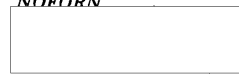


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# SA-5 Complexes and Associated Facilities in Syria (S)

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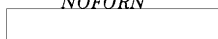
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## SA-5 COMPLEXES AND ASSOCIATED FACILITIES IN SYRIA (S)

### INTRODUCTION

1. This report discusses the deployment of the Soviet SA-5 long-range, medium- to high-altitude SAM system in Syria; the air warning radar facilities associated with each complex; and the SAM systems which provide air defense for the two SA-5 complexes. This report contains three maps, four annotated photographs, and three tables. (S/WN)

2. Prior to the deployment of the SA-5 missile system itself, significant upgrading of the command and control communications for the air defense network in Syria was noted. New radar and communications equipment began to arrive in August 1982. This equipment included the TALL KING C long-range early warning radar; the CROSS SCREEN identification, friend or foe (IFF) radar; the ODD PAIR height finder radar; the BACK TRAP search radar; the KM-1 computer van set; and the CONE DISH data link transmission system. (S/WN)

3. The SA-5 equipment destined for Syria began to arrive at the quay at Nikolayev Port Facilities South [redacted] USSR, on [redacted]. After being shipped from Nikolayev, this equipment began to arrive in Syria at Tartus Port Facilities [redacted] on [redacted]. By [redacted] SA-5-associated equipment was at Damascus SAM Support Facility 13. This facility was being converted from an SA-2/-3/-6 support facility to an SA-5 support facility as early as [redacted]. SA-5-associated equipment had begun to arrive at Dumayr SA-5 Complex 05, which had been under construction prior to [redacted] Hims SA-5 Complex, also under construction by [redacted]. It did not begin receiving SA-5-associated equipment until [redacted]. The sighting of a CLAM SHELL radar on a transportable electronics tower (TET), along with SQUARE PAIR, ODD GROUP, and TALL KING C radars in the tracking and guidance area at both the Dumayr and Hims SA-5 complexes, was significant since this is not a normal deployment practice in the Soviet Union. This combination of equipment has been seen only once in the Soviet Union—in December 1982, during a training exercise at Sary-Shagan Missile Complex SAM Training Facility C19-5 [redacted] USSR. (S/WN)

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### DESCRIPTION

#### Hims SA-5 Complex

4. The Hims SA-5 Complex (Figures 1 and 2) is approximately 6 nautical miles (nm) southeast of Hims and approximately 72 nm north-northeast of Damascus. The complex is secured by a double fence and consists of three functional areas—a tracking and guidance area, a launch area, and a support area. (S/WN)

#### Tracking and Guidance Area

5. Near the center of the tracking and guidance area is a bunker that functions as the tracking and guidance control center (T&GCC). Five earthen radar mounds are in the vicinity of this bunker. Radar mounds designated A1 and A2 have been seen occupied by the SQUARE PAIR radar and are believed to be associated with designated launch site A. Likewise, radar mounds B1 and B2 have been seen occupied by the SQUARE PAIR radar and are believed to be associated with launch site B. Cable trenches connect the T&GCC with the four SQUARE PAIR-associated radar mounds (A1, A2, B1, and B2) and with the launch site control centers (LSCCs) at launch sites A and B. At A1 and B1, an exposed linear revetment for a guidance control van and a generator/converter is beside each of the mounds. At A2 and B2, an earth-covered, drive-through bunker adjacent to each mound provides cover for the guidance-control van and the generator/converter. The fifth radar mound, not designated, has been observed occupied by the ODD GROUP radar. Five revetted support buildings, one radar calibration mast, two SA-7 firing sites, at least one anti-aircraft artillery (AAA) mound, and numerous revetments are also in this area. (S/WN)

6. Equipment in the tracking and guidance area as of [redacted] included one TALL KING C long-range early warning radar, draped in netting; one CROSS SCREEN IFF radar, draped in netting; one ODD GROUP height finder radar and four SQUARE PAIR tracking and guidance radars, each encircled by an environmental screen; one CLAM SHELL low-level acquisition radar mounted on a TET, draped in netting; one CONE DISH communications mast with associated support vans; and one SA-8 transporter-launcher and radar (TLAR). (S/WN)

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#### Launch Area

7. The launch area consists of two operational six-position launch sites (designated A and B) and two nonoperational three-position launch sites (designated AA and BB). Launch sites A and B each consist of a bunkered LSCC and six revetted launch positions, respectively designated A1 through A6 and B1 through B6. Each LSCC is connected by cable trenches to the six associated launch positions and to the T&GCC in the tracking and guidance area. Concrete pads were poured around the launcher placement excavation at each of the 12 launch positions prior to installation of the launcher. The typical V-rails seen at many of the SA-5 launch positions in the Soviet Union were not seen at the Syrian sites. These tracks are used at SA-5 complexes in the Soviet Union to provide a rapid reload capability from a resupply dolly to the launcher. (S/WN)

8. Launch site AA (east of launch site A) and launch site BB (north of launch site B), each consist of a dirt mound erected as a dummy LSCC and three revetted launch positions respectively designated AA1 through AA3 and BB1 through BB3. No

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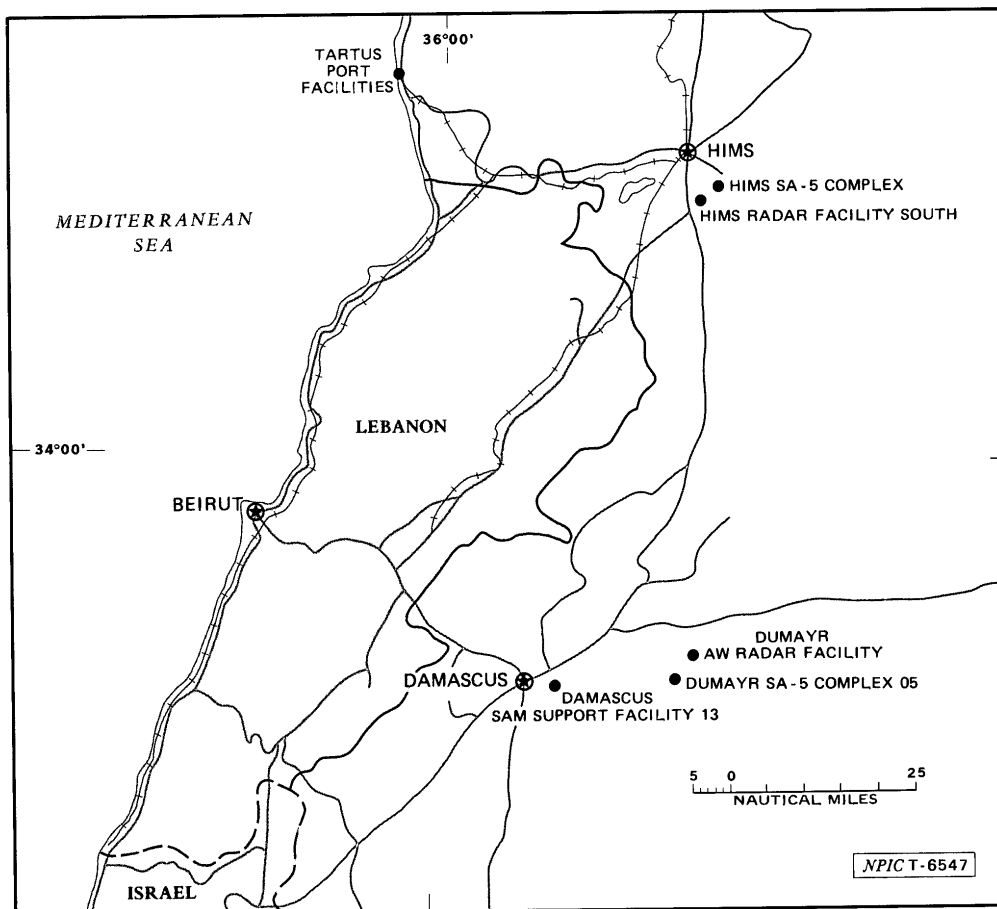


FIGURE 1. LOCATIONS OF FACILITIES ASSOCIATED WITH SA-5 DEPLOYMENT IN SYRIA

cable trenches connected the two sites to the tracking and guidance area, and there was no evidence of a launcher placement excavation or concrete pavement in any of the six launch positions before each position was covered with a canvas-covered framework. While it is possible that an SA-5 launcher, with or without a missile, could be under the canvas at each of the positions at these two sites, the sites themselves have not been constructed to function as operational SA-5 launch sites. Therefore, it is postulated that these two sites, AA and BB, were constructed for deception/storage, not as operational sites. (S/WN)

9. Also in the launch area are 16 revetted support buildings, numerous revetments, one SA-7 firing site, a missile checkout tent, and a water filtration station with two pyramidal tents. Equipment in the launch area as of [ ] consisted of 12 canvas-covered SA-5 launchers, probably with missiles; eight probable SA-5 missile/canister transporters in sheds; seven SA-8 TLARs; and two SA-8 transloaders. It is possible that six more SA-5 launchers, with or without missiles, could be under the canvas covering the launch positions at sites AA and BB. (S/WN)

#### Support Area

10. The support area consists of 40 barracks, eight support buildings, two guard posts, nine

vehicle storage buildings, one 40-man tent, one pyramidal tent, and several revetments. Numerous pieces of support equipment, including trucks, cranes, and transporters, are in this area. (S/WN)

#### Hims Radar Facility South

11. Hims Radar Facility South (Figures 1 and 3) is a major air defense center in Syria. This radar facility, 6 nm south of the city of Hims and 1.6 nm west-southwest of the Hims SA-5 complex, provides the complex with significant air warning capabilities. Radars and electronics equipment operationally deployed there as of [ ] included two BACK TRAPS, four ODD PAIRS, two SIDE NETs, one TALL KING C, one CROSS SCREEN, one SPOON REST D, one CONE DISH, and two KM-1 computer van sets. Construction of a large bunker, which had begun prior to [ ] was continuing. (S/WN)

#### Dumayr SA-5 Complex 05

12. Dumayr SA-5 Complex 05 (Figures 1 and 4) is approximately 6 nm south of Ad Dumayr and approximately 18 nm east of Damascus. The complex is double fence secured and consists of three functional areas—a tracking and guidance area, a launch area, and a support area. (S/WN)

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**Tracking and Guidance Area**

13. The tracking and guidance area is separated from the launch area by a single fence. At the heart of the tracking and guidance area is the T&GCC, which formerly was the central guidance bunker for a six-position SA-2 site designated Damascus SAM Site B09-3 22. Around this SAM site are five earthen radar mounds. Radar mounds A1 and A2 are believed to be associated with launch site A in the launch area. Likewise, radar mounds B1 and B2 are believed to be associated with launch site B. Cable trenches connect the T&GCC with the four SQUARE PAIR-associated radar mounds (A1, A2, B1, and B2) and with the LSCCs at launch sites A and B. At A1 and B1, an exposed linear revetment for a guidance control van and a generator/converter is beside each of the mounds. At A2 and B2, an earth-covered bunker adjacent to each mound provides cover for the guidance-control van and the generator/converter. The fifth radar mound, not designated, is occupied by an ODD GROUP radar. Five revetted buildings, one support building, one personnel bunker, one single-lane obstacle course, six AAA mounds, numerous drive-in and drive-through revetments, and one unidentified instrumentation position are also in the tracking and guidance area. (S/WN)

14. At the center of the unidentified instrumentation position, which is on the west edge of the tracking and guidance area, is a meter bunkered building with two antenna mounds/vents on it. Cable trenches extended outward from the bunker to form two long probable instrumentation legs in a cross shape along azimuths of 110/290 degrees and a rectangular concrete bunker is at each end of each leg. On each rectangular bunker are two dark areas, one and the other (S/WN)

15. Also in the tracking and guidance area are at least 41 scattered groups of very small, dark objects on the ground in a compact, open-ended oval shape. Their function is unknown. (S/WN)

16. Equipment in the tracking and guidance area as of included one TALL KING C radar, draped in netting; one CROSS SCREEN radar, draped in netting; one ODD GROUP radar, encircled by an environmental screen; four SQUARE PAIR radars, encircled by environmental screens; two CONE DISH communications masts with canvas-covered associated vans; one SA-8 TLAR; four probable ZU-23 AAA pieces; two groups of stick mast antennas; and one possible R-409 CATS PAW antenna. Additional equipment in the tracking and guidance area but separated from the rest of the area by a single security fence included one CLAM SHELL radar on a TET, draped in netting; two radar mounds with environmental screens; and one radar calibration mast. (S/WN)

**Launch Area**

17. The launch area consists of two operational launch sites (designated A and B) and three nonoperational launch sites (designated AA, BB,

and CC). Launch sites A and B each consist of a bunkered LSCC and six revetted launch positions, respectively designated A1 through A6 and B1 through B6. Each LSCC is cable connected to its six associated launch positions and to the T&GCC in the tracking and guidance area. Concrete pavement was poured around the launcher placement excavations at all 12 of the launch positions associated with sites A and B prior to the arrival of the launchers. Launch sites AA and CC are respectively west and east of site A, and launch site BB is east of site B. Sites AA and BB each contain three launch positions respectively designated AA1 through AA3 and BB1 through BB3. Site CC contains six launch positions designated CC1 through CC6. At each of the three sites, a dirt mound has been erected as a dummy LSCC. No cable trenches connected the three sites to the tracking and guidance area, and there was no evidence of a launcher placement excavation or concrete pavement at any of these 12 launch positions prior to the placement of a canvas-covered framework at each launch position. While it is possible that an SA-5 launcher, with or without a missile, could be under the canvas in each of these 12 launch positions, the sites themselves were not constructed to function as operational SA-5 sites. Therefore, it is postulated that sites AA, BB, and CC were constructed for deception/storage, not as operational sites. (S/WN)

18. Also in the launch area are 11 revetted buildings, eight AAA positions, one SA-7 firing site, numerous drive-in and drive-through revetments, and 26 groups of small, dark objects like those in the tracking and guidance area. Equipment in the launch area as of included 12 canvas-covered SA-5 launchers, probably with missiles; seven SA-8 TLARs; four probable ZU-23 AAA pieces; and numerous pieces of support equipment under netting. Additionally, it is possible that 12 SA-5 launchers (with or without missiles) could be under the canvas over the launch positions at sites AA, BB, and CC. (S/WN)

**Support Area**

19. The support area consists of 40 barracks, 19 support buildings (seven under construction), two guard posts, five vehicle storage buildings (one under construction), a water filtration station with two Soviet-type USB-41 tents, and two pyramidal tents. Numerous pieces of support equipment, including trucks, cranes, and transporters, are normally seen in the support area. (S/WN)

**Dumayr Air Warning Radar Facility**

20. Additional air warning for the Dumayr SA-5 complex is provided by Dumayr Air Warning Radar Facility. This radar facility is 3 nm northeast of the Dumayr SA-5 Complex. Upgrading of this facility began in the fall of 1982. Radar and other electronics equipment operationally deployed as of at the facility included two BACK TRAP, four ODD PAIR, one TALL KING C, one CROSS SCREEN, one BAR LOCK, one SPOON REST, and two SIDE NET radars, as well as two CONE DISH antennas. (S/WN)

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**Damascus SAM Support Facility 13**

21. Damascus SAM Support Facility 13 (Figures 1 and 5) is 6 nm east of Damascus. This fenced facility consists of three drive-through buildings, two of which were connected by a missile checkout tent; one high-bay maintenance building, and T1 support/storage buildings, just outside the fence on the southeast side of the facility are four support/storage buildings and one vehicle storage building. A CONE DSH communications mast with associated support vans and four support sheds is just outside the fence on the northwest side of the facility. Equipment present varies because of the support function of the facility. However, SA-5-associated equipment observed includes transporters; missile canisters, booster crates; fin crates; and support equipment such as cranes, trucks, and vans. An administration/support area is under construction 0.2 nm west of the support facility. It is fence secured and consists of one administration/quarters building, one quarters building, three barracks, one mess-hall, and one support building. (S/WN)

**Shipments of SA-5-Associated Equipment from the USSR to Syria**

22. SA-5 equipment began to arrive at Nikolayev Port Facilities South, USSR on [redacted]. The first sighting of SA-5-associated equipment in Syria was at Tartus Port Facilities on imagery of [redacted] when 12 possible SA-5-associated missile/canister transporters were seen. The only

identification of SA-5 launchers at Tartus Port Facilities was on imagery of [redacted] when seven were seen. Table 1 provides a chronological listing of SA-5-associated equipment at both Nikolayev Port Facilities South and Tartus Port Facilities. The table also provides the dates when SA-5s were deployed and a Soviet Ukraina passenger ship was present at Tartus Port Facilities. The passenger ship was probably transporting Soviet technicians and advisors associated with the transfer of the SA-5 system to Syria. The unprecedented deployment of a SAM system at a Syrian port was probably due to the sensitive arrival of either Soviet personnel or SA-5 equipment. (S/WN)

**SAM Defenses for the SA-5 Complexes in Syria**

23. Two maps (Figures 6 and 7) depict the significant air defense umbrella associated with the SA-5 complexes. The associated SAM systems providing this cover consist of the SA-2, SA-3, SA-6, SA-7, SA-8, and SA-9. Since the SA-7, SA-8, and SA-9 are deployed within the SA-5 complexes, they are not separately plotted on the maps. Although additional SAM sites surround the SA-5 complexes, only the sites which were seen occurred on the most recent coverage prior to [redacted] are shown on the maps. Damascus SAM Support Facility 13 and the air warning facilities associated with the SA-5 complexes are also shown on the maps. The tables accompanying each map (Tables 2 and 3) identify the facilities plotted on the maps. (S/WN)

**Table 1. Shipments of SA-5-Associated Equipment From the USSR to Syria, January-February 1983**

Date	Port Facility	Weather Conditions	SA-5 Launchers	SA-5 Missile/Canister Transporters	SA-5 Sustainer Canisters	SA-5 Booster Crates	SA-5 Multiple Booster Crates	SA-5 FIN Crates	SQUARE PAIR Sets	RAIL KING Sets	TELs	CLAM SHELL Sets	Other Observations
	Nikolayev	Clear	12	34	0	12	39	12	15	2	0	0	
	Nikolayev	Clear	12 (INCI)	0	0	0	0	0	2	0	0	0	
	Tartus	Clear	0	12 shipped	9 shipped	12 shipped	33 shipped	12 shipped	(5 new)	(2 shipped)	0	0	Ukraina passenger ship in port
	Tartus	Clear	0	12 gone	0	0	0	0	0	0	0	0	80 pieces of equipment remained. Ukraina in port
	Nikolayev	Scattered clouds	12 (INCI)	0	0	0	0	0	2 (INCI)	0	0	0	
	Nikolayev	Haze	1 seen (12 shipped)	0	0	0	0	0	0 (2 shipped)	2	1	1	
	Tartus	Clear	0	0	0	0	0	0	0	0	0	0	Ukraina gone
	Nikolayev	Clear	1 (INCI)	12 (INCI)	2 (INCI)	0	0	0	0	2 (INCI)	2	2	
	Tartus	Clear	0	12	0	0	0	0	0	0	0	0	Ukraina in port: 8 SA-8s & 2 transporters on pier
	Tartus	Clear	0	10	8 prob	0	0	8	0	0	0	0	Ukraina remained: 5 SA-8s & 1 transporter remained
	Tartus	Haze	0	0	0	0	0	0	0	0	0	0	Ukraina remained: SA-8s gone
	Nikolayev	Clear	12	10 removed	0	0	37	0	0 removed	3.5	2 (INCI)	0	2 (INCI)
	Nikolayev	Clear	12 (INCI)	12 (INCI)	7	0	38 prob	0	0	2 (INCI)	0	0	12 shipped
	Nikolayev	Clear	12 (INCI)	12 (INCI)	0	0	17 shipped	0	1 (8 shipped)	0	0	0	12 shipped
	Tartus	Clear	0	0	0	0	0	0	0	0	0	0	Ukraina in port
	Tartus	Clear	0	0	0	0	0	0	0	0	0	0	Ukraina gone
	Nikolayev	Clear	0	0	0	0	0	0	0	0	0	0	
	Tartus	Clear	0	12 shipped	0	0	0	0	0	0	0	0	Ukraina in port: SA-8 try on pier
	Tartus	Clear	7	12	0	0	0	0	0	0	0	0	SA-8s gone. Ukraina remained
	Tartus	Haze	0	0	0	0	0	0	0	0	0	0	Ukraina remained
	Tartus	Clear	17 removed	12 shipped	0	0	0	0	0	0	0	0	Ukraina gone

\*No change from previous coverage

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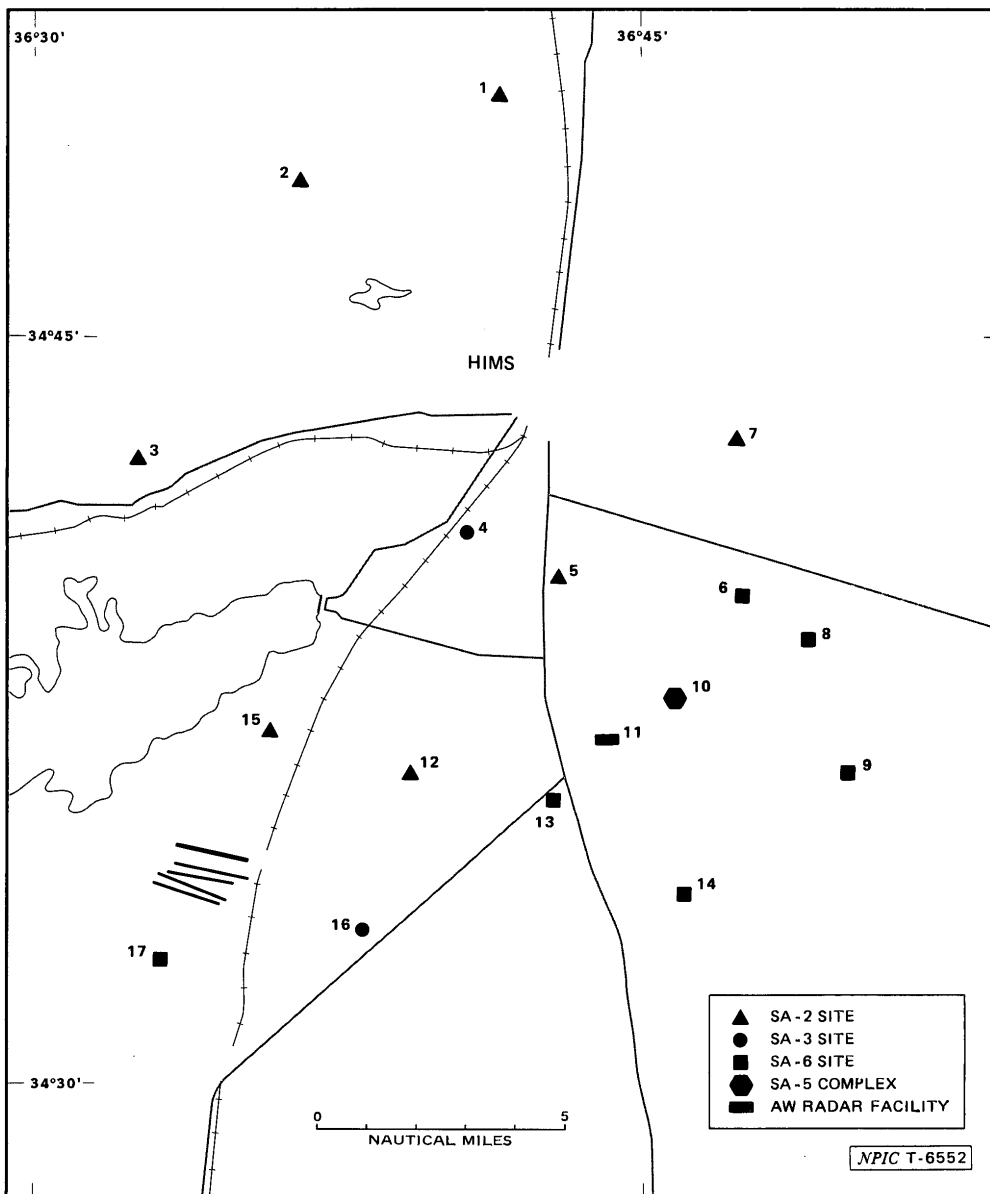


FIGURE 6. LOCATIONS OF SAM DEFENSES FOR HIMS SA-5 COMPLEX. Hims Radar Facility South, which provides significant air warning capabilities for this complex, is also depicted.

Table 2. Active SAM Sites and Related Air Defense Facilities for Hims SA-5 Complex, Syria (Keyed to Figure 6)

Item	Facility	BE No	Geo Coords
1	Hims SAM Site A35A-2 14		34-49-57N 036-41-55E
2	Hims SAM Site 226		34-47-20N 036-37-10E
3	Hims SAM Site A27-2 214		34-42-31N 036-33-16E
4	Hims SAM Site 272		34-40-55N 036-41-20E
5	Hims SAM Site A18-2 217		34-40-23N 036-43-25E
6	Hims SAM Site 384		34-39-50N 036-48-00E
7	Hims SAM Site A11-2 17		34-42-29N 036-47-18E
8	Hims SAM Site 388		34-39-10N 036-49-05E
9	Hims SAM Site 395		34-36-20N 036-50-20E
10	Hims SA-5 Complex		34-37-26N 036-46-16E
11	Hims Radar Facility South		34-36-55N 036-44-20E
12	Hims SAM Site A20A-2 11		34-36-27N 036-40-37E
13	Hims SAM Site 393		34-35-45N 036-43-55E
14	Hims SAM Site 394		34-33-50N 036-46-20E
15	Hims SAM Site 397		34-37-00N 036-35-50E
16	Hims SAM Site 399		34-33-20N 036-38-10E
17	Al Qusayr SAM Site 385		34-32-15N 036-33-25E

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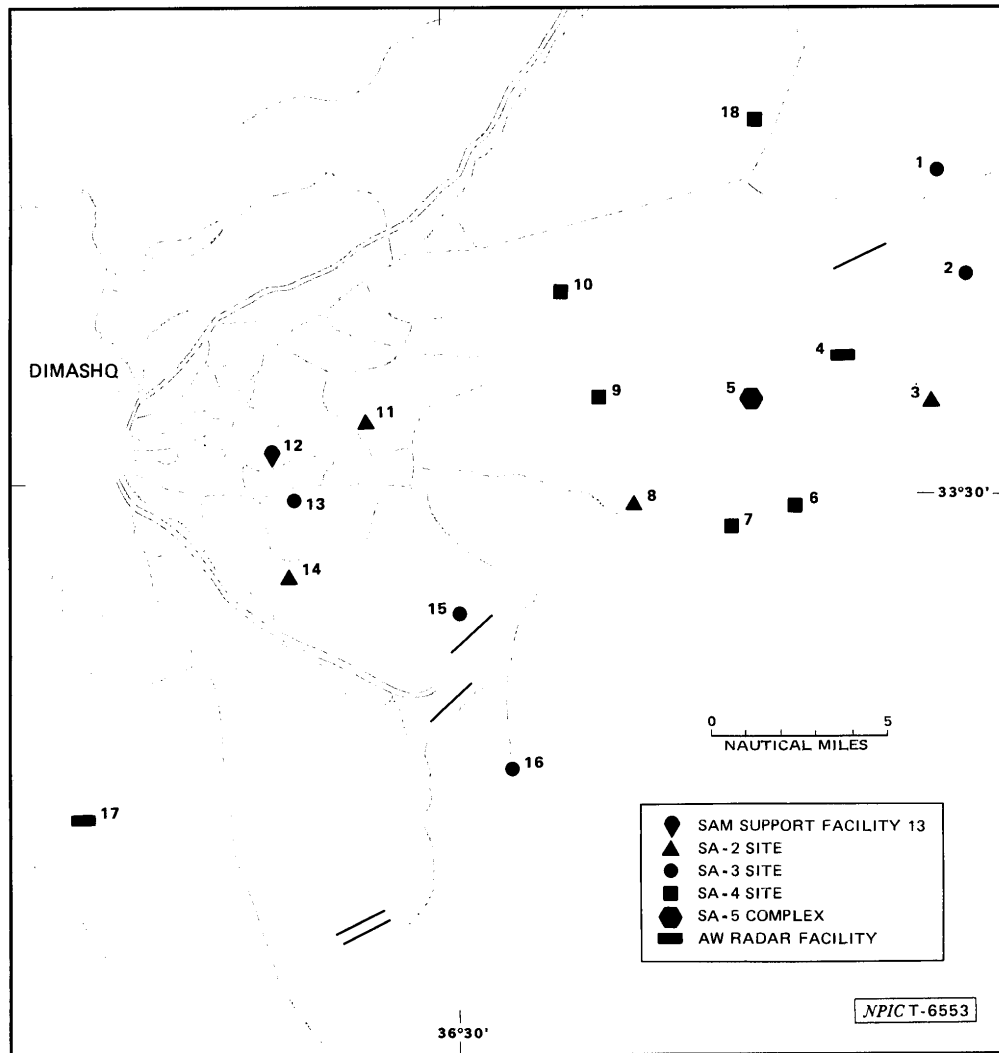


FIGURE 7. LOCATIONS OF SAM DEFENSES FOR DUMAYR SA-5 COMPLEX 05. Included are the locations of Dumayr AW Radar Facility, Damascus SAM Support Facility 13, and Damascus Radar Facility TALL KING.

Table 3. Active SAM Sites and Related Air Defense Facilities for Dumayr SA-5 Complex 05, Syria (Keyed to Figure 7)

Item	Facility	BE No	Geo Coords
1	Dumayr SAM Site 396		33-38-48N 036-47-24E
2	Damascus SAM Site C08-3 23		33-36-07N 036-48-40E
3	Damascus SAM Site C09B-3 33		33-33-25N 036-46-20E
4	Dumayr Air Warning Radar Facility		33-33-40N 036-44-10E
5	Dumayr SA-5 Complex 05		33-32-00N 036-41-00E
6	Dumayr SAM Site 387		33-29-50N 036-42-25E
7	Dumayr SA/6 SAM Site 391		33-28-35N 036-40-25E
8	Damascus SAM Site B10-2 19		33-30-00N 036-37-05E
9	Dumayr SA/6 SAM Site 390		33-32-35N 036-35-42E
10	Dumayr SAM Site 389		33-35-30N 036-34-30E
11	Damascus SAM Site A08-2 47		33-32-24N 036-27-12E
12	Damascus SAM Support Facility 13		33-30-55N 036-24-35E
13	Damascus SAM Site A11A-3 54		33-29-32N 036-24-59E
14	Damascus SAM Site A12-2 2		33-26-57N 036-24-54E
15	Damascus SAM Site B12-3 46		33-26-11N 036-30-54E
16	Damascus SAM Site B13-3 37		33-21-15N 036-32-54E
17	Damascus Radar Fac TALL KING		33-19-55N 036-17-34E
18	Dumayr SA-6 Site 400		33-40-14N 036-41-40E

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**SECRET****CHRONOLOGY OF EVENTS IN SYRIA\***

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No SA-5 complex construction was noted in the Hims or Dumayr areas of Syria.

BACK TRAP radar was active near Dumayr.<sup>1</sup>

BACK TRAP radar was active at Hims.<sup>2</sup>

Initial TALL KING radar signals were emanating from near Dumayr SA-5 Complex.<sup>3</sup>

Damascus SAM Support Facility 13 was an SA-2/-3/-6 support facility.

Initial TALL KING radar signals were emanating from near Hims SA-5 Complex.<sup>3</sup>

The SA-2/-3/-6 equipment had been removed from Damascus SAM Support Facility 13. Construction was underway.

The Hims and Dumayr SA-5 complexes, both in the late stages of construction, were imaged for the first time. Dumayr consisted of 24 launch positions; Hims consisted of 18 launch positions. Hims Radar Facility South was under construction. Equipment there included one CONE DISH and two KM-1 computer van sets. However, this equipment could not be confirmed on that date.

The revetment for the bunker at the unidentified instrumentation position in the tracking and guidance area of Dumayr SA-5 Complex had been started.

Major construction was complete at Damascus SAM Support Facility 13. Elements of a mechanized infantry company, consisting of 7 BMPs, were defensively deployed around the perimeter of the facility. At the Dumayr SA-5 Complex, the cable trenches for the cross-shaped legs in the unidentified instrumentation area had been dug.

Four of the seven BMPs seen on [ ] at Damascus SAM Support Facility 13 remained.

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SA-5 equipment was seen for the first time at Damascus SAM Support Facility 13. Ten SA-5 missile/canister transporters were present. Four BMPs continued to provide perimeter defense.

An increase in SA-5 equipment was seen at Damascus SAM Support Facility 13. At least 34 SA-5 canisters with fin crates and numerous booster crates were observed draped with netting. Other types of support equipment, such as canister transporters, truck-mounted cranes, and trucks, were also observed. Only two BMPs remained for perimeter defense.

The amount of SA-5 equipment at Damascus SAM Support Facility 13 continued to increase; 68 to 80 camouflage net-covered SA-5 canisters with fin crates, numerous booster crates, 23 SA-5 missile/canister transporters, one truck-mounted crane, and other support equipment were observed. Two BMPs remained. At the Hims SA-5 Complex, the roads were being oiled. Although Dumayr SA-5 Complex was almost completely cloud covered, two trucks each were seen at launch positions CC4 and CC5.

Fifteen of the 23 canister transporters had departed Damascus SAM Support Facility 13. A missile checkout tent had been erected between two drive-through buildings in the center of the facility.

Two KM-1 computer vans remained at Hims Radar Facility South, where they were first observed on [ ] this was the first confirmed sighting of this equipment deployed in Syria. At Hims SA-5 Complex, the roads throughout the facility continued to be oiled.

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The first identification of SA-5-associated equipment at an SA-5 complex in Syria occurred when two sets of SQUARE PAIR antenna trailers were observed at Dumayr SA-5 Complex. One TALL KING C radar with its associated CROSS SCREEN was deployed in the tracking and guidance area. Eighteen of the 24 launch positions contained a canvas-covered framework large enough to house an SA-5 launcher. The trucks in launch positions CC4 and CC5 could no longer be observed. One Soviet-type USB-41 tent and numerous trucks were in the support area. A building was under construction at the unidentified instrumentation position in the tracking and guidance area. A berm surrounded the revetted building, the cross-shaped probable instrumentation legs emanating from it, and the road out of the facility. Two SA-8 batteries were deployed in the complex. SA-8 LAND ROLL reflections were acquired from Dumayr.<sup>4</sup> Initial reflections were acquired of the SA-8-associated LAND ROLL radar near Hims.<sup>5</sup>

A CONE DISH antenna was deployed along with its computer van and two support vans on the northwest edge of Damascus SAM Support Facility 13. At Dumayr SA-5 Complex, a second USB-41 tent had been erected in the support area. Numerous trucks were also present.

\*Activity at Tartus is not included.

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Four SQUARE PAIR radars and one ODD GROUP radar were newly deployed at Dumayr SA-5 Complex. Two of the SQUARE PAIRs were encircled by an environmental screen. Each of the 24 launch positions was occupied by a canvas-covered framework. One group of five stick masts and one probable CONE DISH were deployed in the tracking and guidance area. Twelve SA-5 transporters were in the support area, and one large tent and one pyramidal tent had been erected in the area. The two USB-41 tents also remained. AAA pieces were deployed on mounds throughout the facility.

Initial SQUARE PAIR radar reflections were noted in Syria.<sup>6</sup>

The CONE DISH deployment at Dumayr SA-5 Complex was confirmed.

A second group of five stick masts was observed in the tracking and guidance area at Dumayr SA-5 Complex.

One TALL KING C, one CROSS SCREEN, and one CLAM SHELL with support equipment were observed at Hims SA-5 Complex. Environmental screens were being erected on radar mounds, and two SA-8 batteries were deployed within the complex. Additional SA-8 LAND ROLL reflections were acquired from the Hims SA-5 Complex.<sup>7</sup>

One TET and elements of an SA-9 battery were observed at Hims SA-5 Complex. Two probable CONE DISH computer vans were observed at the Complex, but the CONE DISH system was not deployed there.

SQUARE PAIR signals were first isolated at Dumayr SA-5 Complex.<sup>8</sup>

Initial CLAM SHELL target acquisition radar reflections were noted in Syria.<sup>9</sup>

The TET-mounted CLAM SHELL radar was erected at Dumayr SA-5 Complex. Netting was first observed on the T&GCC bunker. Elements of a water filtration station were in the support area next to the USB-41 tent.

Launch position A3 at Hims SA-5 Complex contained a canvas-covered framework large enough to house an SA-5 launcher. One FLAT FACE B was deployed in the launch area. Two SA-5 canisters (one with fin crates) were in the support area. This was the first identification of any SA-5 components at either SA-5 complex in Syria. Also, one 40-man tent and one pyramidal tent had been erected in the support area.

Thirteen launch positions at the Hims SA-5 Complex contained canvas-covered frameworks. The SA-5 canisters had been removed from the support area. One SQUARE PAIR and one ODD GROUP had been enclosed by an environmental screen. The CLAM SHELL and TET were attached but not erected. Post holes for a security fence surrounded Hims Radar Facility South.

Six possible missiles were on launchers at Dumayr SA-5 Complex. A second CONE DISH antenna was deployed in the tracking and guidance area. Two pyramidal tents had been erected next to the USB-41 tents and water filtration station in the support area. At Hims SA-5 Complex, the canvas had been pulled back on launch position B4, exposing an SA-5 launcher. Three SQUARE PAIRs were deployed in the tracking and guidance area. One of the SQUARE PAIRs was ground mounted, while the other two were enclosed by screens on radar mounds.

An SA-5 launcher and missile without canvas was observed at launch position A5 at Dumayr SA-5 Complex. At Hims SA-5 Complex, seven SA-5 launchers with missiles were observed. One CONE DISH was deployed in the tracking and guidance area, and the CLAM SHELL on the TET had been erected. Four of the six launch positions at sites AA and BB contained canvas-covered frameworks. Three BRDM-2 armored cars were first observed at this facility at the entrance to the support area.

The SQUARE PAIR on the ground at Hims SA-5 Complex was encircled by a screen. All six launch positions in sites AA and BB were covered by a canvas-covered framework.

One of the four SQUARE PAIRs at Dumayr SA-5 Complex had been removed from mound A1 and was positioned on the ground between the TALL KING and ODD GROUP. The building at the center of the unidentified instrumentation position in the tracking and guidance area was earth covered, and its drive-through openings were obscured by canvas. Two antenna mounts/vents were observed on the bunker. A small-arms firing range had been constructed in the launch area.

At Hims SA-5 Complex, the canvas-covered frameworks had been removed from the launch positions at sites A and B, revealing 12 SA-5 launchers, 11 with missiles. A missile checkout tent had been erected in the launch area. Two pyramidal tents had been erected with a water filtration station in the launch area next to the support area. The environmental screens had been removed from the SQUARE PAIR and ODD GROUP radars. One probable SQUARE PAIR had been added for a total of four in the tracking and guidance area. Two SA-7 firing sites and the LSCC at site B had been draped with netting. At Hims Radar Facility South, no further fence construction was evident. Post holes surrounded the facility.

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At Hims SA-5 Complex, the canvas-covered frameworks had once again been erected over the launch positions at sites A and B except launch position A2, where an SA-5 launcher with a missile remained. The water filtration station remained next to the support area, and seven large revetments near it had been occupied by 13 tank trucks with trailers. One occupied revetment was also canvas covered. Netting had been draped over the missile checkout tent. Canvas covered the entrances to both LSCCs. An SA-5 transporter was carrying an SA-5 missile out of launch site B, and another SA-5 transporter was entering launch site A. The environmental screens had once again been erected around the four SQUARE PAIR radars. At Hims Radar Facility South, cable trenches connected the KM-1 computer van sets to the CONE DISH.

At Dumayr SA-5 Complex, one radio van truck (possibly an R-405) with netting over it was deployed on the T&GCC. The CLAM SHELL position had been revetted, and an environmental screen was around the ground-mounted SQUARE PAIR. The water filtration station next to the two USB-41s and the two pyramidal tents in the support area appeared to be complete. The support vans for the CONE DISH had been canvas covered. Numerous pieces of equipment in revetments next to the support area were canvas covered.

*This chronology in its entirety is classified SECRET/WNINTEL*

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Comments and queries regarding this report are welcome. They may be directed to [ ] Third World Forces Division, Imagery Exploitation Group, NPIC; [ ] Contributions to this report were provided by [ ] Warsaw Pact Forces Division; and [ ] Guerette, Soviet Strategic Forces Division. (S)

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