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basic imagery interpretation report

Developments at Chernomorskoye and Feodosiya Missile Test and Support Facilities (S)

MISSILE RANGES: NAVAL LAUNCHED FACILITIES
BE: Various
USSR

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WNINTEL

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AUGUST 1983
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INSTALLATION OR ACTIVITY NAME					COUNTRY
Developments at Chernomorskoye and Feodosiya Missile Test and Support Facilties					UR
UTM COORDINATES	GEOGRAPHIC COORDINATES	CATEGORY	BE NO.	COMIREX NO.	NIETB NO.
NA	See below	See below	See below	See below	See below

MAP REFERENCE

DMA. USATC, Series 200, Sheet 0249-16, scale 1:200,000

LATEST IMAGERY USED	NEGATION DATE (If required)
	NA

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Installation Name	Geographic Coordinates	Category	BE No.	COMIREX No.	NIETB (MRN) No.
Chernomorskoye Missile Test and Evaluation Facility	45-01-16N 035-57-49E				
Feodosiya Naval Missile Support Facility	45-08-09N 035-33-41E				
Feodosiya Naval Missile Test Facility	44-51-15N 035-08-05E				
Feodosiya Torpedo and ASW Weapons Storage Facility	45-00-43N 035-24-24E				
Feodosiya Probable ASW Checkout Facility	45-00-22N 035-23-59E				
Feodosiya Naval Base and Ship Repair Yard	45-01-32N 035-23-36E				

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ABSTRACT

1. Soviet installations at Chernomorskoye and at Feodosiya, on the Black Sea coast, support the testing and evaluation of antiship cruise missiles and antisubmarine cruise and ballistic missiles for the Soviet Navy. An understanding of activity at each facility assists in determining weapon program start/stop dates, program problems, weapon system capabilities, and initial operational capability (IOC) dates. (S/WN)

2. This report, which updates NPIC report Z-14628/82,[1] describes missile testing activities at the Chernomorskoye Missile Test and Evaluation Facility and at the various Feodosiya missile test and support facilities as derived from imagery of [redacted] It also provides the initial description of testing and operational activity at Feodosiya Naval Base and Ship Repair Yard from [redacted] The report contains a location map and 14 annotated photographs. (S/WN)

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INTRODUCTION

3. The facilities at Chernomorskoye (Figure 1) have been used in the land-based testing of relatively short-range antiship cruise missiles, most recently the SS-NX-22 (BL-09). Land-based launch facilities at Feodosiya have been used to test antisubmarine warfare (ASW) weaponry. The naval base at Feodosiya and the associated storage facilities support at-sea tests of antiship cruise missile, ASW weapons, and surface-to-air missiles (SAM). Significant observations and activities through [redacted] imagery included: 25X1

- the start and completion of the at-sea test phase of the SS-NX-22 program at Feodosiya;
- support for at-sea testing of the SS-NX-22 at Feodosiya;
- probable missile unloading offshore;
- the presence of resolution targets at Feodosiya;
- the arrival of Juliett-class cruise missile attack submarines (SSG) in the Black Sea; and
- the arrival at Feodosiya of a modified Romeo-class attack submarine (SS) that may be the test-bed for a new weapon system. (S/WN)

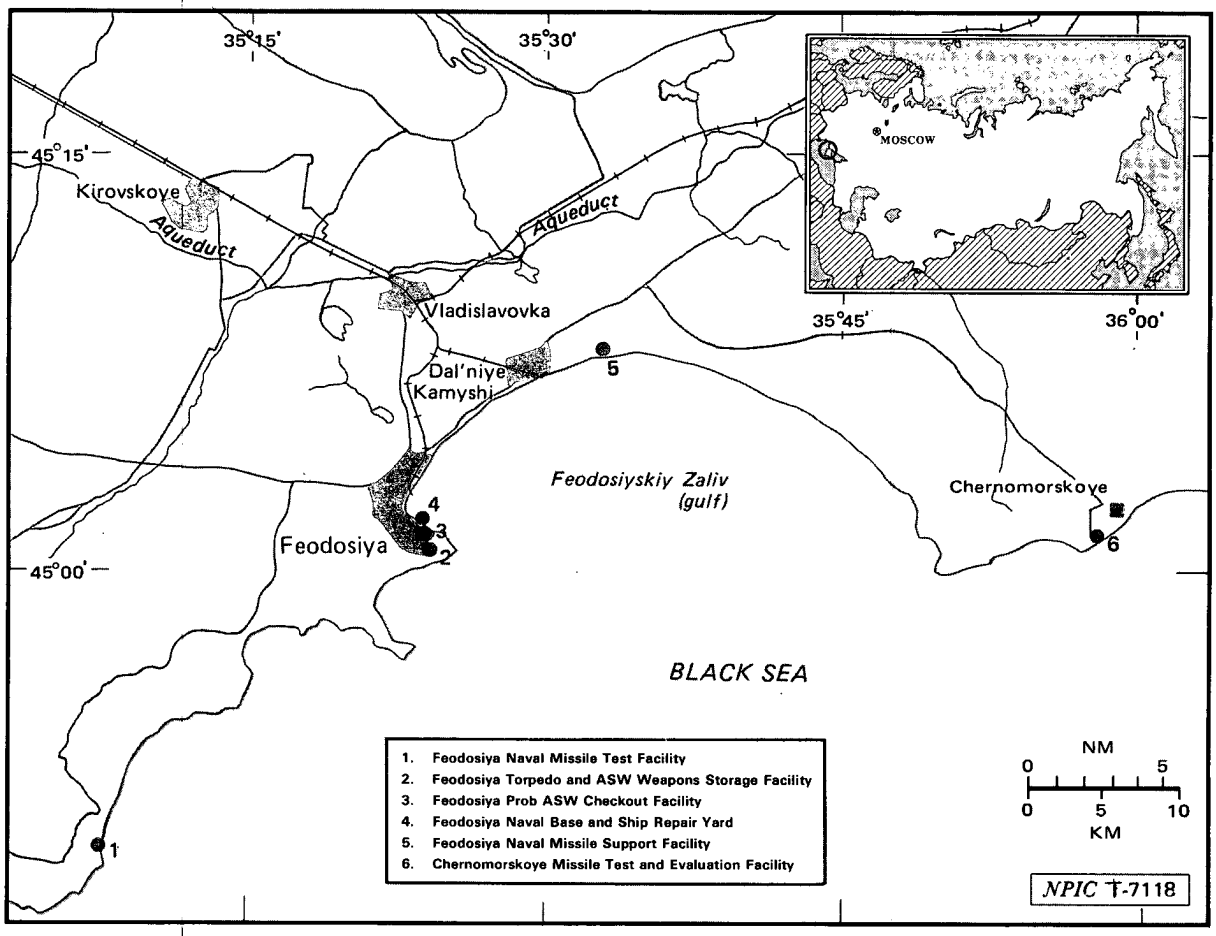

FIGURE 1. NAVAL MISSILE TEST-RELATED FACILITIES AT CHERNOMORSKOYE AND FEODOSIYA, USSR

BASIC DESCRIPTION

Chernomorskoye Missile Test and Evaluation Facility

Recent Activities

4. This facility has been used since the late 1950s for testing antiship cruise missiles. Two of the launch areas (A and C) have been incorporated into the [redacted] Launch Area B is currently the only part of the facility capable of launching test missiles and was recently involved in the testing of the SS-NX-22. Previously it was used in the SS-N-9 antiship cruise-missile test program. No activity has occurred in the launch area since the end of the land-based test phase of the SS-NX-22 program in April 1982. (S/WN)

Construction Activity

5. Two new fence-secured installations are under construction west of Launch Area D where LA-17 drones were previously launched (Figures 2 and 3). The function of these installations is not known. However, buildings under construction at the installation nearest to the launch area (Figure 2) appear to be for instrumentation: these include one three-story cinetheodolite building and a possible optical

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[redacted]

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shelter or radome. The facilities may be related either to missile testing or to activity at [redacted] (S/WN)

Feodosiya Naval Base and Ship Repair Yard

6. This facility is used as the staging area for the at-sea testing of cruise missiles, ASW weapons, and naval SAMs. In addition to the at-sea test-bed vessels normally at the facility, major combatants involved in the testing of their own systems are routinely observed at the base or anchored in the roadstead. (S/WN)

Cruise Missile Test Activity

7. **SS-NX-22 Test Activity.** The Soviet Navy's only Tarantul-II guided-missile patrol combatant (PGG), the SS-NX-22 test-bed, arrived at Feodosiya between [redacted] and [redacted] the ship was being loaded with an SS-NX-22, indicating that cruise-missile test preparations were underway (Figure 4). An SS-NX-22 loading tray was protruding from one of the starboard tubes, and an SS-NX-22 shipping container was on the quay. By [redacted] the Tarantul-II departed the base. On [redacted] the vessel was in the roadstead, and a 64-meter-class target barge had departed the base. This type of target barge was used in both the land-based and the at-sea phases of the SS-NX-22 test program. Both the Tarantul-II and the target barge had returned by [redacted] (S/WN) 25X1 25X1 25X1 25X1

8. SS-NX-22 activity was again observed in January 1982. On [redacted] a probable loading tray was at the portside launch tubes on the Tarantul-II. The ship departed Feodosiya between [redacted] for Sevastopol Shipyard Sevmorzavod 497 (BE [redacted] for unidentified repair work and, except for a brief period at the end of March, remained there throughout the rest of the reporting period. (S/WN) 25X1 25X1 25X1 25X1 25X1

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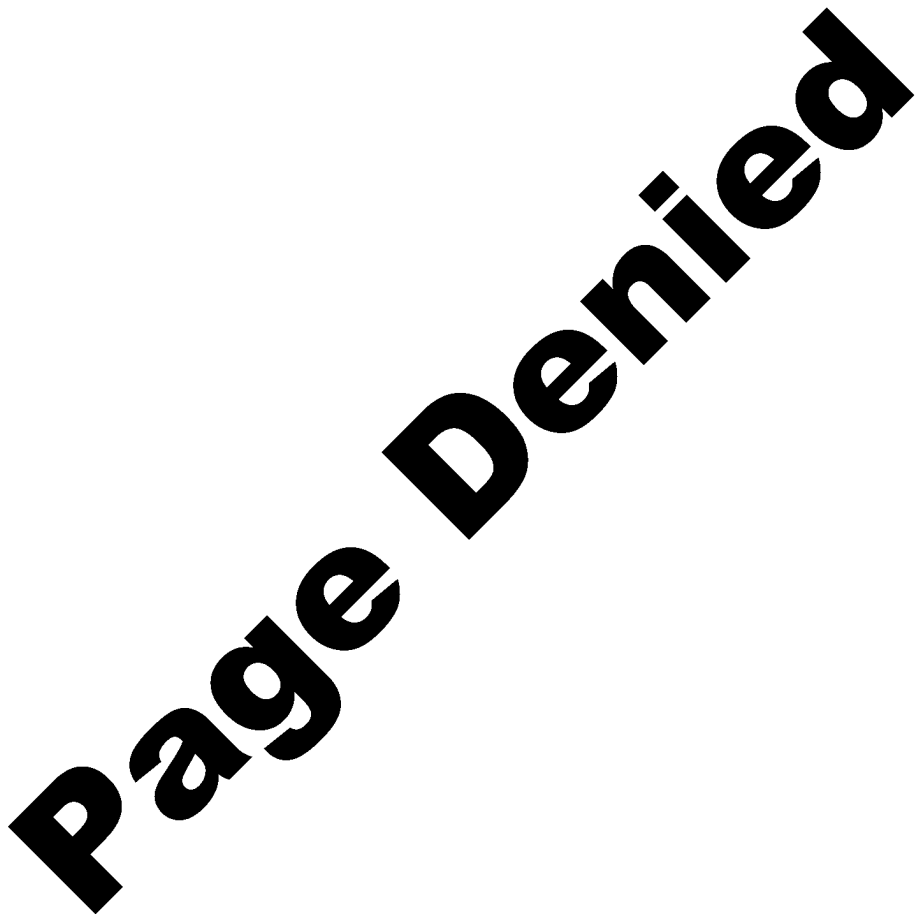

9. The lead unit of the Sovremennyy-class guided-missile destroyer (DDG) arrived at Feodosiya and was involved in SS-NX-22-related activity in May 1982. On [redacted] the ship was alongside a floating crane in the roadstead (Figure 5), and a missile transfer operation was underway: a missile loading tray was in front of the starboard launch tubes, and a missile canister was in front of the port launch tubes. This activity probably involved the removal of an inoperative or malfunctioned missile. The fact that the offloading of the missile took place in the roadstead suggests that the Soviets considered the operation to be extremely hazardous, since all other missile-related activities take place routinely within the base, where warships as large as the Sovremennyy-class DDG can be and have been accommodated. If the vessel were there to load a missile, it could have been done within the base. This conclusion is further supported by the fact that Sovremennyy had been involved in SS-NX-22 loading activitiy just before this at Sevastopol Naval Missile Support and Major Ship Facility [redacted] indicating that this ship was staging out of Sevastopol for weapon-system testing. By [redacted] this unusual missile offloading activity had ended. (S/WN)

10. SS-NX-22 activity involving the Tarantul-II was again underway on [redacted] (Figure 6), when an SS-NX-22 shipping container was suspended from a crane over the port side of the vessel forward of the missile tubes. Because the SS-NX-22 loading tray was not being used, an actual loading was not confirmed. (S/WN)

11. An SS-NX-22 test may have occurred in early September. A 64-meter-class target barge that had been fitting out in the main base area on [redacted] was seen on [redacted] imagery in the target barge storage area showing obvious damage (Figure 7). During this same period the Tarantul-II had changed positions, suggesting that it may have departed and returned. The condition of the barge and movement of the PGG strongly suggest that an at-sea SS-NX-22 test had occurred. (S/WN)

12. The Tarantul-II departed Feodosiya between [redacted] During November it received minor repairs in the floating drydock at Balaklava Submarine Base and Ship Repair Yard [redacted] and on [redacted] was present at the Sevastopol Offshore Defense Force Base [redacted] an operating base for patrol craft. The departure of the Tarantul-II closely coincided with the removal of SS-NX-22 support equipment from Feodosiya, which was gone by December. These two events and the ship's deployment to an operating base suggest that the at-sea test program might have ended. However, on [redacted] the Tarantul-II was once again at Feodosiya, and an SS-NX-22 crate was on the quay. The vessel had departed by [redacted] and no SS-NX-22 support equipment was observed at the base. (S/WN)

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13. **Possible SS-N-12 Test Activity.** On [redacted] a damaged 107-meter-class target barge was in the target barge storage area along the breakwater (Figure 8). The barge, which arrived after [redacted] was not one of those normally seen at the base, and was removed by [redacted] This class of target barge had not been associated with the SS-NX-22 test program, which was the only antiship cruise missile test program active at that time at Feodosiya. (S/WN)

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14. The barge was probably damaged in testing an operational cruise missile, possibly the SS-N-12, from a combatant undergoing weapon system testing. This judgment is based on the coincidental movement during this same period, that is, in late November or early December, of a 107-meter-class target barge from the storage area at Sevastopol Naval Base Streletskaya [redacted] This barge was not returned to the base. Target barges from Streletskaya are normally used to test weapon systems on combatants during weapon system testing in the Sevastopol area. (S/WN)

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15. Either the 445F guided-missile cruiser (CG) or the Kiev-class guided-missile aircraft carrier (CVHG) "Novorossiysk", both of which are equipped with the SS-N-12, could have been involved in this test. Although the Novorossiysk was anchored in the roadstead off Sevastopol on [redacted] this ship is not considered a likely candidate for this launch, since no weapons transfer activity was associated with it. Such activity was frequently observed involving the 445F CG. In addition, the 445F CG departed Sevastopol after [redacted] and was not observed during the period of the test. In late March 1983, the 445F CG was in the roadstead off Feodosiya. Therefore, although a positive association between an SS-N-12 launch and the 445F CG cannot be made from imagery, it would be a logical assumption that this new ship, completing sea trials, was the launch platform. (S/WN)

ASW Weapons Activity

16. **Possible New ASW Weapons Test Program.** A modified Romeo-class SS arrived at Feodosiya in early 1982. Like the other modified Romeo SS at Feodosiya, this submarine has an enlarged upper bow (Figure 9). This modification had been performed at Sevastopol Shipyard Sevmorzavod 497. The first modified Romeo SS is believed to be the test bed for the SS-NX-16 torpedo-tube - launched ASW missile. The similarity in appearance between the two submarines suggests that the second unit will serve either as an additional test-bed for the SS-NX-16 or as the test-bed for a new weapon similar in size to the SS-NX-16. (S/WN)

17. **Torpedo/ASW Exercises.** Evidence of relatively large-scale exercises was observed three times:

—Between [redacted] one Whiskey (twin-cylinder) cruise-missile attack submarine (SSG), one modified Romeo SS, two Romeo SS, and one Potok torpedo trials ship (AGE) departed Feodosiya.

—On [redacted] pre/post exercise activity was observed: a Bravo training submarine (SST) was maneuvering within the base, and one modified Romeo SS, one Potok AGE, and a Bentos submersible were in the roadstead. 25X1

—On [redacted] a large exercise was probably underway. Both modified Romeo SS, one Romeo SS, one Grisha corvette (FFL), and two Potok AGE had departed; and one Whiskey SS, one Bravo SST, and one Petya-I (torpedo trials variant) FFL had left the base and were in the roadstead. (S/WN) 25X1 25X1

18. **Light-Banded Submarines.** On [redacted] a Whiskey/Romeo SS with two wide, light-toned bands around the hull, one forward and one aft of the sail, was in the submarine berthing area. On [redacted] a Romeo SS with two light bands (both forward of the sail) was in the same area (Figure 10). The reason for or function of these bands is unknown. Although they would make the submarine more visible underwater, no ASW sensors rely on detection in the visible spectrum. Because the bands were not observed on any other occasion and were positioned differently on the hull on these two occasions, they are probably removable. (S/WN) 25X1 25X1 25X1

19. **Romeo SS Modification.** One Romeo SS observed at Feodosiya has an upper rudder (Figure 9), which is normally not found on this class submarine. The Chinese Ming-class SS, which is a modification of the Romeo SS, also has an upper rudder. (S/WN)

20. **SAM-Related Activity.** The Grisha-IV FFL, probable test-bed for the Udaloy SAM system, [2] was at Feodosiya Naval Base and Ship Repair Yard during the reporting period (Figure 11). No weapons-related activity was observed around the vessel. (S/WN)

21. **Shipborne Resolution Targets.** On [redacted] two resolution targets were seen on an ocean tug at Feodosiya (Figure 12). The tug, which arrived at Feodosiya between [redacted] displayed both a CORN-type and 25X1 25X1 25X1 25X1

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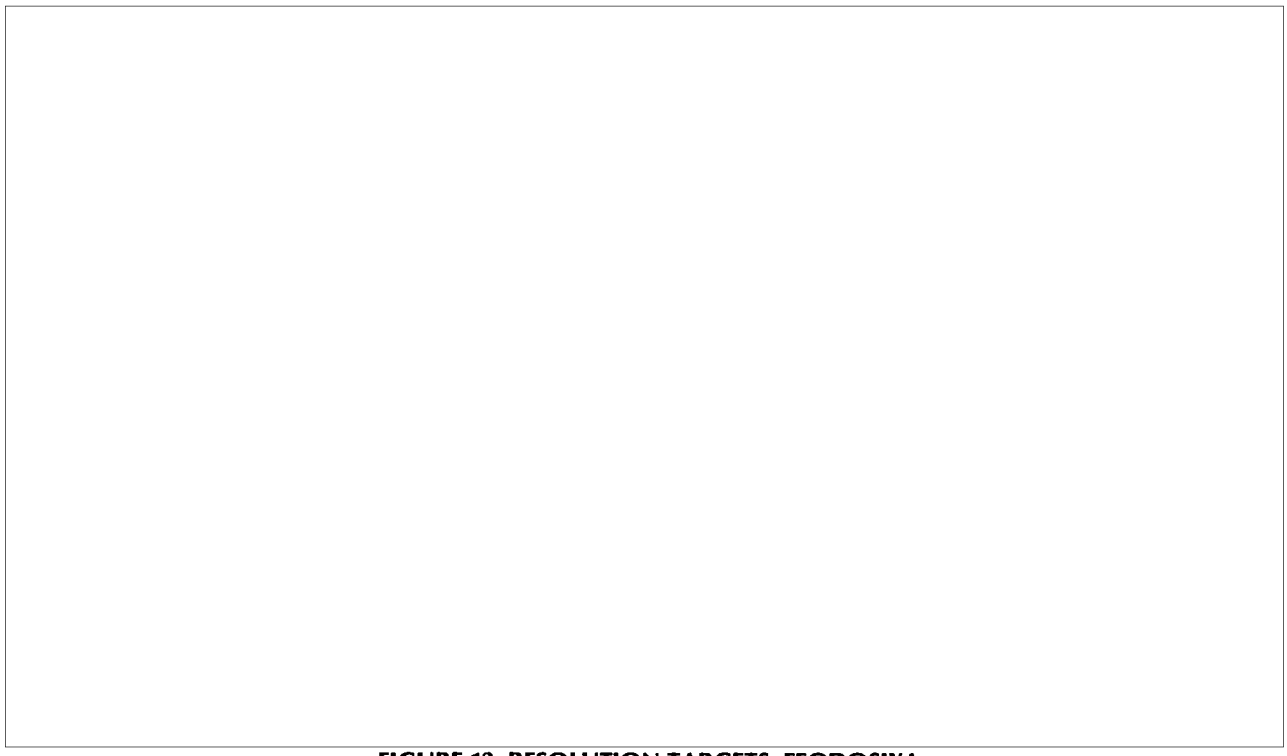

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FIGURE 12. RESOLUTION TARGETS, FEODOSIYA

a Seimen's-type resolution target. The presence of these targets suggests that the Soviets were monitoring the capabilities of one of their own reconnaissance systems. (S/WN)

Operational Activity

22. **Cruise-Missile Submarine (SSG) Activity.** Activity at Feodosiya in September 1981 and at Feodosiya and Sevastopol in November 1982 indicated that the cruise-missile submarine force in the Black Sea is being upgraded. (S/WN)

23. On [redacted] a Juliett SSG, which carries four SS-N-3 antiship cruise missiles—twice as many as the Whiskey twin-cylinder class—was in the roadstead off Feodosiya. This was the first observed deployment of this class submarine to the Black Sea Fleet. It was probably transferred from the Northern Fleet through the inland waterway system. A drop-stern transporter dock was also in the roadstead. In November 1982, a second Juliett SSG was observed at Balaklava; it, too, was probably transferred via the inland waterway. The first Juliett SSG was subsequently transferred to Balaklava Submarine Base and Ship Repair Yard [redacted] and then to Sevastopol Shipyard Sevmorzavod 497 for repair/ overhaul (January 1982). (S/WN) 25X1

24. Between [redacted] 25X1 the Whiskey (twin cylinder) SSG normally berthed at Feodosiya Naval Base and Ship Repair Yard, was transferred to Sevastopol Breaker Yard [redacted] and by [redacted] 25X1 [redacted] was being scrapped. The scrapping of this 25X1 submarine (one of only two in the Black Sea), combined with the arrival of the two Juliett SSGs, indicates an upgrading of the cruise-missile attack submarine capabilities of the Black Sea fleet. (S/WN)

25. **Air-Cushion Vehicle Activity.** On [redacted] 25X1 the Tsaplya air-cushion medium landing craft (LCMA), formerly YUZ-D, 25X1

was observed at Feodosiya Naval Base and Ship Repair Yard (Figure 13). This landing craft was constructed at Feodosiya Shipyard Yuznaya Tochka [redacted] seven nautical miles northeast of the naval base. Also on [redacted] the GUS air-cushion personnel landing craft (LCPA), which had been undergoing repair at the base, was being lifted onto the deck of a river freighter for transport through the inland waterway. (S/WN)

26. Two Lebed LCMA were observed on the quay on numerous occasions. (S/WN)

27. **Construction Activity.** During the period of this report, a new administration or barracks building was constructed at the base (Figure 11). (S/WN)

Feodosiya Naval Missile Support Facility

28. This installation provides storage and checkout facilities for antiship cruise missiles and SAMs tested at Feodosiya and Chernomorskoye. During the reporting period, SA-N-6 activity increased, and activities continued at an assembly/checkout building that is associated with the SS-NX-22 test program. (S/WN)

SA-N-6 Activity

29. The area around the assembly/checkout building for the SA-N-6 was resurfaced in late 1981. SA-N-6 activity resumed by September 1982. (S/WN)

30. In September 1982, SA-N-6 canisters and canister transporters were in front of a bunker in the storage area (Figure 14). On [redacted] an empty SA-N-6 transporter was leaving the facility, an indication that the SA-N-6 canisters in the facility were newly delivered. Between 20 and 30 canisters were observed. Empty SA-N-6 transporters were at the assembly/checkout building on several occasions, indicating that the building was again being used. (S/WN)

Feodosiya Naval Missile Test Facility

31. This facility was used for land-based testing of the SS-N-14 ASW weapon, the SUW-N-1 ASW rocket, and probably a small ASW rocket, similar to the SUW-N-1, which was not deployed. No activity related to any missile test was observed. No missile canisters were present, and no vehicular activity was noted. (S/WN) 25X1 25X1 25X1

32. At launch pad A, the SS-N-14 launch area, the missile dolly was removed from its rail-mounted carriage on several occasions. In the support area, one van was placed near the administration building nearest the launch areas. Construction continued at a very slow pace on the arch-roofed building in the northeast corner of the support area. (S/WN)

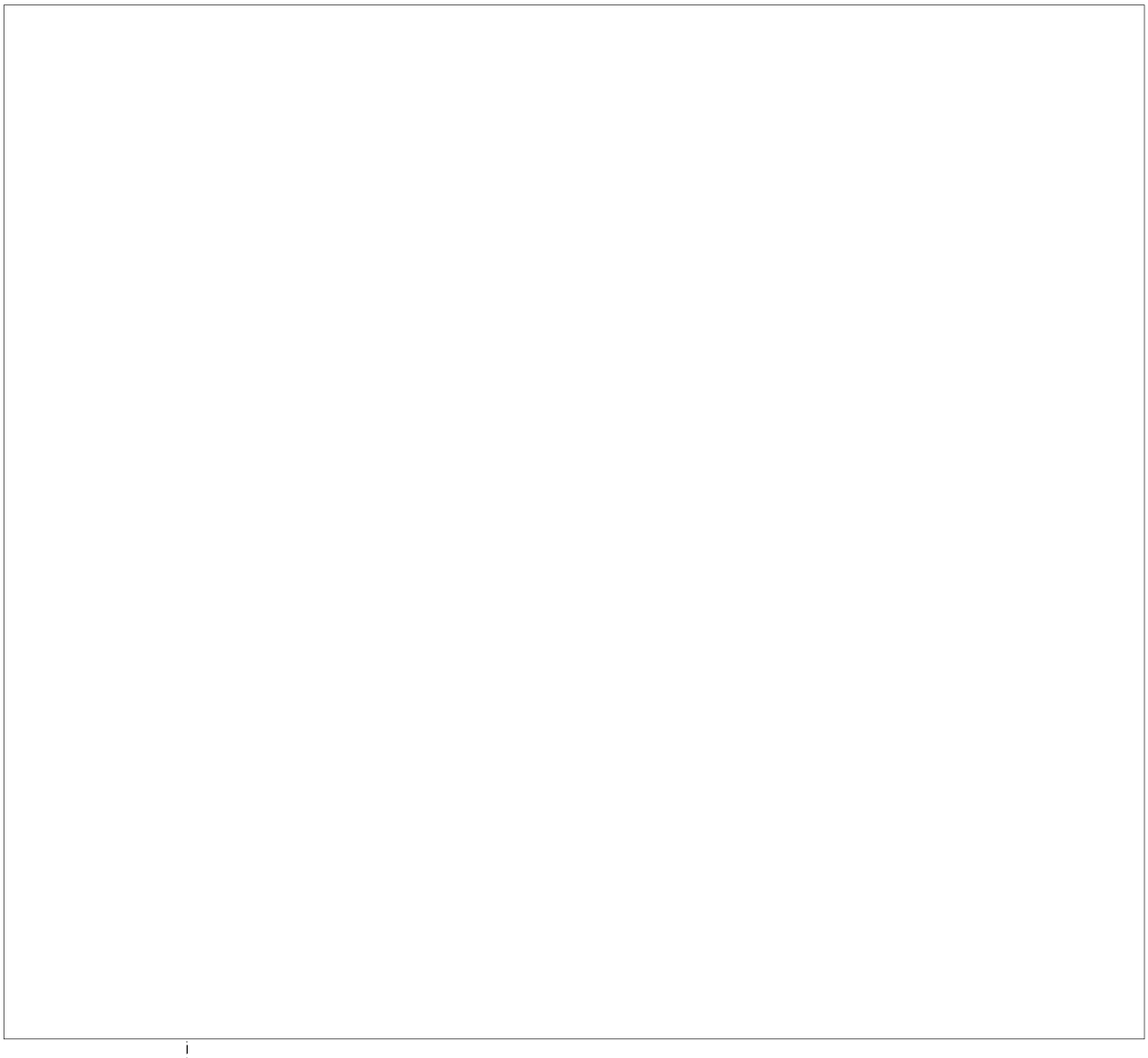
33. This minor activity in the launch area and the continued presence of vans in the support area (including an END TRAY meteorological radar) indicated that this facility was still occupied. However, the slow pace of construction on the arch-roofed building in the last few years (it has been under construction since 1975) and the absence of vehicular activity indicates that the facility does not have a major role in testing at this time. (S/WN)

Feodosiya Torpedo and ASW Weapons Storage Facility

34. This facility stores torpedos and ASW weapons used in tests staged from Feodosiya Naval Base and Ship Repair Yard. It probably also serves as a holding area for empty canisters and crates awaiting return to production facilities. (S/WN) 25X1 25X1

SS-N-14 Activity

35. The number of SS-N-14 gradually increased from seven to twelve by [redacted] (S/WN) 25X1



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SS-N-15 and SS-NX-16 Activity

36. Twelve SS-N-15 canisters were present in August 1982. By October, the number had increased to 20. Between October and late April 1983, the number of canisters had increased to approximately 50. (S/WN)

37. The SS-NX-16 canister count was approximately 40 in August 1982. By October the number had risen to between 60 and 70. By [redacted] the number had decreased, this time to 42. (S/WN)

38. The fluctuation in the number of SS-NX-16 canisters probably represents the return of empty canisters to production facilities and the arrival of new missiles. (S/WN)

Feodosiya Probable ASW Checkout Facility

39. This installation provides assembly and checkout facilities for ASW weapons before they are loaded on vessels at the adjacent naval base. Because of this facility's function,

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canisters and crates stored there probably all contain weapons for upcoming tests. Empty canisters awaiting transshipment would also be found in the weapons storage facility. (S/WN)

SS-N-14 Activity

40. Changes in the number of SS-N-14 crates indicate that tests relating to this system occurred during the reporting period. In August 1982, three crates were present and in October five crates were present. By [redacted] the number of SS-N-14 crates had decreased to two, which suggests three tests occurred. (S/WN)

SS-N-15 and SS-NX-16 Activity

[redacted]

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[redacted] By the end 25X1
of the reporting period SS-N-15 and SS-NX-16 canisters at this facility had been arranged in more orderly stacks, [redacted] 25X1
[redacted] (Figure 15). (S/WN) 25X1

42. Throughout the reporting period the number of SS-N-15 canisters remained at approximately 15. The number of SS-NX-16 canisters, however, appears to have fluctuated during the reporting period. In August 1982 the number of SS-NX-16 canisters was 16 to 18. By October the number of canisters had risen to approximately 25. By [redacted] the number had decreased to 18. This change suggests that seven SS-NX-16 tests may have occurred between October 1982 and April 1983. (S/WN) 25X1 25X1 25X1

REFERENCES

IMAGERY

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

MAPS/CHARTS

DMA. US Air Target Chart, Series 200, Sheet 0249-16, Scale 1:200,000.

DOCUMENTS

1. NPIC. Z-14628/82, RCA-17/0003/82, *Developments at Chernomorskoye and Feodosiya Missile Test and Support Facilities (S)* Nov 82 [redacted] 25X1
2. NPIC. Z-14606/82, IAR-0084/82, *New Soviet Naval SAM System (S)* Sep 82 [redacted] 25X1
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REQUIREMENT

COMIREX R17
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Comments and queries regarding this report are welcome. They may be directed to [redacted] Soviet Strategic Forces Division, Imagery Exploitation Group, NPIC, [redacted] 25X1 25X1

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