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PIC/R-1001/61

January 1961

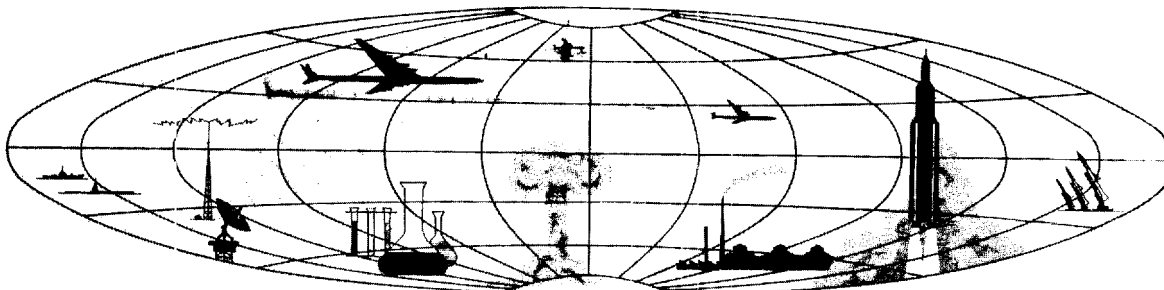
PHOTOGRAPHIC INTELLIGENCE REPORT

REDKIYE ELEMENTI PLANT NEAR MOSCOW, USSR



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NOFORN [REDACTED]

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PREFACE

This photographic intelligence report has been prepared in response to a request for a detailed drawing of the Redkiye Elementi Plant area and an estimate of the electric power available to the site. It was further requested that a search be made to confirm the existence of a large factory building described in a referenced report. [REDACTED]

25X9
25X9
25X1D
25X1D

[REDACTED] Aerial photography of [REDACTED]
[REDACTED] ground photography were examined in an effort to answer the requirement. No photographs are reproduced in the report because of the poor quality of the photography viewed.

- 3 -

SECRET

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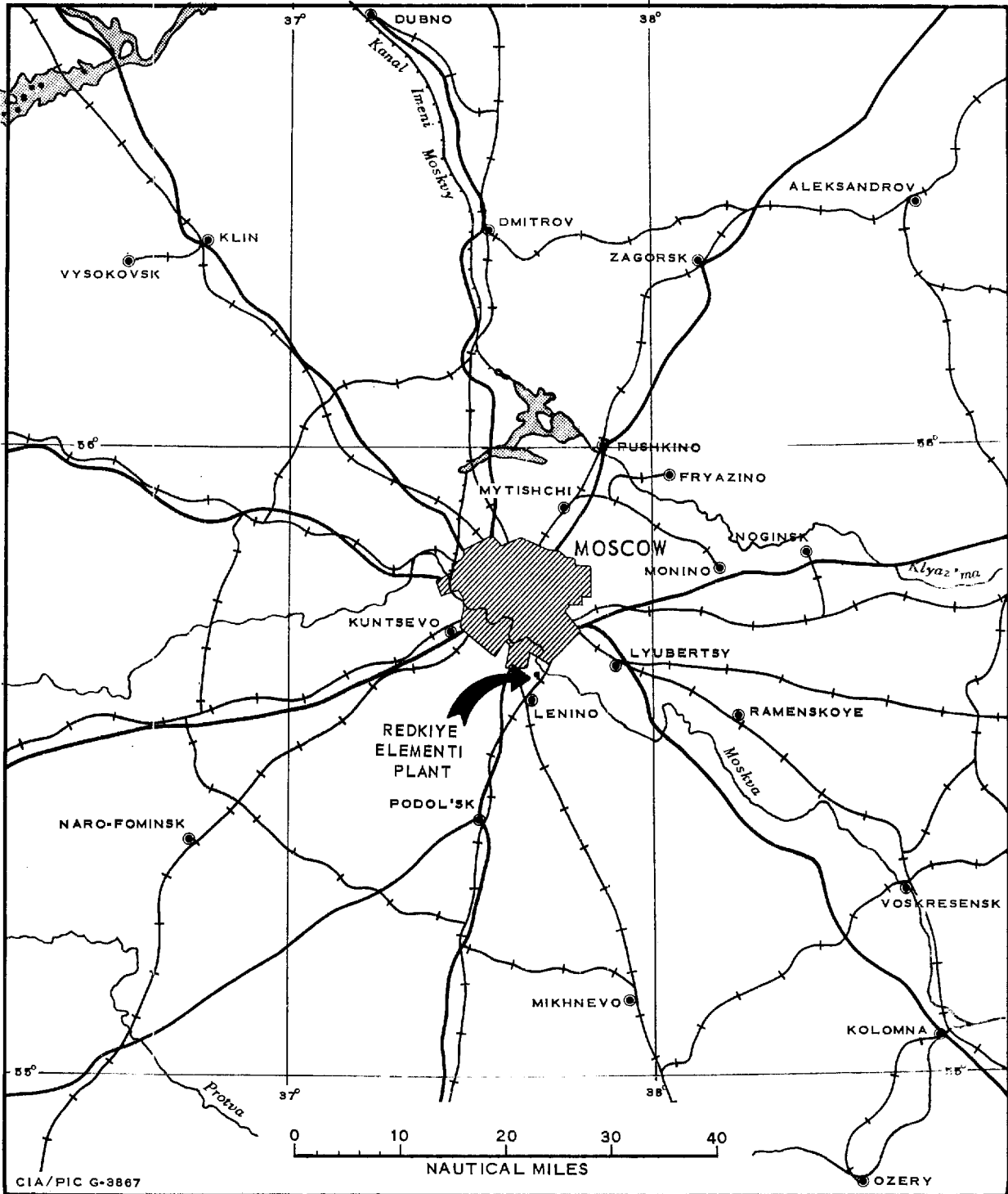


FIGURE 1. GENERAL LOCATION MAP.

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INTRODUCTION

The Redkiye Elementi Plant (55-38-30N 37-41-10E) is located 5 nautical miles (nm) south of Moscow on the Kashira Highway at Belyayevo. The plant proper covers an area approximately 5,000 by 1,300 feet on the northeast side of the highway, with a housing and support area on the southwest side. A rail line between Lenino and Lyublino passes through a valley just east of the plant, but the plant appears to be served only by road and possibly river traffic.

Also known as "Redelem" or Rare Elements Plant A, 1/ the Redkiye Elementi Plant [REDACTED] is a pre-war chemical-metallurgical factory extracting a number of rare metals from ore concentrates and also producing certain alloy materials. In the past its production reportedly included such items as pure cobalt, radium, barium, and hand tool alloys. 2/, 3/, 4/, 5/

A recent report indicates that zirconium metal production was started here in the late 1940's. The annual capacity was estimated at 20 tons of zirconium metal ingots and was reported to be exclusively for nuclear reactor purposes. 1/ The same report states that the zirconium powder was obtained by fusion electrolysis of a mixture consisting of potassium-zirconium-fluoride (K_2ZrF_6) and sodium chloride.

Electric power is available through the large (220-kv) Kolomenskoye substation approximately 1.7 nm northwest of the plant at 55-39-30N 37-38-20E. There is also a thermal power plant at that location. The electric power grid in the Moscow area should be able to satisfy any requirements of the Redkiye Elementi Plant.

An ore-processing plant located directly across the Moscow River, may be associated with the plant and is discussed below.

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DESCRIPTION

25X1D This plant has been covered by aerial photography of [REDACTED]
25X1D [REDACTED] and ground photographs of [REDACTED]. In addition there
25X1D have been several collateral reports 1/, 6/, 7/ with accompanying sketches
of the plant facilities. A correlation of the photography with collateral
materials indicates that the plant could consist of as many as five areas
some of which, at least, are separately fenced. It also appears likely that
the reported zirconium production 1/ occupies only a small part of the
plant.

25X1D The drawing of the plant area is based on the [REDACTED] photography with
25X1D newer buildings added (in green) on the basis of the poor-quality [REDACTED]
photographs. Because of cloud cover, it is impossible to determine the
number of buildings which have been torn down, modified, or added as of
[REDACTED]. But the drawing does give an approximation of the expansion
that has taken place during the [REDACTED] between the two photographs.

25X1D The plant has been divided into five areas (A through E) and a housing
25X1D area (Area F) as annotated in Figure 2 [REDACTED]
[REDACTED]. Following is a summary of information derived from
the photography and collateral reports with respect to each area.

AREA A

25X1D This appears to be the newest section of Redkiye Elementi, visible
only on [REDACTED] aerial photographs. It is a walled area with a 980-foot front-
age extending back 1,230 feet to within 450 feet of the Moscow River. It has
two entrances with guard shacks next to one or possibly both entrances.
There is a 450 by 285-foot multistory building with an open courtyard
(330 by 165 feet) in its center. Possibly six other buildings are located
in this area but cannot be described from the poor-quality photography.
None of the ground photos are of buildings in this area.

- 6 -

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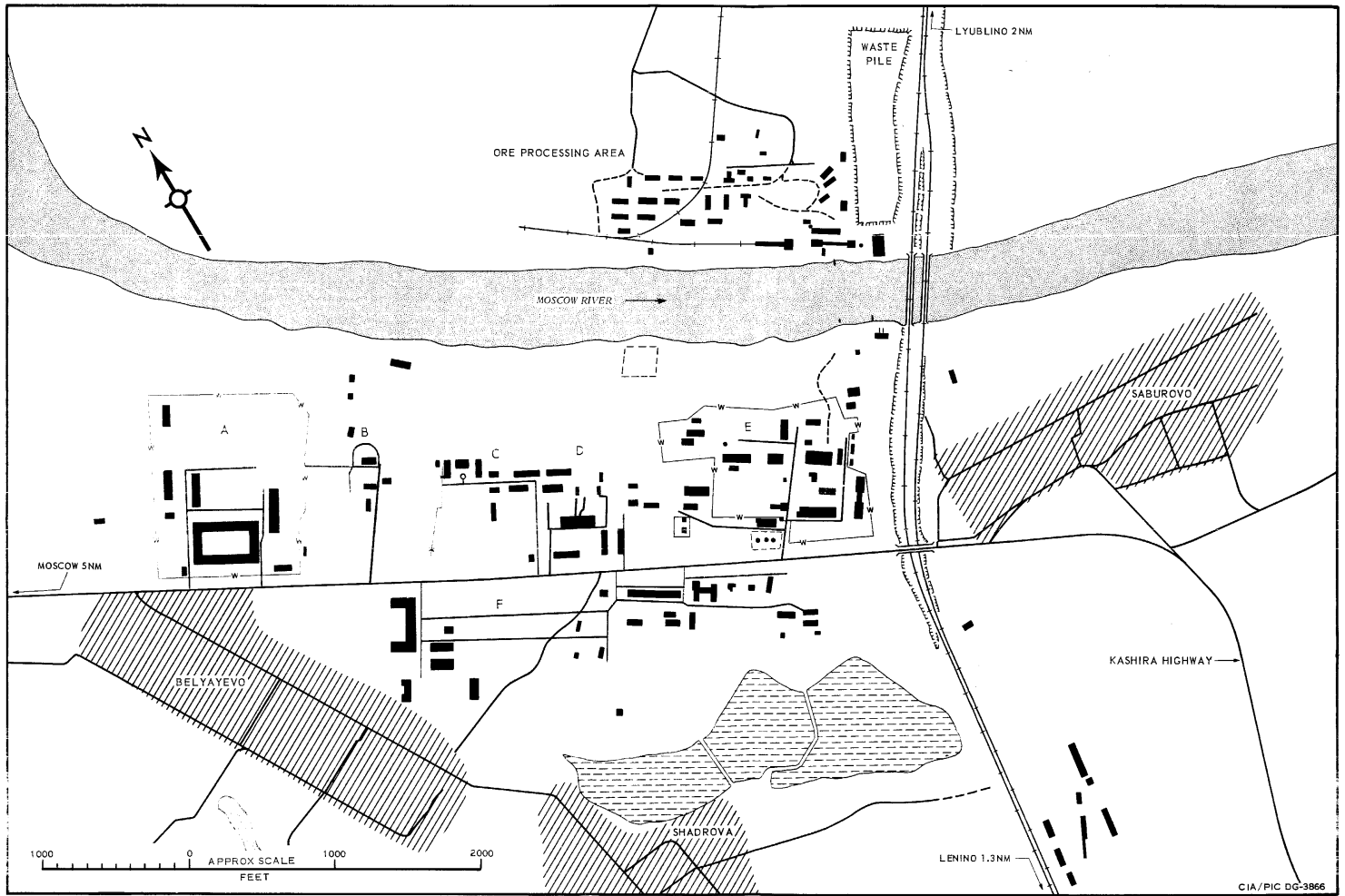


FIGURE 2. REDKIYE ELEMENTI PLANT. This drawing is based on [redacted] photography with newer buildings added (in green) on the basis of poor-quality [redacted] photographs.

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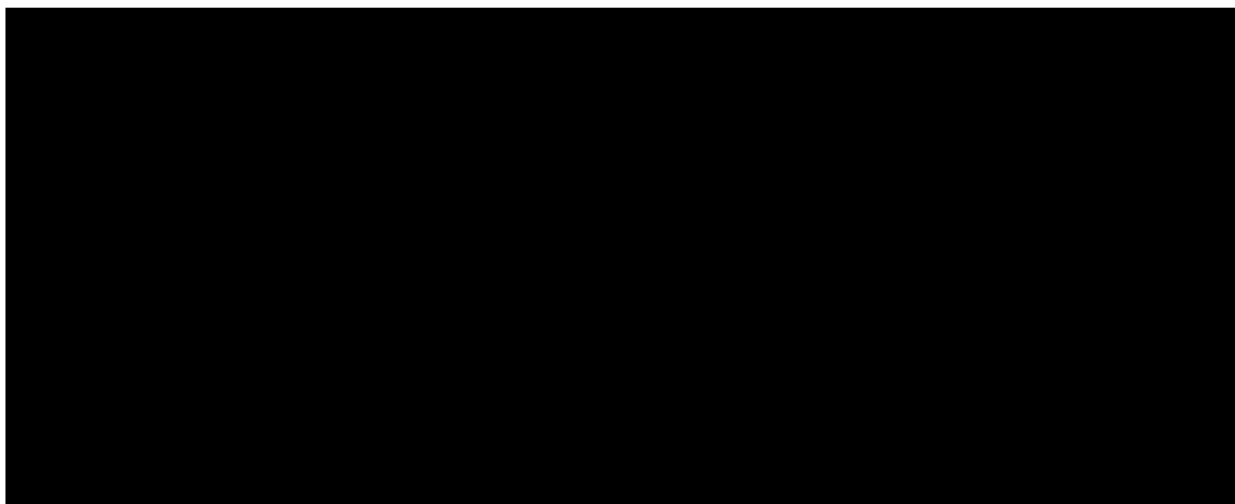
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NOFORN [REDACTED]

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AREAS B, C, D

25X1D These areas are to a great degree cloud covered on the [REDACTED] coverage. They are separately fenced but distinct area bounds cannot be ascertained. It is clear from figure 2 that there have been many changes in these areas since [REDACTED] Old buildings have been removed in many instances and new ones constructed. One of the [REDACTED] ground photos, CIA photo No 519800, is probably of Area B or Area C and shows a few production facilities visible beyond the high wall. A two-story administrative building with a statue in front of it can be seen on photos 519801 and 519804. These photos reveal construction in progress to the rear of the building and appear to have been taken in Area D.

25X1C [REDACTED] areas B, C, and D as having [REDACTED]
25X1C [REDACTED] reported an administration
25X1C building and a dispensary. 1/ Although the coverage of these areas is poor, and accurate measurements are impossible, it is clear that the production facilities are moderate in size and that some of the buildings are administrative in nature.

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NOFORN [REDACTED]

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AREA E

25X1D Cloud cover in this area is particularly heavy on the [REDACTED] photography.
25X1D It appears to be the oldest area of the plant. Most of the buildings seen
25X1D on the [REDACTED] photography are visible on the [REDACTED] photography even though
25X1D modifications undoubtedly have been made through the years. Unlike the
25X1D other areas discussed there is fairly good coverage of Area E on [REDACTED]
ground photos. CIA photos 519802, 519803, and 519805-519807 reveal
many chemical-processing-type buildings with one large brick stack and
numerous small metal stacks. The perimeter wall is a solid wood fence
topped with barbed wire.

25X1C Area E [REDACTED] includes a trans-
former building, electrolysis, and fractional crystallization buildings for
zirconium production. 1/ The various process buildings, however, cannot
be identified on the available photography.

AREA F

25X1D This area has the characteristics of a housing and support area for
25X1D the plant. It lies between the village of Belyayevo and the plant. Despite
25X1D the heavy cloud cover on [REDACTED] photography, it is evident that Area F has
25X1D been greatly expanded with the rest of the plant since [REDACTED] Additions
include a large U-shaped building, a smaller U-shaped building, a rec-
tangular multistory building, two large parallel buildings, possibly bar-
racks or warehouses, and several blocks of smaller dwellings. It has been
25X1C reported that Area F [REDACTED]
25X1C [REDACTED] report puts a single-
story casino or clubhouse in this area. 1/

Ore-Processing Area. In addition to the areas of the Redkiye Elementi
Plant described above, there is an ore-processing area on the opposite
side of the Moscow River as indicated in the figure. It could very well be

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25X1D associated with the rare elements plant since docking facilities were visible on both sides of the river in [REDACTED]. It is not clear, however, just how materials would be carried up the hilly slopes from the river to the plant.

25X1D The ore-processing plant is rail served and has buildings with conveyors and stacks for processing of the ores or ore concentrates. There are numerous smaller buildings, possibly for storage, and a large waste pile visible on the [REDACTED] photography; the entire area is obscured by clouds on the [REDACTED] photographs, so the present status of the processing plant cannot be determined.

CONCLUSIONS

[REDACTED]

25X1B Of course the reported production of zirconium for the atomic energy program is of significance, but neither the facilities visible nor the collateral information available indicate a very sizable production of zirconium. It is possible, therefore, that Redkiye Elementi has served as a pilot plant for Soviet zirconium production.

25X1D The addition of the fenced Area A, visible in [REDACTED] with its large administration or laboratory building, and the construction going on in Area D at the time of the [REDACTED] ground photos are some indications of the continuing activity at this plant. It is possible that this installation, so near to Moscow, is at the present time more important from the standpoint of technology developed than actual production.

In response to a specific request, the radio facilities reported to the south of the plant were investigated. There is no evidence that these facilities are associated with the plant.

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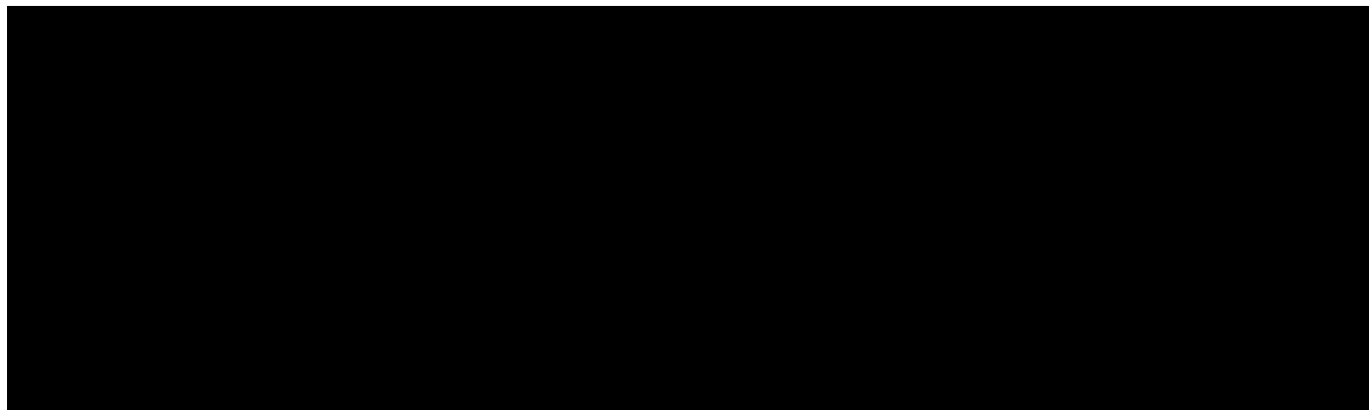
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NOFORN [REDACTED]

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REFERENCES



GROUND PHOTOGRAPHY

CIA No 519800 through 519807 and 519815, Nov 58 (C)

MAPS OR CHARTS

ACIC. US Air Target Complex Chart - Series 100 [REDACTED]
1st ed, Aug 56, 1:100,000 (S)

DOCUMENTS

1. [REDACTED]
2. Army. Ft. Holabird SDS #2001, N.D. (Info - Sep 44) (S)
3. Army. 7707 ECIC 100/X (2501) (Info - Jan 43, Source - Feb 44) (C)
4. Army. Ft. Holabird SDS #2333, (Source - 42) (S)
5. USSR. Redkiye Metally, Issue 5, 1935 (U)
6. [REDACTED]
7. Army. Moscow, R-363-58, 4 Dec 58 (S)

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NOFORN [REDACTED]

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