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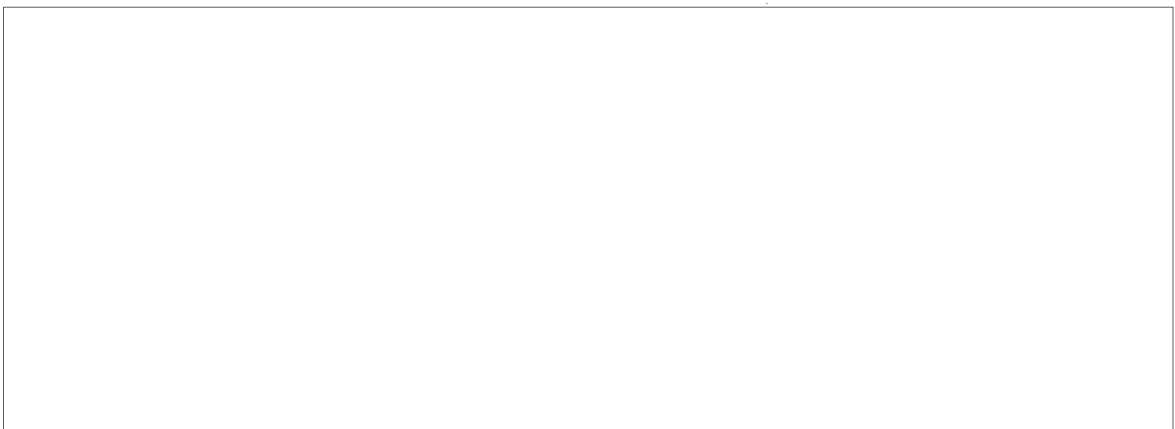
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**SUPPLEMENT 9
TO
JOINT EVALUATION OF
SOVIET MISSILE THREAT IN CUBA**



PREPARED BY

**Guided Missile and Astronautics Intelligence Committee
Joint Atomic Energy Intelligence Committee
National Photographic Interpretation Center**



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2200 HOURS

28 OCTOBER 1962

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SUPPLEMENT 9

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NOTICE

This report is based primarily on detailed analysis of low-altitude photography taken on [redacted] (See Figure 4 for tracks.) The primary emphasis is placed here on a technical evaluation of force readiness, pace of construction, and changes in the deployment program (Table 1). This report does not attempt to estimate Soviet intent to attack the United States.

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SUMMARY

1. All 24 MRBM launchers are believed to be fully operational. (See Figure 2.)

2. Activity was continuing at all the MRBM and IRBM missile sites covered on [redacted] (See Figures 1 and 2.) Camouflage and covering with canvas and natural concealment was continuing at the MRBM sites and is becoming more effective.

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3. No IRBM missiles, missile transports or erectors have been identified. However, we have identified oxidizer trailers and possible fuel transporters among the support equipment near Guanajay IRBM Site 1. These fuel transporters are larger in size than similar fuel transporters at MRBM sites.

4. No new MRBM or IRBM sites have been detected; however, we have had no high altitude coverage appropriate for search since [redacted]

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5. The establishment on [redacted] of Scrambler communications between the USSR and Cuba meets the requirement of the deployed missile units in Cuba for a communications system which is both very secure and capable of handling a large volume of traffic. We consider these links as the best candidates identified to date for Soviet command and control of the missile forces in Cuba.

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6. There is more evidence of the intent to have nuclear warhead bunkers at each launch site.

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DISCUSSION

Offensive Missile Readiness

General

1. A total of 33 missile-transporters and 33 missile-ready tents have been identified to date. Twelve missile-transporters (without nosecones) can be observed on the latest photography; however, it is probable that there are additional ones which cannot be observed because of natural concealment or because of the difficulty of identifying such equipment in oblique photography.

San Cristobal MRBM Area

2. Site 1 (22-40-05N 83-17-50W)

Last coverage: Low-level [redacted]

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a. Readiness Status

This site has a full operational capability.

b. Supporting Evidence

All four launch stands and erectors are placed at prepared launch positions and cabling has been laid. Eight missile-transporters have been identified at this site in one mission. On [redacted] four missile-transporters and seven missile-ready tents were visible. One missile-transporter has been moved alongside an erector.

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c. Significant Trends

Defensive measures are now being taken. One 6-gun 57 mm AAA position with WHIFF radar and rangefinder is now located outside the site approximately 0.3 nm east of site entrance. (See Figure 5.) One twin-30

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mm AAA position (4 guns visible) is located in an open field just south of the site. Two canvas-covered AAA guns are being towed in the tent area. Trenches are being dug throughout the site area, and unidentified objects can be seen outside the perimeter fence on the eastern edge of the site. These may be related to the defense of the site. Camouflage has increased and site improvement and fitting out continues. Two missile-transporter hardstands are being improved. A microwave tower near the northeast corner of the site has been identified. Buildings in the support area are essentially complete. At least 22 cylindrical tanks are now present in the area previously reported as a probable POL depot.

3. Site 2 (22-41-00N 83-15-00W)

Last coverage: Low-level [redacted]

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a. Readiness Status

This site has a full operational capability.

b. Supporting Evidence

An erector and launch stand are at each launch position. Cables extend from three of the erector/launch stands to control centers. There is an oxidizer truck near one launch position. Five missile-ready tents have been erected. Three and possibly four missile trailers are visible; one of these has been moved to the vicinity of a missile-ready tent.

c. Significant Trends

Considerable effort is now being made to establish an effective defense for the site and to camouflage structures and equipment. Defensive measures include the following:

- (1) One 6-gun 57mm AAA position is being prepared and camouflaged on the south side of the site. A radar and a probable rangefinder are present.

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- (2) One 6-gun 30mm AAA position is being prepared and camouflaged approximately one-half mile west-southwest of the site. (See Figure 6.)
- (3) Five vehicle revetments are being constructed on the south edge of the site.
- (4) The perimeter of the site is now defended by automatic weapon positions. Trenches are present in the tent and operational areas.

Almost all equipment in the site is being camouflaged, including five probable armored personnel carriers. Tents are also being camouflaged. While all launch stands and erectors are in position, only three appear to be connected to control centers. At the fourth launch position, cable extends from the control center to the "junction box". There is no cable from the junction box to the erector/launch stand.

4. Site 3 (22-42-40N 83-08-25W)

Last coverage: Low-level [redacted]

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a. Readiness Status

This site has a full operational capability.

b. Supporting Evidence

All four missile erectors and launch stands are in place at prepared launch positions. While only two missile-transporters have been observed at this site, additional transporters could be present since the use of natural concealment has made it extremely difficult to identify all of the equipment in wooded areas.

c. Significant Trends

A lattice microwave tower has been identified for the first time at the probable regimental support area. It is apparently self-supporting and

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has two antenna dishes facing in opposite directions. Several new trenches have been dug throughout the area in the past 24 hours and a six position AAA battery has been identified east of the support area. It is occupied and operational.

Construction activity in the launch site and support area is continuing. Many trucks are observed moving construction materials. The arched roof building, probably a warhead bunker, is still under construction. The work on seven barracks buildings has been completed. The eighth building is still being erected. Extensive use of camouflage and canvas cover, especially in the immediate area of the launch positions, is evident in the latest low-level photography.

5. Site 4 (22-46-55N 82-58-50W)

Last coverage: Low-level [redacted]

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a. Readiness Status

This site now has a full operational capability.

b. Supporting Evidence

All four erectors and launch stands were either in or near the launch positions on [redacted]

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c. Significant Trends

No trenches or AAA sites have been identified at this site. Oblique photography makes identification of specific equipment extremely difficult. For example, of the five previously identified missile-ready tents, only one can be observed in the latest low-level photography.

Sagua La Grande MRBM Area

6. Site 1 (22-43-44N 80-01-40W)

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[redacted]

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a. Readiness Status

This site is considered to have a full operational status.

b. Supporting Evidence

Only two of the launch positions were observed on the latest photo coverage. These remain canvas covered with none of their equipment visible. The three previously reported missile-ready tent foundations are in the process of being laid as evidenced by the presence of a cement mixer and truck with personnel engaged in spreading the concrete. Construction also continues [redacted] All significant launch equipment is canvas covered or camouflaged. Numerous personnel trenches and foxholes have been prepared.

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c. Significant Trends

Poor quality photography and extensive use of camouflage preclude detailed interpretation of much of the activity in the site area; however, heavy trackage in two of the launch areas suggests continuing exercise of the missile system. Site improvement is definitely continuing. No AAA positions have been detected.

7. Site 2 (22-39-10N 79-51-55W)

Last coverage: Low-level [redacted]

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a. Readiness Status

This site has a full operational capability.

b. Supporting Evidence

Three of the erectors and launch stands are emplaced on three of the four prepared launch positions. One of the erectors has been moved from the launch position to an undetermined location; however, the control vans and the cable remain in position. One missile transporter and six

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missile-ready tents are in the site area. Most of the significant launch associated equipment has been canvas covered or camouflaged. Fuel and oxidizer transporters have not been deployed to the vicinity of the launchers, but are located in two groups between the two launch areas. Precast concrete arches continue to be transported to the probable nuclear weapon bunker which is still under construction.

c. Significant Trends

Two AAA positions of 5 to 6 guns each have been detected to the west and west-northwest of the two launch areas. Personnel trenches and foxholes are also evident. Construction and site improvement are definitely continuing.

Guanajay IRBM Area

8. Site 1 (22-57-00N 82-39-25W)

Last coverage: Low-level [redacted]

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a. Readiness Status

It is estimated that this IRBM site will have an emergency operational capability on 15 November and full operational capability by 1 December.

b. Supporting Evidence

Construction is still continuing at this site. Considerable vehicle activity was noted in the visible areas. Photographic coverage included only two of the launch pads. Trucks were continuing to haul fill to one of these pads, and a foundation for a missile-ready building was being prepared.

The vehicle area, first discussed in Supplement 8, shows increased activity. (See Figure 7.) The number of vehicles increased from at least 44 on [redacted] Two additional possible fuel

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trailers have been moved into the area, for a total of four possible fuel trailers and two oxidizer trailers. The possible fuel trailers are definitely larger than those seen at MRBM sites. Two tents have been erected in the vehicle park area and foundations are being prepared for several more. There is no indication of camouflage.

c. Significant Trends

Preparation of this IRBM site is continuing. Additional missile support equipment has been moved into the area since yesterday's report.

9. Site 2 (22-57-25N 82-36-55W)

Last coverage: Low-level [redacted]

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a. Readiness Status

It is estimated that this site will have an emergency operational capability by 1 December and full operational capability by 15 December, providing construction activity continues as currently observed.

b. Supporting Evidence

Construction activity is continuing. Concrete conduits have been placed in the trenches which were being prepared on [redacted] Pre-fabricated concrete blast shields have been added. The launch pads have not been completed but forms and other construction material at the launch pad positions indicates that concrete work was about to begin. Construction type vehicles were active throughout the site.

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c. Significant Trends

Photography shows continuing activity and the presence of personnel. A significant amount of construction was completed in the one-day period [redacted] showing that the project was proceeding at a high rate.

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Remedios IRBM Area

10. Site 1 (22-25-00N 79-35-00W)

Last coverage: [redacted]

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a. Readiness Status

This site could have an emergency operational capability by 1 December and a full operational capability by 15 December.

b. Supporting Evidence

Four launch pads are under construction and one launch control building is complete. Another launch control building is still under construction. At the time of the latest photography construction vehicles were moving about the area. [redacted]

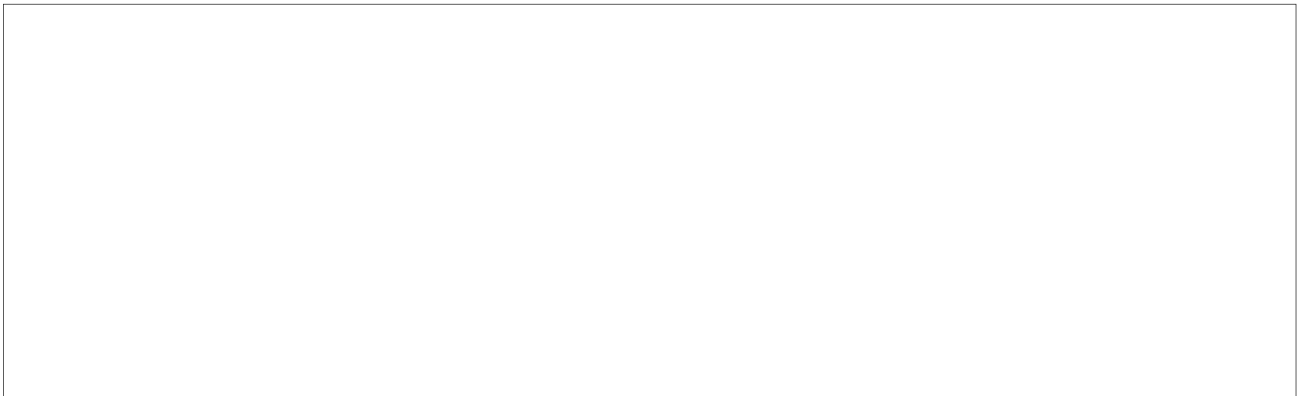
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c. Significant Trends

Since the previous coverage on [redacted] most of the concrete conduits have been laid in one trench. A crane was in position to complete this task at the time of photography. One missile control building which was under construction on [redacted] now appears complete. Construction of the second missile control building has progressed beyond the stage of excavation for the foundation noted in [redacted] photography. The vertical concrete framework and two roof beams are in place.

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The suspect improved road previously observed some 3 1/2 miles southeast of Site 1 could not be identified on poor quality photography.



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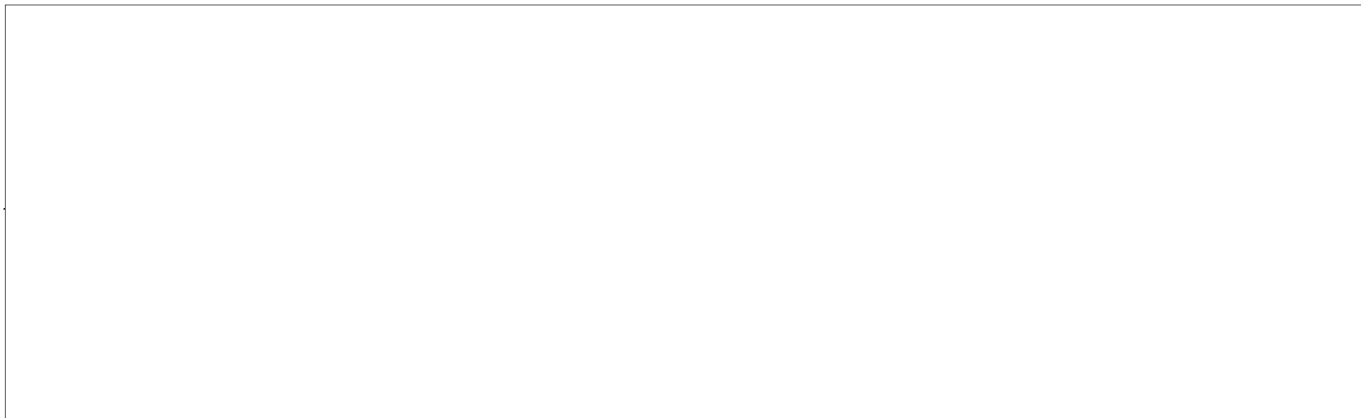
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Command and Control

12. The initial utilization of Soviet Scrambler communications between the Soviet Union and Cuba was noted on [redacted] This occurred at 0228Z on one of the three previously reported links which were recently activated. References to the planned use of Scrambler on these links had been observed in recent communications. A preliminary evaluation of these links suggests a naval association. It is not yet known whether the Scrambler facilities in Cuba are installed on shore or aboard ship. It should be emphasized that the only previously noted use of Soviet Scrambler communications outside of the Soviet Bloc has been associated with senior naval units afloat.

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Supply and Logistics

13. Identification of oxidizer tankers and storage tanks at Punta Gerardo prompted a search of old photography to determine the initiation and rate of build-up at this installation.

a. The first photography was obtained by [redacted] [redacted] The only discernible activity at this time was a freighter tied up at the dock. No construction activity was noted.

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b. Photography of [redacted] provided the first evidence of a propellant supply point. The following items were added to the existing port facilities:

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- (1) Double fencing
- (2) Twenty four storage tanks
- (3) Pipe line from dock to storage tanks
- (4) Construction of unidentified support facilities

c. On [redacted] there were 19 vehicles located in the dock area and two vehicles at the propellant loading point. It was believed that some of the vehicles were oxidizer trailers, although photography precluded their positive identification.

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d. On [redacted] large storage tanks were observed. In addition, two oxidizer trailers identical to those observed at MRBM sites were noted.

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e. There is no way to determine the exact date that activity was initiated at Punta Gerardo, but it is clear that this propellant supply point was in operation by [redacted] oxidizer tankers were being loaded. It is likely, however, that this operation was initiated during the month of September.

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f. It appears that additional support facilities are planned for support of the propellant handling facilities. A light tank was seen patrolling between the double fencing.

Coastal Defense Missiles

(No change)

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Air Defense

(No change)

Tactical Missiles

14. Low-level photography of [redacted] reveals that the FROG missile launcher (an Honest John-type free rocket) and its associated equipment has moved from its vehicle park some 5 kilometers south of Remedios. Its present location is not known.

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TABLE 1
 SUMMARY OF MRBM AND IRBM THREAT IN CUBA
 Status as of 2200 hours on 28 October 1962

Locations	Sites		Launchers		Missiles	
	Total Identified	Probably Planned	Total Identified	Probably Deployed*	Total Identified	Prob Basic Load**
<u>MRBM - Range 1020-nm (non-rotating earth)</u>						
San Cristobal (2 regts)	4	4	16	16	23	32
Sagua La Grande (1 regt)	2	2	8	8	10	16
MRBM TOTAL	6	6	24	24	33	48
<u>IRBM - Range 2200-nm (non-rotating earth)</u>						
Guanajay (1 regt)	2	2	8 under construction	8	0	16

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TABLE 1 (Continued)

Locations	Sites		Launchers		Missiles	
	Total Identified	Probably Planned	Total Identified	Probably Deployed*	Total Identified	Prob Basic Load**
Remedios (1 regt)	1	2	4 under construction	8	0	16
IRBM TOTAL	3	4	12 under construction	16	0	32
GRAND TOTAL	9	10	36	40	33	80

* This reflects an estimate of 8 operational launchers authorized per regiment.
 ** This reflects an estimate of 16 operational missiles per regiment.

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TABLE 2
 TABULATION OF EQUIPMENT AT SOVIET MRBM SITES IN CUBA
 Status as of 2200 hours 28 October 1962

Authorized Equipment (Estimated)	Missile Transporters	Erectors	Launch Stands	Fuel Trailers	Oxidizer Trailers	Missile-Ready Tents	Theodolite Stations	Electronics Vans	Generators
San Cristobal Area									
Site 1	8/4	4/4	4/4	8/1	16/1	7/7	4/4	10/0	6/0
Site 2	6/4	4/4	4/4	7/7	16/8	5/5	4/4	0/0	1/0
Site 3	2/1	4/4	4/0	0/0	0/0	5/5	4/0	7/0	2/0
Site 4	7/0	4/4	4/4	0/0	7/0	5/0	0/0	0/0	0/0
Sagua La Grande Area									
Site 1	6/2	4/2	4/2	8/0	16/0	5/5	4/4	3/0	0/0
Site 2	4/1	4/3	3/1	8/6	16/14	6/6	3/3	3/3	5/4
TOTALS	33/12	24/21	23/15	31/14	71/23	32/28	19/15	23/3	14/4

NOTE: a/b a - Highest number observed at any one time.
 b - Number observed last time site was covered (see Figure 1).

The use of camouflage and natural concealment, coupled with the obliquity of photography, has made it difficult in many cases to obtain an accurate count or assessment of equipment.

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TABLE 3

PROGRESS OF CONSTRUCTION AT SOVIET IRBM SITES IN CUBA

Status as of 2200 hours 28 October 1962

	Launch Pads	Control Buildings	Fuel Storage Tanks	Warhead Bunkers	Missiles	Erectors	Missile Ready Buildings	Cable Trenches	Fencing
Guanajay Site 1	4 u/c	2 c	8	1 u/c	-	-	2 u/c	c	c
Guanajay Site 2	4 u/c	2 u/c	-	-	-	-	-	u/c	c
Remedios Site 1	4 u/c	1 c 1 u/c	8	1 u/c	-	-	-	u/c	u/c

u/c - Under construction
c - Complete

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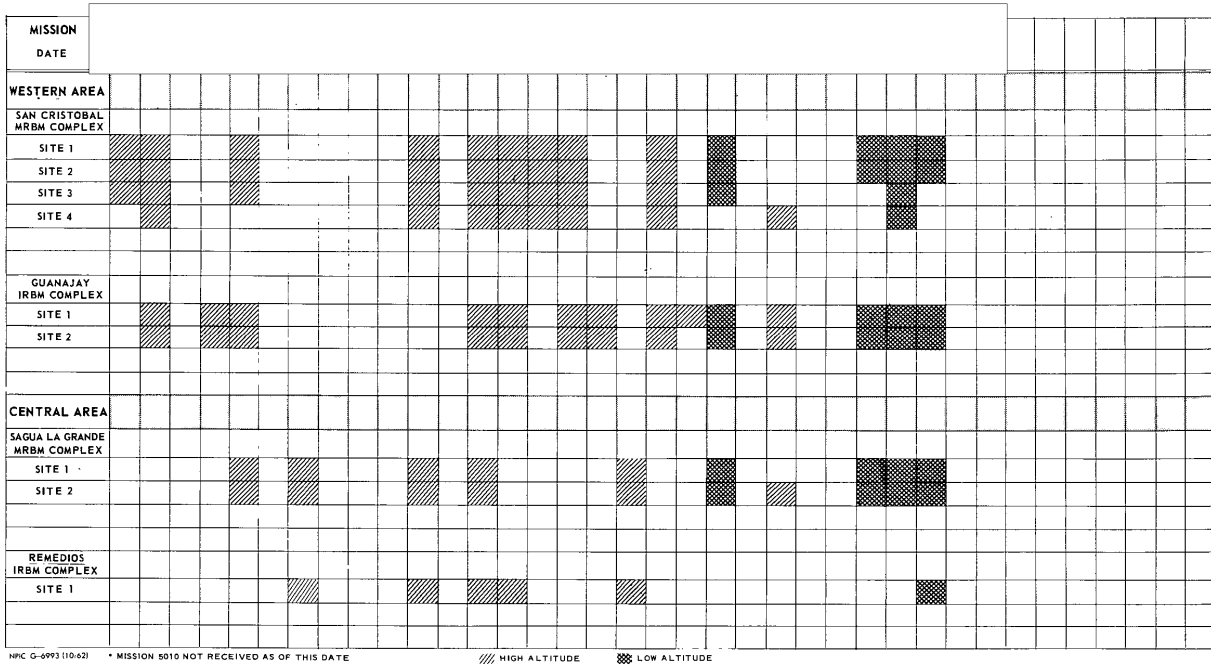


FIGURE 1. SUMMARY OF PHOTOGRAPHIC COVERAGE OF OFFENSIVE MISSILE SITES IN CUBA.

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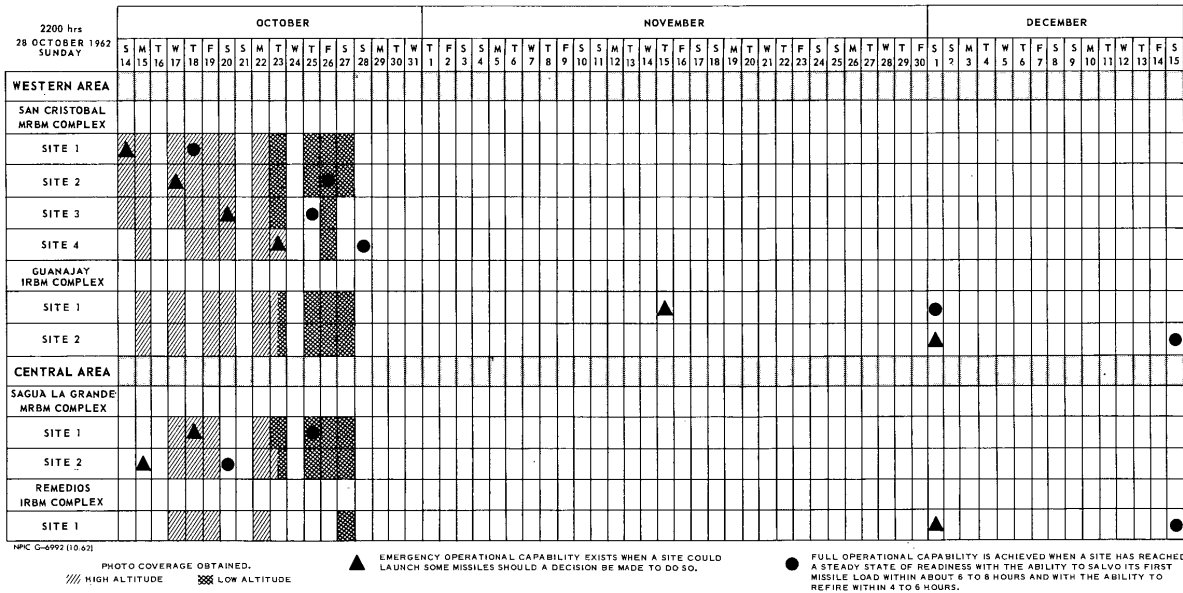


FIGURE 2. ESTIMATED CHRONOLOGY OF OFFENSIVE MISSILE READINESS IN CUBA

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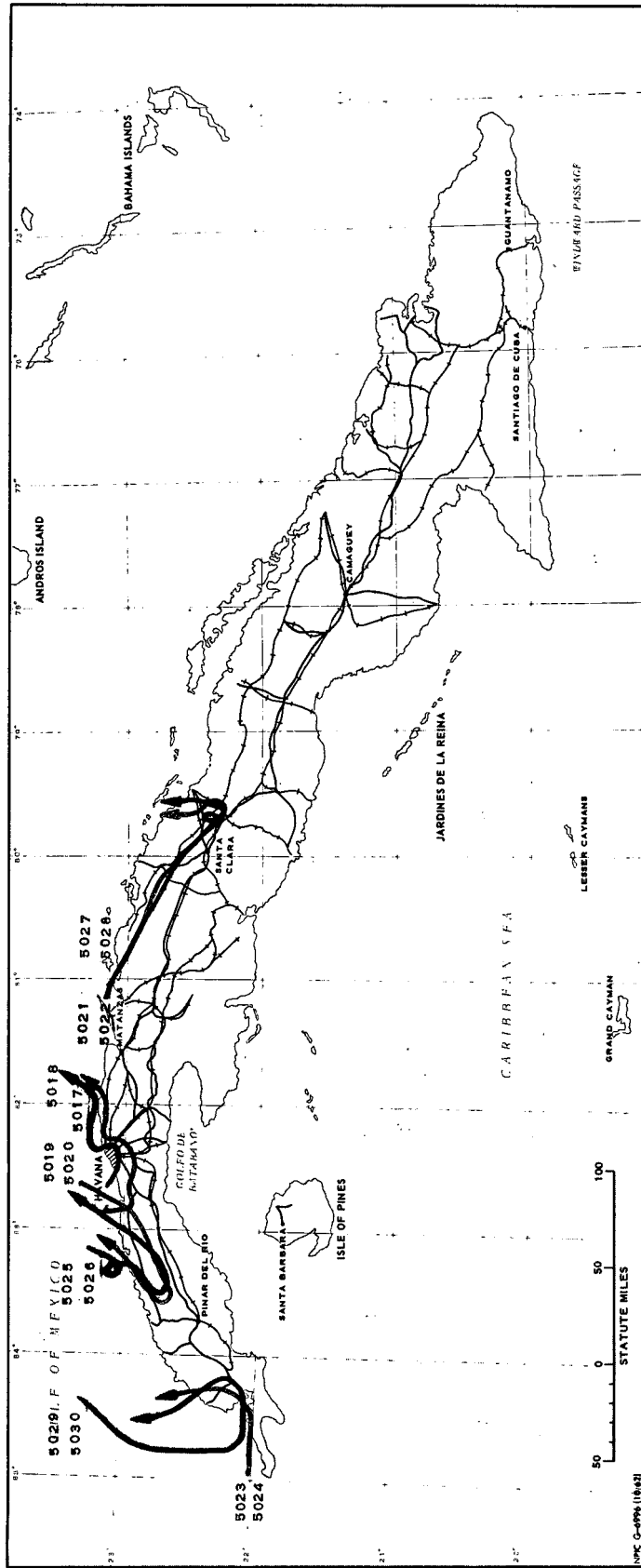


FIGURE 4. ROUTES OF LOW-ALTITUDE FLIGHTS.

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FIGURE 5. ANTI-AIRCRAFT POSITIONS AT SAN CRISTOBAL MRBM LAUNCH SITE 1.

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FIGURE 6. ANTI-AIRCRAFT POSITIONS AT SAN CRISTOBAL MRBM LAUNCH SITE 2.

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FIGURE 7. VEHICLE PARK AT GUANAJAY IRBM LAUNCH SITE 1.

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