

*Resource Centre
Policy Branch
Dept. of Minerals & Energy*



ROYALTIES AND STATISTICS BRANCH

**STATISTICAL DIGEST OF
MINERAL PRODUCTION
1985**



**DEPARTMENT OF MINES
WESTERN AUSTRALIA**

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MINERAL PRODUCTION
1985

COMPILED BY:

ROYALTIES AND STATISTICS BRANCH

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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		

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 Barrow Island 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	cubic metre	m ³	barrel (bbl)	0.158987	6.28981
	litre	L	gallon	4.54609	0.2199692
	kilolitre	kL			

SUMMARY

The total value of mineral production in Western Australia for the year 1985 was \$5 169.9 million, an increase of \$995.8 million over the previous year.

Iron Ore production decreased by 2.4% to 88.67 million tonnes, however the devaluation of the Australian dollar resulted in an overall sales value increase of 21% to \$2 029 million. Iron Ore made up 39% of the total value of mineral production and continues to be the major mineral commodity in the State.

Other minerals to record significant increases in production during the year were Diamond up 24.2% to 7.1 million carats and Gold up 28.3% to 41 196 kilograms which was the highest yearly production since 1911.

State royalty revenue has increased significantly over the last few years and for the year 1985 was \$140.8 million, an increase of \$15.2 million over the previous year.

Increases in royalty revenue from 1984 were recorded for all the main commodities except Diamond and Tin. However most of the increase came from alumina, iron ore and crude oil with rises of 13%, 12% and 16% respectively.

Mineral	Units	Production		% up (% down)
		1984	1985	
Alumina	Mt	5.0	5.4	8.3
Coal	Mt	3.7	3.8	2.5
Diamond	M carats	5.7	7.1	24.2
Gold	t	32.1	41.2	28.3
Iron Ore	Mt	90.6	88.7	(2.4)
Mineral Sands:				
Ilmenite	Mt	1.4	1.2	(12.3)
Leucoxene	Kt	32.1	13.8	(57.0)
Monazite	Kt	15.6	17.7	13.9
Rutile	Kt	60.6	79.7	31.4
Zircon	Kt	337.0	371.7	10.3
Nickel Conc.	Kt	496.6	483.2	(2.7)
Nickel Ore	Kt	-	17.9	Inf
Petroleum				
Condensate	ML	22.2	209.3	842.4
Natural Gas	Mm ³	1 332.2	2 226.4	67.1
Oil	Kt	1 295.5	1 207.9	(6.8)
Tin Conc.	t	720.0	458.2	(36)

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Table 1
QUANTITY AND VALUE OF MINERALS 1984, 1985

Mineral	Unit	1984		1985	
		Quantity	Value (\$)	Quantity	Value (\$)
Alumina	Tonne	5 004 998	940 855 670	5 419 623	1 098 152 135
Building Stone	t	-	-	145	45 000
black granite	t	2 272	102 224	2 992	134 640
quartz	t	160	2 880	-	-
quartzite	t	-	-	-	-
slay	t	28 693	71 734	22 513	56 283
cement clay	t	221 770	242 489	256 693	309 181
fire clay	t	85	3 199	2 685	85 148
kaolin	t	53 134	157 932	846	8 936
white clay	t	3 692 665	105 930 163	3 785 977	119 532 775
coal	t	520	6 556 752	508	9 629 912
cobalt	t	-	-	-	-
Construction Materials	t	264 823	935 026	142 939	1 039 428
aggregate	t	46 422	52 966	11 451	14 134
gravel	t	47 557	94 712	63 113	125 867
rock	t	98 711	281 211	1 057 832	1 937 243
sand	t	3 608	3 348 810	3 813	4 152 769
copper	t	38 452	11 145 646	33 743	6 971 035
Copper Concentrates	t	-	-	42	6 748
cupreous Ore	t	5 692 193	45 155 034	7 070 062	64 367 369
diamond	carat	257	1 029	578	3 149
diatomite	t	-	-	300	2 100
dolomite	t	3 158	21 425	6 560	43 954
feldspar	t	3 287	115 080	5 835	204 252
Garnet Sands	t	32 111	422 248 335	41 196	605 618 349
Gold	kilogram	637 683	7 152 245	451 765	5 307 686
Gypsum	t	90 631 128	1 671 285 288	88 670 729	2 029 998 845
Iron Ore	t	184 696	968 942	193 511	1 151 735
limestone	t	16 729	215 936	-	-
Magnesite	t	30	8 037	-	-
Mica	t	-	-	-	-
Mineral Beach Sands	t	1 336 332	-	1 163 987	-
ilmenite	t	140	53 989 350	-	60 358 281
reduced ilmenite	t	72 133	-	71 618	-
upgraded ilmenite	t	-	-	222	25 709
kyanite	t	32 110	6 951 500	13 809	4 003 028
leucoxene	t	15 592	6 767 117	17 755	9 047 127
monazite	t	60 651	18 834 203	79 669	30 962 497
rutile	t	66	358 048	46	586 165
xenotime	t	336 950	37 675 931	371 754	45 096 049
zircon	t	496 630	320 229 972	483 207	379 142 920
Nickel Concentrates	t	-	-	17 877	3 383 183
Nickel Ore	t	523	2 693 559	476	2 382 702
Palladium	kilogram	-	-	9 620	423 303
Peat	t	-	-	-	-
Petrol Products	t	22 205	n.a.	209 264	n.a.
condensate	kilolitre	1 295 520	283 635 789	1 207 875	318 717 603
crude oil	'000m ³	1 332 156	99 538 071	2 226 409	229 954 622
natural gas	kilogram	66	1 010 176	95	1 405 304
Platinum	t	4 674 017	75 252 113	4 804 185	95 918 242
Salt	t	-	-	-	-
Semi-precious Stones	kilogram	13 676	60 193	59 896	90 368
amethyst	"	792	511	-	-
moss opal	t	-	-	54	50 214
tiger eye	t	352 577	2 251 827	373 117	791 067
Silica Sand	kilogram	38 433	11 505 377	33 610	8 781 651
Silver	t	6 668	1 380 851	12 009	1 428 714
Spodumene	t	160 976	n.a.	115 031	n.a.
Talc	t	145	5 224 379	108	4 475 112
Tantalite	t	720	6 988 222	458	9 211 609
Tin Concentrates	t	423	7 275	615	9 245
Vermiculite	t	70 431	17 318 707	51 977	14 815 986
Zinc	t	-	-	-	-
Total Value			4 174 208 496		5 169 969 374

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

Mineral	Gold-field Mineral-field	Quantity tonnes	Metallic Content	Value (\$)	Ref.
Alumina	South West	5 419 623		1 098 152 135	(a)
Building stone					
black granite	West Kimberley	145		45 000	(d)
quartz	South West	2 992		134 640	(b)
		3 137		179 640	
Clay					
cement clay	South West	22 513		56 283	
fire clay	South West	256 693		309 181	
kaolin	Greenbushes	2 685		85 148	
white clay	South West	846		8 936	
		282 737		459 548	(b)
Coal	Collie	3 785 977		119 532 775	(h)
			Cobalt tonnes		
Cobalt (metallic by- product of nickel mining)	Coolgardie		381.828	7 089 812	
	East Murchison		126.169	2 540 100	
			507.997	9 629 912	(c)
Construction Materials					
aggregate	East Coolgardie	128 027		983 068	
	Kimberley	5 976		23 904	
	Pilbara	3 918		14 890	
	West Pilbara	5 018		17 566	
		142 939		1 039 428	(b)
gravel	Pilbara	9 249		9 249	
	West Pilbara	2 202		4 885	
		11 451		14 134	(b)
rock	West Pilbara	63 113		125 867	(b)
sand	Coolgardie	16 676		69 221	
	Pilbara	21 918		94 162	
	South West	997 631		1 705 181	
	West Pilbara	21 607		68 679	
		1 057 832		1 937 243	(b)
		1 275 335		3 116 672	

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

Mineral	Gold-field Mineral-field	Quantity tonnes	Metallic Content	Value (\$)	Ref.
Copper t					
Copper (metallic by- product of nickel mining)	Coolgardie		3 092.525	3 517 622	
	East Murchison		720.953	635 147	
			3 813.478	4 152 769	(c)
Copper t					
Copper Concentrates	Mt Margaret	33 743	6 590.127	6 971 035	(c)
Copper units					
Cupreous Ore	Phillips River	42.27	221.07	6 748	(d)
Carats					
Diamond	Kimberley		7 070 062	64 367 369	(c)
Diatomite	South West	578		3 149	(d)
Dolomite		300		2 100	(d)
Felspar	South West	6 560		43 954	(d)
Ore treated Estimated kg*					
Gold	State generally	9 733 488	41 195.784	605 618 349	
*Includes alluvial, dollied + specimens, gold obtained from tailings retreatment and gold contained in exported gold bearing material.					
Gypsum	Dundas	58 912		541 739	
	Gascoyne	224 138		3 874 999	
	South West	94 364		667 642	
	Yilgarn	74 351		223 306	
		451 765		5 307 686	(b)

Plaster of Paris reported as manufactured during the year - 48 467 tonnes from 71 631 tonnes of gypsum by two companies.

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

Mineral	Gold-field Mineral-field	Quantity tonnes	Metallic Content	Value (\$)	Ref.
Garnet Sand	South West	5 835		204 252	
Assay Fe %					
Iron Ore					
Ore shipped interstate	Peak Hill	4 411 810	64.00	80 488 209	
	Pilbara	104 266	62.18	2 911 591	
	West Kimberley	1 208 165	67.75	13 289 815	
	West Pilbara	244 477	62.68	5 717 874	
		5 968 718		102 407 489	
Ore exported overseas	Peak Hill	24 382 585	63.00	627 852 269	
	Pilbara	4 505 151	62.18	109 580 440	
	West Kimberley	2 315 469	66.73	55 154 848	
	West Pilbara	51 477 383	61.48	1 134 581 690	
		82 680 588		1 927 169 247	
Pellets exported overseas	West Pilbara	21 423	60.71	422 109	
		88 670 729		2 029 998 845	
Limestone	North East				
	Coolgardie	3 354		9 392	
	South West	184 450		1 136 636	
	West Pilbara	5 707		5 707	
		193 511		1 151 735 (b)	

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

Mineral	Gold-field Mineral-field	Quantity tonnes	Metallic Content	Value (\$)	Ref.
Mineral Beach Sands			Av. Assay TiO ₂ %		
ilmenite	South West	1 163 987	55.90)	60 358 281	(c)
upgraded ilmenite	South West	71 618	92.00)		
kyanite	South West	222		25 709	
			TiO ₂ tonnes		
leucoxene	South West	13 809	12 170	4 003 028	(c)
			Th O ₂ units		
monazite	South West	17 755	113 829	9 047 127	(c)
			TiO ₂ tonnes		
rutile	South West	79 669	75 983	30 962 497	(c)
			Y ₂ O ₃ kg		
xenotime	South West	46	3 619	586 165	(c)
zircon	South West	371 754	244 186	45 096 049	(c)
			Assay Ni%		
Nickel Concentrates	Coolgardie	319 048	11.26	245 011 707	
	East Coolgardie	30 933	11.52	24 551 895	
	East Murchison	78 769	12.58	68 618 359	
	Mt Margaret	54 457	11.03	40 960 959	
		483 207		379 142 920	(e)
			Assay Ni%		
Nickel Ore	Coolgardie	17 877	2.98	3 383 183	(b)

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

Mineral	Gold-field Mineral-field	Quantity tonnes	Metallic Content	Value (\$)	Ref.
Palladium (metallic by- product of nickel mining)	Coolgardie		kg 476,399	2 382 702	(c)
Peat	South West	9 620		423 303	(b)
Petroleum condensate	North Rankin Field	207 379		NA	
	South West	1 885		NA	
		209 264			
			Kilolitres		
crude oil	Ashburton	1 162 650		307 182 200	(g)
	South West	7 494		1 939 769	(f)
	West Kimberley	37 731		9 595 634	(f)
		1 207 875		318 717 603	
natural gas	North Rankin Field	1 617 400	$m^3 \times 10^3$	190 220 223	
	South West	609 009		39 734 399	
		2 226 409		229 954 622	(i)
Platinum (metallic by- product of nickel mining)	Coolgardie	95,048	kg	1 405 304	(c)
Salt	Ashburton	748 527		13 693 412	
	Gascoyne	639 926		12 290 065	
	Pilbara	1 463 896		29 233 618	
	West Pilbara	1 951 836		40 701 147	
		4 804 185		95 918 242	(c)

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

Mineral	Gold-field Mineral-field	Quantity tonnes	Metallic Content	Value (\$)	Ref.
Semi-precious stones		kg			
amethyst	Gascoyne	59 896		90 368	
tiger eye		Tonnes			
	West Pilbara	53.98		50 214	
				140 582	
<hr/>					
Silica Sand	Coolgardie	79 116		193 834	
	East Coolgardie	8 718		21 359	
	South West	285 283		575 874	
			373 117		791 067
<hr/>					
Silver		kg			
	By-product of gold mining	6 793.139		1 439 833	
	By-product of nickel mining	395.707		87 073	
	Mt Margaret	26 420.700		7 254 745	
		33 609.546		8 781 651	
<hr/>					
			LiO ₂ t		
Spodumene	Greenbushes	12 009.385	840.65	1 428 714	(c)
<hr/>					
Talc	South West	115 031		NA	
<hr/>					
			LiO ₂ kg		
Tantalite	Greenbushes	104.05	48 538	4 312 337	
	Pilbara	4.28	2 246	162 775	
			108.33	51 784	4 475 112
<hr/>					
			Sn tonnes		
Tin	Greenbushes	436.10	305.26	8 990 832	
	Pilbara	22.13	15.80	230 777	
			458.23	321.06	9 221 609

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

Mineral	Gold-field Mineral-field	Quantity tonnes	Metallic Content	Value (\$)	Ref.
Vermiculite	Phillips River	615		9 245	(d)
			Zn tonnes		
Zinc	Mt Margaret	51 977	21 935.938	14 815 986	(c)
	Value of Minerals			4 564 351 025	
	Value of Gold			605 618 349	
				5 169 969 374	

TABLE 3
 QUANTITY OF GOLD (KG) AND ORE TREATED 1985
 SHOWING GOLDFIELD AND DISTRICT

	ALLUVIAL KILOGRAMS	DOLLIED AND SPECIMENS KILOGRAMS	MILLED OR SMELTED		TOTAL GOLD KILOGRAMS	SILVER KILOGRAMS
			ORE TREATED (TONNES)	GOLD THEREFROM KILOGRAMS		
KIMBERLEY	8.026	.366	-	-	8.392	.406
WEST KIMBERLEY	-	-	-	-	-	-
MARBLE BAR	50.746	3.119	1 563 518.00	4 819.860	4 875.725	346.296
NULLAGINE	139.704	9.432	191.00	2.004	151.140	1.663
PILBARA	190.450	12.551	1 563 709.00	4 821.864	5 024.865	347.959
WEST PILBARA	11.453	.028	-	-	11.481	.650
ASHBURTON	13.485	.326	20.00	.060	13.871	.112
GASCOYNE	.413	.201	120.00	.367	.981	.115
PEAK HILL	20.742	.353	389 844.00	1 323.765	1 344.860	92.416
LAWLERS	6.061	.344	30 459.00	764.394	770.799	29.380
WILUNA	3.485	.869	-	674.331	678.685	95.374
BLACK RANGE	19.517	5.734	326.00	67.197	92.448	1.901
EAST MURCHISON	29.063	6.947	30 785.00	1 505.922	1 541.932	126.655
CUE	40.764	3.002	206 570.00	831.277	875.043	1.858
MEEKATHARRA	69.873	5.277	519 856.00	1 352.658	1 427.808	8.966
DAY DAWN	15.829	.708	95.00	55.677	72.214	16.908
MT MAGNET	8.514	1.955	318 169.00	1 473.452	1 483.921	190.892
MURCHISON	134.980	10.942	1 044 690.00	3 713.064	3 858.986	218.624
YALGOO	8.730	1.330	2 417.00	36.157	46.217	6.567
MT MORGANS	16.812	.908	167.00	3.787	21.507	1.579
MT MALCOLM	50.816	3.825	1 001 142.00	3 262.437	3 317.078	98.224
MT MARGARET	16.351	4.954	227 283.00	1 252.088	1 273.593	621.610
MT MARGARET	83.979	9.687	1 228 592.00	4 518.312	4 611.978	721.413
MENZIES	2.462	.723	641.00	163.612	166.797	14.036
ULARRING	-	-	50 697.00	52.396	52.396	.008
NIAGARA	-	.269	287.00	5.999	6.268	.595
YERILLA	.114	.368	261 555.00	919.437	919.919	152.971
NORTH COOLGARDIE	2.576	1.360	313 180.00	1 141.444	1 145.380	167.610
BROAD ARROW	.929	.553	578 276.00	1 835.563	1 835.045	37.220
KANONNA	9.893	.361	208.00	11.396	21.650	2.351
KURNALPI	2.020	.078	161.00	.666	2.764	.136
NE COOLGARDIE	11.913	.439	369.00	12.062	24.414	2.487
EAST COOLGARDIE	7.223	3.865	2 536 504.00	11 207.452	11 218.540	3 267.318
BULONG	7.798	-	99.00	9.397	17.195	.493
EAST COOLGARDIE	15.021	3.865	2 536 603.00	11 216.849	11 235.735	3 267.811
COOLGARDIE	13.106	4.009	846 556.00	4 061.110	4 078.225	627.785
KUNANALLING	2.844	.103	76 322.00	80.369	83.316	.996
COOLGARDIE	15.950	4.112	922 878.00	4 141.479	4 161.541	628.781
YILGARN	1.102	.849	727 996.00	2 691.771	2 693.722	299.336
DUNDAS	.602	.088	298 243.00	3 305.976	3 306.666	2 100.449
PHILLIPS RIVER	-	.066	613.00	54.042	54.108	12.361
SOUTH WEST	-	-	93 153.00	272.743	272.743	-
STATE GENERALLY	1.670	1.197	-	-	2.867	.331
TOTAL	551.084	55.260	9 733 488.00	40 589.440	41 195.784	8 031.303

Table 4

AVERAGE NUMBER OF PERSONS EMPLOYED IN MINING OPERATIONS
IN WESTERN AUSTRALIA DURING 1985

MINERAL Company	Location	Above Ground	Below Ground	Total
ALUMINA				
Alcoa of Australia Ltd	Jarrahdale/Kwinana	1 494	-	1 494
	Del Park/Huntley/Pinjarra	1 583	-	1 583
	Wagerup	457	-	457
	Administration	267	-	267
Worsley Alumina Pty Ltd	Worsley	780	-	780
				<u>4 581</u>
COAL				
Griffin Coal Mining Co Ltd	Collie	483	-	483
Western Collieries Ltd	Collie	361	335	696
				<u>1 179</u>
COPPER/SILVER/ZINC				
Seltrust Mining Corp. Ltd	Tautonic Bore	107	-	107
DIAMOND				
Argyle Diamond Mines Joint Venture	Lake Argyle	339	-	339
Bow River Joint Venture	Lissadell	20	-	20
				<u>359</u>
GOLD				
Australis Mining NL	Dundas/Norseman	34	-	34
Bamboo Creek Joint Venture	Bamboo Creek	64	16	80
BHP Minerals Ltd	Ora Banda	25	-	25
Central Kalgoorlie Gold Mines NL	Kalgoorlie	33	-	33
Central Norseman Gold Corp. NL	Norseman	197	190	387
Edjudina Gold Mines Pty Ltd	Edjudina	75	-	75
Endeavour Resources Ltd	Moolyella/Paddy's Flat/Yaloginda	21	10	31
Gold Resources Pty Ltd	Boulder	82	84	166
Great Victoria Gold Ltd	Marvel Loch	44	-	44
Harbour Lights Mining Ltd	Leonora	77	-	77
Hill 50 Gold Mine NL	Mt Magnet	102	90	192
Horseshoe Lights Gold Pty Ltd	Horseshoe	28	-	28
Kia Ora Gold Corp. Ltd	Marvel Loch	62	28	90
KLV - Mt Charlotte	Kalgoorlie	147	158	305
KLV - Perseverance	Boulder	335	222	557
Metana Minerals NL	Nullagine/Reedy	35	-	35
Mt Percy Project	Kalgoorlie	35	-	35
New Broken Hill Cons. Ltd	Leonora	36	-	36
North Kalgurli Mines Ltd	Boulder	153	190	343
Otter Exploration NL	Lake Grace	12	-	12
Pancontinental Goldmining Areas Pty Ltd	Paddington	105	-	105
Pennant Mining Pty Ltd	Trafalgar	12	-	12
Sons of Gwalia Ltd	Leonora	23	-	23
Southern Goldfields Ltd	Marvel Loch	30	-	30
Spargos Exploration Pty Ltd	Lawlers	18	-	18
Telfer Project	Telfer	223	-	223
V & D Ridolfo Pty Ltd	Mt Magnet	28	-	28
West Coast Holdings Ltd	Black Flag/Broad Arrow/Carbine	25	-	25
Western Alluvials Pty Ltd	Wiluna	20	-	20
Whim Creek Cons. NL	Meskatharra	76	-	76
WMC - Gt Boulder Holdings	Agnew	4	-	4
	Kambalda	59	37	96
	Lancefield	40	67	107
	Boulder	12	-	12
	Ora Banda	10	-	10
		886	109	995
				<u>4 369</u>
IRON ORE				
Broken Hill Pty Ltd	Yampi/Kwinana	705	-	705
Cliffs WA Mining Co Pty Ltd	Pannawonica/Cape Lambert	1 550	-	1 550
Goldsworthy Mining Ltd	Pilbara/Port Hedland	843	-	843
Hammersley Iron Pty Ltd	Tom Price-Paraburdoo/Dampier	3 889	-	3 889
Mt Newman Mining Co Ltd	Newman/Port Hedland	3 840	-	3 840
				<u>10 827</u>
MINERAL BEACH SANDS				
Allied Eneabba Pty Ltd	Eneabba	320	-	320
Associated Minerals Cons. Ltd	Capel	135	-	135
	Eneabba	116	-	116
Cable Sands Pty Ltd	Capel	106	-	106
Westralian Sands Ltd	Capel	159	-	159
				<u>863</u>
NICKEL				
Agnew Mining Co Pty Ltd	Leinster	221	99	320
Western Mining Corporation	Kalgoorlie	367	-	367
	Kambalda	697	671	1 368
	Kwinana Refinery	409	-	409
	Mt Windarra	189	83	272
				<u>2 736</u>
PETROLEUM PRODUCTS				
Strata Oil NL	Woodada	7	-	7
West Australian Petroleum Pty Ltd	Barrow Island	169	-	169
	Dongara	13	-	13
Woodside Offshore Petroleum Pty Ltd	North Rankin A/Burrup Peninsula	1 182	-	1 182
				<u>1 371</u>
SALT				
Dampier Salt Ltd	Dampier	205	-	205
	Lake McLeod	101	-	101
Leslie Salt Co	Port Hedland	74	-	74
Shark Bay Joint Venture	Shark Bay	100	-	100
				<u>480</u>
ALL OTHER MATERIALS (Including Rock Quarries)				
		590	2	592
TOTALS:		25 046	2 391	27 437

Table 5
ROYALTY RECEIPTS 1985

MINERAL	1984	1985	Value(\$A) VARIANCE	% UP (% DOWN)
ALUMINA	8859777	9976516	1116739	13
BUILDING STONE	794	995	201	25
CLAY	95558	129901	34343	36
COAL	879162	1278898	399736	45
COBALT	84372	118366	33994	29
CONSTRUCTION MATERIALS				
aggregate	77965	32799	(45166)	(58)
gravel	12399	3796	(8603)	(69)
rock	13728	13690	(38)	(1)
sand	50964	109754	58790	115
COPPER	276480	536037	259557	94
DIAMOND	3450883	2156726	(1294157)	(38)
DIATOMITE	51	69	18	35
DOLOMITE	-	330	330	Inf
FELSPAR	795	2212	1417	178
GARNET SAND	5302	9514	4212	79
GOLD	92987	105832	12845	14
GYPSUM	191675	146563	(45112)	(24)
IRON ORE	84053078	94497728	10444650	12
LIMESTONE	83051	90751	7700	9
MAGNESITE	10797	-	(10797)	(100)
MICA	402	-	(402)	(100)
MINERAL BEACH SANDS				
ilmenite	901471	1060791	159320	18
kyanite	-	181	181	Inf
leucoxene	146184	103052	(43132)	(30)
monazite	170989	236307	65318	38
rutile	550256	730512	180256	33
xenotime	2059	985	(1074)	(52)
zircon	1013877	1257621	243744	24
NICKEL	5030833	5847064	816231	16
PALLADIUM	20645	19941	(704)	(3)
PETROLEUM PRODUCTS				
condensate	47833	529674	481841	1007
crude oil	14086943	16408550	2321607	16
natural gas	3706130	3873510	167380	5
PLATINUM	20639	19941	(698)	(3)
SALT	433364	505253	71889	17
SEMI-PRECIOUS STONES				
amethyst	4514	8326	3812	84
moss opal	38	79	41	108
tiger eye	-	3766	3766	Inf
SILICA SAND	157039	145811	(11228)	(7)
SILVER	11378	182271	170893	1502
SPODUMENE	80128	79256	(872)	(1)
TANTALITE	89663	100871	11208	13
TALC	73430	48804	(24626)	(34)
TIN	195849	127647	(68202)	(35)
VERMICULITE	270	473	203	75
ZINC CONCENTRATE	561311	298313	(262998)	(47)
TOTAL	125545063	140799476	15254413	12

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 - cement clay

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

- fire clay

Clackline Refractories Ltd, P O Box 893, West Perth 6005, (09) 386 7833: Clackline.
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.

CONSTRUCTION MATERIALS - aggregate

Calsil Ltd, 5 Mill Street, Perth 6000, (09) 321 8552: Port Hedland.
Stove J, 15 Bassendean Parade, Bassendean 6054, (09) 279 3797: Roebourne.
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.

PRINCIPAL MINERAL PRODUCERS 1985 - continued.

CONSTRUCTION MATERIALS - gravel

Kane DJ, 8 Oleander Place, Wickham 6720, (091) 87 1616 : Mt Welcome.
Leslie Salt Company, P O Box 420, Port Hedland 6721, (09) 72 3777: Port Hedland.
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

Calsil Ltd, P O Box 7214, Cloisters Square, Perth 6000, (09) 321 8552: Port Hedland.
Clackline Refractories Ltd, P O Box 893, West Perth 6005, (09) 386 7833: Clackline.
Cottiers Pty Ltd, P O Box 311, Port Hedland 6721, (09) 72 1553: Port Hedland.

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, Bencley 6102, (09) 451 5566: Boulder, Jones River, Rocklea,
Turner River, Widgiemooltha.
Tomlinson JJ, Via Flynn Road, East Mundaring WA 6073, (095) 72 6088: Chidlow

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.

CUPREOUS ORE

Walker H&L, P O Box 169, Ravensthorpe 6346: Ravensthorpe.

DIAMOND

Argyle Diamond Mines Pty Ltd, Private Bag No 11 Post Office, West Perth 6005, (09) 325 1166: Argyle.

DIATOMITE

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

PRINCIPAL MINERAL PRODUCERS 1985 - continued.

DOLOMITE

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

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

Central Norseman Gold Corporation N L, P O Box 56, Norseman 6443, (090) 39 1101: Norseman.
Edjudina Gold Mines, P O Box 1014, Kalgoorlie 6430, (090) 24 2056: Edjudina.
Gold Resources Pty Ltd, Private Mail Bag 90, Kalgoorlie 6430, (090) 21 5544: Fimiston.
Hill 50 Gold Mine N L, 140 St George's Terrace, Perth 6000, (09) 322 6915: Mt Magnet.
Kalgoorlie Mining Associates, P O Box 105, Fimiston 6433, (090) 21 3411: Fimiston, Mt Charlotte.
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.
Sons of Gwalia Ltd, P O Box 669, West Perth 6005, (09) 322 1773: Leonora.
Western Mining Corporation Ltd, P O Box 80, Belmont 6104, (09) 478 0711: Agnew, Boulder, Kambalda, Lancefield, Ora Banda.
Whim Creek Consolidated N L, P O Box 144, West Perth 6005, (09) 325 5855: Meekatharra.

GYP SUM

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.
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.
Fitzgerald E M and E J, P O Box 404, Merredin 6415, (090) 41 1146, Hines Hill.
Green K L and P M, Newdegate 6355: Newdegate.
McAndrew Mining, Yelbeni 6487: Yelbeni.
Nixon P F and R S, P O Box 69, Moora 6510: Lake Hillman.
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.

PRINCIPAL MINERAL PRODUCERS 1985 - continued.

IRON ORE

BHP Minerals Pty Ltd, P O Box 160, Kwinana 6167, (09) 410 1111: Cockatoo Island, Koolan Island, Cliffs 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. Hamersley 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: Mt Whaleback.

LIMESTONE

Bell Basic Industries Ltd, P O Box 75, Guildford 6055, (09) 279 0000: Wanneroo. Bellombra V, 6 Park Street, Tuart Hill 6060, (09) 349 3312: 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.

MAGNESITE

Norseman Gold Mines N L, GPO Box E221, Perth 6001, (09) 325 2333: Bandalup.

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. 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 1985 - 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.

PETROLEUM - crude oil

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.

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.
Westralian Sands Ltd, P O Box 96, Capel 6271, (097) 27 2002: Boyanup.

PRINCIPAL MINERAL PRODUCERS 1985 - continued.

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.
Westside Mines Pty Ltd, P O Box 572, Cloverdale 6105, (09) 277 4422: Mt Seabrook.

TANTALITE

Goldrim Mining Australia Ltd, 317 Hunter Street, Newcastle, NSW 2300, (049) 22 433: Wodgina.
Greenbushes Tin Ltd, GPO Box J646, Perth 6001, (09) 325 8900: Greenbushes.
Kincora Pty Ltd, P O Box 6009, Hay Street East, Perth 6000, (09) 325 6442: Old Shaw.

TIN

Endeavour Resources Ltd, Private Bag 16 Post Office, West Perth 6005, (09) 322 6444: Moolyella.
Goldrim Mining Australia Ltd, 317 Hunter Street, Newcastle, NSW 2300, (049) 22 433: Wodgina.
Greenbushes Tin Ltd, GPO Box J646, Perth 6001, (09) 325 8900: Greenbushes.
Kincora Pty Ltd, P O Box 6009, Hay Street East, Perth 6000, (09) 325 6442: Old Shaw.

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.

RS419AF2388(24-30)(M21P72)

MINERAL PRODUCTION MAJOR CENTRES

REFERENCE

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

