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basic imagery interpretation report

Ramenskoye Flight Test Center (S)

STRATEGIC WEAPONS INDUSTRIAL FACILITIES

USSR

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Z-12102-/83
RCA-09/0018/83
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INSTALLATION OR ACTIVITY NAME Ramenskoye Flight Test Center				COUNTRY UR	
UTM COORDINATES NA	GEOGRAPHIC COORDINATES 55-34-19N 038-09-23E	CATEGORY	BE NO.	COMIREX NO.	NIETB NO.
MAP REFERENCE DMAAC. USATC, Series 200, Sheet 0167-5, scale 1:200,000					
LATEST IMAGERY USED			NEGATION DATE (If required)		
			NA		

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ABSTRACT

1. This report updates NPIC report Z-14620/82 on Ramenskoye Flight Test Center (FTC), USSR, and discusses construction, aircraft activity, and new/modified aircraft systems observed from [] the information cutoff date for the previous report) through [] Related activity at other facilities is also included. (S/WN) 25X1 25X1

2. This report includes 21 annotated photographs (including an overview of the FTC with functional areas delineated), a location map, and a table of mensural data. (S/WN)

BASIC DESCRIPTION

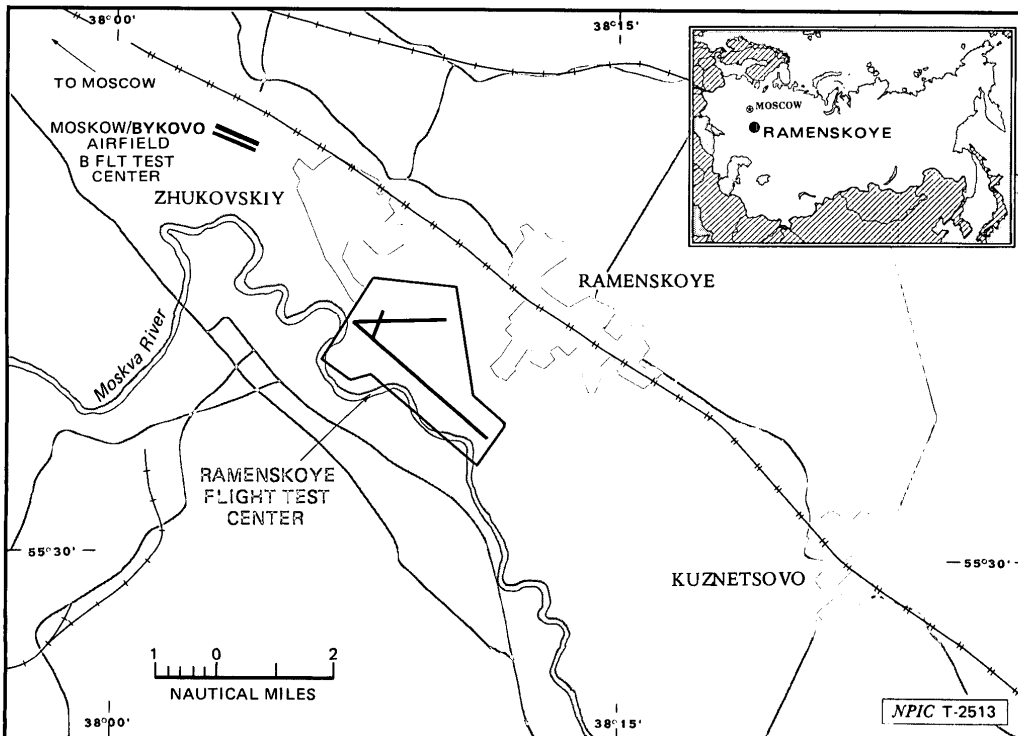
3. Ramenskoye FTC is approximately 20 nautical miles southeast of Moscow (Figures 1 and 2). A summary of construction observed subsequent to [] the last reporting period, is presented chronologically in Figures 3, 4, and 5 and Table 1. (S/WN) 25X1

Construction

4. Four buildings were completed at the FTC during this period. An administration/engineering building (Figure 3; item 4) in the support area was complete by late July 1982. Two support buildings (Figure 4; items 11 and 12) were complete by February 1983 and an administration/engineering building (Figure 4; item 15) was complete by May 1983. (S/WN)

5. Construction, reported in the previous reporting period,¹ was still continuing. As of [] seven support buildings (Figure 3; items 1, 2, 3, 6, 7, 8, and 10) were all under construction. An adminis-

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**FIGURE 1. LOCATION OF RAMENSKOYE FLIGHT TEST CENTER, USSR**

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Table 1.
Mensural Data for New Construction, Ramenskoye Flight Test Center, USSR
(Items keyed to Figures 3, 4, and 5)
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Item	Structure	Dimensions* (m)			Floorspace (Sq m)	Date Complete	Remarks
		L	W	H			
1	Support bldg				181		Ucon
2	Support bldg				200		Ucon
3	Support bldg				899		Ucon; at least 4 stories
4	Admin/Engineering bldg				8,688	Jul 82	4-story
5	Admin/Engineering bldg				1,444		Ucon; at least 3 stories
6	Support bldg				383		Ucon; may be more than one story when complete
7	Support bldg				231		Ucon; may be more than one story when complete
8	Support bldg				287		Ucon
9	Unidentified construction						Footings for a building
10	Support bldg				285		Ucon; may be more than one story when complete
11	Support bldg				375	Feb 83	
12	Support bldg				202	Feb 83	
13	Admin/Engineering bldg				618		Ucon
14	Admin/Engineering bldg				12,719		Ucon; 5- and 10-story wings
15	Admin/Engineering bldg				2,188	May 83	6 story
16	Unidentified construction						Large area of grading and back filling off SSE end of runway

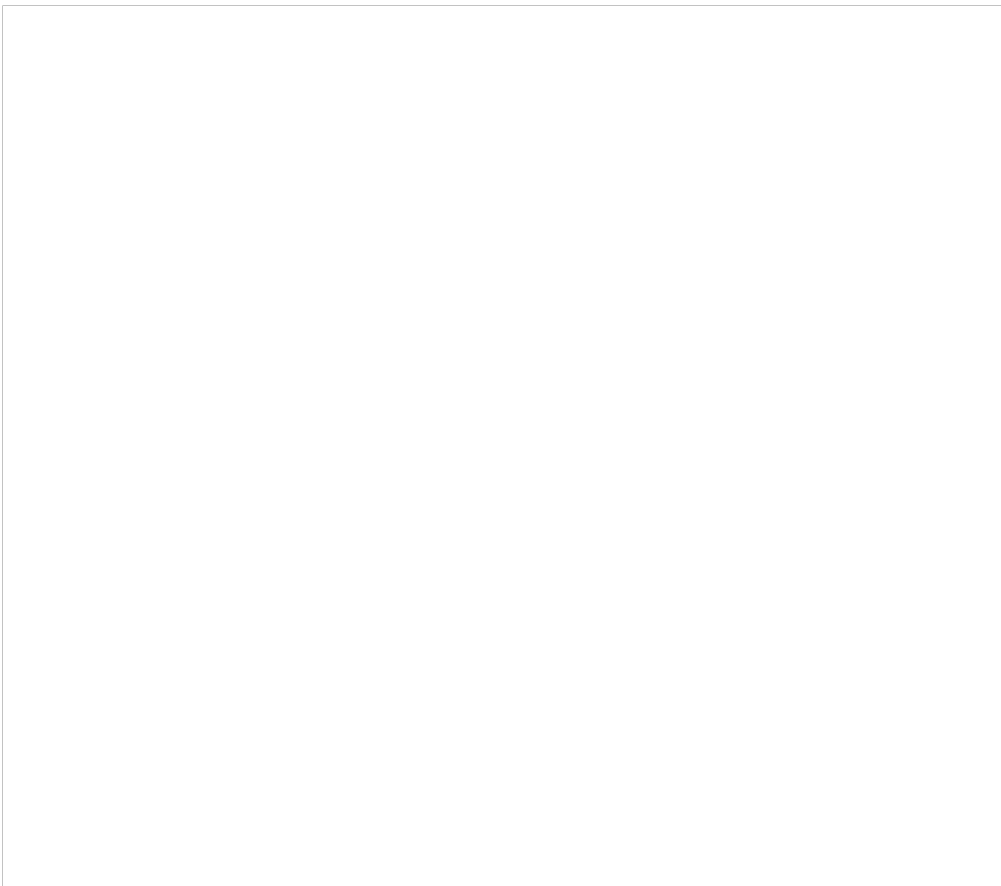
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tration/engineering building (Figure 3; item 5) will be at least three stories. Construction was in the early stages on an unidentified building (Figure 3; item 9), with only some of the footings in place. (S/WN)

6. Two administration/engineering buildings (Figure 4; items 13 and 14) were under construction in the Flight Research Institute (LII) area. The latter building (item 14) will have five and 10-story wings. Unidentified construction (Figure 5; item 16) off the south-southeast end of the runway, discussed in the previous report, was still in the early stages. (S/WN)

Systems Activity

Aerospace

7. **RAM-R.** The RAM-R (Figures 6 and 7), the Soviet space shuttle, was identified on [redacted] atop a modified BISON B in the LII area. The shuttle had been present on [redacted] but clouds and haze prevented an identification. On [redacted] the RAM-R and BISON were at the end of the east/west runway, probably undergoing taxi tests. (S/WN)

8. The RAM-R is similar to the US Space Shuttle, but is slightly larger. Its main dimensions in meters are as follows:

overall length	[redacted]
wing span	[redacted]
cargo bay length	[redacted]
cargo bay width	[redacted]
tail cone length	[redacted]
wing tip chord	[redacted]

9. The RAM-R has not been seen with a vertical stabilizer, which will have to be attached before the shuttle is flown with the BISON for free-flight testing. Possibly, the BISON is unstable in flight when carrying the shuttle with the vertical stabilizer attached or, more likely, the shuttle with the stabilizer attached cannot clear the bridges over the Moskva River. The shuttle is barged between Ramenskoye and Moskva Guided Missile Plant Tushino 82 [redacted] where it was built. The vertical stabilizer will probably be attached after transport to Tyuratam. (S/WN)

10. On [redacted] the BISON and shuttle were off the runway at the FTC (Figure 8). The BISON apparently veered off the runway and came to rest on the infield area between the long runway and the taxiway. Ruts caused by the BISON were visible, but no damage to the shuttle was observed. The BISON was in the mud with the port wing nearly on the ground and the nose close to the ground. (S/WN)

11. On [redacted] operations to retrieve the aircraft were underway. The BISON, either because it was tilted so deeply or because the landing gear was so badly damaged, could not be moved with the shuttle attached. Two concrete block paths were laid from the runway to the BISON, and two cranes were present to remove the shuttle. (S/WN)

12. By [redacted] the shuttle had been removed and was probably in a hangar in the LII area. By [redacted] the BISON had been removed and was probably also in one of the LII hangars. (S/WN)

13. The shuttle was probably returned by barge to Tushino. On [redacted] an empty barge was at the pier at the FTC, and on [redacted] an empty barge was at the land-to-water transshipment facility at Tushino. Either the shuttle could not be repaired at the FTC or repairs to the BISON are expected to take a considerable amount of time and, therefore, the shuttle was transferred back to Tushino. (S/WN)

14. **Aerospace Components.** Both the [redacted] components (discussed in detail in the previous NPIC report) have been removed from the FTC. By [redacted] the [redacted] component had been transported to Tyuratam on a modified BISON. The [redacted] component was similarly transferred between [redacted] (S/WN)

15. The program to develop the flight envelope and handling characteristics of the BISON (component combination is probably complete, and it is unlikely that either of the components will be returned to the FTC. (S/WN)

Aircraft Prototypes

16. **RAM-Q.** The RAM-Q (Figures 9 and 10), first seen at the FTC on [redacted] is a twin-engine, single-seat aircraft with a low-mounted swept wing. The size and configuration, which are similar to the Grumman A-6 Intruder, indicates that it may be a ground-support aircraft. The best imagery of the aircraft during the reporting period was on [redacted] although the forward fuselage of the plane was hidden by the shelter in the New Il'yushin area. Based on the locations of the observations, the RAM-Q is probably associated with the Il'yushin design bureau. (S/WN)

17. **RAM-M.** The RAM-M was absent from its normal parking position in the LII area for nearly five months during the latter half of 1982. On [redacted] it was again present and no apparent modifications had been made to the airframe. Frequent observation of snow melt behind the RAM-M after December 1982 indicate an active test program for the aircraft. It was observed taxiing out of the LII area on [redacted] and on the crossover link between the two runways on [redacted] a RAM-M fuselage and wing panels were in the dirt just off the LII apron. These sections may have been for a structural test model or mock-up. (S/WN)

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18. **BLACKJACK A.** The horizontal stabilizer of the BLACKJACK A was modified during the period (Figure 11), probably during the summer of 1982, when a CHARGER was normally in the BLACKJACK hangar. The stabilizer span was reduced to [redacted] from the previous [redacted] and the tip chord was increased from [redacted]. This modified stabilizer was probably on the BLACKJACK by [redacted] (S/WN)

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19. Observations of the BLACKJACK A have been infrequent and there is no evidence that two models of the BLACKJACK exist. (S/WN)

20. A probable computer van truck (Figure 11) was observed on [redacted] next to the hardstand where the BLACKJACK A is parked when not in a hangar. This van truck may be involved in ground testing the BLACKJACK A. (S/WN)

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Bomber Activity

21. **BEAR H.** During the reporting period, BEAR H (the latest model BEAR), currently in production at Taganrog Airframe Plant Dimitrov 86 [redacted] had been deployed to an operational unit at Dolon Airfield [redacted] Also during the period, considerable activity involving BEAR H aircraft took place at the FTC. While only one BEAR H had been observed at the FTC during the previous reporting period, two were present in November 1982, three in March 1983, and possibly a fourth was present by April 1983. (S/WN)

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22. At the FTC on [redacted] an unidentified object was next to a BEAR H (Figure 12). Although canvas covered and probably on a dolly, this object was approximately [redacted] long with a [redacted] diameter, which may have been exaggerated by the canvas covering. (S/WN)

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23. On [redacted] an unidentified object was under the starboard wing of a BEAR H, between the fuselage and No. 3 engine (Figure 13). The object extended forward and aft of the wing and had an overall length of [redacted] although the aft end was wider than at the forward end. On [redacted] a similar object was again in the same position on a BEAR H (Figures 14a and 14b). The length, however, was [redacted] and the front end appeared to be wider than that of the object seen on [redacted] (S/WN)

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24. The BEAR H has been associated with the testing of the AS-X-15 air-launched cruise missile (ALCM). Although the AS-X-15 has not been observed at the FTC, the [redacted] length of the unidentified object on [redacted] approximates the estimated size of the new ALCM. If the object seen on [redacted] is the AS-X-15 ALCM, then the object seen on [redacted] was probably an ALCM mounted in the rear position of a pylon. The [redacted] observation was probably two ALCMs mounted on a single pylon, which would account for the increased overall length and the wider appearance of the front end. On the other hand, it is possible that the object on the BEAR H was a single missile, 12 to 13 meters long, but there is no evidence that a weapon of that size is being developed. (S/WN)

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25. Analysis of Ramenskoye, Taganrog, Akhtubinsk FTC [redacted], Kuybyshev Airframe Plant Lenin 18 [redacted] and Dolon Airfield indicates that as of May 1983 as many as nine BEAR H have been produced. (S/WN)

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26. **BACKFIRE.** BACKFIRE activity was normal during the reporting period, except on [redacted] when a BACKFIRE C had an unidentified object under the starboard wing. This object, approximately [redacted] in diameter, extended [redacted] forward of the wing but did not appear to extend aft of the wing trailing edge. The KITCHEN and the [redacted] airframe, which have previously been seen on BACKFIRE, extend forward and aft of the wing. (S/WN)

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Fighter Activity

27. **FLANKER A and FLANKER A MOD.** FLANKER A activity, observed only occasionally, was normal during this period. Considerable activity involving the FLANKER A MOD, however, was observed at the FTC and Komsomolsk Airframe Plant Ordzhonikidze 126 [redacted] (S/WN)

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28. The first fully assembled FLANKER A MOD seen at the FTC was on the crossover link on [] (Figure 15). An assembled FLANKER A MOD has not been seen here since. Other major activity involving FLANKER A MOD occurred in late March 1983, when five fuselages were in the Sukhoy area. Four of these had probably been delivered from Komsomolsk, where palletized MOD fuselages had been seen in early March. (S/WN)

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29. The presence of the palletized FLANKER A MOD at Komsomolsk and the subsequent high number at the FTC may indicate that the FLANKER A MOD aircraft is in preseries production. It is unusual, however, for preseries production aircraft to be delivered to Ramenskoye instead of being flight tested at the production facility. Only one assembled FLANKER A MOD has been observed at Komsomolsk, an indication that predelivery flight testing of FLANKER A MOD aircraft may not be performed at the plant. The palletized aircraft may be flown to Ramenskoye because the Komsomolsk Plant may not be fully equipped to perform flight tests. (S/WN)

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30. The FLANKER A MOD weapons test program has been active at Akhtubinsk since at least early September 1982. It is unusual that the Soviets would begin weapons testing there before determining the aerodynamic effects of the modifications at Ramenskoye. But, in an effort to accelerate the program to operational deployment status, the FLANKER A MOD aircraft may be tested concurrently at the two FTCs. The Soviets may have enough confidence in the aerodynamic worthiness of the modifications to permit dual testing. (S/WN)

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31. **FULCRUM A.** During this period, FULCRUM A aircraft were occasionally observed at the FTC, mainly in shelters in the East parking area. The focus of this test program, however, has apparently shifted from Ramenskoye to Lukhovitsy Airframe Plant [] where six preproduction models were observed on [] and to Akhtubinsk, where nine were seen on [] (S/WN)

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Transport Activity

32. **CANDID** [] A Modified CANDID, [] (Figure 16), was seen for the first time at the FTC on []. The aircraft, parked in the Old Ilyushin area, has wing tip pods and enlarged main gear housings. Two other CANDID, [] have similar features. CANDID [] has wing tip pods, and CANDID [] has enlarged gear housings, as well as other modifications. CANDID [] left Ramenskoye by [] and was seen in late March at Novosibirsk Airfield Northeast [] which serves Novosibirsk Scientific Institute of Aviation SIBNIA []. CANDID [] remained at Novosibirsk until late May, when it was returned to Ramenskoye. The reason for the presence of the CANDID at SIBNIA is unknown. (S/WN)

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33. The function of the Modified CANDID is not known, but the wing tip pods on CANDID [] are similar to refueling and ECM pods on some western aircraft. Another CANDID at Ramenskoye [] is thought to be the CANDID tanker testbed. (S/WN)

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34. **CANDID** [] During the reporting period, CANDID [] the testbed aircraft for the new large turbofan engine, underwent some modification. Its engine had been removed by [] and by [] the CANDID had probably been moved into one of the hangars in the Old Ilyushin area. On [] CANDID [] was on the transient parking apron with the new engine reinstalled. No modifications to the engine nacelle were observed. The CANDID, however, appeared to be equipped with an air scoop, possibly for cooling test equipment on each side of the upper fuselage just behind the wings. (S/WN)

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35. **Modified CARELESS.** Two modified CARELESS were identified during this period. One, normally parked in either the Old Ilyushin area or the East Parking area, had a pointed nose extension, a rail antenna mounted atop the fuselage, and possibly a modification to the horizontal stabilizer (Figure 17). The function of the pointed nose extension is not known, but nose probes of this configuration are often found on prototype aircraft or aircraft involved in specialized test programs. The aircraft has been regularly seen at the FTC since [] (S/WN)

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36. Another CARELESS, which has been in the Tupolev/East Parking areas, has new nacelles, apparently modified for new engines (Figure 18). The nacelles are slightly longer than normal NK-8-2 engine nacelles and do not have the thrust reversal grilles (appearing as black patches) found on standard CARELESS.² (S/WN)

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37. The new nacelles are similar to the CLASSIC nacelles for the D-30KU engine. The CLASSIC originally had the NK-8-4 engine and nacelles similar to standard CARELESS. The CLASSIC nacelles, however, were changed to accommodate the new engines. This activity probably represents an attempt to equip the CARELESS with more fuel efficient engines, possibly uprated D-30s. It is unlikely that operational CARELESS will receive new engines, but newer models may have this new engine in the future.² (S/WN)

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38. **Modified CLOBBER, CRUSTY, and COOT.** A CLOBBER, modified with a conical nose extension (Figure 19), was first observed on [] and has been present on most subsequent coverage. In addition, a CRUSTY, modified with a small conical nose extension, has been in the Old Ilyushin area since []. This was the second CRUSTY with this modification to be seen at the FTC. The first, which was identified in August 1982, was also present. (S/WN)

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39. The purpose of these nose modifications is unknown. A COOT [], with a similar conical nose extension (Figure 20), was also parked in the same general area and may be associated with missile testing. (S/WN)

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40. Another CRUSTY, modified with a BACKFIRE-like nose (Figure 17), has been present since [redacted] 25X1
[redacted] This type of modified CRUSTY, which is being produced at Kharkov Airframe Plant 135 [redacted] 25X1
[redacted] is believed to be involved in air crew training and may be at the FTC for system evaluation. 25X1
(S/WN)

Rotary Wing Activity

41. **Modified Probable HIP H, Modified HIP C, and HELIX.** A modified probable HIP H (Figure 21) was in the Mil area on [redacted] The modification consists of a possible boom or tube extending forward from the upper part of the nose. In addition, black patches, possibly dielectric material, were on the tail boom. Canvas covering on the nose prevented a detailed analysis, and little activity has been seen around this helicopter. (S/WN) 25X1

42. Since [redacted] a HIP C with booms on each side of the fuselage has been in the Mil area (Figure 22). The booms are similar to spray booms, are approximately [redacted] and are approximately [redacted] aft of the nose. Little activity has been seen around this HIP. (S/WN) 25X1
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43. A HELIX, seen for the first time at the FTC on [redacted] was on the infield area near the intersection of the two runways. No particular activity has been associated with this HELIX. (S/WN) 25X1

Miscellaneous Activity

44. By [redacted] two 3-meter dishes were installed in the telemetry processing area, between the Yakovlev and Old Ilyushin areas. (S/WN) 25X1

45. By [redacted] five rows of resolution targets had been placed in the Test and Derelict area. Various geometric designs were represented including bars, crosses, and circles. A gray scale was also present. (S/WN) 25X1

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REFERENCES

IMAGERY

All available satellite imagery acquired from [redacted] was used in the preparation of this report. (S/WN) 25X1

MAP OR CHART

DMAAC. US Air Target Chart, Series 200, Sheet 0167-5, Scale 1:200,000 [redacted] 25X1

DOCUMENTS

1. NPIC. Z-14620/82. RCA-09/0026/82. *Ramenskoye Flight Test Center (S)*, Nov 82 [redacted] 25X1
[redacted] 25X1
2. *Jane's All The World's Aircraft*, 1981-82 (U)

REQUIREMENT

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Comments and queries regarding this report are welcome. They may be directed to [redacted] Warsaw Pact Forces Division, Imagery Exploitation Group, NPIC, on [redacted] 25X1
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