Inventory No.	Name of Machinery	Type and Specifications	Quantity	Remarks
321(3)	Soda Treating Tank	Vertical, Cylindrical Cone, Volume 6.0 KL Riveted	1	802-192
321(4)	Sulphuric Acid Tank	Horizontal, Cylindrical Cap. 35 KL. Riveted	1	"
321(5)	Sulphuric Acid Tank	-ditto-	1	"
321(6)	Oil Receiver	Vertical Cylindrical, Cap. 6 KL Riveted	1	"
321(7)	Oil Receiver	-ditto-	1	802-193
321(8)	Soda Dissolving Tank	Horizontal, Cylindrical Cap. 1.5 KL	1	"
321(9)	Round Steps	Total Length 15.00 m.	1	"
321(10)	Rattles	Length 5.00 m	4	"
	Steel Pipe	5"	100 m	"
	Gas Pipe	6"	50 m	"
	Gas Pipe	4"	440 m	"
	Gas Pipe	3"	90 m	"
	Gas Pipe	2"	200 m	"
	Cock	6", Face to Face : 350 mm	3	"
	Ariron Cock	4", Face to Face : 300 mm	3	"
	Gate Valve	4", Face to Face : 230 mm	10	802-194
	Ariron Cock	3", Face to Face : 240 mm	6	"
	Gate Valve	3", Face to Face : 170 mm	22	"
	Gate Valve	2", Face to Face : 180 mm	47	"
	Ariron Cock	2", Face to Face : 175 mm	20	"

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Gas Pipe	6"		50m	"
Gas Pipe	4"		440 m	"
Gas Pipe	3"		90 m	"
Gas Pipe	2"		200 m	"
Cock	6", Face to Face : 350 mm		3	"
Ariron Cock	4", Face to Face : 300 mm		3	"
Gate Valve	4", Face to Face : 230 mm		10	802-194
Ariron Cock	3", Face to Face : 240 mm		6	"
Gate Valve	3", Face to Face : 170 mm		22	"
Gate Valve	2", Face to Face : 180 mm		47	"
Ariron Cock	2", Face to Face : 175 mm		20	"
Globe Valve	2", Face to Face : 215 mm		10	"
Ariron Cock	1½", Face to Face : 155 mm		5	"
Globe Valve	1", Face to Face : 100 mm		30	"
Globe Valve	3/4", Face to Face : 90 mm		10	"
Globe Valve	1/2", Face to Face : 70 mm		10	"
Steam Trap	Face to Face : 470 mm		2	802-195
~~519(1)~~	~~Oil Tank~~	~~Vertical Cylindrical, Cap. 70 KL Riveted~~	~~1~~	~~802-454~~
~~519(2)~~	~~Oil Tank~~	~~Vertical Cylindrical, Cap 80 KL Riveted~~	~~1~~	~~802-455~~
~~519(3)~~	~~Oil Tank~~	~~- ditto -~~	~~1~~	~~"~~
519(4)	Oil Tank	- ditto -	1	"
519(5)	Oil Tank	- ditto -	1	"
519(6)	Oil Tank	- ditto -	1	"

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Inventory No.	Name of Machinery	Type and Specifications	Quantity	Remarks
519(7)	Oil Tank	Vertical Cylindrical, Cap. 45 KL Riveted	1	802-456
519(8)	Oil Tank	- ditto -	1	"
519(9)	Oil Tank	- ditto -	1	"
393	Oil Tank	Vertical Cylindrical, Cap. 80 KL Riveted	1	802-457
	Gate Valve	4", Face to Face : 230 mm	29	"
	Gate Valve	3", Face to Face : 205 mm	8	"
	Globe Valve	1½", Face to Face : 130 mm	4	"
	Globe Valve	1", Face to Face : 85 mm	13	"
324(25)	Oil Tank	Vertical Cylindrical, Cap. 100 KL Riveted	1	802-154
~~313(40)~~	~~Oil Tank~~	~~- ditto -~~	~~1~~	~~802-236~~
313(43)	Oil Tank	Vertical Cylindrical, Cap. 150 KL Riveted	1	802-238
~~313(39)~~	~~Oil Tank~~	~~Vertical Cylindrical, Cap. 100 KL Riveted~~	~~1~~	~~802-236~~
~~314(9)~~	~~Oil Tank~~	~~- ditto -~~	~~1~~	~~802-314~~
312(10)	Oil Tank	Vertical Cylindrical, Cap. 150 KL Riveted	1	802-265
312(11)	Oil Tank	- ditto -	1	"
312(12)	Oil Tank	Vertical Cylindrical, Cap. 250 KL Riveted	1	"
312(13)	Oil Tank	- ditto -	1	"
~~310(1)~~	~~Oil Tank~~	~~Horizontal Cylindrical, Cap. 150 KL Riveted~~	~~1~~	~~802-724~~
~~310(2)~~	~~Oil Tank~~	~~- ditto -~~		

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	Globe Valve	1", Face to Face : 85 mm	13	"
324(25)	Oil Tank	Vertical Cylindrical, Cap. 100 KL Riveted	1	802-154
~~313(40)~~	~~Oil Tank~~	- ditto -	1	~~802-236~~
313(43)	Oil Tank	Vertical Cylindrical, Cap. 150 KL Riveted	1	802-238
~~313(39)~~	~~Oil Tank~~	~~Vertical Cylindrical, Cap. 100 KL Riveted~~	1	~~802-236~~
~~314(9)~~	~~Oil Tank~~	- ditto -	1	~~802-314~~
312(10)	Oil Tank	Vertical Cylindrical, Cap. 150 KL Riveted	1	802-265
312(11)	Oil Tank	- ditto -	1	"
312(12)	Oil Tank	Vertical Cylindrical, Cap. 250 KL Riveted	1	"
312(13)	Oil Tank	- ditto -	1	"
~~310(1)~~	~~Oil Tank~~	~~Horizontal Cylindrical, Cap. 150 KL Riveted~~	1	~~802-721~~
~~310(2)~~	~~Oil Tank~~	- ditto -	1	~~802-558~~
225(23)	Oil Tank	Horizontal Cylindrical, Cap. 70 KL Riveted	1	802-632
225(24)	Oil Tank	- ditto -	1	"
225(25)	Oil Tank	- ditto -	1	"
225(26)	Oil Tank	- ditto -	1	"
~~322(32)~~	~~Oil Tank~~	~~Vertical Cylindrical, Cap. 30 KL Riveted~~	1	~~802-173~~
~~322(33)~~	~~Oil Tank~~	- ditto -	1	"
~~322(36)~~	~~Oil Tank~~	- ditto -	1	~~802-194~~
~~322(37)~~	~~Oil Tank~~	~~Vertical Cylindrical, Cap. 50 KL~~	1	"

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Inventory No.	Name of Machinery	Type and Specifications	Quantity	Remarks
2(21)	Oil Tank	Vertical Cylindrical, Cap. 100 KL Riveted	1	802-641
2(27)	Oil Tank	Vertical Cylindrical, Cap. 80 KL Riveted	1	"
2(28)	Oil Tank	-ditto-	1	802-642
2(34)	Oil Tank	Vertical Cylindrical, Cap. 40 KL Riveted	1	802-643
2(35)	Oil Tank	Vertical Cylindrical, Cap. 100 KL Riveted	1	"
~~313(41)~~	~~Oil Tank~~	Vertical Cylindrical, Cap. 150 KL Riveted	1	802-236
~~313(42)~~	~~Oil Tank~~	~~-ditto-~~	1	~~802-237~~
313(43)	Oil Tank	-ditto-	1	"
313(44)	Oil Tank	-ditto-	1	"
313(45)	Oil Tank	-ditto-	1	"
313(46)	Oil Tank	-ditto-	1	"
313(47)	Oil Tank	-ditto-	1	802-238

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Inventory no.	Name of Machinery	Type and Specifications	Quantity	Remarks
07(1)	Tank	Vertical. Cylindrical, Constr. Riveted Cap. 50 KL	1	
07(4)	Tank	Horizontal, Cylindrical, Constr. Welded Cap. 100 KL	1	
07(5)	Tank	— ditto —	1	
07(9)	Tank	Horizontal. Cylindrical Constr. Riveted Cap. 150 KL	1	

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Inventry no.	name of machinery	Type and Specifications	Quantity	Remarks
316(8)	Turbine Pump	1 Stage, Motor drivene, Cap. 400 KL/H 1.750 R.P.M Bore 8", Head : Unknown	1	802-468
459	Turbine Pump	1 Stage, Motor drivene, Cap. 160 KL/H Head 110 m R.P.M. 1,750. Suc. Bore 6" Del. Bore 6"	1	802-765
~~460~~ 153	Turbin Pump	—ditto—	1	802-765
239(15)	Turbin Pump	Single Suction, Motor driven Cap. 400 KL/H, Normal Press. 140 M/H_2O R.P.M. 1,140, Suc. Bore 10" Del. Bore 10"	1	802-651
241(145)	Turbin Pump	Double Suction, Singh Stage Motor driven, Cap. 4,2 KL/H Head 60 m, Suc. Bore 8" Del. Bore 8", Induction Motor Enclosed Cage Rotor 75 HP. 3phase 250 ▽ 14 A 4 Poles.	1	802-673
333(72)	Turbin Pump	2 Stages, Single Suction. Cap. 38 KL/H Motor driven Head 60 KL/H_2O, R.P.M. 1750 Suc. Bore 6"	1	802-358
546	Contrifugal Separater	Deravel ability, 4.5 KW R.P.M. 6000. Cap. 0.3 KL/H	1	
547	Contrifugal Separater	— ditto —	1	

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		Cap. 400 KL/H, Normal Press. 140 M/H_2O R.P.M. 1,140, Suc. Bore 10" Del. Bore 10"			
241(145)	Turbin Pump	Double Suction, Singh Stage Motor driven, Cap. 4.2 KL/H Head 60 m, Suc. Bore 8" Del. Bore 8", Induction Motor Enclosed Cage Rotor 75 HP. 3phase 250 V 14 A 4 Poles.	1	802 - 673	
333(72)	Turbin Pump	2 Stages, Single Suction. Cap. 38 KL/H Motor driven Head 60 KL/H_2O, R.P.M. 1750 Suc. Bore 6"	1	802 - 358	
546	Centrifugal Separater	Deravel ability, 4.5 KW R.P.M. 6000. Cap. 0.3 KL/H	1		
547	Centrifugal Separater	— ditto —	1		
548	Centrifugal Separater	— ditto —	1		
549	Centrifugal Separater	— ditto —	1		
550	Centrifugal Separater	— ditto —	1		
317(44)	Stack	Steel plate, Plate Thickness 6 mm Top Dia. 0.92 m, Height 34.00 m	1	802 - 143	
225(40)	Stack	Steel plate. Dia 100 m Height : 31.50 m Plate Thickness 9 mm			

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Inventry no.	Name of mochinery	Type and Specifications	Quantity	Remarks
301	Automatic Oil Filling Machine	Rotary Continious, Cap. 250 can/HR. Number of Filling mouth 4 Induction motor 1 HP. 1.200 R.P.M.	1	802-724

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For Drum Filling.

Inventory No.	Name of Machinery	Brief Specification	Quantity Set No.	Remarks
519 - (2)	Tank	80 KL. 4.65 Tons. 4.8(D) x 4.5(H).	1	
(3)	"	80 KL. 4.56 Tons. 4.8(D) x 4.5(H).	1	
~~(4)~~	~~"~~	~~80 KL. 4.65 Tons. 4.8(D) x 4.5(H).~~	~~1~~	
~~(5)~~	~~"~~	~~Ditto~~	~~1~~	
07 - (6)	"	~~Ditto~~ 100KL 15. Tons 4.3(D) x 8.0(L) Horizontal	1	
(7)	"	~~45 KL. 3.4 Tons. 3.5(D) x 4.7(H).~~ Ditto.	1	
(8)	"	Ditto	1	
(9) 10	"	Ditto	1	

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For Accessories. (Tank)

Inventory No.	Name of Machinery	Brief Specification	Quantity Set No.	Remarks
~~225 - (23)~~	~~Tank~~	~~70 KL. 7.5 Tons. 3.6(D) x 7.5(L). Horizontal, Cylindrical.~~	~~1~~	
~~(24)~~	~~"~~	~~Ditto~~	~~1~~	
~~(25)~~	~~"~~	~~Ditto~~	~~1~~	
~~(26)~~	~~"~~	~~Ditto~~	~~1~~	
226 - (48)	"	100 KL. 7 Tons. 4.7(D) x 5.54(H). Vertical, Cylindrical.	1	
(49)	"	Ditto	1	
(52)	"	73 Kg. 7 Tons. 4.7(D) x 5.54 (H).	1	
~~241 - (254)~~	~~"~~	~~50 Kg. 5.5 Tons. 5.65(D)x1.6(H).~~	~~1~~	
275~276 (275)	"	12 M^3. 1.5 Tons. 1.4(D) x 7.5(H). Vertical, Cylindrical.	2	
297 - (17)	"	100 KL. 8.0 Tons. 4.5(D) x 8.3(L). Closed Type. For Gasoline Storage.	1	
(18)	"	Ditto	1	
(19)	"	Ditto	1	
(20)	"	Ditto	1	
~~324 - (25)~~	~~"~~	~~100 Kg. 7.0 Tons. 7.5(D) x 3.2(H). Closed Type.~~	~~1~~	
(26)	"	Ditto	1	
329 - (21)	"	50 KL. 4.0 Tons. 3.25(D) x 6.55 (L)	1	

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~~(25)~~	"	Ditto	1
~~(26)~~	"	Ditto	1
226 - (48)	"	100 KL. 7 Tons. 4.7(D) x 5.54(H). Vertical, Cylindrical.	1
(49)	"	Ditto	1
(52)	"	73 Kg. 7 Tons. 4.7(D) x 5.54 (H).	1
~~241 - (254)~~	"	~~50 Kg. 5.5 Tons. 5.65(D)x1.6(H).~~	~~1~~
275~276 (275)	"	12 M^3. 1.5 Tons. 1.4(D) x 7.5(H). Vertical, Cylindrical.	2
297 - (17)	"	100 KL. 8.0 Tons. 4.5(D) x 8.3(L). Closed Type. For Gasoline Storage.	1
(18)	"	Ditto	1
(19)	"	Ditto	1
(20)	"	Ditto	1
~~324 - (25)~~	"	~~100 Kg. 7.0 Tons. 7.5(D) x 3.2(H). Closed Type.~~	~~1~~
(26)	"	Ditto	1
339 - (21)	"	50 KL. 4.0 Tons. 3.35(D) x 6.55 (L). Horizontal.	1
(22)	"	Ditto	1
(23)	"	Ditto	1
~~518~~ 519 - (1)	"	70 KL. 4.5 Tons. 6.1(D) x 2.4(H).	1

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MANUFACTURING INDUSTRY FILE 45-7 Sec II

APPLICATION FOR MOVEMENT AND AUTHORIZED USE OF DESIGNATED REPARATION MACHINERY AND EQUIPMENT

November 30, 1950

To : Mr. H. Ikeda, Minister of Finance

From: N. Nakahara, President

Toa Nenryo Kogyo K. K.
(Toa Oil Industry Co., Ltd.)

4-1, Tori 3-chome, Nihonbashi, Chuo-ku, Tokyo

1) Name and Location for the Plant which Intends to Use Designated Reparation Machinery and Equipment

Wakayama Refinery, Toa Nenryo Kogyo K. K.

1,000 Hajikami-hama, Hajikami-mura, Kaiso-gun, Wakayama Pref.

2) Name (Code No.) and Location of the Plant where Designated Reparation Machinery and Equipment to be Used Actually Exist

Former Third Naval Fuel Depot (Code No. 45-07)

Tokuyama City, Yamaguchi Prefecture

3) List of Designated Reparation Machinery and Equipment to be Moved and Used

Details of the lists are attached to the separate sheets.

MANUFACTURING AND INDUSTRY FILE 45-7 Doc II

1) Name and Location for the Plant which Intends to Use Designated Reparation Machinery and Equipment

Wakayama Refinery, Toa Nenryo Kogyo K. K.

1,000 Hajikami-hama, Hajikami-mura, Kaiso-gun, Wakayama Pref.

2) Name (Code No.) and Location of the Plant where Designated Reparation Machinery and Equipment to be Used Actually Exist

Former Third Naval Fuel Depot (Code No. 45-07)

Tokuyama City, Yamaguchi Prefecture

3) List of Designated Reparation Machinery and Equipment to be Moved and Used

Details of the lists are attached to the separate sheets.

4) Necessity for Movement and Use of Machinery and Equipment

In accordance with GHQ memorandum "Operation of Pacific Coast Refineries and Importation of Crude Oil" of July 13, 1949, we planned immediate rehabilitation of Shimizu and Wakayama Refineries and are presently busily engaged in the reconstruction work.

Due to air bombardments, our Wakayama Refinery sustained damages on almost all the facilities, but in conformity with the purport of the above memorandum we rehabilitated the Atomospheric Distillation Plant having the capacity of 10,000 B/D, for which we have already received a crude

Submitted to F. Ministry 27 Dec 50

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allocation of 5,500 B/D. At present the plant is operating smoothly.

The rehabilitation of the Thermal Cracking Plant, the Vacuum Distillation Plant, the Press Dewaxing Plant, the Sweating Plant, the Lube Oil Treating Plant and the Contact Rerunning Plant and the construction work of new units have mostly been completed by the end of November this year and a part of the foregoing are already operating smoothly.

However, we are still unable to attain our aim to process a full line of products with the above-mentioned plants only, and especially inasmuch as it is utterly impossible to manufacture high-grade lubes which are being supplemented by imported products due to the fact that present indigenous production of same is falling short, we, while planning construction of a Phenol Extraction Plant, a Propane Dewaxing Plant and accessorial equipment for the foregoing, have projected prompt and increased production of high-grade lubes by filing an application dated August 26, 1950, for the transfer and use of the Solvent Deasphalting Plant and the Solvent Extraction Plant (Inventory No. 21 - 1) and the Third Vacuum Distillation Plant (Inventory No. 1) located at the former Third Naval Arsenal, Fortunately, approval was had through SCAP memorandum dated November 10, 1950, and all effort is being concentrated in the transfer of these equipment.

The various above-mentioned units which shall be transferred from ex-arsenal plant lack in Run-down tanks to insure satisfactory performance because of damages suffered followed by removal operation, and

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and a part of the foregoing are already operating smoothly.

However, we are still unable to attain our aim to process a full line of products with the above-mentioned plants only, and especially inasmuch as it is utterly impossible to manufacture high-grade lubes which are being supplemented by imported products due to the fact that present indigenous production of same is falling short, we, while planning construction of a Phenol Extraction Plant, a Propane Dewaxing Plant and accessorial equipment for the foregoing, have projected prompt and increased production of high-grade lubes by filing an application dated August 26, 1950, for the transfer and use of the Solvent Deasphalting Plant and the Solvent Extraction Plant (Inventory No. 21 - 1) and the Third Vacuum Distillation Plant (Inventory No. 1) located at the former Third Naval Arsenal, Fortunately, approval was had through SCAP memorandum dated November 10, 1950, and all effort is being concentrated in the transfer of these equipment.

The various above-mentioned units which shall be transferred from ex-arsenal plant lack in Run-down tanks to insure satisfactory performance because of damages suffered followed by removal operation, and under different circumstances as compared to the time when operation at the arsenal was confined only to the production of aviation lubes, more Run-down tanks and pumps are required to process various products from said facilities. Furthermore, in pace with the transfer of the above equipment, there is a need to expand the Lube Blending Unit, packing, shipping and boiler facilities, the pumps and tanks for which reaching

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a considerable number. Permission has already been granted to transfer these accessorial equipment. As we expect completion simultaneously with that of the transfer of the Duo-Sol Extraction Plant, etc., we are faced with the need to procure as soon as possible the tanks and pumps required.

Fortunately, there being at the former Third Naval Arsenal a considerable number of tanks and pumps almost totally in good condition, should permission is secured to transfer and use these, we shall at the same time carry out the transfer work of these equipment in addition to those for which permission has already been granted, thus enabling us to curtail the period of transfer and construction as well as the funds necessitated. Added to this, we are of a firm conviction that we would be able to contribute in checking the importation of high-grade lubes.

Signed by N. Nakahara
Toa Nenryo Kogyo Co., Ltd.

Attached document:

Approval of the applicant, concerning responsibility of custody for designated reparation machinery and equipment.

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775013

LIST OF FACILITIES FOR APPLICATION

Code No.: 45 - 7

Name of Plant: Third Naval Arsel Depot.

Address of Plant: Tokuyama-city, Yamaguchi-prefecture.

(1) For Solvent Deasphalting Unit. (Pump)

Inventory No.	Name of Machinery	Brief Specifications	Quantity Set	Remarks
~~296 - (13)~~	~~Steam Pump~~	~~Horizontal Duplex. Double acting. cap. 13 KL/Hr. 7"x5"x10". Cast Steel.300Kg~~	~~1~~	
~~(15)~~	~~"~~	~~Horizontal Duplex. Double act. Cas Iron. Cap. 6.5 KL/Hr. 3"x2"x3". Weight 200Kg~~	~~1~~	
~~(16)~~	~~"~~	~~Ditto~~	~~1~~	
312 - (7)	"	Vertical, Simplex. Double act. Gun Metal. Cap. 4 KL/Hr. 4½" x 3½" x 6". Wt. 400 Kg	1	
(8)	"	Ditto		
(9)	"	Horizontal Duplex. Double act. Cast Iron. Cap. 25 KL/Hr. 7" x 6" x 10". Wt. 1500Kg	1	
314 - (3)	"	Horizontal Duplex. Double act. Cas Steel. Cap. 0.9 KL/Hr. 3" x 2" x 3". Wt. 100Kg	1	
315 - (16)		Horizontal Duplex. Double act. Cast Steel. Cap. 6 KL/Hr. 6½"x3½"x8". Wt. 500Kg	1	
(17)	"	Ditto		
(18)	"	Horizontal Duplex. Double act. Cast Steel. Cap. 7 KL/Hr. 10"x5"x12". Wt. 1000Kg	1	
317 - (37)	"	Horizontal Duplex. Double act. Cas Steel. Cap. 10 KL/Hr. 7"x5"x7". Wt. 800 Kg	1	

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Inventory No.	Name of Machinery	Brief Specifications	Quantity Set	Remarks
~~296 - (13)~~	~~Steam Pump~~	~~Horizontal Duplex. Double acting. cap. 13 KL/Hr. 7"x5"x10". Cast Steel.800Kg~~	~~1~~	
~~(15)~~	~~"~~	~~Horizontal Duplex. Double act. Cas Iron. Cap. 0.5 KL/Hr. 3"x2"x3". Weight 200Kg~~	~~1~~	
~~(16)~~	~~"~~	~~Ditto~~	~~1~~	
312 - (7)	"	Vertical, Simplex. Double act. Gun Metal. Cap. 4 KL/Hr. 4½" x 3½" x 6". Wt. 400 Kg	1	
(8)	"	Ditto		
(9)	"	Horizontal Duplex. Double act. Cast Iron. Cap. 25 KL/Hr. 7" x 6" x 10". Wt. 1500Kg	1	
314 - (3)	"	Horizontal Duplex. Double act. Cas Steel. Cap. 0.9 KL/Hr. 3" x 2" x 3". Wt. 100Kg	1	
315 - (16)		Horizontal Duplex. Double act. Cast Steel. Cap. 6 KL/Hr. 6½"x3½"x8". Wt. 500Kg	1	
(17)	"	Ditto		
(18)	"	Horizontal Duplex. Double act. Cast Steel. Cap. 7 KL/Hr. 10"x5"x12". Wt. 1000Kg	1	
317 - (37)	"	Horizontal Duplex. Double act. Cas Steel. Cap. 10 KL/Hr. 7"x5"x7". Wt. 800 Kg	1	
(38)	"	Horizontal Duplex. Double act. Forged Steel. Cap. 20 KL/Hr. 10"x6"x24". Wt. 1000Kg	1	
(39)	"	Horizontal Simplex. Double act. Forged Steel. Cap. 20 KL/Hr. 10"x6"x24". Wt. 1000Kg	1	
(40)	"	Horizontal Duplex. Double act. Cast Steel. Cap. 8 KL/Hr. 6"x4"x6". Wt. 300Kg	1	
~~319 - (26)~~	~~"~~	~~Horizontal Duplex. Double act. Cas Steel. Cap. 30 KL/Hr. 12"x5"x12". Wt. 1,100Kg~~	~~1~~	

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Inventory No.	Name of Machinery	Brief Specifications	Quantity Set	Remarks
319 - (27)	Steam Pump	Horizontal Duplex. Double act. Cast Steel. Cap. 30 KL/Hr. 12"x5"x12". Wt. 1,100Kg	1	
(28)	"	Horizontal Duplex. Double act. Cast Steel. Cap. 20 KL/Hr. 10"x5½"x12". Wt. 800Kg	1	
(29)	"	Horizontal Duplex. Double act. Cast Steel. Cap. 20 KL/Hr. 10"x5½"x12". Wt. 1,200Kg	1	
(30)	"	Horizontal Duplex. Double act. Cast Steel. Cap. 20 KL/Hr. 8"x6"x8". Wt. 1,200Kg	1	
(36)	"	Horizontal Duplex. Double act. Cast Iron. Cap. 50KL/Hr. 9"x8½"x10". Wt. 800Kg	1	

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Solvent Deasphalting Unit. (Tank)

Inventory No.	Name of Machinery	Brief Specification	Quantity Set	Remarks
225 - (37)	Tank	Cap. 40 KL. Wt. 2.5 Ton. D. 2.25 x L. 3.0M. Vertical Cylindrical.	1	
(38)	"	Ditto	1	
~~228~~ - (291) 288 ~ 291	"	Cap. 100 KL. Wt. 15 Ton. D. 3.4 x L. 12.25 Horizontal.	~~4~~	
310 - (1)	"	Cap. 150 KL. Wt. 21.3 Ton. D. 4.6 x L. 8.7M.	1	
(2)	"	Ditto	1	
(3)	"	Cap. 80 KL. Wt. 13.7 Ton. D. 4.0 x L. 7.1M. Horizontal.	1	
(4)	"	Ditto	1	
~~312 - (10)~~	~~"~~	~~Cap. 150 KL. Wt. 9.0 Ton. D. 6.3 x H. 4.5M. Vertical Cylindrical.~~	~~1~~	
~~(11)~~	~~"~~	~~Ditto~~	~~1~~	
~~(12)~~	~~"~~	~~Cap. 250 KL. Wt. 15.0 Ton. D. 7.3 x H. 6.0M. Vertical Cylindrical.~~	~~1~~	
~~(13)~~	~~"~~	~~Ditto~~	~~1~~	
313 - (39)	"	Cap. 100 KL. Wt. 7.6 Ton. D. 6.3 x H. 3.6M. Vertical Cylindrical.	1	
(40)	"	Ditto	1	
(41)	"	Cap. 150 KL. Wt. 10 Ton. D. 6.3 x H. 5.3M. Vertical Cylindrical.	1	
(42)	"	Ditto	1	

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~~288 ~ 291~~		Cap. Wt. 100 KL. 15 Ton.	D. L. 3.4 x 12.25	Horizontal.		4
310 - (1)	"	Cap. Wt. 150 KL. 21.3 Ton.	D. L. 4.6 x 8.7M.			1
(2)	"	Ditto				1
(3)	"	Cap. Wt. 80 KL. 13.7 Ton.	D. L. 4.0 x 7.1M.	Horizontal.		1
(4)	"	Ditto				1
~~312 - (10)~~	"	~~Cap. Wt. 150 KL. 9.0 Ton.~~	~~D. H. 6.3 x 4.5M.~~	~~Vertical Cylindrical.~~	~~1~~	
~~(11)~~	"	~~Ditto~~			~~1~~	
~~(12)~~	"	~~Cap. Wt. 250 KL. 15.0 Ton.~~	~~D. H. 7.3 x 6.0M.~~	~~Vertical Cylindrical.~~	~~1~~	
~~(13)~~	"	~~Ditto~~			~~1~~	
313 - (39)	"	Cap. Wt. 100 KL. 7.6 Ton.	D. H. 6.3 x 3.6M.	Vertical Cylindrical.	1	
(40)	"	Ditto			1	
(41)	"	Cap. Wt. 150 KL. 10 Ton.	D. H. 6.3 x 5.3M.	Vertical Cylindrical.	1	
(42)		Ditto			1	

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775013

(2) For Solvent Extraction Unit. (Pump)

Inventory No.	Name of Machinery	Brief Specification	Quantity Set	Quantity No.	Remarks
~~296 - (2)~~ (3)	~~Steam Pump~~	~~Horizontal, Simplex. Double Acting. Cap. 9 KL/Hr. 6 1/8" x 4" x 12". Cast Steel. Wt. 800Kg~~		~~1~~	
~~(4)~~	~~"~~	~~Horizontal, Simplex. Double Acting. Cap. 9 KL/Hr. 6 1/8" x 4" x 12". Cast Steel. Wt. 800Kg.~~		~~1~~	
~~(5)~~	~~"~~	~~Horizontal, Simplex. Double Acting. Cap. 6 KL/Hr. 6 1/8" x 4" x 8". Cast Steel. Wt. 900 Kg.~~		~~1~~	
~~(7)~~	~~"~~	~~Horizontal, Duplex. Double Acting. Cap. 35 KL/Hr. 8" x 5" x 10". Cast Iron. Wt. 800 Kg.~~		~~1~~	
~~324 - (39)~~	~~Air Compressor~~	~~Vertical, Simplex. Double Acting. Cap. 2 Kg/sq.cm. 45 cub.m./Hr. Cast Iron, Located in No. 153 Warehouse. Wt. 150 Kg.~~		~~1~~	
331 - (1)	Steam Pump	Horizontal, Simplex. Double Acting. Cap. 30 KL/Hr. 12" x 8" x 16". Cast Steel. Wt. 2,000 Kg.		1	
(2)	"	Ditto		1	
(3)	"	Ditto		1	
(4)	"	Horizontal, Simplex. Double Acting. Cap. 10 KL/Hr. 8" x 6" x 10". Cast Steel. Wt. 700 Kg.		1	
(5)	"	Ditto			
(6)	"	Horizontal, Duplex. Double Acting. Cap. 50 KL/Hr. 12" x 10" x 12"		1	

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		~~Cap. 6 KL/Hr. 6 1/8" x 4" x 8".~~ ~~Cast Steel. Wt. 900 Kg.~~	~~1~~
~~(7)~~	"	~~Horizontal, Duplex. Double Acting.~~ ~~Cap. 35 KL/Hr. 8" x 5" x 10".~~ ~~Cast Iron. Wt. 800 Kg.~~	~~1~~
~~324 - (39)~~	~~Air Compressor~~	~~Vertical, Simplex. Double Acting.~~ ~~Cap. 2 Kg/sq.cm. 45 cub.m./Hr.~~ ~~Cast Iron. Located in No. 153 Warehouse.~~ Wt. 150 Kg.	~~1~~
331 - (1)	Steam Pump	Horizontal, Simplex. Double Acting. Cap. 30 KL/Hr. 12" x 8" x 16". Cast Steel. Wt. 2,000 Kg.	1
(2)	"	Ditto	1
(3)	"	Ditto	1
(4)	"	Horizontal, Simplex. Double Acting. Cap. 10 KL/Hr. 8" x 6" x 10". Cast Steel. Wt. 700 Kg.	1
(5)	"	Ditto	
(6)	"	Horizontal, Duplex. Double Acting. Cap. 50 KL/Hr. 12" x 10" x 12" Cast Iron. Wt. 2,000 Kg.	1
(7)	"	Ditto	1
(8)	"	Ditto	1
(11)	"	Horizontal, Simplex. Double Acting. Cap. 5 KL/Hr. 6" x 4" x 6". Cast Steel, Wt. 500 Kg.	1
(12)	"	Ditto	1
(13)	"	Horizontal, Simplex. Double Acting. Cap. 30 KL/Hr. 12" x 8" x 16". Cast Steel. Wt. 2,000 Kg.	1

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Inventory No.	Name of Machinery	Brief Specification	Quantity Set	Quantity No.	Remarks
331 - (14)	Steam Pump	Horizontal, Simplex. Double Acting. Cap. 50 KL/Hr. 22" x 8" x 24". Forged Steel. Wt. 6,000 Kg.	1		
(15)	"	Ditto	1		
(16)	"	Ditto	1		
(17)	"	Ditto	1		
(18)	"	Ditto	1		
(19)	"	Ditto	1		
(20)	"	Horizontal, Simplex. Double Acting. Cap. 5 KL/Hr. 10" x 2" x 12". Forged Steel. Wt. 1,000 Kg.	1		
(21)	"	Horizontal, Simplex. Double Acting. Cap. 5 KL/Hr. 8" x 6" x 13". Cast Steel. Wt. 500 Kg.	1		
(22)	"	Ditto	1		
(23)	Air Compressor	Vertical, Simplex. Double Acting. Cap. 10 Cu.M./Hr. 1 Kg/Sq.cm. 8"x8"x12". Wt. 200 kg.	1		
(24)	"	Ditto	1		
(25)	Steam Pump	Horizontal, Duplex. Double Acting. Cap. 50 KL/Hr. 12" x 10" x 12". Cast Iron. Wt. 2,000 Kg.	1		
(26)	"	Ditto	1		
(27)	"	Ditto	1		
(28)	"	Ditto	1		

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(19)	"	Ditto	
(20)	"	Horizontal, Simplex. Double Acting. Cap. 5 KL/Hr. 10" x 2" x 12". Forged Steel. Wt. 1,000 Kg.	1
(21)	"	Horizontal, Simplex. Double Acting. Cap. 5 KL/Hr. 8" x 6" x 13". Cast Steel. Wt. 500 Kg.	1
(22)	"	Ditto	1
(23)	Air Compressor	Vertical, Simplex. Double Acting. Cap. 10 Cu.M./Hr. 1 Kg/Sq.cm. 8"x8"x12". Wt. 200 kg.	1
(24)	"	Ditto	1
(25)	Steam Pump	Horizontal, Duplex. Double Acting. Cap. 50 KL/Hr. 12" x 10" x 12". Cast Iron. Wt. 2,000 Kg.	1
(26)	"	Ditto	1
(27)	"	Ditto	1
(28)	"	Ditto	1
(29)	"	Ditto	1
(30)	"	Horizontal, Duplex. Double Acting. Cap. 5KL/Hr. 6" x 4" x 6". Cast Iron. Wt. 500 Kg.	1
(31)	"	Horizontal, Simplex. Double Acting. Cast Stee. Wt. 2,000 Kg. 18" x 10" x 20".	1
(32)	"	Ditto	1
(33)	"	Ditto	1
(34)	"	Ditto	1

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Inventory No.	Name of Machinery	Brief Specification	Quantity Set	Quantity No.	Remarks
331 - (35)	Steam Pump	Horizontal, Duplex. Double Acting. Cap. 10 KL/Hr. $7\frac{1}{2}$" x 5" x 8". Cast Iron. Wt. 700 Kg.		1	
(36)	"	Horizontal, Duplex. Double Acting. Cap. 30 KL/Hr. 9" x 6" x 8". Cast Iron. Wt. 1,000 Kg.		1	
(37)	"	Horizontal, Simplex. Double Acting. Cap. 15 KL/Hr. 12" x 6" x 18". Cast Steel. Wt. 1,000 Kg.		1	
(38)	"	Horizontal, Simplex. Double Acting. Cap. 10 KL/Hr. 8" x 6" x 14". Cast Steel. Wt. 600 Kg.		1	

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For Solvent Extraction Unit. (Tank)

Inventory No.	Name of Machinery	Brief Specification	Quantity Set	Quantity No.	Remarks
~~313 - (43)~~	Tank	~~150 KL. 10 Tons. 6.3 (Diz. x 5.3H. Circulating, Settling Tank. Vertical, Cylindrical.~~	1		
~~(44)~~	"	~~Ditto~~	~~1~~		
296 - (~~45~~ 6)	"	150 KL. 11 Tons. 6.3 (D) x 5.3 (H). Vertical, Cylindrical.	1		
(~~46~~ 26)	"	Ditto	1		
(~~47~~ 27)	"	Ditto	1		
(~~48~~ 28)	"	Ditto	1		
314 - (8)	"	100 KL. 7.6 Tons. 6.3 (D) x 3.6 (H). Vertical, Cylindrical.	1		
(9)	"	Ditto	1		
(10)	"	150 KL. 10 Tons. 6.3 (D) x 5.3 (H). Vertical, Cylindrical.	1		
(11)	"	Ditto	1		
(12)	"	Ditto	1		
315 - (24)	"	100 KL. 7 Tons. 6.3 (D) x 3.5 (H). Vertical, Cylindrical.	1		
(25)	"	Ditto	1		
(26)	"	150 KL. 10 Tons. 6.3 (D) x 5.3 (H). Vertical, Cylindrical.	1		
(27)	"	Ditto	1		

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(~~26~~ 46)	"	Ditto	1
(~~27~~ 47)	"	Ditto	1
(~~28~~ 48)	"	Ditto	1
314 - (8)	"	100 KL. 7.6 Tons. 6.3 (D) x 3.6 (H). Vertical, Cylindrical.	1
(9)	"	Ditto	1
(10)	"	150 KL. 10 Tons. 6.3 (D) x 5.3 (H). Vertical, Cylindrical.	1
(11)	"	Ditto	1
(12)	"	Ditto	1
315 - (24)	"	100 KL. 7 Tons. 6.3 (D) x 3.5 (H). Vertical, Cylindrical.	1
(25)	"	Ditto	1
(26)	"	150 KL. 10 Tons. 6.3 (D) x 5.3 (H). Vertical, Cylindrical.	1
(27)	"	Ditto	1
(28)	"	Ditto	1
(29)	"	Ditto	1
226 ~ (46)	Nitrogen Generator	Cap. 2.2 cub.m./min	1
(47)	Gas Holder.	Cap. 50 cub.m. D 5.0m x H 3.0m	1

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 77 5013

(3) For Lube Oil Blending Unit. (Pump)

Inventory No.	Name of Machinery	Brief Specifications	Quantity Set	Quantity No.	Remarks
314 - (4)	Steam Pump	Horizontal, Duplex. Double Acting. Cap. ~~35~~ 17 KL/Hr. Wt. 800 Kg. 10" × 4" × 4"		1	
(5)	"	~~Ditto~~ 22 KL/Hr. 7½ × 5" × 10"		1	
(6)	"	~~Ditto~~ " "		1	
~~319 - (21)~~	~~"~~	~~Horizontal, Duplex. Double Acting. Cast Iron. Cap. 30 KL/Hr. 8" x 6" x 12". Wt. 1,100 Kg.~~		~~1~~	
~~(22)~~	~~"~~	~~Ditto~~		~~1~~	
~~(23)~~	~~"~~	~~Ditto~~		~~1~~	
~~(24)~~	~~"~~	~~Horizontal, Duplex. Double Acting. Cast Iron. Cap. 50 KL/Hr. 9" x 8½" x 10". Wt. 800 Kg.~~		~~1~~	
~~(25)~~	~~"~~	~~Horizontal, Duplex. Double Acting. Cast Iron. Cap. 30 KL/Hr. 8" x 5" x 8". Wt. 600 Kg.~~		~~1~~	

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For Lube Oil Blending Unit. (Tank)

Inventory No.	Name of Machinery	Brief Specification	Quantity Set	Quantity No.	Remarks
~~319 - (31)~~	~~Tank~~	~~Cap. 50 KL. Wt. 4.0T Tons. D. 4.0 x H. 4.7M. Vertical, Cylindrical.~~		~~1~~	
~~(32)~~	~~"~~	~~Ditto~~		~~1~~	
~~(33)~~	~~"~~	~~Ditto~~		~~1~~	
~~(34)~~	~~"~~	~~Ditto~~		~~1~~	
~~321 - (4)~~	~~"~~	~~Cap. 35 KL. Wt. 5.5 Tons. D. 2.6 x L. 7.2M. For Sulphuric Acid. Horizontal, Cylindrical.~~		~~1~~	
~~(5)~~	~~"~~	~~Ditto~~		~~1~~	
322 - (32)	"	Cap. ~~50~~ 30 KL. Wt. 3.0 Tons. D. 4.5 x H. 3.5M. Vertical, Cylindrical.		1	
(33)	"	Ditto		1	
~~(34)~~	~~"~~	~~Ditto~~		~~1~~	
~~(35)~~	~~"~~	~~Ditto~~		~~1~~	
(36)	"	Ditto		1	
(37)	"	Cap. 50 KL. Wt. 7.0 Tons. D. 6.5 x H. 2.5M.		1	
(38)	"	Ditto		1	
324 - (27)	"	Cap. 50 KL. Wt. 5.0 Tons. D. 6.0 x H. 1.9M. Closed Type.		1	

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~~(32)~~	"	Ditto	1
~~(33)~~	"	Ditto	1
~~(34)~~	"	Ditto	1
~~321 - (4)~~	"	Cap. 35 KL. Wt. 5.5 Tons. ~~D. 2.6 x L. 7.2~~. ~~For Sulphuric Acid.~~ ~~Horizontal, Cylindrical.~~	1
~~(5)~~	"	Ditto	1
322 - (32)	"	Cap. ~~50~~ 30 KL. Wt. 3.0 Tons. D. 4.5 x H. 3.5~~M~~. Vertical, Cylindrical.	1
(33)	"	Ditto	1
~~(34)~~	"	Ditto	1
~~(35)~~	"	Ditto	1
(36)	"	Ditto	1
(37)	"	Cap. 50 KL. Wt. 7.0 Tons. D. 6.5 x H. 2.5M.	1
(38)	"	Ditto	1
324 - (27)	"	Cap. 50 KL. Wt. 5.0 Tons. D. 6.0 x H. 1.9~~M~~. Closed Type.	1

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(4) For Accessories. (Pump)

Inventory No.	Name of Machinery	Brief Specifications	Quantity Set No.	Remarks
~~296 - (9)~~	~~Steam Pump~~	~~Horizontal, Duplex. Double Acting. Cast Iron. Cap. 5 KL/Hr. 6" x 4" x 6". Wt. 300 Kg.~~	~~1~~	
~~(10)~~	~~"~~	~~Horizontal, Duplex. Double Acting. Cast Steel. Cap. 5 KL/Hr. 12"x3½"x12". Wt. 2,000 Kg.~~	~~1~~	
~~(11)~~	~~"~~	~~Ditto~~	~~11~~	
~~(12)~~	~~"~~	~~Horizontal, Duplex. Double Acting. Cast Iron. Cap. 8 KL/Hr. 6"x4"x6". Wt. 300 Kg.~~	~~1~~	
~~(14)~~	~~"~~	~~Horizontal, Duplex. Double Acting. Cast Iron. Cap. 35 KL/Hr. 8"x5"x10". Wt. 800 Kg.~~	~~1~~	
312 - (6)	"	Horizontal, Duplex. Double Acting. Cast Steel. Cap. 18 KL/Hr. 7"x5"x10". Wt. 1,800 Kg.	11	
317 - (34)	"	Horizontal, Duplex. Double Acting. Cast Steel. Cap. 30 KL/Hr. 8"x4"x10". Wt. 950 Kg.	11	
(35)	"	Ditto	1	
(36)	"	Ditto	1	
318 - (1)	"	Horizontal, Duplex. Double Acting. Cast Iron. Cap. 50 KL/Hr. 10"x6"x8". Wt. 950 Kg.	1	
(2)	"	Ditto	1	
(3)	"	Ditto	1	

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~~(11)~~	"	~~Ditto~~	~~1~~
~~(12)~~	"	~~Horizontal, Duplex. Double Acting. Cast Iron. Cap. 8 KL/Hr. 6"x4"x6". Wt. 300 Kg.~~	~~1~~
~~(14)~~	"	~~Horizontal, Duplex. Double Acting. Cast Iron. Cap. 35 KL/Hr. 8"x5"x10". Wt. 800 Kg.~~	~~1~~
312 - (6)	"	Horizontal, Duplex. Double Acting. Cast Steel. Cap. 18 KL/Hr. 7"x5"x10". Wt. 1,800 Kg.	11
317 - (34)	"	Horizontal, Duplex. Double Acting. Cast Steel. Cap. 30 KL/Hr. 8"x4"x10". Wt. 950 Kg.	11
(35)	"	Ditto	1
(36)	"	Ditto	1
318 - (1)	"	Horizontal, Duplex. Double Acting. Cast Iron. Cap. 50 KL/Hr. 10"x6"x8". Wt. 950 Kg.	1
(2)	"	Ditto	1
(3)	"	Ditto	1
~~319 - (19)~~	~~Air Compressor~~	~~Horizontal, Simplex. Double Acting. Cap. 6.5 KL/Hr. Wt. 500 Kg.~~	~~1~~
~~(20)~~	~~Steam Pump~~	~~Horizontal, Simplex. Double Acting. Cap. 10 KL/Hr. 7"x7"x12". Wt. 700 Kg.~~	~~1~~
322 - (27)	"	Horizontal, Simplex. Double Acting. Cap. 10 KL/Hr. 8"x6"x10". Wt. 1,200 Kg.	1
(28)	"	Ditto	1
(29)	"	Ditto	1
(30)	"	Horizontal, Dumplex. Double Acting. Cast Iron. Cap. 5 KL/Hr. 5"x3½"x6". Wt. 400 Kg.	1

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Inventory No.	Name of Machinery	Brief Specification	Quantity Set	Quantity No.	Remarks
322 - (31)	Air Compressor	Vertical, Simplex, Double Acting. Cast Iron. Cap. 6.5 KL/Hr. Wt. 550 Kg.	1	0	
(42)	Steam Pump	Horizontal, Duplex. Double Acting. 10KL/Hr. Cast Steel. 9"x4"x12". Wt. 1,000 Kg.	1	1	
(43)	"	Ditto	1	1	
(44)	"	Ditto	1	1	
(45)	"	Ditto	1	1	
(46)	"	Ditto	1	1	Located in No. 153 warehouse.
(47)	"	Ditto	1	1	
(48)	"	Ditto	1	1	
(49)	"	Horizontal, Duplex. Double Acting. 10KL/Hr. Cast Iron. 6"x4"x10". Wt. 1,400 Kg.	1	1	
(50)	"	Horizontal, Duplex. Double Acting. 15KL/Hr. Cast Iron. ~~7"x5"x3~~ 7"x6"x10". Wt. 1,500 Kg.	1	1	
(51)	"	Horizontal, Duplex. Double Acting. 20KL/Hr. Cast Iron. 7"x6"x10". Wt. 1,400 Kg.	1	1	
~~324 - (33)~~	"	~~Horizontal, Duplex. Double Acting. Cast Iron. Cap. 30 KL/Hr. 8"x5"x8". Wt. 600 Kg.~~	~~1~~		
~~(34)~~	"	~~Horizontal, Duplex. Double Acting. Cast Iron. Cap. 50 KL/Hr. 9"x8½"x10". Wt. 800 Kg.~~	~~1~~		
~~(35)~~	"	~~Horizontal, Duplex. Double Acting. Cast Iron. Cap. 30 KL/Hr. 8"x5"x8". Wt. 600 Kg.~~	~~1~~		Located in No. 153 warehouse.
~~(36)~~	"	~~Horizontal, Duplex. Double Acting.~~	~~1~~		

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(43)		Ditto	1	
(44)	"	Ditto	1	
(45)	"	Ditto	1	
(46)	"	Ditto	1	Located in No. 153 warehouse.
(47)	"	Ditto	1	
(48)	"	Ditto	1	
(49)	"	Horizontal, Duplex. Double Acting. Cast Iron. 6"x4"x10". Wt. 1,400 Kg. 10KL/Hr.	1	
(50)	"	Horizontal, Duplex. Double Acting. Cast Iron. ~~7"x5"x3"~~ 7"x6"x10". Wt. 1,500 Kg. 15K.L/Hr.	1	
(51)	"	Horizontal, Duplex. Double Acting. Cast Iron. 7"x6"x10". Wt. 1,400 Kg. 20K.L/Hr.	1	
~~324 - (33)~~	"	~~Horizontal, Duplex. Double Acting. Cast Iron. Cap. 30 KL/Hr. 8"x5"x8". Wt. 600 Kg.~~	~~1~~	
~~(34)~~	"	~~Horizontal, Duplex. Double Acting. Cast Iron. Cap. 50 KL/Hr. 9"x8½"x10". Wt. 800 Kg.~~	~~1~~	
~~(35)~~	"	~~Horizontal, Duplex. Double Acting. Cast Iron. Cap. 30 KL/Hr. 8"x5"x8". Wt. 600 Kg.~~	~~1~~	Located in No. 153 warehouse.
~~(36)~~	"	~~Horizontal, Duplex. Double Acting. Cast Iron. Cap. 50 KL/Hr. 9"x8½"x10". Wt. 800 Kg.~~	~~1~~	
~~(37)~~	"	~~Ditto 40 KL/Hr. 9"x6"x9" Wt. 700 Kg~~	~~1~~	
~~(38)~~	"	~~Ditto 30 KL/Hr. 8"x5"x9" Wt. 600 Kg~~	~~1~~	

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DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775013

Information
COPY
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Application for Movement and Authorized Use of Designated Reparation Machinery and Equipment

Nov. 27, 1950

To : Mr. Hayato Ikeda, the Minister of Finance

From : Yukinobu Kagoyama, President of Tokuyama Soda Co., Ltd.

Address : 8355 Tokuyama-shi, Yamaguchi-ken

1) Name and location of the plant which intends to use designated reparation machinery and equipment

(Non-Reparation Plant)

Tokuyama Soda Co., Ltd.

8355 Tokuyama-shi, Yamaguchi-ken

2) Name (Code No.) and location of the plant where designated reparation machinery and equipment to be used actually exist

Tokuyama Ex-3rd Naval Fuel Depot (45-07)

Shingu, Tokuyama-shi, Yamaguchi-ken

3) List of designated reparation machinery and equipment to be moved and used :

Attached sheet

4) Necessity for movement and use of machinery and equipment

(a) Purpose of use :

The machinery under application is to be used as Copper-lye Washing Towers in the Ammonia Synthesis Plant.

(b) Necessity for use :

Previously we applied for the movement of the said machinery to Iwakuni, as we had intended to produce ammonia at the former Iwakuni Army Fuel Depot, owing to the rationalization of Solvay Ammonia Soda process by manufacturing Ammonium Chloride Fertilizer and its material ammonia.
Subsequent studies centering about the rationalization of ammonia synthesis and soda plant, however, resulted to put up the ammonia plant inside the existing Tokuyama Plant.
Hence the presentation of this application.

MANUFACTURING AND INDUSTRY FILE 45-7 Sec. II

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775013

(c) Outline of enterprise plan and relations with the existing business

Production program :

Products :- Ammonium chloride fertilizer with guaranteed content of 25% ammoniacal nitrogen

Amount of product :- 60,000 gram tons/year

The necessary material ammonia 20,000 gram tons/year being self supplied.

Location of plant :

Inside our Tokuyama Plant

Capital required for equipment :

¥1,840,000,000

How the funds raised :

From Counterpart Fund for 1951	¥400,000,000
" 1952	¥600,000,000
(Both under application)	
Balance by increase of capital and loans	

Materials for construction :

Iron and steel	9,899 gram tons

Number of employees :

Employees	450
Permanent labour	45
	495

Rough statement of account : (per month)

Receipts (from Ammonium Chloride Fertilizers and Sodas excluding Cement)	¥226,950,000
Expenditures	¥202,576,000
Net profit	¥ 24,374,000

Time of construction :

Starting in April 1951

Completing in March 1953

Per Tokuyama Soda Co., Ltd.

Yukinobu Kagawara, President

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775013

List of the desired reparation designated machinery and equipment

Tokuyama Soda Co., Ltd.

Inventory Number	Name of Machinery	Brief Specification	Quantity	Remarks
45-07-241 (44)	Gas Separator	Vertical vol.1.6m^3 0.66$m\phi$x5mh.300kg/cm^2	1	
" " " (45)	Gas Washing Tower	" " " 0.66$m\phi$x6mh "	1	
" " " (47)	Gas Separator	" " " " " "	1	
" " " (48)	Heat Exchanging Tower	" " " " " "	1	
" " " (49)	"	" " " " " "	1	
" " " (53)	High Pressure Vessel	" " " " " "	1	
		Total	6	

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775013

LETTER OF ASSENT

Nov. 27, 1950

To : Mr. Hayato Ikeda, the Minister of Finance

From : Yukinobu Kagoyama, President of Tokuyama Soda Co., Ltd.

Sir ;

I, the undersigned, hereby assent for the custodian of Tokuyama Ex-3rd Naval Fuel Depot, to take burden of the responsibility pertaining to maintenance of the reparation designated machinery and equipment, list of which is attached to the application herein, belong to the above arsenal, after being moved into our Tokuyama Plant.

Managing Director

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775013

FLOW DIAGRAM OF AMMONIA SYNTHESIS

DENOTES MACHINE TO BE MOVED

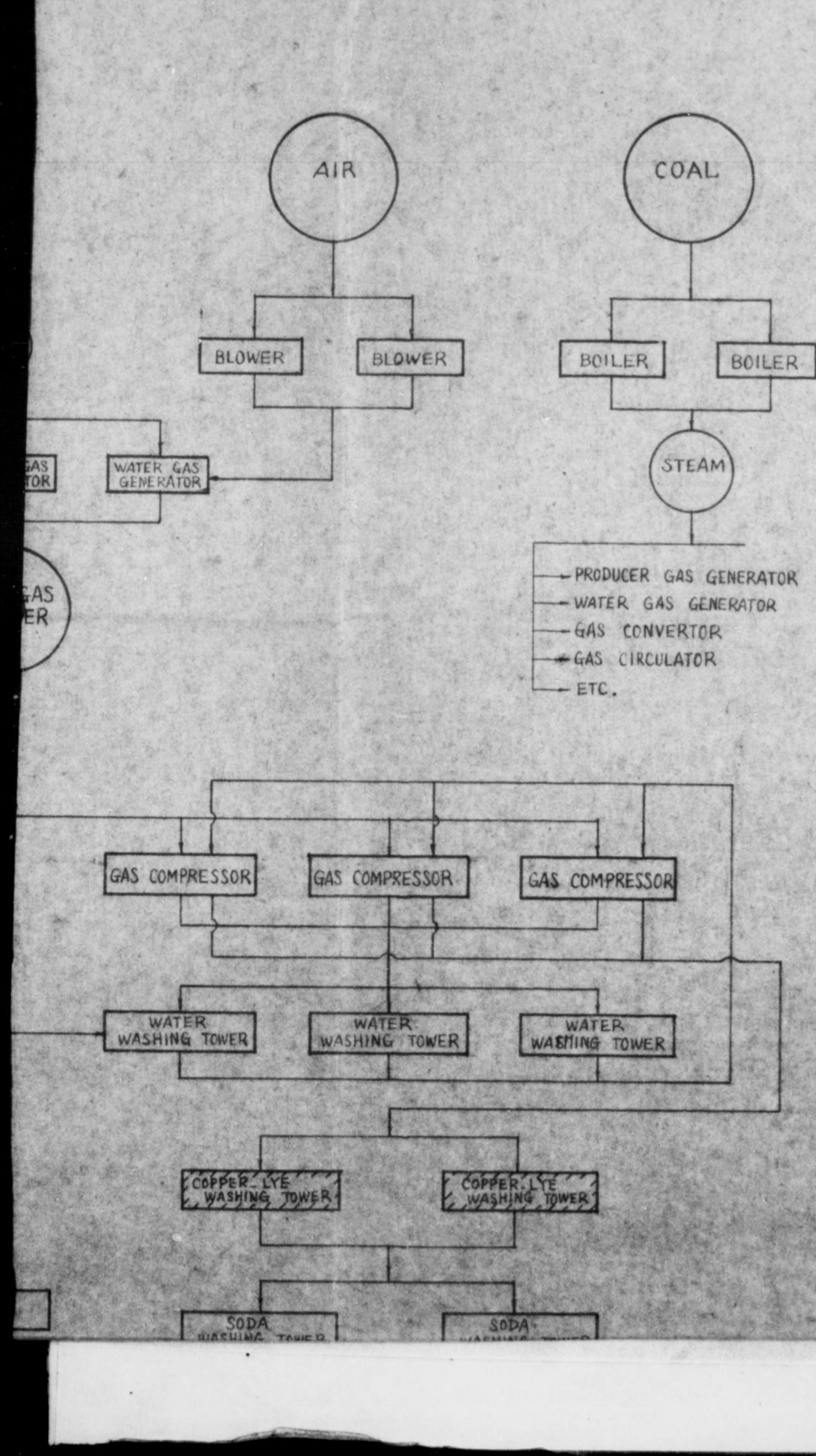
DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775013

FLOW DIAGRAM OF AMMONIA SYNTHESIS EQUIPMENT

TES MACHINE TO BE MOVED

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775013

MMONIA SYNTHESIS EQUIPMENT



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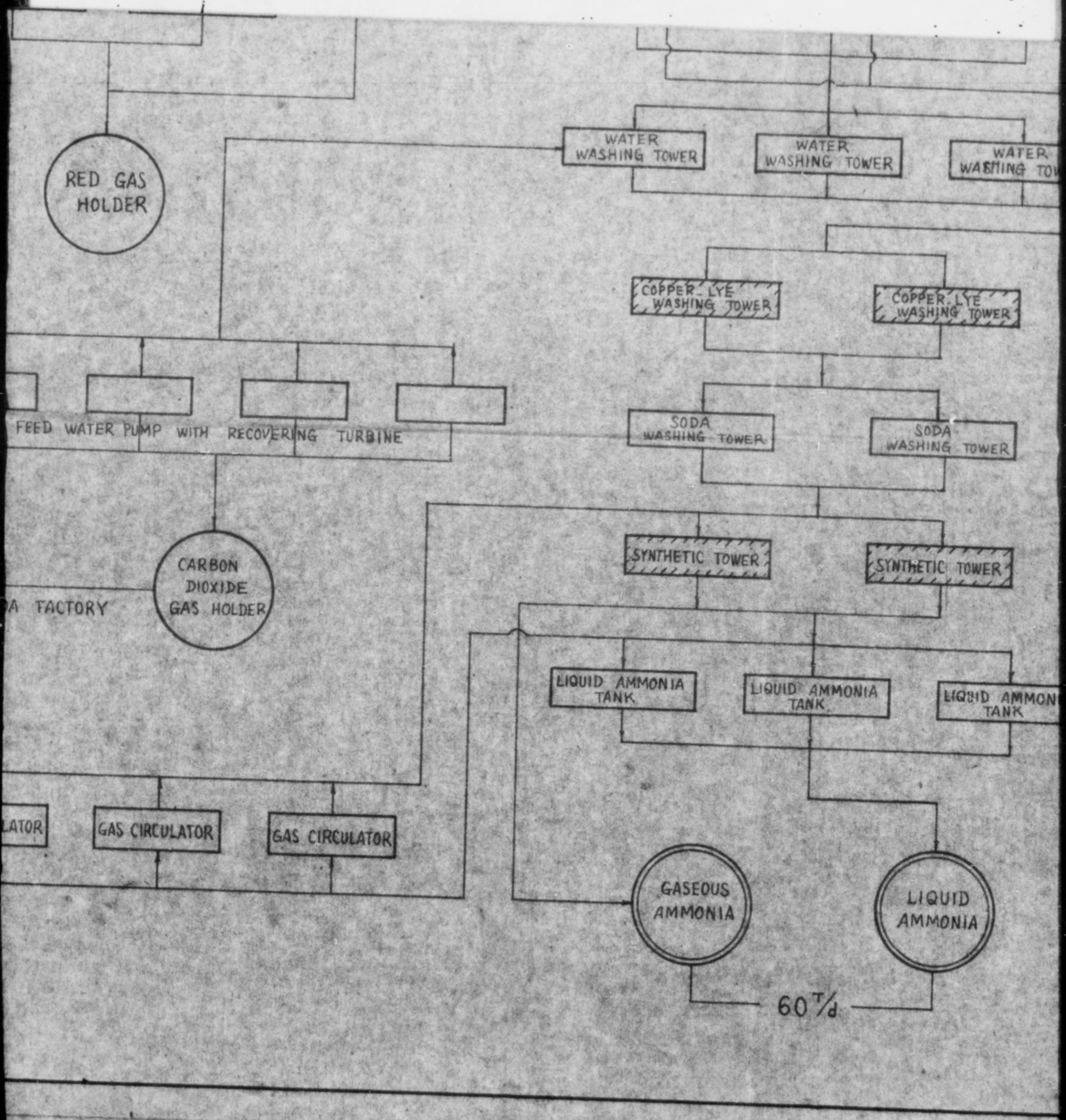

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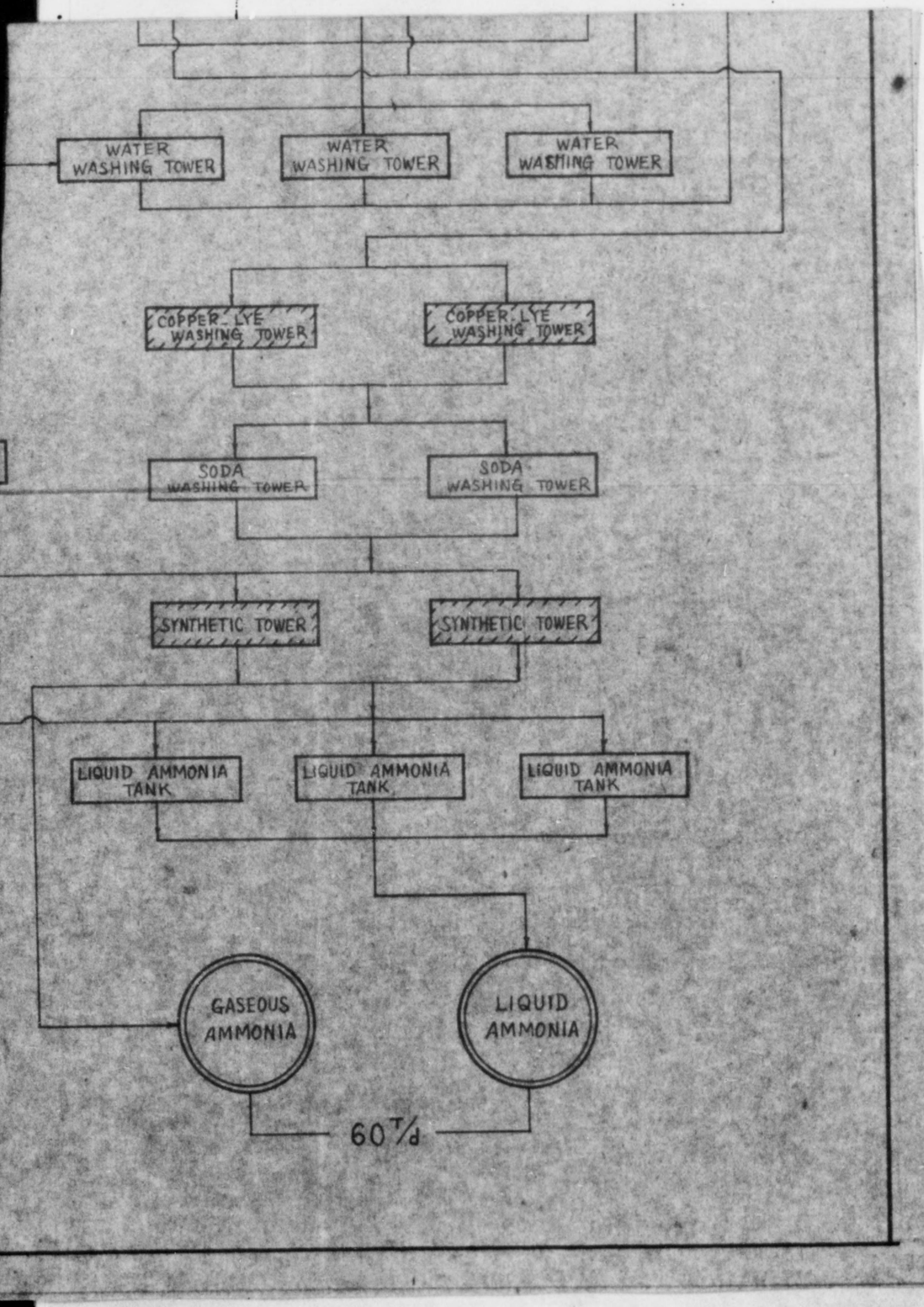
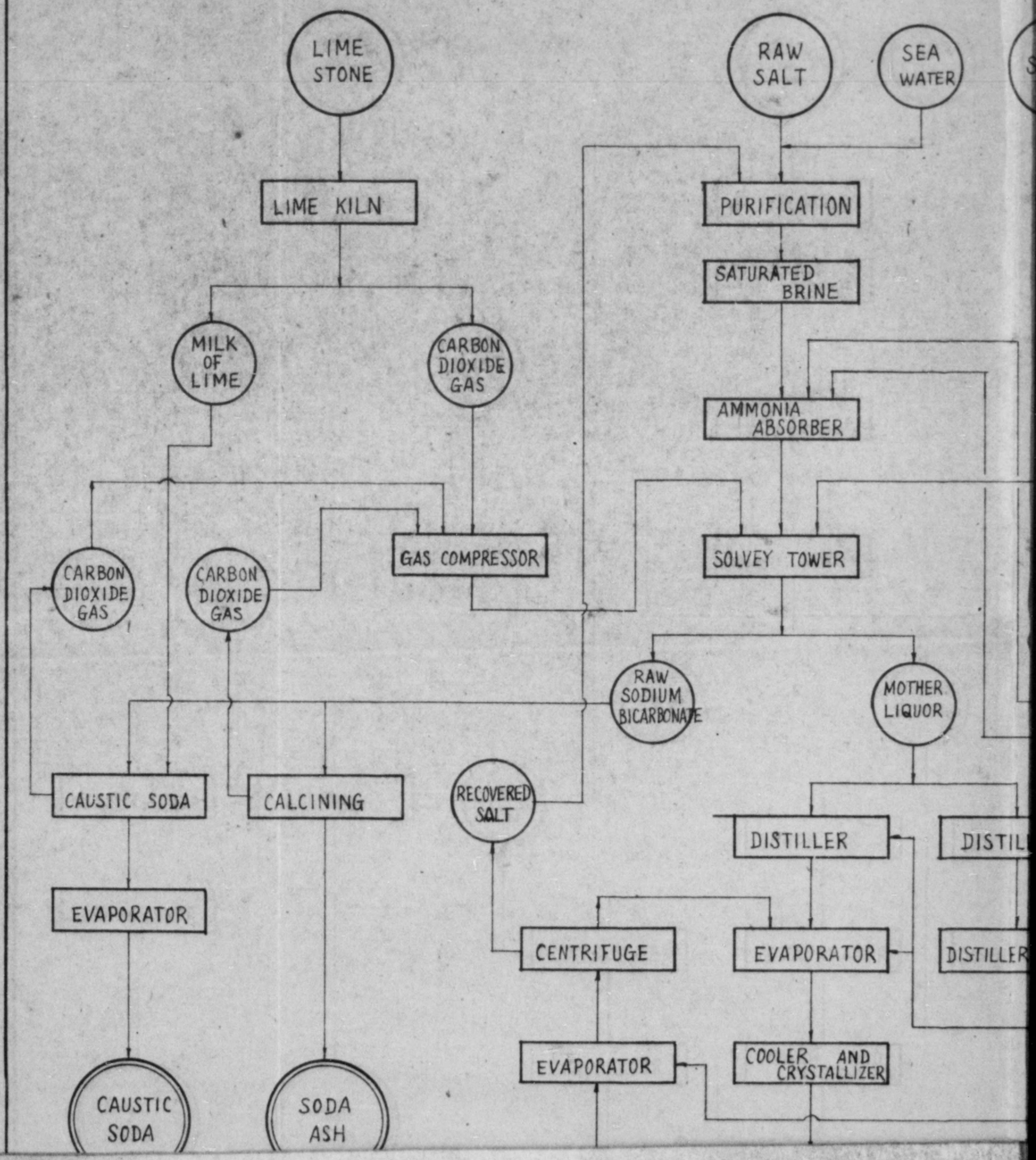


DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775013

FLOW DIAGRAM OF AMMONIUM CHLORIDE FERTILIZ



DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775013

DIAGRAM OF AMMONIUM CHLORIDE FERTILIZER MANUFACTURING

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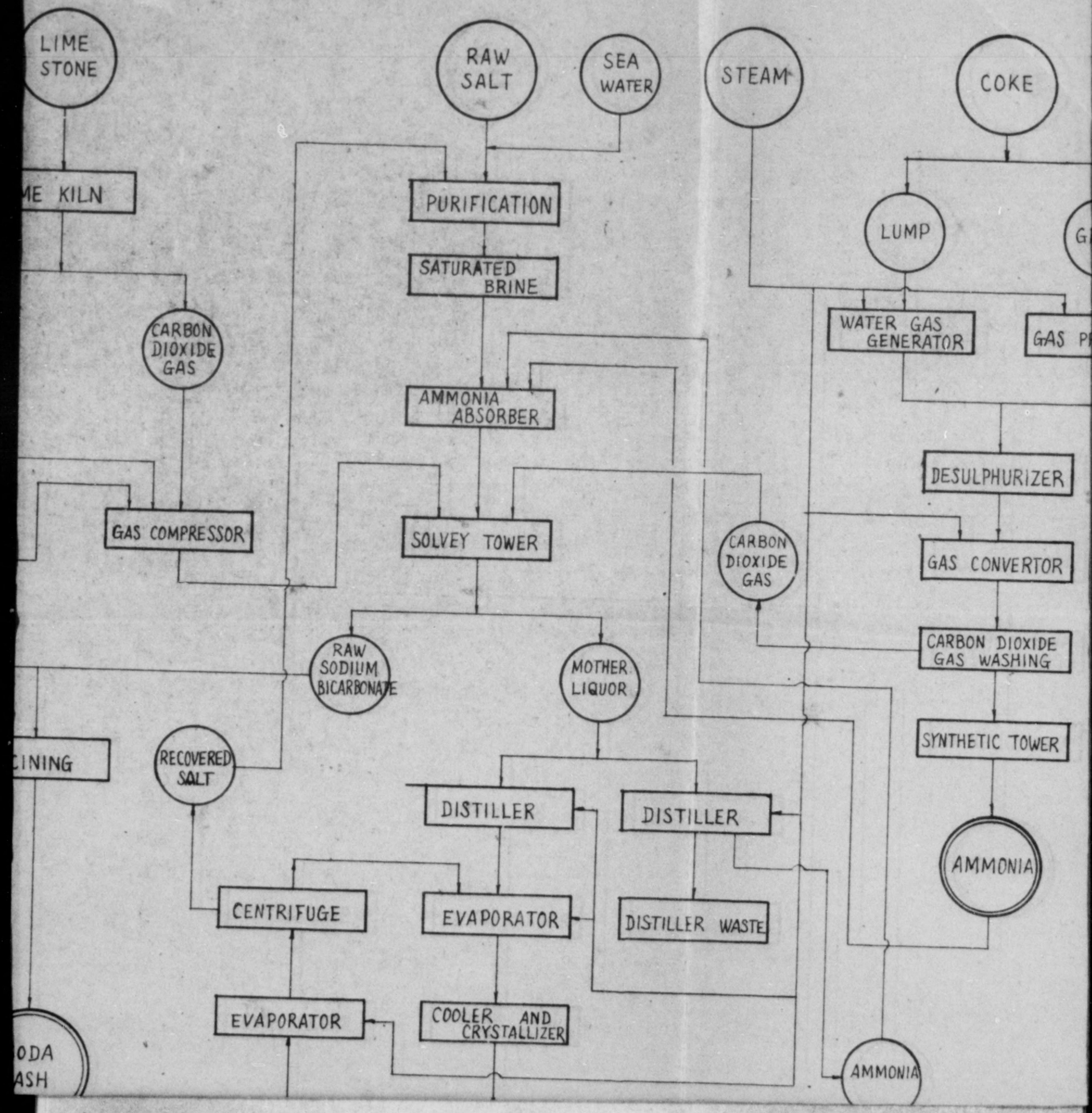
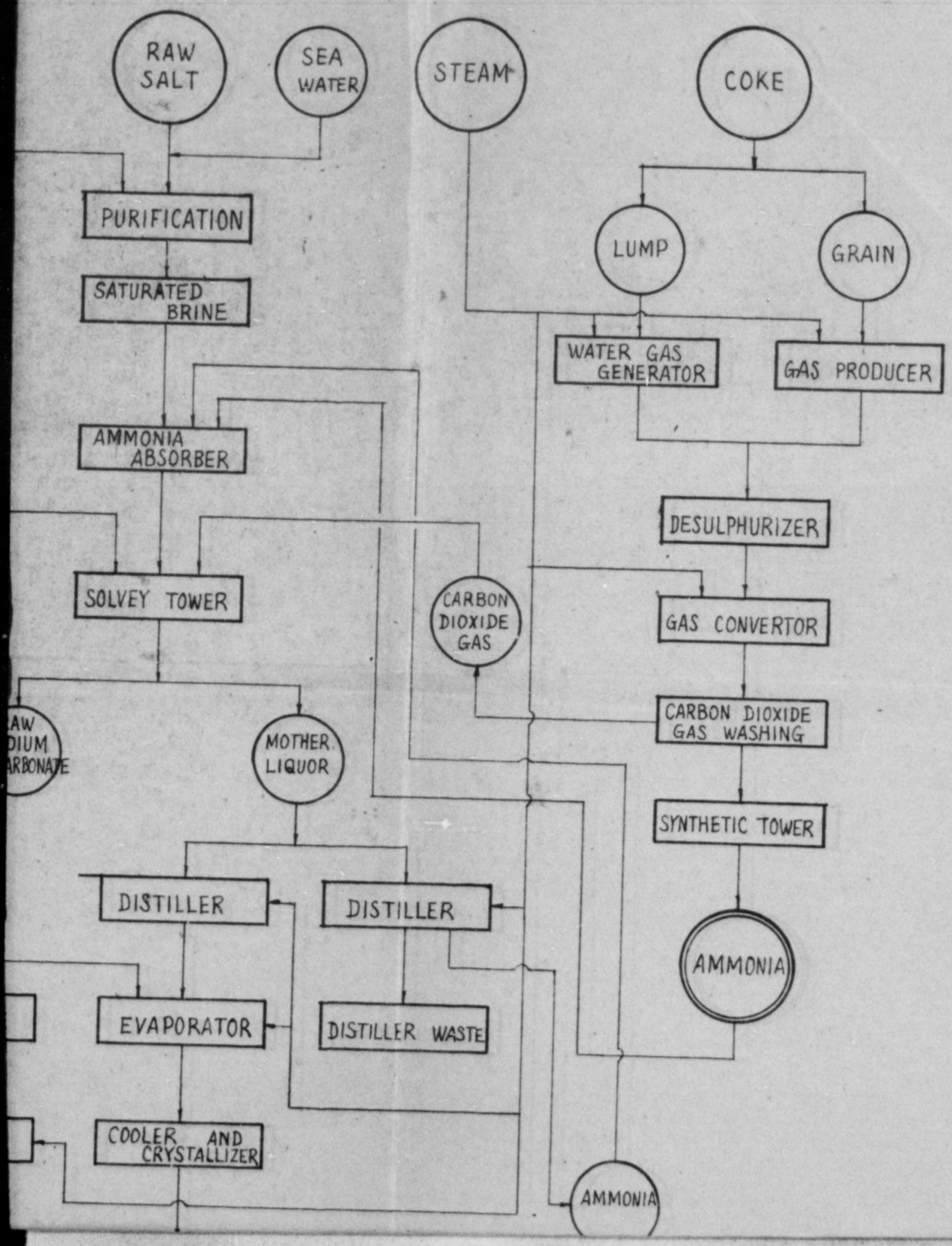


DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775013

VIUM CHLORIDE FERTILIZER MANUFACTURING

NOV. 1950



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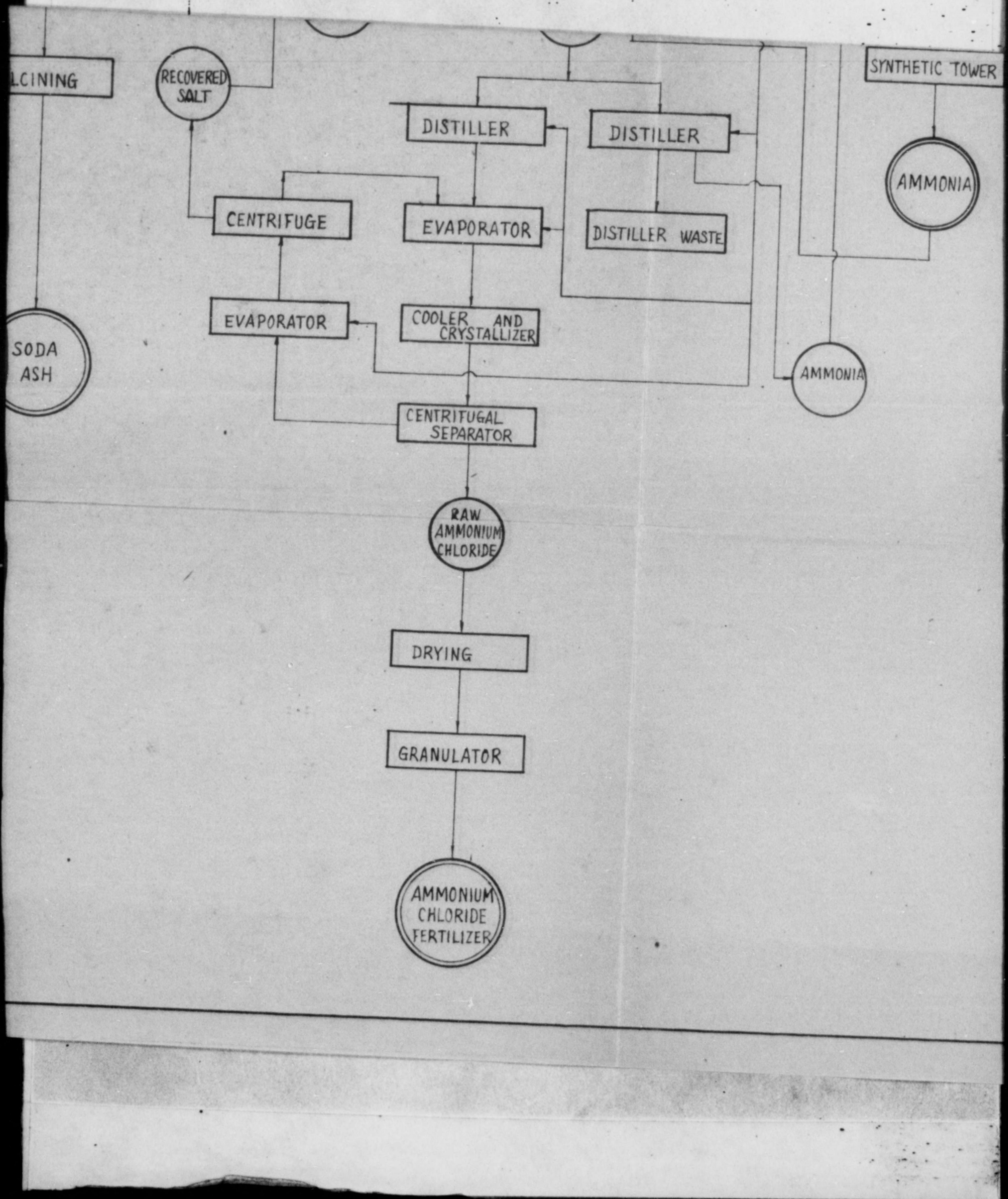

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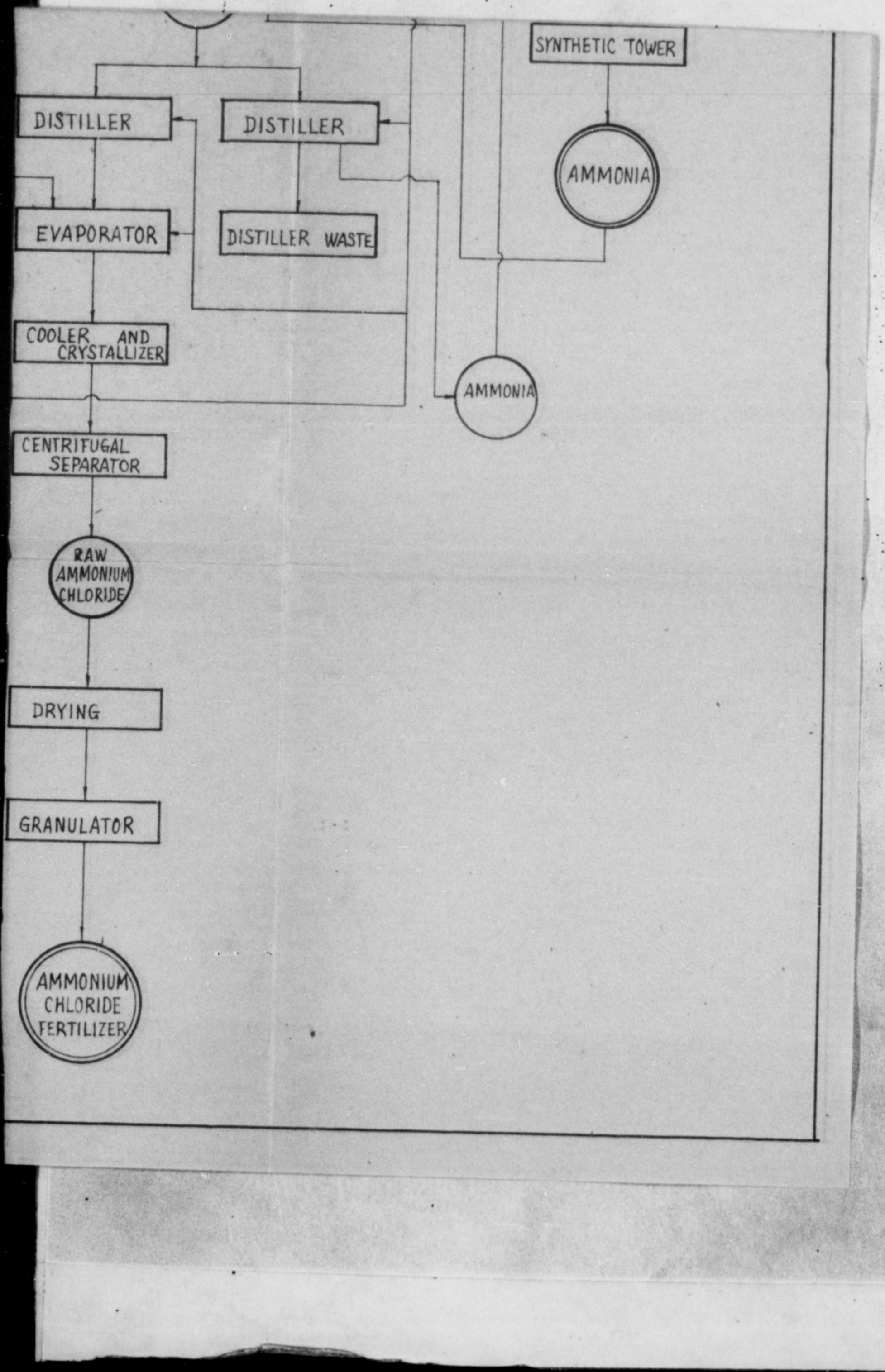
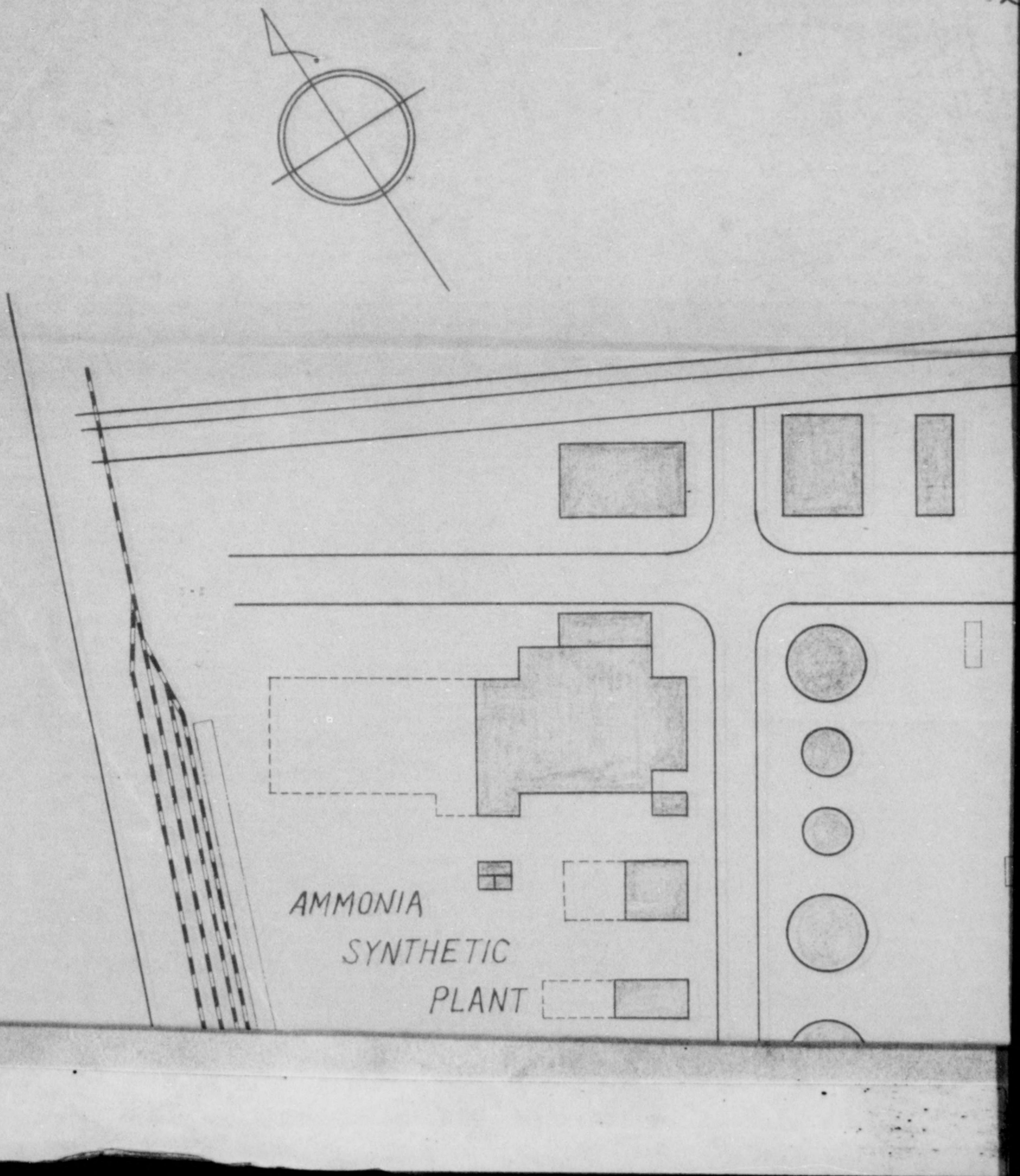


DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775013

TOKUYAMA



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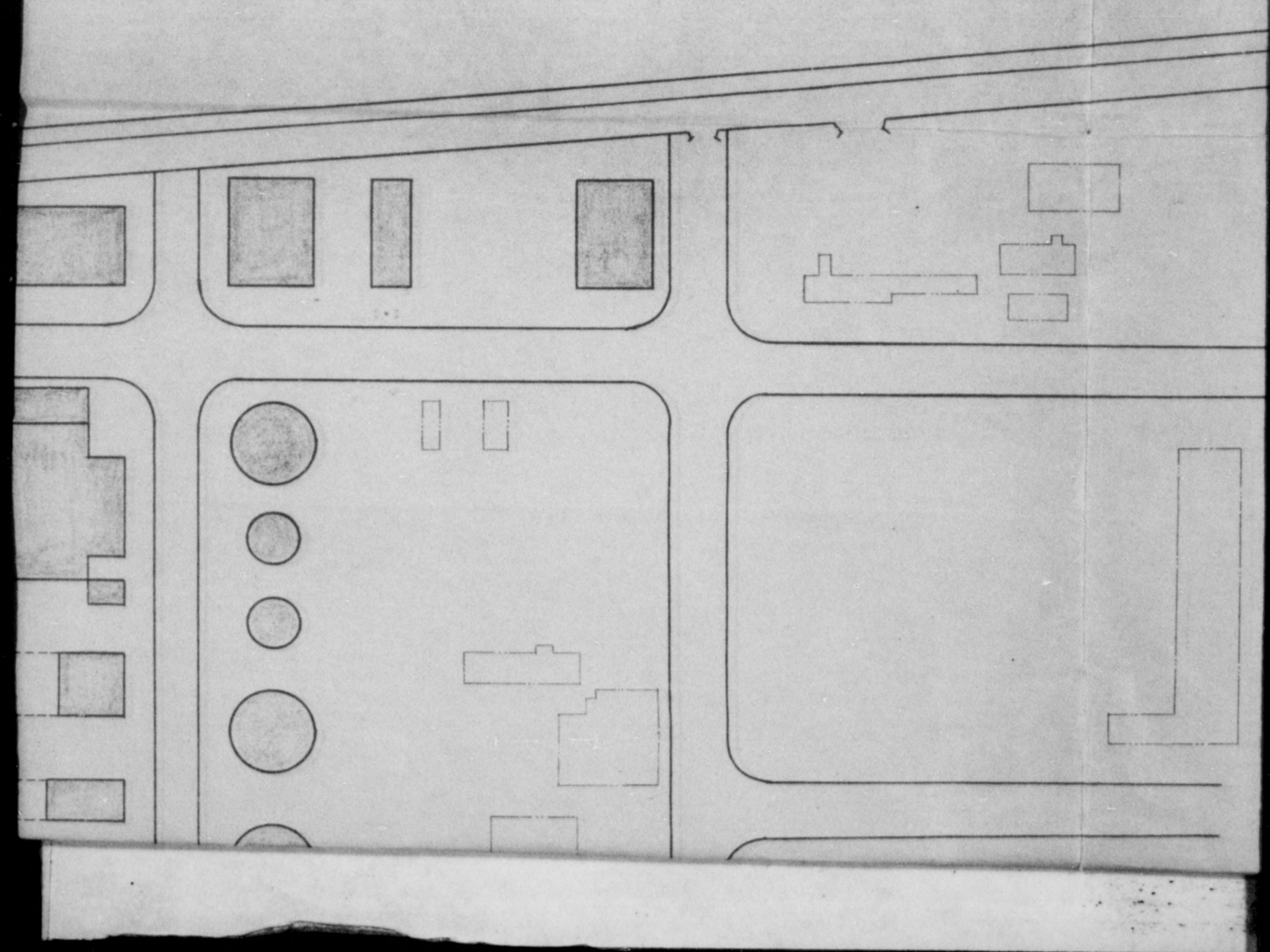
OKUYAMA SODA CO., L

SCALE 1/1800



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DA CO., LTD.,

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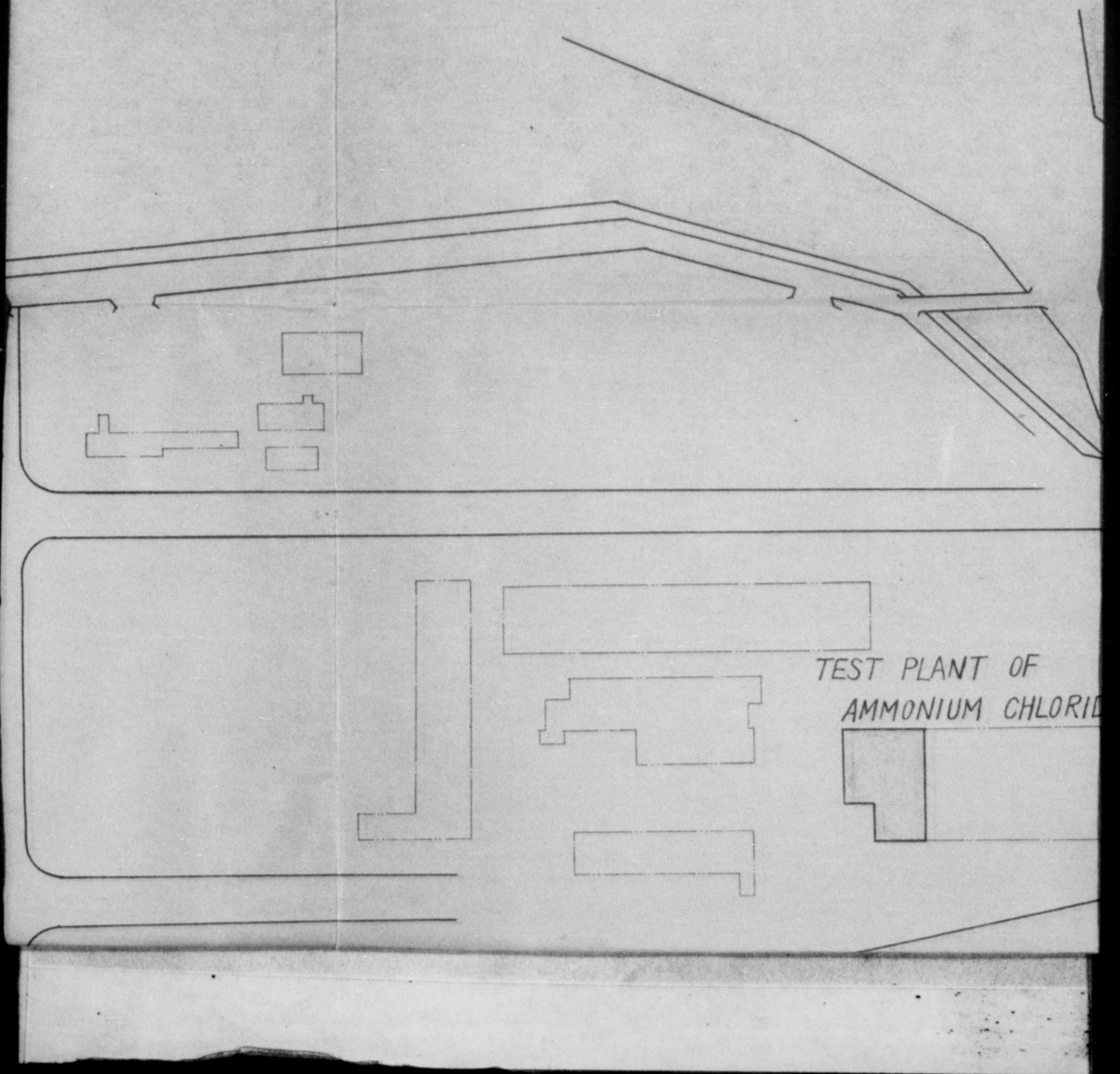

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775013

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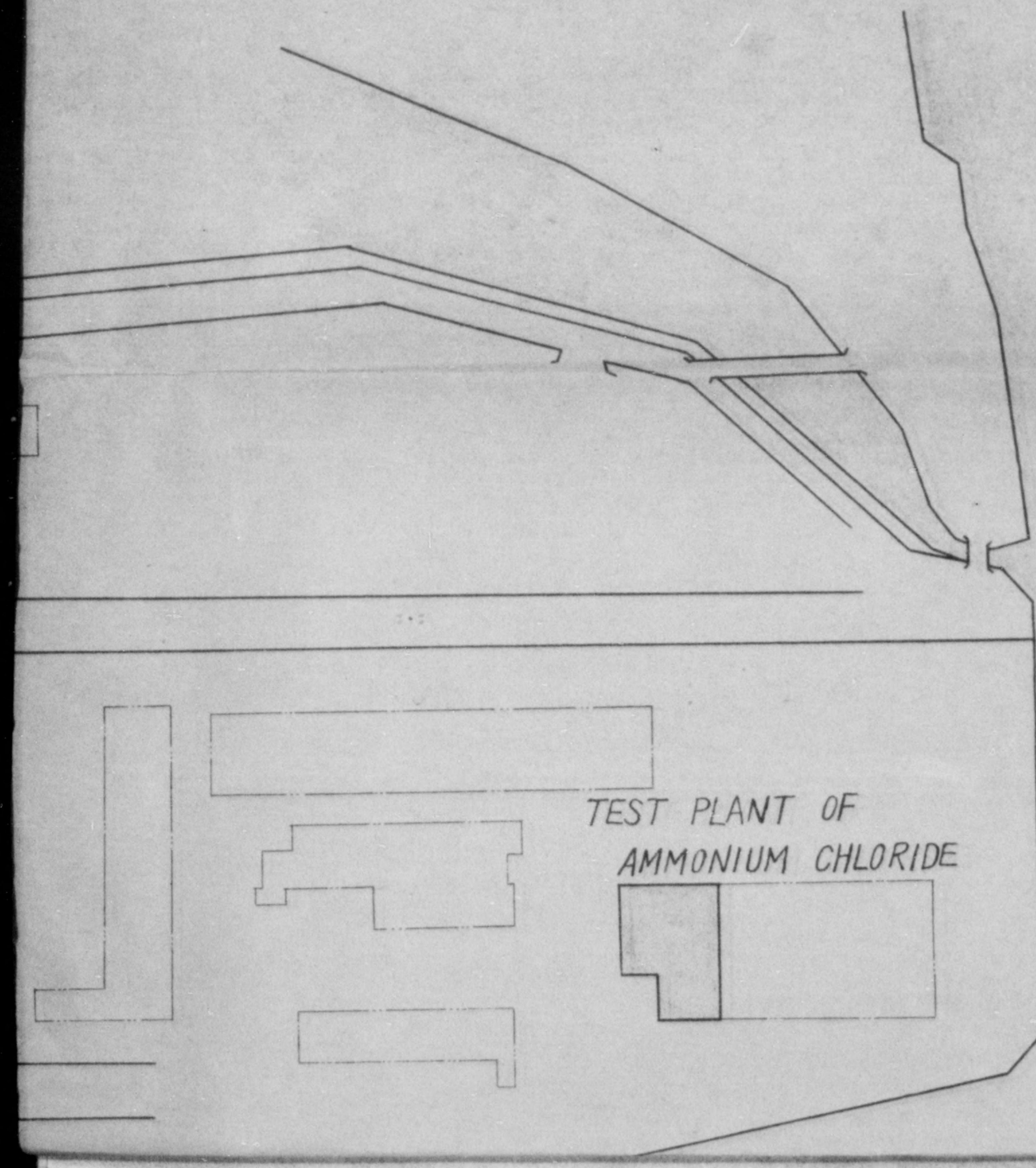

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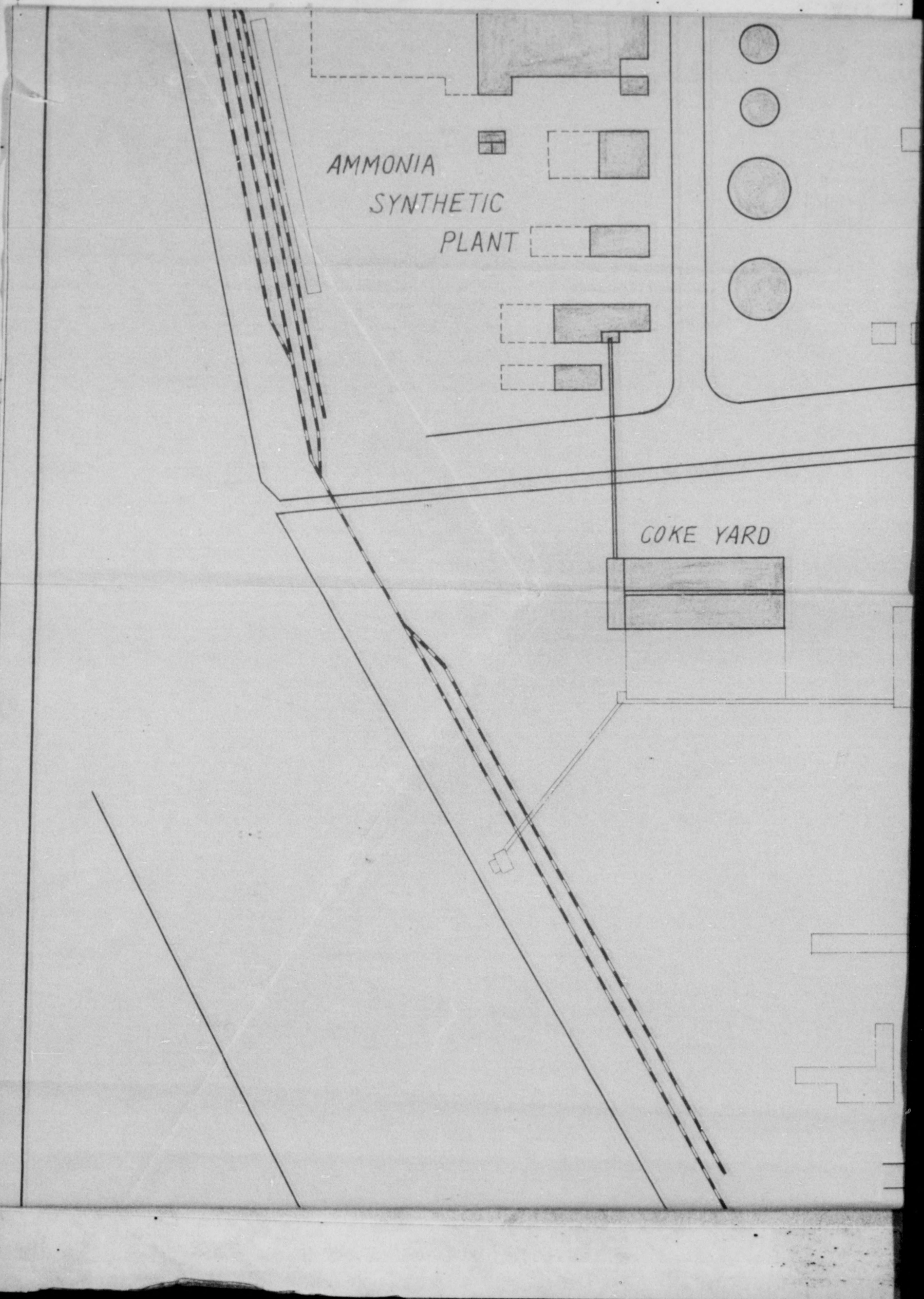

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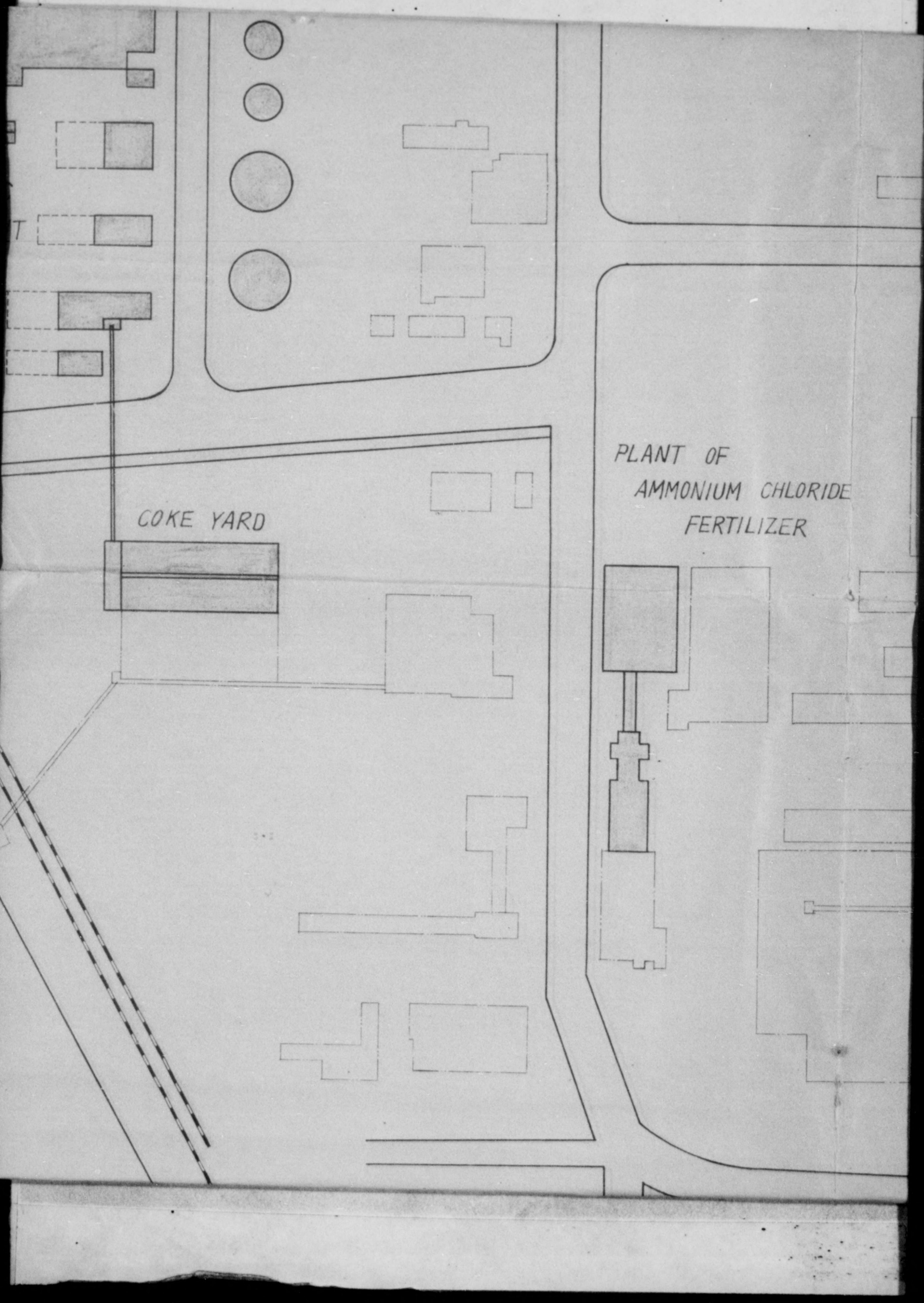

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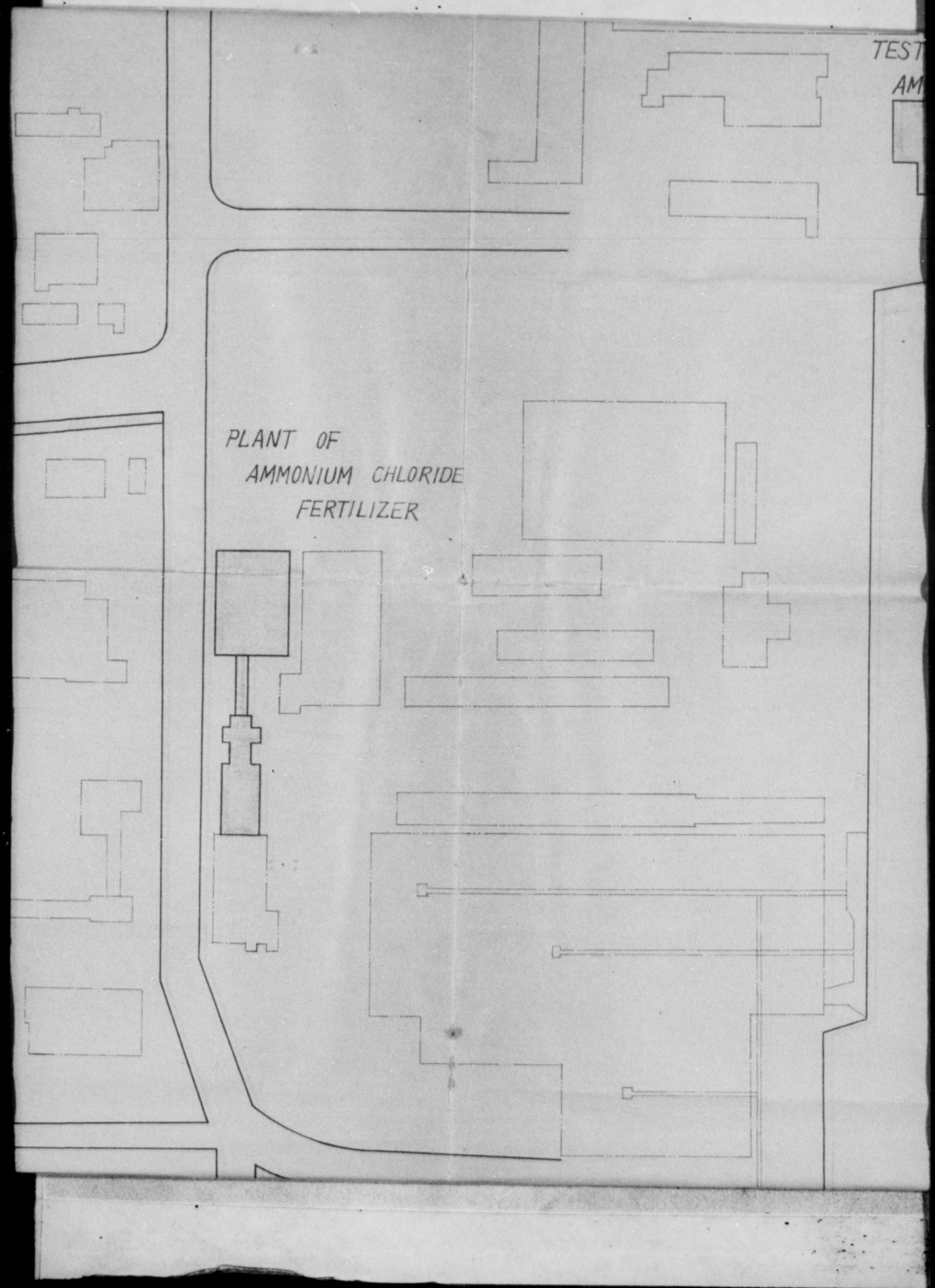

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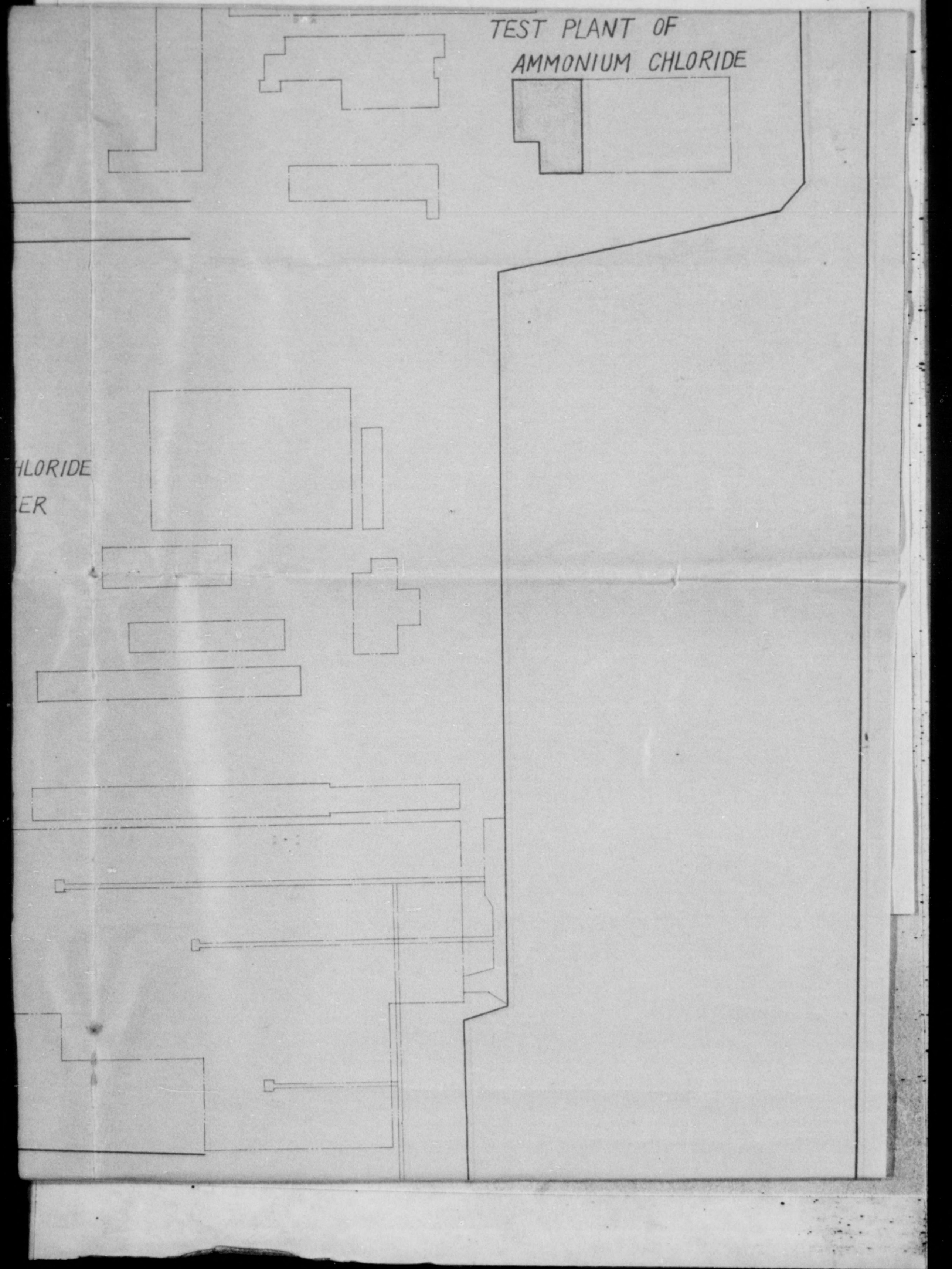

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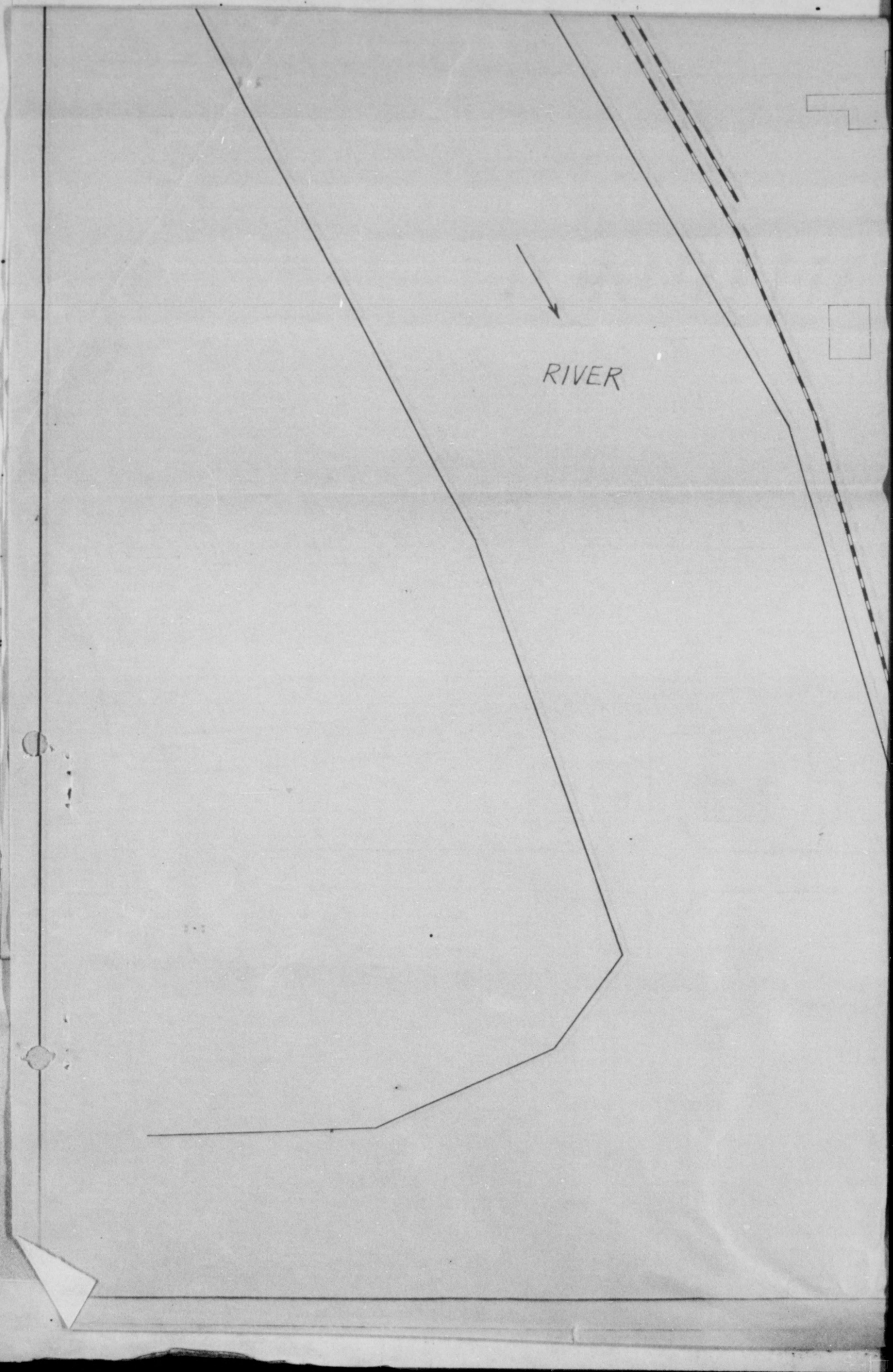

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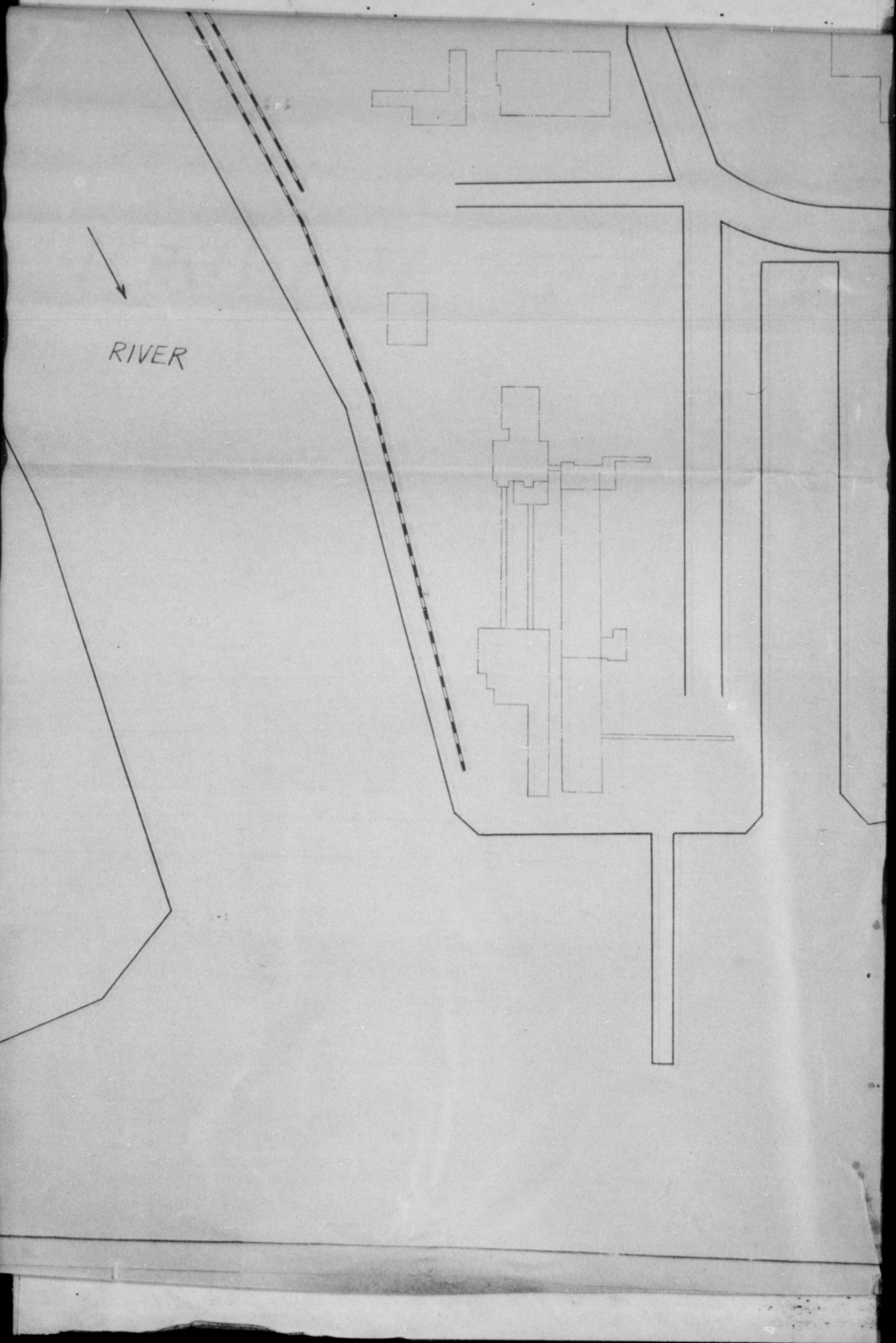

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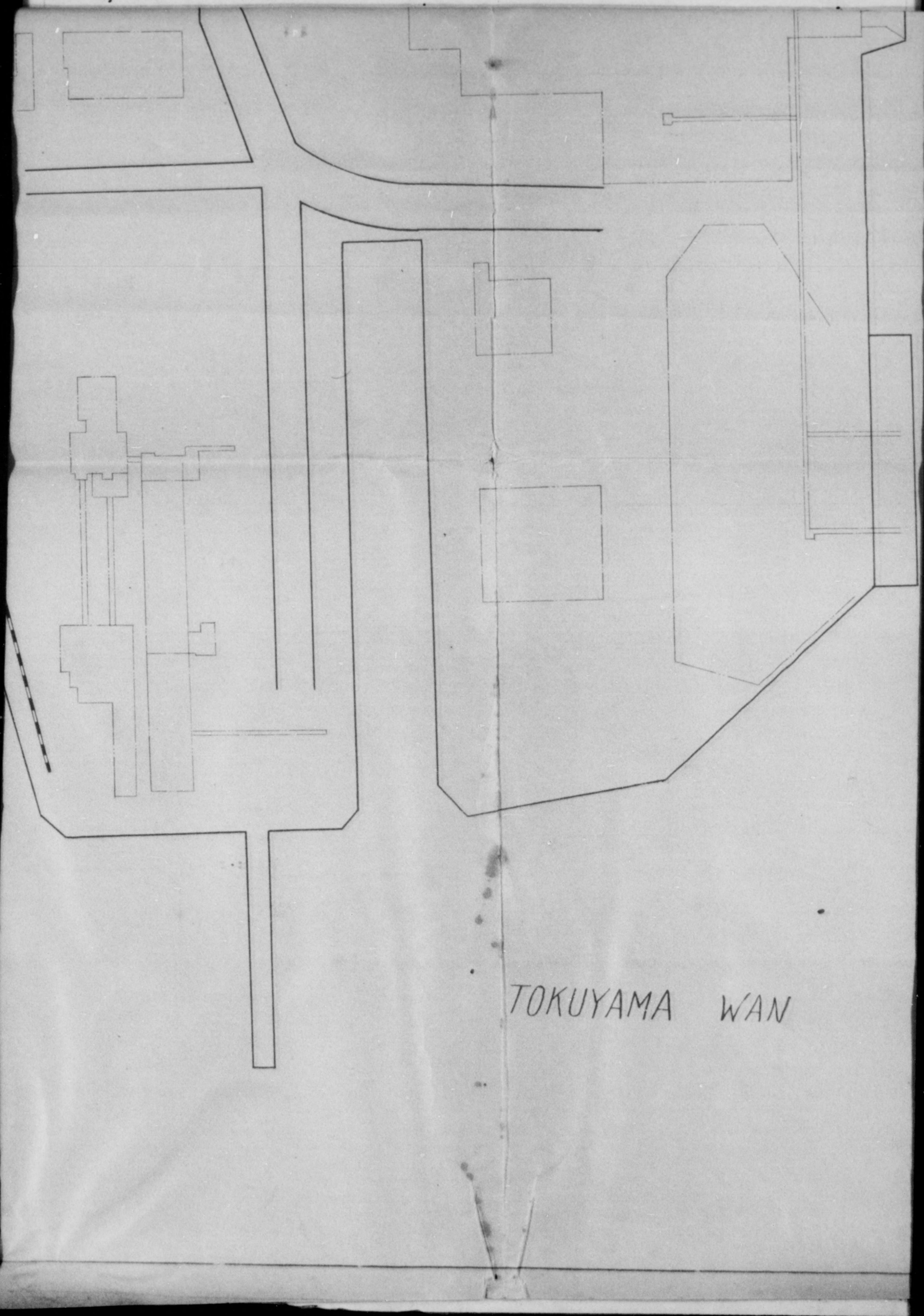
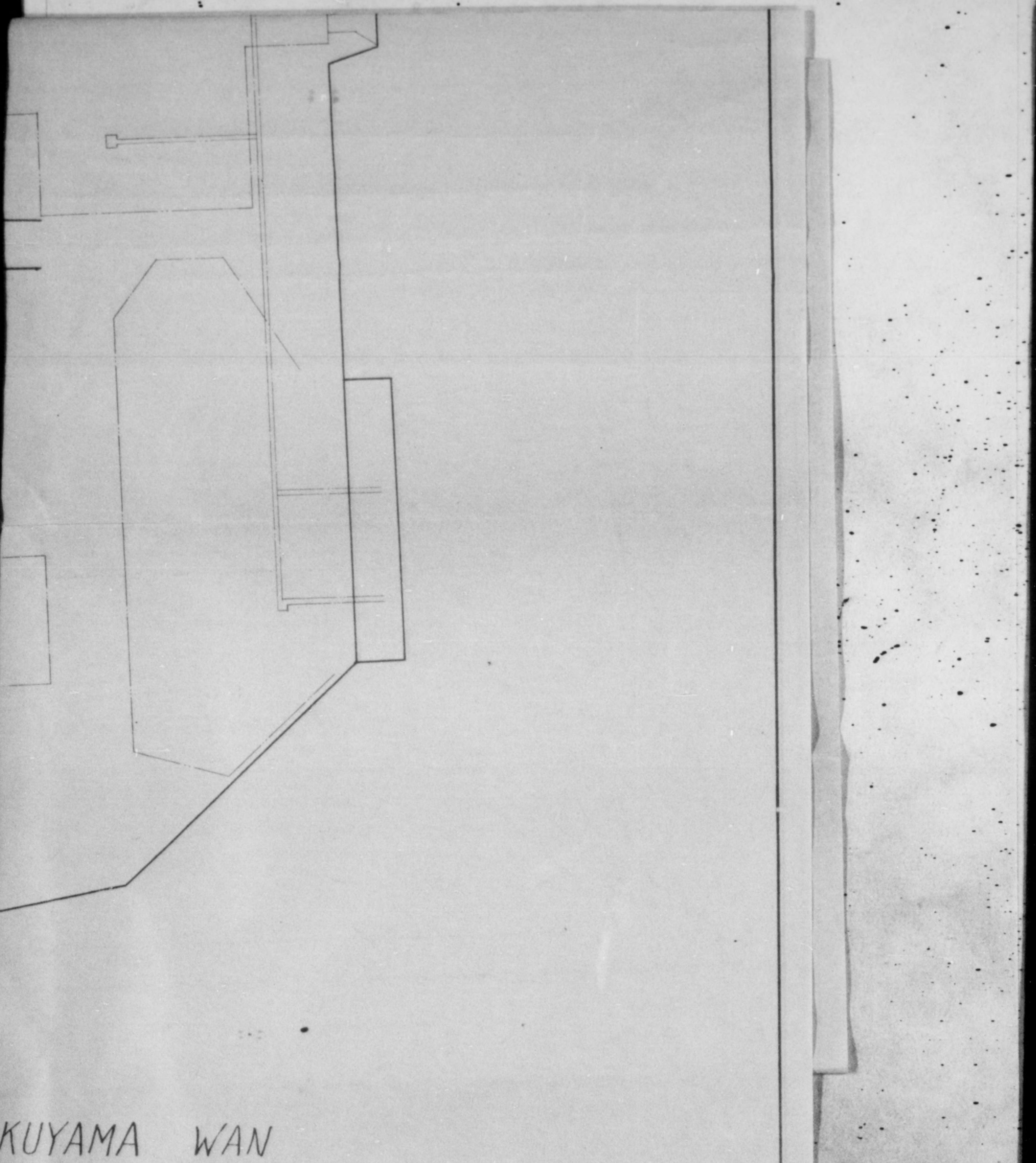


DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775013

TOKUYAMA WAN

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775013



OKUYAMA WAN

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775013

HEADQUARTERS
CHUGOKU CIVIL AFFAIRS REGION
APO 182

D/FPL/hk

CCAR 386.3

24 November 1950

SUBJECT: Temporary Use of Reparations Equipment at Plant 45-7

TO : Chief
Civil Affairs Section
GHQ, SCAP
APO 500

1. Reference is inclosed letter, in duplicate, from Mayor, Tokuyama City, Yamaguchi Prefecture, 20 November 1950, requesting temporary use of rail line and switch point located within the Tokuyama 3rd Naval Fuel Depot.

2. The City of Tokuyama requests temporary use, for a period of one hundred (100) days, for rail line 45-7-698 and switch point 45-7-697. The city proposes to repair subject items and coordinate the use of them between the four (4) oil companies, Daikyo Sekiyu, Mitsubishi Sekiyu, Toa Nenryo, and Showa Sekiyu, who have been authorized by ESS/SCAP for the use and movement of reparation's equipment located within the Tokuyama 3rd Naval Fuel Depot.

3. The temporary use of subject equipment by the City of Tokuyama will enable the city to utilize the local unemployed in the removal project.

4. Finance Bureau representatives in Tokuyama City have no objection to the temporary use of the equipment for the period specified. It is recommended that temporary use for the one hundred (100) days removal period be granted the City of Tokuyama.

1 Incl:
as indicated

C. N. BAILEY
Colonel, Inf
Chief

Subject File

RSS

NOV 24 1950

260 45-7 See II

1880

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775013

Tokuyama, November 20, 1950

Mr. Lord
Civil Affairs Region
Kure

Sir:

Hereby I request your sanction to temporary use the following reparations:

Railroad 1,520 meters, 30 kg. Code No. 45-7

Railroad switch 1 unit " "

Period to use them: 100 days from Dec. 1 to Feb 28 of 1950-51

Yours faithfully,

.....
Toshichi Hasegawa
Mayor of Tokuyama City

I hereby recommended that the permission called for be granted.

.....
Masahiko Nishino
Chief, Tokuyama Branch
Administration Agency
Ministry of Finance

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775013

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DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775013

APPLICATION FOR MOVEMENT AND AUTHORIZED USE OF DESIGNATED REPARATION MACHINERY AND EQUIPMENT

Aug. 31, 1950

To : Mr. Hayato Ikeda
Minister of Finance

From: Shunichi Takeuchi
President of Mitsubishi Oil Co., Ltd.
No.8, 2-chome, Marunouchi, Chiyoda-ku, Tokyo

MANUFACTURING AND INDUSTRY FILE - 45-7 Sec II

(1) Name and location of the plant which intends to use designated reparation machinery and equipment.

Kawasaki Refinery of Mitsubishi Oil Co., Ltd.

No.16, Ohgimachi, Kawasaki City, Kanagawa Pref.

(2) Name (Code No.) and location of the plant where designated reparation machinery and equipment to be used actually exist.

Former Third Naval Fuel Depot (Code No. 45 - 07),

Tokuyama City, Yamaguchi Pref.

(3) List of designated reparation machinery and equipment to be moved and used.

a. 1st Solvent Extraction and Dewaxing Plant (As per attached sheet)

b. Tanks (As per attached sheet)

(4) Necessity for movement and use of machinery and equipment

(a) Purpose of use

Those units, listed in attached sheet, will be utilized for the purpose of manufacturing high grade lubricants, and the tanks for the purpose of storing crude oil, semi-products and products.

(b) Necessity for use

Japanese refineries' capacity to produce lube oils, especially high grade one can not come up with the national consumption. It will be one of the most important tasks for Japanese refiners to make efforts to increase production of such a type of oil for some time to come. Taking part in the production increase, this company is planning to manufacture high grade lube oils.

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On the standpoint of oil refiners, manufacturing of fuel oils and that of lube oils are inseparably connected with each other just like two wheels of a cart. The manufacturing units of lube oils therefore, especially high grade one, are indispensable of an oil refining enterprise from the viewpoints of an economical processing of crude oil in line with Covernment's demand and supply plan, as well of profitability of an enterprise, and its sales policy.

c) Outline of operation plan and its connection with operation heretofore:

Pursuant to GHQ Memorandum entitled "Operation of Pacific Coast Refineries and Import of Crude Petroleum", this company launched to rehabilitate, first of all, Topping-Cracking Combination Unit and accessories at Kawasaki Refinery, which rehabilitation work having been completed this unit is now on full stream.

Inasmuch as the manufacturing of lube oils is inseparable connected with that of fuel oils as stated before, this company made the second rehabilitation plan of Kawasaki Refinery according to which we are going to rehabilitate and arrange lube oil manufacturing units. For this purpose, this company already started the rehabilitation work of the Vacuum Distillation Unit (Capacity 1,000 bbl/day) which will be completed before the end of this year. And as the fundamental plan, this company have the plan to construct the new Vacuum Distillation Unit (Capacity 2,000 bbl/day) till about the middle of 1951.

The above unit alone, however, is not enough to process paraffinic crude oil or to produce high grade lube oils.

With a view to improving quality of lube oils and producing high grade lube oils irrespective of any property of crude oil to be processed, it will be indispensable for our refinery to be furnished with facilities such as Solvent Deasphalting Unit, Solvent Dewaxing Unit and Solvent Extraction Unit. The following three units located at Former Third Naval Fuel Depot are the most suitable for our above-mentioned purpose.

1st Solvent Extraction and Dewaxing Plant. (Capacity 300 bbl/day)

Propane Solvent Dewaxing Unit.

Propane Deasphalting Unit.

Duosol Solvent Extraction Unit.

If we could get your permission to transfer these units to our refinery, we would be able to construct lube oil units in the most economical way, and further it would be a very effective utilization of idle facilities from the point of view of the national economy. We are, therefore, very anxious to get your approval of our transfer and utilization of these units.

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As for tenks, we are desirous of dismantling and hauling these as per attached sheet to our refinery, because our refinery will run short of some tanks when its lube oil manufacturing units go on stream.

S. Takeuchi

SHUNICHI TAKEUCHI
President,
Mitsubishi Oil Co., Ltd.

Attached document:

Approval of the applicant, concerning responsibility of custody for designated reparation machinery and equipment.

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775013

Approval of the applicant, concerning responsibility of custody for designated reparation machinery and equipment

I hereby pledge that, when if you approve my applications dated Aug. 31, 1950, for movement and authorized use of the machinery and or equipment in the Former Third Naval Fuel Depot, I will observe any and all directives affecting custody and maintenance of reparation machinery and equipment which have been issued or may hereafter be issued by the Supreme Commander for the Allied Powers.

Signed by S. Takeuchi

President of Mitsubishi Oil Co., Ltd.

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775013

List of Facilities for Applications

Code No. 45 – 07

Name of Plant. Former 3rd Naval Fuel Depot

Address of Plant. Tokuyama City, Yamaguchi Pref

1. Machinery (1st Solvent Extraction and Dewaxing Plant)

Inv. No.	Name of Machinery	Brief Specification	Quantity (Item)	Sheet No.	Remarks (Bldg. No.)
20 (6)	Propane Tank	Vertical Cylindrical. Cap. 4Kl	1	Sheet 15 of 802 Sheet	Area No. 4
		Dia. 1.4M H. 8.3M Shell Thick			
		25 mm Normal Press. 9~16 Kg/cm²			
		Construction Welded			
20 (7)	"	"	1	"	"
20 (8)	"	"	1	"	"
20 (9)	"	"	1	"	"
20 (10)	Extracting Tower	Vertical Rushing and Bubble.	1	Sheet 33 of 802 Sheet	"
		Normal Temp. 50°C Normal			
		Press. 15 Kg/cm² Dia. 1.90M			
		H. 22.4M Shell Thick 32 mm			
20 (11)	Evaporator	Vertical Bubble Plate × 7 and	1	Sheet 40 of 802 Sheet	"
		Tray × 8			
		Normal Temp 206°C~110°C			
		Normal Press 1 Kg/cm²			
		Dia. 1.9M H. 18.36M Shell Thick 12mm			
20 (12)	"	Vertical Bubble Plate × 12 and	1	Sheet 39 of 802 Sheet	"
		Bubble Tray × 7			
		Normal Temp. 300°C ~ 206°C			
		Normal Press. 1.5 Kg/cm²			
		Cap. Dia. 1.9M H. 10.2M T. 16 mm			
		Under Dia. 1.2M H. 8.1M			
		Shell Thick 25 mm			
20 (13)	Boiler	Horizontal Smoke Tubular	1	Sheet 46 of 802 Sheet	"
		Evaporating Cap. 2 T/H			
		Heating Area 90 m²			

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Inv. No.	Name of Machinery	Brief Specification	Quantity (Item)	Sheet No.	Remarks (Bldg No.)
20(13)	Boiler	Superheated Steam Press. 13 Kg/cm²			
		Superheated Steam Temp. 400°C			
		Dia. 1.70m L. 5.50m			
		Shell thick 12mm			
		Smoke Tube. Dia. 3½"			
		L. 5.50m 72 Pieces			
20(14)	Rotary Filter	Vacuum Rotary. Motor Driven	1	Sheet 25 of 802 Sheet	Area No. 4 & Bldg No. 22
		Normal Temp. -42°C			
		Press. 8 Kg/cm²			
		Filting Area 9.5 m²			
		Cap. 2.5 Kl/h Ⓔ 20 R.P.M			
		Normal Size. Dia. 3.8 in L. 3m			
20(15)	〃	〃	1	Sheet 26 of 802 Sheets	〃
20(16)	Evaporator	Vertical Cylindrical Bubble Plate	1	Sheet 19 of 802 Sheet	Area No. 4
		Normal Temp. 100°C			
		Press. 1 Kg/cm²			
		Dia. 0.60m H. 8m			
		Shell Thick 9mm			
20(17)	〃	Vertical Bubble Plate ×13	1	Sheet 29 of 802 Sheet	〃
		Normal Temp. 100°C			
		Press. 1 Kg/cm²			
		Dia. 0.60m H. 8m			
		T. 12mm			
20(20)	Receiver	Vertical Cylindrical	1	Sheet 38 of 802 Sheet	〃
		Cap. 15 Kl/H Dia. 1.9m H. 5.3m			
		Shell Thick 32mm			
		Normal Press. 16 Kg/cm²			
		Normal Temp. 100°C			
20(21)	〃	〃	1	〃	〃
20(22)	Oil Middle Tank	Vertical Cylindrical	1	Sheet 34 of 802	〃
		Cap. 1½ Kl Dia. 1.9m		Sheet	

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775013

Inv. No.	Name of Machinery	Brief Specification	Quantity (Sets)	Sheet No.	Remarks (Bldg No.)
20(22)	Oil Middle Tank	H. 5.3m Shell Thick 32mm			
		Normal Press 16 Kg/cm²			
20(23)	Asphalt Separator	Horizontal Cylindrical	1	Sheet 19 of 802	Area No.4
		Bubble Plate		Sheet	
		Normal Press. 16 Kg/cm²			
		Temp. 50°C Dia. 1.90m			
		L. 8.30m Shell Thick 32 mm			
20(25)	Air Compressor	Vertical. Steam Driven	1	Sheet 42 of	Bldg No.22
		Simplex. Cap. 12 m³/H		802 Sheet	
		7½" × 5" × 10"			
		Normal Press. 3 Kg/cm²			
		Del. Bore 1½" Air Cooling			
20(26)	Induction Motor	Enclosed cage Rotor 15 HP	1	Sheet 27 of	"
		3 Phase. 220V. 485 R.P.M		802 Sheet	
		14P. 42A. 60 Cycle.			
20(27)	"	Enclosed Cage Rotor 15 KW	1	Sheet 26 of	"
		3 Phase. 220V. 51A. 6P		802 Sheet	
		1,150 R.P.M. 60 Cycle			
20(28)	"	"	1	"	"
20(30)	Plunger Pump	Vertical Triplex. Motor Driven	1	Sheet 24 of	"
		Cap. 15 Kg/H Normal Press. 6 Kg/cm²		802 Sheet	
		Nominal Size. 105 mm × 120 mm			
		Normal Temp. −42°C			
		90 R.P.M			
		Induction Motor Enclosed			
		5 HP. 1150 R.P.M. 220V motor missing			
20(31)	Steam Pump	Duplex Double Acting	1	Sheet 36 of	"
		Cap. 18 Kg/H. 10"×8"×12"		802 Sheet	
		Normal Press. 16 Kg/cm²			
		Suc. Bore. 6" Del. Bore 4"			
		Cylinder Body Cast Iron			

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775013

Inv. No.	Name of Machinery	Brief Specification	Quantity (Item)	Sheet No.	Remarks (Bldg No.)
20(32)	Steam Pump	Horizontal Duplex Double Acting	1	Sheet 21 of	〃
		Cap. 13 KL/H. 9"x 7"x11"		802 Sheet	
		Normal Press. Unknown.			
		Suc. Bore 5" Del. Bore 4"			
		Cylinder Body. Cast Iron.			
20(33)	〃	Horizontal Duplex Double	1	Sheet 20 of	〃
		Acting. Cap. 10 KL/H		802 Sheet	
		8½"×6"×6"			
		Normal Press. 3 Kg/cm²			
		Suc. Bore 4" Del. Bore 4"			
		Cylinder Body Cast Iron			
20(34)	〃	Simplex Double Acting Hydol	1	Sheet 34 of	〃
		Cap. 9 KL/H. 8"×6"×12"		802 Sheet	
		Normal Press. 16 Kg/cm²			
		Temp. 80°C			
		Oil Cylinder Cast Iron			
20(35)	Vacuum Pump	Vertical Simplex Double Acting.	1	Sheet 24 of	〃
		Motor Driven Cap. 370 M³/H		802 Sheet	
		Vacuum 200 mm HG. Water			
		Cooling. Suc. Bore 6". Del Bore			
		8". 210 R.P.M. Induction Motor			
		Enclosed Type Ⓔ 75HP			
		800 R.P.H. 3,300 V			
20(36)	〃	〃	1	〃	〃
20(37)	Plunger Pump	Horizontal Duplex Single	1	Sheet 22 of	〃
		Acting Steam Driven. Cap.		802 Sheet	
		8 KL/H. 6"×4"×6". Normal			
		Press. 8 Kg/cm²			
20(38)	Gas Suction Pump	Vertical Simplex Single Acting	1	Sheet 27 of	〃
		Motor Driven. Cap. 40 KL/H		802 Sheet	
		Vacuum 200 mm HG			

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Inv. No.	Name of Machinery	Brief Specification	Quantity (Item)	Sheet No.	Remarks (Bldg No.)
20(38)	Gas Suction Pump	Nominal Size 150mm×150mm			
		110 R.P.M			
20(39)	Gas Compressor	Horizontal Simplex Double Acting	1	Sheet 45 of	Bldg No. 23
		2 Stages. Motor Driven		802 Sheet	
		Cap. 500 m^3/H. Suc. Press. 1 kg/cm^2			
		Del. Press. 17 kg/cm^2 Suc. Temp-10°C			
20(39)	Cooler	Shell and Tubes. Cooling	1	"	Area No. 3
		Surface 35 m^2 Tube Admiralty			
		2 Pass. O.D 2°mm L. 2.2 m			
		250 Pieces Shell. Steel Plate			
		Dia 0.67m H. 2.7 m			
20(39)	"	Vertical Shell and Tubes	1	"	"
		Cooling Surface 25 m^2. Tube.			
		Extra Steel Tube. O.D. 32mm			
		L. 2.06 m 58 Pieces Shell Steel			
		Plate Dia. 0.6m H. 2.7m			
20(39)	"	"	1	"	"
20(40)	"	Vertical. Shell and Tubes.	1	Sheet 43 of	"
		Cooling Surface 130 m^2		802 Sheet	
		Dia. 0.95m H. 5m			
		Tube Extra Steel Tube			
		O.D. 60mm L. 5m 144 Pieces			
		Shell Steel Plate			
		Side Inlet 1" Outlet 4"			
20(41)	"	"	1	Sheet 44 of 802 Sheet	"
20(42)	"	"	1	"	"
20(43)	"	Vertical. Shell and Tubes	1		
		Cooling Surface 45 m^2			
		Dia. 0.5m H. 5 m			
		Tube. Extra Steel Tube			
		O.D 60 mm L. 4.9 m 53 Pieces			

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Inv. No.	Name of Machinery	Brief Specification	Quantity (Item)	Sheed No.	Remarks (Bldg No.)
20 (43)	Cooler	Shell Steel Plate			
		Side Inlet 1" Outlet 2"			
20 (44)	"	Vertical. Shell and Tubes	1	Sheet 44 of	Area No.3
		Cooling Surface 45 m²		802 Sheet	
		Dia. 0.6 m L. 5 m Tube.			
		Extra Steel Tube O.D. 60 mm			
		L. 4.9 m. 53 Pieces. Shell. Steel			
		Plate. Side Inlet 1" Outlet 2"			
20 (45)	Receiver	Vertical Cylindrical	1	Sheet 28 of	"
		Cap. 1.8 Kl Dia. 0.95 m		802 Sheet	
		H. 2.4 m T. 12 m.m. Temp.			
		-42°C Press 3 kg/cm²			
20 (46)	Gas Separator	Vertical Column. Normal	1	Sheet 24 of	"
		Temp. -25°C Press A.T.M		802 Sheet	
		Dia. 0.5 m. H. 1.6 m			
		Shell Thick. 9 m.m			
20 (47)	Asphalt Separator	Horizontal Cylindrical	1	Sheet 18 of	Area No.5
		Bubble Plate		802 Sheet	
		Normal Press. 16 kg/cm²			
		Temp. 50°C			
		Dia. 1.9 m L 5.3 m T. 32 m.m.			
20 (48)	Receiver	Horizontal Cylindrical	1	Sheet 27 of	"
		Cap. 12 Kl Dia. 1.9 m L. 3.2 m		802 Sheet	
		Shell Thick 20 m.m			
		Construction Welded			
20 (49)	Water Receiver	Vertical Cylindrical	1	Sheet 40 of	"
		Cap. 10 Kl Dia. 1.5 m H. 5.5 m		802 Sheet	
		Shell Thick 8 m.m			
		Construction Welded			
20 (51)	Oil Tank	Vertical Cylindrical	1	Sheet 49 of	Area No.3
		Cap. 100 Kl Dia. 4.5 m H. 7.5 m		802 Sheet	

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Inv. No.	Name of Machinery	Brief Specification	Quantity (Item)	Sheet No.	Remarks (Bldg No.)
20 (51)		Side Plate Thick 8 mm			
		Construction Riveted			
20 (52)	Oil Tanke	"	1	Sheet 49 of 802 Sheet	Area No. 3
20 (53)	"	Vertical Cylindrical	1	"	"
		Cap. 80Kl Dia. 4.5m H. 5m			
		Side Plate Thick. 6 ~ 8 mm			
20 (54)	"	Vertical Cylindrical	1	Sheet 50 of	"
		Cap. 100Kl Dia 5m H. 6m		802 Sheet	
		Side Plate Thick 8 mm			
		Construction Riveted			
20 (55)	"	Vertical Cylindrical	1	"	"
		Cap. 80 Dia 4.5m H. 5m			
		Side Plate Thick 6 ~ 8 mm			
		Construction Riveted			
20 (56)	Steam Pump	Duplex Double Acting	1	Sheet 31 of	No. 22
		Cap. 12 Kl/H. 8" × 6" × 8"		802 Sheet	
		Normal Press 8 Kg/cm²			
		Suc. Bore 3" Del Bore 2½"			
		Oil Cylinder Body Cast Iron			
20 (57)	Oil Tank	Vertical Cylindrical	1	Sheet 47 of	Area No. 4
		Cap. 230Kl Dia. 7m H. 6m		802 Sheet	
		Side Plate Thick 9 mm			
		Construction Riveted			
20 (58)	"	"	1	"	"
20 (59)	"	"	1	"	"
20 (60)	Heater	Shell and Tubes	1	Sheet 18 of	"
		Heating Surface 25 m²		802 Sheet	
		Normal Temp. 50°C			
		Normal Press. 16 Kg/cm²			
		Tubes Admiralty Brass 2 Pass			
		O.D. 20 mm L. 2.6 m 166 Pieces			

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Inv. No.	Name of Machinery	Brief Specification	Quantity (Item)	Sheet No.	Remarks (Bldg No.)
		Shell Steel Plate O.D. 0.48m			
		L. 3m Side Inlet 1½"			
		Outlet 3"			
20(61)	Oil Tank	Vertical Cylindrical	1	Sheet 48 of	Area No. 4
		Cap. 200Kl Dia. 9.5m H. 3m		802 Sheet	
		Side Plate Thick 8 mm			
		Construction Riveted			
20(62)	Steam Pump	Duplex Double Acting	1	Sheet 36 of	Bldg No. 71
		Cap. 3 Kl/H. 8"x4"x8"		802 Sheet	
		Normal Press 16 Kg/cm²			
		Suc. Bore 4" Del. Bore 3"			
		Cylinder Body Cast Iron			
20(67) (66)	Plunger Pump	Vertical Triplex Motor Driven	1	Sheet 32 of	"
		Cap. 3 Kl/H		802 Sheet	
		Normal Press. Unknown			
		95 R.P.M Nominal Size			
		3"x 4". Induction Motor			
		Enclosed 5 HP. 1.160 R.P.M. 220V motor missing			
20(68)	Plunger Pump	"	1	Sheet 40 of 802 Sheet	"
20(69)	Propane Receiver	Horizontal Cylindrical	1	Sheet 17 of	Fukugawa
		Cap. 16 Kl. Dia. 1.9m L. 6.8m		802 Sheet	
		Shell Thick 32 mm			
		Normal Press 16 Kg/cm²			
20(72)	Heater	Shell and Tubes	1	Sheet 31 of	"
		Heating Surface 5 m²		802 Sheet	
		Normal Temp. 80°C			
		Press. 2 Kg/cm²			
		Tube Admiralty Brass 2 Pass			
		O.D 20 mm L. 0.65m 19 Pieces			
		Shell Steel Plate			
		Dia. 0.19m L. 0.75m			

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Inv. No.	Name of Machinery	Brief Specification	Quantity (Item)	Sheet No.	Remarks (Bldg No.)
20(85)	Steam Pump	Horizontal Double Acting.	1	Sheet 17 of	Bldg No. 71
		Duplex Cap. 16 KL/H. 8"x6"x8"		802 Sheet	
		Press. 16 KG/cm² Suc. Bore 4"			
		Del. Bore 3" Cylinder Body			
		Cast Iron			
20(86)	"	Horizontal Duplex Worthington	1	"	"
		Cap. 16 KL/H. 8"x6"x8"			
		Press. 16 KG/cm²			
		Suc. Bore 4" Del Bore 3"			
		Cylinder Body Cast Iron			
20(87)	"	Horizontal Duplex Worthington	1	"	"
		Cap. 20 KL/H. 8"x6"x8"			
		Normal Press. 16 KG/cm²			
		Suc. Bore 4" Del. Bore 3"			
		Cylinder Body: Cast Iron			
20(88)	"	Simplex Double Acting Hypol	1	Sheet 30 of	"
		Cap. 18 KL/H. 14"x7"x12".		802 Sheet	
		Normal Press. 16 KG/cm²			
		Suc. Bore 4" Del. Bore 3"			
		Oil Cylinder Body: Cast Steel			
20(89)	"	Horizontal Simplex Hypol	1	Sheet 31 of	"
		Cap. 13 KL. 14"x7"x12"		802 Sheet	
		Normal Press 16 KG/cm²			
		Suc. Bore 4" Del. Bore 3"			
		Oil Cylinder Body: Cast Steel			
20(96)	"	Simplex Double Acting Hypol	1	Sheet 30 of	Bldg No. 71
		Cap. 12 KL/H 10"x6"x10"		802 Sheet	
		Normal Press. 16 KG/cm²			
		Suc. Bore 3" Del Bore 2½"			
		Oil Cylinder Body Cast Steel			
26(97)	"	Simplex Double Acting Hypol	1	Sheet 18 of 802 Sheet	"

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Inv. No.	Name of Machinery	Brief Specification	Quantity (Nos.)	Sheet No.	Remarks (Bldg No.)
	Steam Pump	Cap. 6 Kg/cm^2. 10"×6"×10"			
		Normal Press. 16 Kg/cm^2			
		Suc. Bore 3" Del. Bore 2"			
		Oil Cylinder Body Cast Steel			
26 (99)	"	Vertical Simplex Double Acting Weir	1	Sheet 41 of	Bldg No. 71
		Cap. 10 Kg/H. 7"×5"×7"		802 Sheet	
		Normal Press. 5 Kg/cm^2			
		Cylinder Body Gun Metal			
20 (100)	"	Simplex Double Acting Weir	1	"	"
		Cap. 10 Kg/H. 7"×5"×7"			
		Suc. Bore 3" Del. Bore 3"			
		Cylinder Body Gun Metal			
20 (101)	Air Compressor	Vertical Steam Driven Simplex	1	Sheet 42 of	"
		Cap. 12 m^3/H. 7½"×5"×10"		802 Sheet	
		Normal Press. 3 Kg/cm^2			
		Del. Bore 1½" Air Cooling			
20 (102)	"	Vertical Steam Driven Simplex	1	Sheet 46 of	"
		Cap. 10 m^3/H. 7½"×5"×10"		802 Sheet	
		Normal Press 3 Kg/cm^2			
		Del. Bore 1½ Air Cooling			
20 (105)	Steam Pump	Duplex Double Acting	1	Sheet 41 of	"
		Cap. 2 Kg/H. 4"×3"×6"		802 Sheet	
		Suc. Bore 1½" Del. Bore 1½"			
		Cylinder Body Cast Iron			
20 (107)	"	Simplex Double Acting Hyphol	1	Sheet 38 of	"
		Cap. 12 Kg/H. 14"×6"×12"		802 Sheet	
		Normal Press. Unknown			
		Suc. Bore 4" Del. Bore 3"			
		Oil Cylinder Body. Cast Steel			
20 (110)	"	Simplex Double Acting Hyphol	1	Sheet 35 of	"
		Cap. 4 Kg/H. 6"×12"×10"		802 Sheet	

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Inv. No.	Name of Machinery	Brief Specification	Quantity (Item)	Sheet No.	Remarks (Bldg No.)
	Steam Pump	Normal Press. 5 kg/cm²			
		Temp. 180°C Suc. Bore 4"			
		Del. Bore 3" With Water Jacket			
		Oil Cylinder Body Cast Steel			
20 (111)	"	Simplex Double Acting Hyhol	1	Sheet 35 of	Bldg No. 71
		Cap. 6 kg/H. 6"×5"×12"		802 Sheet	
		Normal Press. 2 kg/cm²			
		Normal Temp. 200°C			
		Suc. Bore 3". Del. Bore 2"			
		With Water Jacket. Oil			
		Cylinder Body Cast ~~Steel~~ steel			
20 (112)	"	Simplex Double Acting Hyhol	1	Sheet 18 of	"
		Cap. 6 kg/H. 10"×6"×10"		802 Sheet	
		Normal Press. 16 kg/cm²			
		Suc. Bore 3" Del. Bore 2"			
		Cylinder Body Cast Steel-Iron			
20 (113)	"	Simplex Double Acting Hyhol	1	Sheet 38 of	"
		Cap. 5 kg/H. 6"×4"×10"		802 Sheet	
		Normal Press. 15 kg/cm²			
		Normal Temp. 206°C			
		Cylinder Body Cast Steel			
		With Water Jacket. Suc. Bore			
		3" Del. Bore 2"			
20 (114)	"	Simplex Double Acting Hyhol	1	Sheet 39 of	"
		Cap. 6 kg/H. 6"×5"×12"		802 Sheet	
		Normal Press. 10 kg/cm²			
		Normal Temp. 200°C			
		Cylinder Body Cast Steel			
		With Water Jacket.			
		Suc. Bore 3" Del. Bore 2"			
20 (115)	"	Vertical Simplex Weir	1	Sheet 42 of 802 Sheet	"

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Inv. No	Name of Machinery	Brief Specification	Quantity (Item)	Sheet No	Remarks (Bldg No.)
	Steam Pump	Cap. 10 kg/H. 7"×5"×7"			
		Suc. Bore 3" Del. Bore 3"			
		Cylinder Body Gun Metal			
20 (1116)	"	Duplex Double Acting	1	Sheet 40 of	Bldg No. 71
		Cap. 3 kg/H. 4½"×2¾"×4"		802 Sheet	
		Suc. Bore 1½" Del. Bore 1"			
20 (1118)	"	Duplex Double Acting	1	Sheet 41 of	"
		Cap. 0.5 kg/H. 2½"×1½"×3"		802 Sheet	
		Suc. Bore 1" Del. Bore 1"			
		Cylinder Body. Cast Iron			
		With Steam Heater. Heating			
		Surface 3 m². Dia. 0.3m L. 1.0 m			
20 (1119)	"	Duplex Double Acting	1	Sheet 42 of	"
		Cap. 0.5 kg/H. 2½"×1½"×3"		802 Sheet	
		Suc. Bore 1" Del Bore 1"			
		Cylinder Body Cast Iron			
20 (1120)	"	Simplex Double Acting. Weir	1	Sheet 31 of	"
		Cap. 8 kg/H. 8"×6"×8"		802 Sheet	
		Normal Press Unknown			
		Suc. Bore 3". Del. Bore 2½"			
		Cylinder Body Gun Metal			
20 (1121)	"	Duplex Double Acting	1	Sheet 33 of	
		Cap. 13 kg/H. 7"×6"×8"		802 Sheet	
		Normal Press. 15 kg/cm²			
		Suc. Bore 4" Del. Bore 3"			
		Cylinder Body. Cast Iron			
20 (122)	"	Vertical Simplex Weir	1	Sheet 39 of	"
		Cap. 6 kg/H. 6"×4"×10"		802 Sheet	
		Normal Press. 10 kg/cm²			
		Cylinder Body. Gun Metal			
		Suc. Bore 3" Del. Bore 2"			

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Insr. No	Name of Machinery	Breif Spsecification	Quantity (Item)	Sheet No.	Remarks (Bldg No.)
20 (125)	Propane Tank	Vertical Cylindrical	1	Sheet 16 of	Fukugawa
		Cap. 14 Kl Dia 1.4m H. 3.3m		802 Sheet	
		Shell Thick 25 mm			
		Constretion Welded			
		Normal Press 9~16 Kg/cm²			
20 (126)	"	"	1	Sheet 17 of 802 Sheet	"
20 (127)	Wash Tank	Horizontal Cylinderical Bubble	1	Sheet 32 of	
		Plate Normal Temp. 50°C		802 Sheet	"
		Press. 16 Kg/cm² Dia. 1.4m			
		L. 6.5m Shell Thick 25 mm			
20 (137)	Steam Pump	Horizontal Duplex Double Acting	1	Sheet 20 of	Bldg No. 71
		Cap. 4 Kl/H. 8" x 4" x 3"		802 Sheet	
		Normal Press. 3 Kg/cm²			
		Suc. Bore 3" Del. Bore 2½"			
		Cylinder Body Cast Iron			
20 (141)	Tank	Vertical Column	1	Sheet 47 of	Fukugawa
		Cap. 20 Kl. Dia. 3m H. 3.5m		802 Sheet	
		Shell Thick 9 mm			
		Construction Riveted			
20 (142)	Receiver	Vertical Column	1	Sheet 36 of	"
		Cap. 20 Kl Dia. 3.2 m/m H. 3 m		802 Sheet	
		Shell Thick. 9 mm			
		Construction Riveted			
20 (143)	Heat Exchanger	Shell and Tubes	1	Sheet 22 of	"
		Heating Surface 25 m²		802 Sheet	
		Normal Temp. -19° C			
		Press. 1.5 Kg/cm²			
		Tubes Admiralty Brass 2 Pass			
		O.D. 20mm L. 2.6m 168 Pieces			
		Sheel Steel Plate			
		Dia. 0.45 m L. 3.1 m			

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Inv. No.	Name of Machinery	Brief Specification	Quantity (Item)	Sheet No	Remarks (Bldg No.)
20 (144)	Heat Exchanger	Shell and Tubes	1	Sheet 23 of	Fukugawa
		Heating Surface 25 m²		802 Sheet	
		Normal Temp. -190°C			
		Press. 1.5 kg/cm²			
		Tubes Admiralty Brass 2 Pass			
		O.D 20 m.m. L. 2.6 m 168 Pieces			
		Shell Steel Plate			
		Dia 0.45 m L. 3.1 m			
20 (146)	Gas Separator	Vertical Column	1	Sheet 25 of	"
		Normal Temp. -40°C		802 Sheet	
		Press. 2 kg/cm²			
		Dia. 0.85 m H. 3 m T. 9 m m			
		Inlet 2" Outlet 2"			
20 (147)	"	"	1	"	"
20 (148)	Middle Tank	Horizontal Cylindrical	1	"	"
		Cap. 5 kl Dia. 1.4 m L. 3.5 m			
		Shell Thick 12 m m			
		Construction Welded.			
20 (149)	Receiver	Horizontal Cylindrical	1	Sheet 28 of	"
		Cap. 12 kl Dia. 1.9 m L. 4.8 m		802 Sheet	
		Shell Thick 20 m m			
		Press. 9 kg/cm²			
		Construction Riveted			
20 (151)	Cooling Tower	Vertical Bubble Plate ×5	1	Sheet 21 of	"
		Normal Temp. -23°C		802 Sheet	
		Press. 12 kg/cm²			
		Up. Dia. 0.4 m H. 3 m T. 9 m m			
		Under Dia. 0.8 m H. 1.1 m T. 12 m m			
		Oil Inlet 35 m m Outlet 35 m m			
		Vapor 3". Construction Welded			
20 (152)	"	"	1	Sheet 22 of 802 Sheet	"

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Inv. No.	Name of Machinery	Brief Specification	Quantity (Nos.)	Sheet No.	Remarks (Bldg No.)
20 (153)	Cooling Tower	Vertical Bubble Plate x 5	1	Sheet 22 of	Fukugawa
		Normal Temp. - 23°C		802 Sheet	
		Press. 1.2 kg/cm²			
		Cap: Dia. 0.4m H.3m T.9mm			
		Under Dia. 0.8m H.4.1m T.12mm			
		Oil Inlet 35mm Outlet 35mm			
		Vapor 3" Construction Welded			
20 (154)	"	Vertical Bubble Plate x 14	1	Sheet 23 of	"
		Normal Temp. - 42°C		802 Sheet	
		Press. 1.4 kg/cm² Cap. Dia 0.61m			
		H. 4m Shell Thick 9mm			
		Under Dia. 1.4m H. 5m			
		Thick 25mm			
20 (155)	Cooling Tower	Vertical Bubble Plate x 14	1	Sheet 20 of	"
		Normal Temp. 27°C		802 Sheet	
		Press. 9 kg/cm²			
		Cap. Dia 0.61m H. 4m T.12mm			
		Under Dia 1.4m H.5m T.22mm			
		Construction Riveted			
20 (156)	"	Vertical Bubble Plate x 14	1	Sheet 21 of	"
		Normal Temp 25°C		802 sheet	
		Press 8 kg/cm²			
		Cap. Dia 0.61m H.4m T.12mm			
		Under Dia 1.4m H.5m T.22mm			
		Construction Riveted.			
20 (160)	Heat Exchanger	Shell and Tubes	1	Sheet 23 of	"
		Heating Surface 25 m²		802 Sheet	
		Normal Temp -19°C			
		Press 1.5 kg/cm²			
		Tube Admiralty Brass 2 Pass			
		O.D 20mm L.2.6m 168 Pieces			
		Shell. Steel Plate,			
		Dia. 0.45 m L. 3.1 m			

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Inv No.	Name of Machinery	Brief Specification	Quantity (Unit)	Sheet No.	Remarks (Bldg No.)
20 (161)	Evaporating Tower	Vertical Bubble Plate ×14	1	Sheet 19 of	Fukugawa
		Normal Temp. 50°C		802 Sheet	
		Press. 16 kg/cm²			
		Up. Dia. 0.61m H. 4m T. 12mm			
		Under Dia. 1.40m H. 5m T. 25mm			
		Construction Riveted			
20 (162)	Propane Heater	Shell and Tubes	1	Sheet 30 of	〃
		Heating Surface 20 m²		802 Sheet	
		Normal Temp. 50°C Press. 16 kg/cm²			
		Tube Admiralty Brass 2 Pass			
		O.D. 20mm L. 2.06m 166 Pieces			
		Shell Steel Plate			
		Dia. 0.47m L. 2.57m			
20 (163)	Heat Exchanger	Shell and Tubes	1	Sheet 39 of	〃
		Heating Surface 5 m²		802 Sheet	
		Normal Temp. Unknown			
		Tube. Admiralty Brass 2 Pass			
		O.D 20mm L. 2.07m 103 Pieces			
		Shell. Steel Plate			
		Dia. 0.38m L. 2.5m			
20 (164)	〃	Shell and Tubes	1	Sheet 35 of	〃
		Heating Surface 15 m²		802 Sheet	
		Normal Temp. Unknown			
		Tube. Admiralty Brass 2 Pass			
		O.D. 20mm L. 2.21m 103 Pieces			
		Shell. Steel Plate			
		Dia. 0.38m L. 2.60m			
20 (165)	Propane Evaporator	Vertical Bubble Plate ×13	1	Sheet 34 of	〃
		Normal Temp. 95°C Press. 15 kg/cm²		802 Sheet	
		Dia. 0.7m H. 10m T. 16mm			
20 (166)	Heat Exchanger	Shell and Tubes	1	Sheet 21 of 802 Sheet	〃

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Mark No.	Name of Machinery	Brief Specification	Quantity (Items)	Sheet No.	Remarks (Bldg No.)
	Heat Exchange	Heating Surface 25 m²			
		Normal Temp. -1°C			
		Tube Admiralty Brass 2 Pass			
		O.D 20mm L 2.6m 168 Pieces			
		Shell Steel Plate Dia. 0.45m L. 3.1m			
20 (167)	"	Shell and Tubes	1	Sheet 33 of	Fukugawa
		Heating Surface 25 m²		802 Sheet	
		Normal Temp. Unknown			
		Tube Admiralty Brass 2 Pass			
		O.D. 20 mm L. 2.6m 166 Pieces			
		Shell Steel Plate			
		Dia. 0.47m L. 3.1m			
20 (168)	Solvent Tank	Horizontal Cylindrical	1	Sheet 31 of	"
		Cap. 19Kl. Dia. 1.9m L. 6.55m		802 Sheet	
		Shell Thick 12 mm			
		Construction Welded			
20 (170)	Evaporator	Vertical Bubble Plate x 11	1	Sheet 35 of	"
		and Bubble. Tray x 8		802 Sheet	
		Normal Temp. 250°C			
		Normal Press. 1.5 Kg/cm²			
		Dia 0.7m H. 10m T. 9 mm			
20 (171)	Wash Tank	Horizontal Cylindrical Bubble	1	Sheet 32 of	"
		Plate. Normal Temp. 50°C Press. 16 Kg/cm²		802 Sheet	
		Dia. 1.4m L. 6.5m Shell Thick 25 mm			
20 (172)	Evaporator	Vertical Bubble Plate x 11	1	Sheet 37 of	"
		Normal Press. 16 Kg/cm²		802 Sheet	
		Temp. 75°C			
		Up. Dia. 0.7m H. 6m T. 16 mm			
		Under Dia. 1.4m H. 4.5m Shell Thick 25 mm			
20 (173)	Middle Tank	Vertical Cylindrical Cap. 5Kl Dia. 1.4m L. 3.5m	1	Sheet 27 of 802 Sheet	"
		Shell Thick 12 mm Construction Welded			

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Inv. No.	Name of Machinery	Brief Specification	Quantity (Item)	Sheet No.	Remarks (Bldg No.)
20 (174)	Solvent Tanks	Horizontal Cylindrical	1	Sheet 31 of	Fukugawa
		Cap. 14Kl Dia 1.8m L. 5.65m		802 Sheet	
		Shell Thick 12mm			
		Construction welded			
20 (175)	Induction Motor	Enclosed Cage. Cage Rotor 10KW	1	Sheet 28 of	Bldg No. 27
		3 Phase. 220V. 34A		802 Sheet	
		1,150 R.P.M 6P. 60 cycle			
20 (176)	Gear Pump	Motor Driven. Cap. 3 Kl/H	1	"	Bldg No. 153
		Normal Press. 15 Kg/cm²			
		Temp. Unknown			
		Nominal Size Unknown			
		110 R.P.M Suc. Bore 2"			
		Del Bore 2"			
20 (178)	Power Pump	Horizontal Duplex Double Acting	1	Sheet 27 of	"
		Belt Driven by Motor		802 Sheet	
		Cap. 15 Kg/H Press. 21 Kg/cm²			
		Nominal Size 105 mm × 150 mm			
		58 R.P.M. Suc. Bore 2½"			
		Del. Bore 2"			
		Body Cast Iron			
		Induction Motor Enclosed			
		20 HP 1,160 R.P.M. 220V			
		motor missing			
20 (179)	Plunger Pump	Vertical Triplex Motor Driven	1	Sheet 25 of	"
		Cap. 15 Kg/H. Normal Press		802 Sheet	
		6 Kg/cm² Nominal Size 105 mm			
		× 120 mm Temp. — 40°C			
		90 R.P.M. Suc. Bore 2½"			
		Del. Bore 2" Induction			
		Motor Enclosed 5 HP.			
		1,150 R.P.M. 220V.			
		motor missing			
20 (180)	Rotary Pump	Motor Driven. Kagano	1	"	"
		Cap. 15 Kg/H			
		Normal Press. 5 Kg/cm²			

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Inv. No.	Name of Machinery	Brief Specification	Quantity (Item)	Sheet No.	Remarks (Bldg No.)
	Rotary Pump	Temp. −40°C Nominal Size unknown			
		300 R.P.M Suc. Bore 4"			
		Del. Bore 3"			
		Induction Motor Enclosed			
		Ⓔ 7.5 HP. 1,160 R.P.M. 220V motor missing			
20 (181)	Steam Pump	Duplex Double Acting	1	Sheet 25 of	Bldg No. 53
		Cap. 0.2 K/H 2½"×1½"×4"		802 Sheet	
		Nominal Press 2 K/cm²			
		Suc. Bore 1½" Del. Bore ¾"			
		Cylinder Body Cast Iron			
20 (182)	Rotary Pump	Motor Driven. Cap. 15 K/H.	1	Sheet 32 of	"
		Normal Press Unknown		802 Sheet	
		300 R.P.M			
		Nominal Size Unkown			
		Induction Motor Enclosed			
		Ⓔ 10 HP 1,160 R.P.M. 220V motor missing			
20 (184)	"	Motor Driven Kagano	1	Sheet 28 of	"
		Cap. 5 K/H Normal Press K/cm²		802 Sheet	
		290 R.P.M			
		Nominal Size 152 m m			
		Induction Motor Enclosed			
		3 HP. 220V. 1,150 R.P.M motor missing			
20 (185)	"	"	1	Sheet 29 of 802 Sheet	"
20 (196)	Gear Pump	Motor Driven. Cap. 3 K/H.	1	Sheet 30 of	"
		Normal Press. 15 K/cm²		802 Sheet	
		110 R.P.M Suc. Bore 2"			
		Del. Bore 2" Body Cast Iron			
		Induction Motor Enclosed			
		5 HP. 1,150 R.P.M. 220V motor missing			
20 (193)	Heater	Shell and Tubes. Heat	1	Sheet 18 of	Area No. 5
		Exchanging Surface 20 m²		802 Sheet	

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Inv. No.	Name of Machinery	Brief Specification	Quantity (Item)	Sheet No.	Remarks (Bldg No.)
		Normal Temp. 50°C			
		Normal Press. 16 KG/cm²			
		Tube Admiralty Brass 2 Pass			
		O.D 20mm L. 2.16m 166 Pieces			
		Shell Steel Plate			
		Dia 0.48m L. 2.5m			
20 (194)	Heat Exchanger	Shell and Tubes	1	Sheet 36 of	Fukugawa
		Heating Surface 35m²		802 Sheet	
		Normal Temp. 100°C			
		Tube, Admiralty Brass 2 Pass			
		O.D 20mm L. 2.6m 216 Pieces			
		Shell Steel Plate			
		Dia. 0.52m L. 3.1m			
20 (195)	Solvent Cooler	Shell and Tubes	1	Sheet 33 of	Area No 5
		Cooling Surface 15m²		802 Sheet	
		Normal Temp Unknown			
		Press. 16 KG/cm²			
		Tube Admiralty Brass 2 Pass			
		O.D. 20mm L. 2.2m 103 Pieces			
		Shell Steel Plate			
		Dia. 0.38m L. 2.6m			
20 (196)	Heat Exchanger	Shell and Tubes	1	Sheet 34 of	"
		Heating Surface 16m²		802 Sheet	
		Normal Temp. Unknown			
		Tube Admiralty Brass 2 Pass			
		O.D. 20mm L. 2.6m 103 Pieces			
		Shell Steel Plate			
		Dia. 0.38m L. 3m			
20 (197)	Heater	Shell and Tubes	1	Sheet 19 of	"
		Heating Surface 10m²		802 Sheet	
		Normal Temp. 100°C			

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Inv. No.	Name of Machinery	Brief Specification	Quantity (Item)	Sheet No.	Remarks (Bldg NO.)
		Press 16 kg/cm²			
		Tubes Admiralty Brass 2 Pass			
		O.D. 20mm L. 2.06m 72 Pieces			
		Shell Steel Plate			
		Dia. 0.38m L. 2.5m			
20 (198)	Cooler	Shell and Tubes	1	Sheet 20 of 802 Sheet	Area No. 5
		Cooling Surface 10 m²			
		Normal Temp. 32°C			
		Tubes Admiralty Brass 2 Pass			
		O.D. 20mm L. 2.2m 72 Pieces			
		Shell Steel Plate			
		Dia. 0.38m L. 2.5m			
20 (199)	Heater	Shell and Tubes	1	Sheet 29 of 802 Sheet	"
		Heating Surface 30 m²			
		Normal Temp. 100°C			
		Press. 1 kg/cm²			
		Tube. Admiralty Brass 2 Pass			
		O.D. 20mm L. 2.6m 210 Pieces			
		Shell Steel Plate			
		Dia. 0.52m L. 3.1m			
20 (200)	Heat Exchanger	Shell and Tubes	1	Sheet 37 of 802 Sheet	"
		Heating Surface 25 m²			
		Normal Temp. 50°C			
		Normal Press. 16 kg/cm²			
		Tube Admiralty Brass 2 Pass			
		O.D. 20mm L. 2.6m 168 Pieces			
		Shell; Steel Plate			
		Dia. 0.47 ~~mm~~ m L. 3.1m			
20 (201)	"	Shell and Tubes	1	"	"
		Heating Surface 30 m²			
		Normal Temp. 50°C Press. 16 kg/cm²			

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Inv. No	Name of Machinery	Brief Specification	Quantity (Item)	Sheet No.	Remarks (Bldg No.)
		Tube Admiralty Brass 2 Pass			
		O.D 20mm L. 2.6m 210 Pieces			
		Shell Steel Plate			
		Dia 0.52m L. 3.15m			
20 (202)	Heat Exchanger	Shell and Tubes	1	Sheet 37 of	Area No.5
		Heating Surface 5m²		802 Sheet	
		Normal Temp. 50°c Press 16 kg/cm²			
		Tube Admiralty Brass 2 Pass			
		Shell Steel Plate			
		Dia. 0.3m L. 1.6m			
20 (203)	Oil Tank	Vertical Cylindrical	1	Sheet 48 of	Area No 4
		Cap. 100 kl Dia. 4.3m H. 7m		802 Sheet	
		Steel Plate Thick 6mm			
		Construction Riveted			
		Concreted Around			
20 (204)	〃	〃	1	〃	〃
20 (205)	〃	〃	1	〃	〃
20 (206)	〃	〃	1	〃	〃
20 (207)	〃	〃	1	Sheet 49 of 802 Sheet	〃
20 (208)	〃	〃	1	〃	〃
20 (212)	Steam Pump	Simplex Double Acting	1	Sheet 42 of	Bldg No.71
		Cap. 2 kl/H. 4"×3"×6"		802 Sheet	
		Suc. Bore 1½" Del. Bore 1½"			
		With Seal Box			
		Cylinder Body Cast Iron			
20 (213)	〃	Horizontal Simplex	1	Sheet 20 of	〃
		Cap. 4 kl/H. 6"×4"×10"		802 Sheet	
		Normal Press. 2 kg/cm²			
		Del. Bore 1½" Suc. Bore 1½"			
		Cylinder Body Cast Iron			
20 (214)	〃	Simplex Double Acting	1	Sheet 40 of 802 Sheet	〃

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Inv. No.	Name of Machinery	Brief Specification	Quantity (Item)	Sheet No.	Remarks (Bldg No.)
		Cap. 2 KG/H. 4"×3"×6"			
		Normal Press. Unknown			
		Suc. Bore 1½" Del. Bore 1½"			
		Cylinder Body Cast Iron			
20 (216)	Plunger Pump	Vertical Triplex Motor Driven	1	Sheet 29 of	Bldg No. 71
		Cap. 2 KG/H		802 Sheet	
		Normal Press. Unknown			
		Nominal Size 25 mm × 25 mm			
		Suc. Bore 2" Del. Bore 1½"			
		Induction Motor Enclosed			
		5 HP 220 V 1,150 R.P.M motor missing			
20 (217)	Steam Pump	Duplex Double Acting	1	Sheet 41 of	"
		Cap. 2 KG/H. 4"×3"×6"		802 Sheet	
		Suc. Bore 1½" Del. Bore 1½"			
		Cylinder Body Cast Iron			
20 (218)	Stack	Steel Plate Stack	1	Sheet 49 of	Area No. 4
		Top. Dia 1.48 m H. 35 m		802 Sheet	
		Plate Thick 6~9 mm			
146	Gas Compressor	Horizontal Simplex Double	1	Sheet 23 of	Bldg No. 12
		Acting 2 Stages. Motor		802 Sheet	
		Driven. Cap. 500 M^3/H Suc. Press			
		1 KG/cm^2 Del. Press 17 KG/cm^2			
		Suc. Temp −100°C. Water			
		Cooling. Del Bore 3"			
147	"	"	1	"	"
241 (6)	Induction Motor	Enclosed Cage Rotor	1	"	Bldg No. 51
		110 HP 3,300 V. 17.9 AMP			
		8 Pole. 60 Cycle. 873 R.P.M			
241 (7)	"	"	1		"
241 (8)	"	"	1	Sheet 46 of 802 Sheet	"
676	Oil Tank	Vertical Cylindrical	1	Sheet 47 of 802 Sheet	Area No. 4

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Ser. No.	Name of Machinery	Brief Specification	Quantity (Item)	Sheet No.	Remarks (Bldg No.)
		Cap. 250 Kl Dia. 6.60 m			
		H. 7.70 m			
		Side Plate Thick 8 mm			
		Construction Riveted			
			~~Total~~ 154		

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Inv. No.	Name of Machinery	Brief Specification	Quantity (Items)	Sheet No.	Remarks (Bldg No.)
20(18)	Tank	Vertical Cylindrical Cap. 16 Kl	1	Sheet No. 616 of 802 Sheets	Area No. 4
		Dia 2.00 m/m H 6.5 m/m			
		Const. welded, Plate thickness 32 m/m			
20(19)	Evaporating Tower	Vertical Dia 1.40 m/m H 2.00 m/m	1	Sheet No. 617 of 802 Sheets	"
		Shell thickness 25 m/m			
20(24)	Steam Pump	2 Kl/H	1	Omitted from Reparation list in Error	Bldg. No. 22
20(29)	Blower	1,130 r.p.m. 2HP	1	"	" 27
20(50)	Oil Tank	Vertical Cylindrical Cap 6 Kl	1	Sheet No. 630 of 802 Sheets	Area No. 5
		Dia 1.50 m/m H 3.50 m/m			
		Const. Riveted plate thickness 16 m/m.			
20(63)	Filter	Hand Press	1	Sheet No. 685 of 802 Sheets	Bldg. No. 71
		Plate Dimention 500 x 500 m/m			
		Filter plate 25 P'cs			
20(64)	"	" Filter plate 24 "	1	"	"
20(65)	"	" Filter plate 26 "	1	"	"
20(71)	Heat Exchanger	Shell and tube	1	Sheet No. 786 of 802 Sheet	Finkgrove
		Heating Surface 10 m²			
		Normal Press 16 kg/cm²			
		tube inlet 2" outlet 2"			
		shell " 2" " 2"			
		Dia 0.38 m/m L. 23.5 m/m			
20(74)	Tank	Horizontal Cylindrical Cap 4 Kl	1	"	"
		Dia 1.3 m/m L. 3.0 m/m			
		Const. Riveted			
		plate thickness 25 m/m			
20(75)	Propane Separating Tower	Dia 0.3 m/m H 9.0 m/m	1	Omitted from Reparation List in Error	"
20(78)	Heat Exchanger	Shell and tube	1	Sheet No. 786 of 802 Sheet	"
		Heat surface 2 m²			
		tube inlet 2" outlet 2"			

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Inv. NO.	Name of Machinery	Brief Specification	Quantity (Item)	Sheet NO. Sheet NO.	Remarks (Bldg. NO.)
	Heat Exchanger	Shell inlet 2" outlet 2" Dia 1.8" L. 5.5 m			
20(79)	"	Shell and Tube	1	Sheet NO. 786 of 802 Sheets	Bldg. NO. 71
		Heat Surface 5 m^2			
		tube inlet 4" outlet 4"			
		Shell " 2" " 2"			
		Dia 0.35 m L. 4.4 m			
20(81)	Heater	Shell and tube	1	Sheet NO. 785 of 802 Sheets	"
		Heating Surface 1.9 m^2			
20(82)	"	Shell and Tube	1	Sheet NO. 785 of 802 Sheets	"
		Heating Surface 10 m^2			
		Dia 0.4 m L. 2.2 m			
20(83)	"	"	1	"	"
20(84)	Receiver	Vertical Cylindrical Cap.	1	Sheet NO. 786 of 802 Sheets	"
		0.7 Kl Dia 0.8 m H 1.4 m			
20(90)	Induction motor	Enclosed Case Rotor	1	Sheet NO. 685 of 802 Sheets	Bldg. NO. 71
		1+ HP 3 Phase 220 V 6 poles			
		60 cycle 1130 r.p.m			
20(92)	Steam Pump	0.1 Kl/H	1	Omitted from Reparations list in Error	Bldg. NO. 71
20(94)	Heater	Shell and tube	1	Sheet NO. 685 of 802 Sheets	"
		Heating surface 3 m^2			
		tube steel			
		Inlet Bore 2" Outlet Bore			
		Shell steel 2"			
		Inlet Bore 2" Outlet Bore			
		Dia 0.25 m L 1.10 m 2			
20(95)	Compressor	Specification unknown	1	Omitted from Reparations list in Error	Bldg. NO. 71
20(98)	Steam pump	about 10 Kl/H	1	"	"
20(103)	"	Horizontal Simplex Double Acting	1	Sheet NO. 685 of 802 Sheets	"
		Right Hel / Help / Hr. Kk/A 3"x4"x68"			
		Normal press 20 Kg/cm^2			
		Suc. Bore 4½" Dek. Bore 4"			
		Cylinder Body Cast Steel			
		Note: For turbine oil with			
		water jacket			