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Submarine Salvage Operations, Sarannaya Bay, USSR (S)

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SUBMARINE SALVAGE OPERATIONS, SARANNAYA BAY, USSR (S)

INTRODUCTION

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3. This report contains one location map, one conceptual drawing, six annotated satellite photographs, and one ground photo (Figure 2) of an operational C-I. (S/WN)

DISCUSSION

The Salvage Force

4. The C-I departed Petropavlovsk K Missile Loading Facility [redacted] on [redacted] for operations in the Sarannaya Bay area. After the apparent occurrence of some type of equipment failure (possibly in the aft machinery spaces), the submarine sank in approximately 38 meters of water near 52-45-00N 158-35-00E. (S/WN)

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5. The Soviets assembled a large salvage force with ships from the Petropavlovsk and Vladivostok areas. C3 was provided by the Admiral Senyavin, a Sverdlov-class light cruiser (CL; flagship for the Pacific Fleet) and a Desna-class experimental auxiliary (AGE). In addition, a Don-class submarine tender (AS), which has extensive C3 capabilities, was also present. Salvage vessels at the site included a Prut-class submarine rescue ship (ASR), a T-58 ASR, an Ingul-class salvage and rescue ship (ARS), a Mikhail Rudnitskiy ARS (equipped with a submersible), and a Katun ARS. A civilian Bogatyr-class floating crane (YD) and a smaller YD provided the primary lifting capability for the operation. Additional units involved included a Vala-class special liquids tanker (AOS), a Sura-class buoy tender (AGL), two Yelva-class diving tenders (YDT), a Voda-class water tanker (AW), tugs, survey ships, torpedo retrievers, and replenishment ships. Six mooring buoys were positioned around the primary salvage units and a Grisha-III Corvette (FFL) provided security for operations. Figure 3 shows a portion of the salvage force assembled in the bay during the recovery. (S/WN)

6. The Pacific Fleet's class auxiliary submarine (SSA), designed specifically for submarine salvage and rescue, was unavailable for the C-I salvage operation. It was undergoing modification at Vladivostok Naval Base and Shipyard 202 [redacted] to carry larger submersibles. One of the five submersibles known to be in the Vladivostok area was not observed after [redacted] and may have been used at Sarannaya Bay. Of the remaining four submersibles, two were at Vladivostok 202 and two were at Vladivostok Submarine Base Ulisa Bay [redacted] (S/WN)

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Initial Recovery Operations

7. During July, bad weather obscured Sarannaya Bay several times. In mid-July, on the first coverages of the area after the C-I sank, little activity was discernible. The Prut ASR and the Bogatyr YD were precision moored over the submarine salvage site. The two Yelva YDTs were positioned next to the Bogatyr-class YD (Figure 4), and the remaining ships in the salvage force were anchored in close proximity. By [redacted] the Bogatyr YD had returned to Petropavlovsk Port Facilities [redacted]. On [redacted] the YD, with a possible salvage float alongside, was seen 2 nm west of the salvage site. It is not known why the crane was at this location, although it may have been directly related to later activity observed there on [redacted] the YD, with a pair of diving tenders, had returned to the site. (S/WN)

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Raising the C-I

8. Actual raising of the C-I probably began on [redacted]. The possible method of salvage involved attaching salvage floats (suspended in the water) to the hull and filling them with sufficient air to create a

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*The C-I was initially deployed between 1967 and 1973 and is the first class of Soviet submarine to carry cruise missiles that can be launched from a submerged platform. It is equipped with eight SS-N-7 antiship cruise missiles housed in the bow in two canted rows of four and has six forward torpedo tubes. (S/WN)

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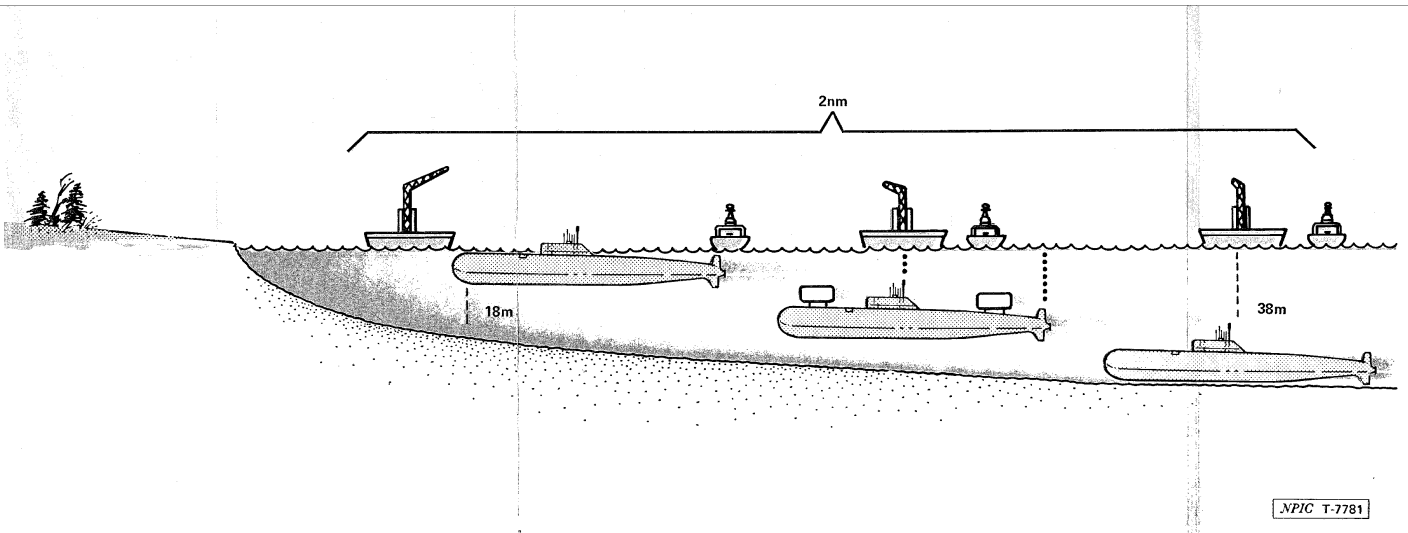


FIGURE 5. POSSIBLE METHOD OF SALVAGE

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state of equilibrium for the submarine. In this state, at least part of the submarine's dead weight is neutralized and the new weight of the hull is within the lifting capacity of a YD. The C-I has a submerged displacement of 4,780 metric tons and the Bogatyr class YD, such as the one employed in Sarannaya Bay, has a lift capacity of 300 tons.² Probably through the use of this technique, the C-I, along with the Prut/YD combination, was gradually moved closer to the shore (Figure 5). The gradual, staged movement avoided an uncontrolled surfacing by the submarine. The C-I salvage operation culminated in surfacing the hull and restoring watertight integrity. (S/WN)

9. The C-I was refloated between [redacted]. The partially-raised submarine was first observed in a stern-down position, with the hull aft of the sail still submerged (Figure 6). Two of the salvage floats were placed abreast of the sail and two were attached to the stern. Because the stern was submerged with the salvage floats positioned around it, major flooding may have occurred in the aft (machinery) spaces. Discoloration on the forward outer hull plating possibly indicated damage to the anechoic coating caused by either the accident or the salvage operation itself. The BRICK PULP electronic support measures (ESM) antenna on the submarine was in a raised position; the reason for this position is unclear. The antenna has also been in a raised position on subsequent coverages. (S/WN)

10. The submarine, still between the Prut ASR and the YD, was gradually moved by [redacted] to a position about 2 nm west of the original salvage site. The shallower water and the sheltered harbor in this area offered more protection from the elements. By [redacted] the entire submarine was visible and was floating in almost normal trim, without the aid of the salvage floats or pumping (Figure 7). Evidence of apparent watertight integrity after only a few days on the surface suggests that the pressure hull and the ballast tanks were probably undamaged. (S/WN)

Repairs

11. On [redacted] the C-I SSGN was at Petropavlovsk K Naval Missile Loading Facility, probably offloading missiles before beginning repairs (Figure 8). The bow diving planes and the Brick Pulp antenna were deployed, and discoloration was still visible on the hull. Several of the vessels involved in the salvage operation also returned to the Petropavlovsk area on that date, including the Prut ASR, two Yelva YDT, the Bogatyr YD, and several tugs. Only a Sura AGL remained in Sarannaya Bay in the vicinity of the salvage site. (S/WN)

12. Between [redacted] the C-I was probably placed in the covered floating drydock (YFDM) at Petropavlovsk K Shipyard Seldavaya Bay East [redacted] for a complete visual inspection of its hull.

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By [redacted] the C-I was removed from the covered drydock, transferred to a pier at Petropavlovsk K Naval Base and Shipyard Seldavaya Bay [redacted] and was berthed outboard a V-I nuclear-powered attack submarine (Figure 9). By [redacted] all eight missile tube doors were open and the outer hull plating over the engineering spaces in the reactor area had been removed. The discoloration on the port side of the hull was still visible. The hatch covering the escape chamber forward of the sail appeared to have been removed, and the BRICK PULP ESM antenna was still extended. (S/WN)

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13. The C-I may remain at Petropavlovsk until repairs are complete or may be moved to Petrovka Naval Base and Shipyard [redacted], which has more extensive repair facilities. (S/WN)

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Aftermath

14. The Soviet Navy has 11 C-I SSGNs. Five have been assigned to the Northern Fleet and six to the Pacific Fleet. Since the C-I accident in Sarannaya Bay, a C-I from the Northern Fleet has completed an under ice transfer to the Pacific Fleet, possibly as a replacement for the damaged C-I. (S/WN)

REFERENCES

IMAGERY

All applicable satellite imagery acquired from mid-July 1983 through early October 1983 was used in the preparation of this report. (S/WN)

DOCUMENTS

- 1. NAVOPINCEN. 272256Z Jul 83, *Soviet Submarine Casualty in Sarannaya Bay, 24 June 1983* [redacted]
- 2. DIA. DST-1210H-049-79, *Naval Ship Characteristics-USSR Combatants* (U), Nov 79 (SECRET/NOFORN*)

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*Extracted information [redacted]

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

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