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PHOTOGRAPHIC
INTERPRETATION
REPORT

NATIONAL PHOTOGRAPHIC
INTERPRETATION CENTER

ROCKET MOTOR PRODUCTION AT KAMENSK-SHAKHTINSKIY SOLID MOTOR PRODUCTION PLANT

[redacted]

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GROUP 1: EXCLUDED FROM
AUTOMATIC DOWNGRADING
AND DECLASSIFICATION

INSTALLATION OR ACTIVITY NAME	COUNTRY
Rocket Motor Production at Kamensk-Shakhtinskiy Chemical Combine 101	UR

UTM COORDINATES	GEOGRAPHIC COORDINATES
NA	48-19-22N 040-13-30E

MAP REFERENCE

ACIC. US Air Target Chart, Series 200, Sheet 0234-24, scale 1:200,000

	NEGATION DATE (If required)
	NA
REQUIREMENT	NPIC PROJECT
NA	NPIC/IEG/SD/SIB Project 143302NR

INTRODUCTION

1. The second stage of the SS-13 ICBM and/or the first stage of the SS-14* MRBM are probably in production at the Kamensk-Shakhtinskiy Solid Motor Production Plant [redacted] This is evidenced by the recent identification, and location within the plant, of rocket motor chambers comparable in size to the known dimensions of the second stage of the SS-13 ICBM and the first stage of the SS-14 MRBM.

2. The plant (Figure 1), a part of Kamensk-Shakhtinskiy Combine 101,[1] is located on the western edge of Kamensk-Shakhtinskiy about 60 nautical miles (nm) north of Rostov. It contains a single-base propellant production area, a double-base propellant and rocket motor production area and a composite-propellant rocket motor production area. Support areas include a fabrication area, a propellant and munitions storage area and the collocated Kamensk-Shakhtinskiy Rocket Motor Test Facility [redacted]

DESCRIPTION

Rocket Motor Production

3. Rocket motor chambers were first identified in the composite-propellant rocket motor production area in February 1971. The chambers, observed near the chamber preparation building, appeared to be ready for movement to the casting buildings at the western end of the area for filling with propellant (Figure 2). The chambers are [redacted] equivalent to the second stage of the SS-13 and the first stage of the SS-14.

4. A comparison of the motor crates or containers (Table 1) that have been reported in the fabrication area since 1965, now identified as rocket motor chambers, shows that they are the same size as the motor chambers seen in the composite-propellant rocket motor production area.

5. The rocket motor chambers are manufactured in the fabrication area (Figure 3) in the northeastern part of the plant. Initial production steps are probably accomplished in the foundry and shop building on the south side of the area. Final inspection and finishing of the chambers probably takes place in the two shop and assembly buildings just northwest of the foundry and shop building. The chambers are moved by transport trailer to the transshipment buildings in the northern part of the fabrication area and then by rail to the composite-propellant rocket motor production area.

6. The further processing of the fabricated rocket motor chambers into completed rocket motors is accomplished in the composite-propellant rocket motor production area (Figure 4) in the southwestern part of the plant. This area consists of facilities for chamber preparation, propellant mix, motor casting and curing, and finishing and inspection. It is considered to be the only area at Kamensk-Shakhtinskiy capable of producing large rocket motors.

*The upper two stages of the SS-13 ICBM probably comprise the SS-14 MRBM.

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Table 2. Buildings Destroyed in The Composite-Propellant Rocket Motor Production Area and Rocket Motor Test Facility

Building		Extent of Damage	Remarks	Estimated Time Period of Nonoperational Status
Southern mix bldg		Complete destruction	Replacement is smaller than the original bldg	5½ months
Southern casting bldg		Northern half of bldg destroyed		5 months
Middle casting bldg		Complete destruction		5½ months
Northern casting bldg		Complete destruction	Nearly completely rebuilt on Mar 69	8 months
Large test cell bldg		) crack in tabular extension of test cell	Derailed car, which restricted access to the test cell & prob rendered it inactive, was present on 11 Dec 68 photography	9½ months
Middle casting bldg		Complete destruction	Nearly completely rebuilt	5 months
Five-bay curing bldg		Back walls of all 5 bays & roof of one bay missing; roof of other 4 bays damaged; rail spurs removed	Reconstruction underway	

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7. The composite-propellant rocket motor production area is the newest part of the Kamensk-Shakhtinskiy plant. The northern section was first observed under construction in April 1962, and construction of the southern section began in 1964. The buildings essential to the production of a rocket motor were complete in mid-1964. Pipelines and rail spurs were identified in January 1965. The area probably had an operational capability sometime between mid-1964 and early 1965.

8. The composite-propellant rocket motor production area has had a full production capability only about half the time since it initially went into operation. Key structures involving hazardous processes have been destroyed on several occasions (Table 2). Most of the destruction appeared to be the result of accidents. However, some of the casting buildings may have been razed so that modified buildings could be erected. The southern mix building, a key structure, was totally destroyed by an accident sometime 25X1
This could indicate that the plant was in production 25X1
prior to September 1965.

9. Only three composite- or composite-modified double-base (CMDB) propellant plants in the Soviet Union were operational in 1965. The CMDB plants at Biysk and Perm and the composite-propellant area at Kamensk-Shakhtinskiy are the only known installations which could have produced rocket motors for the early SS-13 and SS-14 missiles. No rocket motors equivalent to the size of the second stage of the SS-13 and the first stage of the SS-14 have been identified at Biysk or Perm on large-scale photography.

10. There also is a good correlation between the initial operational dates of the composite-propellant area at Kamensk-Shakhtinskiy and initial flight-testing of the SS-13 and SS-14 missiles. The SS-14, originally designated the KY-5, was first flight-tested in September 1965 from Kapustin Yar.[3] The SS-13, originally designated the KY-6, was first flight-tested in February 1966 from Kapustin Yar.[4] Both the SS-13 (SAVAGE) missile and the SS-14 (SCAMP) TEL were first observed in Moscow parades in 1965.

REFERENCES

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MAPS OR CHARTS

ACIC. US Air Target Chart, Series 200, Sheet 0234-24, scale 1:200,000

DOCUMENTS

1. NPIC RCA-09/0005/69, *Kamensk-Shakhtinskiy Chemical Combine 101,* Dec 68 (TOP SECRET RUFF) 25X1
2. NPIC *Advanced Solid Propellant Production Area, Chemical Combine 101, Kamensk-Shakhtinskiy, USSR,* Dec 66 (TOP SECRET RUFF) 25X1
3. DIA. ST-CS-12-6-70, *SS-14 Ballistic Missile System (U),* Oct 70 (SECRET)
4. DIA. ST-CS-13-17-70, *SS-13 Ballistic Missile System (U),* Sep 70 (SECRET)

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