CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

SECRET

SECURITY INFORMATION

25X1A

COUNTRY	USSR (Kalinin Oblast)	REPORT NO.	
SUBJECT	Description and Layout of Institute 88, Gorodomlya Island	DATE DISTR.	10 June 1953
	25X1A	NO. OF PAGES	11
DATE OF INFO.		REQUIREMENT NO.	25X1A
PLACE ACQUIRED		REFERENCES	

25X1X

SOURCE:

INSTITUTE WITH CONSTRUCTION WORKSHOP

Construction Workshop (Rooms 1-21, 50, 91, and 92). (See page 8).

1. The following rooms are shown on my sketch of the layout of Institute 88, Gorodomlya Island (see page 8):

Room 1 - Size: 10 x 20 m. Milling machine department. There were about eight milling machines and five turret lathes, three high speed, in this room.

Room 2 - Size: 20 x 30 m. Machine shop. This room contained one electrical welding apparatus, two large truing plates of 3 x 4 m, one tin scissors (schlagschere) 2.5 m wide, about four folding presses, one drilling machine up to 50 mm, one post drill of 20 mm, three table drilling machines of 10 mm, shelves for material, screws, nuts, and about 20 workbenches.

SECRET

STATE	ARMY	NAVY	AIR	FBI	AEC					
#x	#x	#x	#x	#x						

25X1A

(Note: Washington Distribution Indicated By "X"; Field Distribution By "#".)

25X1A

Room 3 - Size: 4 x 6 m. This room contained the finest special drilling machine, of 40 mm, with attachments.

Room 4 - Washroom.

Room 5 - Toilets.

Room 6 - Size: 6 x 12 m. Fine mechanical workshop. This room contained one post drill of 30 mm, one dividing head, two truing plates of 80 x 8 cm, two table drilling machines which would make 15,000 - 20,000 revolutions per minute, two table drilling machines which would make 600 - 4,000 revolutions per minute, general special measuring instruments, and four workbenches.

Room 7 - Size: 6 x 6 m. Fine mechanical lathe shop. Five turret lathes were here.

Room 8 - Size: 12 x 20 m. Lathe shop. About ten turret lathes were here.

Room 9 - Size: 6 x 10 m. Tool issue.

Room 10- Size: 10 x 10 m. Grinding shop. Two horizontal grinding machines, two special grinding machines for cutters and drills, and general tools were here.

Room 11- Size: 8 x 10 m. Tool storage for all shops.

Room 12- Office for Soviet workshop foreman.

Room 13- Storage room for greases; shelves for packing material.

Room 14- Material testing lab and tempering furnaces.

Room 15- Office for technicians.

Room 16- Testing paint for finished parts.

All rooms from 17 through 49 were located on the ground floor, but these rooms were of different elevations.

Rooms 17, 18, and 19 - Surface treatment.

Room 20 - Office.

Room 21 - Storage room for chemicals for surface treatment.

Room 50 - Office for German workshop foreman.

Room 91 - This room was intended as a social hall for the employees, but was temporarily equipped as an office (work preparation and works maintenance).

Description of Obyekt II (Oxygen Plant) (See page 9).

2. Obyekt II included the following rooms:

Room "a" - Size: 8 x 6 m. Two compressors

25X1

Capacity: 14 liters per minute. Motor: 110 kilowatts. These were compressors for boats, which were very neatly fabricated. Room "a" also contained the air distribution board and filters, as well as the manometers for each of the compressed air batteries.

Room "b" - Size: 7 x 2.5 m. This room contained only an electrical distribution board; it was accessible from the outside and from the experimental workshop.

Room "c" - Size: 1 x 4 m. Passage from "a" to "d".

Room "d" - Size: 4 x 8 m. Contained the foundation socket for the steel body of the jet, which led to room "e". The large pneumatic valves I and II were also located in this room, mounted on foundation plates, just in front of the steel body mentioned above. These valves had a rated width of approximately 80 mm. The control pressure for the opening of the valves was 882.0 PSI (60 atue).

Room "e" - Size: 8 x 4 m. Contained the actual wind tunnel "f", the oscillographs, and other calibration and measuring devices. Tunnel "f" was a vertical reinforced concrete block with an inside diameter of about 1.5 m; wall thickness was about 40 cm; observation slots with strong glass were set into the wall.

Room "g" - Size: 3 x 2 m. The models were prepared for testing in this room; i.e., machined to exact size, and polished.

Room "h" - Size: 4 x 5 m. Room for general maintenance of the entire installation.

Room "i" - Offices (test and evaluation).

Room "k" - Size: 8 x 5 m. Bottle batteries were located in this room, standing up with bottle necks down. Detail "a" on the drawing shows the cover of a high pressure bottle. Airing and exhaust (be- and entlueftung) was done through opening "b". Condensation was drained through opening "c". Draining was done via valve "d". Contents of compressed air bottle were about 420 liters. Test pressure: 4410 PSI (300 atue); working pressure: 2940 (200 atue).

Room "l" - Size: 4 x 4 m; Room "m" - Size: 3 x 4 m. These rooms were kept for the maintenance of the measuring devices and for the further development of same.

Rooms "x"- (See page 8). These rooms were empty. Pipes and cables passed through them.

3. Other rooms in the institute were:

Rooms 27 and 28 - Photo labs with the usual equipment.

Room 29 - Storage and workshop for switchboard.

Room 30 - Central switchboard.

Room 31 - Office for chief of switchboard.

Room 32 - Restroom for cleaning women.

Room 33 - Photostatic reproduction.

Room 34 - Not known.

Room 35 - Size: 2 x 4 m. Small test stand for propellant testing. This belonged to chemical lab. The following details are known: Test combustion unit, 1 - 2 kg. thrust. The combustion unit was water-cooled and had the shape of the A-4 combustion unit. Propellants equalled O_2.....? (exact mixture unknown). Duration of burning: about 40 seconds. Supersonics.

Room 36 - Theoretical propellant investigation [redacted] 25X1
25X1 [redacted]. Size: 4 x 5 m. Also, the tests in 35 were run out of this room.

Room 37 - Not known.

Room 38 - Further theoretical development of turbines with pumps [redacted] 25X1
Size: 4 x 6 m.

Room 39 - Chemical lab.

Room 40 - Office for head of chemistry lab.

Room 42 - Toilet.

4. The towing tank (see page 10) included:

Room "a" - Size: 7 x 10 m. Water tunnel (towing tank). The water tunnel I was located in chamber "a". The tube was set up on three adjustable legs and exactly balanced. The water flowing back from I to Ia was pressed to the smoothing room Ib through a pump. The measurements were made in channel Ic, and by insertion of apertures different values were probably arrived at.

Room "b" - Size: 5 x 7 m. Whatever else existed in this room besides the receiving container, pump, and motor is not known.

Room "c" - Size: 3 x 7 m. Hydraulic testing lab. Servo units and regulators were tested in this room.

Room "d" - Size: 7 x 7 m. Lab for analog computers manufacture.

Spraying Laboratory (see page 11).

5. In the spray lab, the different jet nozzles were investigated and tested for atomizing, rate of flow, and angle of pitch (anstellwinkel). Further, complete parts (head elements, cooling elements, middle parts, apertures) were tested here for total amounts of flow and spray patterns. The apertures were mostly control chokes. On the whole, almost all parts tested in the spray lab were used in Obyekt I (test stand). Rooms "c" and "d" belonged to the spray lab. Room "c" lay about two cm lower (outside of the institute) than spray room "d", so that water could return through natural drop "g". Size of room "c": 3 x 4 m. Container "g" was mounted on two foundations. Working pressure: 220.5 PSI (15 atue). Filling was done by water main. Whenever tests were conducted, the

container was aired (belueftet) with the designated pressure after filling with water. Compressed air was taken from a storage battery from Obyekt II. Pipeline NW 10 led from the high pressure battery (Obyekt II) to pressure container "g". Incorporated into the pipeline were one air-in-valve, one aperture of three mm, two manometers, and one exhaust (air-out) valve.

6. If the container carried the designated pressure, water had risen in the vertical pressure pipe "i" NW 40, up to valve "k" (detail "a"). The test could start as soon as the nozzle or choke to be tested was mounted to one of the connectors "l", provided, of course, that all connections to the part to be tested were in order. (For example, connections were made to the level indicators, detail "b", or to the appropriate pressure manometers.) Before starting the test, one had to check whether the aperture "m" was suitable for the tests. Starting of test:

   a. Pressure to container "g" was kept constant via valve "n".

   b. Valve "k" was opened up until designated rate of flow was reached. (A U-manometer was connected to the two circular chamber connectors "o" and "p" and showed the exact rate of flow on the scale.)

   c. As soon as a steady state was reached, all valves were read.

7. After completion of test, container "g" was exhausted (entlueftet) and the water was permitted to return from "e" into "g". Naturally, more regimes were run during such a test; i.e., with larger and smaller rates of flow. The test results were very important because only in this way was it possible to make a test predetermination for the parts which were later taken to the test field for investigation or testing. It was necessary for a nozzle to have a certain gasification. An exact spray pattern could be obtained if box "r", which was equipped with test tubes, was opened for a certain length of time. The test tubes carried consecutive numbers and were weighed separately after the test.

8. The following is an example of the calibration of a control choke. (The control chokes were used for O_2, B-Stoff, and K-Stoff regulation at the test stand - Obyekt I.) The handwheel at the control choke had, in closed position, a marking at the top. With everything ready for the test, valve "k" was opened all the way, in contrast to other tests. The handwheel at the control choke was opened one-quarter turn, awaiting a steady state condition. Then the U-level indicators and manometers were being read. As already described, U-level indicators permitted a reading of the exact rate of flow. Opening increased one-quarter turn at a time until completely positioned. Naturally, the aperture had to be exchanged for a larger one with constantly rising rate of flow.

9. The following values were marked in a log:

   a. Rate of flow (read at the U-pipe).

   b. Pressure before exit at the choke (read at the level indicator I -detail "b").

   c. Tank pressure of container "g".

   d. Time in seconds.

e. The collected amount of water in kg. The amount of water collected during a certain length of time and at a constant regime was caught in a container and weighed with scale "5".

10. Room "t" was located outside of the institute below the ground, the same as room "c", and was not used for a definite purpose. Rooms "u" and "v" served as storage rooms for electrical parts.

11. Other rooms in the institute included:

Rooms 51, 52, 53, and 56 - Labs for radio controlling (funksteuerung). The radio control group moved in the spring of 1952. Formerly this group occupied rooms 80-88. The reason for this move was secrecy. Nobody was to know the status of the latest developments.

Room 61 - Typing and interpreter office.

Room 61a- Storeroom for records (no secret drawings were stored here).

Rooms 64-66 - Drawing archives (most secret drawings).

Rooms 67-71 - Secret archives (reports, etc.). [redacted] 25X1

Room 72 - Guard.

Room 73 - Size: 4 x 6 m. Test evaluations of the test results from Obyekt I 25X1 [redacted]

Room 74 - New developments of injection systems, test directives for spray lab, and evaluation 25X1 [redacted]

Room 75 - Unknown.

Room 76 - Size: 4 x 5 m. Typewriter room [redacted] 25X1

Room 77 - Size: 3 x 5 m. Office for head of Sector 3 [redacted] 25X1

Room 78 - Office for Sector Deputy, Sector 3 [redacted] 25X1

Room 79 - Chief and head of all secret administrative offices. Size: 3 x 5 m.

Room 80 - Assembly and further development of analog computers. Size: 7 x 10 m.

Room 81 - Office for Chief of Sector 4 [redacted] 25X1

Room 82 - Parts manufacture for analog computers. Size: 4 x 5 m.

Room 83 - Parts manufacture for analog computers. Size: 4 x 4 m.

Room 84 - Parts manufacture for radio control. Size: 4 x 4 m.

Room 85 - Parts manufacture for radio control. Size: 4 x 4 m.

Room 86 - Parts manufacture for analog computers. Size: 4 x 4 m.

Room 87 - Development of four and six component scales [redacted] 25X1
general measuring device construction [redacted] Size: 120 m^2. 25X1

Room 88 - Radio control. Size: 10 x 20 m.

25X1

Rooms 89 and 91 - Toilets.

Room 90 - Theoretical determinations for radio control [redacted]
25X1 [redacted]

Room 92a- Toilets.

Room 93 - Probably preparatory construction work for analog computers.

Room 94 - Theoretical and practical work on flush-mounted instruments for analog computers. Size: 4 x 5 m.

Room 95 - Theoretical subsequent and new developments for gas withdrawal burners
25X1 [redacted] Size: 3 x 5 m.

Room 96 - Unknown.

Rooms 97 and 98 - Technical library. Size: 5 x 10 m.

Room 99 - Leader of the German Collective [redacted] Size: 3 x 5 m. 25X1

25X1 Room 100 - Deputy Chief Ing. [redacted] Size: 5 x 5 m.

Room 101 - Soviet Project Ing. Size: 3 x 5 m.

Room 102 - Toilets.

Room 103 - Ballistics. Size: 4 x 5 m.

Room 104 - Ballistics. Size: 3 x 5 m.

Room 105 - Building and general construction.

Room 106 - Conference room for director [redacted] Size: 10 x 12 m. 25X1

Room 107 - Office. Size: 4 x 5 m.

Room 108 - Main office of Chief Ing. [redacted] 25X1

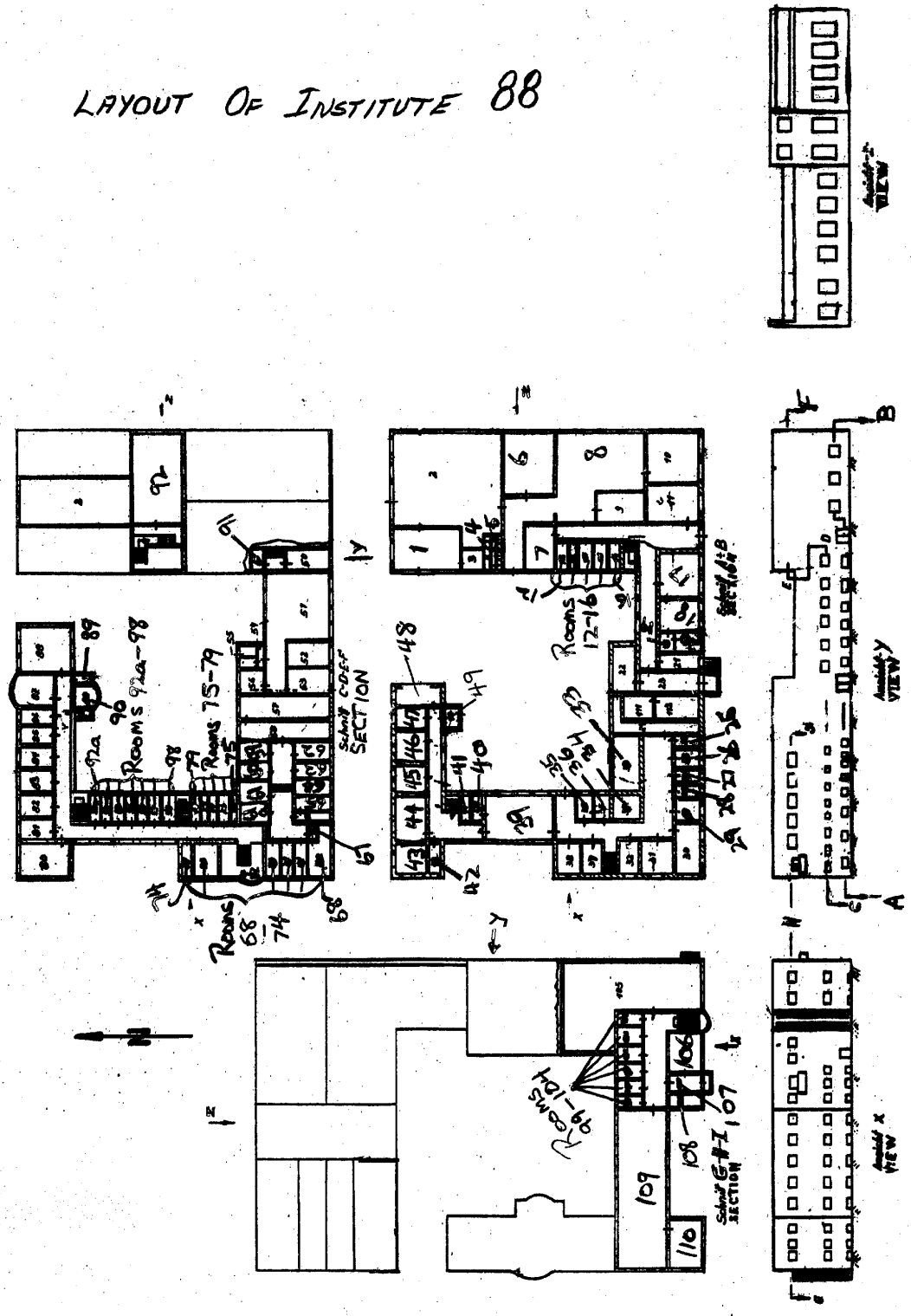
25X1 Room 109 - Designing hall [redacted] Size: 10 x 18 m.

25X1 Room 110 - Static [redacted] Size: 7 x 10 m.

25X1A

SECRET

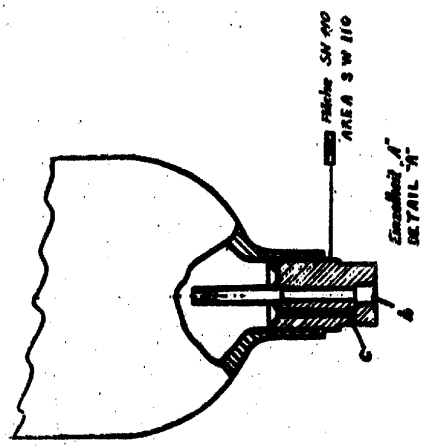
LAYOUT OF INSTITUTE 88

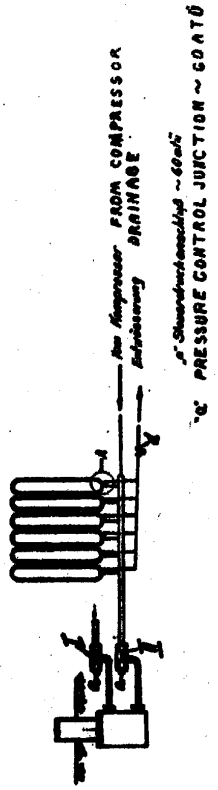


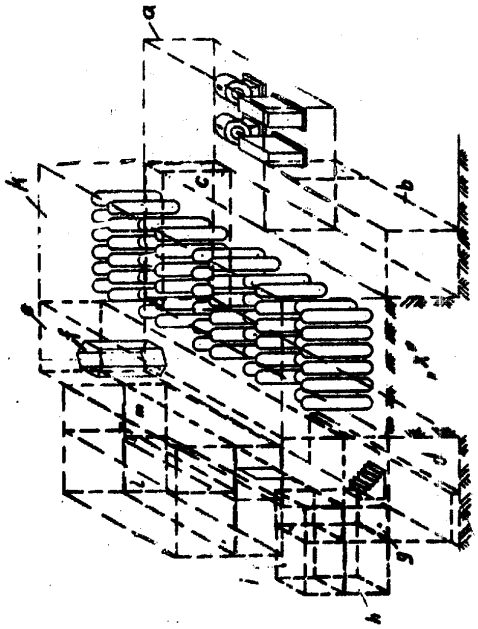
SECRET

25X1A

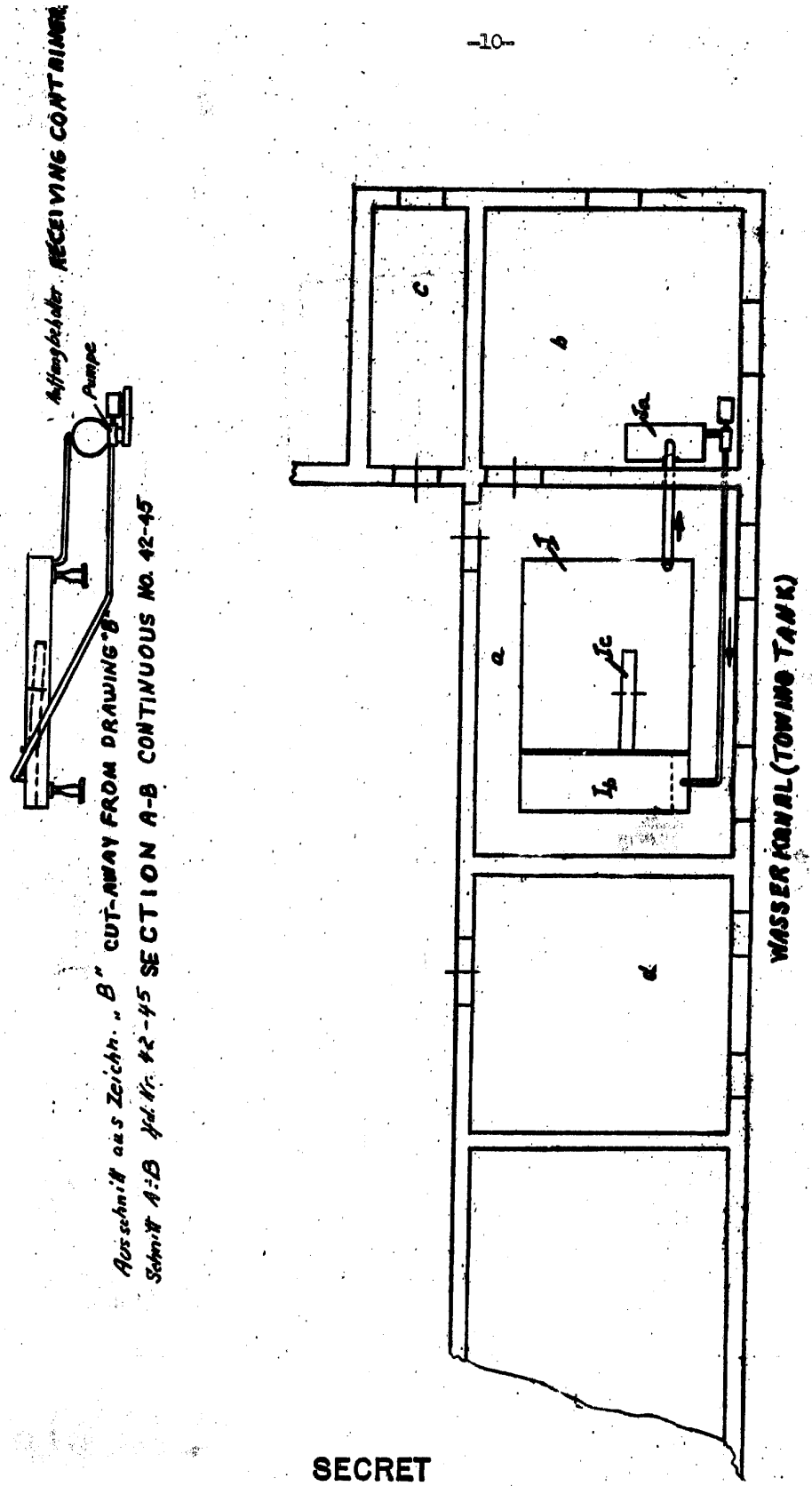
OXYGEN PLANT







25X1A



Ausschnitt aus Zeichn. „B" CUT-AWAY FROM DRAWING "B"
Schnitt A-B Bl. Nr. 42-45 SECTION A-B CONTINUOUS NO. 42-45

25X1A