

Resource Centre
Policy Branch
Dept. of Minerals & Energy

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ROYALTIES AND STATISTICS BRANCH

STATISTICAL DIGEST OF
MINERAL PRODUCTION
1986



DEPARTMENT OF MINES
WESTERN AUSTRALIA

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ERRATA - STATISTICAL DIGEST - 1986

Page	Subject	Should be																				
1	Summary/Para 1	... 1986 is estimated at \$5 421.9 million, an increase of \$254.8 million over ...																				
1	Summary/Para 3	- gold up 30.0% to 53 639 kilograms due ...																				
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STATISTICAL DIGEST OF
MINERAL PRODUCTION
1986

COMPILED BY:

ROYALTIES AND STATISTICS BRANCH

DEPARTMENT OF MINES
MINERAL HOUSE
66 ADELAIDE TERRACE
PERTH WA 6000

TELEPHONE: 222 3333

MAY 1987

Office of the
Secretary of the
State

General
Order

1911

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ABBREVIATIONS

cons.	concentrates	f.o.t.	free on truck
f.o.b.	free on board	n.a.	not available
f.o.r.	free on rail	Inf.	infinity

REFERENCES

- (a) Value based on the average Australian value of alumina as published by the Bureau of Mineral Resources in the Australian Mineral Industry Review.
- (b) Value at works.
- (c) Estimated f.o.b. value.
- (d) Estimated f.o.r. value.
- (e) Estimated f.o.b. value based on the current price of nickel containing products.
- (f) Nett well head value.
- (g) Value based on the price per barrel as assessed by the Commonwealth for crude oil at Kwinana.
- (h) Value at pithead.
- (i) Nominal Price at Wellhead

UNITS AND CONVERSION FACTORS

	Metric unit	Symbol	Imperial unit	Conversion factors	
				Multiply imperial unit by	Multiply metric unit by
Mass	gram	g	troy (fine) ounce (oz)	31.1035	0.0321507
	kilogram	kg	pound (lb)	0.453592	2.20462
	tonne	t	long tonne (2240 lbs)	1.01605	0.984207
	tonne	t	short tonne (2000 lbs)	0.907185	1.10231
Volume	kilolitre	kL	barrel (bbl)	6.29	0.159

SUMMARY

The total value of mineral production in Western Australia for the year 1986 is estimated at \$5 413.5 million, an increase of \$247.4 million over the previous calendar year.

Iron Ore production decreased by 8.3% to 81.3 million tonnes, however it continued to be the major mineral commodity in the State making up 35% of the total value of mineral production.

Major minerals to record significant increases in production during the year were:

- diamonds up 313.5% to 29.2 million carats due to the first full year of production from the AKI Kimberlite Pipe;
- gold up 29.1% to 53,189 kilograms due to the continued buoyancy in the industry with several new developments and continued expansion from existing mines;
- crude oil because of the first year of production from the Harriet platform; and
- natural gas and condensate as a result of a steady increase in output from the North West Shelf Project;

In addition to diamonds and natural gas, both of which contributed a corresponding increase in value as a result of production expansion, significant increase in prices for gold, the heavy mineral sands products and coal were major factors in the increased value of production.

State royalty revenue again increased significantly and for 1986 was \$165.3 million an increase of \$24.5 million over the previous year. Significant increases in royalty revenue came from Diamond, Oil, Mineral Sands, Salt and Iron Ore with rises of 247%, 65%, 27%, 26% and 8% respectively.

Mineral	Units	Production		% up (% down)
		1985	1986	
Alumina	Mt	5.4	5.4	0.4
Coal	Mt	3.7	3.8	1.0
Diamond	M carats	7.1	29.2	313.5
Gold	t	41.2	53.2	29.1
Iron Ore	Mt	88.7	81.3	(8.3)
Mineral Sands:				
Ilmenite	Kt	1 235.6	1 005.2	(18.6)
Leucoxene	Kt	13.8	14.1	2.4
Monazite	Kt	17.8	14.7	(16.9)
Rutile	Kt	79.7	69.9	(12.3)
Zircon	Kt	371.8	319.2	(14.1)
Nickel Conc.	Kt	483.2	402.4	(16.7)
Nickel Ore	Kt	17.9	66.7	273.2
Petroleum				
Condensate	Kt	209.3	329.4	57.4
Natural Gas	Mm ³	2 226.4	2 974.4	33.6
Oil	ML	1 207.9	1 607.3	33.1
Salt	Mt	4.8	4.9	3.0

TABLE 1
QUANTITY AND VALUE OF MINERALS 1985, 1986

Mineral	Unit Quantity	1985		1986	
		Quantity	Value (\$)	Quantity	Value (\$)
Alumina	tonne	5 419 623	1 098 152 135	5 442 790	1 015 172 246
Building Stone					
black granite	t	145	45 000	585	50 000
quartz	t	2 992	134 640	1 117	50 261
Clay					
attapulgitic	t	-	-	47 376	n.a.
cement clay	t	22 513	56 283	23 495	58 729
fire clay	t	256 693	309 181	203 597	244 317
kaolin	t	2 685	85 148	3 540	131 580
white clay	t	846	8 936	126 053	363 382
Coal	t	3 785 977	119 532 775	3 825 535	137 136 740
Cobalt	t	508	9 629 912	484	5 564 158
Construction Material					
aggregate	t	142 939	1 039 428	122 115	677 247
gravel	t	11 451	14 134	5 370	19 875
rock	t	63 113	125 867	89 478	178 958
sand	t	1 057 832	1 937 243	1 147 184	3 300 083
sandstone	t	-	-	20	40
Copper	t	3 813	4 152 769	3 592	4 054 126
Copper Concentrate	t	33 743	6 971 035	20 806	4 387 234
Cupreous Ore	t	42	6 748	-	-
Diamond	carat	7 070 062	64 367 369	29 232 453	256 963 424
Diatomite	t	578	3 149	1 060	5 301
Dolomite	t	300	2 100	330	2 310
Emerald	gram	-	-	425	3 469
Felspar	t	6 560	43 954	9 497	76 224
Garnet Sand	t	5 835	204 252	9 724	340 340
Gold	kilogram	41 196	605 618 349	53 189	965 537 250
Gypsum	t	451 755	5 126 645	314 481	3 771 201
Iron Ore	t	88 670 729	2 029 998 845	81 290 940	1 914 745 851
Kyanite	t	222	25 709	768	113 637
Limestone	t	193 511	1 151 735	217 092	1 006 511
Mineral Beach Sand					
ilmenite	t	1 163 987)		946 315)	
reduced ilmenite	t	-	60 358 281	53)	65 581 056
upgraded ilmenite	t	71 618)		58 874)	
leucosene	t	13 809	4 003 028	14 143	5 315 181
monazite	t	17 755	9 047 127	14 747	9 470 735
rutile	t	79 669	30 962 497	69 887	35 289 099
xenotime	t	46	586 165	41	335 662
zircon	t	371 754	45 096 049	319 192	51 163 829
Nickel Concentrate	t	483 207	379 142 920	402 398	262 931 472
Nickel Ore	t	17 877	3 383 183	66 715	12 207 125
Palladium	kilogram	476	2 382 702	428	2 557 435
Peat	t	9 620	423 303	1 474	44 315
Petroleum Products					
condensate	t	209 264	n.a.	329 396	n.a.
crude oil	kilolitre	1 207 875	318 717 603	1 607 251	260 582 180
natural gas	'000m ³	2 226 409	229 954 622	2 974 410	264 200 592
Platinum	kilogram	95	1 405 304	115	2 459 690
Salt	t	4 804 185	95 918 242	4 947 666	103 554 621
Semi-precious Stone					
amethyst	kilogram	59 896	90 368	8 988	50 716
moss opal	kilogram	-	-	21	14
tiger eye	t	54	50 214	-	-
Silica Sand	t	373 117	791 067	390 381	585 063
Silver	kilogram	33 610	8 781 651	24 883	5 863 597
Spodumene	t	12 009	1 428 714	8 530	2 682 232
Talc	t	115 031	n.a.	161 368	n.a.
Tantalite	t	108	4 475 112	126	4 398 606
Tin Concentrate	t	321	5 486 809	742	4 989 398
Vermiculite	t	615	9 245	657	13 142
Zinc Concentrate	t	51 977	14 815 986	23 969	5 228 455
Total Value			5 166 053 333		5 413 458 709

TABLE 2 QUANTITY AND VALUE OF MINERALS:
SHOWING MINERAL-FIELD AND METALLIC CONTENT.

Mineral	Mineral-field	Quantity tonnes	Metallic Content	Value (\$)	Ref.
Alumina	South West	5 442 790		1 015 172 246	(a)
Building stone					
black granite	West Kimberley	585		50 000	
quartz	South West	1 117		50 261	
		1 702		100 261	(b)
Clay					
attapulgite	South West	47 376		NA	
cement clay	South West	23 495		58 729	
fire clay	South West	203 597		244 317	
kaolin	Greenbushes	3 540		131 580	
white clay	South West	126 053		363 382	
		404 061		798 008	(b)
Coal	Collie	3 825 535		137 136 740	(h)
			Cobalt tonnes		
Cobalt (metallic by-product of nickel mining)					
	Coolgardie		379.382	3 583 600	
	East Murchison		104.678	1 980 558	
			484.060	5 564 158	(c)
Construction Materials					
aggregate	East Coolgardie	91 207		520 673	
	Kimberley	7 412		29 648	
	Pilbara	8 260		82 575	
	West Pilbara	15 236		44 351	
		122 115		677 247	(b)
gravel	West Pilbara	5 370		19 875	(b)
rock	West Pilbara	89 478		178 958	(b)
sand	Coolgardie	8 777		35 103	
	East Murchison	2 573		12 350	
	Kimberley	10 266		41 064	
	Pilbara	18 559		104 250	
	South West	640 170		1 024 493	
	West Kimberley	19 030		38 060	
	West Pilbara	447 809		2 044 763	
		1 147 184		3 300 083	(b)

TABLE 2 QUANTITY AND VALUE OF MINERALS:
SHOWING MINERAL-FIELD AND METALLIC CONTENT - continued

Mineral	Mineral-field	Quantity tonnes	Metallic Content	Value (\$)	Ref.
Construction Materials (Cont)					
sandstone	West Pilbara	20		40	
Total		1 354 167		4 176 203	
Copper t					
Copper (metallic by- product of nickel mining)	Coolgardie		2 856.952	3 394 837	
	East Murchison		735.077	659 289	
			3 592.029	4 054 126	(c)
Copper t					
Copper Concentrates	Mt Margaret	20 806	4 182.073	4 387 234	(c)
Carats					
Diamond	Kimberley		29 232 453	256 963 424	(c)
Diatomite	South West	1 060		5 301	(d)
Dolomite	South West	330		2 310	(d)
Grams					
Emerald	North Coolgardie		425	3 469	(d)
Felspar	South West	9 497		76 224	(d)
Garnet Sand	South West	9 724		340 340	(d)

TABLE 2 QUANTITY AND VALUE OF MINERALS:
SHOWING MINERAL-FIELD AND METALLIC CONTENT - continued

Mineral	Mineral-field	Quantity tonnes	Metallic Content	Value (\$)	Ref.
		Ore treated	Estimated kg*		
Gold	State generally	14 225 120	53 189.246	965 537 250	
*Includes alluvial, dollied + specimens, gold obtained from tailings retreatment and gold contained in exported gold bearing material.					
Gypsum	Dundas	42 084		629 000	(d)
	Gascoyne	117 467		1 954 818	(c)
	South West	81 389		826 485	(b), (d)
	Yilgarn	73 541		360 898	(d)
		314 481		3 771 201	
Plaster of Paris reported as manufactured during the year - 51 003 tonnes from 71 799 tonnes of gypsum by two companies.					
			Assay Fe %		
Iron Ore					
Ore shipped interstate	Peak Hill	4 400 965	64.00	88 339 955	
	Pilbara	409 255	62.56	10 948 458	
	West Pilbara	124 336	57.38	1 529 610	
	West Kimberley	1 447 679	67.23	15 891 469	
		6 382 235		116 709 492	
Ore exported overseas	Peak Hill	23 466 365	63.00	615 288 973	
	Pilbara	5 204 707	61.92	125 891 969	
	West Pilbara	44 273 730	61.64	1 010 140 323	
	West Kimberley	1 949 699	66.76	46 193 094	
		74 894 501		1 797 514 359	
Pellets (exported overseas)	West Pilbara	14 204	63.00	522 000	
Total		81 290 940		1 914 745 851	(c)
Kyanite	South West	768		113 637	

TABLE 2 QUANTITY AND VALUE OF MINERALS:
SHOWING MINERAL-FIELD AND METALLIC CONTENT - continued

Mineral	Mineral-field	Quantity tonnes	Metallic Content	Value (\$)	Ref.
Limestone	South West	209 229		998 648	
	West Pilbara	7 863		7 863	
		217 092		1 006 511	(b)
Mineral Beach Sands			Av. Assay TiO ₂ %		
ilmenite upgraded	South West	946 315	56.37)	65 581 056	(c)
ilmenite reduced	South West	58 874	92.00)		
ilmenite	South West	53	34.00)		
			TiO ₂ tonnes		
leucoxene	South West	14 143	12 733	5 315 181	(c)
			Th O ₂ units		
monazite	South West	14 747	95 438	9 470 735	(c)
			TiO ₂ tonnes		
rutile	South West	69 887	66 608	35 289 099	(c)
			Y ₂ O ₃ kg		
xenotime	South West	41	12 300	335 662	(c)
			ZrO ₂ tonnes		
zircon	South West	319 192	181 518	51 163 829	(c)
			Assay Ni%		
Nickel Concentrates	Coolgardie	271 422	11.65	175 733 879	
	East Coolgardie	24 197	11.99	16 860 871	
	East Murchison	42 978	13.65	33 056 100	
	Mt Margaret	63 801	10.27	37 280 622	
		402 398		262 931 472	(e)

TABLE 2 QUANTITY AND VALUE OF MINERALS:
SHOWING MINERAL-FIELD AND METALLIC CONTENT - continued

Mineral	Mineral-field	Quantity tonnes	Metallic Content	Value (\$)	Ref.
Nickel Ore	Coolgardie	66 715	3.43	12 207 125	(b)
Palladium (metallic by- product of nickel mining)	Coolgardie		428.335	2 557 435	(c)
Peat	South West	1 474		44 315	(b)
Petroleum condensate	Basin Carnarvon Perth	327 526 1 870		NA NA	
		329 396		NA	
crude oil	Canning Carnarvon Perth	71 394 1 526 488 9 369		11 006 676 248 239 719 1 335 785	
		1 607 251		260 582 180	(g)
natural gas	Carnarvon Perth	2 479 915 494 495		231 992 700 32 207 892	
		2 974 410		264 200 592	(i)
Platinum (metallic by- product of nickel mining)	Coolgardie		114.521	2 459 690	(c)
Salt	Gascoyne Pilbara West Pilbara	1 262 858 1 710 777 1 974 031		26 367 087 34 901 204 42 286 330	
		4 947 666		103 554 621	(c)

TABLE 2 QUANTITY AND VALUE OF MINERALS:
SHOWING MINERAL-FIELD AND METALLIC CONTENT - continued

Mineral	Mineral-field	Quantity tonnes	Metallic Content	Value (\$)	Ref.
			kg		
Semi-precious stones					
amethyst	Gascoyne		8 988	50 716	
moss opal	Dundas		21	14	
				50 730	(d)
<hr/>					
Silica Sand	Coolgardie	80 155		196 380	
	South West	310 226		388 683	
				585 063	(c)
<hr/>					
			kg		
Silver	Mt Margaret		15 100.632	4 224 411	(c)
	By-product of gold mining		8 790.548	1 364 521	
	By-product of nickel mining		991.875	274 665	(c)
				24 833.055	
<hr/>					
			Li02 t		
Spodumene	Greenbushes	8 529.71	551.93	2 682 232	(c)
<hr/>					
Talc	South West	161 368		NA	
<hr/>					
			Ta ₂ O ₅ kg		
Tantalite	Greenbushes	126.46	69 490	4 398 606	(c)
<hr/>					
			Sn tonnes		
Tin	Greenbushes	709.61	496.73	4 595 365	
	Pilbara	32.06	23.60	394 033	
				4 989 398	(c)
<hr/>					

TABLE 2 QUANTITY AND VALUE OF MINERALS:
 SHOWING MINERAL-FIELD AND METALLIC CONTENT - continued

Mineral	Mineral-field	Quantity tonnes	Metallic Content	Value (\$)	Ref.
Vermiculite	Phillips River	657		13 142	(d)
			Zn tonnes		
Zinc	Mt Margaret	23 969	9 886.137	5 228 455	(c)
	Value of Minerals			4 447 921 459	
	Value of Gold			<u>965 537 250</u>	
				5 413 458 709	

TABLE 3
QUANTITY OF GOLD (KG) AND ORE TREATED 1986
SHOWING MINERAL-FIELD AND DISTRICT

	ALLUVIAL KILOGRAMS	DOLLIED AND SPECIMENS KILOGRAMS	MILLED OR SMELTERED		TOTAL GOLD KILOGRAMS	SILVER KILOGRAMS
			ORE TREATED (TONNES)	GOLD THEREFROM KILOGRAMS		
KIMBERLEY	19.438	1.539	-	-	20.977	1.394
WEST KIMBERLEY	-	-	-	-	-	-
MARBLE BAR	30.206	3.954	1 766 229.00	5 019.799	5 053.959	372.627
NULLAGINE	16.189	5.083	4 282.00	14.971	36.243	1.748
PILBARA	46.395	9.037	1 770 511.00	5 034.770	5 090.202	374.375
WEST PILBARA	5.248	1.249	-	-	6.497	0.534
ASHBURTON	1.505	0.207	8.00	0.335	2.047	0.049
GASCOYNE	0.648	0.012	15.00	0.423	1.083	0.122
PEAK HILL	46.017	0.103	423 720.00	2 076.393	2 122.513	144.358
LAWLERS	6.708	-	435 135.00	1 785.572	1 792.280	81.806
WILUNA	1.934	0.619	-	508.711	511.264	73.803
BLACK RANGE	11.269	1.815	18 010.00	111.618	124.702	6.193
EAST MURCHISON	19.911	2.434	453 145.00	2 405.901	2 428.246	161.802
CUR	34.007	6.140	207 892.00	810.953	851.100	43.493
NEEKATHARRA	55.039	7.105	864 493.00	2 370.320	2 432.464	11.232
DAY DAWN	10.032	0.013	48 765.00	1 006.323	1 016.368	161.708
MT MAGNET	14.509	1.802	604 156.00	2 267.646	2 283.957	160.870
MURCHISON	113.587	15.060	1 725 326.00	6 455.242	6 583.889	377.303
YALGOO	2.282	0.480	51 606.00	258.253	261.015	11.293
MT MORGANS	15.565	0.422	1 901.00	29.078	45.065	1.477
MT MALCOLM	27.354	1.862	1 455 493.00	5 022.344	5 051.560	259.489
MT MARGARET	18.955	4.876	547 650.00	1 971.716	1 995.547	310.455
MT MARGARET	61.874	7.160	2 005 044.00	7 023.138	7 092.172	571.421
MENZIES	0.806	0.227	588.00	88.376	89.409	19.978
ULARRING	1.532	-	17 046.00	115.006	116.538	1.198
NIAGARA	0.249	0.365	10.00	5.284	5.898	0.168
YERILLA	-	6.680	301 849.00	927.751	934.431	137.727
NORTH COOLGARDIE	2.587	7.272	319 493.00	1 136.417	1 146.276	159.071
BROAD ARROW	2.103	-	1 390 926.00	3 358.273	3 360.376	186.268
KANOWNA	4.572	0.047	7 007.00	37.881	42.500	2.445
KURNALPI	0.055	1.144	66.00	0.122	1.321	0.047
NE COOLGARDIE	4.627	1.191	7 073.00	38.003	43.821	2.492
EAST COOLGARDIE	5.830	3.250	3 033 230.00	12 767.142	12 776.222	3 007.111
BULLONG	2.122	0.522	3.00	1.629	4.273	0.740
EAST COOLGARDIE	7.952	3.772	3 033 233.00	12 768.771	12 780.495	3 007.851
COOLGARDIE	6.591	2.541	1 031 372.00	4 103.931	4 113.063	1 191.942
KUNANALLING	2.446	0.183	48 584.00	66.033	68.662	0.774
COOLGARDIE	9.037	2.724	1 079 956.00	4 169.964	4 181.725	1 192.716
YILGARN	1.930	0.758	1 495 832.00	4 174.271	4 176.959	276.913
DUNDAS	1.170	0.039	372 502.00	3 526.583	3 527.792	1 987.415
PHILLIPS RIVER	-	-	1 264.00	33.692	33.692	2.680
SOUTH WEST	-	-	95 466.00	325.318	325.318	-
STATE GENERALLY	2.629	1.522	-	-	4.151	0.475
TOTAL	348.940	54.559	14 125 120.00	52 785.747	53 189.246	8 458.532

RS415ACQ388
(TM2, LM12, A82, P82)

TABLE 4

ROYALTY RECEIPTS 1986

Mineral			Value (\$A)	% up
	1985	1986	variance	(& down)
Alumina	9 976 515	10 368 378	391 863	4
Building stone	995	352	(643)	(65)
Clay	129 901	135 463	5 562	4
Coal	1 278 898	1 358 292	79 394	6
Cobalt	118 366	103 518	(14 848)	(13)
Construction materials				
aggregate	32 799	15 287	(17 512)	(53)
gravel	3 796	7 196	3 400	90
rock	13 690	30 397	16 707	122
sand	109 754	187 152	77 398	71
Copper	536 037	196 729	(339 308)	(63)
Diamond	2 156 726	7 474 564	5 317 838	247
Diatomite	69	354	285	413
Dolomite	330	99	(231)	(70)
Emerald	-	260	260	Inf.
Feldspar	2 212	3 289	1 077	49
Garnet sand	9 514	15 463	5 949	63
Gold	105 832	100 142	(5 690)	(5)
Gypsum	146 563	102 605	(43 958)	(30)
Iron ore	94 497 728	102 414 688	7 916 960	8
Kyanite	181	3 696	3 515	1 942
Limestone	90 751	77 193	(13 558)	(15)
Mineral beach sands				
ilmenite	1 060 791	1 183 206	122 415	12
leucocoxene	103 052	111 534	8 482	8
monazite	236 307	304 240	67 933	29
rutile	730 512	1 136 023	405 511	56
xenotime	985	2 742	1 757	178
zircon	1 257 621	1 572 266	314 645	25
Nickel	5 847 064	5 819 275	(27 789)	(1)
Ochre	-	1 460	1 460	Inf.
Palladium	19 941	20 257	316	2
Peat	-	12 721	12 721	Inf.
Petroleum Products				
condensate	529 674	516 559	(13 115)	(2)
crude oil	16 408 550	27 136 487	10 727 937	65
natural gas	3 873 510	3 590 693	(282 817)	(7)
Platinum	19 941	20 257	316	2
Salt	505 253	638 886	133 633	26
Semi-precious stones				
amethyst	8 326	3 804	(4 522)	(54)
moss opal	79	1	(78)	(99)
tiger eye	3 766	-	(3 766)	(100)
Silica sand	145 811	174 084	28 273	19
Silver	182 271	108 788	(73 483)	(40)
Spodumene	79 256	31 023	(48 233)	(61)
Talc	48 804	104 634	55 830	114
Tantalite	100 871	34 234	(66 637)	(66)
Tin	127 647	65 377	(62 270)	(49)
Vermiculite	473	489	16	3
Zinc Concentrate	289 313	130 712	(167 601)	(56)
Total value	140 799 475	165 314 869	24 515 394	17

PRINCIPAL MINERAL PRODUCERS 1986 - Head office postal address, telephone number: minesite.

ALUMINA

Alcoa of Australia (WA) Ltd, P O Box 161, Kwinana 6167, (09) 419 1566: Del Park, Huntly, Jarrahdale
Worsley Alumina Pty Ltd, P O Box 344, Collie 6225, (097) 34 3022: Boddington.

BUILDING STONE - quartz

Snowstone Pty Ltd, P O Box 209, Cannington 6107, (09) 453 6777: Mukinbudin.

- black granite

Parry Corporation Ltd, PO Box 457, West Perth WA 6005, (09) 322 1621: Napier Downs.

CLAY - attapulgitite

Mallina Holdings Ltd, 249 Stirling Highway, Claremont 6010, (09) 384 7077: Lake Nerramayne.

- cement clay

Bell Basic Industries Ltd, P O Box 75, Guildford 6055, (09) 279 0000: Armadale: Karragullen.

- fire clay

Midland Brick Company Ltd, Bassett Road, Middle Swan 6056, (09) 274 5522: Bullsbrook.

- kaolin

Greenbushes Tin Ltd, GPO Box J646, Perth 6001, (09) 325 8900: Greenbushes.

COAL

Griffin Coal Mining Company Ltd, GPO Box G474, Perth 6001, (09) 325 8155: Collie.
Western Collieries Ltd, GPO Box X2231, Perth 6001, (09) 325 2711: Collie.

COBALT

Agnew Mining Company Pty Ltd, P O Box 22, Leinster 6437, (090) 37 6005: Agnew.
Western Mining Corporation Ltd, P O Box 80, Belmont 6104, (09) 478 0711: Kambalda.

PRINCIPAL MINERAL PRODUCERS 1986 - continued.

CONSTRUCTION MATERIALS - aggregate

Adelaide Quarry Industries, P O Box 125, Wanneroo 6065, (09) 342 7333: Karratha
Calsil Ltd, 5 Mill Street, Perth 6000, (09) 321 8552: Port Hedland.
Woodhead JL, 407 Packsaddle Road, Kununurra 6743, (091) 68 1472 : Kununurra.
The Readymix Group WA, PO Box 20, Bentley WA 6102, (09) 451 5566: Boulder.

- gravel

Kane DJ, 8 Oleander Place, Wickham 6720, (091) 87 1616 : Mt Welcome.
Pioneer Concrete (WA) Pty Ltd, P O Box 187, Victoria Park 6100, (09) 362 1100: Port Hedland.

- rock

Specified Services Pty Ltd, P O Box 89, West Perth 6005, (09) 321 3086: Mt Regal.

- sand

Adelaide Quarry Industries, P O Box 125, Wanneroo 6065, (09) 342 7333: Karratha.
Calsil Ltd, P O Box 7214, Cloisters Square, Perth 6000, (09) 321 8552: Port Hedland.
Cottiers Pty Ltd, P O Box 311, Port Hedland 6721, (09) 72 1553: Port Hedland.
Drew, M, P O Box 55, Cervantes, 6511, (095) 45 7018: Cervantes.
Marathon Roofing Pty Ltd, P O Box 5, Willetton 6155, (09) 455 1488: Jandakot.
May, S, C/- 660 Londond Rd, Chandler, Queensland 4155, (07) 245 4399: Sherlock.
Monier Ltd, P O Box 5, Willetton 6155, (09) 455 1488: Gosnells.
Pioneer Concrete (WA) Pty Ltd, P O Box 187, Victoria Park 6100, (09) 362 1100: Port Hedland.
Specified Services Pty Ltd, P O Box 89, West Perth 6005, (09) 321 3086: Maitland.
Stillman WJ, PO Box 71, Boulder WA 6432: Lake Lefroy.
The Readymix Group (WA), P O Box 20, Bentley 6102, (09) 451 5566: Boulder, Jones River, Rocklea,
Turner River, Widgiemooltha.
Tomlinson JJ, Via Flynn Road, East Mundaring WA 6073, (095) 72 6088: Chidlow
Wrenford, WB, C/- PO Box 517, Karratha, WA 6714, (091) 83 8100: West Pilbara

COPPER

Agnew Mining Company Pty Ltd, P O Box 22, Leinster 6437, (090) 37 6005: Agnew.
Teutonic Bore Mine Project, GPO Box R1274, Perth 6000, (09) 325 4511: Teutonic Bore.
Western Mining Corporation Ltd, P O Box 80, Belmont 6104, (09) 478 0711: Kambalda.

PRINCIPAL MINERAL PRODUCERS 1986 - continued.

DIAMOND

Argyle Diamond Mines Pty Ltd, Private Bag No 11 Post Office, West Perth 6005, (09) 325 1166: Argyle.
Freeport of Aust. Inc., P O Box 280, Collins St Post Office, Melbourne Victoria 3000, (03) 602 4811
Lissadell
Gem Exploration & Minerals Ltd, P O Box 7009, Cloisters Square, Perth 6000, (09) 322 1979: Lissadell

DIATOMITE

Hines, Horton and Rule, C/- 141 Robinson Street, Gingin 6503, (095) 75 2261: Gabys Peak.

DOLOMITE

Green K&P, Newdegate 6355, (098) 71 1547 : Lake Magenta.

EMERALD

Mackay, NJ, 91 Thomas St, Nedlands WA 6009, (09) 386 6206: Wonder Well

FELDSPAR

Snowstone Pty Ltd, P O Box 209, Cannington 6107, (09) 453 6777: Mukinbudin.

GARNET SAND

Target Minerals N L, P O Box 188, Geraldton 6530, (099) 23 3644: Port Gregory.

GOLD

Australian Consolidated Minerals Ltd, C/- GPO Box X2201, Perth WA 6001, (09) 325 7755: Golden Crown,
Westonia.
Central Norseman Gold Corporation N L, P O Box 56, Norseman 6443, (090) 39 1101: Central Norseman.
Endeavour Resources Ltd, 31 Ventnor Ave, West Perth 6005, (09) 322 6444: Bluebird, Ingliston.
Great Victoria Gold Ltd, C/- Post Office, Southern Cross WA 6426, (090) 401 099: Great Victoria.
Harbour Lights Mining Ltd, P O Box 240, Leonora 6438, (090) 37 6211: Harbour Lights.
Hill 50 Gold Mine N L, 140 St George's Terrace, Perth 6000, (09) 322 6915: Hill 50.
Horseshoe Lights Gold Pty Ltd, 614 Newcastle St, Leederville 6107, (09) 328 8200: Horseshoe.
Kalgoorlie Mining Associates, P O Box 105, Fimiston 6433, (090) 21 3411: Fimiston, Mt Charlotte.

PRINCIPAL MINERAL PRODUCERS 1986 - continued.

GOLD (Continued)

Kia Ora Gold Corporation NL, PO Box 78, Southern Cross WA 6426, (090) 401 030: Marvel Loch.
Mt Percy Gold Project, PO Box 489, Kalgoorlie 6430, (090) 218 276: Mt Percy.
Newmont Holdings Pty Ltd, P O Box 211, Cloverdale 6105, (09) 277 7011: Telfer.
North Kalgurli Mines Ltd, P O Box 88, Fimiston 6433, (090) 21 0600: Fimiston, Paringa.
Pancontinental Goldmining Areas Pty Ltd, P O Box 1161, Kalgoorlie 6430, (090) 24 2000: Paddington.
Sons of Gwalia Ltd, P O Box 569, West Perth 6005, (09) 322 1773: Sons of Gwalia.
Western Mining Corporation Ltd, P O Box 80, Belmont 6104, (09) 478 0711: Emu, Gt Boulder, Kambalda,
Lancefield, Sand King.
Whim Creek Consolidated N L, P O Box 144, West Perth 6005, (09) 325 5855: Haveluck/Phar Lap.

GYPSUM

Agnew Clough Ltd, P O Box 7005, Cloisters Square, Perth 6000, (09) 322 4811: Shark Bay.
Amalgamated Industries Pty Ltd, Private Bag 16 Post Office, West Perth 6005, (09) 322 6444:
Wyalkatchem.
Blake and Sita, P O Box 144, Merredin 6415: Lake Brown.
Brady H B and Company Pty Ltd, P O Box 42 Bayswater 6053, (09) 279 4422: Lake Brown.
Cusak, B, PO Box 103, Narembeen, 6369 (090) 64 7311: Kondinin.
CSR Building Materials, P O Box 91, Bentley 6102, (09) 451 4444: Yellowdine.
D & C Nominees Pty Ltd, P O Box 155, Yerecoin 6571: Wongan Hills.
Green K L and P M, Newdegate 6355: Newdegate.
Hathaway, G, R & S, PO Box 33, Kalannie 6468, (096) 66 2011: Lake Hillman.
Kidman, G, PO Box 69, Newdegate 6355, (098) 71 6044: Varley.
McAndrew Mining, Yelbeni 6487: Yelbeni.
Nixon P F and R S, P O Box 69, Moora 6510: Lake Hillman.
Pustkuchen, JV & Enright, AM & BA, C/- 3 Mitchell St, Kelleberrin, 6410, (090) 45 4052: Hines Hill.
Southern Asiatic Enterprises Pty Ltd, 41 St George's Terrace, Perth 6000, (09) 325 7417: Norseman.
Swan Portland Cement Ltd, P O Box 78, Rivervale 6103, (09) 361 8822: Lake Hillman.

IRON ORE

BHP Minerals Pty Ltd, P O Box 160, Kwinana 6167, (09) 410 1111: Cockatoo Island, Koolan Island.
Robe River Iron Associates, GPO Box P1224, Perth 6001, (09) 325 9288: Pannawonica.
Goldsworthy Mining Ltd, GPO Box B80, Perth 6001, (09) 322 1788: Shay Gap, Sunrise Hill.
Hammersley Iron Pty Ltd, P O Box A42, Perth 6000, (09) 327 2327: Mt Tom Price, Paraburdoo.
Mt Newman Mining Company Pty Ltd, P O Box 7122, Cloisters Square, Perth 6000, (09) 322 0691:
Newman.

PRINCIPAL MINERAL PRODUCERS 1986 - continued.

LIMESTONE

Amalgamated Industries Ltd, C/- PMB 16, West Perth, 6005, (09) 322 6444: Lancelin.
Bell Basic Industries Ltd, P O Box 75, Guildford 6055, (09) 279 0000: Wanneroo.
Chelsford Pty Ltd, 89 Erindale Road, Balcatta WA 6021, (09) 349 6009: Wanneroo.
Cypress Nominees Pty Ltd, 4 Phillips Place, Karrinyup 6018, (09) 446 3930: Moore River.
Specified Services Pty Ltd, P O Box 89, West Perth 6005, (09) 321 3086: Cleaverlyville.
Swan Portland Cement Ltd, P O Box 78, Rivervale 6103, (09) 361 8822: Wanneroo.
Unimil Pty Ltd, PO Box 15, Bentley, 6102, (09) 362 1411: Lancelin.

MINERAL BEACH SANDS

Allied Eneabba Ltd, P O Box 6115, Hay Street East, Perth 6000, (09) 325 2599: Eneabba.
Associated Minerals Consolidated Ltd, 45 Stirling Highway, Nedlands 6009, (09) 386 8611: Capel,
Eneabba.
Cable Sands Pty Ltd, P O Box 133, Bunbury 6230, (097) 21 4111: Capel.
Westralian Sands Pty Ltd, P O Box 96, Capel 6271, (097) 27 2002: Boyanup, North Capel, Yoganup.

NICKEL

Agnew Mining Corporation Pty Ltd, P O Box 22, Leinster 6437, (090) 37 6005: Agnew.
BHP Minerals Ltd, GPO Box 86A, Melbourne 3001, (03) 60 0701: Carnilya Hill.
Metals Exploration Ltd, 80 Collins Street, Melbourne 3000, (03) 653 7100: Nepean.
Western Mining Corporation Ltd, P O Box 80, Belmont 6104, (09) 478 0711: Carnilya Hill, Kambalda,
Windarra.

PALLADIUM

Western Mining Corporation Ltd, P O Box 80, Belmont 6104 (09) 478 0711: Kambalda.

PRINCIPAL MINERAL PRODUCERS 1986 - continued.

PETROLEUM - condensate

Strata Oil N L, GPO Box G474, Perth 6001, (09) 325 8155: Woodada.
West Australian Petroleum Pty Ltd, GPO Box C1580, Perth 6001, (09) 325 0181: Barrow Island, Dongara.
Woodside Offshore Petroleum Pty Ltd, GPO Box D188, Perth 6001, (09) 425 1211: North Rankin.

- crude oil

Bond Corporation Pty Ltd, GPO Box X2275, Perth 6001, (09) 322 7355: Harriet.
Home Energy Company Ltd, P O Box 6176, Hay Street East, Perth 6000, (09) 325 1555: Blina.
Pacific Basin Exploration Pty Ltd, 100 Mill Point Road, South Perth 6151, (09) 368 2800: Mt Horner.
West Australian Petroleum Pty Ltd, GPO Box C1580, Perth 6001, (09) 325 0181: Barrow Island, Dongara.

- natural gas

Strata Oil N L, GPO Box G474, Perth 6001, (09) 325 8155: Woodada.
West Australian Petroleum Pty Ltd, GPO Box C1580, Perth 6001, (09) 325 0181: North Perth Basin.
Woodside Offshore Petroleum Pty Ltd, GPO Box D188, Perth 6001, (09) 425 1211: North Rankin.

PLATINUM

Western Mining Corporation Ltd, P O Box 80, Belmont 6104, (09) 478 0711: Kambalda.

SALT

Dampier Salt Ltd, P O Box 7073, Cloisters Square, Perth 6000, (09) 327 2327: Dampier, Lake MacLeod.
Leslie Salt Company, P O Box 420, Port Hedland 6721, (091) 72 3777: Port Hedland.
Shark Bay Salt Joint Venture, P O Box 7005, Cloisters Square, Perth 6000, (09) 322 4811: Shark Bay.

SEMI-PRECIOUS STONES - amethyst and moss opal

Soklich Trading Company, Dale Place, Orange Grove 6109 (09) 459 1449: Gascoyne.

PRINCIPAL MINERAL PRODUCERS 1986 - continued.

SILICA SAND

Australian Glass Manufacturers Co, 35 Baille Road, Canning Vale 6155 (09) 455 1111: Lake Gnangara.
Bell Basic Industries Ltd, P O Box 75, Guildford 6055, (09) 279 0000: Jandakot.
Monier Sands, P O Box 5, Willetton 6155, (09) 455 1488: Jandakot.
The Readymix Group (WA), P O Box 20, Bentley 6102, (09) 451 5566: Jandakot.
Western Mining Corporation Ltd, P O Box 80, Belmont 6104, (09) 478 0711: Douglas Lake.

SILVER

Teutonic Bore Mine Project, GPO Box R1274, Perth 6000, (09) 325 4511: Teutonic Bore.
Western Mining Corporation Ltd, P O Box 80, Belmont 6104, (09) 478 0711: Kambalda.

SPODUMENE

Greenbushes Tin Ltd, GPO Box J646, Perth 6001, (09) 325 8900: Greenbushes.

TALC

Western Mining Corporation Ltd, P O Box 80, Belmont 6104, (09) 478 0711: Three Springs.

TANTALITE

Greenbushes Tin Ltd, GPO Box J646, Perth 6001, (09) 325 8900: Greenbushes.

TIN

Endeavour Resources Ltd, Private Bag 16 Post Office, West Perth 6005, (09) 322 6444: Moolyella.
Greenbushes Tin Ltd, GPO Box J646, Perth 6001, (09) 325 8900: Greenbushes.

VERMICULITE

Vermiculite Industries Pty Ltd, 101 Ewing Street, Welshpool 6106: Young River.

ZINC

Teutonic Bore Mine Project, GPO Box R1274, Perth 6000, (09) 325 4511: Teutonic Bore.

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MINERAL PRODUCTION MAJOR CENTRES

REFERENCE

- | | |
|---------------|-----------------|
| △ BAUXITE | ◆ IRON ORE |
| ■ COAL | □ MINERAL SANDS |
| ▼ COPPER/ZINC | ☀ NATURAL GAS |
| ☀ CRUDE OIL | ⊗ NICKEL |
| ⊗ DIAMONDS | ▲ SALT |
| ○ GOLD | ★ TALC |
| ⊗ GYPSUM | ◇ TIN |





