COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT

BUREAU OF MINERAL RESOURCES GEOLOGY AND GEOPHYSICS

RECORDS:

1943/53

PRE-WAR MINERAL INDUSTRY IN AUSTRALIA

by

H.B. Owen

15928/65

1943/53.

PRE-WAR MINERAL INDUSTRY IN AUSTRALIA.

The attached tables show, in so far as figures are available, the salient features of the mineral industry just prior to the outbreak of war.

Table 1 shows:-

(a) Mineral production for the calendar year, 1938 excluding such items as building stone, brick-clay, and road metal.

(b) An approximation of exports during 1938, derived from Table 3.

(c) An approximation of domestic consumption during 1938. Also derived from Table 3.

In Table 1, the various items are arranged in alphabetical order to facilitate reference.

Table 2 shows the exports of mineral products, and the destination thereof, for the fiscal years ending 30th June, 1938, and 30th June, 1939. Oversea trade figures are issued for fiscal and not calendar years. Table 2 is incomplete because figures for a number of items are grouped and not published separately. In Table 2 the various items are arrayed in the following groups:-

A. Precious Metals.
B. Base Metals.
C. Iron Ore, Ferro-Alloys and Ores.
D. Miscellaneous Metals & Ores.
E. Non-Metallic Minerals.
F. Fuels.

As oversea trade figures are given for fiscal years and production figures for calendar years, a table cannot be given with these items on a strictly comparable basis. To provide an approximate basis of comparison, the averages of the exports for 1937/1938 and 1938/1939 have been taken. These are included in Table 3, in which the grouping adopted in Table 2 is repeated. Table 3 also incorporates an approximate figure for domestic consumption derived chiefly from the production and export figures.

If these tables are to be used as a basis for estimating surplus mineral products likely to be available for export after the war, it must be borne in mind:-

i. That due to expanded secondary industry, Australia now consumes considerable quantities of some minerals, notably those used in ferro-alloys, which were previously exported. It is probable that consumption of such minerals will continue at a much higher level than in 1938 and smaller quantities be available for export.

ii. The readily available resources of certain minerals may be exhausted when the war ends, e.g. since 1938 the exhaustion of the orebody at the principal producing centre for both antimony and arsenic has led to a sharp decline in production of these metals, and unless new deposits are developed, it is unlikely that there will be an exportable surplus of either.

iii. New discoveries and development during the war may mean that considerable quantities of certain minerals will be available for export, e.g. Scheelite from King Island and Copper from Mount Isa.

27.9.43.

N.B. Owen.
N. B. Owen

MINERAL INDUSTRY IN AUSTRALIA.

TABLE 1.

PRODUCTION, EXPORT AND DOMESTIC CONSUMPTION FOR 1938 (Long Tons Except Where Other Units Indicated.)

		PRODUCTION	EXPORT	DOMESTIC CONSUMPTION
Alunite		438	-	438
Antimony and Ore		897	524	373 x
Arsenic and Ore		3,999	x	x
Asbestos		306	338	9,500
Barytes		3,180	700	2,500
Bauxite		1,764	nil	1,764
Bismuth and Ore		6	nil	29
Cadmium		196	161	35
Talc, Steatite & Pyrophyllite		1,546	x	2,200
Chromite		952	nil	4,310
Coal bituminous		11,680,159	387,479	11,292,680
Coal, Brown		3,675,450	nil	3,675,450
Cobalt Ore		0.4)	15.9	4.0
Cobalt Oxide		19.5)		
Cobalt Salts		Nil	Nil	14
Copper, ingot		17,098	24	17,074
Copper, contained in matte, ore and concentrates		3,228	3,448	-
Diatomaceous earth		3,692	x	5,000
Dolomite		26,900	x	26,900
Felspar		4,138	x	4,138
Fireclay		51,521	x	51,600
Flint Pebbles		106	x	320
Fluorspar		3,231	nil	4,000
Gold	Fine ounces	1,992,034)	1,667,204	-
Gold, contained in ores and concentrates	" "	44,824)		
Graphite		10	24	700
Gypsum		185,911	26,796	158,115
Iron Ore		2,250,599	150,040	2,100,559
Kaolin & Clay		21,897	nil	22,500
Lead, pig		217,500	208,630x	35,300
Lead, contained in ore, slime & concentrates		58,000	22,673 x	x
Limestone flux		482,939	nil	482,939
Magnesite		19,506	nil	19,800
Manganese Ore		994	1,315	x
Mica (sheet muscovite)		48	3	48
Molybdenite		58	62	-
Nickel		20	20	-
Ochre and other Pigment Clays		553	x	x
Oil - crude Petroleum, Imperial gallons		6,173	nil	62,289,450
Osmiridium & Platinum, ounces		199	314	-
Phosphate Rock		240	nil	790,000
Rutile		550	550	v. small
Salt		148,000	15,000	133,000
Scheelite		40	71.5	-
Silica		54,223	nil	54,223
Silver,	Ounces	9,357,139)		
Silver, contained in lead, bullion, concentrates, ore etc.		4,538,402)	11,287,495	2,608,086
Quicksilver (Mercury),	Pounds	Nil	954	67,900
Tantalite		20	17	nil
Tin, ingots		3,229	1,102	2,127
Tin, contained in concentrates		102	254	-
Wolfram		978	935	-
Zinc, bars, slabs etc.		69,020	37,774	32,046
Zinc, contained in concentrates		93,561	124,340 x	-
Zircon		250	250	v.small

x SEE FOOTNOTES TO TABLE 3.

EXPORTS OF METALS AND MINERALS OF AUSTRALIAN ORIGIN.

Showing Principal Countries of Destination for Fiscal Years 1937/1938 and 1938/1939.

(Long Tons unless Otherwise Stated).

METAL OR MINERAL	COUNTRY OF DESTINATION	1937/1938	1938/1939
A. PRECIOUS METALS.			
GOLD ORE & CONCENTRATES	United Kingdom	3.1	.65
	New Zealand	9.6	20.35
	Belgium	387.65	84.15
	United States of America	774.1	412.8
		1,174.45	517.95
Containing Gold, fine oz.		4,601	1,410
" Silver, oz.		3,887	1,598
" Copper, tons.		23.2	6
" Antimony, tons.		-	6.1
GOLD, not including specie, fine oz.	United Kingdom	880,905	212,409
	France	46,309	841
	United States of America	672,067	1,426,180
	Other	37	-
		1,599,318	1,639,430
GOLD, in lead bullion, conc., ore etc.		46,916	42,732
		1,646,234	1,682,162
PLATINUM METALS, including OSMIRIDIUM, bars, block, rods etc. oz.	United Kingdom	404	169
	Japan	-	56
		404	225
SILVER, bars, ingots, etc. Oz.	United Kingdom	3,351,061	198,059
	Ceylon	4,029,366	8,801,107
	India	1,560,274	222,259
	Other	115,727	111,198
		9,056,428	9,332,624
SILVER, in conc. lead - slime residue, etc.		2,345,778	1,840,159
		11,402,206	11,172,783
B. BASE METALS.			
COPPER, ingot	New Zealand	32.5	16
COPPER, in Matte	Belgium	1,873	1,060
	United Kingdom	-	1
		1,873	1,061
COPPER ORE & CONCENTRATES	United States of America	13,282	13,194
	Germany	164	143
	United Kingdom	3	19
	Others	274	32
		13,723	13,388
Containing Copper		1,694	2,268
LEAD, Pig.	United Kingdom	203,102	200,531
	New Zealand	1,764	2,185
	Japan	3,584	349
	Belgium	1,502	-

(Con.)

METAL OR MINERAL	COUNTRY OF DESTINATION	1937/1938	1938/1939
1. BASE METALS. (Con.)			
LEAD, Pig. (Con.)	Czecho-Slovakia	1,532	600
	United States of American	842	"
	Others	438	831
		212,764	204,496
SILVER-LEAD ORES	United Kingdom	1,001	-
	Belgium	799	257
	United States of American	36	164
	Germany & others	61	1
		1,898	422
Containing Lead		1,299	171
SILVER-LEAD CONCENTRATES	United Kingdom	5,968	-
	Belgium	12,648	21,721
	United States	13,725	9,727
	Germany & Others	36	-
		32,376	31,448
Containing Lead		20,624	22,031
LEAD SLIME RESIDUE	United Kingdom	507.5	593
	Belgium	116	78.5
	United States of American	-	894.5
	Other Foreign	26.5	21
		680	1,587
Containing Lead		363	859
" Copper		1	133
" Tin		2.2	-
" Silver, Oz.		50	103
TIN, Metal ingots	United Kingdom	462	743
	New Zealand	218	220
	Other British	11	109
	United States	20	330
	Other Foreign	22	70
		733	1,472
TIN ORE	United Kingdom	1.3	8.7
	Belgium	35.1	-
		36.4	8.7
Containing Tin		13.4	-
TIN CONCENTRATES	United Kingdom	234.5	473.2
	Belgium	39.4	-
	Netherlands	47.9	-
		321.8	473.2
Containing Tin		182.7	309.3
ZINC (Metal	United Kingdom	15,410	14,153
	India	5,899	17,880
	Japan	8,102	11,514
	Others	1,527	1,063
		30,938	44,610

TABLE 2 CONTINUED.

METAL OR MINERAL	COUNTRY OF DESTINATION	1937/1938	1938/1939
ZINC CONCENTRATES	United Kingdom	200,208	203,697
	Canada	2	-
	Belgium	19,654	32,504
	Czecho-Slovakia	-	2,000
	France	3,508	-
	Germany	10	3,102
	Japan	-	2,025
	Netherlands	-	1,586
		223,382	244,914
Containing Zinc		116,390	131,257
" Lead		5,833	2,434
" Silver Oz.		589,924	316,950
ZINC ORE (concentrates from Mt. Isa)	United Kingdom	-	2,306

1. IRON ORE, FERRO-ALLOYS AND ORES.

IRON ORE	Japan	67,600	74,830
	United States of America	79,880	57,330
	Others	440	-
		167,920	132,160
MANGANESE ORE	Germany	2,625	-
	New Zealand	-	5
		2,625	5
MOLYBDENITE	United Kingdom	12	21
	Belgium	-	11
	Germany	45	23
	Netherlands	-	12.6
		57	67.6
TUNGSTEN CONCENTRATES.			
Scheelite	United Kingdom	7.85	12.85
	Germany	17.55	97
	Sweden	-	5.85
	France	1.8	-
		27.2	115.7
Wolfram	United Kingdom	141	168
	Belgium	77	67
	France	114	140
	Germany	367	358
	Sweden	191	165
	United States of America	60	20
		952	918

k. MISCELLANEOUS METALS AND ORES.

ANTIMONY ORE	United Kingdom	45	311
	United States of America	149	-
		194	311
ANTIMONY CONCENTRATES	Belgium	1,225	956
Containing Antimony Metal		610	437

TABLE 2 CONTINUED.

METAL OR MINERAL	COUNTRY OF DESTINATION	1937/1938	1938/1939
D. MISCELLANEOUS METALS AND ORES (Con.)			
ARSENIC: Arsenical Compounds	United Kingdom	304	31
	New Zealand	47.6	67.3
	South Africa	44.7	22.1
	N.E.Indies	8.7	-
		405.0	120.4
CADMIUM (Metal)	United Kingdom	107.0	112.0
	New Zealand	.3	1.1
	Japan	-	.7
	Sweden	63.0	38.0
		170.3	151.8
COBALT ORE AND OXIDE	Belgium	15	12
	New Zealand	0.1	1 x
	United States of America	3.6	-
		18.7	13
			x Valued at £6.
MERCURY (Quicksilver) Pounds.	New Zealand.	143	-
	New Guinea.	1,328	188
	Other Pacific Is.	150	-
		1,721	188
NICKEL	Unknown		1938 20
RUTILE	United States of America & United Kingdom		1938 550 approx.
TANTALITE	United Kingdom	4.1	-
	Germany	0.8	0.1
	Japan	2.0	0.4
	United States of America	10.85	15.5
		17.75	16.0
ZIRCON	United States of America		1938 250 approx.
E. NON-METALLIC MINERALS.			
ASBESTOS	United Kingdom	262	207
	New Zealand	37	72
	Other British	5	27
	Germany	-	34
	Japan	10	5
	United States of America	-	20
		318	357
BARYTES	Mostly to New Zealand		1938 700
GRAPHITE	Unknown	15	32

TAL OR MINERAL	COUNTRY OF DESTINATION	1937/1938	1938/1939
GYPSUM	New Zealand	10,650	18,322
	China	5,300	-
	Japan	0	10,270
	Kwantung Pr.	5,050	-
	Pacific Is.	3,700	
		24,700	28,892
MICA (sheet muscovite)	United Kingdom (Value only)	26,341	21,083
	New Zealand " "	698	300
	Other British " "	6	-
	Foreign " "	38	-
SALT	New Zealand	13,285	17,033
	Other	535	473
		13,740	17,506

. FUELS.

COAL, Bituminous	New Zealand	119,777	112,926
	New Caledonia	80,447	95,356
	N.E.Indies	47,612	22,364
	Philippine Is.	35,104	51,580
	Malaya	23,803	7,837
	Fiji	19,888	31,377
	India	29,488	4,399
	China	-	39,654
	Others	36,754	16,592
		392,873	382,085

TABLE 3.

PRODUCTION, EXPORT AND CONSUMPTION OF MINERALS IN LONG TONS EXCEPT WHERE OTHERWISE STATED

	PRODUCTION 1930	EXPORTS (Mean of 1927/30 and 1930/31).		DOMESTIC CONSUMPTION
A. PRECIOUS METALS.				
GOLD, contained in ores & concentrates (2)	31,204			31,040
GOLD, Fine ounces (Excluding specie)	1,636,858	31,116	in gold ores & concentrates	32,040
		3,006	in other " " "	
		1,519,774	bars	
		1,667,204		
ZINC, contained in ores & concentrates (2)	93,561			-
OSMIRIDIUM Platinum & platinum metals, ounces	199	314		-
C. IRON ORE, FERRO-ALLOYS AND ORES.				
SILVER, ounces	13,895,541	2,998,869	in ores & concentrates	2,888,888
IRON-ORE Tons	2,250,599	9,197,136	bars	
		11,267,405		
CHROMITE (3)	952			
B. BASE METALS.				
COPPER, ingots Tons	17,098	24		17,074
COPPER, contained in matte, ore & concentrates	3,228	3,448		-
LEAD, pigs (1)	217,500	208,630		35,300
LEAD, contained in ore, slime & concentrates	58,000	22,673		
TIN, ingots	3,229	1,102		2,127
TIN, contained in ores & concentrates	102	254		-
ZINC, bars, slabs etc.	69,820	37,774		32,046
ZINC, contained in ores & concentrates (2)	93,561	134,340		-
C. IRON ORE, FERRO-ALLOYS AND ORES.				
IRON-ORE Tons	2,250,599	150,040		2,100,559
CHROMITE (3)	952	-		4,310
MANGANESE ORE (4)	594	1,315		-
MOLYBDENITE	58	62		-
TUNGSTEN MINERALS				
Scheelite	40	71.5		-
Wolfram	978	935		-
D. MISCELLANEOUS METALS AND ORES.				
ANTIMONY METAL AND ORE (5)	897	524		373
ARSENIC AND ORE (5)	3,999	-		-

TABLE 3 CONTINUED.

METAL, ORE OR MINERAL	PRODUCTION 1938	EXPORTS (Mean of 1937/38 and 1938/39	DOMESTIC CONSUMPTION
D. MISCELLANEOUS METALS & ORES (Con.)			
BISMUTH AND ORE (6)	6	nil	29
CADMIUM	196	161	35
COBALT ORE AND OXIDE	19.9	15.9	4.0
COBALT SALTS	Nil	Nil	14
MERCURY (Quicksilver), Pounds	Nil	954	67,980
NICKEL, contained in ore	20	20	-
RUTILE (7)	550	550	v. small
TANTALITE	20	17	-
ZIRCON (7)	250	250	v. small
E. NON-METALLIC MINERALS (Tons unless otherwise stated).			
ALUNITE	438	Nil	438
ASBESTOS	306	338	9,500 (approx.)
BARYTES	3,180	700	2,500
BAUXITE	1,764	Nil	1,764
TALC, STEATITE, PYROPHYLLITE	1,546	(8)	2,200 plus imports of talc
DIATOMACEOUS EARTH	3,692	(8)	5,000 approx.
DOLOMITE	26,980	(8)	26,980
FELSPAR	4,138	(8)	4,138
FIRECLAY	51,521	(8)	51,600
FLINT PEBBLES	106	(8)	339 plus imports
FLUORSPAR	3,231	Nil	4,000
GRAPHITE	10	24	700
GYPSUM	185,911	26,796	158,115
KAOLIN & CLAY	21,897	Nil	22,500
LIMESTONE FLUX	482,939	Nil	482,939
MAGNESITE	19,506	Nil	19,800
MICA (sheet muscovite, excluding splittings)	48	3 approx.	48

TABLE 3 CONTINUED.

METAL, ORE OR MINERAL.	PRODUCTION, 1938	EXPORTS (Mean of 1937/38 and 1938/39.	DOMESTIC CONSUMPTION
B. NON-METALLIC MINERALS (Con.).			
OCHRE AND OTHER PIGMENT CLAYS	553	(8)	(9)
PHOSPHATE ROCK	240	Nil	790,000
SALT	148,000	15,000	133,000
SILICA-	54,223	(8)	54,223
C. FUELS.			
COAL, bituminous	11,680,159	387,479	11,292,680
COAL, brown	3,675,450	Nil	3,675,450
OIL, Crude Petroleum Imperial Gallons.	6,173	Nil	62,289,450

FOOTNOTES.

(1) Withdrawal of lead from stocks for export and home consumption and stockpiling of zinc concentrates containing lead render position somewhat obscure.

(2) Exports drawn from stocks of zinc concentrates.

(3) Mostly low-grade chromite for refractory purposes. Chromite for metallurgical use imported.

(4) Probable withdrawals from stock for export. Manganese ore and ferro-manganese imported. Steel industry also uses manganiferous iron ore.

(5) Production of antimony and arsenic has declined since 1938 owing to the depletion of ore at the principal producing centre. An unascertainable quantity of antimony was exported in the form of antimonial alloys. Arsenic is exported as arsenical compounds.

(6) Bismuth is imported in various forms.

(7) Mostly exported.

(8) Where figures are not shown in the table, exports of non-metallic minerals are small. Separate figures are not available.

(9) Not available.