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[illegible], 20 - 31 October 1969

PET.SYMP. A/23

DEVELOPMENT OF THE PETROCHEMICAL INDUSTRY

[illegible]

by

O.V. Perroni

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I - Introduction

In November 19[illegible] a report on the stage of development of the petrochemical industry in Brazil as of that date was submitted to the Interregional Conference on the Development of Petrochemical Industries by Edm[illegible] [illegible] et al. (1)

On the other hand, the present problems and the prospects of development of this industry were commented [illegible] in another report submitted to this Symposium. (2)

The purpose of this paper is [illegible] the order of magnitude of the Brazilian consumption, both present and in the near future, of petro[illegible] raw materials and [illegible] natural gas, [illegible] some petrochemical products, [illegible] products resulting from the first chemical transformation of natural gas or petroleum fractions.

II - History

At present, the consumption of crude oil in Brazil is of [illegible], or BPD, [illegible] which are produced locally, mostly in the State of Bahia. The refining [illegible], the Government through PETROBRAS, which re[illegible] approximately [illegible] of the crude oil consumed in Brazil, the balance [illegible] processed by six small private refineries, the largest of which is the Refinaria [illegible].

The first Brazilian petrochemical plants were installed in São Paulo during the [illegible] half of the 195[illegible] decade, [illegible] of the availability of raw materials from the Cubatão Refinery of PETROBRAS, which has at present a capacity of [illegible] BPD. PETROBRAS started to produce ammonia, nitric acid, ethylene, propylene [illegible], which enabled private investors to install [illegible] for the manufacture of isopropanol, acetone, polyethylene, styrene, [illegible], [illegible] acid and hexamethylenediamine [illegible] [illegible].

During the same period [illegible] plant was installed in the same area for the [illegible] and two other plants for the manufacture of VCM and PVC, the latter from [illegible] acetylene.

During the first half of the present decade [illegible] also built a [illegible]thetic rubber plant of the [illegible] type adjacent to the [illegible] Refinery (150,000 BPD) in the State of [illegible], utilizing [illegible] imported styrene and butadiene. [illegible], [illegible] plant was installed [illegible] nating from the cracking [illegible] Refinery.

Production of [illegible] in the North of Brazil, employing ethyl [illegible].

Also in [illegible], [illegible] from naphthalene, [illegible] of imported or [illegible] of acetic derivatives and vinyl acetate [illegible], [illegible] the half of the present decade, [illegible] of petroleum products.

More recently, a unit for the production of [illegible] was built in Sao Paulo and [illegible] started [illegible] Cubatao Refinery.

The state of [illegible], the largest [illegible] in the [illegible] and the sole source of natural gas, [illegible] cated with a capacity of [illegible] plant of carbon black [illegible], the latter derived from imported [illegible].

The attached [illegible] consumption of some of the most important [illegible] as well as resins, nitrogen products and fertilizers [illegible] synthetic rubber, and detergents ([illegible]).

III - [illegible]

The [illegible] gas belong to the [illegible] transportation [illegible] monopoly, which is exercised [illegible] private capital refin[illegible] (1953) were [illegible], however, they [illegible]

not permitted to expand their capacities.

As to the petrochemical industry in itself, it has always been open to any enterprise, whether national or foreign.

As of [illegible], the Government, through specific legislation, has endeavored to better define the [illegible] between the scope of activity of the petrochemical [illegible] while, at the same time, encouraging the [illegible] in the petrochemical sector.

The main [illegible] were [illegible] and exemptions were granted from payment of [illegible] federal, state and municipal taxes on raw materials for the petrochemical industry.

Also in [illegible], [illegible] for the chemical industry (including petrochemical), [illegible] was invested upon an agency of the Ministry of [illegible] of the Chemical Industry – GEIQUIM.

After receiving [illegible] GEIQUIM, [illegible] petrochemical project may be granted the following [illegible]:

a) [illegible] under the form of direct investment [illegible];

b) Duty free [illegible] which are not manufactured in Brazil;

c) Reduction [illegible] increase of custom duties for the [illegible];

d) [illegible] official credit establishments;

e) Reduction of income tax through application of accelerated depreciation rates.

Once the project [illegible] execution to manufacture certain [illegible] with sufficient capacity [illegible] local market demand, GEIQUIM is not permitted to grant [illegible] project contemplating the manufacture of the same products.

In the [illegible] identical [illegible], GEIQUIM, through [illegible] those which:

a) contribute [illegible] investor and foster a wider distribution of the company's capital;

b) contribute towards the improvement of techniques and research in Brazil;

c) contribute towards reducing the regional disparities in development levels;

d) result in improved production of already existing plants, except when market conditions indicate the need to expand or to strengthen competition;

e) dispense with or require the lesser degree of government support, such as financing, investment or guarantees.

Ever since its creation until the present time, GEIQUIM has already approved several chemical projects, many of which are at present in operation. Attached is a list of petrochemical projects approved by GEIQUIM, indicating in each case their stage of development. (APPENDIX [illegible])

For projects to be installed in the Northeastern Area of Brazil, other incentives, in addition to those already mentioned, may be obtained from the Superintendência do Desenvolvimento do Nordeste - SUDENE.

With the purpose of channelling resources to that less developed area, the Government permits individuals or companies to allocate part of their income tax obligations to regional projects approved by SUDENE, under the form of preferred shares. Depending upon the degree of priority assigned to them, investments in the SUDENE area may be made with only 25 % of own capital, and even less in special cases.

In many cases the investors have reached the conclusion that the advantages reaped from SUDENE incentives outweigh the cost of transporting their products to the South of Brazil where the largest part of the market is concentrated.

In the particular case of the petrochemical industry, the projects which received the support of SUDENE have been located preferably in the State of Bahia, which is the producing center of petroleum and of natural gas, as well as the headquarters of PETROBRAS' Mataripe Refinery.

I believe it should be mentioned that the State of Bahia, in an endeavor to attract and to encourage investments in that area, is developing a project of an industrial city in the neighborhood of the capital of the state (Salvador) - the Industrial Center of Aratu - CIA.

This combination of circumstances works in benefit of the development in Bahia of a petrochemical complex only second to that of São Paulo. There are, either in operation or under construction, in Bahia, petrochemical units for the manufacture of ammonia, urea, phthalic anhydride, octyl alcohol, plasticizers, methyl methacrylate, polypropylene, carbon black, petrolatum, acryl nitrile, propylene oxide and propylene glycol, acrylic fibers, polyester fibers, in addition to other projects for the manufacture of ethylene, propylene, methanol, styrene, dichloroethane under study by GEIQUIM (APPENDIX - V)

In parallel with fiscal and credit incentives, the Government is endeavoring to expand PETROBRAS' activity in the petrochemical field.

On December 2[illegible], 196[illegible], through Decree-Law No. [illegible], considering the need to coordinate an adequate integration of private and government sectors in the planning and diversification of the local petrochemical industry and realizing that PETROBRAS was the entity most capable of effecting this integration, the Government decided to create PETROBRAS QUIMICA S/A - PETROQUISA, a subsidiary of PETROBRAS (wholly controlled by the latter) with the purpose of promoting the petrochemical industry directly or through the association in this field of activity with other Brazilian or foreign private enterprises, even with a minority participation, which is not permitted to PETROBRAS itself.

With the creation of PETROQUISA, a new stage was opened for the development of the Country's petrochemical industry which substantially modified the conditions of PETROBRAS' activity, equipping it with a new instrument, a more flexible one, to develop its activities in a non-monopolistic field.

As a result of this [illegible] various [illegible] under execution in Brazil, are the issue of joint ventures between PETROQUISA and private investors, [illegible], for example, the Petroquimica [illegible] project [illegible] production of olefines and aromatics and the [illegible] project [illegible] production of [illegible] density polyethylene. (APPENDIX [illegible])

IV - Consumption of [illegible] materials and [illegible] products

The [illegible] table (APPENDIX V [illegible]) [illegible] requirements of the main raw materials and [illegible] products.

The table was divided into [illegible]. [illegible] first [illegible] comprises the existing plants and [illegible] consumption; the second [illegible] approved by GEIQUIM and are under execution [illegible] projects under study by GEIQUIM, [illegible] feature will be [illegible] and the fourth [illegible] the consumption assuming the installation of [illegible] naphtha, both in Rio and in São Paulo, [illegible] Plant in Bahia.

As regards natural [illegible], these local supply source is PETROBRAS, [illegible].

The present [illegible] of 3,000,000 cubic [illegible].

The [illegible] less than 30 % of present [illegible] internal requirements for the secondary [illegible] be no difficulty in attending [illegible] under construction or under study by GEIQUIM.

As regards [illegible], [illegible] of which is naphtha, PETROBRAS is [illegible] with which is foreseen with the [illegible].

With the existence of [illegible] refineries [illegible] Caxias 150,000 BPD, Cubatão 15[illegible], [illegible] and Belo Horizonte, [illegible] BPD, [illegible] flexibility as a result

of the numerous and varied units which they contain, PETROBRAS is in a position to produce refining raw materials currently used by the petrochemical industries.

In order to [illegible] in line with the foreseeable development of the Country's petrochemical industry, [illegible] enlarging its refineries PETROBRAS [illegible] requirements of naphtha, fuel oil, olefins and other products which eventually will be required by petrochemical industries.

Thus, the refining capacity of the [illegible] and [illegible] refineries will be expanded, the [illegible] this year, and the latter from 115,000 to 175,000 [illegible], [illegible] in coordination with the start-up of [illegible].

The [illegible] presently under construction, [illegible] of the petrochemical industry [illegible].

This [illegible] of the refining units will increase the capacity of the [illegible] refineries [illegible] 700,000 [illegible] until 1973, which represents [illegible] in 1967 and an increase of over 40 % in relation to the [illegible].

In this [illegible] different projects underway for the [illegible] cracking units in the PETROBRAS refineries [illegible] the present installed capacity. [illegible] cracking capacity of [illegible] propylene of different plants of the [illegible].

[illegible], PETROBRAS [illegible] production of petroleum [illegible], with units of [illegible] and 200,000 [illegible], at a later time, in other [illegible], in [illegible] market for this product. [illegible], these units will [illegible] from coke, other fractions which may eventually be [illegible] by the petrochemical industry.

The paper "Problems and Prospects of the Petrochemical Industry in Brazil" (2) presents a picture of the Brazilian supply and demand of naphtha, in which an availability of about 9[illegible],000 BPD is estimated for utilization in the petrochemical industry in 1972, which shows to be sufficient to attend the foreseeable demand.

As regards the basic petrochemical products, the comparison between production capacity and requirements, on the basis of existing plants, and also of those under construction or in the project phase, indicates a prospect of balance or even surplus for several products which permits envisaging a secure supply of basic raw materials to the final petrochemical industry, at least until the middle of the next decade.

References

(1) BRANDAO, [illegible], et. al. – "The Petrochemical Industry in Brazil", Studies in Petrochemicals, United Nations, New York, 1966, vol. II

(2) SCHIFFINO, Rinaldo – "Problems and Prospects of the Petrochemical Industries in Brazil", 19[illegible].

APPENDIX II

BRAZIL - RESERVES AND PRODUCTION OF NATURAL GAS

YEAR	RESERVES	PRODUCTION
	([illegible])	([illegible])
1965	[illegible]	[illegible]
1966	[illegible]	[illegible]
1967	24.[illegible]	875
1968	26.[illegible]	983
1969	-	614 (1)

(1) JANUARY TO JUNE.

SOURCE: PETROBRÁS

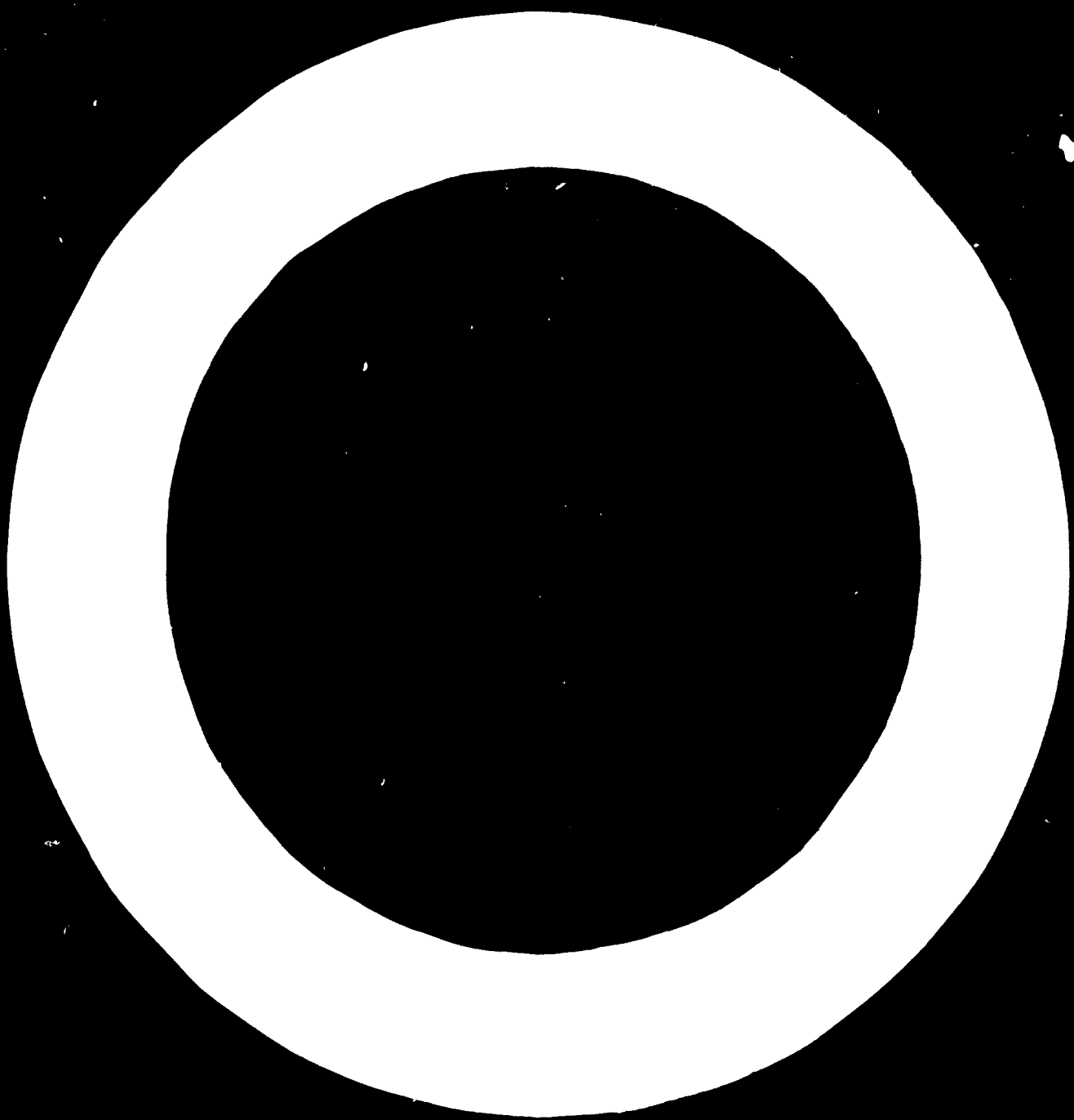
APPENDIX III

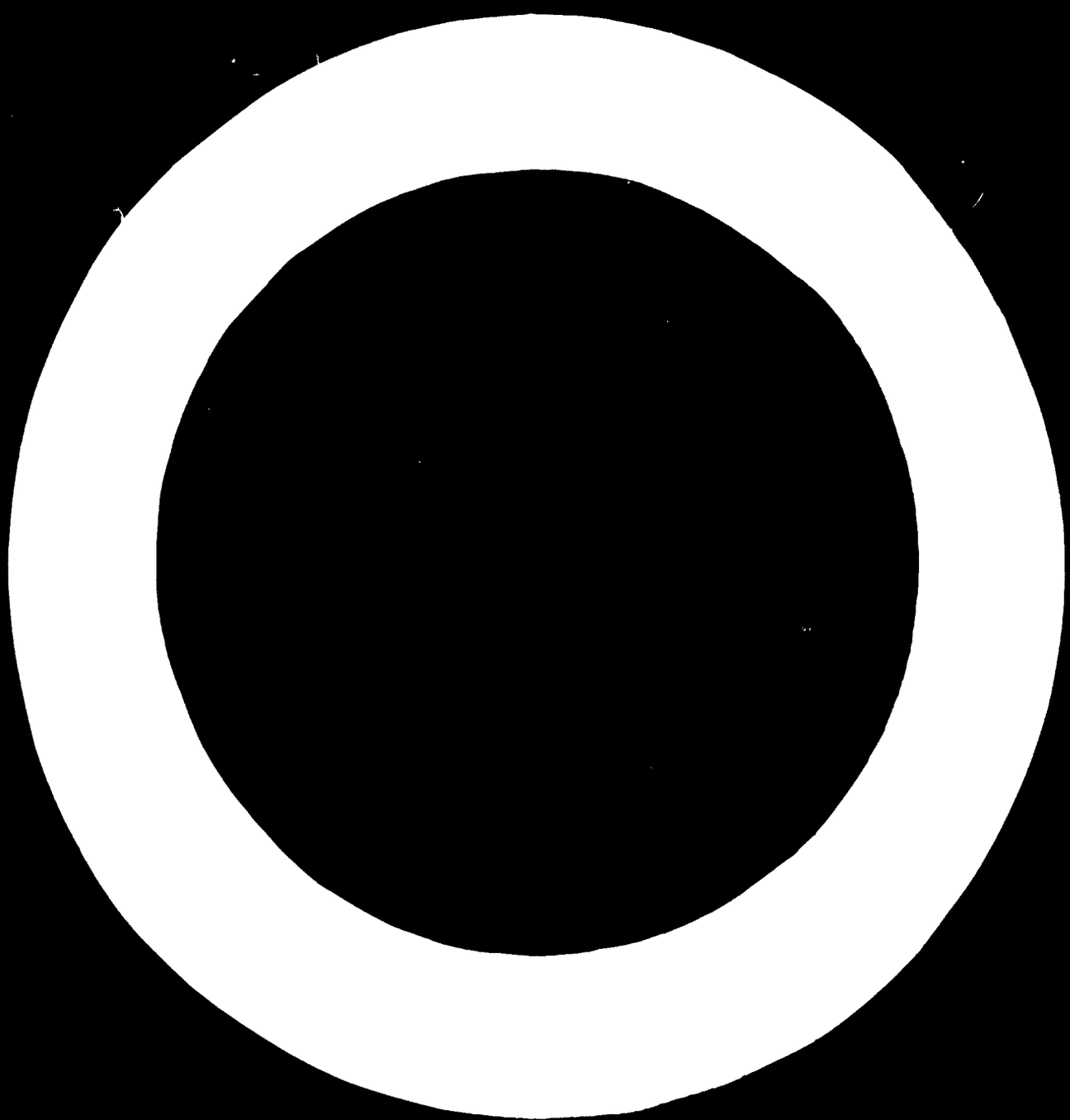
BRAZIL - REFINING CAPACITY (Barrels per stream day)

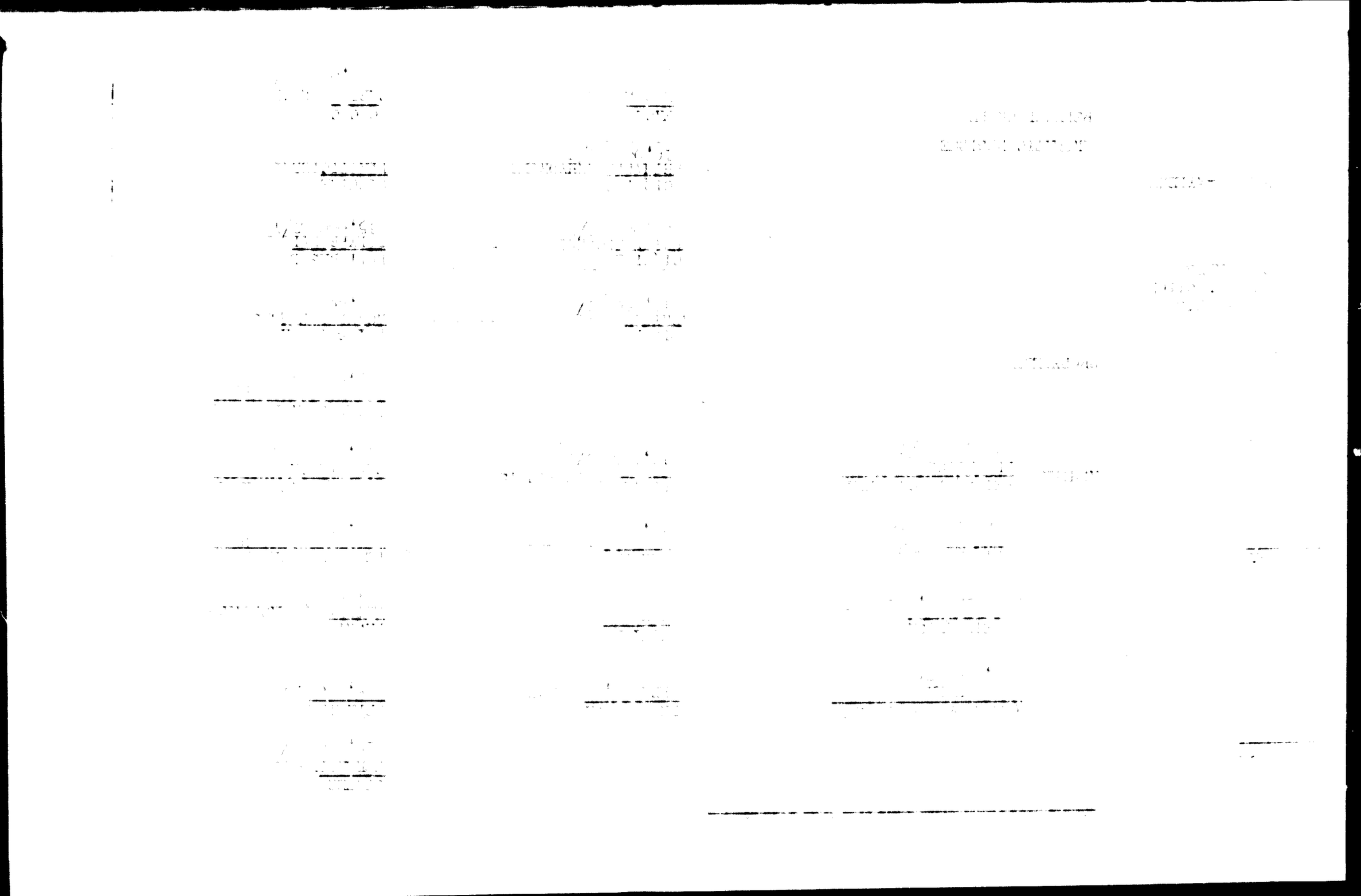
	19[illegible]			197[illegible]		
	Crude distill.	Cracking	Reforming	Crude distill.	Cracking	Reforming
[illegible] REFINERIES						
[illegible] (Rio de Janeiro)	[illegible]	[illegible] (C)	[illegible] (C)	[illegible]	[illegible] (C)	[illegible] (C)
[illegible] (São Paulo)	[illegible]	[illegible] (T)	12,[illegible] (C)	[illegible]	[illegible] (C)	[illegible] (C)
			12,[illegible] (T)			
[illegible] (Bahia)	[illegible]	15,[illegible] (C)	-	[illegible]	21,[illegible] (C)	-
[illegible] (Minas Gerais)	[illegible]	-	-	[illegible]	12,[illegible] (C)	-
[illegible] (R.G. Sul)	45,000	-	-	[illegible]	[illegible] (C)	-
[illegible] (São Paulo)	-	-	-	[illegible]	[illegible] (C)	-
[illegible] REFINERIES						
[illegible] (São Paulo)	31,[illegible]	16,000 (C)	-	31,[illegible]	[illegible] (C)	-
[illegible] (Rio de Janeiro)	[illegible]	[illegible] (T)	-	[illegible]	[illegible] (T)	-
[illegible] (R.G. Sul)	[illegible]	-	-	[illegible]	-	-
[illegible]	[illegible]	[illegible] (C)	-	[illegible]	[illegible] (C)	-
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

C = Catalytic T = Thermal

Source: PETROBRAS







[illegible].34/73

[illegible]

[illegible]

[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
		[illegible]
		[illegible]
		[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
		[illegible]
		[illegible]
		[illegible]
		[illegible]
		Mixed Chloride
[illegible]	[illegible]	[illegible]
		[illegible]
		[illegible]
		Ammonium Nitrate
		Sulphuric Acid
		Phosphoric Acid
		Diammonium Phosphate
		[illegible]
[illegible] CICLINE	[illegible]	Phthalic Anhydride
[illegible] [illegible]	[illegible]	[illegible]
		[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
		[illegible]
		[illegible]
		[illegible]
		[illegible]
		[illegible]
		[illegible]
[illegible]	[illegible]	Nitric Acid
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
		[illegible]
[illegible]	[illegible]	[illegible]
		[illegible]
[illegible]	[illegible]	Propylene Glycol
[illegible]	[illegible]	Phenol
		[illegible]
		[illegible]

[illegible]
[illegible]

[illegible] VI

CAPACITY (MT/YEAR)	APPROVAL	[illegible]	[illegible]
12,0[illegible]	19[illegible]	[illegible]	
2[illegible],000	19[illegible]	On Stream	[illegible]
21,000	19[illegible]	On Stream	
[illegible],000			
15,000			
1[illegible],000			
5,000	1965	On Stream	
120,000	19[illegible]	Under Const.	On Stream in 19[illegible] (L.R.F. Revamp)
30,000			
18,000			
20,000			
70,000			
150,000	196[illegible]	Under Const.	On Stream in 1970
1[illegible],000			
180,000			
200,000			
75,000			
[illegible],000			
5,000	1966	On Stream	
6[illegible],000	1966	Under Const.	On Stream in 1970
[illegible],000			
32,500	19[illegible]	On Stream	Revamp
[illegible],000	1966	On Stream	
10,000	1966	On Stream	Revamp
181,500	196[illegible]	Under Const.	On Stream in 1971
90,000			
22,700			
[illegible],000			
25,000			
54,000			
[illegible],000	1967	On Stream	
5,000	1967	Under Const.	Revamp
[illegible],000	1967	Under Const.	
5,000	1967	Under Const.	On Stream in 19[illegible]
3,000	19[illegible]	Under Const.	
1,500	196[illegible]	Under Const.	On Stream in 19[illegible]
60,000	196[illegible]	Under Const.	On Stream in 1971
3,000	19[illegible]	Under Const.	On Stream in 1970
10,000			
15,000	1968	Under Const.	[illegible] on Stream in 19[illegible]
8,000			
10,000	19[illegible]	Planning	
50,000	196[illegible]	Under Const.	On Stream in 1970
30,000			
[illegible],000			

[illegible] II

[illegible]	[illegible]	PRODUCTS
[illegible]	[illegible]	Petroleum
[illegible]	[illegible]	Formaldehyde
[illegible]	[illegible]	Maleic anhydride
[illegible]	[illegible]	Propylene Tetramer
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	V C M
[illegible]	[illegible]	Cetanol
		Plasticizers
[illegible]	[illegible]	Phthalic anhydride
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	Formaldehyde
[illegible]	[illegible]	Melamine
[illegible]	[illegible]	Polypropylene
[illegible]	[illegible]	Methanol
[illegible]	[illegible]	P V C
[illegible]	[illegible]	P V C

[illegible]

CAPACITY (MT/YEAR)	APPROVED	STATUS	REMARKS
2,000	[illegible]	[illegible]	
10,000	[illegible]	[illegible]	
1,300	1968	Under Const.	[illegible]
30,000	1966	Engineering	
[illegible]0,000	1969	Engineering	
100,000	1969	Engineering	
20,000	1969	Engineering	
16,000			
5,000	1969	Under Const.	Revamp
32,000	1969	Engineering	
10,000	1969	Engineering	
4,000	1969	Engineering	
15,000	[illegible]	Engineering	
27,000	1969	Engineering	
40,000	[illegible]	Engineering	
60,000	[illegible]	Engineering	Revamp

[illegible]/73

A P P E N D I X   VII

[illegible] CONSUMPTION OF PETROLEUM RAW MATERIAL AND BASIC PETROCHEMICAL PRODU[illegible]

[illegible] CHEMICAL PLANTS			EXPECTED CONSUMPTION (MT/Y)		
[illegible]	[illegible]	[illegible] (MT/Y)	Natural Gas (1,000 m³/Y)	Naphtha	Petroleum Residues
[illegible]					
[illegible]	[illegible]	[illegible],[illegible]	–	1[illegible],000	–
[illegible]	[illegible]	[illegible],000	–	100,000	–
[illegible]	[illegible]	[illegible],000	–	–	–
[illegible] (1)	[illegible]	[illegible],000	(30,000)	–	–
	[illegible]	[illegible]3,000	–	[illegible],000	–
[illegible]	[illegible]	[illegible],000	–	–	–
[illegible] (2)	[illegible]	[illegible],000	–	–	–
[illegible]	[illegible]	[illegible],900	–	–	–
	[illegible]	10,000	–	–	–
[illegible]ASIL	Phenol	8,000	–	–	–
	[illegible]	15,000	–	–	–
[illegible]	[illegible]	[illegible]	–	–	–
[illegible]	[illegible]	[illegible],000	–	–	–
[illegible]	[illegible]	[illegible]	–	–	–
[illegible]	[illegible]	[illegible]	–	–	88,000
	[illegible]	[illegible]	–	–	62,000
	[illegible]	[illegible],000	–	–	9,000
[illegible] (3)	[illegible]	[illegible]0,000	–	–	–
[illegible]	[illegible]	[illegible]	–	–	–
[illegible] (4)	[illegible]	[illegible]2,[illegible]	–	–	–
			–	248,0[illegible]	15[illegible],000
[illegible]					
[illegible]	[illegible]	[illegible],000	[illegible],000	–	–
[illegible]	[illegible]	[illegible],000	–	20,000	–
[illegible]	[illegible]				
	[illegible]	5,000	[illegible],[illegible]00	–	–
[illegible]	[illegible]	[illegible],000	22,000	–	–
[illegible]	[illegible]	1[illegible],000	–	800,0[illegible]	–
[illegible]	[illegible]	[illegible],000	–	330,[illegible]	–
[illegible]	[illegible]	1[illegible],000	–	90,[illegible]	–
[illegible]	[illegible]	[illegible],000	–	–	–
[illegible]	[illegible]	[illegible],000	–	–	–
(	[illegible]	[illegible],000	–	–	–
	[illegible]	1[illegible],000	–	–	–
[illegible]	[illegible]	[illegible],000	–	–	–
[illegible]	[illegible]	1[illegible],000	–	–	–
	[illegible]	1[illegible],[illegible]	–	–	–
[illegible]	[illegible]	[illegible]	–	–	–

APPENDIX VII (continued)

Estimated [illegible] (1977)						
ETHYLENE	PROPYLENE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	–	61,000	–	–	–	–
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	3,700	–	–	–	–	–
(2,300)	–	–	–	–	–	–
[illegible],000	–	–	–	–	–	–
5,100	–	–	14,000	–	–	–
–	–	–	8,000	–	–	–
–	–	–	[illegible],000	–	–	–
–	–	–	[illegible]00	–	–	–
–	–	–	–	–	5,[illegible]00	–
–	–	–	–	–	[illegible],100	–
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	–	–	–	–	–	–
(10,000)	–	–	–	–	–	–
(15,000)	–	–	–	–	–	–
(5,500)	–	–	–	–	–	–
[illegible],100	3,700	61,000	30,[illegible]	–	10,[illegible]	–
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	25,000	–	–	–	–	–
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	–	–	–	–	–	–
60,000	–	–	–	–	–	–
30,000	–	–	–	–	–	–
20,000	–	–	55,0[illegible]	–	–	–
46,000	–	–	–	–	–	–
–	36,000	–	–	–	–	–
–	18,000	–	–	–	–	–
–	10,000	–	–	–	–	–
–	–	–	1,5[illegible]	–	–	–

APPENDIX VII PART II

P[illegible]TROCHEMICAL PLANT

Company	Product	Capacity (MT/Y)	FEEDSTOCK CONSUMPTION (MT/Y)		
			[illegible] (1,000 [illegible])	[illegible]	Petroleum Residue
[illegible]	[illegible]	[illegible]	–	–	–
[illegible]	[illegible]	[illegible]	–	–	–
[illegible]	[illegible]	[illegible]	–	–	–
[illegible]	Polypropylene	1[illegible],000	–	–	–
[illegible]	Petro[illegible]	[illegible]	–	–	–
[illegible]	[illegible]	[illegible],000	–	–	2,000
[illegible]	[illegible]	[illegible]	–	–	–
			–	–	–
			[illegible],000	1.2[illegible],000	2,000

3. [illegible]

Company	Product	Capacity (MT/Y)			
[illegible]	[illegible]	[illegible]/7[illegible],000	7[illegible],000		
[illegible]	[illegible]	3[illegible],000	–	–	–
[illegible]/[illegible]	[illegible]	[illegible]	–	–	–
[illegible]/[illegible]	[illegible]	[illegible],000	–	–	–
[illegible]	[illegible]	[illegible],000	–	–	–
[illegible]/[illegible]	[illegible]	[illegible]	–	102,[illegible]	–
[illegible]	[illegible]	[illegible]	[illegible],000	–	–
		70,000	–	–	–
			12[illegible],000	102,000	–

4. OTHERS

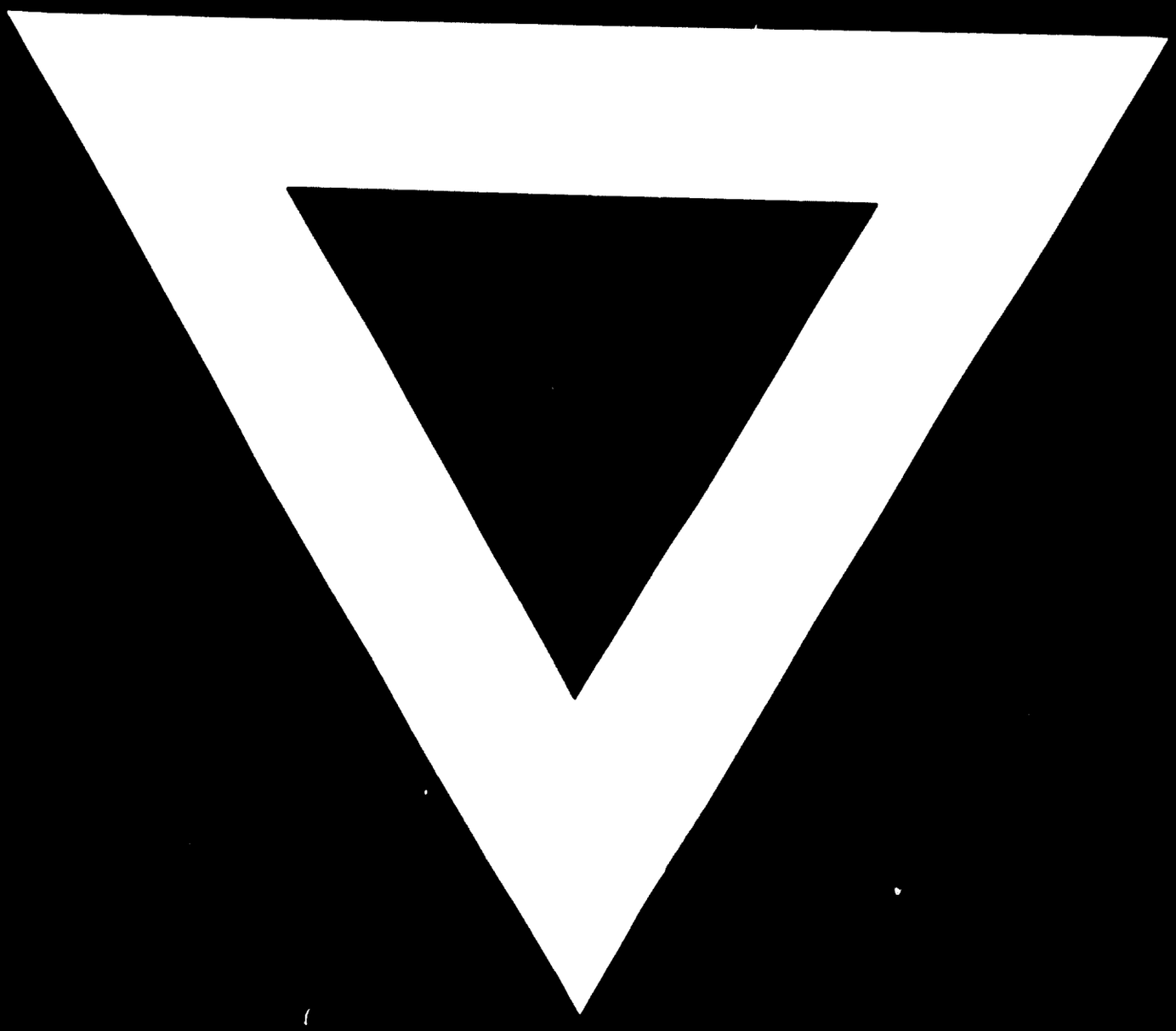
Company	Product	Capacity (MT/Y)			
USI[illegible]	Sponge Iron	17[illegible],000	1[illegible]	–	–
[illegible] GAS				250,[illegible]	–
			1[illegible]	250,[illegible]	–
		TOTAL	[illegible]	1,[illegible]	[illegible],000

Notes – (1) [illegible]
(2) Presently using ethylene [illegible];
(3) Presently using acetylene from carbide.
(4) [illegible]

[illegible]

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
–	–	–	–	[illegible]	–	–
–	–	–	–	–	[illegible]	–
–	[illegible]	–	–	–	–	–
–	–	–	–	–	–	–
–	–	–	–	–	[illegible]	–
[illegible]	–	–	–	–	–	–
[illegible]	107,000	–	[illegible]	[illegible]	[illegible]	–
–	–	–	–	–	–	–
[illegible]	–	–	27,000	–	–	–
[illegible]	–	–	–	–	–	–
–	–	–	–	–	–	[illegible]
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	[illegible]	–	[illegible]	–	–	–
[illegible]	35,000	–	[illegible]	–	–	35,000
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	–	–	–	–	–	–
292,100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]



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