INFORMATION REPORT INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY

S-E-C-R-E-T

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COUNTRY	USSR (Sverdlovsk Oblast)	REPORT	
SUBJECT	The Soviet Bearing Industry and Bearings Plant No. 6 in Sverdlovsk	DATE DISTR.	28 April 1960
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SOURCE EVALUATIONS ARE DEFINITIVE. APPRAISAL OF CONTENT IS TENTATIVE.

1. The bearings industry in the USSR consisted of eleven production plants, numbered one through eleven, and of eighteen bearing repair plants. The latter were not numbered, but were designated as Remontno-Podshipnikovyy Zavod plus the name of the city in which the plant was located. Alma-Ata, Kazan, Kiev, Tashkent, Vinnitsa, Sverdlovsk, and Moscow were known to have repair and/or reconditioning plants.

2. Throughout the industry, Bearings Plant No. 2 in Moscow was known as an enterprise which received the orders for new types of bearings. It was also known to produce "special bearings" (spets-podshipniki), i.e., bearings made to order for new types of machinery. Bearings Plant No. 1 in Moscow supplied bearings to the aircraft/missile plant in Perm, according to a special supply representative of the latter.

3. About 85 percent of the ball bearing production of Plant No. 6 in Sverdlovsk was used by the military. Military representation at the plant consisted of four men headed by a lieutenant colonel (pplk) of the armored corps. About 47 or 48 types of bearings were produced at Plant No. 6. Each type had a numerical designation (the meanings of the designations, the exact purpose of each bearing, and where they were all sent were not known 25X1 25X1 All bearings produced by the plant carried the trade mark "6 GPZ".

4. In mid-1958, Plant No. 6 was the only plant in the USSR which supplied bearings to tank factories. Plant No. 4 in Kuybyshev at one time produced a type of bearings for tanks, but in 1955 this production was tranferred to Plant No. 6.

5. Bearing type No. 500, with brass cages and balls of 3/4-inch diameter, was a support bearing produced for the Army. Average monthly production for this

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STATE	X	ARMY	X	NAVY	X	AIR	X	NSA	X	FBI		NIC	X	ORR/EV	X

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type was 5,000 to 6,000 units. Among other places, this bearing was sent to the aircraft plant in Perm and to plants producing tanks.

6. Bearings Plant No. 6 received raw materials from metallurgical plants in Kuznetsk, Chelyabinsk (steel type ShKh 15), Moscow (ELEKTROSTAL, steel type ShKh 15), Zlatoust (special steel type ShKh 15SG), Serov (steel types ShKh 6,9, and 15), Minyar (steel type ShKh 6), Kyshtym, Novosibirsk, and Gorkiy. With the exception of wire, received by air shipments from the Krasnaya Etna Plant in Gorkiy, all [illegible] shipments came in by rail. As of mid-1958, the plant did not have a railroad siding.

7. The waste of raw materials, particularly of steel, at the plant was "barbaric". Such wastage, caused by the carelessness and indifference of the workers, was greatest in the press and forge department during the processes of race production and in the roller production and polishing department. According to a survey carried out in the plant in 1957, only 31.3 percent of raw metals was efficiently and practically exploited, while 68.7 percent was either wasted or discarded as substandard. One ton of Sh.Kh. 15 steel of 25 mm. diameter cost the plant 3,200 rubles. Though the plant itself did not suffer from this waste, since it was covered in the calculated production costs, the loss to the State was not insignificant.

8. Another weak spot of Bearings Plant No. 6, in fact of the entire bearings industry, was the inability to acheive in the heat processing a uniform hardness of every part of the bearing. Soviet experts, furthermore, were unable to understand how the Western bearings industry, particularly in Sweden, could achieve an accuracy of up to 0.5 microns, while the Soviets could barely reach a tolerance of 1.5 microns. As a result of this inaccuracy and the faulty heat processing, more than 15 percent of the plant's finished products which were destined for the Army were rejected by the military representatives at the plant. The plant was generally criticized for its low standards. It was in need of good polishing equipment, since the locally-made machines did not permit the required degree of accuracy; hence the demand for Western machinery.

9. [redacted] 25X1

Included in the report are data on plant production (in approximate figures), plant equipment, organization, work force, and a listing of plant personnel.

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1. The bearings industry in the USSR consisted of eleven production plants, numbered from one to eleven, and eighteen bearing repair plants. The plants for the repair and reconditioning of bearings were not numbered in the manner of the production plants but were designated "Bearings Repair Plant" (Remontno-Podshipnikoviy Zavod) plus the name of the city in which the plant was located. Of the eighteen such plants in the USSR, the following plant sites were known: Alma-Ata, Kazan, Kiev, Tashkent, Vinnitsa, Sverdlovsk, and Moscow.

2. Until the establishment of the Sovnarkhoz system, the entire industry was under the jurisdiction of the Chief Directorate

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of the Bearings Industry (Glavpodshipnik) of the Ministry of Automobile Production (Ministerstvo Avtomobilnoy Promishlennosti). With the establishment of the Sovnarkhozy, each plant became subordinate to the Sovnarkhoz in its geographical area. Viatliy Devyatov was head of the Glavpodshipnik until the establishment of the Sovnarkhozy. In mid-1958, he was chief expert for bearings affairs at the All-Union Gosplan. 2

3. Throughout the industry, Bearings Plant No. 3 in Moscow was known as an enterprise which received the orders for new types of bearings. It was also known to produce "special bearings" (spets-podshipniki), i.e. bearings made to order for new types of machinery, etc. Plant No. 1 in Moscow supplied bearings to the aircraft/missile plant in Perm

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Bearings Plant No. 6 in Sverdlovsk

4. Bearings Plant No. 6 in Sverdlovsk was founded in 1941 with the equipment of Plant No. 1, when the latter was transferred from Moscow during the war. The plant was located in the center of town, on Shartashskaya, in buildings formerly occupied by an alcohol plant and a bearings repair plant. In 1942, the production of bearings was begun at the plant; they were supplied to a plant

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in Nizhniy Tagil [N57-55, E59-57] and to the Uralmash plant in Sverdlovsk, which at the time produced T-34 tanks.

5. The main department of Plant No. 6, that of polishing and assembly (shlifovalno-sborochniy tsekh) with its 300 foreign-made machines, was completely destroyed by fire in 1946. Though it was rehabilitated within four month's time and was equipped with new machinery, the department failed to regain its former productiveness and became one of the weak links of the plant.

6. The plant continued to develop after the war, but all growth was confined to the existing buildings, since the plant's location in the heart of town precluded further expansion and addition of new buildings.

7. The principal departments of the plant were the following:

a. The Press and Forge Department (Kuznechno Presoviy Tsekh), located in a one-story building 250 x 150 meters in size, which included the following equipment:

(1) One [redacted] press (9,1/2 Duymovaya Shtampovochnaya Mashina) for producing races of up to 21 cm internal diameter. This machine was 25X1

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used for the production of races for bearings of types 226, 228, 230, etc. used for tanks. The machine was installed at the plant in 1955. The only other machine of this type was found at Plant No. 1 in Moscow.

(2) Two [redacted] presses (7,1/2 Duymovie Shtamp. Mash.) for races of up to 18 cm internal diameter, in bearing types 218 and 313 (for tractors), 500, 3614, 3616, 3618, etc. 25X1

(3) One [redacted] press (5 Duymvaya Shtamp. Mash.) for races of up to 10 cm internal diameter, for bearings of types 3608, 3610, etc. for the army. 25X1

(4) Three locally-made pneumatic presses (presa svobodny kovki), of which two exerted a pressure of 8 tons each and the third of 2 tons. These presses were used for the hand forging of the races (koltsa) and the balls (shariki) for bearing type 244, which was used for

heavy tanks. The diameter of the ball in this bearing was 1.75 inches.

b. The Lathe Department (Tokarniy Tsekh) and the Polishing and Assembly Department, which were located together in a 9,000 square meter, one-story building. The former contained about 120 lathes 25X1

c. The Thermal Department (Termicheskiy Tsekh), which was equipped with the following:

(1) Rotary oil furnace (karuzelnaya maslennaya pech) 25X1 and used in the heat processing of large races. 25X1

(2) Two horizontal air furnaces (gorizontalnovo zdushnie pechi) 25X1 was used for the hardening of medium-sized races and large balls and rollers (roliki). 25X1

(3) Two furnaces for the heat processing of small balls and rollers. 25X1

d. Three polishing departments: for polishing races, for the production and polishing of balls, and for the production and polishing of rollers. The department for the polishing of races contained about 200 automatic machines, [redacted] 25X1 [redacted] The locally-made machines were far inferior in quality and efficiency to the foreign-made equipment. This shop was one of the largest and most responsible of the plant's departments.

The department for the production and polishing of balls contained two [redacted] cold 25X1 presses (kholodnaya shtampovka) for making balls, two [redacted] hot presses (goryachaya shtam- 25X1 povka) for making balls, but which were also used as cold presses for certain types of balls, one [redacted] Lekra press for burring the 25X1 balls (Dla Snyatiya Saturnovo Koltsa). The department also contained 32 machines called Opilovochnie Stanki, which were capable of removing layers of up to 0.4-mm in thickness from balls. These were locally-produced copies

of the [redacted] LS machines. There were also 25X1
12 machines for rough polishing (stanki pred-
varitelnoy shlipovki), which were vertical
machines with German Chasewrede tables; 32
abrasion vats (abrazivnie barabani) contain-
ing water and gravel, each with a capacity
of 250 kilograms of balls; 16 polishing
machines [redacted] (here the 25X1
balls passed from the thermal processes
to the mechanical processes); 25 or 26
polishing machines (shlifovalnodovodochnie
stanki) of the locally-made M.Ts.Z, the
[redacted] 25X1
types; 18 vats containing a special lime
(barabani dla polirovki), where the balls
underwent their final polishing.

The department for the production and polish-
ing of rollers, both conical and cylindrical,
was equipped with the following: one machine
for straightening steel rods; 36 automatic

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lathes, 25X1 about 20 vats (barabani) for abrasing the rollers (abrazivnaya obr abotka poverkhnostey); 8 machines for the basic polishing of the rollers (stanki dla tortsevoy shlifovki); 60 machines for rough polishing (gru- 25X1 baya shlifovka) and smooth polishing (chisto- vaya shlifovka); one or two machines for the final polishing (polirovka) of large rollers (large rollers were polished only by machine); and an undetermined number of vats for the final polishing of other than large rollers.

e. The Cages Department (Separatorniy Tsekh), which was housed in a one-story building 200 meters long and 70-80 meters wide. The cages were of two main types: of iron for less dependable types, as for tractor bearings types 218, 313; and of brass, for more dependable bearings, as for tank bearings types 230, 244. The iron cages were produced by six vertical 25X1 Lekra presses. The brass was brought to the

25X1

plant in billets from Zavod No. 1 in Kyshtym. Plant No. 6 contained a special casting department where the brass billets were cast into pipes and then worked into cages by 40 machines, which carried out the various processes (lathes, drills, polishers, etc.).

8. In addition to the above principal departments, the plant contained the following smaller shops, also directly connected with production:

a. The Ball Chromium-Plating Department, within the framework of the polishing and assembly department.

b. The Steam Department (Kotelnaya), which provided the steam required mainly for the chemical processing of the parts.

c. The Compressor Department, which had two [redacted] compressors each capable of delivering 5,000 cubic meters of air per hour. This compressed air was used mainly by the presses.

d. A chemical laboratory and a metallurgical laboratory, which were connected to the department of the head metallurgist.

e. A special bearing testing station which worked around the clock.

9. The plant employed a total of 3,400 workers, divided as follows:

a. Approximately 2,000 directly connected with the production of bearings.

b. 220 engineers and technicians.

c. 400 in the technical inspection department (OTK).

d. 200 administrative personnel.

e. The remainder in auxiliary department, such as electrical, instruments, repairs (rem. mekh. tsekh), transportation (equipped with about 50 trucks), carpentry shops, etc.

About 60 percent of the employees at the plant were women, most of whom were employed in the thermal processing and the polishing departments. Two hundred sixteen of the employees were members of the Communist Party.

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10. About 85 percent of the plant's production was used by the military. The military representation at the plant (voen. predstvo) consisted of four men headed by a lieutenant colonel (Pplk) (not by a colonel (plk) as previously reported) from the armored corps.

11. The plant produced about 47 or 48 types of bearings, each with a numerical designation (the meanings of the designations, the exact purpose of each bearing, and where they were all sent were not known

25X1

12. The plant produced the following main types of ball bearings:[1]

a. No. 218 - brass cages, ball diameter of 7/8 inches. The average monthly production of this type was between 20,000 and 30,000 units, of which 15,000 went to the army to be used in armored vehicles. The same bearings with cages of iron were used for tractors.

b. No. 518 - a support bearing (uporniy pod-shipnik) with brass cages and with balls of 19/33 inches' diameter. The average monthly production of this type was 1,500 units, all for the army.

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c. No. 317 - brass cages and balls of 1-3/16 inches' diameter. The average monthly output of this type was 6,000-8,000 units, all for the army.

d. No. 226 - brass cages and ball-diameter of 1-1/8 inches. The average monthly output of this type was 12,000 units, all for the army.

e. No. 228 - brass cages with balls of 1-1/8 inch diameter. The average monthly output of this type was 2,000-2,500 units, all for the army.

f. No. 230 - brass cages and balls of 1-5/16 inches' diameter. The average monthly output of this type was 10,000 units, all for the production of tanks. These bearings were sent to the giant Nizhniy-Tagilskiy Vagonno Stroitelniy Zavod in Nizhniy Tagil, which produced railroad rolling stock. In 1958, this plant transferred to tank production.

g. No. 244 - brass cages with balls of 1-3/4 (?) inch diameter. The average monthly production of this type was 2,000 units, all for the production of heavy tanks.

h. No. 500 - with brass cages and balls of 3/4 inch diameter. The average monthly production of this type was 5,000-6,000 units, all for the army. No. 500 was a support bearing and, among other places, was sent to the aircraft plant in Perm and to plants producing tanks, for use in tank guns (?).

i. No. 8120 [sic] - a support bearing with brass cages and balls of 0.5 inch diameter. The average monthly output of this was 4,000-5,000 units, all for the army.

j. No. 313 - brass cages and balls of 15/16 inch diameter. This was used for military purposes and also in tractors.

13. The following cylindrical bearings were produced at the plant:

a. No. 3634 - with brass cages and a cylindrical roller of approximately 40 mm. diameter. The average monthly production of this type was 7,000-8,000 units, all of which were used for oil drills. Most of them were sent to the Uralmash plant in Sverdlovsk.

b. No. 3618 - with brass cages and rollers of approximately 22 mm. diameter. The average monthly output of this type was 7,000-8,000 units, all for the army.

c. No. 3616 - with brass cages and rollers of approximately 20 mm diameter. The average monthly output of this type was 10,000 units, all for the army.

d. No. 3614 - with brass cages and rollers of about 16 mm. diameter. The average monthly output of this type was 7,000 units, all for the army.

e. No. 3612 - with brass cages and rollers of about 14 mm. diameter. The average monthly output of this type was 7,000-8,000 units, all for the army.

14. Of the conical bearings, the plant produced types No. 3608 and No. 3610, both of which were with brass cages. The monthly output of the No. 3608 type was about 3,000 units and that for the No. 3610 type 7,000-8,000 units. All of the output was for the army.

15. In mid-1958, Plant No. 6 was the only plant in the USSR which supplied bearings to the tank factories. Plant No. 4 in Kuybyshev at one time produced No. 244 bearings for tanks but, in 1955, this production was transferred to Plant No. 6.

16. A small part of the output of the plant was exported. exact and full details were not known

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17. All bearings produced by the plant carried the trademark "6 GPZ" plus the numerical designation of the bearing.

18. Plant No. 6 received raw materials from the following sources:

a. From the metallurgical plant in Kuznetsk (Kuznetskiy Metalurgicheskiy Zavod). This plant received steel of the type Sh.Kh. in

the form of rods of the standard length of 3 meters and with diameters of 100, 110, and 130 mm. This type of steel was used for the production of races for over medium-sized bearings, such as types Nos. 8120, 226, 228, 230, 244, 317, 3634, and 3616. (Bearing No. 244 was produced at the order of and from steel provided by the Uralmash plant). The Kuznetsk plant was Plant No. 6's main supplier of steel for the bearings named above.

b. The metallurgical plant in Chelyabinsk [N55-10, E61-24] (Chelyabinskiy Metalurgicheskiy Zavod), which provided steel of the Sh.Kh. 15 type in 80 and 90 mm. diameters for the production of races for bearings types 218, 500, 3608, 3612, etc.

c. A plant called Elektro-Stal, in Moscow, which provided the same steel as the plant in Chelyabinsk.

d. The Lenin Metallurgical Plant in Zlatoust [N55-10, E59-40], which produced special steel and, since 1958, had been supplying Plant No. 6 with Sh.Kh. 15 SG type steel in 110 and 130 mm. diameters. This steel was used for the production of races for bearings Nos. 230, 244, and 3618.

For the production of the various types of races alone, Plant No. 6 required almost 3,200 tons of steel per month. From 70 to 75 tons of various types of steel were used in the production of balls per month. In 1958, the monthly output of balls was about 50 tons, in contrast to 20 tons per month in 1947.

e. Most of the steel for the production of balls was received from the Serov Metallurgical Plant (Serovskiy Metalurgicheskiy Zavod Im. Lenina). It provided Sh.Kh. 6 steel with a diameter of 13.5 mm. for bearing No. 500, Sh.Kh. 9 steel with a diameter of 17 mm. for No. 218 bearings, and Sh.Kh. 15 steel with diameters of 20.5, 21, 23, 24, and 26 mm.

f. The special steel plant in Zlatoust also supplied Plant No. 6 with steel for balls. It provided Sh.Kh. 15 SG steel with a 25 mm. diameter for the No. 230 bearings, and with diameters of 26, 28, and 32 mm. for the No. 244 bearings.

g. A plant in Minyar [N55-04, E57-33], which supplied steel for balls for bearings No. 8120. This steel was of the type Sh.Kh. 6 and had a diameter of 9.2 mm.

h. The Serov Metallurgical Plant supplied Plant No. 6 with 70 percent of the latter's steel requirements for balls and rollers. Plant No. 6 required from 160 to 170 tons of steel per month for the production of rollers.

i. The Kyshtym plant supplied all of the 60-70 tons of brass required monthly for cages.

j. The Novosibirskiy Listo-Prokantniy Zavod in Novosibirsk, which supplied 6-8 tons of iron strips for cages (separatornaya zhel. lenta) in thicknesses of 1.0, 1.5, and 2.5 mm.

k. The Krasnaya Etna Plant in Gorkiy, which supplied (iron) wire to Plant No. 6 and apparently to the entire industry. The wire, in diameters of 2.4, 2.9, and 4.0 mm., was used in the production of rivets for the cages. Plant No. 6 used 300-350 kilograms of wire per month.

With the exception of the wire, which was delivered by air, all raw materials for Plant No. 6 arrived by rail.

19. The waste of raw materials, particularly of steel, at the plant was "barbaric". Such wastage, ~~due to~~ the carelessness and indifference of the workers, was greatest in the press and forge department during the processes of race production and in the roller production and polishing department. According to a survey carried out in the plant in 1957, only 31.3 percent of the raw metals were efficiently and practically exploited, while 68.7 percent was either wasted or discarded as substandard. One ton of Sh.Kh. 15 steel of 25 mm. diameter cost the plant 3,200 rubles. Though the plant itself did not suffer from this waste, since it was covered in the calculated production costs, the loss to the State was not insignificant.

20. Another weak spot of the plant, in fact of the entire bearings industry, was the inability to achieve in the heat processing a uniform hardness of every part of the bearing. The hardness required was 61-62 Rockwells, but in the production of balls, for example, the plant was plagued by the appearance of spots some millimeters beneath the surface of the ball (trostitoviye pyantna) and the lines on the surface (shtrikhoviye ozhogi), whose hardness was only 57-58 Rockwells. Most of the spots disappeared after the Sh.Kh. 15 SG steel was introduced in 1958, but the causes of the lines and how to overcome them remained an enigma. The plant was particularly preoccupied with improving the heat processing of large bearings Nos. 230 and 226, the most important bearings for the tank industry. Experts, moreover, were unable to understand how the Western bearings industry could achieve an accuracy of up to 0.5 microns, while the Soviets could barely reach a tolerance (pripusk) of 1.5 microns.

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21. As a result of this inaccuracy and the faulty heat processing, more than 15 percent of the plant's finished products which were destined for the army were rejected by the military representatives at the plant. The plant was generally criticized for its low

standard. It was in need of good polishing equipment, since the locall-made machines did not permit the required degree of accuracy, hence the demand for Western machinery.

22. The principal production departments of the plant, such as the press and forge, assembly, fine polishing, and thermal departments, operated in three shifts. The auxiliary departments worked in one shift and all other departments in two shifts. During the winter months (1 October to 1 May), work began at 0800 hours, with shift changes at 0800, 1600, and 2400 hours. During the summer, work began at 0700 hours.

23. Though not particularly large in area - about 500 x 400 meters surrounded by a board fence two meters high topped with barbed-wire - Plant No. 6 was considered one of the top enterprises in the city from the point of view of mechanization and automation.

24. In the winter of 1957/1958, the plant was allotted 2,000 cubic meters of wood from the forest in the vicinity of Rezhik /N56-51, E61-24/. The forest had reportedly been uprooted in connection with a plan to flood large areas in the formation of an artificial lake for an atomic power station under construction in the vicinity of Beloyarskoye /N56-45, E61-24/. By 1958, it

was widely known in Sverdlovsk that an atomic power station was being erected in the Beloyarskoye area and that work at the site was progressing according to schedule.

25. Plant No. 6 did not have a railroad siding, and of its 50 trucks only about 30 were operational.

26. Electricity was provided by the central grid and carried into the plant by underground cable. The plant operated a transformer station on the site.

27. The following persons were reported:

a. Vitaliy Devyatov, chief expert for bearings at the All-Union Gosplar 25X1

Prior to the establishment of the 25X1
Sovnarkhoz system, he had headed the Chief Directorate for the Bearings Industry. Prior to that he had worked for many years in what later became Plant No. 1 in Moscow. A mechanical engineer by profession, he was considered one of the leading experts in the Soviet bearings industry.

b. Grigoriy Sergeyevich Kosobokov, chief expert for bearings for the RSFSR Gosplan since 1958 [redacted] A mechanical engineer by profession, he had worked, before World War II, in what later became Plant No. 1 in Moscow. During the war, he was director of the technical department of Plant No. 6 in Sverdlovsk. From 1952 to 1958 he was assistant head of the All-Union Chief Directorate for the Bearings Industry. 25X1

c. Piotr Ivanovich Yashcheristin, director of Bearings Plant No. 11 in Minsk [redacted] 25X1

[redacted] Until about 1953, he was chief engineer at Plant No. 6 in Sverdlovsk. He was a mechanical engineer by profession and held the degree of Candidate of Technical Sciences. [redacted] 25X1

[redacted]

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d. Ivan Fyodorovich Gavriyelov, chief engineer at Plant No. 11 and a mechanical engineer by profession [redacted] Until about 1953, he held various positions of responsibility at Plant No. 6. [redacted]

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e. Sergey Vasilyevich Komarov, director of the bearings repair plant in Sverdlovsk since 1954/1955 and formerly director of the lathe department of Plant No. 6 [redacted]

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f. Sergey Vasilyevich Khudeyev, director of Plant No. 6 since 1951 and former (since 1941) director of the production department of the same plant, [redacted] An engineer-economist by profession, he worked before the war as assistant director of the instruments department of Plant No. 1 in Moscow. [redacted]

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[redacted]

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g. Valeriy Ivanovich Kitayev, chief engineer of Plant No. 6 since 1955 and former head designer in the same plant 25X1

A mechanical engineer by profession, he completed his studies in Nizhniy Tagil during the war. 25X1 25X1

h. Mikhail Fyodorovich Pomukhin, head metallurgist at Plant No. 6 since 1949

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i. Vladimir Ilyich Klimov, director of the technical department of Plant No. 6 since about 1957 and formerly a senior engineer in the same department

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j. Piotr Klimov, production director at the Lenin plant for special steel in Zlatoust,

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k. Vladimir Pivnev, director of the press and forge department of Plant No. 6 since 1952/1953,

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Until 1952/1953, he was a senior technologist in the same department. A metallurgical engineer by profession

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l. Dmitr Andreyevich Gulayev, director of the lathe department of Plant No. 6 and formerly, for many years, director of the assembly department of the plant 25X1

25X1 During the war, he worked in Plant No. l.

m. Sim Osipovich Yagnyatinskiy, director of the polishing and assembly department of Plant No. 6 since about 1953 25X1 He formerly was assistant chief engineer at Plant No. 50 in Sverdlovsk, a military plant possibly connected with the production of tanks. Shortly /Before the war he worked in the Soviet Embassy in the United States. 25X1

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n. Lt. Colonel (Pplk) Valentin Yakolevich Zakharov, head of the military representation (voen pred-stvo) at Plant No. 6 for many years

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Attachment 1

Legend to Sketch Showing Location of Plant No. 6

1. Lenina.
2. Lunacharkovo.
3. Pervomayskaya.
4. Shartashskaya.
5. Bazhova.
6. Shevchenko.
7. Urals Military District Headquarters (Uralskiy Voyenniy Okrug).
8. Residential area of 6-8 story buildings, called Gorodok Chekistov.
9. Highschool.
10. Residential building.
11. Residential buildings.
12. Kindergarten.
13. Plant No. 6.

Attachment 2

Legend to Sketch of the Layout of Plant No. 6

1. Main gate for vehicles.
2. Gatekeeper's hut and pedestrians entrance.
3. Asphalt road.
4. Administrative offices and plant directorate, the only two-story building on the site.
5. Plant club.
6. Roller department.
7. Ball department.
8. Race polishing department.
9. Assembly department.
10. Thermal department.
11. Lathe department.
12. Narrow gauge railroad track.
13. Press and forge department.
14. Electrical department.
15. Repairs department (Rem. Mekh. Tsekh).
16. Bearing testing department.
17. Garage.
18. Fuel stores.

19. Maintenance and construction department (rem. stroit. tsekh).

20. Metals stores.

21. Laboratory.

22. Cages department.

23. Warehouse for finished products.

24. General warehouse.

25. Compressors department.

26. Boiler department.

27. Transformer station.

28. Entrance for vehicles.

29. Wooden fence of the plant.

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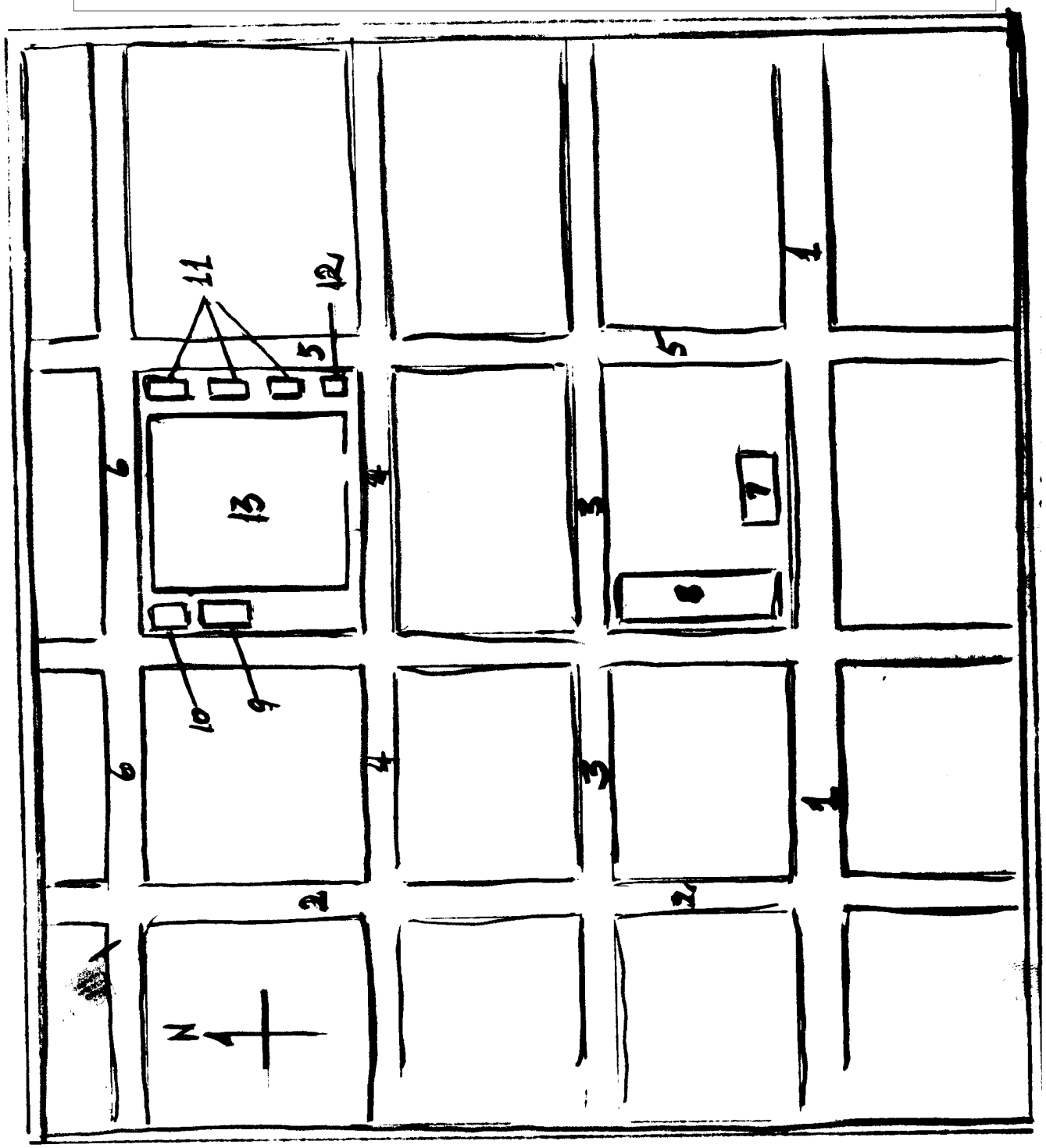

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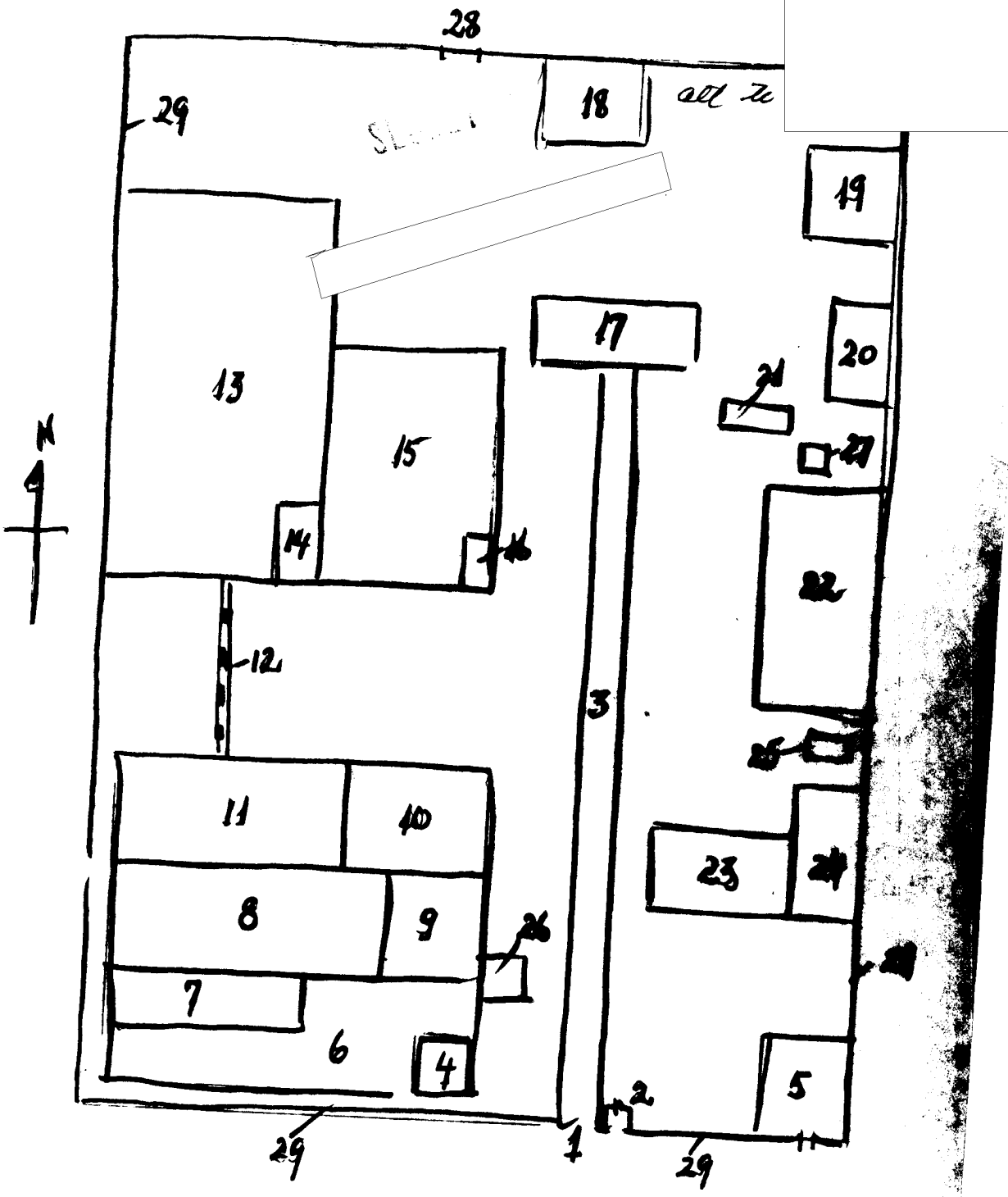

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