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PHOTOGRAPHIC INTERPRETATION REPORT

**SARY-SHAGAN
ANTIMISSILE TEST CENTER, USSR
CHANGES AND ADDITIONS
AS OF [REDACTED]**

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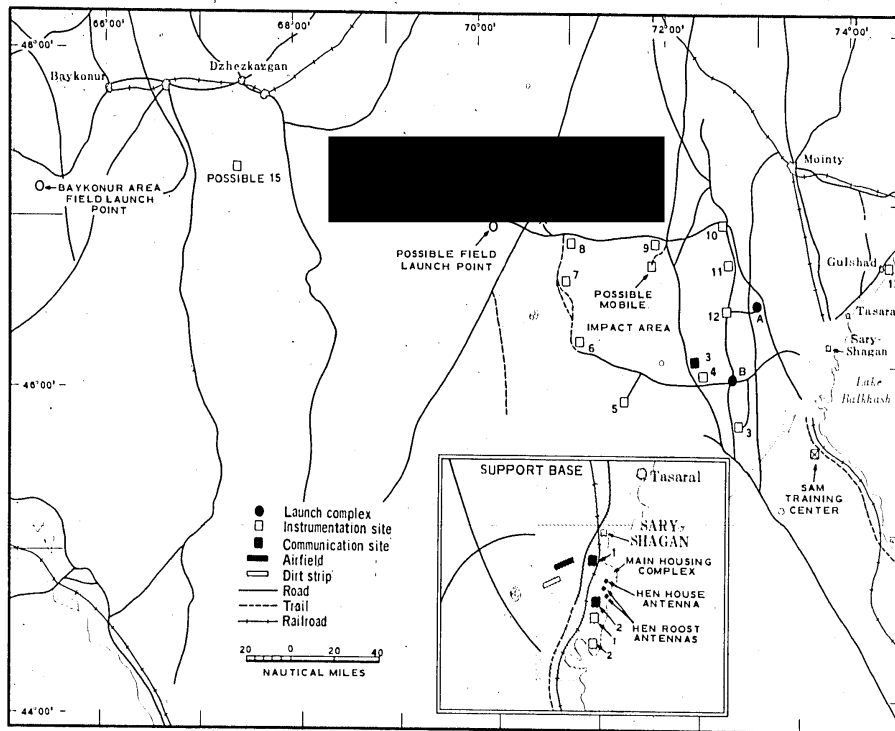


FIGURE 1. ANTIMISSILE TEST CENTER, SARY-SHAGAN, USSR.

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INTRODUCTION

This report is written in response to CIA requirements C-SI4-81,506 and C-RR4-81,536 with Supplement 1. It supplements previous reports on the Sary-Shagan Antimissile Test Center (SSATC) and contains information on facilities at which new developments have occurred from [REDACTED]. During this period all facilities at the Test Center (Figure 1) were covered by generally good to very good quality, clear stereoscopic photography except Possible Instrumentation Site 15. The report can be divided into two parts: the first containing a description of changes observed at all facilities except instrumentation sites, as well as a detailed description of Site [REDACTED] per requirement; the second containing a summary description of all instrumentation sites with recent changes noted and with an annotated photograph of each. A detailed description of the HEN HOUSE antenna will be included in a report being prepared under NPIC project N-579/64.

LAUNCH COMPLEX A (46-23-00N 72-52-20E)

Headquarters and Administration Area

No significant change was noted from [REDACTED] in the Headquarters and Administration Area of Launch Complex A (Figure 2). On [REDACTED] approximately 15 vehicles were parked just north and north-northwest of the microwave tower in the same location where vehicles were observed in [REDACTED]. During this period both SAM Site C35-2 and the On-Site Support Facility were active; equipment moved about in both areas and several small structures were added to the Support Facility. Photography of [REDACTED] reveals a landing T on the airstrip southwest of the Headquarters and Administration Area.

Several of the small structures in the airstrip support area have changed position since clear photography of [REDACTED].

Missile Storage and Checkout Area and Electronic Site D

Facilities remain unchanged since [REDACTED] at these areas, both of which are active. Approximately 22 vehicles were parked in the Missile Storage and Checkout Area and several probable vehicles were visible in Electronic Site D.

Launch Sites 1 and 2 and Electronic Site A (Figure 3)

Launch Site 1. Launch positions are more clearly defined at Site 1 than at Site 2. Only three of the launch positions at Site 1 are occupied. The single hardstand is occupied and appears to be partially enclosed by a low revetment. Four vehicles or very small structures

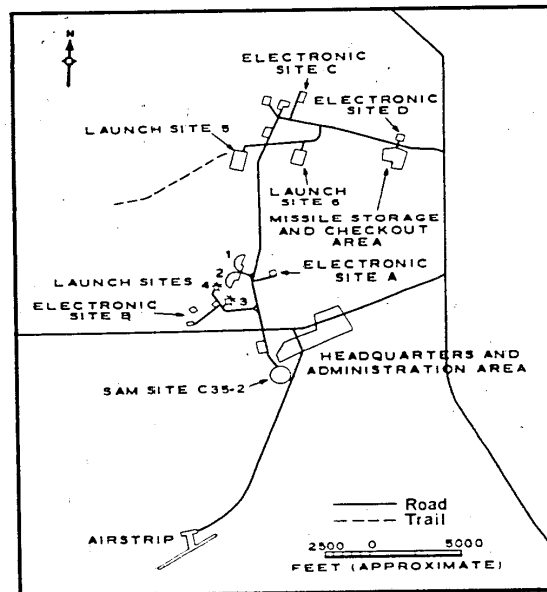


FIGURE 2. LAUNCH COMPLEX A.

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have been added to the central guidance area since [REDACTED]

Launch Site 2. This site does not appear generally as active as Site 1 on [REDACTED] photography. No equipment can be identified at the launch positions. The object with height apparent on the single hardstand since [REDACTED] has disappeared. Two additional vehicles have appeared in the central guidance area since [REDACTED]

Electronic Site A. This site appears essentially as it did in [REDACTED] except that three small structures or vehicles have been added.

Launch Sites 3 and 4 and Electronic Site B (Figure 3)

Launch Site 3. The two approximately 50-by 20-foot objects remain at positions 3 and 4.

In the central guidance area one piece of equipment has been removed since [REDACTED]. The small items of equipment found on positions 1, 2, and 6 have been moved during this time. The most significant development has been occurring at position 5, where construction observed as early as [REDACTED] (but not present in [REDACTED]) has now developed into a rectangular revetment with inside measurements of approximately 185 by 65 feet and outside measurements of approximately 225 by 90 feet.

The revetment was constructed at the terminal point of the position access road over the site of the former launch position. The azimuth of the perpendicular bisector of the reconstructed pad is approximately 340 degrees. The revetment composes three sides of the reconstructed pad and possibly a short segment of the fourth. A loop road, constructed sometime between [REDACTED]

[REDACTED] serves the position along the fourth side. Uneven terrain, sloping up to the site of the reconstructed pad, has necessitated a gradual buildup of the loop road. Two unidentified pieces of equipment or sheds can

be seen close to the highest point of the loop road. Close to the western inside edge of the revetment, a circular pad (approximately 60 feet in diameter) with a small dark object in the center has been prepared. The remaining revetment floor had not been prepared as of [REDACTED]. Approximately 85 feet east of the revetment a tower-like structure and an unidentified rectangular structure remain in the same position as observed in [REDACTED] and [REDACTED]. A second loop road was constructed just west of position 6. Since [REDACTED] a circular pad (approximately 55 feet in diameter) with a small dark object in the center has appeared at the southeast segment of this loop road. A narrow ground scar connects this pad with position 6.

Launch Site 4. All launch positions at Site 4 were occupied by small items of equipment on [REDACTED]. Nine items have been added since [REDACTED] and three have been removed. One item has been removed from the central guidance area.

Electronic Site B. No significant change is discernible in facilities at Electronic Site B since [REDACTED]. Ten additional items of equipment have appeared in the six areas of activity near the western boundary since [REDACTED]. During this time no apparent change has occurred in the revetment and road construction paralleling the access road to Electronic Site B except for the addition of a connection, possibly an earthen mound, between the access road and the closer of the two new roads. The revetments, constructed along the southern of the two new roads by [REDACTED] from west to east, measure as follows: a U-shaped revetment, 170 by 95 feet; two bowed revetments, each 125 feet long; and a low revetment approximately 295 by 255 feet.

West of Launch Site 4 on [REDACTED] and [REDACTED] photography a rectangular

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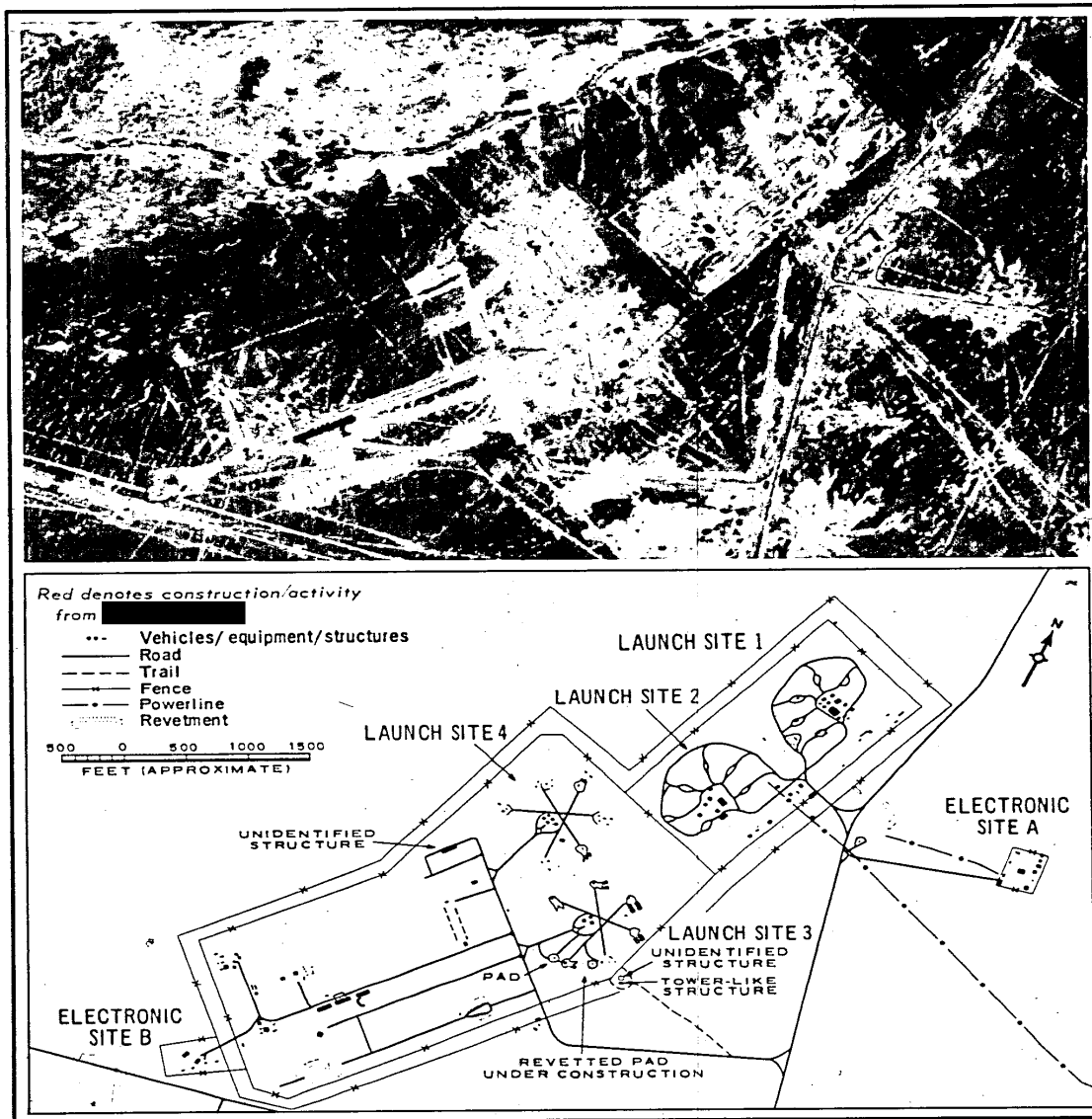


FIGURE 3. LAUNCH COMPLEX A--LAUNCH SITES 1-4 AND ELECTRONIC SITES A AND B.

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road pattern was under construction with unidentified activity extending from this pattern close to position 1 of Site 4. In the center of the rectangular road pattern what appears to be an earthen wall, approximately 440 feet long, has been constructed. An unidentified narrow structure, 130 feet long, parallels it to the west.

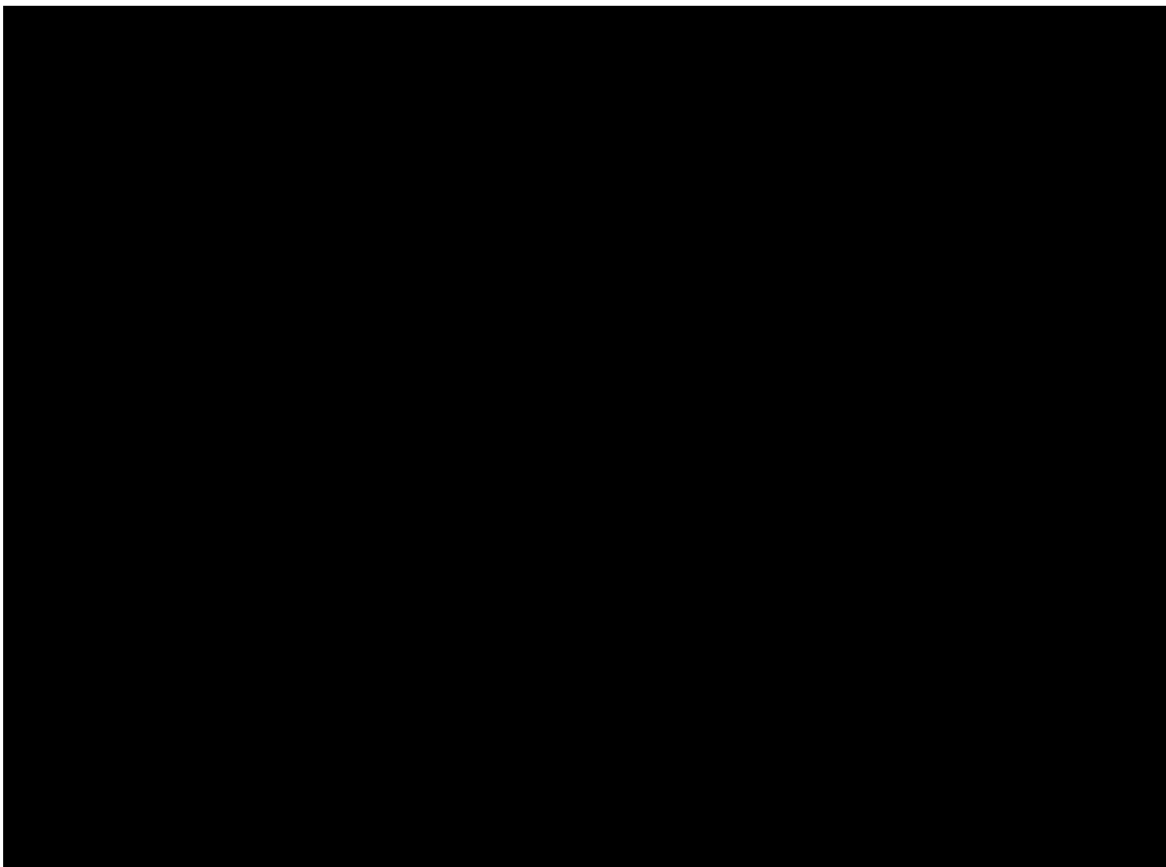
The small unidentified facility (not shown on graphic), situated 2,400 feet southwest of Electronic Site B and first observed on photography of [REDACTED] can now be identified as a

probable electronic facility and appears essentially as in [REDACTED] with several small additional vehicles at the site.

Launch Sites 5 and 6 and Electronic Site C (Figure 4)

Launch Site 5. Facilities remain unchanged at this site since [REDACTED]. In contrast with Site 6, this site shows evidence of activity. One vehicle is positioned back of the missile-hold building. Four other vehicles/pieces of equipment are observed in the area.

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Launch Site 6. No change is apparent in facilities at the site. No evidence of activity is observed on [REDACTED] coverage.

Electronic Site C. No change is observed in facilities at the southwest extremity since [REDACTED]. These facilities consist of a probably semiburied building (120 by 70 feet), a tower-like structure on a concrete apron, and several possible vehicles. In contrast, changes have occurred recently at the northeast extremity of this site. The tower-like structure appeared on snow-covered photography of [REDACTED].

[REDACTED] to have been covered by an environmental shelter or scaffolding (approximately 125 feet high). On photography of [REDACTED] this shelter has been removed, revealing that the tower-like structure remains standing. The probable crane positioned here since [REDACTED] is observed at the southwest corner of the apron. An unidentified loop pattern, observed on snow-covered photography of [REDACTED] just west of the apron, is barely discernible. A dark ground pattern, visible since [REDACTED] close to the northeast corner of the apron, still is apparent and remains unidentified. Several vehicles are noted at the site.

The only discernible change in the probable control center since [REDACTED] occurred at and near the modified L-shaped building. The western extension (300 by 85 feet) to this building, which appeared almost complete by [REDACTED] except for probable modifications on the roof, is too dark in tone on [REDACTED] photography to ascertain details of roof configuration. The roof of the remainder of the building presents a mottled appearance. Activity of an undetermined nature appeared through heavy haze at the north portion of the base of the building in [REDACTED]. At that time a small light structure and several possible overhead steam pipes or walkways were visible there. These

still were apparent in [REDACTED]. No change can be seen since [REDACTED] in the 50-foot dome area approximately 800 feet northwest of the probable control center. The two very small unidentified objects observed on [REDACTED] photography in the approximate site of the TOKEN-type radar (present in [REDACTED]) are barely discernible on photography of [REDACTED]. Identification of these objects has not been possible on small-scale photography.

LAUNCH COMPLEX B

(45-59-40N 72-31-00E)

Support Area

No significant change has been observed since the latest clear coverage of [REDACTED] in the Support Area, in the Assembly and Check-out Facility, in the airstrip, or in the four instrumentation sites serving Launch Complex B (Figure 5).

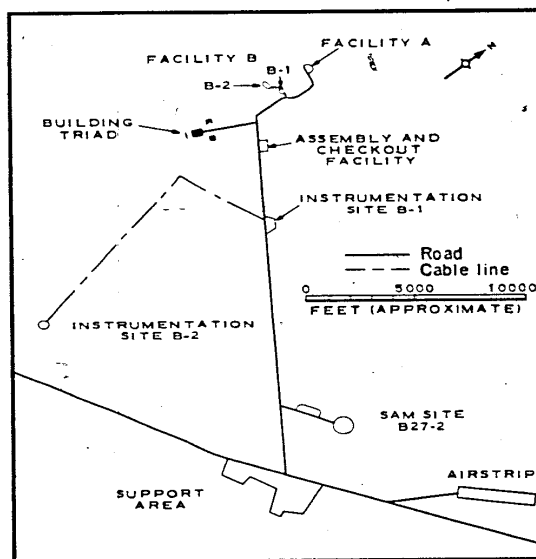


FIGURE 5. LAUNCH COMPLEX B.

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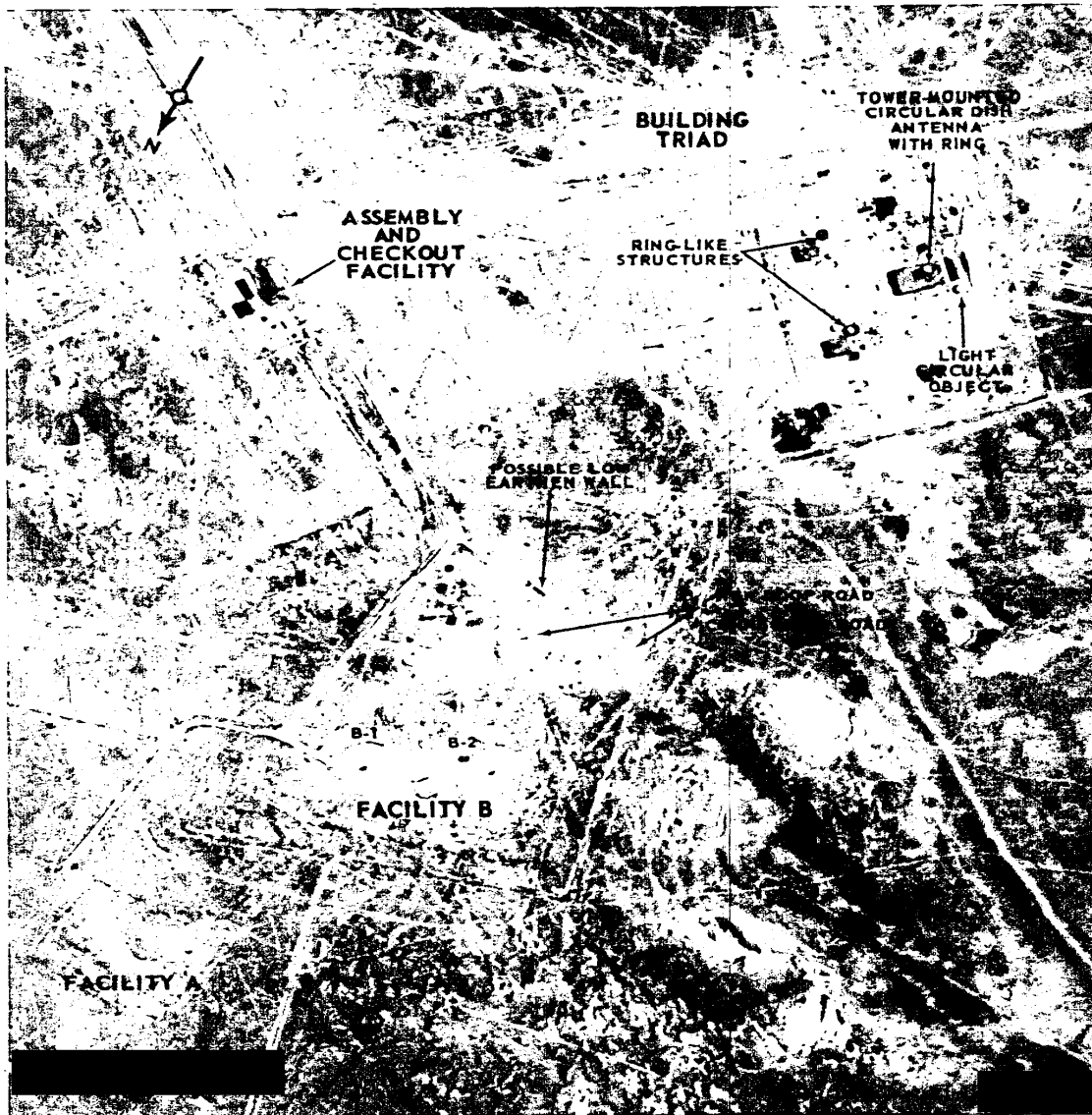


FIGURE 6. LAUNCH AREA AND BUILDING TRIAD AT LAUNCH COMPLEX B.

NPIC J-4824 (11/64)

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Launch Area and Building Triad (Figure 6)

Facility A. Facility A remained unchanged since latest clear coverage of [REDACTED]

Facility B. No significant change has been observed since [REDACTED] in Pads B-1 and B-2. What appears to be a low, narrow earthen wall or earth mound [REDACTED] now is apparent along the south lip of the loop road near the south-central boundary of Facility B at the point where the scar from the triad reaches it. A second loop road was constructed between [REDACTED] (possibly under construction) --just west of the first one and connected with it by a road 250 feet long. The major axis of the area enclosed by the eastern loop road measures 260 feet; that enclosed by the western loop road 270 feet. The western road has been constructed through the inner of the two security fences around Facility B. A number of vehicles can be seen in the area, including two probable vehicles parked adjacent to Pad B-2.

Building Triad. The building triad at Launch Complex B remains under construction and is now believed to be electronic in nature. The previously reported tall dish- or disc-like object on the roof of the large rectangular building of the triad is now confirmed as a tower-mounted circular dish antenna [REDACTED]

[REDACTED] diameter, is on the roof, encircling the tower and probably indicating preparations for an environmental shelter. Smaller ringlike structures (75 and 65 feet in diameter) are positioned on the ground adjacent to the northern and southern small triad buildings, respectively. A small object is observed on the roof of each of the smaller buildings. Adjacent to the unidentified structure paralleling the large triad building is a light-colored circular object (ap- possibly an

environmental shelter. A ringlike structure, [REDACTED] in diameter, is also observed on the ground just north of the northern small triad building. Three generally circular excavations are visible just southeast of the large triad building. At the triad site are a number of small structures, some of which are new since [REDACTED]. The unusual road pattern east of the two small triad buildings appears essentially as it did in [REDACTED]

MAIN HOUSING COMPLEX

The Main Housing Complex appears essentially as in [REDACTED] except that the Warehouse Area just south of the Original Housing Area is being dismantled. From [REDACTED] 10 of the 18 warehouses (each approximately 80 by 30 feet) had been removed. Since clear photography of [REDACTED] no discernible change can be found in the two plus configurations midway between the Probable Range Headquarters/Complex Control Area and the HEN HOUSE antenna. The southern pattern has not progressed beyond the initial construction stage.

SITE 13

(46-35-40N 74-31-35E)

Between the [REDACTED] report 1/ and [REDACTED] the primary change of significance at Site 13 occurred at the dual HEN HOUSE-type structures, with minor construction in the support areas (Figures 7, 8, and 9). Extensive development was accomplished on the two previously observed linear structures, revealing increased similarity in size and configuration to the original HEN HOUSE antenna at the SSATC Support Base. In this report they will be referred to as dual HEN HOUSE-type structures. Each structure consists of a dual HEN HOUSE-type antenna in various stages of construction and a probable central control build-

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ing. The two dual structures appear to be parallel and in line with a separation distance of approximately 250 feet. The azimuths of their perpendicular bisectors are both [REDACTED]

(accurate within one degree). Sometime between

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[REDACTED] construction of a third such structure (Operations Area C) was started approximately 2,160 feet north-north-west of the most advanced site (Operations Area A). This structure is offset from the other two structures, with the azimuth of the perpendicular bisector of the structure being [REDACTED]

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degrees [REDACTED] There is no evidence to date of a fourth such site.

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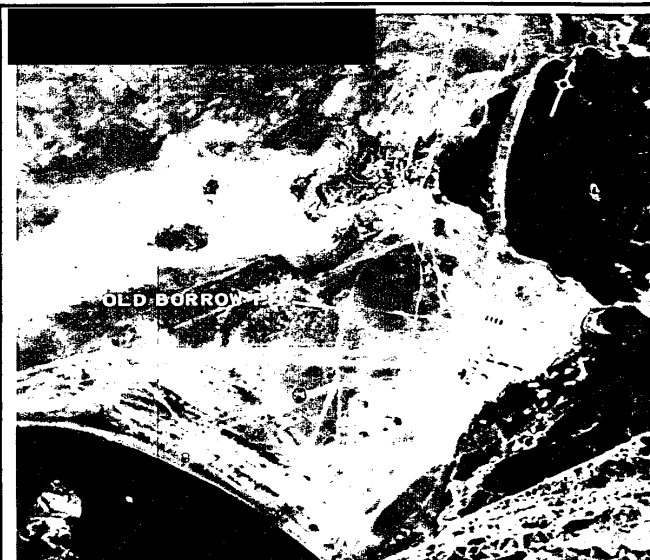
Site 13 was not covered on Mission [REDACTED]

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Partial coverage of the site from Mission [REDACTED] is limited by heavy haze and clouds with both linear structures of Operations Area A and the southern linear structure of Operations Area B visible. Construction continues on the probable central control building (295 by 160 feet) at Area A, which is positioned largely to the east of the linear structures. Approximately two-thirds (595 feet) of the north linear structure at Operations Area A appears to have been covered by a pitched roof at this time; possible framework has been constructed in the remaining one-third (295 feet). The side facing westward is light in tone, possibly indicating the open area of the antenna face (approximately 825 feet long). A terminal building (85 by 55 feet) is under construction at the northeast corner of the linear structure. Possible framework is observed along the entire length of the southern linear structure of Operations Area A. The northern linear structure of Operations Area B is under excavation; the southern linear structure was cloud covered on this mission.

Storage activity is observed extending along a trail approximately 660 feet west of the probable central control building at Operations Area

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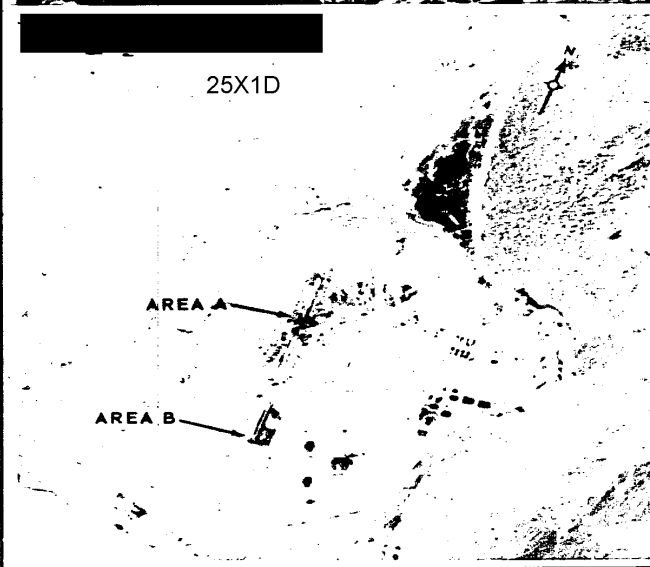


FIGURE 7.

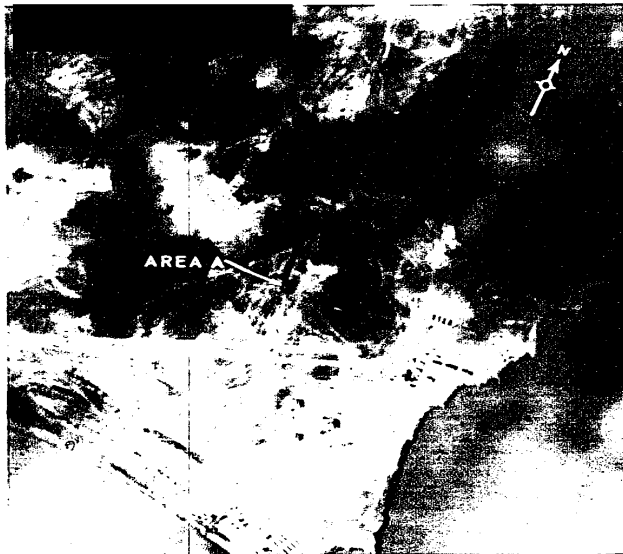
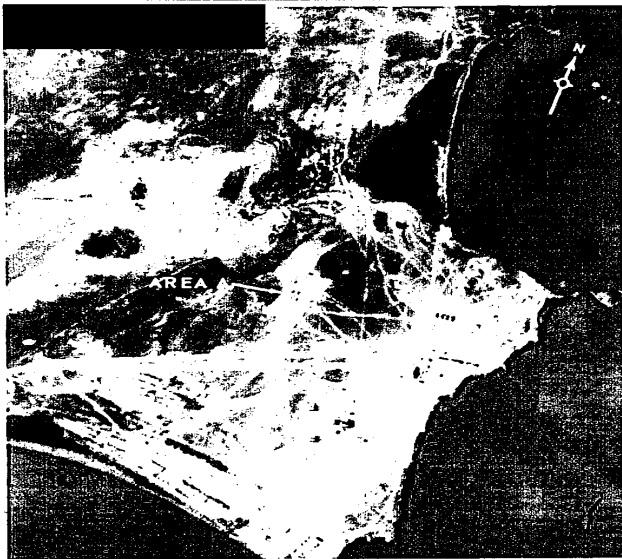
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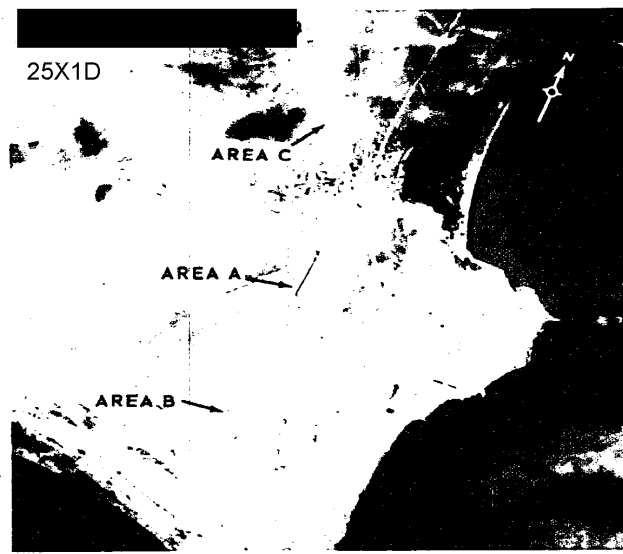
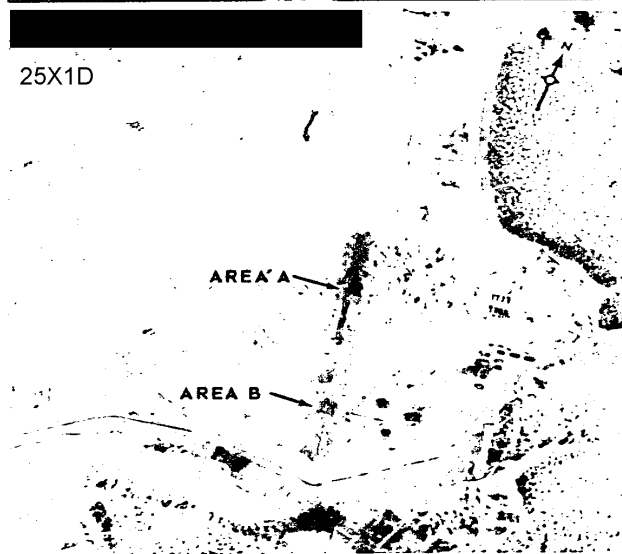
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DEVELOPMENT OF HEN HOUSE-TYPE STRUCTURES AT SITE 13, SSATC.

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FIGURE 8. SITE 13, SSATC.

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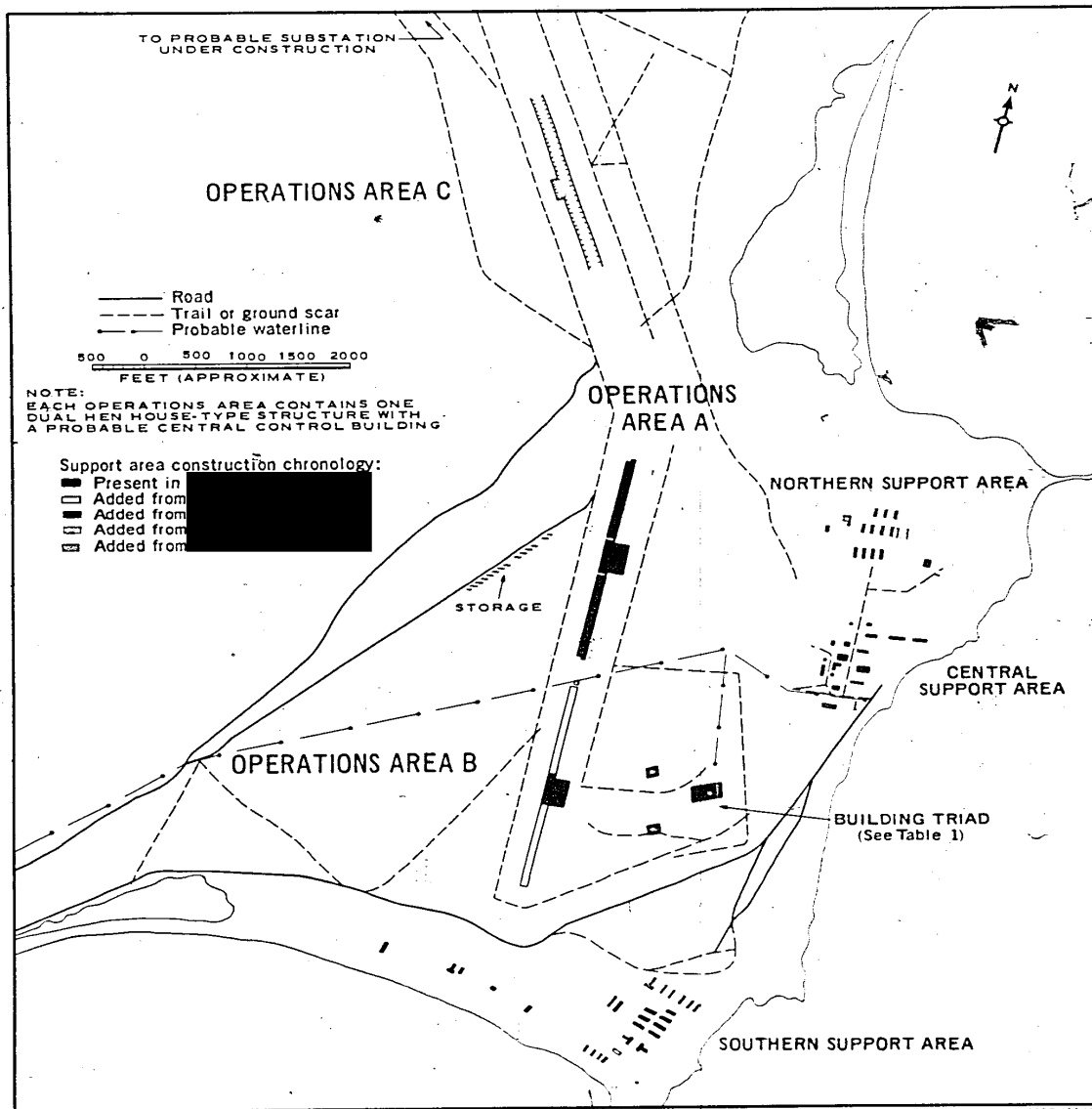


FIGURE 9. LAYOUT OF SITE 13, SSATC, [redacted]

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25X1D A. This storage, which appeared sometime between [REDACTED] is dark in tone.

25X1D On Mission [REDACTED] work continues on the probable central control building at Area A. The exterior of the northern linear pitched-roof structure at Area A is almost complete except for a short segment of the north end. What appears to be the antenna face is oriented toward the west. Roofing is just beginning on the northern portion of the southern linear structure of Area A.

Excavation of both linear excavations of Operations Area B is observed on this mission, with a narrow linear strip at the base of each excavation. Footings or excavations for footings are present in both excavations. A terminal building (85 by 55 feet) is under construction at the northeast end of the northern linear structure. The probable central control building (approximately 280 by 125 feet) is in a relatively advanced construction stage.

Observed under construction for the first time on this mission is the third dual HEN HOUSE-type structure. Clearing, with minor excavation, is taking place at both linear sites at Area C. Preliminary work is noted at the site of the probable central control building (approximately 245 by 215 feet). In contrast with similar buildings at Areas A and B, the bulk of the probable central control building at this area is positioned to the west of the linear structures. This site was cloud covered on Missions [REDACTED]

25X1D No indication of such construction was discernible on snow-covered photography of [REDACTED]

25X1D On Mission [REDACTED] the northern linear structure at Operations Area A appears complete externally, with the antenna face oriented westward. Work is apparently in progress on the antenna face, which is half dark and half light in tone. Approximately one-half of the

southern linear structure at Operations Area A appears roofed and the roof would indicate that this antenna face would also face westward. A terminal building (85 by 55 feet) is now noted at the southeast end of the southern linear structure of Area A. Work continues on the probable central control building at both Areas A and B. Construction details of the two linear structures at Area B are not apparent because of heavy haze; however, footings appear to have been erected in both linear excavations. Excavation continues throughout the length of the two linear excavations at Operations Area C, with a possible linear strip noted at the base of each excavation. Storage near Area A has increased since Mission [REDACTED] to a length of approximately 825 feet.

Information concerning the status of the building triad at Site 13 can be found in Table 1.

With regard to that part of the requirement requesting information on ground scars in the vicinity, one or more has been observed on every clear coverage since and including Mission [REDACTED]

Since that time three fairly prominent ground scars have appeared in the vicinity of the building triad and the southern dual HEN HOUSE-type structure. These scars do not appear to extend directly to the triad buildings. On snow-covered photography of [REDACTED] a scar extended from a point close to the large triad building to a small facility just east of the center of Operations Area B. The site of this scar was cloud covered on Mission [REDACTED] but another scar was noted close to the southern small triad building, extending to small facilities to the east and west. On [REDACTED]

[REDACTED] the first scar had disappeared; the second scar remained; and a third one appeared extending from a point near the probable central control building of Area B close to the large triad building, and continuing

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Table 1. Chronology of Activity at SSATC, Building Triad Areas From [REDACTED]

Mission and Date	Launch Complex B	Instrumentation Site 2	Instrumentation Site 10	Site 13
[REDACTED] 25X1D	See text on Launch Complex B	Imagery is not distinct enough for detailed interpretation.	Heavy haze permits identification only of the triad area.	Not covered.
	See text on Launch Complex B	The two small triad buildings are gray in tone. The large triad building is largely gray with lighter areas around those positions where roof objects are observed. The structure paralleling the large triad building is white in tone. The roof objects on the two small buildings appear essentially as in [REDACTED]	Two small triad buildings are dark in tone; no objects are discernible on roof. The unidentified structure paralleling the large building is dark in tone. The large building is half light and half gray in tone, with several small dark areas on the roof. The roof tone has changed somewhat since [REDACTED]. Possible roof objects are not distinguishable.	Partially observed through scattered to heavy clouds and heavy haze. The three triad buildings are discernible through haze with only the southern small triad building clear. This building appears light in tone with one small dark object on the roof center. The large triad building is light in tone. A short scar, not present in [REDACTED] extends just south of the southern small triad building to unidentified points just east and west.
	25X1D	but more distinct imagery reveals two small objects of similar size on the one building and one object on the other. The primary roof object on the large building remains in the same position as in [REDACTED]		
	25X1D 25X1D	[REDACTED] In addition to the small object on the NE corner of the roof, two small objects are visible in the central portions of the roof.	25X1D	

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east toward the shore. These scars cannot be identified on available photography.

On Missions [REDACTED] indistinct traces of additional scars or conduits are beginning to appear in the area. These include a long trace encompassing the triad area and the three dual HEN HOUSE-type structures, extending a short distance beyond the northern structure. Identification of this long scar is not possible from photography available; however, its positioning with respect to the operational areas would suggest a security fence.

In [REDACTED] a probable substation was observed in initial construction stage approximately 3,700 feet north-northwest of the northern dual HEN HOUSE-type structure and a ground trace with probable towers for a powerline extended toward the north-northwest. By [REDACTED] the existence of these towers was confirmed and a second trace was observed originating from the same point, proceeding north-northwest and finally north. Towers were being erected along this powerline by [REDACTED] and additional construction could be found at the site of the probable substation by this time. Two other ground scars observed in [REDACTED] to extend generally southwest and southeast of the probable substation are still apparent on photography but towers or poles do not appear to have been erected along the traces.

Figure 9 portrays the construction chronology of support facilities at Site 13, which totalled 61 buildings in [REDACTED] and which would service both the building triad area and the dual HEN HOUSE-type structures. These support facilities fall into three areas without any clearly drawn line of differentiation with respect to the two different types of operational areas.

No support buildings existed at the site in [REDACTED] 27 support buildings had been erected in the three areas

and the three triad buildings were visible for the first time. Only one additional building appeared by [REDACTED] Since that time relatively slow, steady construction has taken place, primarily in the northern and southern support areas and consisting largely of barracks-type buildings. From [REDACTED] a total of 33 support buildings were constructed: 8 from [REDACTED] 19 from [REDACTED]

It is of interest that the three dual HEN HOUSE-type structures were first observed under construction in [REDACTED]

A comparison between the HEN HOUSE-type structures at Site 13 and those at Angarsk and Olenegorsk can be found in Table 2 and on Figure 10. A more detailed textual comparison of the three installations can be found in NPIC report R-855/64. 2/

HEN ROOST ANTENNAS

(Figure 11)

No significant recent change is discernible in the facilities at HEN ROOST Antenna North (45-56-05N 73-38-20E), HEN ROOST Antenna South (45-55-20N 73-38-05E), or in the Housing and Support Area for both antennas. The motor pool has been occupied in varying degrees on each recent mission coverage. As the result of better quality KH-4 photography and better orbital data it has now been determined that the two HEN ROOST antennas and the clutter screen at HEN ROOST Antenna North are parallel and that a perpendicular bisector of each of the three structures is approximately [REDACTED]

Height measurements of the two antenna structures are estimated as follows: HEN ROOST Antenna North at approximately 60 feet and HEN ROOST Antenna South at approximately 15 feet.

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Table 2. Summary of Dual HEN HOUSE-Type Activity Near Olenegorsk, Angarsk, and SSATC Site 13, USSR.

Activity	HEN HOUSE-Type Structures							Support Area (s)	
	Designation	Dimensions of Structures, Excavations, or Closings in Feet (approx)	Azimuths of the Perpendicular Bisectors of the Structures in Degrees**	Dimensions of Probable Central Control Building or Foundation in Feet (approx)*	Negotiation Date	Date First Observed	Negotiation Date of Support Area	Date Support Area First Observed	Total Number of Structures (Date Observed)
Near Olenegorsk	Southwest	920 x 95	25X1D	285 x 210					48
	Northeast	900 x 100	25X1D						
Near Angarsk	A	North	915 x 85	260/80					
		South	900 x 100	260/80					112
	B	North	1,015 x 140	260/80					
		South	840 x 250	260/80					
	C	Northeast	1,010 x 260						200 x 215
		Southwest	1,270 x 230						
SSATC Site 13	A	North	890 x 80						295 x 160
		South	880 x 105						
25X1D	B	North	945 x 70						61
		South	935 x 85						
	C	North	820 x 105						245 x 215
		South	760 x 95						

*It is to be noted that dimensions shown in this table were taken at different construction stages, thus indicating a wider variance than may be the case when the structures are completed.

25X1D

25X1D

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25X1D

25X1D

25X1D

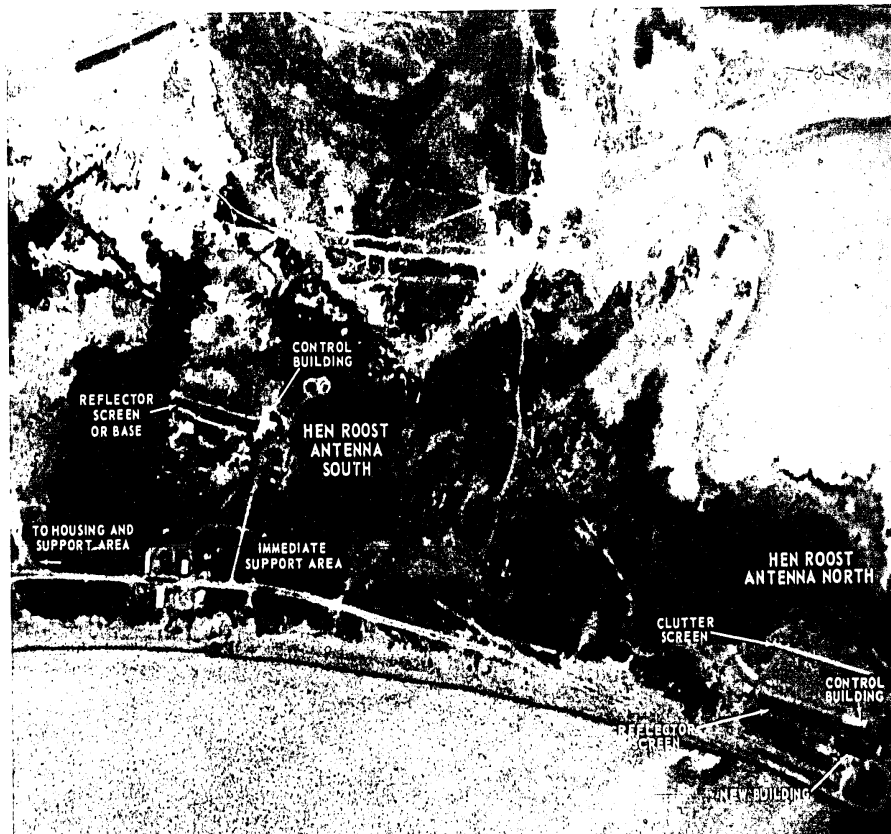
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25X1D



NPIC J-4828 (17/64)

FIGURE 11. HEN ROOST ANTENNAS.

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25X1D The building observed in initial construction stage in [REDACTED] at HEN ROOST Antenna North paralleling and just east of the control building measures approximately 155 by 45 feet.

DIRT STRIP

(45-55-35N 73-27-30E)

25X1D The 16,500- by 1,500-foot dirt strip (Figure 12) remains essentially in [REDACTED] as it appeared on the last previous clear coverage of [REDACTED]

25X1D The rectangular area north of the center of the strip has been active since [REDACTED]

25X1D Several additional small vehicles or structures are present, and additional scarring is observed just south of the area. On [REDACTED]



FIGURE 12. DIRT STRIP.

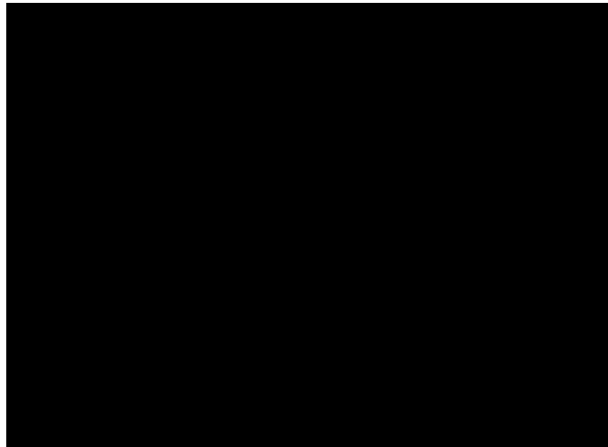
25X1D

[REDACTED] an unidentified aircraft with swept wings was observed parked close to the northeast end of the dirt strip near the intersection point of the strip and the road to the primary airfield. The aircraft length ap- [REDACTED]

SAM TRAINING CENTER

(45-25-45N 73-24-40E)

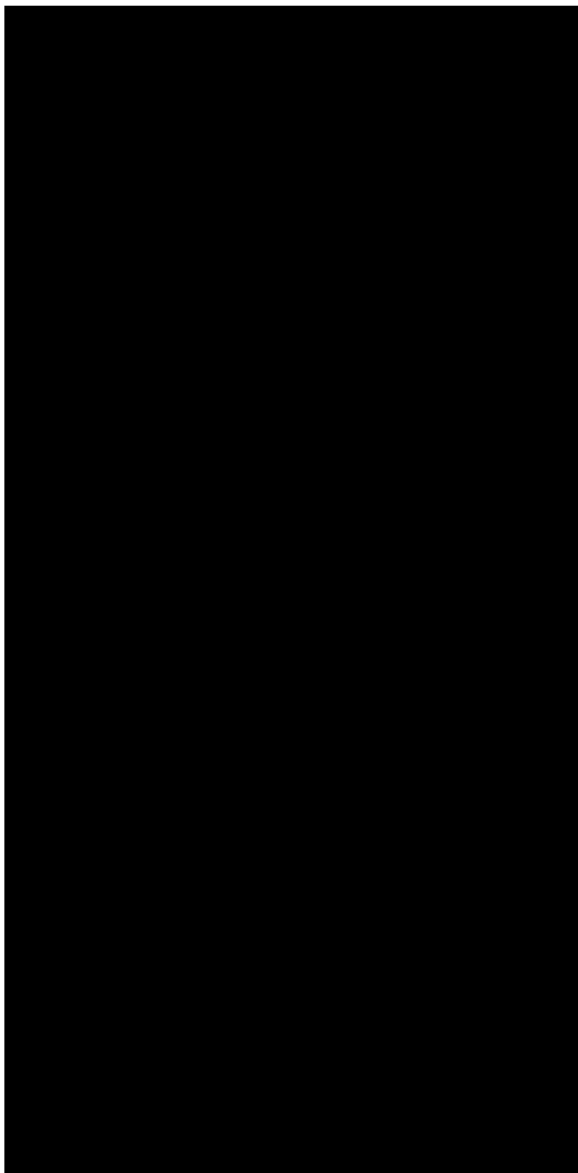
All launch sites at the SAM Training Center appeared inactive on [REDACTED] coverage in contrast with the relatively extensive activity in evidence there in [REDACTED] with snow conditions prevailing. Trails and roads in the vicinity of the Center show change since latest photography of [REDACTED] but have not changed since the more permanent roads shown on last clear coverage of [REDACTED]. Minor changes at the support areas east of the launch sites from [REDACTED] include the addition of three small structures and the removal of two small structures. In the primary support area on coverage of [REDACTED] four probable vehicles are observed in the clearing, which was not present on [REDACTED]. Three possible vehicles are parked adjacent to the south motor pool.



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25X1D



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INSTRUMENTATION SITES

Table 3 contains a summary of certain items of interest at those Instrumentation Sites circumscribing the Impact Area as well as Sites 1 and 2 in the Support Base and Sites 14 and 15 situated to the west of the Impact Area. A more detailed description and appropriate graphics for each site follow this summary. Annotations on the graphics are keyed to items referenced in the text. Instrumentation Sites 14 and 15 still are entitled "Possible" because of a possible association with SSATC. Interferometers at these two sites are similar to those found at SSATC and dissimilar to those observed at nearby Tyuratam Missile Test Range instrumentation sites.

The size of the operational and support areas at the instrumentation sites varies from 17 buildings at Site 9 to 63 buildings at Site 6. Excluding Sites 1 and 2 in the Support Base, all instrumentation sites have dirt or prepared-earth airstrips except Site 7. None is in excess of 5,000 feet except one strip at Site 14 which measures 6,200 feet. In the reporting period an aircraft was observed only at Site 6. All instrumentation sites in the impact area except Site 10 have interferometers, and all these interferometers have 1,000-foot long crossarms except Site 12 where the arms are currently under extension to 1,000 feet. In the Support Base, Site 2 is without an interferometer; the interferometer site remains unchanged at Site 1 since [REDACTED] with no crossarms visible. Sites 3, 6, and 10 remain the only sites equipped with one 110-foot dome. At Site 10 the dome was removed sometime between [REDACTED] leaving the ringlike structure and equipment exposed. During this same period a dome, approximately [REDACTED] in diameter, was mounted on the 135- by 125-foot building at Site 2. No change is apparent in the status of the two 50-foot domes at Site 6 and the single 50-foot dome

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Table 3. Status of SSATC Instrumentation Sites as of [REDACTED]

Instrumentation Site	Location	Approx No of Bldgs in Operational & Support Areas	Airstrip (approx dimensions in feet)	Interferometer with 1,000-ft Crossarms	110-ft Dome Present	No of 50-ft Domes	No of 20-ft Domes	Bldg Triad	Remarks
1	Support Base	50	None	Unchanged since 25X1D [REDACTED] No crossarms visible	None	None	None	None	Site of two tracking stations
2	Support Base	28	None	None	None (See remarks)	None	None	Yes	A dome approx [REDACTED] ft in diameter was mounted on 135 x 125 ft bldg from [REDACTED]
3	Impact Area	42	4,980 x 340	Yes	One	One	None discernible	None	
4	Impact Area	18	1,880 x 440	Yes	None	None	Five	None	
5	Impact Area	19	2,465 x 275	Yes	None	None	Five	None	
6	Impact Area	63	3,630 x 310	Yes	One	Two	Two	None	
7	Impact Area	24	None	Yes	None	None	Four	None	
8	Impact Area	32	4,260 x 180	Yes	None	None	Five or poss six	None	
9	Impact Area	17	Dual strips, each 2,430 x 155	Yes	None	None	Five	None	
10	Impact Area	38	4,880 x 425	None	Ring & equipment remain; 110-ft dome removed since [REDACTED]	One	None discernible	Yes	
11	Impact Area	20	4,500 x 600	Yes	None	None	Five	None	
12	Impact Area	22	2,300 x 710	Crossarms under extension from 400 ft to 1,000 ft	None	None	Six	None	
14	70 nm WNW of (Possible) Site 8	19	1) 6,200 x 420 2) 3,000 long	Yes	None	None	None	None	Unusual-appearing structure approx 220 x 130 ft; 2d airstrip constructed between [REDACTED]
15	72 nm WNW of (Possible) Site 14	19	4,220 x 210	Yes	None	None	None	None	Unusual-appearing structure approx 230 x 100 ft.

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25X1D

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25X1D

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at Sites 3 and 10. Twenty-foot-diameter domes are present at all instrumentation sites surrounding the impact area except Sites 3 and 10 where none is discernible on KH-4 photography. The building triad is found at Sites 2 and 10 as well as at Site 13 and Launch Complex B. An unusual-appearing rectangular structure averaging 230 feet in length and having three raised sections or extensions along its south side has appeared at Sites 14 and 15 as well as at [REDACTED] between these two sites and at the possible field launch point between Sites 8 and 14. Construction chronology of the structure at the four sites is approximately the same.

INSTRUMENTATION SITE 1 (45-52-50N 73-37-50E)

The interferometer at this site (Figure 14) remains unchanged since [REDACTED] and since last clear coverage [REDACTED]. Between [REDACTED] work began in the southwest corner of the support area on three structures and a U-shaped road system. The western 90- by 60-foot building in the western tracking station appears light in tone and now has a ringlike structure on the roof. A very small structure adjacent to the west side was not apparent before. The eastern 90- by 60-foot building of the tracking station is very dark in tone and the previously observed roof object is not discernible. Two vehicles are parked midway between the two buildings. The ground scar/conduit observed to extend in the snow in [REDACTED] in a northerly direction to a possible calibration point remains and has been extended to a point just south of the 90- by 60-foot buildings. Both buildings (90 by 80 feet) in the eastern tracking station are light in tone and have probable environmental shelters on the roof centers. A possible crane is adjacent to the western building. Work continues on the

conduit systems serving the eastern tracking station. A number of probable vehicles are parked close to the shore and in the support area.

INSTRUMENTATION SITE 2 (45-47-40N 73-35-00E)

Facilities in the support area of Instrumentation Site 2 (Figure 15) remain essentially as in [REDACTED]. The probable cable line under construction in [REDACTED] from a point near the 135- by 125-foot building toward a newly erected tower 8,400 feet to the north-northwest appears to have reached the tower on photography of [REDACTED]. A dome-shaped environmental shelter [REDACTED] in diameter) appeared between [REDACTED] on the roof of the 135- by 125-foot building and remained in position on photography of [REDACTED]. A probable crane is adjacent to the building. The narrow structure paralleling the 135- by 125-foot building is gray in tone in contrast with the similar structure adjacent to the large triad building, which appears white. The three light-toned circular objects, present in [REDACTED] near the 135- by 125-foot building, are no longer present. Details concerning activity at the building triad between [REDACTED] can be found in Table 1.

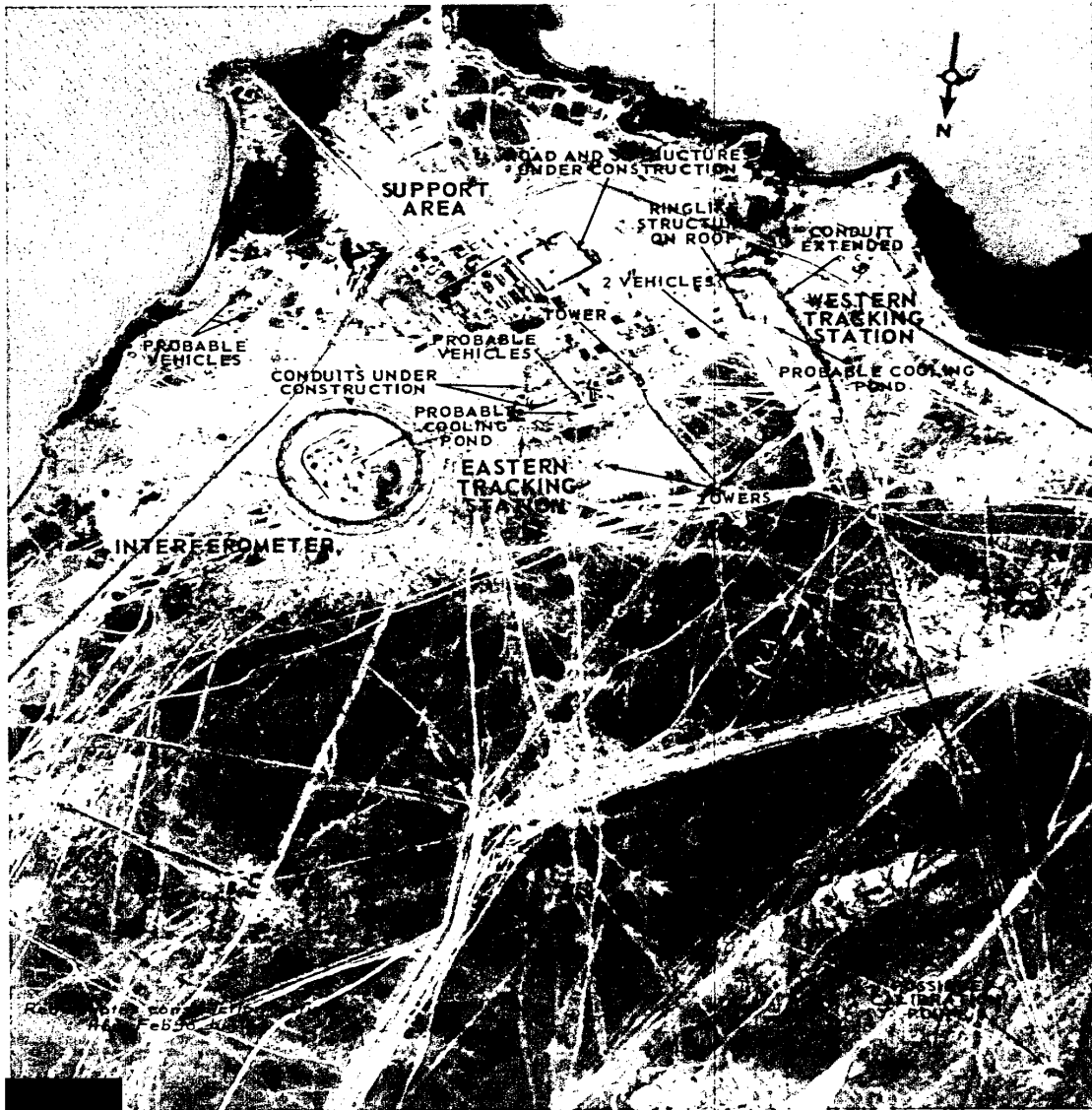
INSTRUMENTATION SITE 3 (45-36-40N 72-36-20E)

This site (Figure 16) consists of an operational and support area (A) an interferometer (B), a prepared-earth airstrip measuring 4,980 by 340 feet (C) with a small support area, a tall self-supporting lattice tower (D), a possible radar facility (E), [REDACTED]. The operational and support area consists of a 110-foot dome (a), a 50-foot dome (b), a possible water tower, three major operational buildings,

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25X1D

FIGURE 14. INSTRUMENTATION SITE 1.

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FIGURE 15. INSTRUMENTATION SITE 2.

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25X1D

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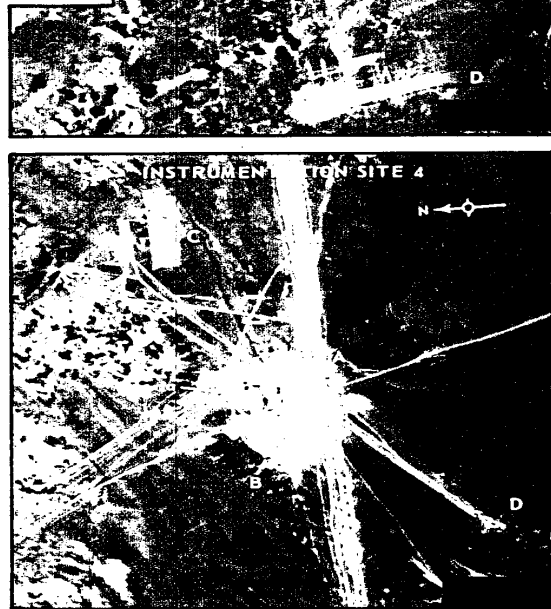
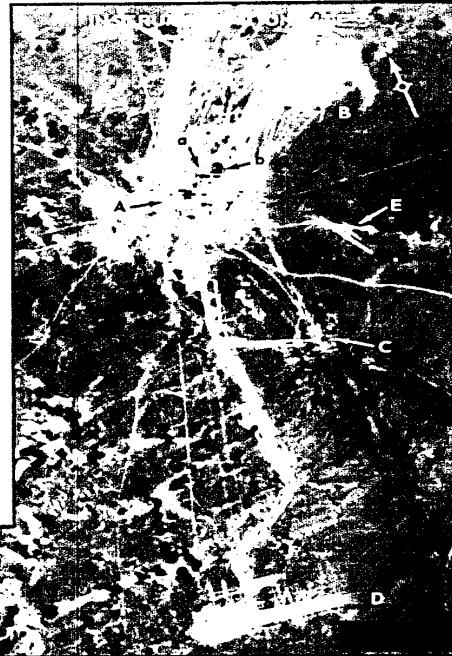
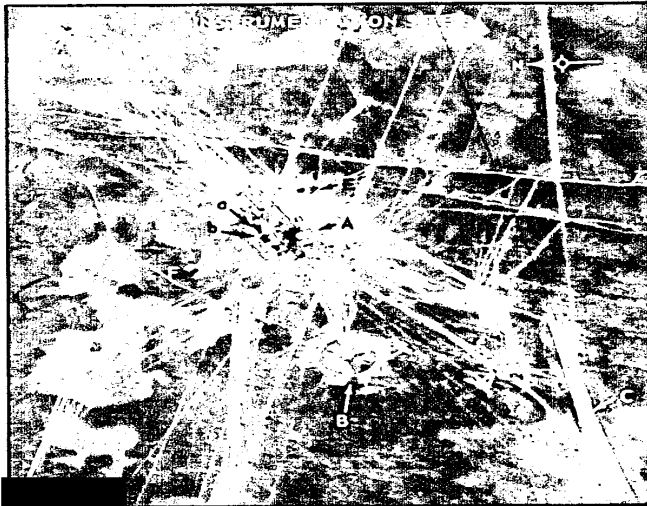
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NPIC J-4834 (11/64)

FIGURE 16. INSTRUMENTATION SITES 3, 4, 5, AND 6.

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25X1D and 39 support buildings. The interferometer, which has 1,000-foot-long crossarms, was constructed subsequent to [REDACTED] coverage, was 25X1D in a late construction stage in [REDACTED] and 25X1D appears complete on [REDACTED] coverage. The lattice tower is approximately 5,785 feet north-east of the 110-foot dome and has three or four small structures associated with it. No further details are discernible on the possible radar facility identified from [REDACTED] photography approximately 2,000 feet southeast of the 110-foot dome, [REDACTED] No recent change of significance could be discerned at the site facilities as of [REDACTED]

INSTRUMENTATION SITE 4

(45-57-00N 72-13-20E)

This site (Figure 16) consists of an operational and support area (A) of 18 buildings and 5 additional buildings with 20-foot-diameter domes (a), an interferometer having 1,000-foot-long crossarms (B), a dirt airstrip measuring 1,880 by 440 feet (C), and a microwave station (D) with a tower and several buildings. No significant change has occurred recently at the site.

INSTRUMENTATION SITE 5

(45-33-40N 71-20-20E)

25X1D This site (Figure 16) consists of an operational and support area (A) of 19 buildings, 5 additional buildings with 20-foot-diameter domes (a) and a small area of unidentified construction (b) new since [REDACTED] an interferometer (B); a possible microwave station (C) with a tower and three small buildings; a prepared-earth airstrip (D) approximately 2,465 by 275 feet; and an area having two unidentified scars (E). 25X1D One of these scars has appeared since [REDACTED] 25X1D The 1,000-foot-long crossarms of the interferometer appear complete or almost complete. The facility previously identified as a

possible 110-foot dome does not appear to be a dome on current photography.

INSTRUMENTATION SITE 6

(46-14-00N 70-54-30E)

This site (Figure 16) consists of an operational and support area (A), an interferometer (B), a tall self-supporting lattice tower (C) 5,800 feet north-northeast of the 110-foot dome, and a prepared-earth airstrip (D). The operational and support area is composed of one 110-foot dome (a), two 50-foot domes (b), two 20-foot domes (c), a probable radar/instrumentation mound (d), two tall towers, two probable cooling ponds, three large and several small operational buildings, and 60 housing and support-type buildings. The interferometer was complete in [REDACTED] with 1,000-foot-long crossarms. These crossarms were not visible on [REDACTED] photography and appeared under construction in [REDACTED] No recent change is discernible in the 3,630- by 310-foot prepared earth airstrip and small support area. One small straight-wing aircraft (e) was parked at the northeast end of the strip on [REDACTED]

INSTRUMENTATION SITE 7

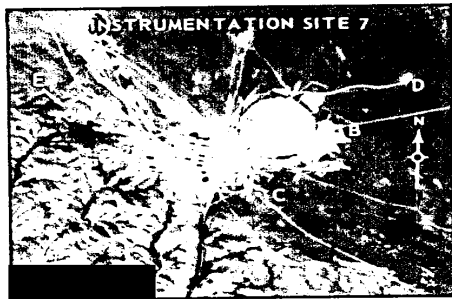
(46-37-00N 70-46-00E)

Instrumentation Site 7 (Figure 17) currently consists of an operational and support area (A) with 24 buildings and 4 additional small buildings each with a 20-foot-diameter dome (a); an interferometer with 1,000-foot long crossarms (B); a probable microwave tower (C); and an [REDACTED] (D). No significant change has occurred at the site since Mission [REDACTED] There is no evidence on current photography of a possible airstrip reported under construction in [REDACTED] approximately 2.4 nm east-southeast of the interferometer. The site of the TOKEN-type radar (E) observed on TALENT photography just west of the support

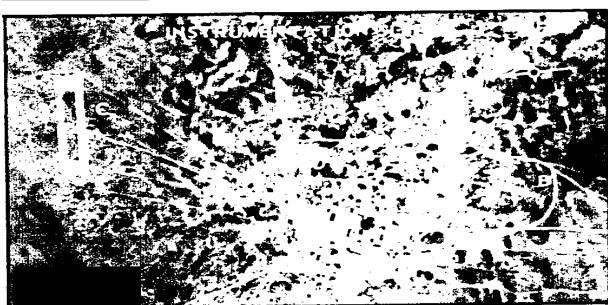
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25X1D



25X1D



25X1D

FIGURE 17. INSTRUMENTATION SITES 7, 8, 9, AND 10.

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area is visible but its current existence cannot be confirmed or denied on small-scale KH-4 photography.

25X1D There is no evidence on [REDACTED] photog-
25X1D raphy of the possible mobile instrumentation
site identified on Mission [REDACTED]
southeast of Site 7 at 46-35N 71-00E.

INSTRUMENTATION SITE 8 (46-55-40N 70-49-30E)

25X1D This site (Figure 17) consists of an opera-
tional and support area (A) having 32 buildings
and 5 or possibly 6 buildings with 20-foot
diameter domes (a); an interferometer with
1,000-foot-long crossarms (B); an airstrip (C);
and a possible radar site (D). The airstrip ap-
25X1D pears to have received some additional prepa-
ration since Mission [REDACTED] and now
measures approximately 4,260 by 180 feet.
25X1D Three structures with 20-foot-diameter domes
were present in [REDACTED] they
had increased in number to five or possibly
six. Five small structures or vehicles are
observed in the two small areas southwest of
the support area where TALENT photography
25X1D of [REDACTED] revealed the presence of a TOKEN-
type radar. No statement can be made concern-
ing the present existence of such a radar
because of the small scale of the photography.

INSTRUMENTATION SITE 9 (46-52-40N 71-52-20E)

25X1D In [REDACTED] this site (Figure 17) was
composed of an operational and support area
(A) with approximately 17 buildings, a possible
tower, and 5 additional buildings each with a
20-foot diameter dome (a), an interferometer
with 1,000-foot-long crossarms (B), an airstrip
(dual parallel strips each 2,430 by 155 feet) (C),
and a possible microwave tower (D). No re-
cent change of significance is apparent. In-
terpretation on this site, however, is generally

limited by weather conditions, thus precluding
any definite statements on possible recent
changes.

INSTRUMENTATION SITE 10 (46-57-10N 72-32-00E)

This site (Figure 17) consists of an opera-
tional and support area (A), a building triad
(B), [REDACTED] (C), a dirt airstrip
measuring 4,880 by 425 feet (D), and a tall self-
supporting lattice tower (E) [REDACTED] feet northwest
of the site of the former 110-foot dome. The
operational and support area contains two major
operational buildings and 36 other buildings, a
50-foot dome (a), and a ringlike structure and
equipment (b) formerly housed by the 110-foot
dome. The 110-foot dome itself was removed
sometime between Mission [REDACTED]
[REDACTED] Details
concerning activity at the building triad between
[REDACTED] can be found
in Table 1. No change is apparent since [REDACTED]
[REDACTED] in the unidentified area east of the opera-
tional area, which consists of seven rectangular
parallel buildings and seven additional miscel-
laneous buildings. No interferometer is situated
at the site.

INSTRUMENTATION SITE 11 (46-40-50N 72-37-40E)

This site (Figure 18) consists of an opera-
tional and support area (A) with 20 buildings and
5 additional buildings with 20-foot-diameter
domes (a), an interferometer with 1,000-foot-
long crossarms (B), a probable microwave
station with a probable tower and at least two
buildings (C), and a dirt strip measuring 4,500
by 600 feet (D). No significant recent change
is apparent at this site. The airstrip, not
pictured on the graphic, is 11,500 feet southwest
of the support area.

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25X1D



25X1D

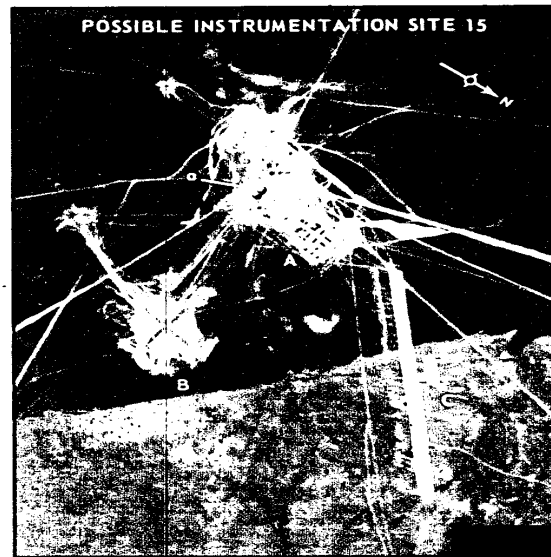


FIGURE 18. INSTRUMENTATION SITES 11, 12, AND POSSIBLE INSTRUMENTATION SITES 14 AND 15.

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INSTRUMENTATION SITE 12

(42-24-20N 72-34-00E)

25X1D

This site (Figure 18) in [REDACTED] consisted of an operational and support area (A) of 22 buildings including 6 with 20-foot domed structures (a), an interferometer (B), a dirt airstrip measuring 2,300 by 710 feet (C), and a possible microwave station (D) approximately 1,800 west of the support area. On photography of [REDACTED]

25X1D

25X1D

25X1D

[REDACTED] the interferometer appeared to have crossarms only 400 feet long; by [REDACTED] the crossarms were under extension to 1,000 feet.

POSSIBLE INSTRUMENTATION SITE 14

(47-07-05N 69-10-00E)

This site (Figure 18) located 83 nm south-east of Dzhezkazgan and 70 nm west-northwest of Instrumentation Site 8, consists of an operational and support area (A) of 18 buildings and an unusual-appearing rectangular structure (a) approximately 220 by 130 feet with three raised sections, or extensions along the south side of the building; an interferometer with 1,000-foot-long crossarms (B); two graded-earth airstrips (one /C/ 6,200 by 420 feet and oriented east-northeast/west-southwest; the second /D/ approximately 3,000 feet in length and oriented northwest/southeast observed for the first time

25X1D

[REDACTED]. All facilities appeared complete on [REDACTED] coverage except for the secondary airstrip where the inner central strip appears to be receiving additional preparation. Detailed description is still not possible on the unusual structure (a).

POSSIBLE INSTRUMENTATION SITE 15

(47-22N 67-25E)

This site (Figure 18) situated 31 nm south of Dzhezkazgan and 72 nm west-northwest of Site 14, on latest coverage of [REDACTED] consisted of an operational and support area (A) of approximately 18 buildings, miscellaneous small structures, and an unusual-appearing rectangular structure approximately 230 by 100 feet (a), an interferometer with 1,000-foot-long crossarms (B), and a prepared-earth airstrip (4,220 by 210 feet and oriented northeast/southwest) (C). The unusual structure, generally similar to the one at Site 14, appears to have a gable roof with three extensions or raised sections attached to or adjacent to the south end of the building. The interferometer appeared complete or nearly complete. No significant change could be discerned in site facilities between latest clear photography of [REDACTED] and latest photography of [REDACTED] (snow-covered).

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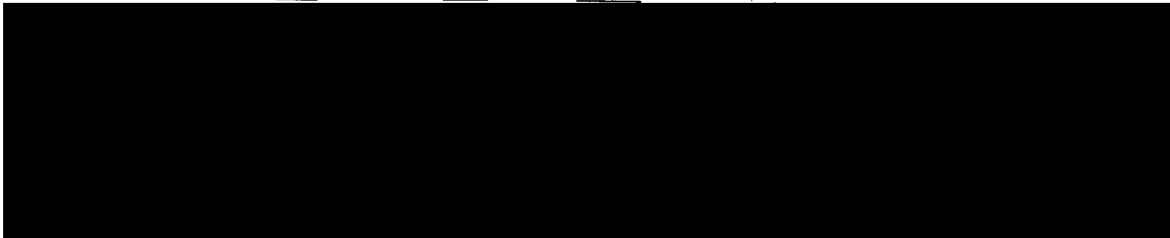
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REFERENCES (Continued)

PHOTOGRAPHY (Continued)

<u>Mission</u>	<u>Date</u>	<u>Pass</u>	<u>Camera</u>	<u>Frames</u>	<u>Classification</u>
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25X1D

MAPS OR CHARTS

ACIC. USAF Operational Navigation Chart, Sheet ONC-F-6, 1st classified edition, 30 Aug 61, scale 1:1,000,000
(CONFIDENTIAL)

DOCUMENTS

1. NPIC. R-328/64, *Sary-Shagan Antimissile Test Center, USSR, Changes and Additions as of* [REDACTED] May 64 (TOP SECRET CHESS RUFF)
2. NPIC. R-855/64, *Dual HEN HOUSE-Type Activities Near Olenegorsk and Angarsk, USSR, and Comparison With Site 13, SSATC, Oct 64* (TOP SECRET CHESS RUFF)

25X1D

RELATED DOCUMENTS

- NPIC. R-162/64, *Antimissile Test Center, Sary-Shagan, USSR, Changes and Additions as of* [REDACTED] Mar 64 (TOP SECRET CHESS RUFF)
- NPIC. R-294/63, *HEN ROOST Antennas, Antimissile Test Center, Sary Shagan, USSR,* [REDACTED] Nov 63 (TOP SECRET CHESS RUFF)
- CIA. PIC/JR-1010/61, *Antimissile Complex, Sary Shagan, USSR, Apr 61* (SECRET/No Foreign Dissem)

25X1D

25X1C

REQUIREMENTS

- CIA. C-SI4-81,506
- CIA. C-RR4-81,536
- CIA. Suppl 1 to C-RR4-81,536

NPIC PROJECT

N-694/64

TOP SECRET CHESS RUFF

Handle Via
TALENT-KEYHOLE
Control System Only