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AIRGRAM
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TO: Department of State
(For U.S. Bureau of Mines)

INFO: BELÉM, BELO HORIZONTE, BRASILIA, CURITIBA, PÔRTO ALEGRE, RECIFE, SALVADOR, SÃO PAULO.

FROM: Amembassy, RIO DE JANEIRO May 2, 1968

SUBJ.: Mineral Production Statistics Questionnaire - 1967

REF.: CIRP Section A, Dept. CA-6319, March 6, 1968

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ACTION TAKEN

1. In response to the annual Bureau of Mines request the Embassy has prepared the accompanying mineral production questionnaire covering 1967. Because of the availability to the Bureau of Mines of the Anuário Estatistico do Brasil 1967, and Produção Extrative Mineral 1966 wherein official minerals and fuels data for 1966 are given, the preparation of a revision for 1966 is believed to be unnecessary.

2. The desirability of meeting a request for detailed mineral commodity statistics by a due date four months following the end of the year of coverage is understandable for the purpose of starting the complex compilations of world mineral production tables. However, for Brazil this is not entirely practical because of almost complete non-availability of official data by such a relatively early date. Therefore the procedure adopted previously will be followed, namely reporting what may be available, to be followed by supplemental reports at later dates as additional or revised information is received.

3. Official fiscal NOB mineral industry statistics usually are not published or otherwise released publicly

Enclosure:
1. Mineral Production Statistics Questionnaire for 1967 on printed form also in reproducible form.

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until 12 to 17 months after the end of the year of coverage. The Anuario Estatistico do Brasil 1967 (covering 1966) was published in November 1967 but not released or made available until late December 1967 or January 1968. Produção Extrativa Mineral 1966 (covering 1966 in a limited area) carried a publication date of October 1967, but was not available until well after the first of 1968. A relatively extreme example, Beneficiamento e Transformação de Minerais 1964/65 (a most detailed and useful compilation) was not made available until the second half of 1967. Despite this delay certain data can and have been obtained by direct letter request to government agencies concerned. An example of this approach to the problem in 1967 is coal data from the Comissão do Plano do Carvão Nacional.

4. Production data for certain of the major mineral commodities including such items as iron ore, manganese, petroleum, and lode (but not placer) gold are generally available from published annual reports, or can be obtained readily by contact with the relatively few major companies involved. In such instances where complete coverage is not attainable close estimates can be determined. Also there are certain figures that can be obtained from industry trade organizations or trade publications. Examples of this are cement production from SNIC (Sindicato Nacional da Indústria do Cimento), and pig iron and steel production estimates from Boletim IBS (Industria Brasileira Siderurgica) or the Companhia Siderurgica Nacional -- although these two sources are not in agreement. Data from such sources may not always be the same as final official statistics when published, but are probably equally reliable, and certainly do give comparative orders of magnitude.

5. Information on production of nonmetallic minerals, with few exceptions continued in 1967 to be conspicuous by absence. For example on such items as quartz and mica it is not possible to obtain early data because there are many small producers, and as the Embassy cannot conduct a specific commodity survey it must wait for officially released figures resulting from regular Brazilian Government agency compilations. For other nonmetallic and industrial minerals including sand and

gravel, clays, asbestos, diatomite, dolomite, lime, limestone, gypsum, talc and similar materials there are no readily "tappable" sources of information, and for many such commodities no data on production are collected, officially or unofficially. Gemstone data, particularly with reference to diamond production are difficult to find. As has been the case for many years the greatest proportion of all diamonds produced enter the market either domestically or as exports, unaccounted for statistically. From what information is available from trade sources estimates of total output, with one major exception largely from widespread garimpeiro operation, range from as low as 150,000 to as much as several hundred thousand carats. The dividing line between gem and industrial diamonds in Brazil is largely determined by size rather than quality of the stone.

6. Because of severe restrictions placed on travel during the first quarter of 1968, the usual visits to consulates and mining operations for making personal contact calls on key mineral producers in cities other than Rio de Janeiro for the purpose of obtaining data for the questionnaire, was curtailed. However, cooperation by consular offices in helping to obtain desired information was extended with satisfactory results in most instances. The response to this request for assistance by the Minerals Attache, recognized as an added load for limited staffs, was most helpful and greatly appreciated. Direct industry contacts when made were generally highly productive, although answers to some requests are still pending.

7. Although every effort was made to give background explanation by footnotes of data presented where such information was available and was considered pertinent, there undoubtedly will be uncaught errors and inadvertent omission of some necessary remarks. If questions arise the Embassy will do its best to answer them.

BELTON

QUANTITY AND VALUE OF MINERALS PRODUCED IN BRAZIL - CALENDAR YEAR 1 9 6 7

Commodity	Unit of Weight or Measure	Quantity	For Ores and Concentrates state average metal content	Value in local currency (NCr$ unless otherwise specified)
METALLIC ORES AND METALS				
Aluminum:	Metric	1/	% Al_2O_3 ± 45% 2/	
Bauxite	Tons	261,000	% Moisture N.A.	N.A.
Alumina	"	1/ 74,000		N.A.
Primary Metal	"	1/ 36,000		N.A.
Semimanufactures	"	1/ 48,000		N.A.
Antimony (ARPA)	"	3/ N.A.		
Antimonial Lead (ARPA)	"	3/ N.A.		
Arsenic, white:				
Mineração Morro Velho	"	222		1.00/kilo
Cia. Minas da Passagem	"	0		
Beryl (Exports)	"	1,310	% BeO 10-12%	1,239,251
Bismuth	Kilograms	N.A.		
Chromite:	Metric	4/		4/
Bahia	Tons	6,865	± 44% Cr_2O_3 4/	443,807 4/
Minas Gerais	"	N.A.		
Other States	"	N.A.		
Columbium and Tantalum:				
Pyrochlore Concentrate	Kilograms	4,626,000	% Cb_2O_5 59%	14,730,000 5/
Columbite Concentrate	"	102,500	N.A.	591,747
Tantalite Concentrate	"	205,905	N.A.	5,290,761

Exchange rate: NCr$ 2.20 = U.S.$1.00 - 1st three months) of 1967
NCr$ 2.70 = U.S.$1.00 remaining nine months)

Commodity	Unit of Weight or Measure		Quantity	For Ores and Concentrates state average metal content	Value in local currency NCr$
Copper:					
Ores, gross tonnage	Metric Tons	6/	120,000	% Cu ± 3.5	
Concentrates	"	6/	4,700	N.A.	
Primary metal	"	6/	3,000	N.A.	
Ferroalloys:					
Ferrocolumbium	"		528	68% Cb	5,560,000 7/
Ferrochromium	"	8/	1,608		N.A.
Ferromanganese	"		N.A.		
Ferronickel	"		3,952	%Ni 26.6	N.A.
Ferrosilicon	"	9/	6,723		N.A.
Other (specify) Ferrotungsten	"		0		
Gold, fine:					
Lode mining:					
Mineração Morro Velho	Kilograms		5,321		N.A.
Cia. Minas da Passagem	"		0		
Others (Goiás) 10/	"		18		N.A.
Placer mining	"	3/	N.A.		
Iron and Steel:					
Iron ores	"	11/	23,500,000		N.A.
Pig iron	"		3,099,584		N.A.
Cast iron	"		N.A.		
Ingot steel	"		3,720,395		N.A.
Cast steel	"		50,231		N.A.
Rolled steel products	"		2,853,177		N.A.
Lead:					
Ores, gross tonnage	"	3/	N.A.		
Concentrates	"	3/	N.A.		
Primary metal	"	3/	N.A.		

Commodity	Unit of Weight or Measure	Quantity	For Ores and Concentrates state average metal content	Value in local currency NCr$
Manganese ores:				
Amapá (ICOMI):	Metric Tons			N.A.
Mine-run		12/ 909,172		
Washed ore	"	718,489	± 49% Mn	US$ 0.55 per long ton unit
Bahia (Exports)	"	43,000	44-48% Mn	NCr$ 2,654,050
Minas Gerais:				
Meridional	"	88,922	37% Mn	" 31.82/m.t.
Mineração Trindade	"	3/ N.A.		
Others	"	13/ 24,000	N.A.	N.A.
Mato Grosso (Urucum):				
Production (Sobramil)	"	56,846	46% Mn	NCr$ 40.03/m.t.
Other States	"	14/ N.A.		
Nickel:				
Ores, gross tonnage	"	15/ 69,100	% Ni± 1.8	N.A.
Nickel in ferronickel	"	1,071		N.A.
Rare-earth metals:				
Monazite:				
CNEN	"	3/ N.A.		
Others	"	0		
Rare-earth salts	"	N.A.		
Misch metals	Kilograms	14,034		109,567
Ferro-cerium	"	16/ N.A.		
Silver, fine:				
Mineração Morro Velho	"	978		NCr$ 0.32/gr.
Plumbum S.A.	"	3/ N.A.		
Others (Inga)	"	3/ 16/ N.A.		
Tin:				
Cassiterite concentrates	Metric Tons	17/ 2,500	% Sn ± 65	

Commodity	Unit of Weight or Measure		Quantity	For Ores and Concentrates state average metal content	Value in local currency-NCr$
Tin					
Tin (Cont'd):					
Smelter tin:					
Estanifera do Brasil	Metric Tons		865		N.A.
Arpa	"	3/	N.A.		
Others & Cia. Ind.Fluminense	"		573		4,849,254
Titanium ores:					
Ilmenite:		3/			
CNEN	"	16/	N.A.		
Others	"		N.A.		
Rutile:					
CNEN	"	3/	N.A.		
Others	"		N.A.		
Tungsten:					
Scheelite concentrates:					
Gross weight	"	17/	500	% WO_3 ± 72	N.A.
60% WO_3 equivalent	"	17/	760		N.A.
Metal (General Electric)	Kilograms	3/	N.A.		
Uranium	"		0		
Zinc:					
Ores, gross tonnage:					
Vazante	"	3/	N.A.	N.A.3/	
Januaria	"		0		
Smelter zinc (Inga)	"	3/	N.A.		
Zirconium:					
Zircon:					
CNEN	"	3/	N.A.		
Others	"		N.A.		
Baddeleyite-Caldasite	"	18/	500	% ZrO_2 18/	N.A.

Commodity	Unit of Weight or Measure		Quantity	For Ores and Concentrates state average metal content	Value in local currency NCr$
NONMETALLIC MINERALS					
Agate, rough (Exports)	Kilograms		471,130		376,976
Asbestos, fiber:	Metric Tons		N.A.		
Alagoas	"		N.A.		
Bahia	"	19/	1,264		615,545
Minas Gerais	"		N.A.		
Goias	"		N.A.		
Barite:					
Bahia	"		54,497		US$ 437,000
Other States	"	16/	N.A.		
Cement, Portland:					
Common	"		6,369,033		N.A.
White	"		35,968		N.A.
Clays:					
Bentonite	"		N.A.		
Kaolin	"		N.A.		
Refractory	"		N.A.		
Common	"		N.A.		
Corundum and Emery	"		1,820		N.A.
Diamonds:					
Gem stones (Exports)	Kilograms	20/	2		NCr$1,067,961 20/
Industrial (Exports)	"	20/	2		NCr$ 382,882 20/
Diatomite	"		N.A.		
Dolomite	"		N.A.		
Feldspar	"		N.A.		
Fluorspar	"		N.A.		

Commodity	Unit of Weight or Measure		Quantity	For Ores and Concentrates state average metal content	Value in local currency NCr$	
Gemstones (except diamonds and rough agate):						
Uncut stones (Exports)	Kilograms		339,557		4,320,033	
Cut stones (Exports)	"		161		633,111	
Other (Refugo de pedras) (Exports)	"		270,360		458,659	
Graphite	Metric tons	21/	2,896		434,363	21/
Gypsum	"		N.A.			
Kyanite	"		N.A.			
Lime	"		N.A.			
Lithium ores and compounds:						
Amblygonite	"		N.A.			
Spodumene	"		N.A.			
Lithium carbonate	"		N.A.			
Magnesite	"	3/	N.A.			
Mica	"		N.A.			
Nitrogenous fertilizers:						
Ammonium nitrate (Petrobras)	"		8,860		N.A.	
Nitro calcio (Petrobras)	"		36,818		N.A.	
Ammonium sulfate:						
CSN	"		7,991		N.A.	
Usiminas	"		1,900		N.A.	
Others	"	3/	N.A.			

Commodity	Unit of Weight or Measure	Quantity	For Ores and Concentrates state average metal content	Value in local currency NCr$
Phosphatic fertilizers:				
Natural phosphates, ground:	Metric Tons			
North (Pe)		3/	N.A.	
Central-South (SP, MG)	"	3/	N.A.	
Natural phosphates, unground:				
North (Pe)	"	3/	N.A.	
Central-South (SP, MG)	"	3/	N.A.	
Superphosphate	"	3/	N.A.	
Potash (K_2O content)	"		0	
Pyrite (for acid or sulfur):				
Minas Gerais (Ouro Preto)	"	22/	0	
Santa Catarina	"	23/	0	
Quartz crystal:				
Electronic-grade	"		N.A.	
Fusing-grade (Lasca)	"		N.A.	
Salt	"	3/	N.A.	
Stone:				
Crushed:				
Limestone	"		N.A.	
Other (specify)	"		N.A.	
Dimension:				
Granite	"		N.A.	
Marble	"		N.A.	
Sulfur (petroleum refinery)	"	6,210		N.A.

Commodity	Unit of Weight or Measure	Quantity	For Ores and Concentrates state average metal content	Value in local currency -NCr$
Talc:	Metric			
Bahia	Tons	N.A.		
Minas Gerais	"	N.A.		
Paraná	"	N.A.		
São Paulo	"	N.A.		
Vermiculite	"	218		N.A.
HYDROCARBONS				
Carbon black	"	24/ 30,700		N.A.
Charcoal	"	N.A.		
Coal:				
Run-of-mine:				
Santa Catarina	"	3,097,300	± NCr$35.20/m.t. 25/	
Paraná	"	315,599	± NCr$19.60/m.t. 25/	
Rio Grande do Sul	"	925,888	± NCr$33.20/m.t. 25/	
Cleaned:				
Santa Catarina	"	1,269,091		N.A.
Paraná	"	226,368		N.A.
Rio Grande do Sul	"	799,509		N.A.
Coke:				
Metallurgical:				
CSN	"	608,100		N.A.
Usiminas	"	361,201		N.A.
Other	"	3/ N.A.		
Gas-house:				
Rio de Janeiro	"	165,613		N.A.
São Paulo	"	36,800		N.A.
Santos	"	26/ 3,025		N.A.
Other	"	0		
Fuelwood	Cubic Meters	N.A.		
Manufactured gas:				
Rio de Janeiro	"	275,048,060		N.A.
São Paulo	"	93,275,400		N.A.

Commodity	Unit of Weight or Measure	Quantity	For Ores and Concentrates state average metal content	Value in local currency NCr$
Manufactured gas (Cont'd):				
Santos	Cubic Meters	26/ 3,127,242		N.A.
Other	"	0		
Natural gas, gross withdrawal	"	27/ 887,100,518		
Oil Shale:	Metric Tons			
Shale processed		0		
Shale oil recovered	"	0		
Petroleum crude, from wells	Barrels	27/ 53,514,769		

1/ The data given for quantity produced represent production as reported in detail by Aluminio Minas Gerais, S.A. plus estimates for Cia. Brasileira de Aluminio derived from Sao Paulo State and country total data for 1966 in Anuario Estatistico projected to 1967.

2/ Al_2O_3 content represents approximate average of "available" content of ores from Poços de Caldas (47%) and Ouro Preto (43-44%) areas.

3/ N.A. - not available, but pending reply to inquiry.

4/ Data as reported by the one company producing in Bahia, Cia. de Ferroligas da Bahia, S.A.; chemical grade 5,450 metric tons (46%), value NCr$ 345,367; metallurgical grade 1,350 (38%), NCr$ 93,609; and refractory grade 65 (48%), NCr$ 4,831.

5/ Calculated (rounded) on basis of $0.95 per lb. for Cb_2O_5 content in pyrochlore F.O.B., shipping point, Brazil, converted at average of NCr$ 2.58 per U.S.$1.00.

6/ Estimated from the best available information on the one producing company, Cia. Brasileira de Cobre.

7/ Calculated (rounded) on basis of company quotation of $1.85 per lb. for FeCb (68% Cb) F.O.B. shipping point, Brazil, converted at average of NCr$ 2.58 per US$1.00.

8/ Total of two producers, Cia. Ferroligas da Bahia in Bahia, and Aluminio Minas Gerais, S.A. in Minas Gerais.

9/ Production from Minas Gerais only, Aluminio Minas Gerais, S.A.

10/ Jacobina mine in Bahia did not produce in 1967.

11/ Estimate based on factors of calculated ore required for reported pig iron production, total ore exports, and estimate of ore used for "other".

12/ Figure given is crude ore (mine-run) that went to the washer and includes both direct mine-run plus ore from washer (patio) and mine stockpiles. Crude ore actually mined in 1967 totaled 1,062,616 metric tons, of which an unspecified tonnage went to both mine and washer (patio) stockpiles and low grade stock (82,420 m.t.).

13/ Partial "other" production from Lafaiete area as reported by the Central Railroad.

14/ Production unknown, but suppliers are reportedly selling to Cia. Siderurgica Nacional and Aluminio Minas Gerais from mines being developed in Goias.

15/ Partly estimated and rounded. Cia. Morro do Niquel reported 990 metric tons of nickel in ferronickel from unreported tonnage of 1.8% Ni ore, using these known facts and applying a company-reported recovery factor of 88%, the calculated total for this company is 62,500 metric tons. Niquel do Brasil reported 6,585 tons of 1.5% Ni ore to produce ferronickel containing 81 metric tons of nickel.

16/ Probably no production.

17/ Estimate based on personal communication with several contacts from the producing areas.

18/ Includes 420 metric tons of caldasite (ZrO_2 55-70%, SiO_2 15-30%, U_3O_8 0.2-0.4%), and 80 tons of baddeleyite (ZrO_2 70-80%, SiO_2 5-15%, U_3O_8 0.3-0.7%) as reported by producing company, Cia. Brasileira de Mineraçao, Industria e Comercio, Poços de Caldas, M.G. Sales amounted to 300 and 70 tons, respectively, in 1967.

19/ Production of S.A. Mineração de Amianto up to July, 1967 largely type 4 fiber; mine closed down.

20/ Quantity and value of exports as shown are from official records; it is doubtful if such data are complete, and it is certain that actual total production, not reported, is much higher.

21/ Production and value as reported by Cia. Nacional de Grafita Ltda.; a very small additional output, not reported, came from a pilot plant operation in Passagem, Minas Gerais.

22/ The old pyrite mine near Ouro Preto, Minas Gerais, remained inactive during 1967. Reportedly under new ownership; several exploratory holes drilled to determine extent of orebody so mine may be reactivated in 1968.

23/ Although plans were (and still are) being discussed relative to the construction of a plant to utilize the pyritiferous rejects from coal washing to produce sulfuric acid, nothing concrete materialized during 1967.

24/ Production by COPEBRAS, São Paulo; Cia. de Carbonos Coloidais, Bahia, did not produce commercially any carbon black in 1967.

25/ Average price per metric ton as reported by the National Coal Plan; cleaned coal prices not given.

26/ Santos gashouse exploded in 1967, and has not been repaired to date.

27/ Totals, production by fields not yet available.

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