artillery fire. HEXAGON photography would have covered a much larger area with sufficient sharpness for us to determine the character of the forces engaged and whether either side had been reinforcing in anticipation of this clash.

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BOB Statement:

"For [ground] force composition and readiness, once GAMBIT-3 has established the signature or function (e.g., tank or motorized rifle division) of a ground force installation, then subsequent CORONA coverage along with occasional updates with GAMBIT-3 coverage is sufficient for high confidence estimates of force composition and readiness. See for example, studies of the Soviet Ground Force equipment holdings in the Byelorussian Military District (CIA, SR IR 67-2, Oct. '67) and Soviet Military Forces on the Sino-Soviet Border (CIA, SR IR 68-7, Sept. '68)."
[March 22, 1969, TAB A, p. 1]

INTELLIGENCE EVALUATION:

The CORONA/GAMBIT-3 combination in many instances has been able to locate military installations and then provide the high resolution coverage needed for detailed study. It permitted the static analysis of the Belorussian Military District. Three-fourths of the high resolution photography used in that study was from the KH-7 and was equivalent to HEXAGON in resolution. The suggestion that CORONA coverage is adequate to monitor ground force changes has been proven to be generally incorrect. With rare exceptions, the movement of known units from their garrisons or the upgrading and mobilization of forces has not been

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detectable in CORONA photography. On the other hand, the target conflict problem affects the usefulness of the GAMBIT-3. During the buildup for the Czech intervention, the ability of GAMBIT-3 to cover only a limited number of the targets in the western USSR prevented a confident judgment as to the extent of mobilization and movement.

For targets in lower latitudes and in bad weather areas, such as South China and Vietnam, collection of the photography needed to establish the composition of military units has been very unsatisfactory. This is due not only to the weather but also to the fact that on a given mission the satellite is within photographing range of a target area less often than it is in the case of targets at higher latitudes. A schedule calling for four 30-day HEXAGON missions per year will provide about 28 accesses to each target in South China. Seven 20-day CORONA missions will provide only about 15 accesses to each of these same targets. HEXAGON will bring back more clear photography of this area than CORONA, and the quality will be better. Although the resolution of HEXAGON will be below that obtained with GAMBIT-3, it will be sufficient to determine changes in activity, and the number of installations covered will be several-fold greater.

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BOB Statement:

"For [ground forces] redeployment, if it occurs over a period of months, the CORONA/G-3 can monitor such changes adequately." [March 22, 1969, TAB A, p. 1]

INTELLIGENCE EVALUATION:

The accuracy of this statement depends on the nature of the redeployment. In the case of the Sino-Soviet border, the buildup of Soviet forces has been underway since 1964 and has involved large scale construction of new, permanent facilities. Because of the character of the buildup a relatively detailed and accurate assessment of the buildup could be made in the fall of 1968.

To sample a force moving along a broad front and being supported by numerous rear echelons requires nearly simultaneous high resolution coverage of hundreds of targets, a capability that the CORONA/GAMBIT-3 combination cannot provide.

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BOB Statement:

"For [ground forces making a] rapid redeployment, any film recovery system is limited by the fact that the satellite must be over the target area during the redeployment under cloud-free and daylight conditions. Even then, the time delay from camera operation to film interpretation is measured in days. The gaps, with no crisis coverage, between the HEXAGON missions are longer than those between CORONA missions." [March 22, 1969, TAB A, p. 1]

INTELLIGENCE EVALUATION:

The need for timeliness in reporting is certainly important. However, it must be considered here in relative terms, since none of the systems being discussed has a "real-time" readout capability. The CORONA-GAMBIT-3 combination takes many months to detect and assess changes in deployment. HEXAGON will cut this time in most cases to a matter of weeks.

In the Czech-Soviet confrontation, our assessment of the extent of change, our estimate of future changes, and our analysis of the possible impact required several months. It was necessary to evaluate how much mobilization had taken place, how much movement had occurred, how the Soviet posture had changed vis-a-vis NATO, Rumania, and Yugoslavia, and to what extent and

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how soon forces reverted to their previous status. A HEXAGON system would have permitted these assessments to be made more rapidly and with a far higher degree of confidence. Demobilization was not established until February 1969, for example, although other sources indicate that it was underway four to five months earlier.

Because of its greater swath width, the HEXAGON has more accesses to a given target area per week than the CORONA and during that time is more likely to acquire a usable picture. Furthermore, on each photographic pass it can freeze a much larger fraction of the action area, permitting a more accurate appraisal of the nature of the redeployment and its extent.

Because the HEXAGON has four recovery buckets, it can drop one or two in quick succession during a crisis and still remain on orbit collecting photography. Thus, the interval between the taking of a photograph and its readout will be never longer than that for the CORONA and will some times be shorter.

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BOB Statement:

"[with respect to] logistic support systems, G-3's high resolution is valuable in discerning some details of installations and equipment that could or do have a primary or substitute civilian use (e.g., trucks taken out of civilian use when large mobilization occurs)."
[March 22, 1969, TAB A, p. 2]

INTELLIGENCE EVALUATION:

Logistical support is clearly one of the major shortcomings of the Soviet military forces. GAMBIT-3's resolution obviously is of great value in the development of the basic data needed for analysis of the problem. However, where the target density is great, as it is in Eastern Europe, GAMBIT-3 will not be able to monitor the status and movement of more than a few civilian units during periods of change and uncertainty. This difficulty will increase as the identification of the relevant civilian enterprises progresses and the number of key targets requiring coverage increases.

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BOB Statement:

"The Belorussian study, based on the GAMBIT spotting system and the CORONA search systems, produced significant high confidence changes in our understanding of Soviet logistic support. While it is true that these studies were based in part upon low-level oblique aerial photography, the HEXAGON would be equally dependent on non-satellite data." [March 22, 1969, TAB A, p. 2]

INTELLIGENCE EVALUATION:

The BOB statement correctly notes that the Belorussian study was based primarily on earlier GAMBIT (KH-7), photography which had a resolution equivalent to HEXAGON. There is no question that significant high confidence changes resulted, but there is also no question that large areas for profitable study remain. The added frequency of coverage which HEXAGON can provide, particularly in high density target areas, will permit more timely analyses and improvements of the data base. The higher resolution of GAMBIT-3 will be necessary to provide detailed data on selected installations, of course.

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BOB Statement:

"[with respect to] our ability to detect and evaluate mobile missile forces, given the long (e.g., 2 years) R&D phases associated with such a new missile, and given the high priority G-3 coverage targeted on missile test centers, the G-3 would be able to establish a signature of the missile and its support elements that could be used for later G-3 or CORONA identification of the systems in deployment phase." [March 22, 1969, TAB A, p. 2]

INTELLIGENCE EVALUATION:

The ability of photo interpreters to discover mobile offensive missile system signatures at the test ranges is questionable. No SCALEBOARD (SS-12) facilities have been identified at any test range, and no clues to SCAMP (SS-14) or SCROOGE deployment concepts have been found at any test range or in the field.

The Soviets have claimed to have a mobile ballistic missile since 1965, and the amount of telemetry transmitted during SS-14 firings has dropped, suggesting that deployment either is underway or will begin soon. It will take a high-resolution surveillance system like HEXAGON to provide a confident judgment on the extent and character of deployment.

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Their small sizes make mobile defensive systems difficult to pin-point on CORONA photography, even after their deployment patterns have been determined. It sometimes is difficult even to establish whether an identified site is occupied.

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BOB Statement:

"[with respect to] our ability to detect and evaluate mobile missile forces, the G-3/CORONA mix was adequate to detect the deployment along the Sino-Soviet border of a tactical missile system (SCALEBOARD, SS-12), which is presumably smaller than a mobile missile system sufficiently large to pose a strategic threat to the U.S. (See CIA, SR IM 69-7, Feb. '69)."
[March 22, 1969, TAB A, p. 2]

INTELLIGENCE EVALUATION:

The SCALEBOARD is a mobile system, but because it is being maintained in fixed sites it has, to date, essentially the same detectability as other fixed systems. It would present a much more difficult problem if it were deployed otherwise. The test site used for developmental firings of the system has not been located.

Even the analysis of the SCALEBOARD is incomplete. If wide-swath coverage of a SCALEBOARD deployment area could be obtained with higher-than-CORONA resolution, it might be possible to determine the number of field sites associated with each permanent site and the quantity of equipment allocated to a complex. Such an evaluation has not been possible with the CORONA/GAMBIT-3 photography presently available.

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BOB Statement:

"Because of the inherent serious disadvantages of mobile missiles, such as degraded accuracy, more difficult command and control problems, lower reliability, limited suitable rail or road network, etc., the Soviets are unlikely to introduce such a system on a wide scale (this is also discussed in the recent CIA-SR document referred to above)." [March 22, 1969, TAB A, p. 2]

INTELLIGENCE EVALJATION:

The statement is a judgment of Soviet intentions, not capabilities. It is important to be able not only to assess this threat if it should occur, but also to be able to say with assurance that such deployment is in fact not taking place. While the GAMBIT-3 is of great help in assessing the technical capabilities of missile systems, it is unable to contribute extensively in the determination of the extent of deployment. The CORONA now is of limited value in determining the extent of mobile missile system deployment. It would be of very questionable value if the equipment were camouflaged.

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BOB Statement:

"CORONA (KH-4B), as the 1968 OSD study and recent OAK Reports have indicated, is adequate to detect the deployment of all air defense radars and missiles, and is occasionally able to conclude that a SAM site is unoccupied." (March 22, 1969, TAB A, p. 3)

INTELLIGENCE EVALUATION:

CORONA photography is not adequate to detect deployment of all, or even many, air defense radars and missiles. It does allow detection of the pattern of the ground installations associated with radars and missiles. Normally, however, equipment in an installation cannot be identified as to type unless it has been seen previously in GAMBIT-3 photography, and even then only if it has not been moved.

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BOB Statement:

"We understand that the SIOP mission planning for air penetration of the Soviet Union either avoids known (radar or air defense) sites (available with present capabilities) or negates them with jamming or standoff missiles." [March 22, 1969, TAB A, p. 3]

INTELLIGENCE EVALUATION:

Such SIOP mission planning requires a confident judgment as to the location and capabilities of defenses. Intelligence work has been underway to identify all of the air defense sites in the USSR and to establish their capabilities, neither of which is possible with the CORONA/GAMBIT-3 combination, since the resolution of the CORONA is too poor and the area coverage provided by the GAMBIT too small. Accurate intelligence on missile and radar sites provides a basis for planning that would minimize losses of our attack forces and maximize their effectiveness.

ELINT collection systems contribute to this problem, of course, but we will continue to be dependent on photography for accurate position data.

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BOB Statement:

"In the case of the Israeli-Arab confrontation, the CORONA is adequate for monitoring changes in air order of battle."
[March 22, 1969, TAB A, p. 3]

INTELLIGENCE EVALUATION:

This statement is true with respect to changes in the number of aircraft. However, fighter aircraft frequently cannot be identified by type in CORONA coverage, which also does not permit reliable damage assessments of equipment not totally destroyed.

A CORONA on orbit provides access to a point target in the Middle East about once every nine days. The HEXAGON will give access every fourth or fifth day. This means that in a 20-day period, the maximum duration of a CORONA mission, the HEXAGON can provide about twice as many pictures, and their resolution will be much better.

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BOB Statement:

"While it is true that the HEXAGON system will provide a better opportunity for sweeping up broad areas in good weather, the time delay in film recovery degrades timely responsiveness and therefore the value of any film recovery system, including the HEXAGON." [March 22, 1969, TAB A, p. 3]

INTELLIGENCE EVALUATION:

Because of its greater access capability, the HEXAGON not only will bring back more film with higher information content than CORONA, but will be more likely --in a given period of time--to obtain clear photography of an area.

With its greater number of re-entry vehicles, the HEXAGON will allow the operator to bring back part of the film load faster during a crisis. For example, if a crisis erupts half way through a CORONA mission, the operator must either bring the only film bucket left back early--and lose further opportunities to obtain coverage--or leave the recovery package up, with the resultant loss of timeliness. The HEXAGON operator could quickly bring back one of his two remaining packages and leave the other up for the duration of a normal mission.

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H-19

BOB Statement:

"We had good coverage of both the Czech crisis and the Arab-Israeli conflict but it was not available for use when it was needed."
[March 22, 1969, TAB A, p. 3]

INTELLIGENCE EVALUATION:

The CORONA/GAMBIT-3 combination did not provide good coverage during either of these crises. The photographic results obtained were reported as they became available, but the information acquired was only a small fraction of what would have been obtained if HEXAGON had been in orbit.

While the problem of timely return of exposed film has not been solved the HEXAGON is an improvement over both the CORONA and the GAMBIT-3 in two ways:

1. Its greater access capability makes it more likely to obtain photography than either of the other systems orbiting over the same period of time.
2. Its greater film load and wide-swath coverage capability permits the operator to expose large volumes of film quickly, and the

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greater number of re-entry buckets permits him to return the film at shorter intervals.

The need for photography does not stop once the crisis dies down. In the case of the Arab-Israeli conflict, there was a continuing requirement for information on the final disposition of forces, for accurate estimates of the quantities of equipment lost by both sides and the amount captured by the Israelis, and for the nature and extent of Soviet activity in the area. The analysis of the changes in the Warsaw Pact force structure and capabilities resulting from the Czech crisis requires a great deal of ground forces deployment information that the CORONA/GAMBIT-3 combination has only limited capability to collect, but which the HEXAGON is capable of providing with relative ease because of its higher resolution, wider coverage, and greater number of accesses.

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H-20

BOB Statement:

"[with respect to] Soviet testing of any weapon in violation of arms control treaty prohibition would be monitored closely by the G-3 which is already targeted with highest priority against Soviet weapons R&D test centers." [March 22, 1969, TAB A, p. 3]

INTELLIGENCE EVALUATION:

If the Soviets were to conduct weapons tests in violation of an arms control agreement, they would try to avoid the use of existing ranges, where the US would be sure to be looking. They probably would try to find a site not previously associated with weapons testing or deployment, a site that would not be under surveillance by the GAMBIT-3 system.

Even at known test sites, like Tyuratam, only a portion of the facility is regularly covered by the GAMBIT-3, and a lower-resolution system must be used to identify significant activity at the rest of the range. The resolution of the CORONA system is too poor to detect minor changes made at launch sites and to determine whether activity at a site is significant.

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BOB Statement:

"[with respect to] Soviet testing of any weapon in violation of arms control treaty, if the violation is detectable by photography, the higher resolution G-3 will be more able to detect subtle violations than the poorer resolution HEXAGON, and if it is not collectible by photography, but rather by SIGINT or HUMINT, the HEXAGON has no special advantage." [March 22, 1969, TAB A, pp. 3-4]

INTELLIGENCE EVALUATION:

Unless the testing were being done at a facility previously identified as having a weapons-related function, GAMBIT-3 coverage would not be targeted. HEXAGON will have a much better ability to detect new installations than CORONA.

An arms control agreement might not be limited to weapons development, but might call for a freeze on deployment as well. A country trying to violate a force-level freeze might try to deploy a camouflaged system in areas that had no history of weapons deployment. Such a system would escape targeting by the GAMBIT-3 system as long as its presence did not become known by some other means. It probably could not be detected on CCORONA photography, since the

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resolution of this system is hardly good enough to identify the function intended to be conveyed, let alone the one intended to be disguised. Detection by HEXAGON, while not assured, carries a much higher probability.

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