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CENTRAL INTELLIGENCE AGENCY 25X1 REPORT NO. [redacted] 25X1A

INFORMATION REPORT

CD NO.

COUNTRY USSR (Vladimir Oblast)

DATE DISTR 3 March 1952

SUBJECT Tractor Plant in Vladimir

NO. OF PAGES 6

PLACE ACQUIRED [redacted] 25X1A

NO. OF ENCLS. 4 (LISTED BELOW)

DATE OF INFO. [redacted]

SUPPLEMENT TO REPORT NO.

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[redacted]

1. Location:

Descriptions of the location agree as indicated in sketch 1. To the west, south and east, the plant was surrounded by workmen's settlements still under construction. The statements on the layout for the railroad sidings were therefore uncertain.

2. Name:

Differently stated, as V.T.Z. and V.T.Z. Only one source mentioned the name Zhdanov. Another gave the following trade mark (Russian letters): [redacted] 3 (interpretation: Vladimirski Traktorni Zavod, i.e. Vladimir Tractor Plant = Tr.)

3. Mechanical Fittings:

The mechanical equipment consisted entirely of British, American, Italian, and German machines.

4. Plant History:

After 1943, the plant was built around three existing workshops with the aid of German P/W's. The production was started in early 1945. According to Soviet statements the plant was to be enlarged to as many as 27 workshops.

5. Possibility of Change of Production:

At the end of the war, small parts for tanks (armored vehicles) were produced (Soviet statements). Many sources considered the change-over to this production to be possible.

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Document No. 5
No Change in Class. ☒
☐ Declassified
Class. Changed To: TS S C
Auth.: HR 70-2
Date: 7 SEP 1978 By: 016

change-over to pure tank building in the new existing parts of the plant hardly seems possible as the old foundry is too small and the new foundry has only small casting machines.

6. Size of plant:

Statements range between 800x800 meters and 1,000x1,000 meters. Two sources said: 1,500x1,500 meters.

7. Layout of the plant: (See also Annex 2) Structure of Workshops:

a. According to all sources steel skeleton structures, brick-lined. Tarred saddle roofs with skylights.

b. (In the following, capital letters refer to sketch, the figures in parenthesis refer to the sources).

A. Punching shop Size: (2) 200x80 m, (3) 125x25 meters, (5) 150x180 meters, (8) 100x30 meters. (6) Size 80x90 meters, construction was started in early 1947.

In 1948, a tempering plant with two furnaces and a very large American punching machine were put into operation. Other equipment consisted of two presses, about 5 to 6 meters high, punching machines, folding and bevelling machines and shearing machines.

B. Mechanical section and General Assembly Shop (twin shed)

Size: (2) 150x90 meters, (3) 150x25 meters (5) 200x180 meters (8) 100x30 meters (6) the workshop, total size 80x90 meters, had a mechanical section (a in sketch) and the general assembly section (b in sketch).

The mechanical section had about 60 machine tools. In the tempering shop were two tempering furnaces and, after February 1948, an ultramodern tempering furnace, height above floor 2.5 meters, diameter 3 meters with oil bath.

(7) (9) In the assembly shop, three electrical assembly lines were running for general assembly, as well as for transmission and differential gear. The workshop was also equipped with five or six traveling cranes.

C. Combustion Engines Section
Size: (2) 150x80 meters, (3) 150x25 meters, (5) 200x180 meters, (8) 100x30 meters.
(6) The mechanical section had 120 machine tools; 75 percent, however, were not working. Milling and boring of engine blocks was done on three or four 20-meter lathes. A small foundry and test stands for 8 to 10 engines were also there. In the workshop were two traveling cranes. (9) Total size 150x40 meters. One assembly line for assembly work, 10 test stands for engines, one milling bench for three or four engine blocks, three cylinder boring machines.

D. Old foundry Dimensions: (2) 150x80 meters, (3) 150x25 meters, (5) 180x180 meters, (8) 100x30 meters.
(6) and (7) equipped with three or four open-hearth furnaces and an electric furnace, about 4 meters long, diameter 2.5x3 meters.

(9) The foundry had the following sections: steel casting, gray casting, aluminum casting, welding, molding and electrical section. For transport an electric crane, about 17 meters long, and two other electric cranes, each about 8 meters long, were

available.

There were four melting furnaces and one oval conveyor belt for casting molds. The molding shop had two sand mills, two crushers, six molding machines, two jolters and one sand dryer with sand conveyor.

(13) Drafted machine equipment and sequence of operations as shown in Annex 3.

F. New foundry Dimensions: (2) 200x300 meters, (3) 150x25 meters (5) 200x60 meters (6) 120x20 meters plus two cross wings, 30x12 meters; the building was finished in November 1948; the interior fittings, however, were not in. (9) 300x100 meters, (15) 80x130 meters. (13) The installation is equipped as follows:

Six gas furnaces, 2.5 meters above the floor, diameter about 80 cm, two revolving rings for molds.
Four jolters, four core drying furnaces with oil heating.
One mobile electric crane.

In the locksmith's shop were 14 machine tools.

Ten grinding machines, four swing grinding machines, one floor conveyor and one cooling furnace were in the scouring shop.

(14) In July 1949, two conveyor belts were running; a third conveyor belt was to be put into operation in August 1949.

(15) The new foundry had been started with one working shift in July 1949 as an experiment.

F. Forge Dimensions: (2) 150x80 meters, (3) 150x25 meters, (5) 150x250 meters, (6) 100x12 meters, (8) 100x30 meters, (9) 150x40 meters
(2),(6),(7): Equipped with seven or eight pneumatic hammers and an oil-fueled forge furnace.

(9) Forge was newly erected by P/W in 1945, machine equipment: four oil-fired furnaces, two large and three small hammers, one large and one small punching machine, one American 500-ton press, two American upsetting machines, one 14-meter lathe, two standard lathes, two standard milling machines
One electric automatic annealing furnace, one roll, about 2 meters wide.

(13): One hydraulic die press, 500 tons
One hydraulic hammer, 18 tons
Three hydraulic hammers, 12 tons
Seven hydraulic hammers, 5 tons
Six oil-fired forge furnaces and one flat-bed shaft-turning lathe about 6 meters long.
One mobile electric crane of about 5 tons

G. Compressor station (5,6,9,13) Size: 50x50 meters, equipped with four or six large American compressors with flywheels, diameter 2 to 2.5 meters. Foundry, forge and engine shop were supplied by these compressors.

H. New forge, rough forge: Dimensions: (2) 100x200 meters, (3) 150x25 meters, (5) 200x100 meters (9) 40x200 meters (6) 100x12 meters, [illegible]

(6) In November 1948, two oil-fired furnaces were installed in workshop 2, which had just been finished.

(9) In March 1949, three traveling cranes, about 17 meters long, were installed. This workshop was intended for the manufacture of wheels. Source was told by a Soviet engineer, that in the future caterpillars for a new type of tractor would be produced.

(14) Designated the new forge as the rough forge where the material was cut up.

I. Oxygen station known to all sources; one stated that there were one compressor and six to eight tapping points.

8. Labor:

General work time in three shifts, 40 to 50 percent women

(1), (10)	5,000 to 6,000 plus 800 P/s
(4)	4,500 to 5,000 plus 1,500 to 1,800 P/s
(5)	4,500 out of whom 75 percent trained workmen, plus 500 P/s
(9)	6,000
(11)	4,000 to 5,000
(13)	10,000 plus 350 P/s
(14)	6,000 to 8,000
(15)	6,000

9. Production:

As all statements agree, an ordinary tractor, type Universal II, similar to the German "bulldog", was constructed. Four sources stated that, up to late 1948, the plant was equipped with gasoline engines; after that crude oil engines were installed.

(1) Mid-1948: Tractor Serial No 12,000 was finished
(2) 15 tractors per day (1948)
(3), (12) 20 to 30 tractors per day (1948/1949)
(4) 8 to 10 tractors per day and a number of agricultural machines (1948)
(5) 25 per day, capacity not fully exploited, about 50 percent of refuse (1948)
(6) 30 to 36 per day (in late 1948)

(7) 20 to 25 per day (1948/1949)

(8) November 1948, tractor serial No 5,000

(10) 8 to 10 per day (1948/1949)

(11) At a party meeting it was said that rate of output was 100 per day

(13) 5 to 7 per day in early 1945
Serial No 500, May 1945
Serial No 1,000, November 1945
Serial No 10,000, early 1947
Serial No 20,000, early 1949
Daily output in July, 1949, 50 tractors.

(14) After the spring of 1949, reconstruction of a modern American model was started as an experiment.

10. Disposal of production:

Once or twice a week the manufactured goods were shipped away.

In March 1949, 500 tractors were shipped to the Soviet Zone of Germany. In the summer of 1948 a delivery was made to Bulgaria.

For Soviet requirements the tractor was too weak and out of date. It was therefore exported, almost exclusively, to the satellite States.

11. Arrivals:

No semi-finished products, except the electrical equipment, arrived from other places.

One source said five to seven railroad cars with raw material arrived every week.

12. Power supply:

Connected to the cross-county mains in Vladimir. Soviet engineers spoke of the construction of an independent power station for the plant. In 1948 an emergency power set was installed.

13. Means of Transport:

The plant had 10 to 25 trucks of its own. For shunting purposes two or three shunting locomotives were available.

14. Air Raid Protection Measures:

No information.

Field comment:

a. The previously reported situation is confirmed.

b. The full name of the plant is:

Vladimirski Traktorni Zavod imeni Zhdanova (Vladimir Tractor Plant called "Zhdanov"). This name has been confirmed by the Soviet press.

c. The previously reported dates of the beginning of the construction (1943) and the starting of the production (early 1945) are confirmed.

d. Conversion of the plant to the production of tanks (armored vehicles) seems to be improbable as the plant is equipped for the manufacture of light wheel tractors. In other words, not only the foundry but also the other sections (especially the assembly shop) would be inadequate.

e. From the stated production figures an average daily output of 25 to 30 tractors for 1948 and early 1949 may be inferred

The statements made by source 13 seem improbable, as may be inferred from the following:

As known for certain, work in the plant was started in late March 1945. This source says the 500th tractor was finished in May 1945; this would mean a monthly production of 250 tractors. In November 1945, according to the same source, tractor serial No 1,000 was ready, which means a monthly output of only 83 during the period from May to November 1945.

It is also known that tractor serial No 10,000 was not finished in early 1947 but in September 1948.

4 Annexes: (1)(2)(3) Tractor Plant in Vladimir (sketches)
(4) List of Sources (typed)

Legend to Annex

The location of the workshops and other buildings agrees with the statement of the plan. For indicating the dimensions a mean value has been chosen.

Tractor Plant, hatched parts of buildings mean office annexes.

A	punching shop
B	(a) Mechanical workshops (b) General assembly shop
C	Engine section
	(a) Assembly (b) Mechanical section (c) Test stands
D	Old foundry
E	New foundry
F	Forge
G	Compressor station
H	Roughing forge
I	Oxygen station
1	potato bunker
2and 3	material depots
4	PW-Camp 7190/1
5	Office rooms
6	Boiler house
7	Laboratory

Construction Firm

8 New building

9 Sawmill

10 Locksmith's shop

11 Concrete factory

12 Parking place, garage and small repair shop for vehicles of tractor plant and construction firm.

13 Road to Main road to Yuryev , about 300 meters

14 New railroad siding to Vladimir railroad station or to railroad line Vladimir - Gorki, 2 to 3 km NE of Vladimir railroad station.

Legend to Annex

Machinery Outfit and Sequence of Operation in the Old Foundry

(D of sketch 2)

(1) Four furnaces, two in operation, cupola furnaces. Filling with magnets over filling chute. Coke. Additions of manganese and "Spiegeleisen" (specular iron). Continuous tapping.

(2) Cast on hand-operated conveyor belt

(3) Cast on mechanically driven conveyor belt

(4) Motor

(5) Five hand molding machines

(6) Three large molding machines

(7) Jolters

(8) Elevator

(9) Sand runner

(10) Low elevator

(11) Runner for core making

(12) Molding machines for core making

(13) (coal-fired) drying stoves, served by electric trucks

(14) New core-making plant built in 1947 with electric furnaces which, however, were seldom used as they were said to be too small.

(15) Hand-molding shop. Pattern for special replacement parts

(16) Steel furnace for steel foundry

(17) Molding machines

(18) Sand blast apparatus
(19) Five grinding machines
(20) One large and two small grinding drums
(21) Finished parts store.

List of Sources

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Number of source in text	Date of observation
(1)	1945 to 1948
(2)	May 1947 to August 1948
(3)	July 1948 to October 1948
(4)	December 1947 to October 1948
(5)	July 1944 to October 1948
(6)	February 1947 to November 1948
(7)	November 1948 to January 1949
(8)	September 1948 to March 1949
(9)	March 1949
(10)	October 1947 to April 1949
(11)	August 1948 to June 1949
(12)	April 1946 to July 1949
(13)	July 1945 to July 1949

Number of source in Text	Date of observation	[redacted]
(14)	July 1945 to July 1949	
(15)	May 1945 to July 1949	

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Tractor Plant in VLADIMIR

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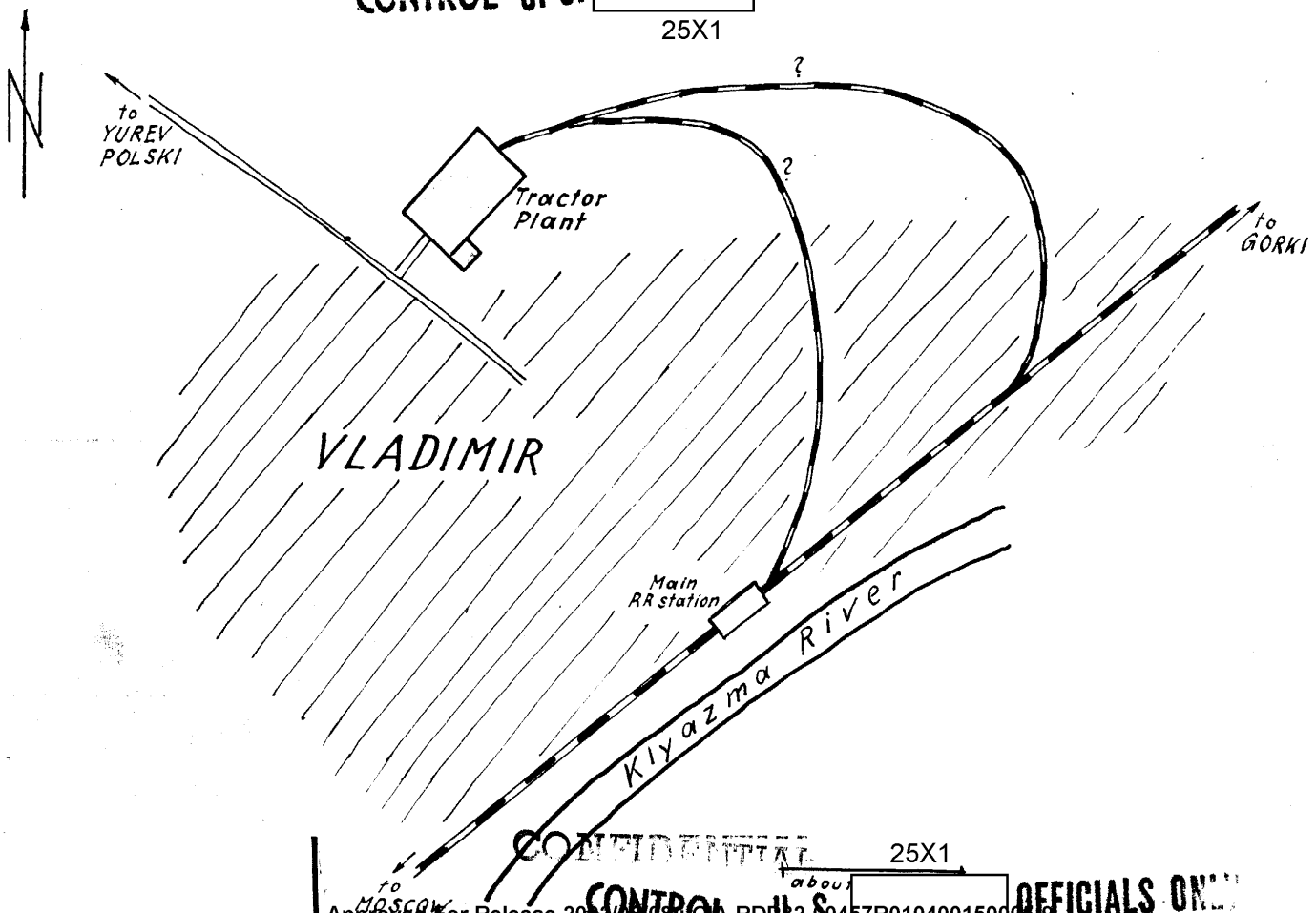

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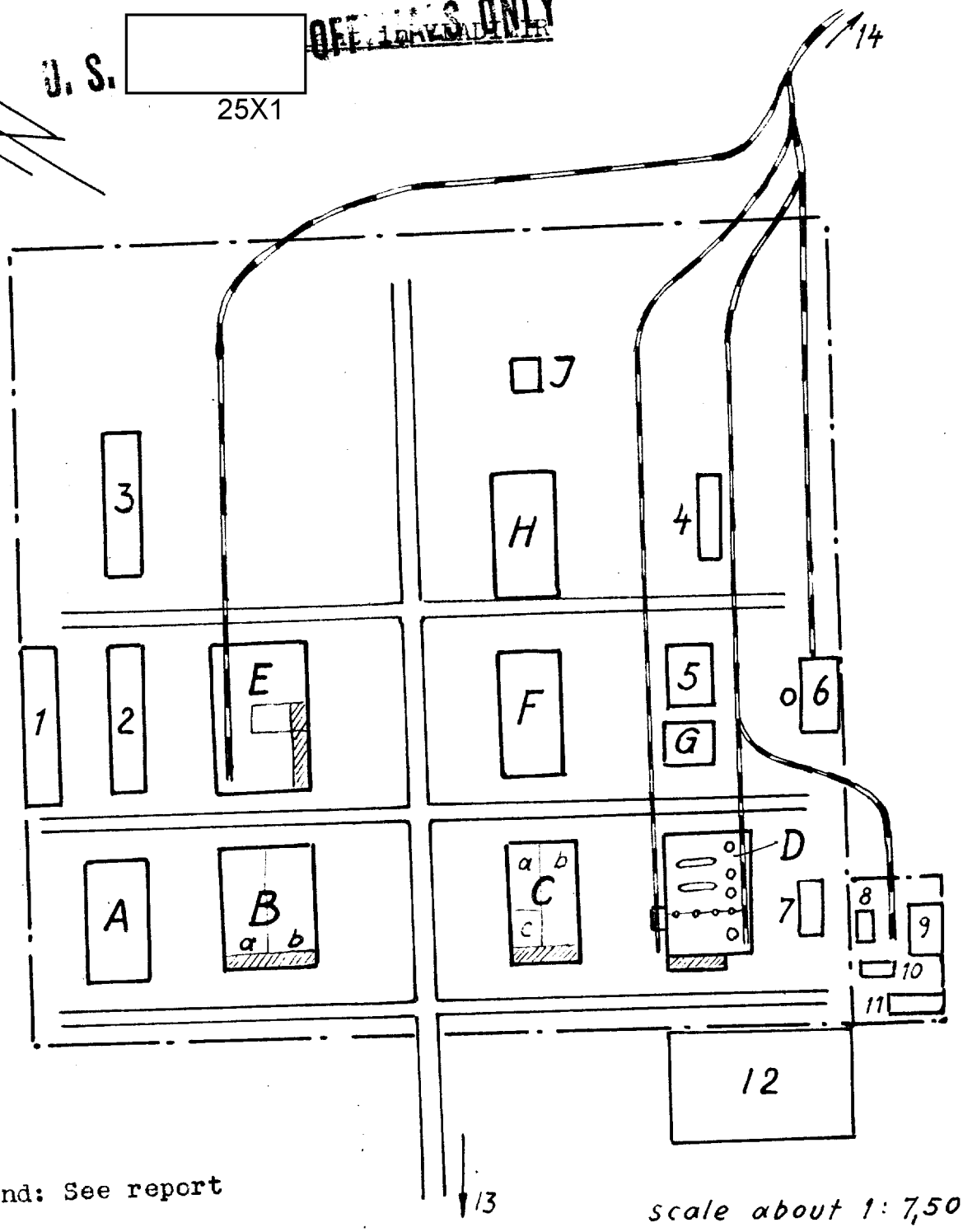

Legend: See report

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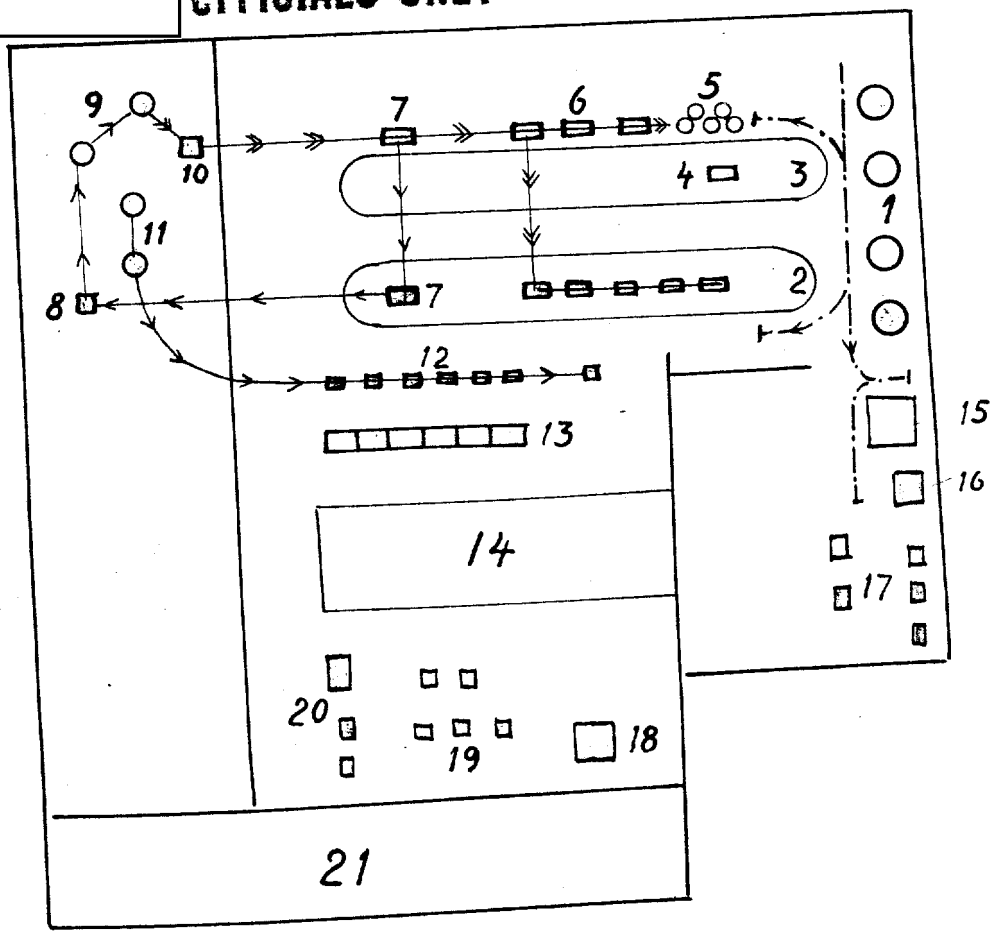

scale about 1:1,000

Legend: See report