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PHOTOGRAPHIC INTERPRETATION REPORT



## HF COMMUNICATIONS FACILITIES AT SOVIET MRBM AND IRBM COMPLEXES (UPDATE)

Declass Review By NIMA/DOD

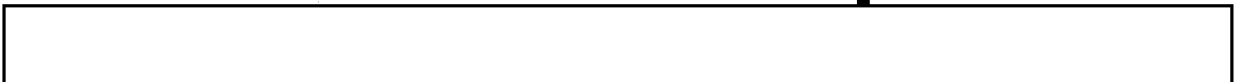
JANUARY 1966

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PHOTOGRAPHIC INTERPRETATION REPORT

# HF COMMUNICATIONS FACILITIES AT SOVIET MRBM AND IRBM COMPLEXES (UPDATE)

JANUARY 1966

NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER

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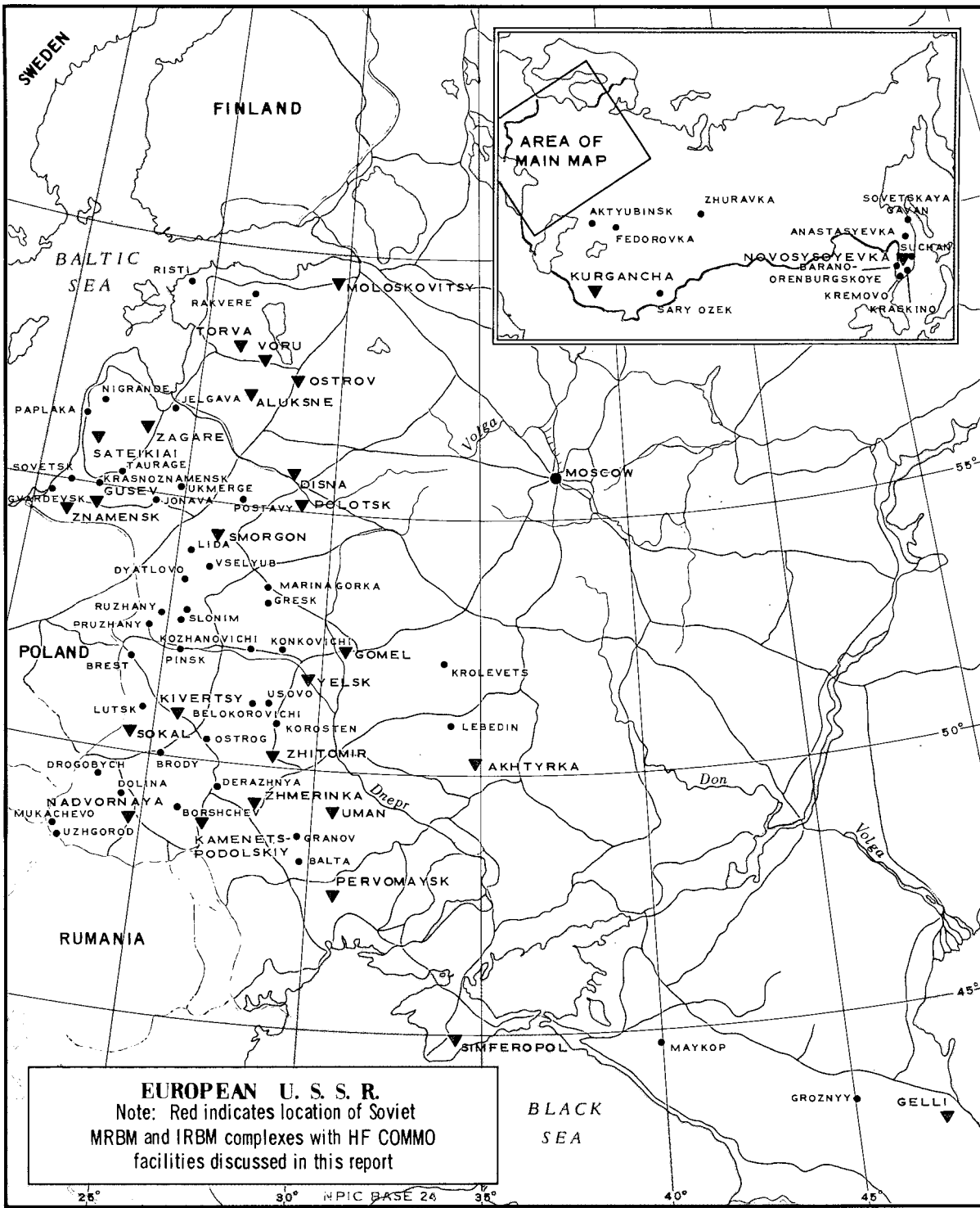


FIGURE 1. LOCATION OF SOVIET MRBM AND IRBM COMPLEXES.

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This report is in response to requirements CIA/C-RR5-82,644, NSA/P0432/R-63-65, and NSA/P0432/R-125-65 and updates previously reported information 1-5/ on 44 high-frequency (HF) communications facilities at or near Soviet MRBM and IRBM complexes (Figure 1).

25X1D An analysis of available [redacted] photography of Soviet MRBM and IRBM complexes has revealed HF communications facilities at 22\* additional complexes (including probable and possible facilities) bringing to 66 the total number of complexes with known communications facilities. This figure is approximately 90 percent of all known MRBM/IRBM complexes and it is more than probable that the remaining 10 percent either have or shortly will have such facilities.

This report describes in Tables 1 through 3 the above 22 facilities as well as 5 of the 44 previously reported facilities at which a significant change in the interpretation of the antennas has occurred.

The identified antennas are the same types as have been previously reported at other Strategic Rocket Forces operational facilities, i.e., HF horizontal dipole and vee antennas. The horizontal dipoles have a range of at least 500 nautical miles as evidenced by the distance between the possible correspondents whereas the vee antennas, which are probably a less directive type, are thought to have a shorter range.

\*Facilities identified too recently to be included in the body of this report are at Borshchev MRBM Launch Area No 1 (Skala Podolskaya MRBM Launch Site 1) and Grozny MRBM Launch Area No 2 (Nesterovskaya MRBM Launch Site). The overall total of MRBM/IRBM complexes with known HF communications facilities is now 68.

Antenna azimuth measurements, i.e., the direction of signal propagation assuming the antennas to have a transmitting as well as a receiving capability, are given in accordance with the following guide:

Horizontal dipoles. The azimuth given is a perpendicular to the antenna and is in the direction away from the control center.

Vee antennas. The azimuth given is the bisector of the enclosed angle. (Possible signal propagation on the reciprocals of the given azimuths is assumed for each of the types).

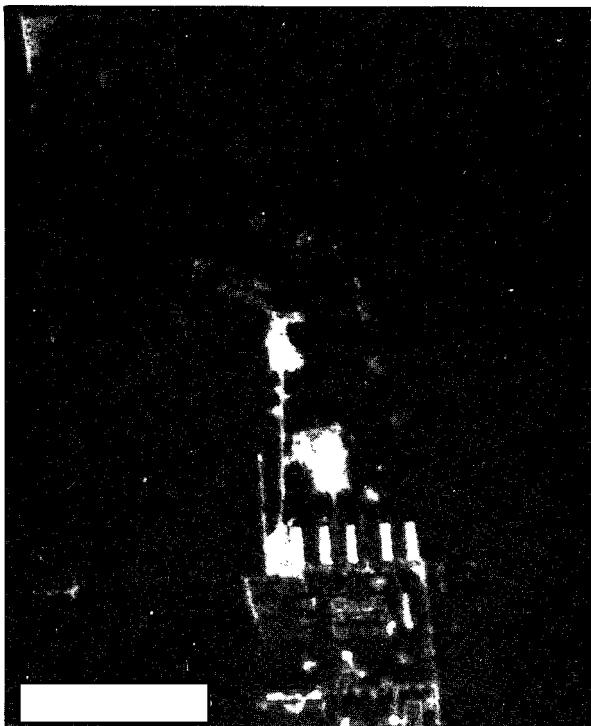
Antenna size is given as the distance between end pole positions in the case of the horizontal dipoles and between an end pole and the center pole for the vee antennas. Possible correspondents for each antenna, where determinable, were derived by great circle plotting, i.e., using the intersection of a great circle projection with likely candidates along the projection. It is noted that one of the possible correspondents of nearly all of the facilities is Moscow, a most likely candidate. Antenna types, sizes, azimuths and possible correspondents are listed after each facility.

In addition to the antennas, a second feature which is common to these facilities is the hardened control center. This consists of an earth-mounded, probably concrete, arched-roof building (Figure 19) approximately 65 feet long, 40 feet wide, and with a 35-foot-long access passage at each end. This type of control center is found at virtually all known MRBM/IRBM communications facilities and its hardened nature points up the importance the Strategic Rocket Forces attaches to them.

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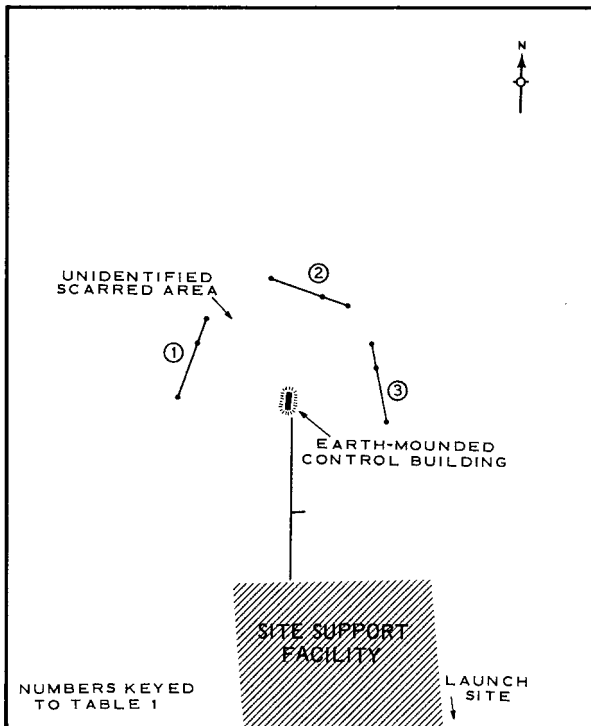
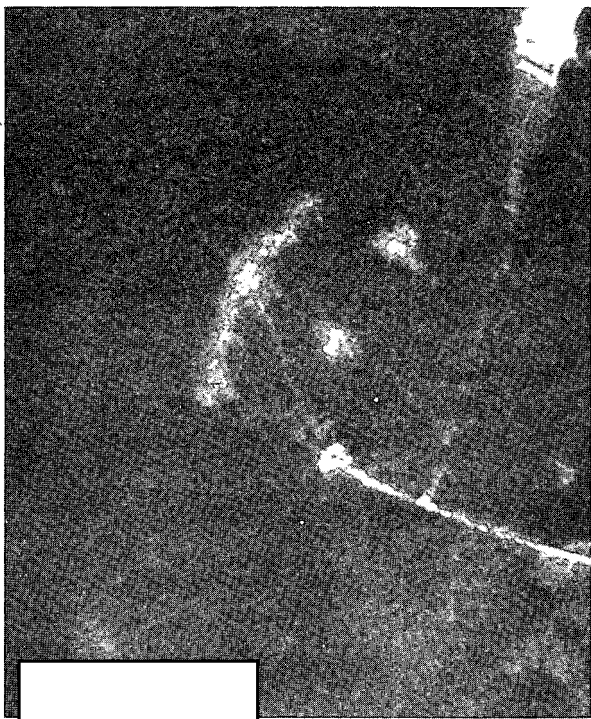


FIGURE 2. AKHTYRKA HF COMMUNICATIONS FACILITY.

NPIC K-6080 (1/66)



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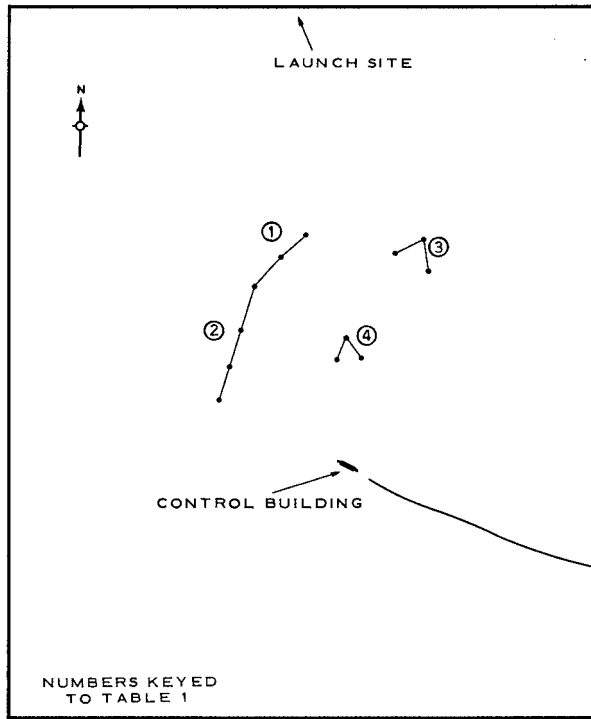


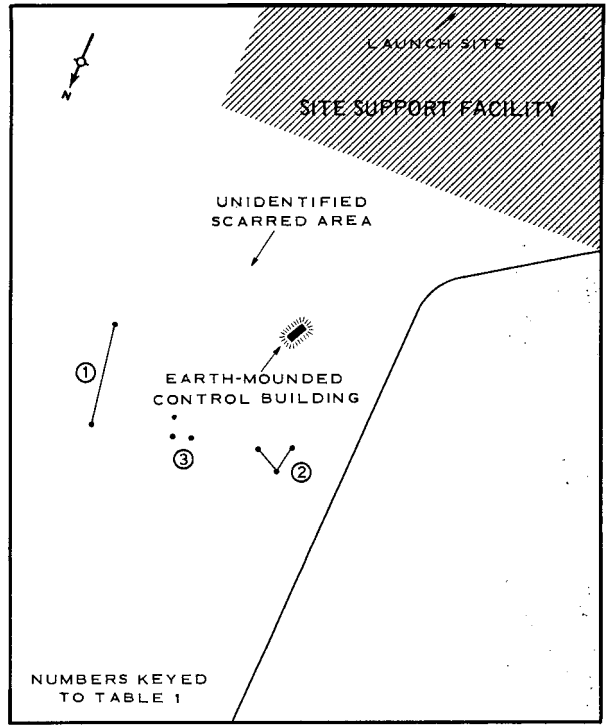
FIGURE 3. ALUKSNE HF COMMUNICATIONS FACILITY.

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NPIC K-6082 (1/66)

FIGURE 4. DISNA HF COMMUNICATIONS FACILITY.

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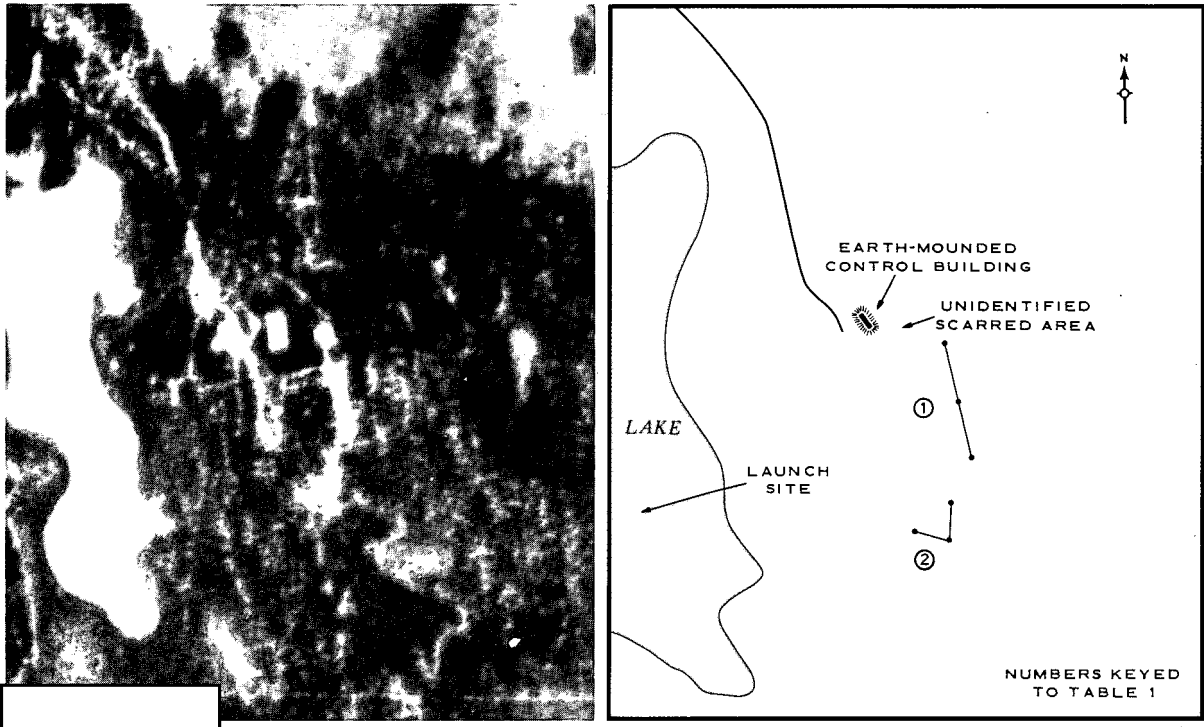
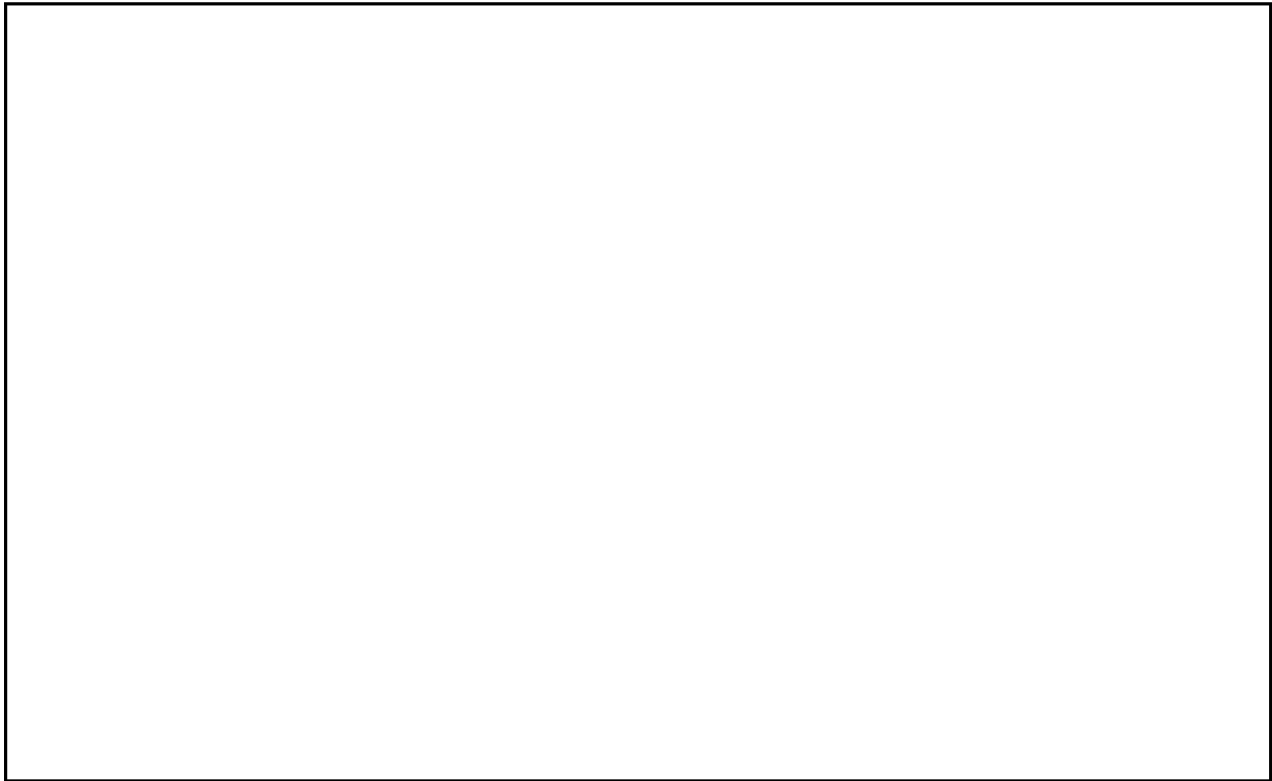


FIGURE 7. POLOTSK HF COMMUNICATIONS FACILITY.

NPIC K-6085 (1/66)

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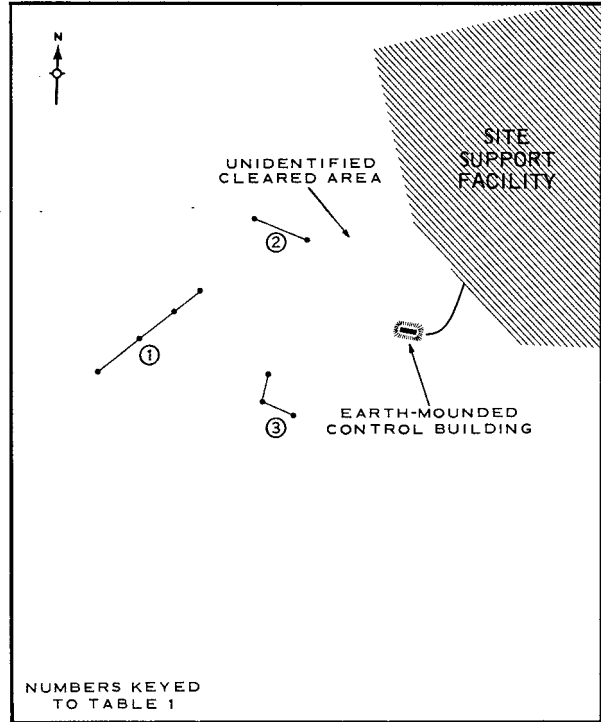
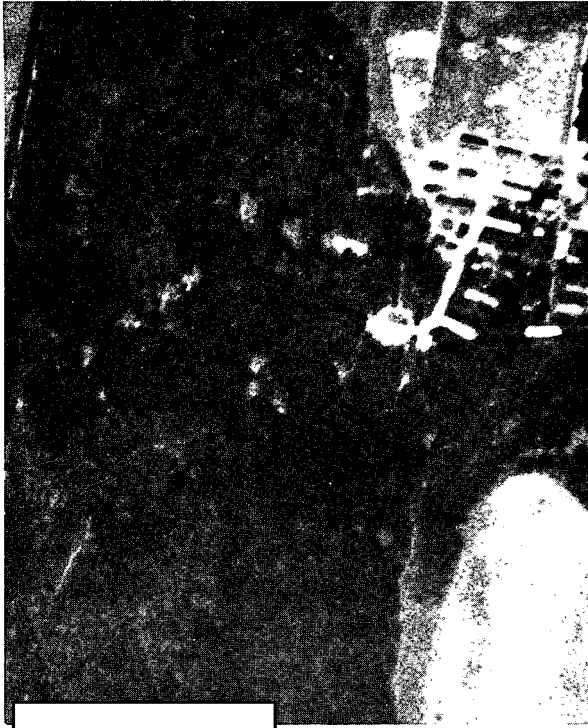
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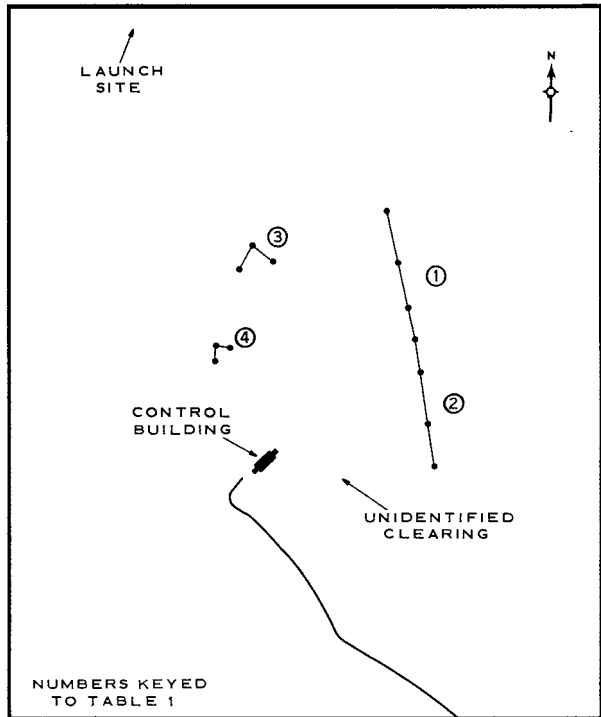
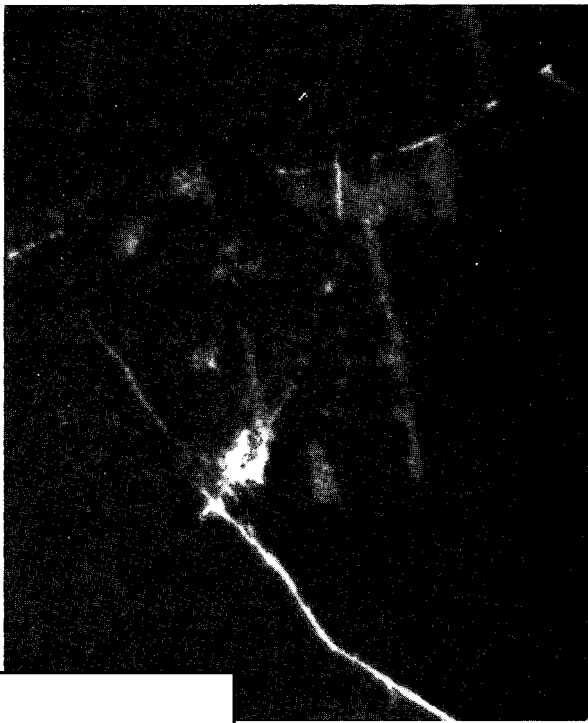
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NPIC K-6086 (1/66)

FIGURE 8. SIMFEROPOL HF COMMUNICATIONS FACILITY.

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NPIC K-6087 (1/66)

FIGURE 9. SMORGON HF COMMUNICATIONS FACILITY.

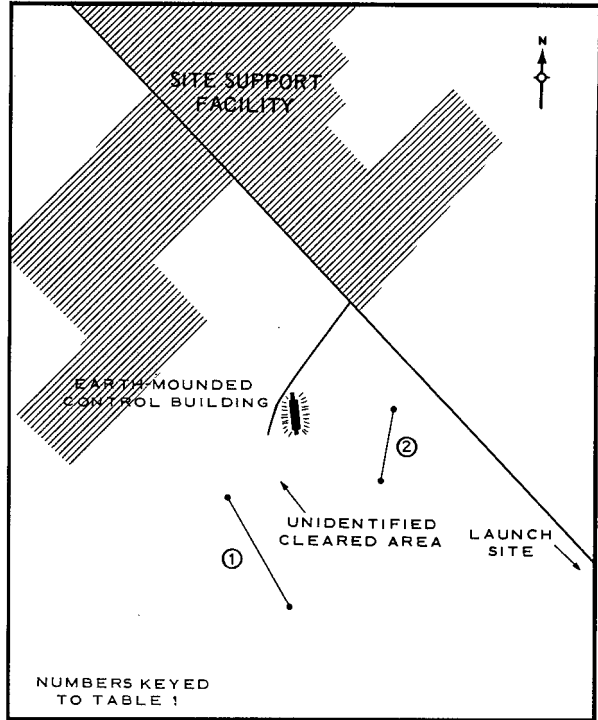
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NUMBERS KEYED TO TABLE 1

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FIGURE 10. SOKAL HF COMMUNICATIONS FACILITY.

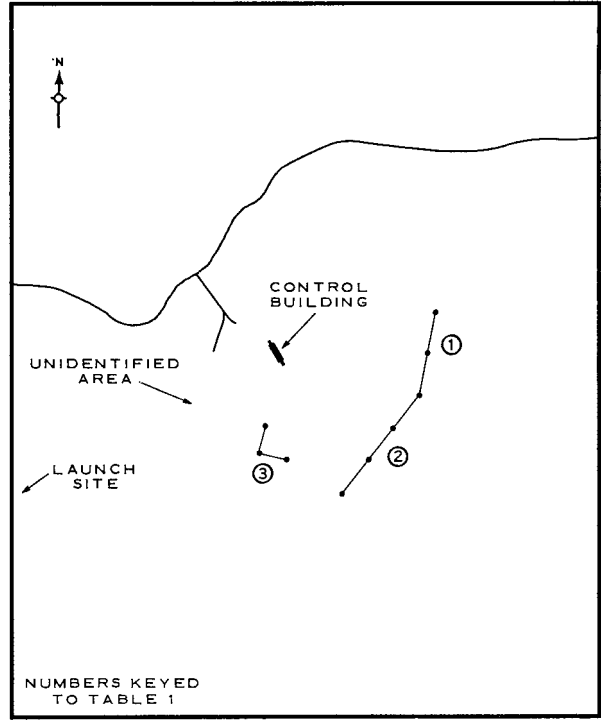
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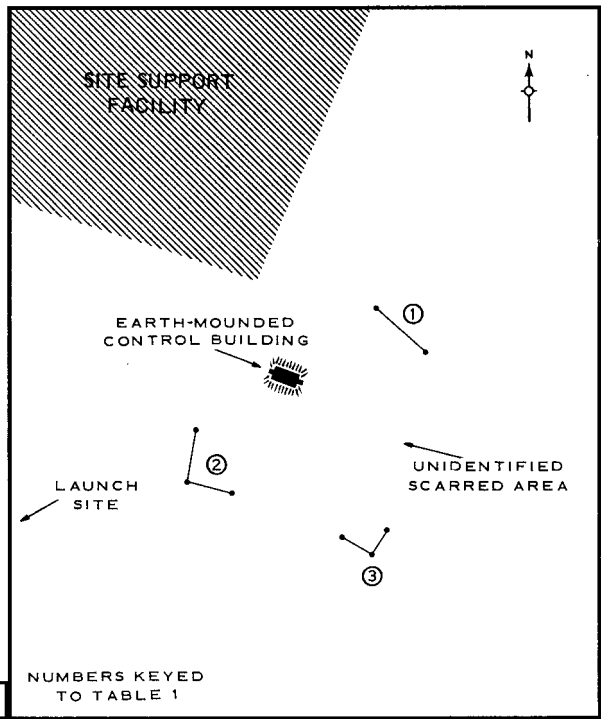
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NPIC K-6090 (1/66)

FIGURE 12. VORU HF COMMUNICATIONS FACILITY.

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NPIC K-6091 (1/66)

FIGURE 13. ZHMERINKA HF COMMUNICATIONS FACILITY.

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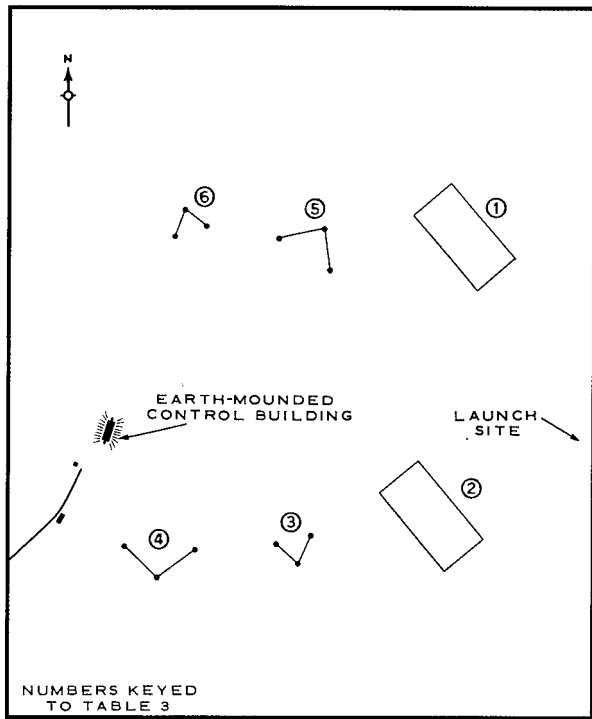
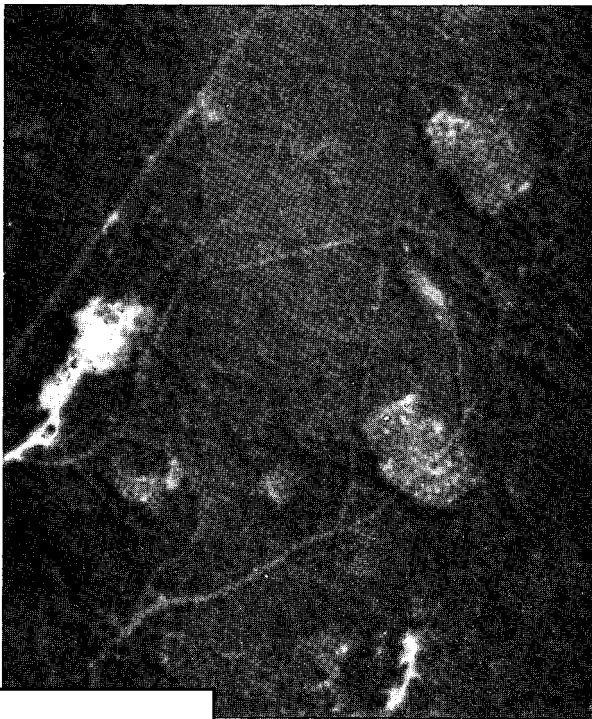
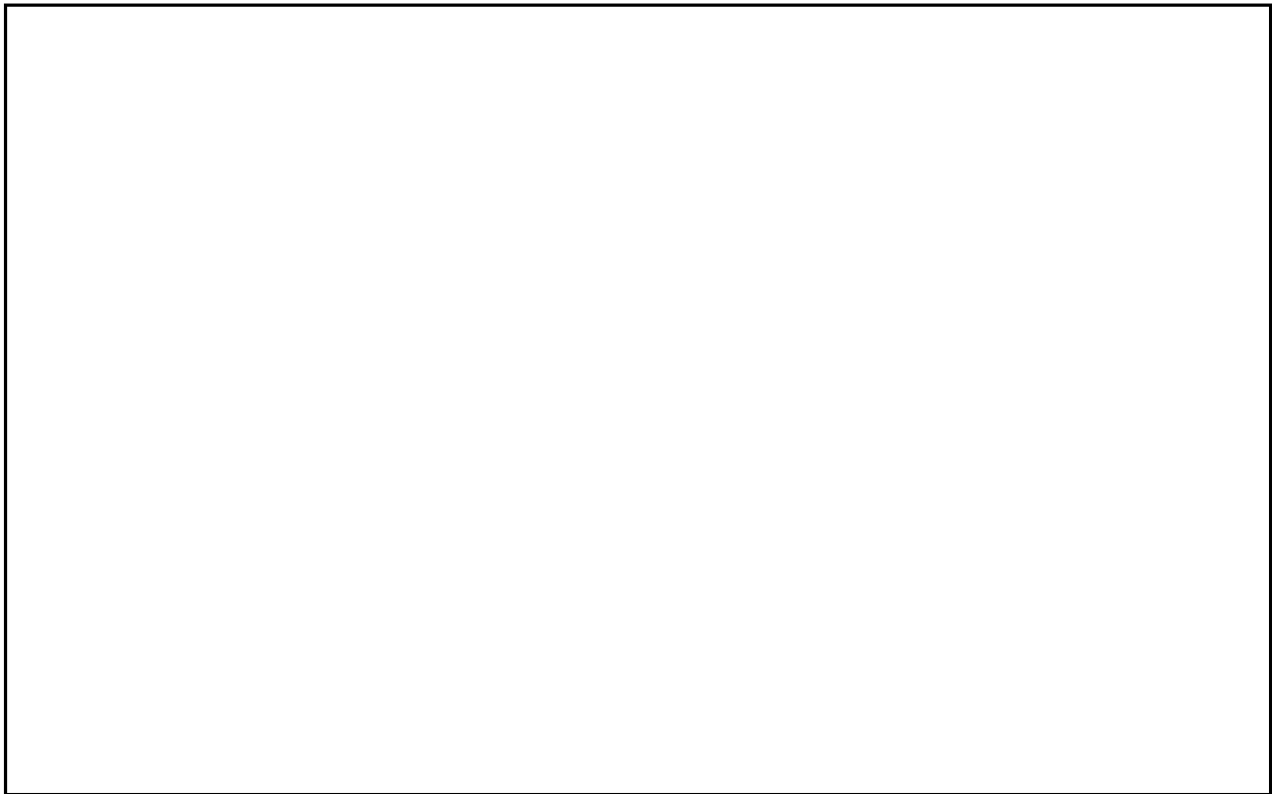
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FIGURE 15. NOVOSYSOYEVKA HF COMMUNICATIONS FACILITY.

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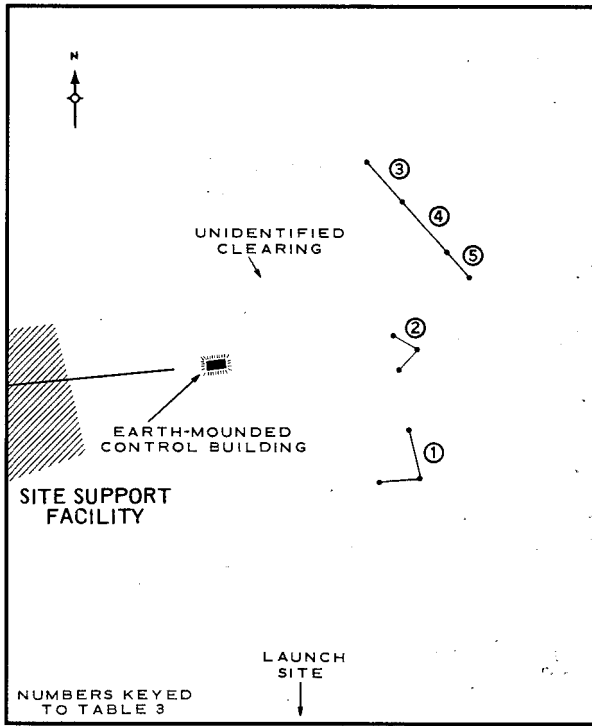
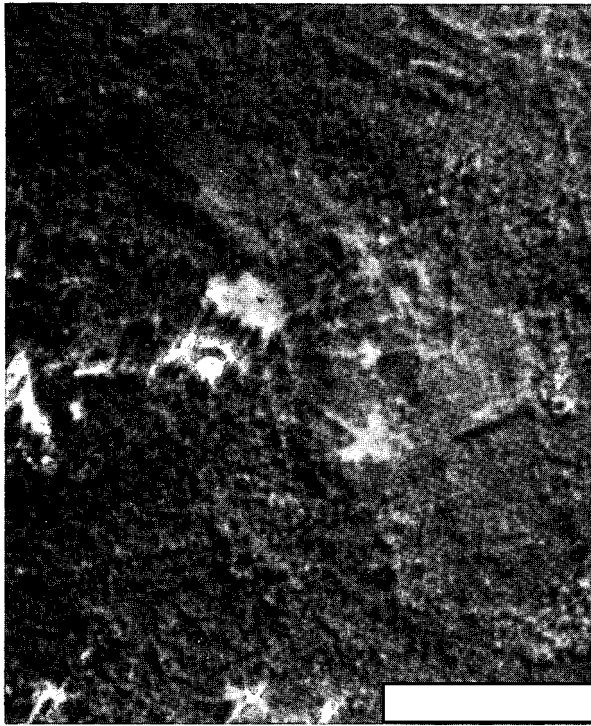
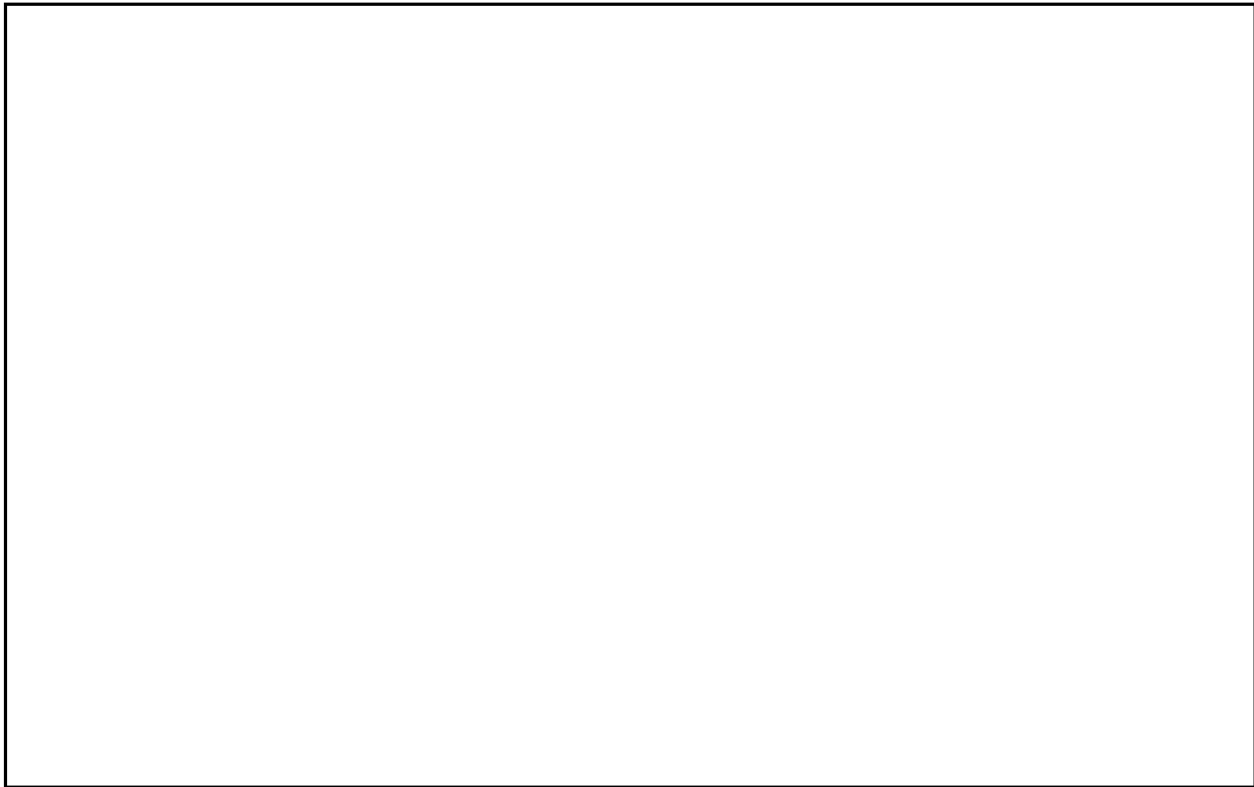


FIGURE 16. YELSK HF COMMUNICATIONS FACILITY.

NPIC K-6094 (1/66)

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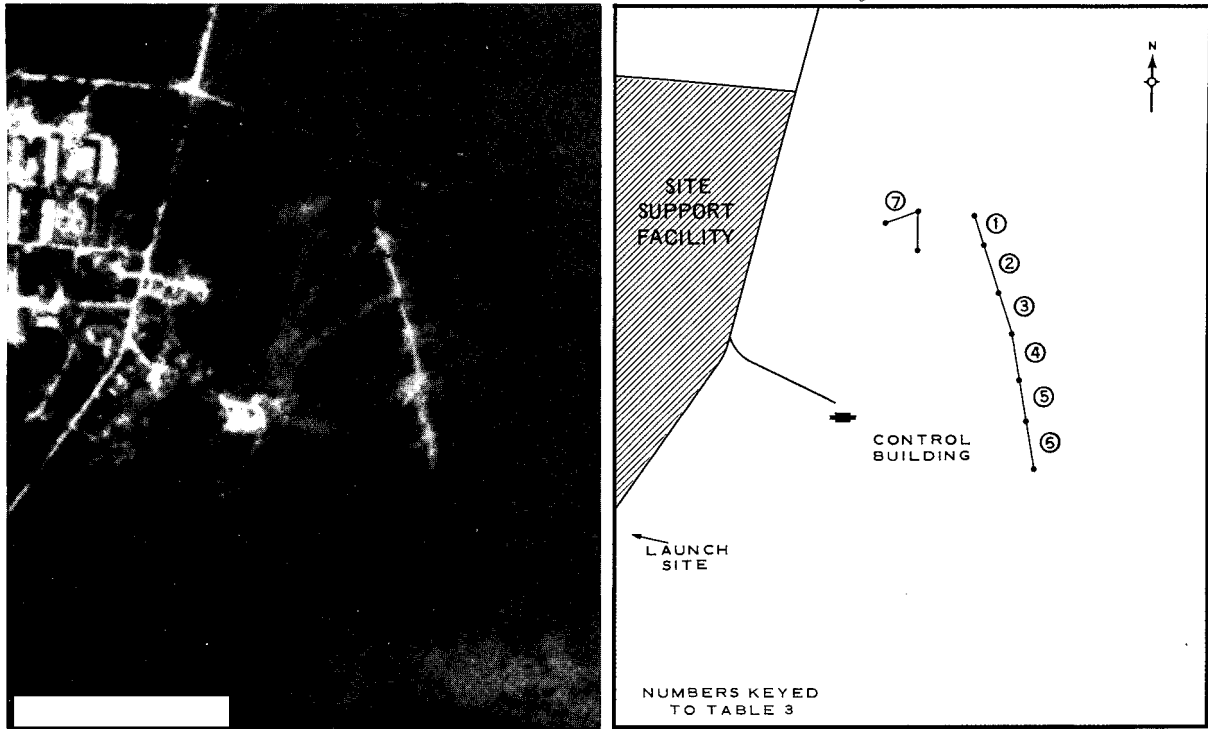


FIGURE 18. ZNAMENSK HF COMMUNICATIONS FACILITY.

NPIC K-6096 (1/66)

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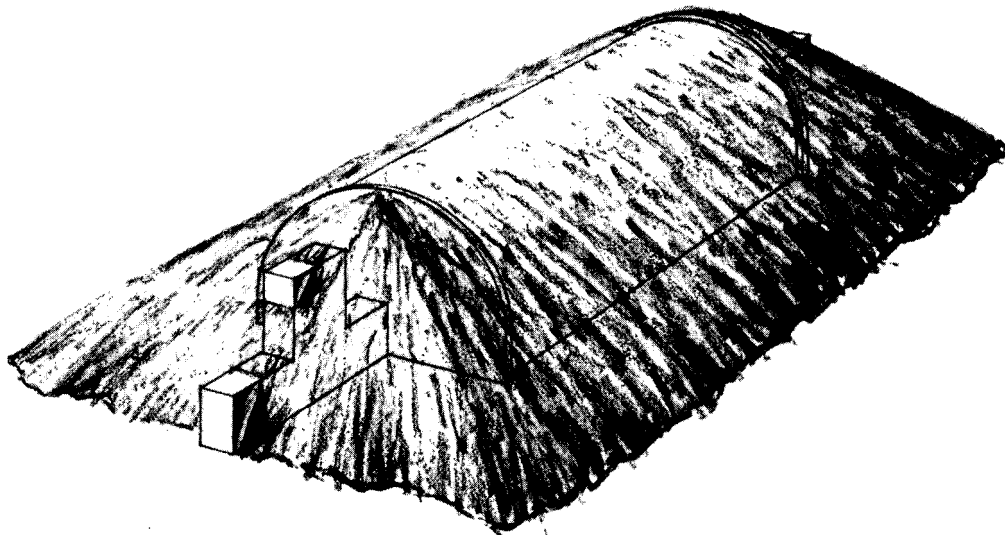


FIGURE 19. ARTIST'S CONCEPT OF A HARDENED CONTROL CENTER.

NPIC K-6097 (1/66)

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Table 1. Update of Soviet MRBM and IRBM HF Communications Facilities with Identified Antennas

Associated MRBM or IRBM Complex (Site)*	Distance from Launch Area	Coordinates	ANTENNA			Dimensions ± 10 Feet	Possible Correspondents	Control Building	Map Reference ***
			Number and Type	Designation**	Orientation ± 5 Degrees				
Akhtyrka MRBM Launch Area No 2 (Akhtyrka Launch Site 2) Figure 2	At Launch Area	50-22N 34-57E	3 horizontal dipoles	1		1 335	Usovo, Belokorovich	Earth mounded	DIA 0234-11HL, 3d ed, Feb 64 (S)
			2 horizontal dipoles	2		2 335	Moscow****		
			3 horizontal dipoles	3		3 335	Derazhnyia, Stanielav		
Aluksne MRBM Launch Area No 2 (Ruski MRBM Launch Site) Figure 3	At Launch Area	57-25N 26-51E	2 horizontal dipoles	1		1 270	Vitebsk, Smolensk	Probably earth mounded	DIA 0153-15HL, 3d ed, Dec 62 (S)
			3 horizontal dipoles	2		2 470	Moscow****		
			1 probable vee	3		-- --	Ukmerge		
			1 probable vee	4		-- --	Polotsk		
Diana MRBM Launch Area No 2 (Zelki MRBM Launch Site) Figure 4	At Launch Area	55-36N 28-24E	2 or 3 horizontal dipoles	1		-- --	Moscow****	Earth mounded	DIA 0168-5HL, 2d ed, Nov 62 (S)
			1 large vee	2		-- --	Gomel		
			1 small vee	3		-- --	Baranovich		
Gusev MRBM Launch Area No 1 (Gusev MRBM Launch Site 1) Figure 5	At Launch Area	54-41N 22-04E	3 horizontal dipoles	1, 2, 3		1 115 2, 3 180	Moscow****	Earth mounded	SAC 0168-6HL, 2d ed, Nov 62 (S)
			1 probable horizontal dipole	4		4 180	Daugavpils Smolensk****		
			1 probable horizontal dipole	5		5 180			
Ostrov MRBM Launch Area No 1 (Asanovschina MRBM Launch Site) Figure 6	At Launch Area	57-31N 28-12E	3 horizontal dipoles	1, 2, 3		1 110 2, 3 175	Smolensk	Earth mounded	DIA 0153-18HL, 3d ed, Dec 62 (S)
			3 horizontal dipoles	4, 5, 6		4, 5 175 6 110	Moscow****		
			1 large vee	7		7 180 legs	Luga		
Polotsk MRBM Launch Area No 2 (Polotsk MRBM Launch Site 2) Figure 7	At Launch Area	55-24N 28-34E	2 horizontal dipoles	1		1 385	Moscow****	Earth mounded	DIA 0168-5HL, 2d ed, Nov 62 (S)
			1 probable vee	2		-- --	Undetermined		
Simferopol MRBM Launch Area No 2 (Balki MRBM Launch Site) Figure 8	4.2m NW of Launch Area	44-59N 34-21E	3 horizontal dipoles	2		-- --	Odesa, Moscow****	Earth mounded	DIA 0250-20HL, 4th ed, Sep 62 (S)
			1 horizontal dipole	3		-- --			
			1 large vee	2		-- --			
Smorgon IRBM Launch Area No 1 (Smorgon IRBM Launch Site 1) Figure 9	0.5m S of Launch Area	54-31N 26-17E	3 horizontal dipoles	1		1 400 (total)	Moscow****	Not mounded in	DIA 0165-5HL, 3d ed, Dec 62 (S)
			3 horizontal dipoles	2		2 400 (total)	Smolensk		
			1 large vee	3		-- --			
Sokal MRBM Launch Area No 1 (Sokal MRBM Launch Site 1) Figure 10	At Launch Area	50-28N 34-16E	3 horizontal dipoles	4		-- --	Moscow****	Earth mounded	DIA 0282-15HL, 3d ed, Apr 63 (S)
			1 horizontal dipole	1		-- --			
			1 horizontal dipole	2		-- --			
Torva MRBM Launch Area No 2 (Torva MRBM Launch Site 2) Figure 11	At Launch Area	57-58N 26-05E	2 or 3 horizontal dipoles	2, 1		1 550 (total)	Moscow****	Probably earth mounded	DIA 0153-12HL, 3d ed, Jan 63 (S)
			2 horizontal dipoles	3, 4		3, 4 165	Undetermined		
			1 large vee	5		5 160 legs	Talinn		
			1 small vee	6		6 125 legs			
			2 horizontal dipoles	1		1 335 (total)	Moscow****		
Vorv MRBM Launch Area No 1 (Vorv MRBM Launch Site 1) Figure 12	1.5m N of Launch Area	57-47N 26-48E	2 horizontal dipoles	2		2 475 (total)	Smolensk****	Not mounded in	DIA 0153-13HL, 3d ed, Jan 63 (S)
			1 probable vee	3		-- --			
			1 horizontal dipole	1		-- --			
Zimovinka MRBM Launch Area No 1 (Givans MRBM Launch Site) Figure 13	At Launch Area	49-09N 28-12E	3 horizontal dipoles	1		-- --	Moscow****	Earth mounded	SAC M0233-17HL, 4th ed, Jul 65 (S)
			1 probable vee	2		-- --			
			1 vee	3		-- --	Undetermined		

\*TDI site designator is indicated in parentheses.  
 \*\*Antenna designation numbers are keyed to the line drawing of the facility.  
 \*\*\*Map reference is to US Air Target Chart, Series 200, scale 1:200,000.  
 \*\*\*\*Probable correspondents.

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Table 2. Update of Soviet MRBM and IRBM Communications Facilities Without Identified Antennas

Associated MRBM or IRBM Complex (Site)*	Distance from Launch Area	Coordinates	Control Building	Map Reference**
Gelli IRBM Launch Area No 3 (Parat IRBM Launch Site)	2m NE of launch area	42-48N 47-26E	Not arch roofed nor earth mounded	DIA 0932-3HL, 3d ed, May 64 (S)
Gomel MRBM Launch Area No 2 (Boskovo MRBM Launch Site 2)	At launch area	52-24N 30-59E	Probably earth mounded	USAF 0167-21HL, 3d ed, Apr 62 (S)
Kamenets-Podolskiy MRBM Launch Area No 1 (Kamenets-Podolskiy MRBM Launch Site)	At launch area	48-51N 26-49E	Probably earth mounded	USAF 0252-16HL, 4th ed, Oct 62 (S)
Kivertay MRBM Launch Area No 1 (Kivertay MRBM Launch Site 1)	At launch area	50-52N 25-51E	Earth mounded	DIA M0235-6HL, 3d ed, Jul 65 (S)
Molokovitsy MRBM Launch Area No 1 (Molokovitsy MRBM Launch Site 1)	1.5m SW of launch area	59-28N 29-03E	Earth mounded	DIA 0233-3HL, 3d ed, May 63 (S)
Nadvornaya MRBM Launch Area No 2 (Nova Ves MRBM Launch Site)	1.0m N of launch area	48-40N 24-48E	Earth mounded	DIA 0233-3HL, 3d ed, Jun 63 (S)
Povungnyak IRBM Launch Area No 1 (Kamenyiy Most IRBM Launch Site)	1.7m E of launch area	47-56N 30-50E	Not arch roofed nor earth mounded	USAF 0250-3HL, 2d ed, Jan 63 (S)
Stoikitsy MRBM Launch Area No 1 (Skatara MRBM Launch Site 2)	At launch area	55-59N 21-28E	Earth mounded	SAC 0168-1HL, 2d ed, Jul 62 (S)
Usna MRBM Launch Area No 2 (Mankovsk MRBM Launch Site)	At launch area	48-57N 30-23E	Earth mounded	DIA 0233-3HL, 3d ed, Aug 62 (S)
Zhitomir MRBM Launch Area No 2 (Zhitomir MRBM Launch Site 2)	At launch area	50-10N 28-16E	Earth mounded	SAC M0235-12HL, 3d ed, Aug 65 (S)

\*TMI site designator is indicated in parentheses.  
 \*\*Map reference is to US Air Target Chart, Series 200, scale 1:200,000.

Table 3. Previously Reported HF Communications Facilities at Soviet MRBM and IRBM Launch Areas with Identified Antenna Changes

Associated MRBM or IRBM Complex (Site)*	Distance from Launch Area	Coordinates	Antenna			Possible Correspondents	Control Building	Map Reference**	
			Number and Type	Designation**	Orientation ± 5 Degrees				
Kurgancha MRBM Area No 2 (Kurgancha MRBM Launch Site 1) Figure 14	At launch area	39-37N 65-06E	2 fishbones 3 horizontal dipoles 1 probable vee	1, 2 3, 4, 5 6	140/320 50 325	1, 2 330 x 145 3, 4 175 5 105	Alma Ata, Frunze	Earth mounded	DIA M0377-5AL, 3d ed, Jan 65 (S)
Novosyoyevka IRBM Launch Area (Novosyoyevka IRBM Launch Site 1) Figure 15	At launch area	44-12N 153-20E	2 fishbones 1 large vee 2 small vee	1, 2 4, 5 3, 6	140/320 45, 5 140	1, 2 320 x 140 45, 5 140 -- --	Moscow****	Earth mounded	SAC 0282-23HL, 3d ed, Jan 63 (S)
Yelak MRBM Launch Area No 1 (Yelak MRBM Launch Site 1) Figure 16	At launch area	51-42N 29-12E	1 large vee 1 small vee	1 2	1 2	1 135 -- --	Baranovich Chernigov, Reut	Earth mounded	SAC 0283-3HL, 3d ed, Jan 62 (S)
Zagare MRBM Launch Area No 1 (Zagare MRBM Launch Site 1) Figure 17	At launch area	56-23N 23-10E	3 horizontal dipoles 2 horizontal dipoles 1 vee	3, 4, 5 1, 2, 3 4, 5 6	125/20 180 6 130 legs	1 125 2, 3 180 4, 5 180 6 130 legs	Moscow**** Sofia**** Undetermined	Not earth mounded	DIA 0158-01HL, 5th ed, Apr 64 (S)
Znamensk MRBM Launch Area No 2 (Znamensk MRBM Launch Site 2) Figure 18	At launch area	54-35N 21-08E	3 horizontal dipoles 3 horizontal dipoles 1 probable vee	1, 2, 3 4, 5, 6 7	110/30 175 170 legs	1 110 3, 3 175 4, 5 175 6 110 7 170 legs	Moscow**** Sofia****	Earth mounded	SAC 0168-0HL, 3d ed, Aug 62 (S)

\*TMI site designator is indicated in parentheses.  
 \*\*Antenna designation numbers are keyed to the line drawing of the facility.  
 \*\*\*Map reference is to US Air Target Chart, Series 200, scale 1:200,000.  
 \*\*\*\*Probable correspondents.

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REFERENCES

DOCUMENTS

- 1. NPIC. R-795/64, *New HF Communications Facilities at Soviet MRBM/IRBM Launch Areas*, Aug 64 (TOP SECRET [redacted]) 25X
- 2. NPIC. R-848/64, *HF Communications Facility, Risti MRBM Complex, USSR*, Sep 64 (TOP SECRET [redacted]) 25X
- 3. NPIC. R-849/64, *HF Communications Facility, Rakvere MRBM Complex, USSR*, Sep 64 (TOP SECRET [redacted]) 25X
- 4. NPIC. [redacted] *HF Communications Facilities at or Near Selected Soviet MRBM and IRBM Complexes*, Jun 65 (TOP SECRET [redacted])
- 5. NPIC. [redacted] *HF Communications, Ugolnyy MRBM Launch Site, USSR*, Jun 65 (TOP SECRET [redacted]) 25X

REQUIREMENTS

- CIA. C-RR5-82,644
- NSA. P0432/R-63-65
- NSA. P0432/R-125-65

NPIC PROJECTS

- 11383/65
- 11255/66

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