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M/EB 503/63
20 November 1963
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MEMORANDUM FOR: Chief, Military-Economics Division, ORR

25X1   ATTENTION: [   ]

FROM: Chief, CIA/PID (NPIC)

SUBJECT: Mensuration of Possible SSM Transporter

REFERENCES: (a) Requirement RR/372/62
                 (b) CIA/PID Project C 1288-62

1. This memorandum is in response to your requirement dated 13 December 1962 requesting mensuration of all details visible on the possible SSM transporter observed at Vorobyevi Gori railroad yards, Moscow, USSR.

2. All mensuration data for this project was obtained from TID/NPIC with the following results.

    (a) Detailed dimensions of the possible transporters:

        (1) Overall length   [   ]   25X1
        (2) Overall width   10 feet (see remarks)
        (3) Width of cradle   [   ]   25X1
        (4) Radius of curvature and
            depth of cradle
                    Cradle 1   [   ]   25X1
                    Cradle 2

   (5) Height of cradle ends
        (6) Distance between cradles
        (7) Height of trailer body

        (8) Length, width, and height of
            various members of the
            framework mounted on the
            transporter   (see remarks)
        (9) Distance between various
            sections of the framework (see remarks)
      (10) Distance between each member
           of each section of framework (see remarks)
      (11) Distance from each cradle to
           the obstructions at each   End of Cradle [   ]   25X1
           end of the transporters   Other end not measurable
      (12) Height of end obstructions [   ]   25X1
      (13) Wheel base of transporter

S-10/42   SECRET   GROUP 1
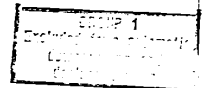
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(b) As this project was worked, inconsistencies developed in the measurements that cannot be easily explained. They probably come from either distortions in the viewgraphs or in the distances and camera data given, but cannot be pinned down to these factors. Inconsistencies were especially noted in trying to develop data for the framework as called for in items 8, 9, 10, 11, and 12 listed above; therefore, it was not possible to develop reliable values for these items. Two overall values are given on the attached sketch from which estimates can be made of the desired dimensions. Since sections of the framework do not lie in exactly the same position on all the trailers, and parts of them extend above the line between the cradles as much as two feet, it has been suggested that the framework is actually a number of canopy supports temporarily lashed to the trailer in knock down positions for transport. This could mean that they are moved when any regular shaped object is placed on the cradles, or that the object carried is very irregular in configuration such as a PT boat hull.

(c) The above listed dimensions are accurate to no more than ten percent. This large error percentage is given because checks made by different procedures did not agree any better than this amount. Due to some unknown factor such as large distortions introduced in making the viewgraphs, erroneously given camera focal length or misleading object distance estimated by the photographer, the measurements determined did not agree with those obtained using perspective techniques based on the given size of the tank car. Also, there was considerable inconsistency in vanishing point locations in the perspective solution, leading to additional disagreement in the results of the two methods when compared.

(d) The overall width dimension given in item two is based on the fenders over the wheels at the Cradle 2 end. There is a longitudinal rail, probably a "tie-down" bar fastened just outside the top surface of the fenders. The 10 foot width given is based on the supposition that these "tie-down" bars are just outside the fenders which have an outside separation distance of 9.75 feet.

(e) The radius of curvature of the two cradles given in Item 4 does not appear to be the same. Cradle 1 appears to have a much smaller radius than Cradle 2. In fact, Cradle 2 does not appear to have a single radius of curvature. At the cradle ends the curvature radius seems to be much smaller than it is for the middle portion. This apparent difference in curvature was noted independently by four different analysts in TID.

(f) No dimensions were possible on the length, width, or wheel base of the railroad cars due to inadequate photographic perspectives.

(g) A photo print with overlay giving all pertinent dimensions is herewith attached.

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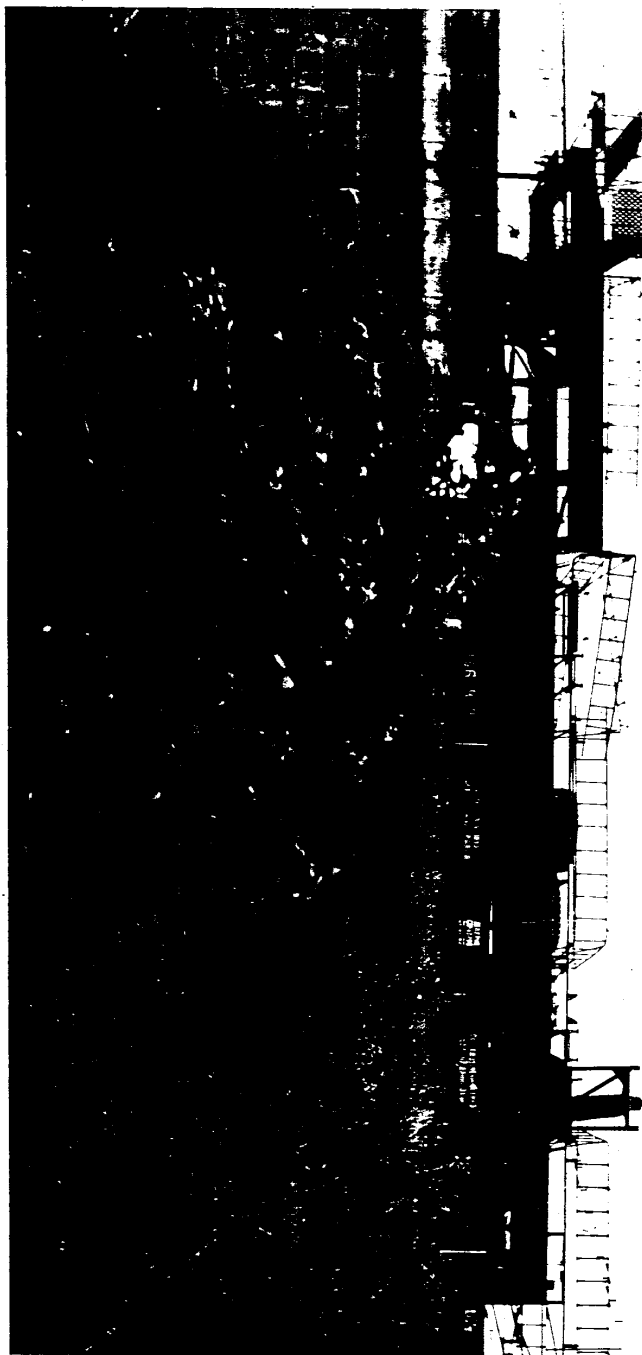
25X1

    4.   This project is considered to be complete.

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Enclosures:
  1 - One (1) Photo print with overlay
  2 - Three (3) Vu-graphs
      (submitted with requirement)

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